



**THE ASIAN WATERFOWL CENSUS 1987-91:
DISTRIBUTION AND STATUS OF ASIAN WATERFOWL**

Text by Christian Perennou, Taej Mundkur and Derek A. Scott

Cartography by Arne Follestad and Lars Kvenild



**AWB Publication No. 86
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SPECIAL ENCLOSURE

Overlay transparent map of AWC coverage

PREFACE

When I joined IWRB as assistant director in 1986, seconded by the Ministry of Agriculture, Nature Management and Fisheries of the Netherlands, the main task was its organization, its finances, its structure. Secretly I hoped that more interesting work could be done in the same time and I was so glad to meet Derek Scott again who had just started with the Wetlands Inventory for Asia.

The idea of the Asian Waterfowl Census was as simple as its origin: why not use Derek's established network to start coordinated counts of waterfowl in Asia? It was clear from the beginning that counts should be coordinated by IWRB to take advantage of its long-term experience but the counts themselves should be carried out by ornithologists and keen amateur bird-watchers in the different countries.

We all realized that to set up the counts immediately for all Asian countries would result in enormous chaos. As Pakistan, Sri Lanka and Iran had already been counting for many years and their results were not actually used, we decided initially to concentrate on those three countries together with India, Bangladesh, Burma and Nepal. We prepared forms and instructions in time. Derek and I travelled separately to the different countries to encourage their participation. In India, our paths crossed and I was glad to show him his first Indian Courser.

The results of the first year were impressive and formed the base for the next years. I liked very much the "complaints" after our first report from China, Thailand and several other countries in Asia. Why we had forgotten them? I welcomed these complaints as a most welcome encouragement and so we had seventeen instead of eight participating countries in the second year.

It is not important for anyone to know how we struggled in IWRB's office to get everything done in time. But sometimes it is more important to be in time than to be perfect. So the first years built up an enthusiastic group who received their information and could judge themselves how single observations could lead into cooperative results.

For myself, working in Asia has given me an enormous satisfaction. I feel so much at home and realize how nice it is to work with friends, a friendly and hospitable environment.

Inventories, counts and reports: excellent but the aim of them is more important. We want to achieve that our surroundings are worthwhile to live in. Together with the birds, together with the changing colours of nature itself. Our first step in 1987 resulted already in this report and all those who worked after the first steps should be credited, especially the counters, coordinators, and IWRB and AWB staff.

As Asia is still the most important region of the world, due to its people, its nature and its great variety, I hope that this report will acknowledge the dedication of all participants and their enthusiasm and will make clear that another step is made but many have to follow.

Thank you and good luck.

MOSCOW, 21 Feb. 1994

Joost van der Ven

ACKNOWLEDGEMENTS

This report would not have been possible without the huge amount of fieldwork carried out by the hundreds of dedicated counters who participate in the Asian Waterfowl Census (AWC). We wish to convey our thanks to each and every one of them, and trust that they will find in this report some reward for all their efforts.

We also wish to express our gratitude and congratulations to all the present and previous National, Regional and International Coordinators of the AWC and their respective agencies who have willingly taken on the hard task of organizing networks, checking data, finding map coordinates of wetlands, compiling reports, producing national population estimates and so on. For all these vital tasks, our thanks go to M.F. Ahmad, Abdul Wahab Akonda, Dr. M.M. Al-Safadi, Ms. B. Amget, B. Behrouzi-Rad, K. Berkmüller, Dr. P.C. Bhattacharjee, C. Briffett, G. Carey, M.L. Chalmers, A.A. Chaudury, C. Custodio, Prof. Le Dien Duc, Ms. Jennifer Elkins, J. Eriksen, Fang Woei-Horng, W. Glynn, P. Gole, U Saw Han, R. Hicks, E. Hirschfeld, T. Hoffmann, S.A. Hussain, Roger Jaensch, Anisuzzaman Khan, Khan Muhammad Khan, Lin Kuo-Tung, U Thein Lwin, Prof. Lu Jianjian, Ms. Perla Magsalay, R. Manandhar, V. Menon, A.H. Mirza, L. Naismith, P.O. Nameer, R. Nation, Y. Natori, Y. Rusila Noor, Colin Poole, A. Poslavski, V.J. Rajan, Abdul Latif Rao, C. Richardson, Dr. P. Sagar, Dr. R. Salter, S. Sridhar, P. Symens, S. Taher, Dr. V. Vinogradov, Y. al Wetaid, Prof. Won Pyong-Oh, Ms. Siti Hawa Bt. Yatim and Director of the Department of Environment of Iran.

Joost van der Ven gave the initial impetus to launch the AWC, and this publication would not have been possible without his involvement.

We wish to thank also the IWRB/IUCN/Birdlife International Research/Specialist Group Coordinators and independent specialists who provided comments on the species texts: Dr. J. Fjeldså (grebes), Dr. A. Crivelli (pelicans), Dr. H. Hafner and R. Lansdown (herons), Dr. M. Coulter (storks, ibises and spoonbills), Dr. A. Johnson (flamingos), Dr. A. Green (threatened Anatidae) and Dr. G. Archibald (cranes). Additional comments were received from Marcel Silvius and Koichiro Sonobe.

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The first two authors would like to acknowledge the International Council for Game and Wildlife Conservation (CIC) and the Australian Nature Conservancy Agency (ANCA). The John D. and Catherine T. MacArthur Foundation for providing financial assistance to support their posts at IWRB and AWB respectively. The senior author also wishes to thank the Tour du Valat Foundation for providing support during the final stages of this report.

The bulk of the cost of production, printing and distribution of this report has very kindly been covered by a grant from the Japan Fund for Global Environment through the IWRB Japan Committee. IWRB-J has also greatly aided in the preparation process. The Loke Wan Tho Memorial Foundation has funded the printing and free distribution of the annual AWC reports to all participants throughout Asia for several years, and has very generously provided a contribution to the printing of this report.

SUMMARY

Since the start of the Asian Waterfowl Census (AWC) in January 1987, a total of 3,109 wetlands in 32 Asian countries were counted at least once in the five northern winters 1986-87 to 1990-91, and over 86,000 counts of individual species were obtained. Coverage was variable between countries. Overall it was fairly good to excellent (with some inconsistency from year to year) in Southwest and South Asia, and more patchy in Southeast and East Asia. Data from some countries that had started waterfowl monitoring programmes as early as 1967 are also incorporated.

Distribution maps are presented for the 200 most commonly recorded species; these should be interpreted taking account of the variable coverage in different parts of Asia. A figure based upon five-year means for each species at each site have been produced for each species in each of the four broad Asian regions used. In some cases, first-ever population estimates have been produced where the species is considered to be well enough covered.

For each species, the most important sites identified in Asia are presented; when a population estimate is available, sites of international importance using the Ramsar Convention 1% criterion are identified.

A total of 496 wetlands meeting the criteria for international importance for waterfowl are identified. This is only a partial list because further wetlands are undoubtedly important at other seasons, and because some major wetlands were not covered at any time during the AWC.

The AWC has identified several species that, in the future, should probably be considered as globally threatened.



I. INTRODUCTION

The International Waterfowl Census (IWC) was established by IWRB in 1967 in order to provide information on population sizes, trends and distribution of waterfowl species. The month of January (mid-winter in the northern hemisphere) was selected as the period for the census, since at this time many migratory species of waterfowl are concentrated on their winter quarters and are relatively easy to count. Initially restricted to the Anatidae and Coot, and geographically to the Western Palearctic, some African and Asian countries joined at the outset of the project. In Asia, Iran and Pakistan were the two pioneers, and these countries have continued to participate regularly in coordinated mid-winter (January) counts.

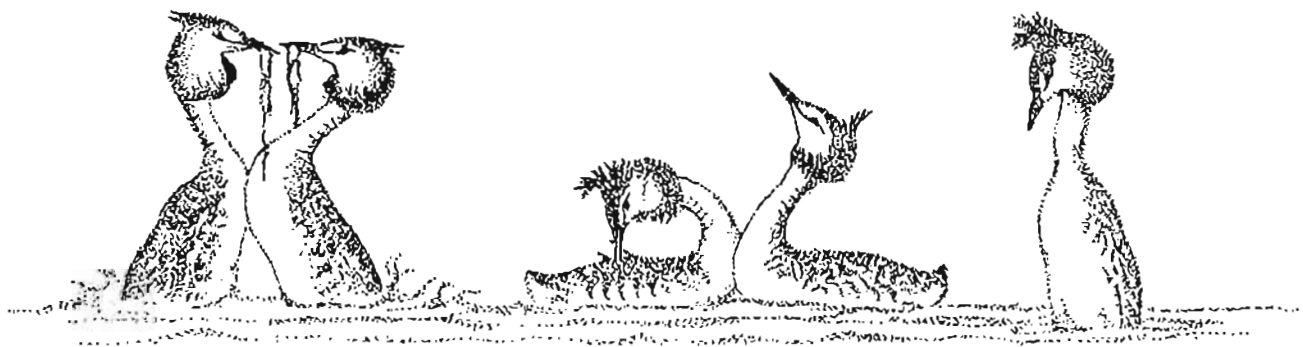
In 1987, as a follow-up to the *Directory of Asian Wetlands* (Scott 1989) which raised enormous interest amongst Asian birdwatchers and wetland scientists, it was decided to expand the IWC to cover first the Indian subcontinent then, gradually, the rest of Asia. The response was beyond all expectation, and the enthusiasm and participation have grown ever since. In the 1992 Asian Waterfowl Census (AWC), 1,860 wetlands in 30 countries were covered by over 850 people, and the census was expanded to Australasia (Australia and New Zealand) in recognition of this region as a major wintering (non-breeding) area for many waterfowl populations, especially migratory waders.

The AWC is now part of an almost global scheme to monitor waterfowl populations, with similar schemes coordinated by IWRB currently operating in the Western Palearctic, Africa and Latin America (jointly with Wetlands for the Americas), while North America has its own scheme.

The present report is the first major analysis of the data gathered in Asia up to and including the 1991 census. It focuses primarily on the status, population sizes and, to a lesser extent, trends of all Asian waterfowl. Much of the information is summarized in the many maps which plot the observations of all but the rarest species encountered during the census, and in many cases provide a clear picture of the overall distribution and relative abundance of species during the northern winter. The report also attempts to identify sites of international importance for Asian waterfowl during this mid-winter period.

It is hoped that this first analysis of the Asian waterfowl counts will provide various benefits for the conservation of waterfowl and their wetland habitats; it provides first-hand information upon which international conservation agreements, national legislation, identification of potential new protected areas, species-oriented conservation plans and wetland awareness programmes can be based.

It is also hoped that the report will be an important stimulus for AWC participants to continue and develop their excellent fieldwork.



II. METHODS AND RELIABILITY OF DATA

FIELDWORK AND ROUTINE COMPILATION OF THE DATA

Participants

Counts were carried out by volunteers of natural history or birdwatching societies, scientific institutions or government departments concerned with wildlife (including staff of national parks, nature reserves etc.).

Selection of wetlands to count

While guidelines on counting techniques were distributed every year to participants, mainly through the annual report, the selection of wetlands on which counts were carried out was left entirely to the initiative of counters and coordinators.

The exception to this was Japan where, over many years, counts on thousands of wetlands have been carried out in winter (e.g. Anonymous 1988, 1989, 1990). It was decided to incorporate in the AWC detailed data from a representative set of 53 wetlands selected by Japanese coordinators, although overall national totals were still submitted to IWRB and used as a basis to produce population estimates.

Data recording

Participants recorded information both on waterfowl and on their wetland habitats, using standard count forms (Annex 11). All waterfowl species inhabiting coastal and inland wetlands are counted: Gaviiformes, Podicipediformes, Pelecaniformes, Ciconiiformes, Phoenicopteriformes, Anseriformes, Gruiformes and Charadriiformes. Species not covered in the census include strictly oceanic species of Pelecaniformes (tropicbirds, frigatebirds and boobies) and Charadriiformes (skuas and auks), and species of Charadriiformes confined to arid habitats (coursers). Since 1991, some species of Falconiformes which are closely associated with wetland habitats have also been included in the counts. English and Latin names of all waterfowl species covered in the report are given in Chapter 5 and Annex 1.

National and Regional Coordinators

The data were collected by one or more National Coordinators, who ensured that there was no duplicate count at a particular site, and corrected obvious errors. In India, seven Regional Coordinators took over from two National Coordinators from the 1992 census onwards. Coordinators also had an important role in planning the census so as to ensure that major wetlands were gradually brought into the scheme, as far as the number of counters allowed.

Data storing and simple compilation

Coordinators forwarded the data to IWRB or AWB, where they were stored in databases using the commercial software DBASE IV. Every year, a simple compilation was undertaken, in which the total number of waterfowl per wetland and the total per species in each country were summarized.

An annual report was produced every year, eight to ten months after the census (van der Ven 1987, 1988; Scott & Rose 1989; Perennou *et al.* 1990; Perennou & Mundkur 1991, 1992) and distributed free to all participants through the National Coordinators. Distribution of the report prior to the next census acted as a powerful incentive.

PERIODS ENCOMPASSED

Months

Data were collected in January, as recommended to the participants, in line with the Western Palearctic Census (e.g. Monval & Piroit 1989). However, some data from other winter months (December and February) were also incorporated. In very poorly known countries or regions (e.g. Cambodia, parts of Bangladesh), data from early March were also included when the observers suspected that the main migration movements had not started.

Years

The main period covered by this report comprises the five winters from 1986/87 to 1990/91. In a limited number of countries where the census started later than 1987, and from where 1992 data were available early enough, 1992 data have been incorporated in the analysis so as to have as close as possible to five years of data for analysis. Thus, 1992 data were used for Bahrain, Qatar, Saudi Arabia, the United Arab Emirates and Yemen. The winter of 1991/92 was abnormally cold over the northern Middle East, bringing unusual influxes of some species towards SW Asia (see Saudi Arabia section in Perennou & Mundkur 1992); however these influxes were considered as too minor to affect the results on a regional scale.

Data from 1992 were also included for Bangladesh, since the best-ever survey of the country was carried out in early 1992.

For the sake of simplicity, reference is made throughout the report to '1987-91 data', since the volume of 1992 data was very limited; any 1987-91 figure given for the above-named countries includes 1992 data.

Pre-1987 data

Waterfowl counts had been carried out in several Asian countries prior to the official launch of the AWC in 1987, and the data had been forwarded to IWRB. These pre-1987 data have been used in the present analysis:

- to complete the species distribution maps for countries which did not participate in the AWC in 1987-91 (Iraq, Afghanistan, Kirghizistan and Tadjikistan); these data are indicated on the maps with distinctive symbols;
- to complete the list of potential sites of international importance for individual species;
- to identify trends for selected waterfowl species in Iran and Pakistan.

RELIABILITY OF THE DATA

At all stages between fieldwork and data analysis, there are various sources of error which are often impossible to correct:

Identification error by the counter

These were corrected in some obvious cases (e.g. large numbers of Ringed Plovers in India were almost certainly Little Ringed Plovers) either by National/Regional Coordinators or by IWRB/AWB. However, confusion between two common species in the same region cannot usually be found and corrected. This was minimised from 1990 onwards by replacing the previously unique Asian count form with four different forms listing only those species that regularly occur in each of the four Asian regions.

Counting errors

For many people, the AWC was the first opportunity to count large concentrations of waterbirds. The IWC in the Western Palearctic has shown that counting ability increases with time and practice. Since this report covers the very first years of the AWC, some important counting errors are likely to have crept in and affected the data. Intensive training programmes in waterbird identification and counting techniques in the future will aim to improve the quality of the counts.

Transcribing errors

Errors in the transcription of data onto the standard IWRB/AWB count forms are impossible to identify, except in very obvious cases (similar to misidentifications).

Location errors

Errors and/or omissions made while working out the coordinates of a site have inevitably occurred. Some counters are not familiar with the longitude/latitude system and some obvious errors have been identified; less obvious ones were not. This probably does not affect the maps much because of their scale. However, isolated records should be considered with caution.

In general, the most important wetlands were either already well known or were large and easily located on the standard topographic maps, and could therefore be mapped accurately. Most of the errors in site location would appear to be with small tanks and ponds which could not be found on the topographic maps, and were given inaccurate geographical coordinates by the counter.

For hundreds of sites, particularly in India, coordinates were not provided. This was partly corrected in instances when an indication of the nearest city was given; all sites close to the same city appear as a single dot on the maps. However, hundreds of sites could not be located at all and, although their data were still used (calculation of totals, five-year means etc.), they do not appear on any map. Many of the discrepancies in this report, e.g. between the number of sites given in the lists and the number shown on the maps, can be accounted for by these unlocated sites.

Inputting errors while entering data onto the computer

Data can be omitted, attributed to the wrong site or wrong species, or entered twice, or a figure may be entered incorrectly (e.g. 1,000 instead of 100). Unfortunately, it has not always been possible to correct these errors because of the lack of time and resources to double check all the data inputting. Only some of the most obvious errors (unusual species, massive counts etc.) were noticed and rectified. Random checks of some data sets suggested that up to 1% of the AWC data may contain errors.

Conclusion

Despite these potential sources of errors, the AWC data are unique and the most useful first-hand source of information on overall distribution and numbers of waterbirds in Asia ever published.

CALCULATION OF FIVE-YEAR MEANS (FYM)

This is the basis for the whole analysis and presentation of the data in this report: it is used to provide population estimates, calculate trends and identify sites of international importance.

The method has been described by Owen *et al.* (1986), and later used in the Western Palearctic by Ruger *et al.* (1986) and Monval & Pirot (1989). A five-year mean (FYM) is calculated for each species at each site for the period 1987-1991; this figure is assumed to represent the average number of birds present at the site during the five mid-winter (January) periods of the AWC.

In practice, the FYM is often derived from only one, two, three or four years of data due to inconsistent coverage; however, for the sake of simplicity, the term FYM is used throughout the report. Each FYM is accompanied by an indication of the number of years used to produce it.

FYMs for 1987-91 (or 1987-92) were calculated for each species at each site using a dBASE IV program written specifically for the purpose by IWRB staff. FYMs were also calculated for a sample of sites in Iran and Pakistan during the early 1970s (see Chapter IV).

DEFINING POPULATIONS

A precise definition of population limits is required before any meaningful population estimate can be produced. Very limited data exist in Asia to define the limits of biogeographical populations, although for some species the work of Kistchinski (1978) is very useful. A review of all the existing information was outside the scope of the present project. However, such a review is urgently required.

Different populations or groups

For every species, an attempt has been made to identify all those discrete or relatively discrete populations which occur in the region covered by the AWC. Several types of 'population' are recognized:

- the entire population of a monotypic species.
- the entire population of a recognized subspecies.
- a discrete migratory population of a species or subspecies, i.e. a population which rarely, if ever, mixes with other populations of the same species or subspecies.
- a group of birds which spends the winter in a relatively discrete portion of Asia (e.g. Southwest Asia, South Asia, East Asia, Southeast Asia: see below). These groups were used 'by default' where little information was available on the winter limits between discrete populations or where there was no evidence that any discrete populations existed (e.g. in common and widespread species such as many of the Anatidae). In many cases, these groups may mix extensively with other groups on the breeding grounds (and are therefore not distinct biogeographical populations), or they may mix with sedentary populations of the same species on the wintering grounds, or they may consist of more than one breeding population with overlapping wintering areas.

The four main Asian regions

The relatively discrete portions of Asia used by default are those traditionally used for the organization of the AWC:

- **Southwest Asia (SW Asia)** comprises the whole of the Arabian Peninsula (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen), as well as Afghanistan, Azerbaijan, Iraq, Iran, Kazakhstan, Kirghizistan, Tadjikistan, Turkmenistan and Uzbekistan; the north Caspian region (Russia), although in Europe, is also considered as part of this region.
- **South Asia (S Asia)** comprises Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka;
- **Southeast Asia (SE Asia)** comprises Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), Papua New Guinea, Philippines, Singapore, Thailand and Vietnam;
- **East Asia (E Asia)** comprises China, Hong Kong, Japan, North Korea, South Korea, Mongolia, Russia (Far-east) and Taiwan.

These four regions will subsequently be referred to in abbreviated form, i.e. SW, S, SE and E Asia.

Justification for the four Asian regions

The mountains surrounding S Asia are likely to be an obstacle to large-scale movements of most tropical species, making S Asia a sensible unit. Most populations of migrant Palearctic ducks wintering in this region are widely separated from populations wintering in SW Asia, and likely, therefore, to be distinct, although interchange of wintering birds between Seistan (E Iran and Afghanistan) and S Asia does occur.

The division between E and SE Asia also makes sense since many tropical species do not (or rarely/locally) occur north of the Indochina peninsula, and many Palearctic species (geese, swans) do not extend further south than China. However, for coastal birds such as waders or terns, this division is not biogeographically valid.

The birds wintering in two or more adjacent regions were considered together as a single population when it was clear that the birds belonged to the same migratory population (e.g. in the case of many waders occurring along the coasts of E and SE Asia), or when it seemed likely that there was a high level of interchange of individuals between the different regions (e.g. in the E African/SW Asia/S Asia population of the Crab Plover).

COMPUTING POPULATION ESTIMATES

Population estimates are required if we wish to use the count data to assess the importance of a particular sites for the survival of a species. Knowing that a site holds 200 individuals of a certain species is not very useful if we do not know whether the population to which those individuals belong numbers 1,000, 10,000 or 100,000. Clearly, the value of any count of a species is greatly enhanced if we know what proportion of the total population that count represents.

Available information

For Asia, the information available to compute population estimates is as follows:

1. AWC figures in countries where several years of data are available

By adding the five-year means (FYM; see above) for all sites in a country, a national figure taking into account all sites counted in 1987-1991 was produced; by summing these for the entire range of a population (as identified above), a regional figure was produced. These sums of the FYMs will later be called 'AWC figures'; they are given for each species and each Asian region in Annex 1.

This method cannot account for all those wetlands which have never been covered. Although it provides the best possible overall estimate for the wetlands covered at least once in 1987-91, it is usually not a valid estimate for the total population in the region as a whole, but a minimum figure from which such an estimate might be derived.

An example is provided by the Cattle Egret, for which the AWC figure for S Asia is 41,000. Two surveys, in 1988 and 1989, along the Coromandel Coast, a small region of SE India (45,000 km²; less than 2% of the area of India alone), produced a density of birds suggesting that there were

probably between 60,000 and 160,000 birds in this region alone (Perennou 1990; Perennou & Santharam 1990a). The discrepancy arises from the fact that most of the sites frequented by Cattle Egrets (mainly agricultural fields and dry habitats) have never been counted.

Various criticism can be addressed to this method:

- the FYMs often combine complete counts with partial counts because of differences in coverage in different years.
- in some countries, some taxonomic groups (e.g. waders in Japan) are not counted every year, whereas others (ducks, swans) are; the calculation of a FYM for the total number of waterfowl therefore encompasses inconsistent taxonomic coverage.
- for rapidly declining populations (e.g. Siberian Crane in India, Bean Goose in E Asia), an average calculated over several years is relatively meaningless, and could be much higher than the number surviving in the last year that the birds were counted.
- for some highly concentrated and uncommon species (e.g. some cranes and the Oriental Stork), the method can lead to an over-estimation if a substantial proportion of the population occurs on different sites in different years, and if some of the important sites are covered only in years when they host the species.

Despite these limitations, the sum of the five-year means represents the best figure which can be extracted from the AWC data. It has the major advantage, under the existing situation of annual variations in coverage, of enabling data collected in different years at different wetlands to be taken equally into account.

2. *Single year count*

In North Korea, only one very limited AWC survey was carried out, in 1990. Although the data cannot be taken as representative of the populations in this country, they have been used in this analysis as the best information available.

3. *Total national counts*

In Japan, very extensive nationwide counts of Anatidae are undertaken every year, with several thousand wetlands being counted. However, details of the annual coverage and counts at each wetland were not available for the AWC; instead, data were received from a sample of 53 wetlands. To produce the regional AWC figures for Anatidae in E Asia, the national estimates for Japan were derived from the average of the national totals counted between 1988 and 1991, as published in the journal *Strix* (e.g. Anonymous 1988, 1989, 1990), and not from the AWC data.

4. *Waterfowl counts before the AWC*

In Iran, the best coverage to date was achieved in the late 1960s and 1970s, largely because of the use of aircraft to survey the very extensive wetlands in the south of the country. No aerial surveys have been possible in recent years, and this almost certainly explains why the counts of many species during 1987-91 were much lower than those in the 1970s. In other countries (notably Iraq and Afghanistan), no recent data are available; the only waterfowl counts date back to the 1970s. It is not known to what extent these old counts reflect the situation in recent years.

5. *'Guesstimates' by National Coordinators of the AWC*

When time allowed, the FYM estimates were circulated to National Coordinators with a request to propose, wherever possible, more appropriate population estimates based on their local knowledge, using categories of abundance (less than 100, 100-1,000, 1,000-10,000 and so on).

6. *Special surveys or breeding data*

In some cases (mostly threatened species with relatively small populations), detailed surveys have been undertaken during the breeding season and/or in winter to determine the size of a population as accurately as possible. Population estimates derived from such studies are generally available in the published literature.

7. Summary counts from regions not included in the AWC

No detailed counts have as yet been received by IWRB from the North Caspian Sea (Russia/Kazakhstan), although counts have been carried out regularly in this area for many years. In 1991, totals were provided for all species of Anatidae in the North Caspian. Since these birds are probably part of the populations that winter further south in the Caspian region, these totals were added to the AWC figures for SW Asia as the best data available for the N Caspian.

Production of AWC figures

For each region, one or two figures based upon the AWC were produced for each species; these are given in each species account and summarized in Annex 1:

* One figure has been derived from the 1987-91(92) AWC data, corresponding to the sources (1) and (2) above. In the case of Japan, source (1) has been replaced by source (3). This figure will later be referred to as the 'AWC figure' and is shown within brackets in the species accounts, e.g. [AWC 30,000].

* Since several countries in SW Asia have not been covered by the AWC, a second regional figure has been derived by combining the AWC 1987-91 data (as above) with the 1970s data from Afghanistan, Iraq, Kirghizistan and Tadjikistan; the year with the best coverage was used. In addition, the 1987-91 data from Iran have been replaced with the 1970s data from that country (middle of the range given by Scott, 1992). These figures will be closer to the real population levels if the wetlands still support the same number of waterfowl as they did 20 years ago. However, while there is little indication of any major decline in waterfowl numbers in Iran in recent years, the situation in the wetlands in Iraq and Afghanistan, in particular, may be quite different.

Production of population estimates

An estimate of the population size is proposed for certain species. This is either a reliable, published estimate, in which case the reference is given; or, a reliable estimate, hitherto unpublished, from an IWRB/ICBP Research Group Coordinator or other expert, in which case the source is named; or, it is a 'guesstimate' by the authors, taking into account all sources of information listed above, plus the authors' knowledge of the species, the continent, etc. Such a 'guesstimate' was proposed only when the authors were confident that coverage of the species in the region during the AWC was sufficiently comprehensive. This may have been because the species is large and striking, and therefore easily located, identified and counted, or because it is highly concentrated at a relatively small number of sites, or because its range is confined to a region which has been very well covered by the AWC. In most cases, 'guesstimates' were only proposed when it was considered that at least half of the population was being recorded during the AWC. Such population estimates are therefore usually between 50% and 100% higher than the AWC figures.

Species size categories

For many species, population estimates cannot be proposed; however whenever possible, each population has been assigned in the species accounts to one of five size categories:

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

This relies both on AWC data and the authors' knowledge of the region, published information, counts at other seasons, and information received from National Coordinators concerning the abundance of each species in their country.

TRENDS

With only five, or at most six, years of data available, it is clearly not possible to draw any conclusions from the AWC alone as to trends in the populations of Asian waterfowl, except in extreme cases, such as the S Asian population of the Siberian Crane, where there has been a very rapid decline in a tiny population. Only when the AWC has been running for 10 or 15 years, will it begin to be possible to use the AWC data to determine long-term trends in waterfowl populations on a reliable basis. However, there is a considerable amount of information in the literature, albeit much of it anecdotal, concerning the abundance of Asian waterfowl in previous decades which can be compared with the present situation as determined by the AWC, and can therefore permit some tentative conclusions to be made with respect to the long-term trends in waterfowl populations. In the species accounts in Chapter V, such conclusions on long-term trends are presented whenever possible. Many sources were used, notably the major regional references in the ornithological literature,

correspondence with National Coordinators, individual counters and specialists involved with particular groups and species, and the authors' own knowledge of Asian waterfowl. In most cases, therefore, no attempt has been made to give a specific reference or source for a particular statement on trends.

Although much of the information on trends in the species accounts is highly tentative, the authors feel fully justified in including this information as it complements the five-year 'snapshot' provided by AWC data, and draws attention to the widespread declines which have been reported in waterfowl populations in Asia in recent years.

SITES OF INTERNATIONAL IMPORTANCE

Whenever possible, the Ramsar Criteria have been used to identify sites of international importance for waterfowl. These criteria have been developed to assist in the identification of wetlands of international importance for designation under Article 2 of the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention). Two of the criteria relate specifically to the numbers of waterfowl present, and state that a wetland should be considered internationally important if:

- it regularly supports 20,000 waterfowl;
- where data on populations are available, it regularly supports 1% of the individuals in a population of one species or subspecies of waterfowl.

Application of the 1% criterion is only possible for those species or populations for which a total population estimate is available. Whenever such an estimate has been produced, a site has been considered as potentially of international importance when the FYM for the species in question exceeds 1% of the relevant population estimate. However, because many sites were not covered every year, the FYM was often an average of only two, three or four counts, and in some cases was based on only a single count. Sites which qualify with at least three years of data are regarded as being of confirmed international importance, whereas those sites which have been counted only once or twice are considered as only potentially of international importance until further data become available.

Similarly, sites which have held an average of over 20,000 waterfowl on the basis of three or more years data are considered to be of international importance, while those with over 20,000 waterfowl which have been counted in only one or two years are considered as potentially of international importance.

The Ramsar criteria also state that a wetland should be considered internationally important if it supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant or animal, or an appreciable number of individuals of any one or more of these species. Thus, for all globally threatened species of waterfowl (see Collar & Andrew 1988), any site which regularly holds the species in appreciable numbers is of international importance. In many cases, the AWC data do not cover a sufficient number of years to determine if a threatened species occurs with any regularity at a site. In such cases, the site should be regarded as only potentially of international importance for the species until further data become available.

When sites of international importance for a species cannot be identified because of the lack of a population estimate, the major regional sites for the species, if any, are listed under the heading 'Other important sites' or 'Important sites'.

In Japan, the national totals rather than the AWC data were used to produce the E Asian AWC figure (see above). As a consequence, for some species (mainly sea-ducks) no important sites can be listed even though the AWC figure appears high. This is because the bulk of the birds were recorded in the total national count for Japan and not in the sample of 53 wetlands in the AWC data; details of where these large numbers of birds were counted are not available.

SPECIES MAPS

One of the main aims of this report is to map the mid-winter distributions and main concentrations of Asian waterfowl. Concentrations were assessed on the basis of 0.5%, 1% and 2% of the total 1987-91 AWC figure for Asia; i.e. the sum of the five-year means at all sites counted in Asia during the AWC.

The sites plotted on the species maps are:

- **small open (white) dot:** at least one record in the 1960s/1970s in Afghanistan, Iraq, Kirghizistan and Tadjikistan; i.e. countries that did not participate in the AWC in 1987-91.
- **small black dot:** at least one record in 1987-91 (or 92).
- **medium black dot:** FYM over 0.5 % of the total AWC figure, and FYM also greater than 10 (non-threatened species) or two birds (globally threatened species), whichever is higher.
- **large black dot:** FYM over 1 % of the total AWC figure, and FYM also greater than 20 (non-threatened species) or four birds (globally threatened species), whichever is higher.
- **star:** FYM over 2 % of the total AWC figure, and FYM also greater than 40 (non-threatened species) or eight birds (globally threatened species), whichever is higher.

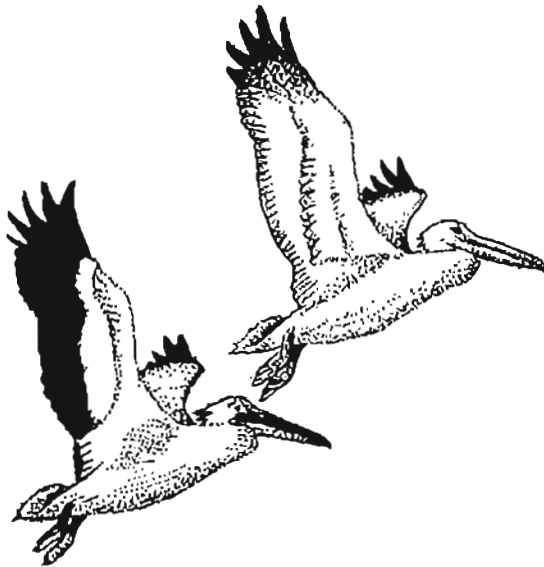
The use of minimum criteria of 10, 20 and 40 (or two, four and eight for globally threatened species) was found to be necessary because, for many poorly covered species such as many rails, the AWC figures were frequently very low and gave 0.5%, 1% and 2% levels of only two or three birds. The plotting of such tiny numbers as 'concentrations' would clearly be meaningless.

Maps with less than six dots are not presented; in these cases, the distribution of the few AWC records is summarized in the text.

In Japan, the counts submitted to IWRB for the AWC by the Environment Agency have traditionally encompassed only Anatidae. In only one year (1990) were data also received for other species, such as waders, and then from only a small number of the 53 sites in the national sample. Because of this taxonomically incomplete coverage, the winter distribution in Japan of species other than Anatidae and cranes is not adequately represented on the maps.

TAXONOMIC TREATMENT

The taxonomic treatment adopted in the report follows that used during the Asian Waterfowl Census and presented in Perennou *et al.* (1991), amended in a few places to keep in line with IWRB's evolving database on waterfowl of the world. This does not represent any view by IWRB or AWB on the particular status of any species or subspecies or on its nomenclature.



III. GENERAL RESULTS

GEOGRAPHIC COVERAGE

The AWC aims to encompass all Asian countries which harbour waterfowl during the northern winter, with the exception of those countries close to or bordering the eastern Mediterranean which have traditionally participated in the Western Palearctic Waterfowl Census (Israel, Jordan, Lebanon, Syria and Turkey). Between 1987-91, data were received in at least one year from each Asian country with the exception of Afghanistan, Cambodia (which joined in 1992), Iraq, Kirghizistan, the Maldives, Mongolia, Russia (Far East) and Tadjikistan (Figure 1a). A few countries, such as Bhutan and North Korea, have participated on a very irregular basis, mostly through brief visits to these countries by foreigners.

The 1987-91 coverage of the AWC is presented in Figure 1b. This shows all sites that have been covered at least once in the 1987-91 period and for which coordinates were provided. It also shows sites in Afghanistan, Iraq, Kirghizistan and Tadjikistan which were covered between 1967 and 1979. This map is produced as a transparent overlay to enable comparison of individual species maps with actual AWC coverage, thereby allowing the reader to distinguish between areas where a species was not observed during the Census and areas which have never been counted.

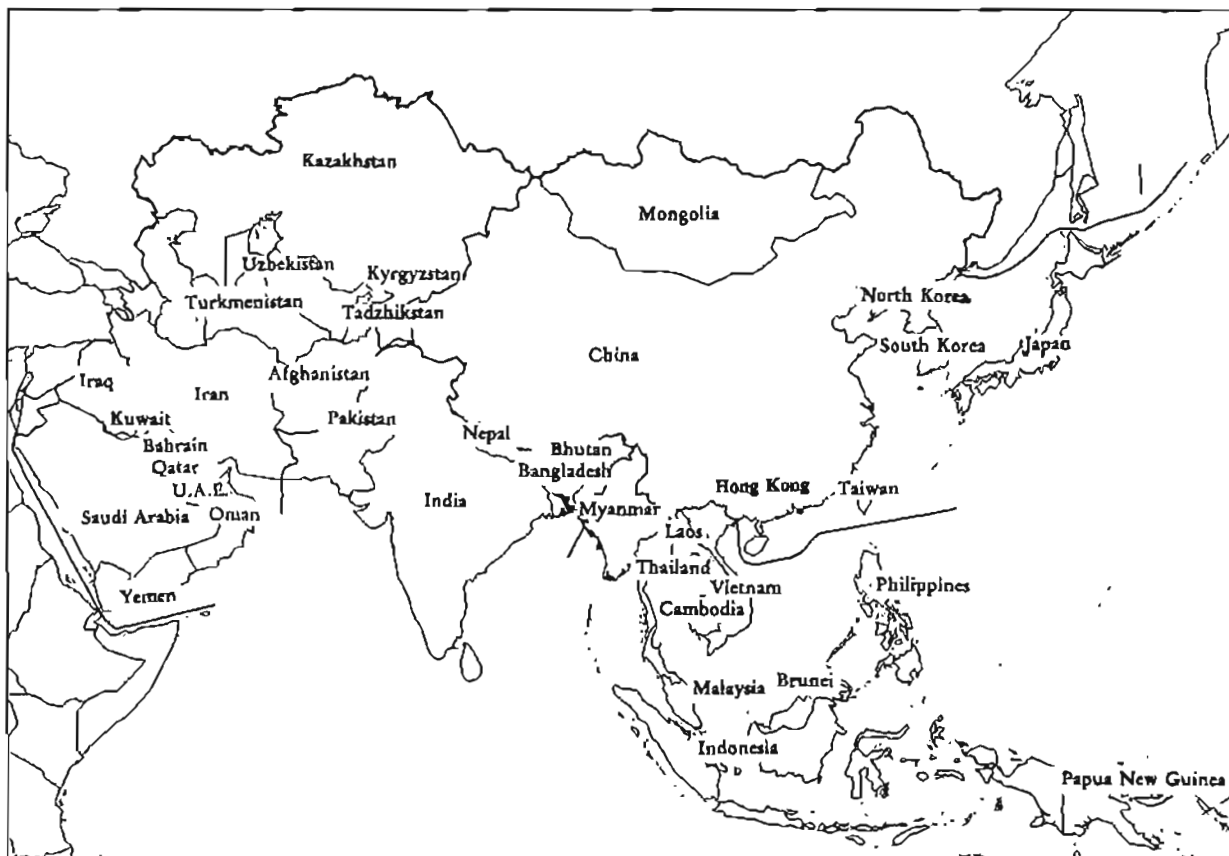


Figure 1a: Overview of the Asian region covered by the Asian Waterfowl Census

Pre-1987 data

Long before the official 'launch' of the Asian Waterfowl Census in 1987, several Asian countries had already been carrying out waterfowl counts on a more or less regular basis. Outstanding among these are Iran and Pakistan, which began their counts in 1967, at the same time as the Western Palearctic Census, and have continued almost without break since then. The participation of Asian countries before 1987 is summarized in Table 1, and the results (species totals per year) for eight countries are presented in Annexes 3 to 10. In the case of Uzbekistan and Turkmenistan, these include the data up to and including 1989 which were not received in time to be included in the relevant Annual Reports.

Expansion

The expansion in coverage and participation between 1987-1992 is shown in Table 2 and Figure 2. The rapid increase, in terms of participating countries, individuals and wetlands covered, is noticeable. In total, 3,109 wetlands in 32 countries were counted at least once in 1987-91; in addition, 63 wetlands in another four countries had been covered in 1967-79. Over 86,000 count records were obtained (i.e. counts of a species at a wetland in a particular year), covering 299 species of waterfowl.

Consistency

Within the AWC region, consistency of coverage varied considerably between countries. Counts took place at the same wetlands in each year in some small countries (e.g. Bahrain and Oman), and where the census had already been operating for many years (Iran and Pakistan). In several countries (e.g. India and China) coverage largely encompassed different wetlands in different years. Most countries fell between these extremes.

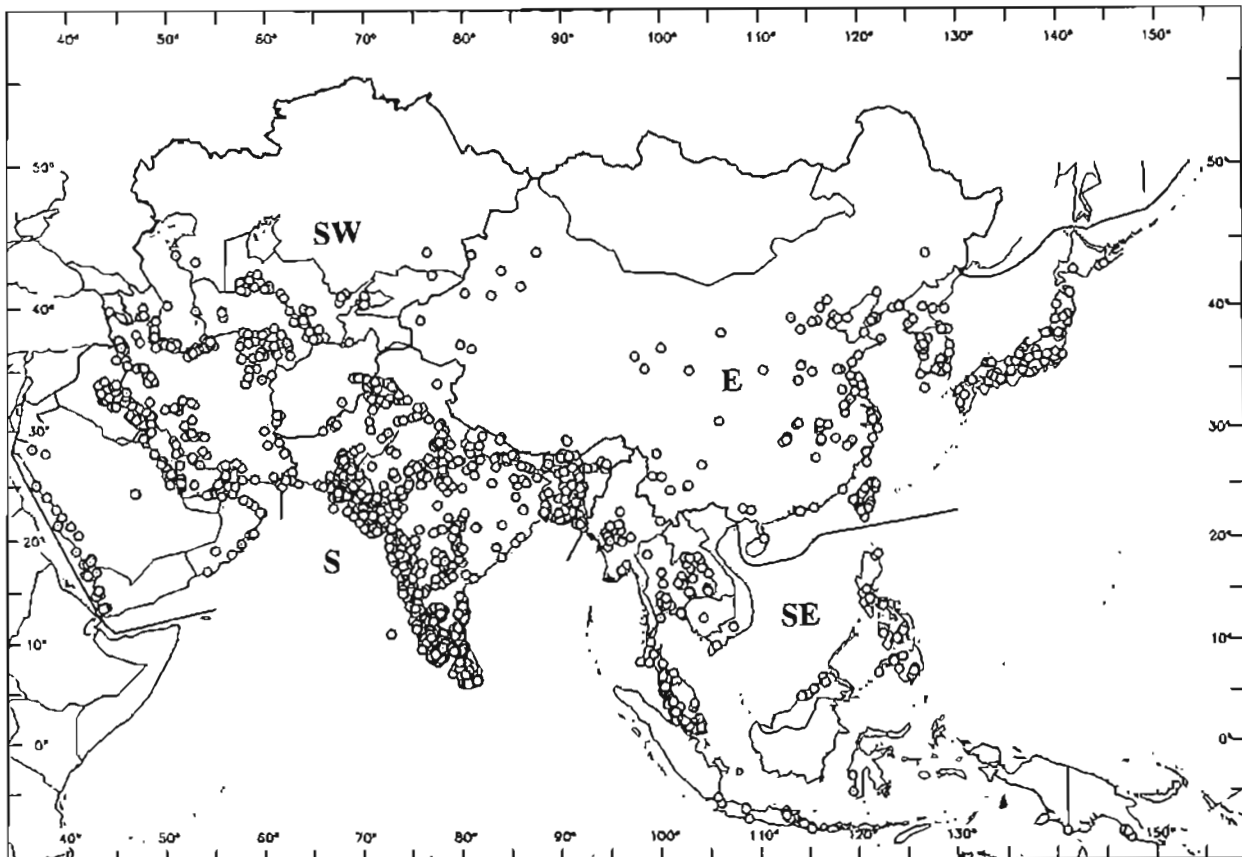


Figure 1b: Total coverage of the Asian wetlands by the AWC in 1987-1991. Each open circle represents a site counted at least once in 1987-91; and sites counted between 1967-1979 in countries which did not participate in the AWC since 1987 (Afghanistan, Iraq, Kirghizistan and Tajikistan).

Table 1: Number of sites counted during the waterfowl counts in Asia before 1987

	1967	68	69	1970	71	72	73	74	75	76	77	78	79	1980	81	82	83	84	85	86	
SOUTH-WEST ASIA																					
Afghanistan				5	5	5	5	5	1												
Iraq	4	12				11	8						18								
Iran	4	12	7	39	74	86	95	90	100	61	65	2		16	40		25	36	24	38	
UAE									3												
Kazakhstan				1																	
Kirghizistan	1	1	1	1	1																
Tadjikistan			2	2	2																
Turkmenistan		1		9		9	10	13	15	14	13	15	16	7	18	18	7	22	27	28	
Uzbekistan																				12	
SOUTH ASIA																					
Bangladesh													6								
India			1	5		1	44	1					3	7			11	1		1	
Nepal															3	1				1	
Pakistan	13	13		5	16	15	28	40	43	7	4	4	3	11	17	16	21	21	28	38	
Sri Lanka		1			2		2										25	14			
EAST ASIA																					
China																				1	1
Hong Kong													6		5	5	6	5	5	5	
ASIA TOTAL	22	40	11	67	100	115	152	148	213	84	82	21	52	41	83	40	95	99	85	124	

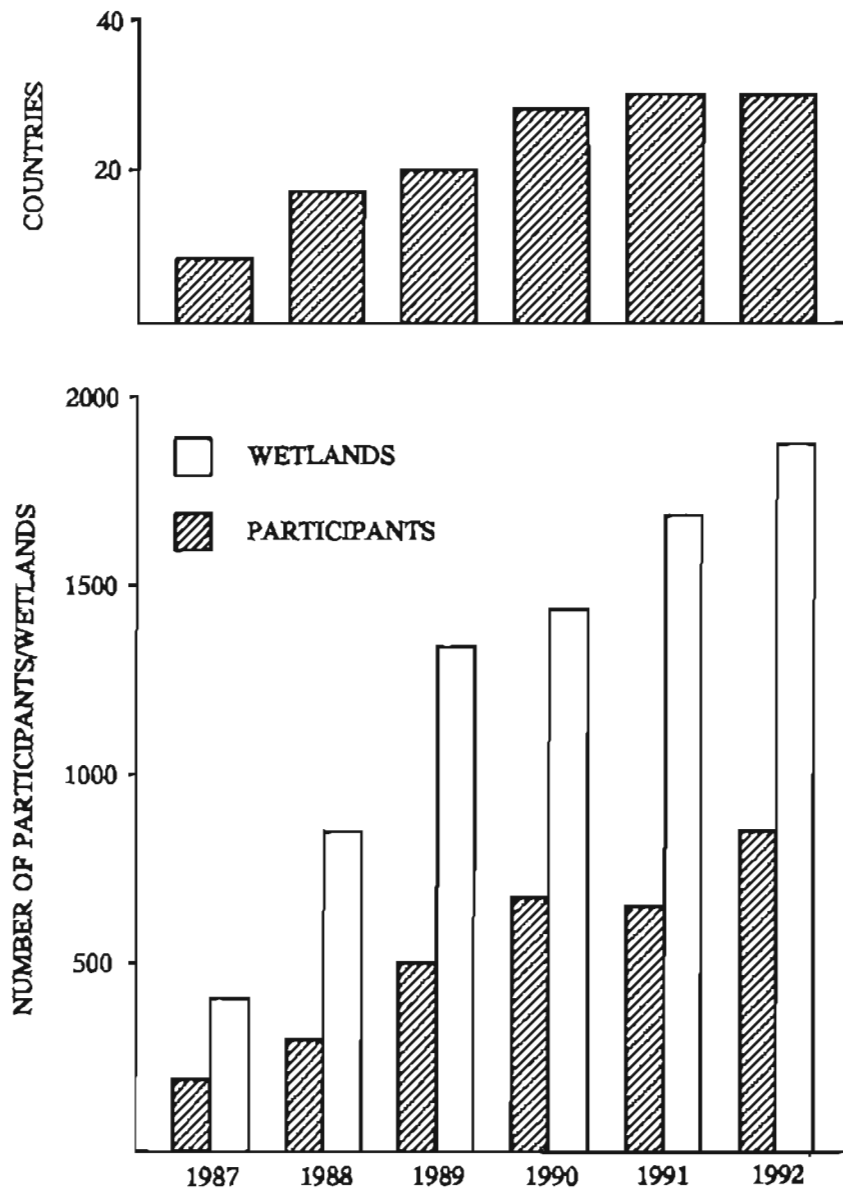
Table 2: Overview of the Asian Waterfowl Census during the period 1987-92

	Number of sites counted						Number of participants*					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
SOUTHWEST ASIA												
Azerbaijan	0	0	0	0	2	0	-	-	-	-	4	-
Bahrain	0	11	9	22	0	21	-	4	3	1	-	3
Iran	40	101	106	117	110	124	**	**	**	33	**	9+
Kazakhstan	0	0	0	0	4	3	-	-	-	-	3	2
Kuwait	0	4	0	3	0	0	-	1	-	1	-	-
Oman	0	6	13	14	14	13	-	3	19	27	28	20
Qatar	0	0	0	0	6	8	-	-	-	-	12	7
Saudi Arabia	0	0	0	19	21	31	-	-	-	10	7	14
Turkmenistan	34	36	20	23	20	0	**	-	-	4	**	-
UAE	0	0	0	1	21	13	-	-	-	1	7	9
Uzbekistan	6	2	0	0	7	0	-	-	-	-	1	-
Yemen	0	0	0	0	10	8	-	-	-	-	1	1
SOUTH ASIA												
Bangladesh	8	12	12	19	35	60		11	10	7	25	26
Bhutan	0	2	4	0	0	0		1	3	-	-	-
India	189	326	650	655	816	776		180	282	318	300+	300+
Nepal	12	10	2	11	8	14		8	15	18	18	13+
Pakistan	67	147	190	140	176	258		17	18	21	13	12
Sri Lanka	67	101	109	115	106	102		17	29	26	35	42
SOUTHEAST ASIA												
Brunei Darussalam	0	0	0	4	4	0		-	-	7	6	-
Myanmar	5	3	12	17	16	21		8	10	12	10	19
Indonesia	0	0	1	19	8	18		-	**	7	10	26
Cambodia	0	0	0	0	0	1		-	-	-	-	2

	Number of sites counted						Number of participants*					
	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
Laos	0	0	2	4	5	3	-	-	3	1	4	1
Malaysia	0	0	70	66	108	86	-	-	7	10	16	8
Papua New Guinea	0	0	0	8	9	7	-	-	-	6	6	14
Philippines	0	0	0	22	26	39	-	-	-	16	47+	91
Singapore	0	0	0	3	12	18	-	-	-	6	13	22
Thailand	1	3	21	26	16	23	1	4	13	26	12+	36
Vietnam	0	6	2	2	0	1	-	2	15	2	-	4
EAST ASIA												
China	0	40	12	62	12	75	-	**	18	59	9	69
Hong Kong	7	7	6	6	7	7	13	16	16	22	23	24
Japan***	0	0	53	44	53	47	-	-	**	**	**	**
North Korea	0	0	0	3	0	0	-	-	-	1	-	-
South Korea	0	11	12	23	22	19	-	1	12	12	11	8
Taiwan	0	26	33	28	32	34	-	28	31	17	30	33
AUSTRALASIA												
Australia	0	0	0	0	0	16	-	-	-	-	-	19
New Zealand	0	0	0	0	0	16	-	-	-	-	-	16
ASIA & AUSTRALASIA												
TOTAL	403	852	1339	1436	1686	1878	191+	301+	504+	671+	651+	850+

Notes:

- * These are minimum figures only. In many cases the counts were carried out by personnel of a government wildlife department or by members of a natural history society, and no individuals are mentioned by name.
- ** Full details of participants are not available.
- *** Several thousands of sites are regularly counted in Japan, but details are provided for only a sample of the most important sites.



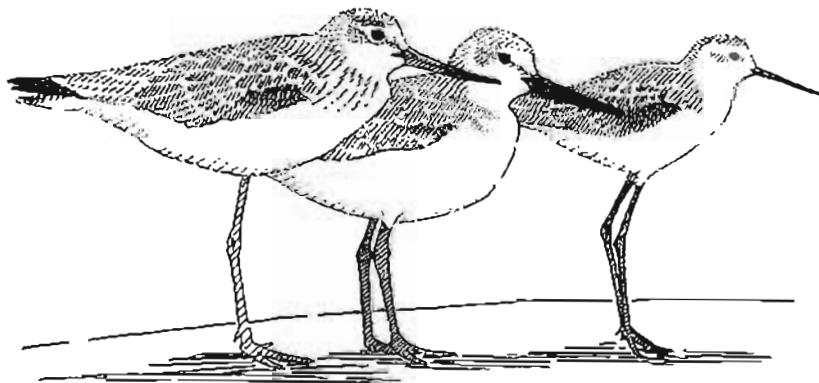
From 1992, the AWC was extended to Australasia (Australia/New Zealand)

Figure 2: Increase in coverage and participation in the Asian Waterfowl Census, 1987-1992

TAXONOMIC COVERAGE

Not all groups of birds were covered with the same efficiency. Species which are either small (e.g. many waders), of cryptic coloration (some waders), non-gregarious and/or widespread in cultivated areas such as rice fields (e.g. some waders, some terns, various herons), confined to dense habitats such as mangroves or reed beds (rails, Purple Heron, Green-backed Heron) or mainly nocturnal (night herons), are all much more likely to be under-recorded than species which are either large, colourful or highly gregarious (e.g. most Anatidae, storks, ibises, pelicans, flamingos). The quality of the AWC data was therefore higher for the latter groups of birds, and it is generally only for these species that it has been possible to suggest population estimates and identify wetlands of international importance.

Some birds of prey (Falconiformes) are closely associated with wetland habitats, notably the Osprey (*Pandion haliaetus*), fish-eagles (*Haliaeetus* spp.) and some harriers (*Circus* spp). These have gradually been included within the scope of the AWC since 1990. However, because they are not yet systematically recorded by all counters in all countries, the very limited data available to date have not been analyzed for this report. A summary of the data (annual national totals) can be found in the Annual Reports.





IV. WATERFOWL POPULATION TRENDS IN PAKISTAN AND IRAN

Although data on waterfowl should be analyzed at the population or flyway level, long-term data in Asia are restricted to Iran and Pakistan. The data are still too limited to enable the application of standard trend assessment methods (e.g. Underhill 1989). Trends can therefore only be calculated by comparing samples of wetlands over two distinct periods.

METHODS

Only Anatidae and the Common Coot were considered, due to inconsistencies in the coverage of other species.

For each country, a sample of wetlands was selected to represent the country. The criteria for selection were irrespective of size, location or overall importance of the site for wintering waterfowl. A wetland was selected when it had been covered at least twice in the 1970s (1971-75 in Pakistan, 1970-71-72-76-77 in Iran), and again at least twice in 1987-91.

Twenty-eight wetlands in Pakistan (8% of all those ever counted) were thus selected, and these included all the most important wetlands in the country. Together, they accounted for 58-76% of the total numbers of waterfowl recorded in each of these two periods.

Using the same criteria, 43 Iranian wetlands were selected. Although available, 1973 to 1975 data were not used because most of these counts were carried out from aircraft; a majority of the counts in 1970, 1971, 1972, 1976 and 1977, as in 1987-91, were made from the ground. Comparisons were only made, therefore, between years in which similar methods were used.

The 1971-72 winter was exceptionally cold in Central Asia, and Iran saw a large influx of some waterfowl species, presumably from their usual wintering areas further north in the Caspian region (Scott 1972). Therefore, two-way comparisons were made between the 1970s and 1987-91 data, i.e. including and excluding the 1972 winter.

Five-year-means (see Chapter II) were calculated in each country for the sample of sites (28 in Pakistan, 43 in Iran), both for the 1970s and for 1987-91. Trends were assessed by comparing the sums of these five-year means for the two periods.

RESULTS

Pakistan

A comparison of 1970s and 1987-91 data for the 28 Pakistan wetlands suggests an overall increase of 51% in Anatidae and Common Coot (Table 3). However, this increase is not homogenous across species and wetlands (Table 4). Nearly 80% of the overall increase can be accounted for by an increase in the numbers of Common Coot at the five wetlands in Pakistan which harbour the largest numbers of wintering waterfowl.

Table 3: Trends in waterfowl species at 28 wetlands in Pakistan, 1971-75 to 1987-91

Trends are not significant for species with total numbers of less than 400 in both periods (indicated with a '-')

Species	Species total:		Trend (In %)
	1971-75	1987-91	
<i>Anser anser</i>	333	98	-
<i>Anser indicus</i>	204	21	-
<i>Tadorna ferruginea</i>	528	19	- 96
<i>Tadorna tadorna</i>	124	15	-
<i>Nettapus coromandelianus</i>	96	470	+ 390
<i>Anas penelope</i>	22502	71712	+ 219
<i>Anas strepera</i>	6955	14072	+ 102
<i>Anas crecca</i>	71942	45387	- 37
<i>Anas platyrhynchos</i>	10422	8841	- 15
<i>Anas poecilorhyncha</i>	69	420	+ 509
<i>Anas acuta</i>	37687	32711	- 13
<i>Anas querquedula</i>	224	1126	+ 403
<i>Anas clypeata</i>	28392	31326	+ 10
<i>Marmaronetta angustirostris</i>	17	309	-
<i>Netta rufina</i>	561	2290	+ 308
<i>Aythya ferina</i>	29394	57004	+ 94
<i>Aythya nyroca</i>	124	23	-
<i>Aythya fuligula</i>	4457	12897	+ 189
<i>Aythya marila</i>	0	1	-
<i>Mergellus albellus</i>	44	0	-
<i>Oxyura leucocephala</i>	561	205	- 63
Anatinae spp.	14741	22173	+ 50
<i>Fulica atra</i>	191417	332622	+ 74
TOTAL ANATIDAE	229377	301120	+ 31
TOTAL WATERFOWL	420794	633742	+ 51

During this 16-year period, large increases occurred in Common Coot (+74%), most diving ducks (Pochard +94%, Red-crested Pochard +308%, Tufted Duck +189%) and herbivorous dabbling ducks (Wigeon +219%, Gadwall +102%). All other common species declined. Large declines occurred in the threatened White-headed Duck (-63%) and Ferruginous Duck (-81%), as well as in Common Shelduck, Ruddy Shelduck, Greylag Goose and Bar-headed Goose. Not all wetlands recorded similar trends: waterfowl increased at 15 wetlands and decreased at 11.

Table 4: Change in the five-year mean of waterfowl numbers at 28 wetlands in Pakistan, 1971-75 to 1987-91

Wetland	Anatidae		Common Coot		No. of counts	
	1971-75	1987-91	1971-75	1987-91	1971-75	1987-91
SIND						
CHATCH	165	22	125	242	2	5
SANBHER	2220	2781	650	3800	2	2
DHO OR DHOO, JATI	2921	821	325	401	2	4
SANDHO	9131	3450	660	185	2	2
MAHBOOB SHAH	6485	8679	12	760	2	4
HALEJI LAKE	15085	27977	63487	61994	5	5
JAFAR ALI LAKE, TANDO BAGO	1073	1703	695	22342	5	5
CHARWO LAKE	1535	2471	265	1509	2	5
HADERO LAKE	5371	30446	2915	25923	5	5
PHOOSNA I+II	4993	7012	1087	3962	4	4
KEENJHAR LAKE	15331	36149	69028	94331	5	5
WINGIO LAKE (HATHUNGO LAKES)	332	621	0	156	2	3
GULAM SHAH (= BOTAAR)	126	437	0	46	2	3
SOONAHRI (I+II)	20105	6684	10793	3188	3	5
SANGHRYARO	8772	2005	9595	6169	4	5
LUNGH	25336	3739	11	900	3	5
DRIGH	18897	22950	13	1488	3	5
RUP (= GHAUSPUR, = RAP) LAKE	19532	7429	2944	4699	5	5
PUNJAB						
LAL SUHANRA (= PATISAR) LAKE	11199	4437	6114	2254	5	5
TAUNSA BARRAGE	15039	9145	2703	4973	3	4
KHARAL (KHARRAR) LAKE	8786	19809	44	4592	5	5
CHASHMA BARRAGE RESERVOIR	19850	73036	16500	93515	5	5
KHABBAKI LAKE	2184	1379	651	469	5	5
NAMMAL (= NEMAL, NIMAL) LAKE	1206	431	1260	231	4	5
UCCHALI	1093	4593	470	3475	5	5
KALAR KAHAR	1506	171	480	2086	2	4
RASUL BARRAGE	8630	19284	570	8252	2	5
CAPITAL FEDERAL TERRITORY						
RAWAL DAM	2474	3459	20	788	3	3

Iran

The total number of waterfowl counted on the sample of 43 wetlands declined by 42-44% between 1970-1977 and 1987-91, with numbers falling from 816,000 (including 1972) or 784,000 (excluding 1972) to 454,000 (Table 5). Anatidae decreased by 40-43% while Common Coot declined by 51-52%.

As in Pakistan, the overall decline hides large variations between sites (Table 6) and between species (Table 5). Some species experienced an apparent increase, e.g. Ruddy Shelduck (+400-480%), Tufted Duck (+26-36%) and Mallard (+26-50%), while the majority declined, especially Pintail (-80-84%), Teal (-64-67%) and Wigeon (-65-66%).

Waterfowl numbers increased at 19 wetlands and declined at 21, while at three sites the counts were too small (<200) to be significant. Overall, however, the declines were much higher than the increases, and of the 12 top wetlands (over 30,000 waterfowl in the 1970s), only two still held over 30,000 in 1987-91, although a further two sites were very close to that figure.

Table 5: Trends in waterfowl species at 43 wetlands in Iran, 1970-77 to 1987-91

Trends are not significant for species with total numbers of less than 400 in both periods (indicated with a '-').

Species	Species total		1987-91	Trends 1970's to 87-91 (in %)	
	1970s incl.1972	1970s excl.1972		incl.1972	excl.1972
<i>Cygnus cygnus</i>	323	243	79	-	-
<i>Cygnus (columbianus) bewickii</i>	13	14	40	-	-
<i>Cygnus olor</i>	1377	709	1059	- 23	+ 49
<i>Tadorna ferruginea</i>	2190	2550	12779	+ 484	+ 401
<i>Tadorna tadorna</i>	12841	16780	6734	- 48	- 60
<i>Anas penelope</i>	56833	59246	20017	- 65	- 66
<i>Anas strepera</i>	21246	23788	9854	- 54	- 59
<i>Anas crecca</i>	218949	201697	73088	- 67	- 64
<i>Anas platyrhynchos</i>	92390	77505	116173	+ 26	+ 50
<i>Anas acuta</i>	123091	101714	20037	- 84	- 80
<i>Anas querquedula</i>	26	31	312	-	-
<i>Anas clypeata</i>	19384	22367	13234	- 32	- 41
<i>Marmaronetta angustirostris</i>	6735	5602	5751	- 15	+ 3
<i>Netta rufina</i>	2255	1143	1633	- 28	+ 43
<i>Aythya ferina</i>	41741	36093	28789	- 31	- 20
<i>Aythya nyroca</i>	62	75	114	-	-
<i>Aythya fuligula</i>	9172	8519	11570	+ 26	+ 36
<i>Aythya marila</i>	23	43	43	-	-
<i>Melanitta fusca</i>	0	0	391	-	-
<i>Bucephala clangula</i>	583	678	12	- 98	- 98
<i>Mergellus albellus</i>	766	339	7	- 99	- 98
<i>Mergus serrator</i>	431	706	173	- 60	- 76
<i>Mergus merganser</i>	19	0	4	-	-
<i>Oxyura leucocephala</i>	389	232	124	-	-
Anatinae spp.	66580	82596	63774	- 4	- 23
<i>Fulica atra</i>	139004	141449	68202	- 51	- 52
TOTAL ANATIDAE	677421	642673	385791	- 43	- 40
TOTAL WATERFOWL	816425	784122	453993	- 44	- 42

Table 6: Change in the five-year mean of waterfowl numbers at 43 wetlands in Iran, 1971-77 (1972 excluded) to 1987-91

	FYM Waterfowl		Number of counts	
	1971-77	1987-91	1971-77	1987-91
FARS				
ARJAN (DASHT-I ARJAN) MARSH	33755	10398	3	4
BAKHTEGAN & TASHK LAKES	46120	98963	2	5
DORODZAN DAM	34400	6500	1	4
MAHARLOO LAKE	624	11602	3	5
PARISHAN LAKE	45108	29520	3	4
GILAN				
ABBAS-ABAD DAM	54	11	3	5
AMIRKELAYEH AB-BANDAN	12521	9141	3	5
ANZALI MARSH, CENTRE	5780	9813	1	3
ANZALI MARSH, EAST	5071	8667	2	5
ANZALI MARSH, W. (MAIN LAGOON)	19070	8879	3	5
CASPIAN COAST ANZALI-LANGARUD	37522	1018	3	5
CASPIAN COAST ASTARA-HASHTPAR	6994	5906	3	4
CASPIAN COAST HASHTPAR-ANZALI	14988	5375	3	4
JUKANDAN (JOCANDAN) WETLAND	290	7	2	5
SELKEH PROTECTED REGION	48965	17207	3	5
SHAHKESHIM PROTECTED REGION	67208	18048	3	5
KHUZESTAN				
DEZ DAM & RIVER	1343	5967	2	4
HAMIDIEH GRASSLAND	23	5671	2	3
SHADEGAN MARSHES PROT. REGION	62148	29674	3	4
KURDESTAN				
ZARIBAR LAKE	782	365	1	3
MAZANDARAN				
AJI GOL	19	525	3	5
ALA GOL	3419	9694	3	5
ANAR MARZ AB-BANDAN	4581	11448	2	4
BYBY SHIRVAN LAKE	1448	7	3	4
CASPIAN COAST PARAHABAD-ASHUR	6523	7992	3	4
GORGAN BAY	68106	9785	1	4
INCHEH (BORUN) AB-BANDAN	164	52	3	4
IYMER (EYMAR) LAKE	60	3	3	4
LAPOO-ZAGHMARZ AB-BANDAN	554	3668	2	5
LARIM AB-BANDAN	960	1330	2	2
MIANKALEH PROTECTED REGION	88637	89077	3	5
ROSHANDAN AB-BANDAN	1390	2865	2	4
SAID MAHALEH AB-BANDAN	63899	3546	3	5
ULMA GOL	209	357	3	4
VOSHMIGIR DAM	236	635	2	4
ZARINKOLA AB-BANDAN	11904	7487	2	4
SEISTAN & BALUCHISTAN				
HAMOUN-I HELMAND	5262	1882	2	4
HAMOUN-I SABERI	69381	3252	2	5
W. AZERBAIJAN				
DORGEH SANGY MARSH	3187	393	3	5
GOPY LAKE	69	5959	3	3
NOWROOZ LOO DAM	600	1685	3	2
UROMIEH LAKE	10273	9007	3	4
YADEGARLO LAKE	475	612	2	4

INTERPRETATION AND DISCUSSION

The composition and distribution of waterfowl in Pakistan and Iran has changed considerably over the past 20 years. However, it should be remembered that the results are based upon samples of wetlands, and not upon the total numbers of wintering waterfowl counted in each country.

Pakistan

Various reasons, not mutually exclusive, can be proposed for the apparent increase in numbers of waterfowl in Pakistan:

- a real population increase;
- a displacement of wintering waterfowl from the large, natural floodplains of the Indus valley to recently created wetlands (dams), where they are easier to count;
- a displacement from other wintering regions, e.g. Iran (see below); and
- differences between counters. These can be ruled out since several key individuals participated in most surveys in both periods.

The underlying reasons for these changes, themselves not confirmed, are impossible to identify without more detailed field studies. Habitat type, for example, does not seem to play a major role. Major increases (+10,000 waterfowl and over) occurred simultaneously on freshwater lakes (Keenjhar), brackish to saline lakes (Kharal, Hadero), fairly old dams (pre-1971: Chashma, Rasul, Haleji), and recent dams (Hub Dam, 1981).

The changes in numbers, if real, may not be related so much to the condition of the day-time refuges where waterfowl are counted, but more to the condition of the surrounding feeding grounds (e.g. creation of rice fields).

Iran

The apparent declines (Table 6) found at some individual wetlands may in some cases be real, in others not:

- *real local decline due to local hunting pressure*
A marked decline in the numbers of ducks and Common Coots at some major wetlands, such as Anzali Mordab and surrounding wetlands (Selkeh, Siahkeshim), Dasht-i Arjan, Parishan Lake, Said Mahaleh and Zarin Kola, can be attributed to increased hunting pressure and other forms of human disturbance at the site. Hunting has always been very intensive in Iran in the past decades; in the 1970s, it was estimated that as many as three million birds were killed annually in the South Caspian region alone (Iran Department of the Environment survey). On the other hand, the total numbers of waterfowl at well-protected wetlands, such as Miankaleh and Lakes Bakhtegan and Tashk, have remained relatively stable.
- *real local decline due to sea-level rise*
The 1.8 metre rise in the level of the Caspian Sea since 1977 has made the western part of Anzali Mordab (previously the main sector of the marsh for waterfowl) deeper, and therefore less suitable for feeding, and possibly roosting, for various species. Conversely, wetlands may have become more attractive to some species due to sea level rise. For example, only 500-2,500 Common Coot formerly wintered in the Miankaleh/Gorgan Bay area, whereas over 50,000 were counted in this area in 1992.

- *real local decline due to wetland degradation*
The decline in the numbers of waterfowl in the Seistan wetlands is likely to be real and due to the fact that these semi-permanent wetlands were mostly dry in the early 1980s, leading to their degradation through overgrazing and up-rooting of vegetation for fuel. This degradation continued when the wetlands were re-flooded in the late 1980s, with massive introductions of exotic grass-eating carp.
- *less complete coverage*
Declines along the coast of the Caspian Sea are likely to be a result of a reduction in observer coverage. Access to the Caspian shore has become much more restricted with the spread of privately-owned plots along the beach. Apparent declines in Shadegan Marshes in Khuzestan could also be a result of differences in coverage.
- *overlooked species*
Species such as the Goldeneye, Smew and Red-breasted Merganser are easily overlooked among large flocks of much commoner species, and may have been under-represented in the recent counts.

Obviously, many of the changes in numbers of waterfowl at individual sites do not reflect the situation in the country as a whole. Even when it is apparent that there has been a widespread decline in waterfowl numbers in the sample of 43 sites, this does not necessarily mean that there has been an actual decline in the size of the waterfowl populations, either at national or regional level. At least two other interpretations can be given:

- *displacement to newly created wetlands*
A 1.8 m sea-level rise has flooded the extensive Gomishan Marsh, east of the Caspian Sea, where over 214,000 waterfowl were counted in 1991. In the 1970s, this wetland was a muddy plain covered in *Salicornia* and generally unsuitable for waterfowl other than geese. It was usually difficult of access in winter, and therefore seldom surveyed. For this reason, the site was not included in the sample of 43 wetlands. It is likely that some of the waterfowl which have disappeared from the sample sites have simply shifted to this new marsh.
- *change in wintering regions*
The semi-permanent Seistan wetlands on the Afghan border hold up to one million waterfowl when they are flooded. There is some evidence from ringing recoveries which suggests that when these wetlands dry out, waterfowl continue on southeast to winter in S Asia (e.g. the Indus Valley), rather than due west across the central Iranian desert to the wetlands of western Iran and Mesopotamia. During the long period of dry years in the 1980s, it is possible that many of the waterfowl which formerly wintered in the Seistan basin shifted their wintering grounds to the Indus Valley. This could account for some of the recent increases in waterfowl numbers in Pakistan.

Overall, the sample of 43 sites accounts for 20-25% of waterfowl in Iran. This may be too small a proportion of the total population to determine real trends in a region where wide fluctuations in water levels and the severity of the winters (cold, dry etc.) occur, and where, consequently, populations are highly mobile and make extensive use of irregular wetlands in wet years. Moreover, there may be important discrepancies in coverage at some key sites (e.g. the Caspian Sea and Shadegan Marshes).

CONCLUSION

This preliminary analysis of the waterfowl count data available for Pakistan and Iran has revealed that even when a considerable body of information is available over a number of years, it may still not be possible to determine trends in waterfowl populations with any certainty. For the determination of national trends, it is essential that all the most important sites be counted each year to ensure that a high proportion (not less than 50%) of the birds present are covered by the census. Otherwise, there is a danger that movements of large numbers of birds over short distances in response to strictly local phenomena (e.g. changes in hunting pressure or water level at a particular wetland) could be overlooked. It is also essential that the counting techniques be comparable from year to year. To compare partial ground counts at wetlands in one year with comprehensive aerial counts at these wetlands in another would be meaningless, as would comparisons between actual counts and extrapolated counts.

For the determination of regional trends, i.e. for entire biogeographical or 'flyway' populations, it is essential that counts be made on a regular basis at all major wintering sites throughout the range of the population in question. The annual waterfowl censuses in Iran have shown that the numbers of birds wintering in Iran fluctuate widely from year to year according to the severity of the winter further north and the condition of the wetlands within Iran. In cold years, when wetlands in the North Caspian are frozen, there may be an unusually large influx of waterfowl into Iran from the north; in dry years, when many of the wetlands in central and southern Iran are dry, large numbers of birds may continue on without stopping to more permanent wetlands in countries to the southwest or southeast. For a proper understanding of trends in the populations occurring in Iran, it is essential that information also be available on their numbers in all other countries in SW Asia, and in some cases, also in Eastern Africa and/or Pakistan and NW India.

Clearly, if we are to monitor waterfowl populations, either nationally or regionally, on a reliable basis in the future, there is a great need for more consistent coverage at a larger sample of wetlands. Ideally, analyses would be made on the basis of total national counts covering all major sites every year. Such an analysis has recently been carried out for populations of Anatidae wintering in Japan (Environment Agency of Japan 1992), where as many as 4,500 sites are counted each year. In many other Asian countries, the AWC has set up the process by which future monitoring of waterfowl populations at this level will ultimately be possible. However, it will probably be many years before the counts are sufficiently comprehensive and have been continuing for a sufficient number of years to determine long-term trends for all but the least common and most highly localized species (e.g. some of the cranes).

V. SPECIES ACCOUNTS

POPULATION LIMITS, POPULATION SIZES AND TRENDS

Unless otherwise stated, the introductory information on taxonomy and distribution in the species accounts is taken from the standard regional reference works and taxonomic reviews. Species are indicated as globally threatened if they are listed in Collar & Andrew (1988).

KEY TO INDICES USED IN SPECIES ACCOUNTS

For each population, various indices of size and trends are given; their production is detailed in Chapter II.

1. Population size categories

Whenever possible, each population is assigned to one of the following five size categories:

- 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

Where the population is thought to be on the border line between two of these ranges, two categories are specified in the form: A/B.

Where only a very broad range for the population size can be given, two categories are specified in the form: A or B.

2. Population estimate

In addition to the size category, wherever a more precise estimate of a population size is available or can be made, it is presented in round brackets after the size category,

e.g. (40,000).

Unless a reference is given, this estimate was derived by the authors, based on a number of sources (see Chapter II). In some cases, this estimate is considered a strict minimum and is indicated as follows:

(40,000+).

3. Data from the AWC

The sum of the five-year means (see Chapter II) from the AWC 1987-1991 (or 1992) for all the sites within the range of the population is given in square brackets,

e.g. [AWC 20,300].

This figure is usually rounded off to three significant figures, except in the case of globally threatened species. This rounding-off accounts for minor discrepancies between the figures given in the text and those given in Annex 1 (exact figures). Where the 1970s data from areas not recently

covered (e.g. Afghanistan, Iraq) make a substantial difference, a second figure is given, which is the AWC 1987-91 (or 92) figure to which the 1970s data for these other countries are added, as explained in Chapter II,

e.g. [AWC 20,300; 33,000 with 1970s data].

When the distribution of a particular population encompasses more than one Asian region, the AWC figure given is the sum for the regions concerned. However, if the distribution encompasses one or more Asian regions and part of a neighbouring continent (e.g. Eastern Africa), the AWC figure refers only to the number of birds in the Asian part of the distribution.

4. Sites (and potential sites) of international importance

Wherever an estimate of population size is available, sites meeting the regional 1% criteria are listed with their FYM (five-year mean) or single count (usually rounded off unless the numbers are small), and the number of years the site was counted within brackets,

e.g. (FYM 230, 5yr) or (1,000, 1yr),

When six or more sites are identified, these are listed in a table rather than in the text, with their FYM and the number of counts at each site.

The list presents without distinction all the sites which meet the 1% criteria, whether they are of proven international importance (at least three years of data), or only of potential international importance (only one or two years of data). Since the number of years of data is always indicated, it is possible to distinguish between them, or even to set different criteria (e.g. at least four or five years of data to consider the international importance as proven).

In countries that have not recently participated in the AWC (Afghanistan, Iraq) but from which late 1960s or 1970s data are available, sites which met the 1% criteria at least once at that time are also listed, for they are still potentially of international importance.

5. Other important sites

In those regions in which no population estimates can be proposed (e.g. for many species in E and SE Asia), major concentrations are described in the text under a separate heading ('Other important sites' or 'Important sites'); these are also potentially of international importance.

GAVIDAE

Black-throated Diver*Gavia arctica*

Largely marine in winter. Two subspecies occur: the central Asian form *suschkini* (often lumped with *arctica*) and the E Asian form *viridigularis*. *G. a. suschkini* reaches the S Caspian region in small numbers and rarely straggles to NW India. *G. a. viridigularis* is a migrant from Russia to the coasts of China, Japan and Korea.

- SW Asia: Poorly known [AWC: 3]

Trends: Unknown.

- E Asia: Probably C or D [AWC: 1]

Trends: Unknown.

Only a few records were obtained from N Iran and China during the AWC. No important sites can be identified.

Pacific Diver*Gavia pacifica*

Monotypic; largely marine in winter. A migrant from Russia to the coasts of China, Japan and Korea. The main population winters in North America.

- E Asia: Probably C [AWC 160]

Trends: Unknown.

Only a few records were obtained from South Korea and Japan during the AWC. No important sites can be identified.

Red-throated Diver*Gavia stellata*

Monotypic; largely marine in winter. A migrant from Russia to the coasts of China, Japan and Korea. West Eurasian populations are extralimital, occurring only as stragglers to Iran and Pakistan.

- E Asia: Probably C or D [AWC 240].

Trends: Unknown.

Only a few records were obtained from N Iran and E China during the AWC. No important sites can be identified.

Great Northern Diver*Gavia immer*

A vagrant from North America to Russia. No records were obtained during the AWC.

Yellow-billed Diver*Gavia adamsii*

Monotypic; largely marine in winter. An uncommon migrant from Russia to the coast of Japan, and a vagrant to China and Korea. No records were obtained during the AWC.

PODICIPEDIDAE

Little Grebe

Tachybaptus ruficollis

A polytypic species; nine subspecies occur in Asia, some of them very locally such as *T. r. iraquensis* in the marshes of Iraq, and *T. r. cotabato* on the island of Mindanao, Philippines. According to J. Fjeldså (pers. comm.), two or three different allopecies may be involved. The species is largely sedentary; the northernmost populations in northeast China and Central Asia move south in winter (Figure 3). For the present purposes, four wintering groups are recognized, some of these comprising several subspecies.

- SW Asia: A or B [AWC 4,400]
Trends: Unknown.
- S Asia: C or D [AWC 27,000]
Trends: Unknown.
- SE Asia: Unknown [AWC 1,970]
Trends: Unknown.
- E Asia: C or D [AWC 16,600]
Trends: Unknown

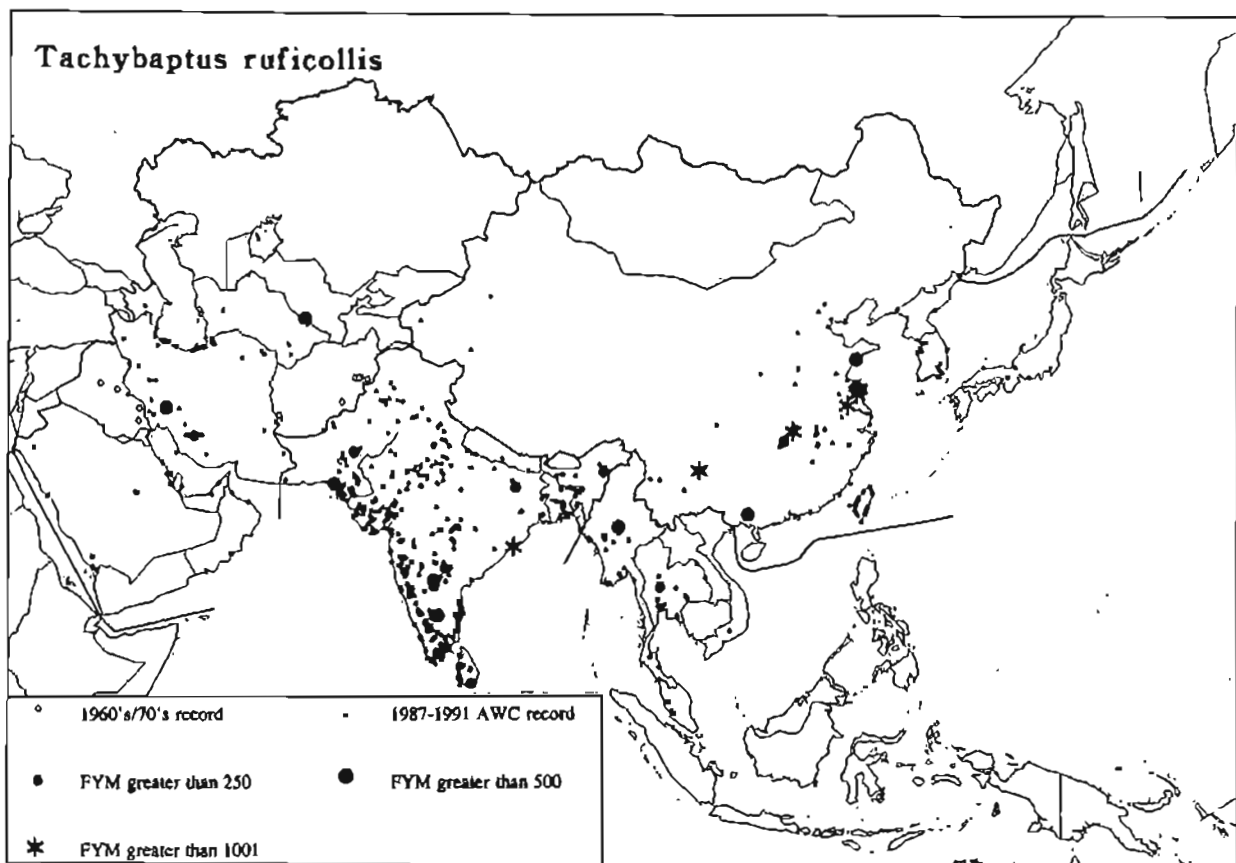


Figure 3: Distribution of *Tachybaptus ruficollis* as shown by the AWC 1987-1991

Important sites

No sites of international importance can be identified due to the absence of population estimates. In SW Asia, the major sites were Izeh and Shiekhon Lakes (FYM 925, 4yr) and Maharloo Lake (FYM 464, 5yr) in Iran, and Lake Dengizkul (FYM 810, 2yr) in Uzbekistan. Elsewhere, major sites for the species were Chilka Lake in India (FYM 8,930, 4yr), Hub Dam in Pakistan (FYM 860, 5yr), and several sites in China: the Yancheng shore (FYM 3,290, 3yr), Sheyang Saltworks (FYM 1,000, 2yr) and Gaoyou/Shabo Lakes (FYM 2,120, 2yr) in Jiangsu, Caobai Reserve (FYM 1,250, 2yr) in Guizhou; and Hannan Lake (1,350, 1yr) in Hubei.

Australian Little Grebe*Tachybaptus novaehollandiae*

Polytypic, but the taxonomy remains confused. Largely sedentary and/or nomadic; the range encompasses Australia, Papua New Guinea and southern Indonesia. Some insular subspecies such as *fumosus* and *javanicus* may have very small populations. For the present purposes, only one population is recognized.

- SE Asia/Australasia: Unknown [AWC 240]

Trends: Unknown.

Important sites

Only a few records were obtained during the AWC, all in S Papua New Guinea, and no sites of international importance can be identified. The main concentrations were found at Kanosia Lagoon (FYM 131, 2yr) and Lakes Iaraguma/Bunu (FYM 64, 2yr).

Red-necked Grebe*Podiceps grisegena*

Two subspecies occur, the nominate form in West Eurasia and *holbollii* in East Asia. According to J. Fjelds  (pers. comm.), these may comprise two allospecies. *P. g. grisegena* winters east to the Caspian Sea. The small numbers recorded in recent years in NW India and Pakistan probably originate from the eastern extremity of the breeding range of this form in eastern Kazakhstan, but whether or not this is a discrete population is unknown. *P. g. holbollii* winters south to China and Taiwan (Figure 4). Two populations are recognized.

- SW/S Asia: B [AWC 240]

Trends: Possibly increasing in India.

- E Asia: Probably C [AWC 910]

Trends: Unknown.

The species is largely marine in winter, and is grossly under-recorded by the AWC.

Important sites

In the absence of population estimates, no sites of international importance can be identified. However, two major sites for the species were located in China: the Yancheng shore (FYM 290, 2yr) in Jiangsu, and Qing Dao (200, 1yr) in Shandong.

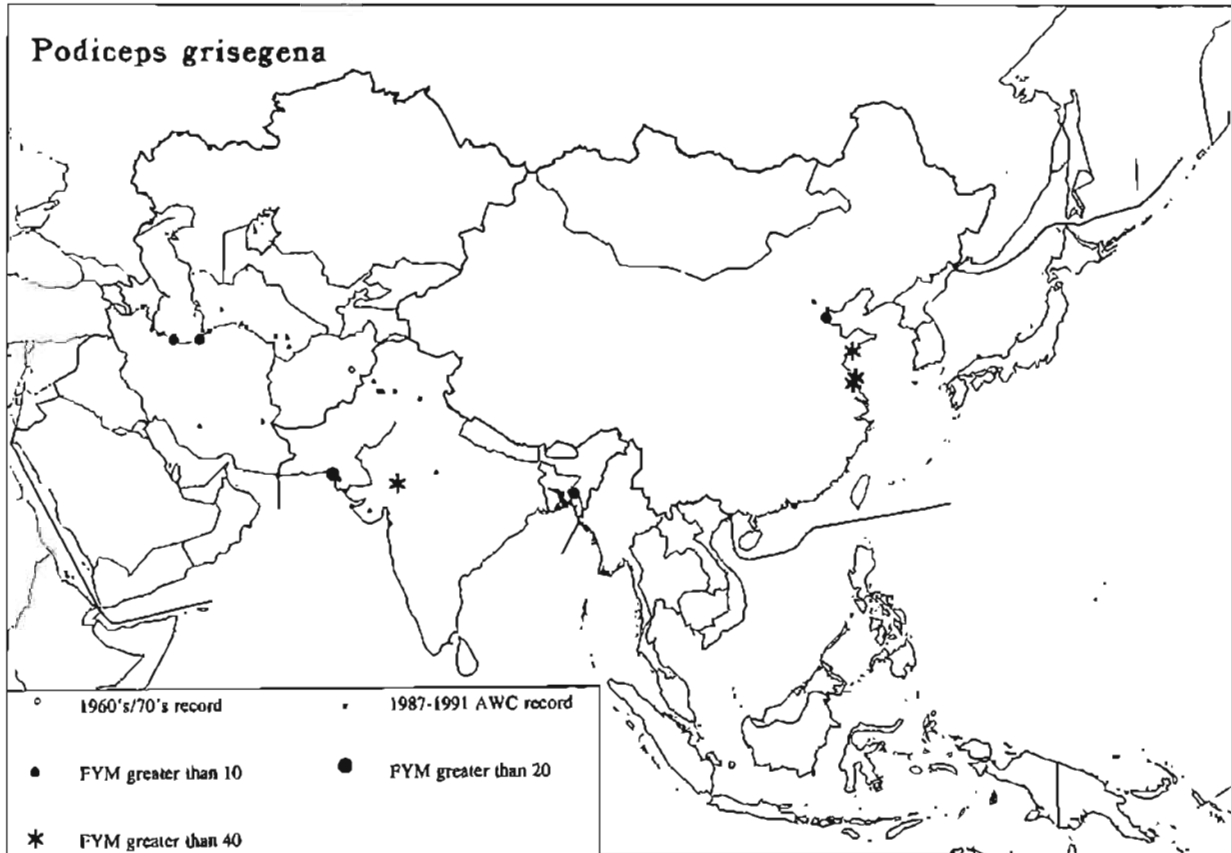


Figure 4: Distribution of *Podiceps grisegena* as shown by the AWC 1987-1991

Great Crested Grebe

Podiceps cristatus

Only the nominate subspecies occurs; this breeds across Eurasia and winters south to central India (where it is becoming resident, Mundkur & Pravez 1986, Himmatsinhji *et al.* 1991), Bangladesh, S China and Hong Kong. The winter range seems to have a clear southern limit at about 20°N (Figure 5). Three migratory populations are recognized.

- SW Asia: B (10,000) [AWC 860; 6,700 with 1970s data]
Trends: Unknown.
- S Asia (east to Bangladesh and possibly Myanmar): B (10,000+) [AWC 2,480]
Trends: Apparently increasing in some areas.
- E Asia: B or C [AWC 3,630]
Trends: Unknown.

Potential sites of international importance

These can be identified only in SW and S Asia, where population estimates exist. In SW Asia, two wetlands reached a FYM of 100 birds (1% level), both in Iran: the Caspian Sea coast between Farahabad and Ashur (FYM 144, 4yr) and Gomishan Marsh (FYM 400, 2yr). In S Asia, two sites had a FYM exceeding the 1% level of 100 birds, but because they were counted only once, further data are required to confirm their importance: Nanakmata Reservoir, U.P. (1,500, 1yr) in India, and Rara Lake in Rara N.P. in Nepal (137, 1yr).

Other important sites

In E Asia, major sites for the species (FYM over 200) were the Yancheng shore (FYM 1,050, 2yr) in China, Hakdong Bay (FYM 410, 2yr) in South Korea, and Shinji Lake (FYM 260, 3yr) in Japan.

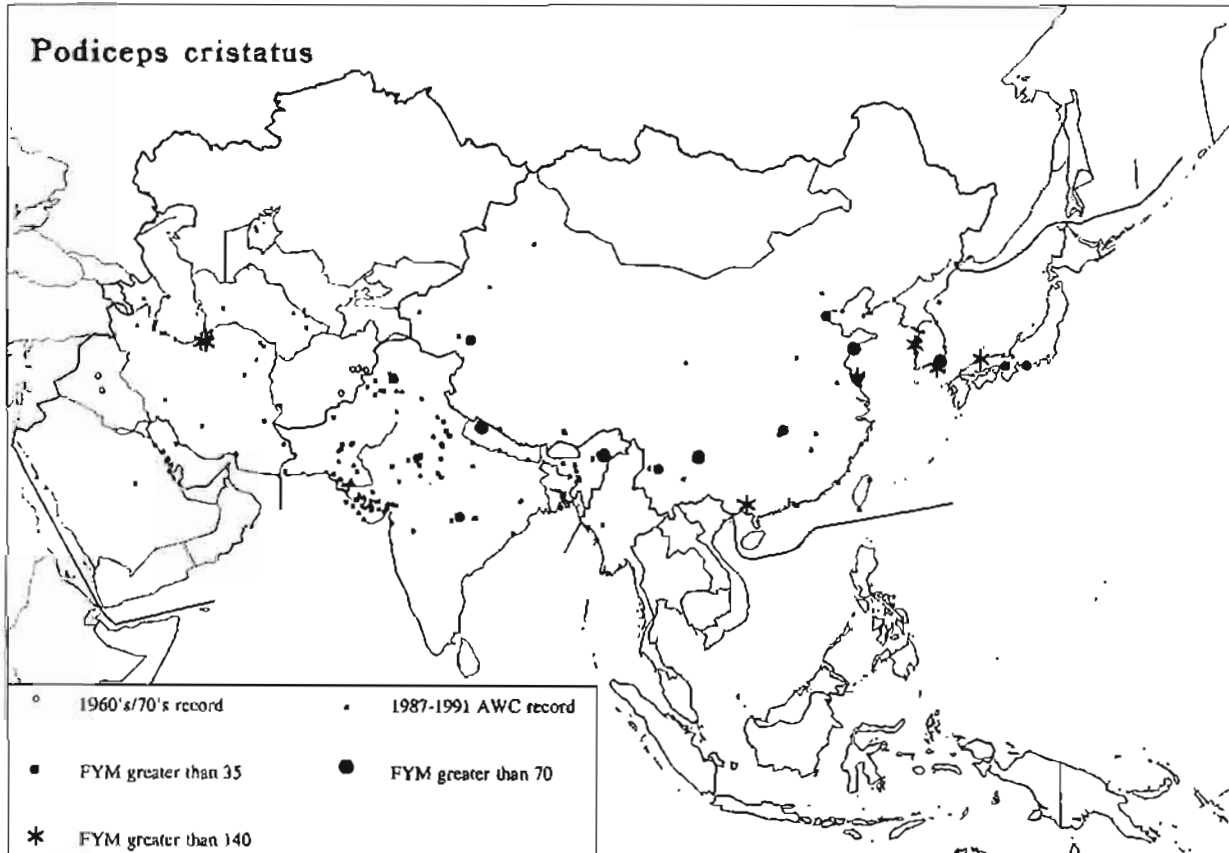


Figure 5: Distribution of *Podiceps cristatus* as shown by the AWC 1987-1991

Slavonian Grebe*Podiceps auritus*

Monotypic. Two wintering populations are recognized: a West Eurasian population (east to the Caspian Sea), and an East Asian coastal population that winters south to Korea, China and Taiwan (Figure 6). Occasional stragglers to Pakistan presumably originate from the western population.

- W Eurasia/SW Asia: Unknown [AWC 11; 140 with 1970s data]

Trends: Unknown.

- E Asia: Probably C [AWC 200]

Trends: Unknown.

Important sites

Since no population estimates are available, no sites of international importance can be identified. However, three major sites (over 50 birds) in China were Linhonghe Kou (50), Qing Dao (50), and the Yellow River at Hei Gang Kuo (56), all counted only once.

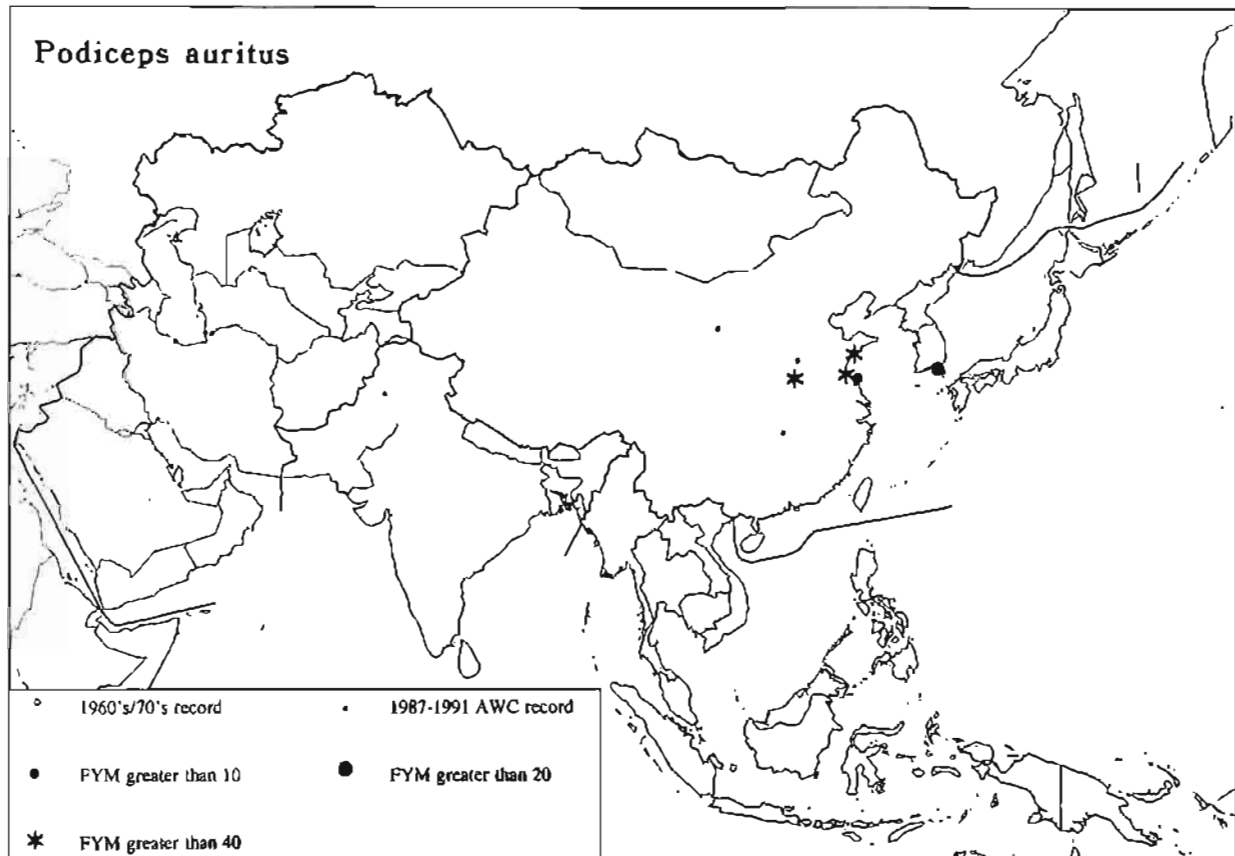


Figure 6: Distribution of *Podiceps auritus* as shown by the AWC 1987-1991

Black-necked Grebe

Podiceps nigricollis

Only the nominate subspecies occurs. Two populations are relevant (Figure 7): a West Eurasian population which winters commonly throughout SW Asia east to Pakistan (where it has bred, Roberts 1991) and NW India, and an East Asian population wintering south to S China and Taiwan. The SW/S Asian group recognized here may not be separate from the European wintering group.

- SW/S Asia (E to India): C (25,000) [AWC 2,900; 7,980 with 1970s data]

Trends: Possibly increasing in some areas.

- E Asia: B or C [AWC 340]

Trends: Unknown.

Potential sites of international importance

These can be identified only for SW/S Asia due to the absence of an estimate for E Asia. Two sites reach the qualifying level of 250: Fateh Sagar Lake in Rajasthan, India (1,100 birds) which was counted only once and requires more data to confirm its importance, and Hub Dam in Sind, Pakistan (FYM 545, 5yr).

Other important sites

In E Asia, major sites for the species were Qing Dao (200, 1yr) in China and the Nakdong Estuary (FYM 91, 4yr) in South Korea.

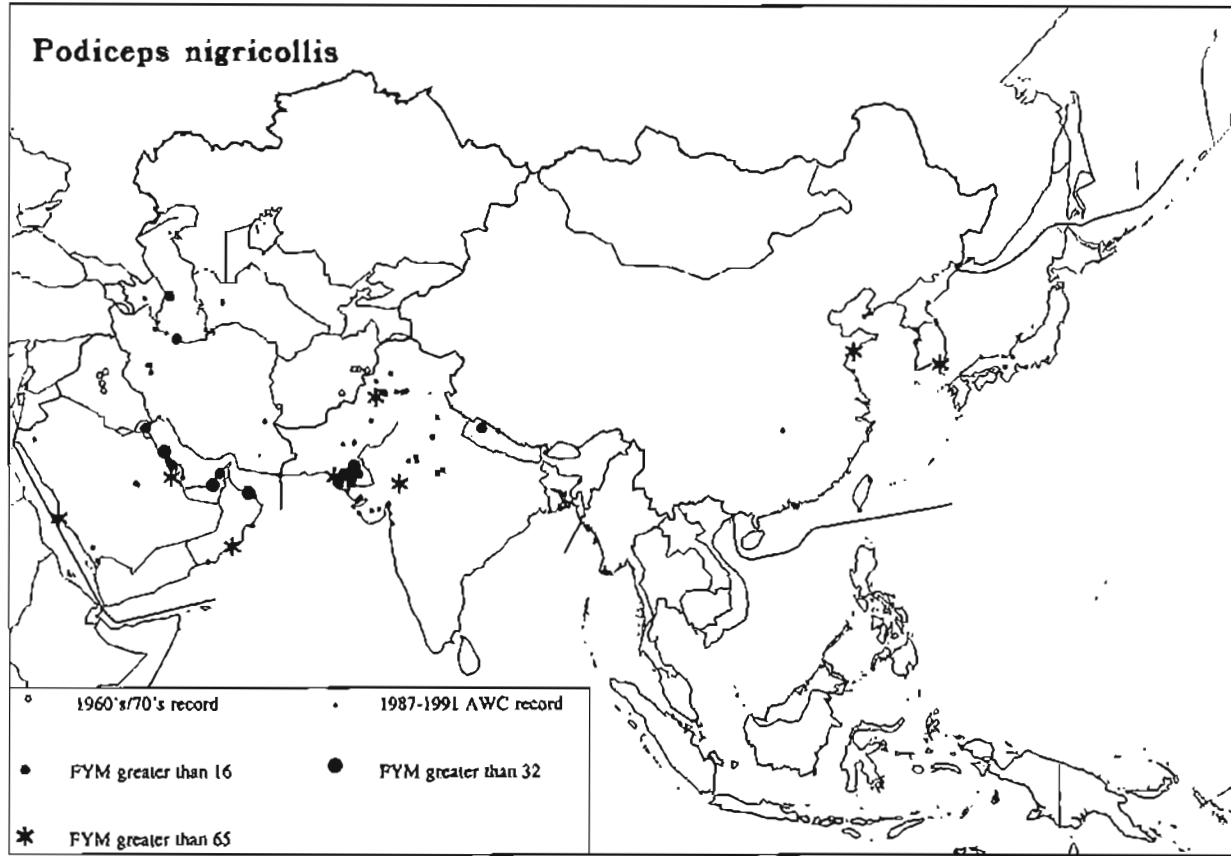


Figure 7: Distribution of *Podiceps nigricollis* as shown by the AWC 1987-1991

PELECANIDAE

Great White Pelican

Pelecanus onocrotalus

Monotypic. Two populations (or groups) may be relevant (Figure 8): a SW Asian population which winters through Iraq and Iran to Afghanistan and probably also Pakistan, and a Central/S Asian population wintering in Pakistan and India, where it has bred (Ali & Ripley 1983) and possibly still does. The two populations probably overlap in winter in Pakistan. The status of the species has recently been reviewed by Crivelli *et al.* (1991).

- SW Asia: B (10,000+) [AWC 590; 5,360 with 1970s data]

Trends: Unknown.

- S Asia: C (30,000) [AWC 20,800]

Trends: Unknown.

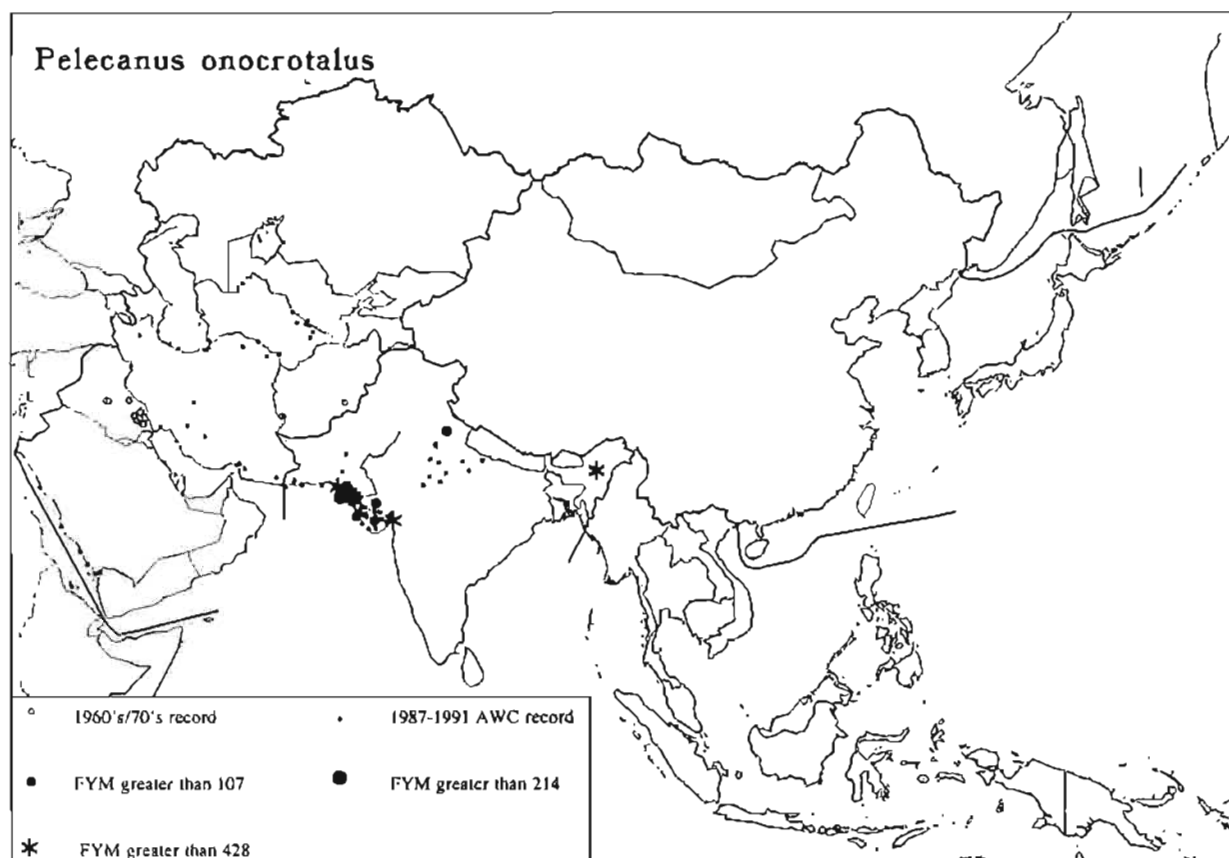


Figure 8: Distribution of *Pelecanus onocrotalus* as shown by the AWC 1987-1991

Potential sites of international importance

In SW Asia, no site had a FYM exceeding the 1% level of 100 birds; this is because the most important sites in Iraq and Afghanistan have not been counted in recent years. In the 1970s, counts exceeding the 1% level were recorded at seven sites in Iraq (max. 1,520 at Fuhud Marshes and 800 at Haur al Hammar) and two sites in Afghanistan: Hamoun-i Puzak (max. 250) and Ab-i-Istada (max. 1,260). In S Asia, 11 sites had a FYM of 300 or more (Table 7), three in India and eight in Pakistan.

Table 7: Potential sites of international importance for *Pelecanus onocrotalus* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ASSAM	KAZIRANGA N.P	1250	1
	GUJARAT	MAHI RIVER ESTUARY	1161	4
	RAJASTHAN	GANAPUR LAKE	1200	1
PAKISTAN	SIND	HADERO LAKE	529	5
	SIND	HAJAMRO COASTAL ZONE	300	1
	SIND	HUB DAM	535	5
	SIND	JABHO/KUR	5868	5
	SIND	LAKHI DHAND	1962	2
	SIND	NUR-RI, BADIN	3618	4
	SIND	SANDHO	1250	2
	SIND	SHAIKH KERIO PEER, BADIN	600	1

It should be noted that averages mean little as numbers at a particular wetland fluctuate widely. For example, the most important site, Jabho-Kur in Pakistan (FYM 5,868, 5yr), had no Great White Pelican in 1987, 3,000 in 1988, 22,500 in 1989, 1,340 in 1990 and 2,500 in 1991. Very little is known about the reasons for such annual changes.

Pink-backed Pelican

Pelecanus rufescens

Monotypic. A resident Afrotropical species which extends to the Red Sea coast of the Arabian peninsula (Figure 9), where it breeds in mangroves. The degree of isolation of this group from the much larger African populations is unknown; for the present purposes, it is considered to be distinct.

- SW Asia: 1,000 (P. Symens, pers.comm.) [AWC 140]

Trends: Unknown

Potential sites of international importance

Two sites in Saudi Arabia reach the 1% level of 10 birds: the mangroves of NW Farazan Island (85, 1yr) and Jizan Beach (FYM 30, 2yr). More data are required to confirm their importance.

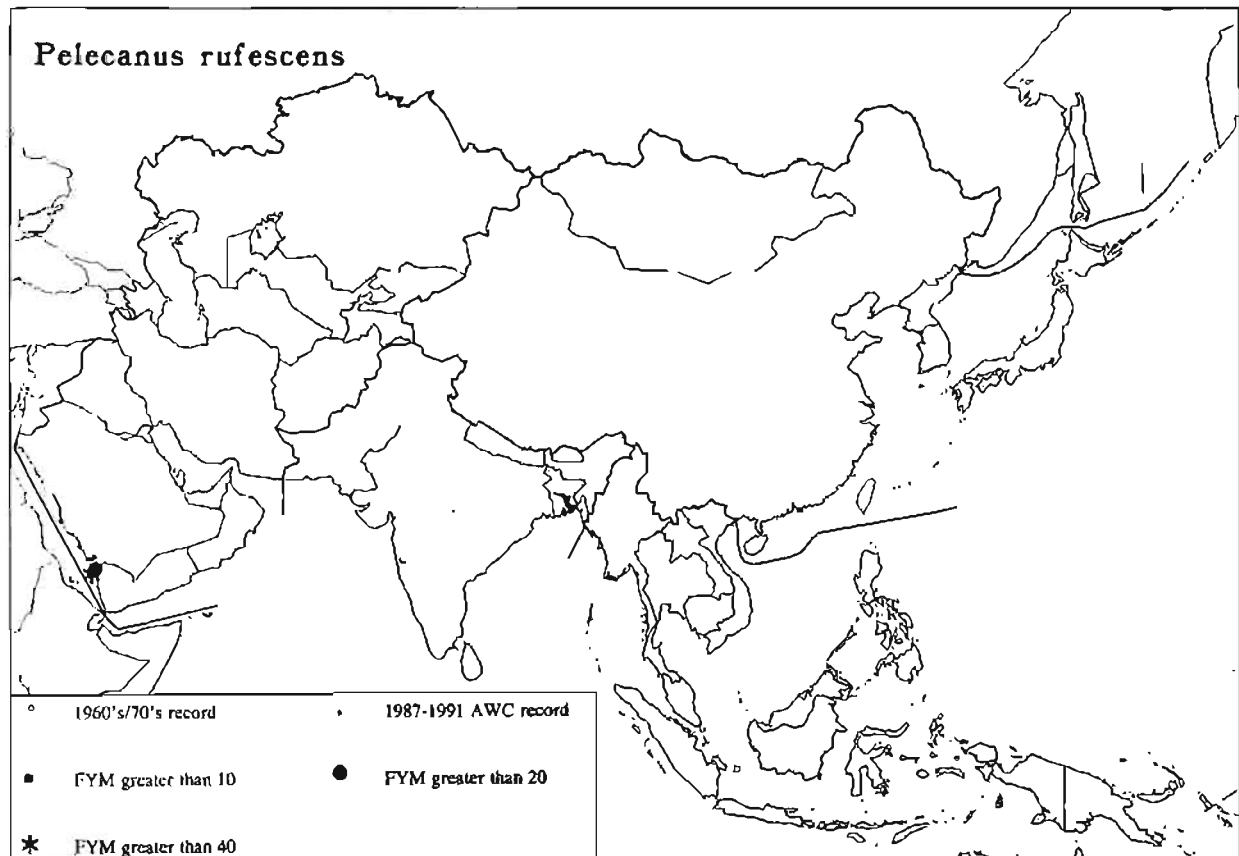


Figure 9: Distribution of *Pelecanus rufescens* as shown by the AWC 1987-1991

Spot-billed Pelican

Pelecanus philippensis

Monotypic; globally threatened. Formerly perhaps only a single large population, but now fragmented into several, possibly discrete, breeding groups. The largest group survives in S India and Sri Lanka (Figure 10); there is another group in NE India (especially Assam), and a group of unknown size which apparently breeds only in Cambodia but occurs in winter in Thailand, Vietnam and Indonesia (Sumatra). The status of the species has recently been reviewed by Mangalraj Johnson *et al.* (1993). Two populations are recognized.

- S Asia: A (10,000) [AWC 9,100]

Trends: Declining.

- SE Asia: A (1,500) [AWC 202]

Trends: Declining.

Potential sites of international importance

In S Asia, 10 sites (five each in India and Sri Lanka) had a FYM greater than the 1% level of 100 birds (Table 8). Among these, Chitangudi and Nelapattu reservoirs host breeding colonies which are active in winter; other colonies (e.g. Kokkare-Bellur in Karnataka, India), although probably also of international importance, are active at different seasons and therefore do not reach the 1% level during mid-winter counts.

Three wetlands held concentrations of over 1,000 birds, and are clearly crucial for the Spot-billed Pelican in winter: Kaziranga N.P. in Assam, India (2,200, 1yr), and Bundala Sanctuary (FYM 1,640, 2yr) and Maduru Oya Reservoir (2,100, 1yr) in Sri Lanka.

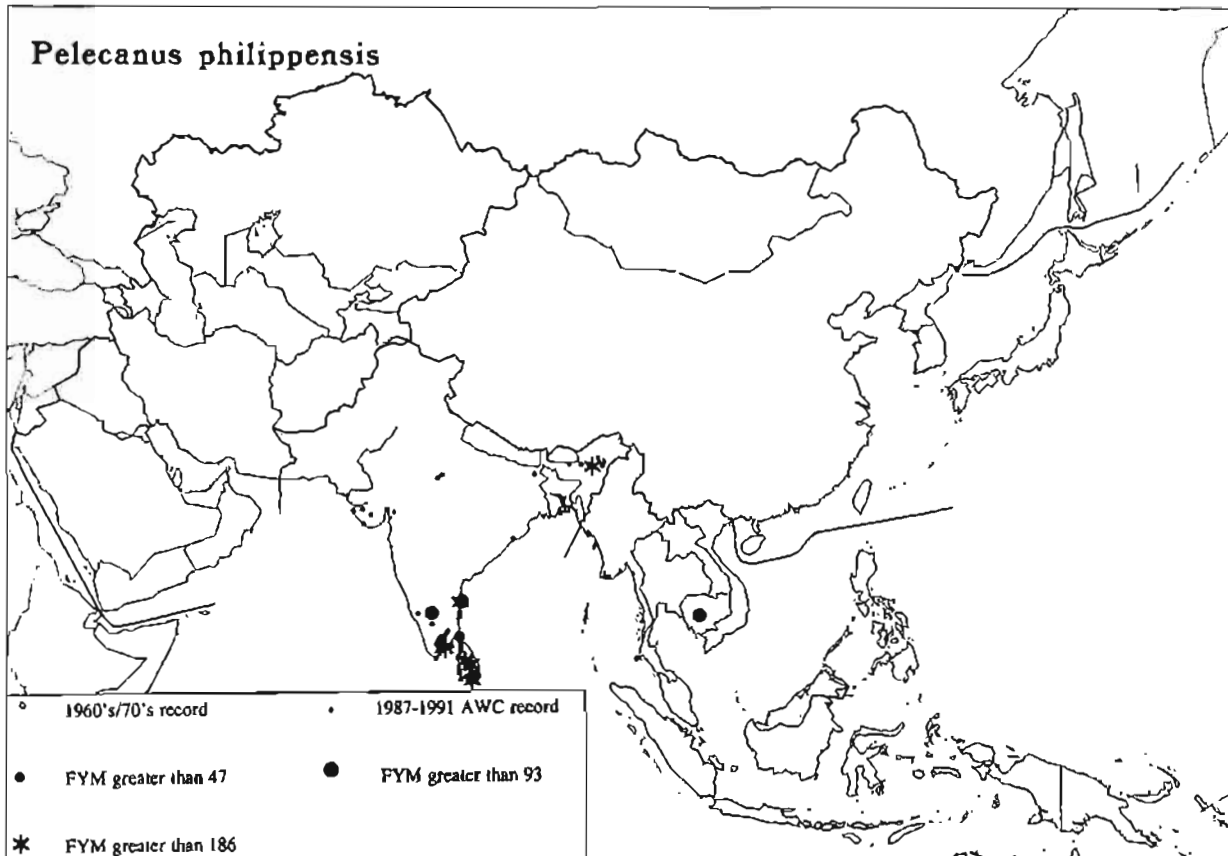


Figure 10: Distribution of *Pelecanus philippensis* as shown by the AWC 1987-1991

In SE Asia where much less information is available, only Tonle Sap in Cambodia reached the international level on the single occasion it was counted in 1992, with 200 birds; a further count in December 1992 revealed 1,250 birds in Tonle Sap and surrounding areas. However, the country has been very poorly covered so far and higher numbers can conceivably occur.

In addition, as for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance (see Mangalraj Johnson *et al.* 1993 for details of sites).

Table 8: Potential sites of international importance for *Pelecanus philippensis* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CAMBODIA		TONLE SAP & MEKONG RIVER	200	1
INDIA	ANDHRA PRADESH	NELLAPATTU PELICANRY	514	4
	ANDHRA PRADESH	PULICAT LAKE	141	4
	ASSAM	KAZIRANGA N.P	2200	1
	RAJASTHAN	SARERI DAM	112	2
	TAMIL NADU	CHITRANGUDI TANK	480	4
SRI LANKA	E.P	MADURU OYA RESERVOIR	2100	1
	N.C.P	PIMBURETTAWA TANK	252	1
	S.P	BUNDALA SANCTUARY	1637	2
	S.P	KEMAGALA	132	2
	S.P	MALALA LEWAYA / KALAPUWA	385	3

Dalmatian Pelican

Pelecanus crispus

Monotypic; globally threatened. It is not known whether or not the many discrete breeding units scattered across SE Europe and West and Central Asia are distinct populations, as their respective wintering areas are poorly understood. A. Crivelli (pers. comm.) recommends that two groups be recognized in Asia: a large SW and S Asian group wintering in the S Caspian region and from Mesopotamia through S Iran to Pakistan and India; and a very small, probably isolated, E Asian population wintering in China and Hong Kong (Figure 11). Birds breeding west of a line from the eastern Black Sea to central Anatolia (about 750-1,000 pairs) appear to winter mainly in the east Mediterranean, and are perhaps best regarded as a separate West Eurasian population not covered by the AWC.

- SW/S Asia: B (10,000-13,000; A. Crivelli, pers. comm.) [AWC 1,950; 1,990 in SW Asia in the 1970s]

Trends: Unknown.

- E Asia: A (100+) [AWC 74]

Trends: Declining.

Potential sites of international importance

Seven sites reach a FYM in excess of 115 (1% level) in SW and S Asia; two in India, two in Iran and three in Pakistan. In E Asia, where the 1% level is only one bird, the species was recorded at seven sites during the AWC; six in China and one in Hong Kong (Table 9). Concentrations are never as important as with the Great White Pelican or Spot-billed Pelican, and it seems therefore that the survival of the Dalmatian Pelican depends on a comparatively larger number of sites holding smaller concentrations.

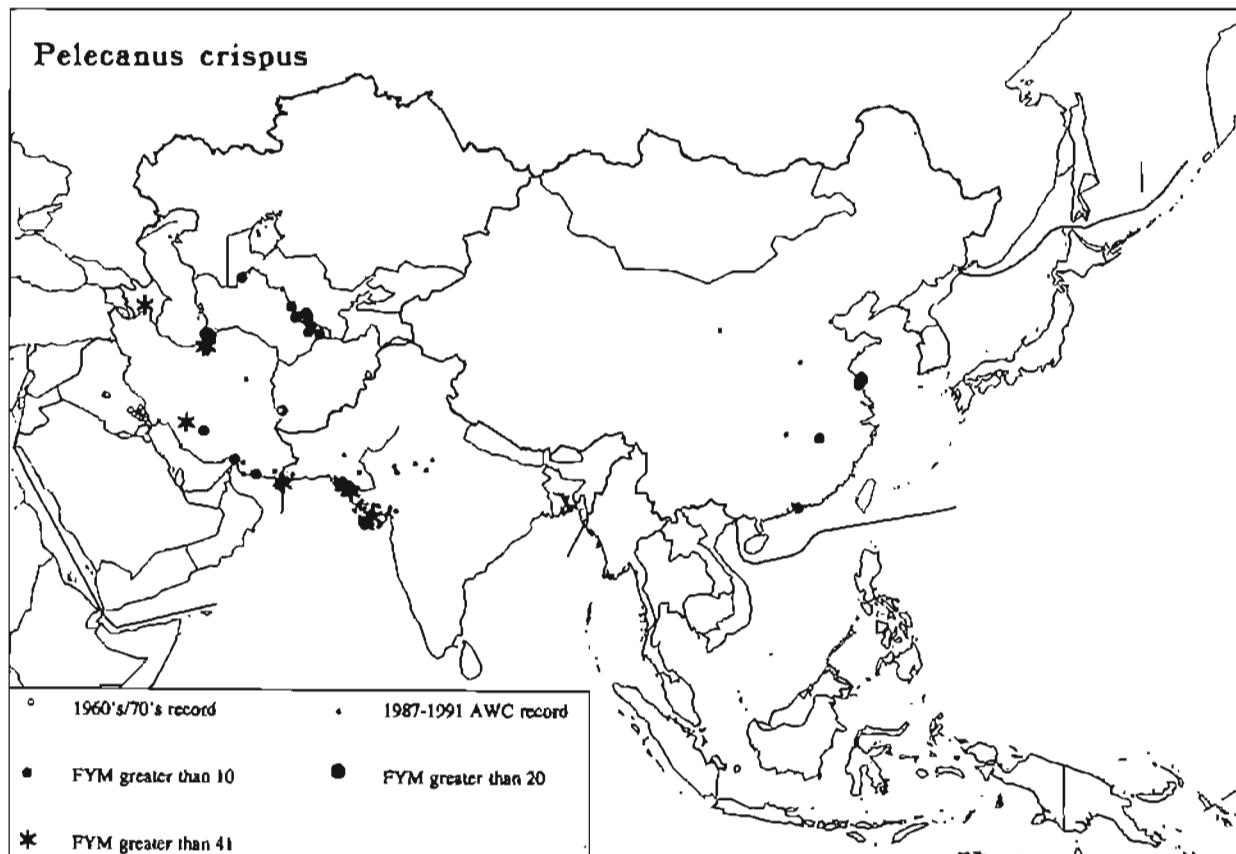


Figure 11: Distribution of *Pelecanus crispus* as shown by the AWC 1987-1991

Only two of the sites counted in Afghanistan and Iraq in the 1970s held over 115 birds, namely Hamoun-i Puzak in Afghanistan (max. 350) and Haur Al Hammar in Iraq (max. 139), but one other site, Haur Al Rayan/Umm Osbah in Iraq, approached this level with a maximum of 109.

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

Table 9: Potential sites of international importance for *Pelecanus crispus* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	GUANGDONG	FUTIEN RESERVES	10	5
	HENAN	LIYUAN TUN	2	1
	JIANGSU	SHEYANG SALT WORKS	3	2
	JIANGSU	YANCHENG SHORE (300KM)	15	2
	JIANGXI	POYANG LAKE	11	4
	TIANJIN	BEIDAGANG	5	1
HONG KONG		DEEP BAY AREA	4	5
INDIA	GUJARAT	FULJAR RESERVOIR	161	3
	GUJARAT	VARI TALAB	118	2
IRAN	MAZANDARAN	GOMISHAN MARSH	167	2
	MAZANDARAN	MIANKALEH PROTECTED REGION	167	5
PAKISTAN	SIND	HADERO LAKE	126	5
	SIND	JABHO/KUR	100	5
	SIND	SHAIKH KERIO PEER, BADIN	300	1

Australian Pelican

Pelecanus conspicillatus

Monotypic. A regular dry season migrant from Australia to New Guinea, in smaller numbers west through the Indonesian islands to Java. No records of the species were obtained as part of the AWC.

PHALACROCORACIDAE

Little Black Cormorant

Phalacrocorax sulcirostris

A largely sedentary species of Australia, New Zealand and insular SE Asia, subject to local movements. Only the subspecies *territory* occurs in Asia.

- SE Asia: Unknown [AWC 1,880]

Only a few records were obtained during the AWC, all from Papua New Guinea. In the absence of a population estimate, no sites of international importance can be identified. However, one site, Bensbach River and Floodplain, held 1,500 birds on the one occasion it was counted.

Great Cormorant

Phalacrocorax carbo

Two subspecies occur. *P. c. sinensis* breeds across Central and Southern Asia and winters south to the Arabian Peninsula, India and Malaysia (Figure 12). Birds breeding in West-Central Asia (east to about 70°E) winter mainly in SW Asia; those breeding further east in Central Asia are partly migratory, with some birds wintering in S and SE Asia where they mix with the resident breeding populations. *P. c. hanedae* is confined to Japan, and is largely sedentary. Four main wintering groups are recognized.

- SW Asia: C (100,000) [AWC 27,600; 53,700 with 1970s data]
Trends: Unknown.
- S Asia (east to Myanmar): B/C (25,000) [AWC 12,500]
Trends: Unknown.
- E/SE Asia (excluding Japan): B or C [AWC 3,670]
Trends: Unknown.
- Japan (*hanedae*): C (30,000; Croxall *et al.* 1984) [AWC 0: species not counted]
Trends: Unknown.

Potential sites of international importance

These can be identified only in SW and S Asia, where population estimates exist. Seventeen sites had a FYM of over 1,000 (SW Asia) or 250 (S Asia), but most were counted only once or twice (Table 10). Hence confirmation of their international importance is required.

Other important sites

In E and SE Asia, the two most important sites were the Deep Bay area in Hong Kong (FYM 1,210, 5yr) and the Nakdong estuary in South Korea (FYM 500, 4yr).

Table 10: Potential sites of international importance for *Phalacrocorax carbo* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ASSAM	KAZIRANGA N.P	820	1
	GUJARAT	LAKHOTA LAKE	269	2
	KARNATAKA	RANGANATHITTU SANCTUARY	300	1
	UTTAR PRADESH	BETWA RIVER NEAR ZANSI	500	1
	UTTAR PRADESH	GANGES E BANK: KUNOAN BRIDGE-CHILA BRIDGE	286	2
	UTTAR PRADESH	NANAKMATA RESERVOIR	500	1
	UTTAR PRADESH	NARORA DAM (GANGA RIVER)	283	3
IRAN	MAZANDARAN	GOMISHAN MARSH	1767	2

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
NEPAL	NARAYANI	NARAYANI R. + DEVI, MANNA TALS	362	5
OMAN		BARR AL HIKMAN	3843	3
PAKISTAN	SIND	HALEJI LAKE	498	5
	SIND	HAMAL KATCHRI LAKE	947	4
	SIND	HUB DAM	330	5
SAUDI ARABIA	EASTERN	ABU ALI	2603	1
	EASTERN	ALAWAYMIYAH & SAFWA MANGROVES, TAROUT HAYS	4152	1
	EASTERN	TAROUT BAY; NORTH EAST	4152	1
TURKMENISTAN		LAKE ROMANKUL	1404	2

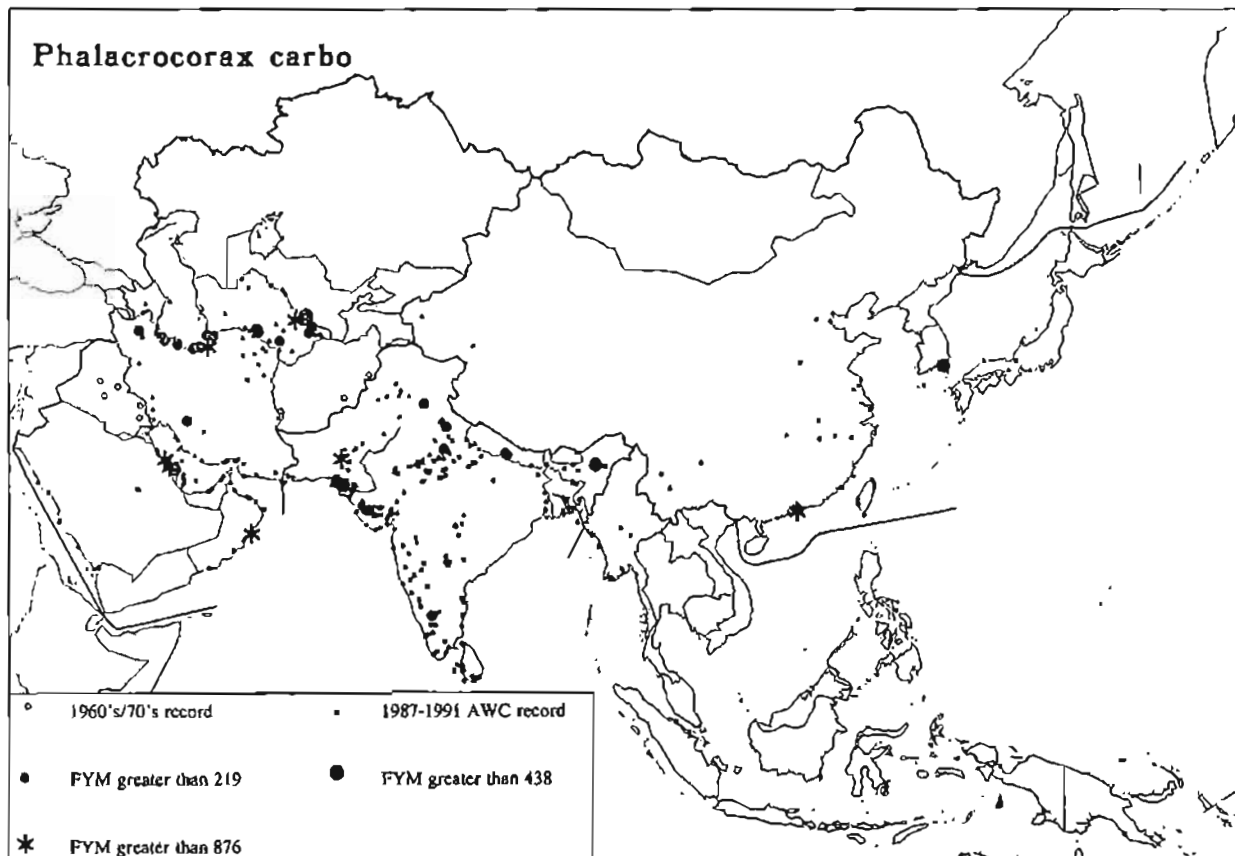


Figure 12: Distribution of *Phalacrocorax carbo* as shown by the AWC 1987-1991

Indian Shag

Phalacrocorax fuscicollis

Monotypic. A largely sedentary species of S and SE Asia, subject to local movements (Figure 13). Only one population is recognized.

- S/SE Asia (entire population): C (30,000) [AWC 14,100]

Trends: Unknown.

The vast majority of the AWC records are from S Asia [AWC 13,900], whereas the AWC figure in SE Asia is only 210 birds. The species may be either rare or heavily under-recorded in this latter region.

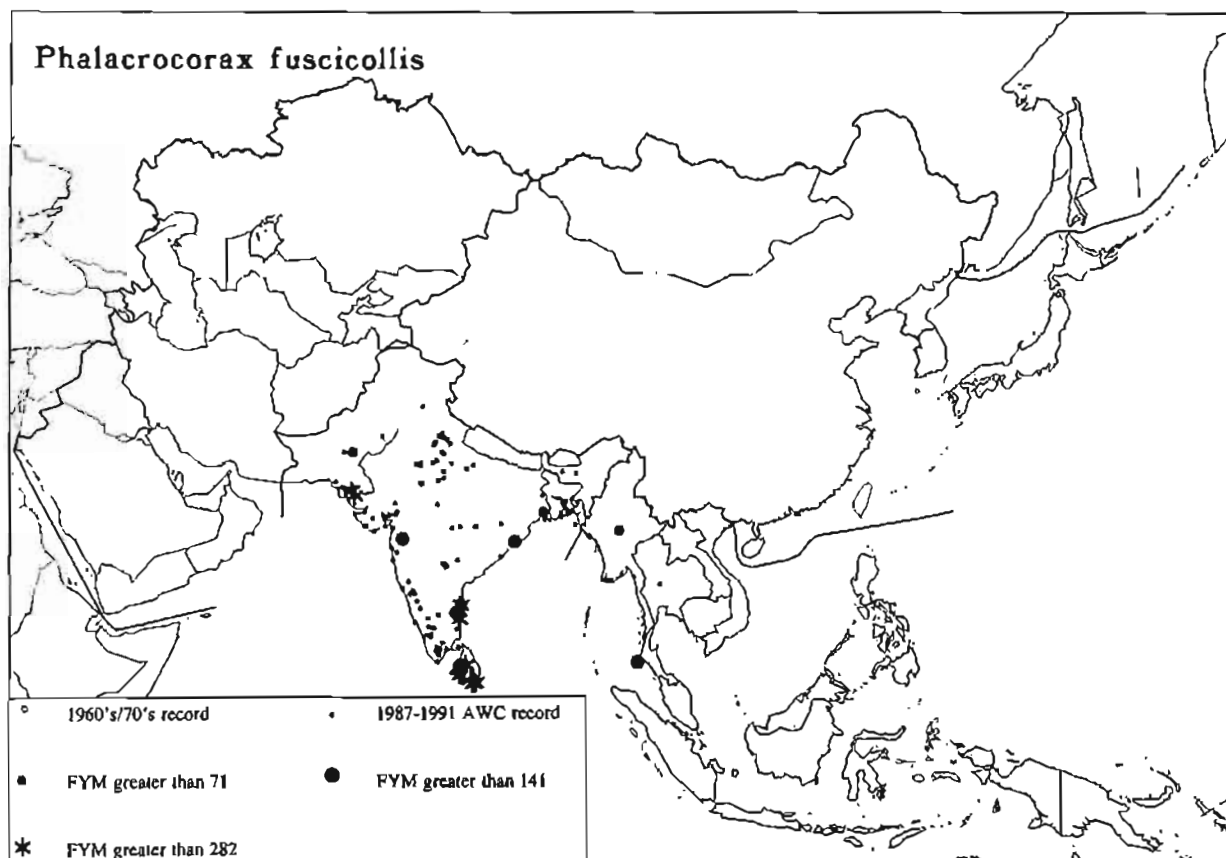


Figure 13: Distribution of *Phalacrocorax fuscicollis* as shown by the AWC 1987-1991

Potential sites of international importance

Seven sites had a FYM of at least 300 birds (1% level), all in India, Pakistan and Sri Lanka (Table 11).

Table 11: Potential sites of international importance for *Phalacrocorax fuscicollis* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	NELLAPATTU PELICANRY	913	4
	TAMIL NADU	VEDANTHANGAL BIRD SANCTUARY	705	4
PAKISTAN	SIND	KHILAN DHAND, BADIN	5000	3
	SIND	SHAKOOR DHAND, RAHAMKI BAZAR	1252	3
SRI LANKA	N.C.P	KUMBUK WEWA	1000	1
	S.P	BUNDALA SANCTUARY	468	2
	S.P	MALALA LEWAYA / KALAPUWA	408	3

Socotra Cormorant

Phalacrocorax nigrogularis

A monotypic, marine species occurring in the Arabo-Persian Gulf and around the southern Arabian peninsula (Figure 14). Mainly sedentary or dispersive outside the breeding season. Only one population is recognized.

- SW Asia (entire population): D (500,000-1,000,000; Symens *et al.* 1993) [AWC 31,400]

Trends: Unknown.

Potential sites of international importance

Most wintering concentrations presumably occur at sea. Two sites had an average of over 7,500 birds (1% level): Duqm in Oman (FYM 8,500, 3yr) and Sammamik Island in Saudi Arabia (20,000, 1yr).

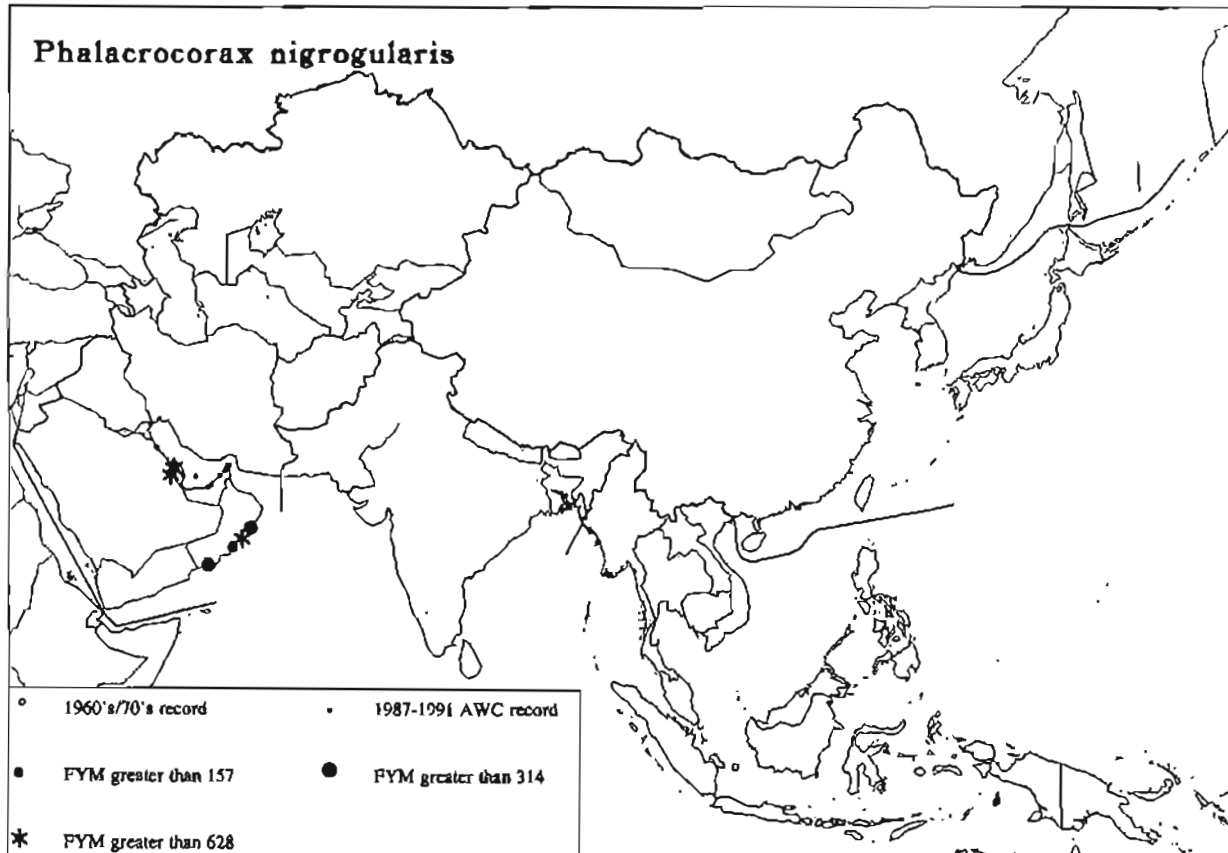


Figure 14: Distribution of *Phalacrocorax nigrogularis* as shown by the AWC 1987-1991

Japanese Cormorant*Phalacrocorax capillatus*

A monotypic, marine species of rocky sea coasts, rarely on inland waters. Only one population is recognized.

- E Asia: Probably C [AWC 810]

Trends: Unknown

Only a few records were obtained during the AWC, in Japan and South Korea. Due to the absence of a population estimate and the marine habitat of the species, no sites of international importance can be identified. Olyug Do in South Korea harboured the main concentration: 800 birds on the single occasion it was counted.

Pelagic Cormorant*Phalacrocorax pelagicus*

A marine species breeding from North Japan northwards in the North Pacific and wintering along the coasts of E Asia and North America. Only the nominate subspecies occurs in Asia. A single record of one individual was obtained in South Korea as part of the AWC.

Little Pied Cormorant

Phalacrocorax melanoleucos

A largely sedentary species of Australasia and SE Asia, subject to local movements. The subspecies *melvillensis* occurs in New Guinea, the Lesser Sundas, the Moluccas and Sulawesi. A few AWC records were obtained in S Papua New Guinea [AWC 1,140], where the most important site was Bensbach River and Floodplain (1,000, 1yr).

Little Cormorant

Phalacrocorax niger

Monotypic. Largely sedentary, subject to local movements. Restricted to S and SE Asia (Figure 15). Two populations are recognized.

- S Asia: D (150,000) [AWC 73,000]

Trends: Unknown.

- SE Asia: Unknown [AWC 2,700]

Trends: Unknown.

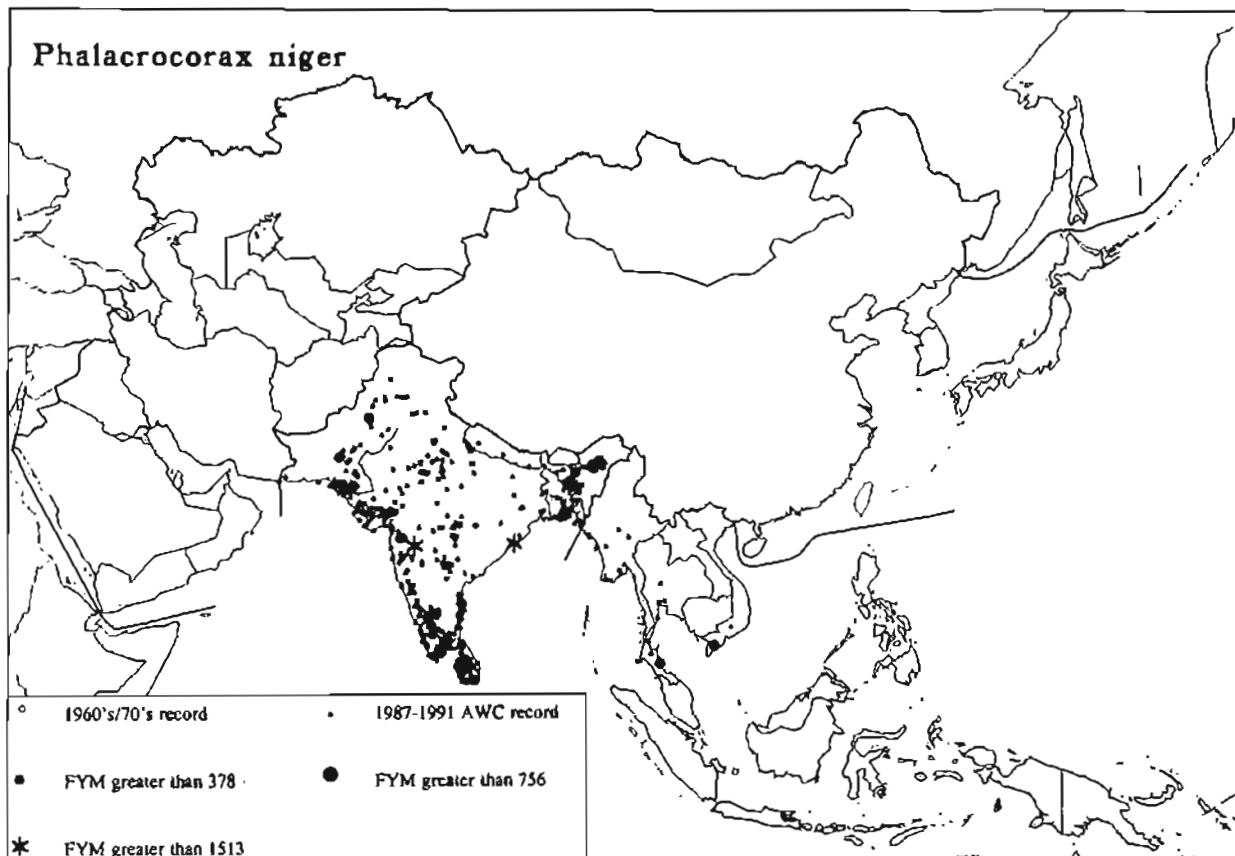


Figure 15: Distribution of *Phalacrocorax niger* as shown by the AWC 1987-1991

Potential sites of international importance

In the absence of a population estimate in SE Asia, sites of international importance can be identified only in S Asia. Seven sites reach a FYM of 1,500 birds (1% level) or over (Table 12), but for at least four of these, coverage has been insufficient to confirm their importance.

Table 12: Potential sites of international importance for *Phalacrocorax niger* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	SYLHET	TANGUA HAOR COMPLEX	2062	1
INDIA	KARNATAKA	SAGARAKATTE	2016	2
	MAHARASHTRA	JAYAKWADI B.S	3473	3
	ORISSA	CHILKA LAKE	2537	4
PAKISTAN	SIND	KHILAN DHAND, BADIN	5000	3
SRI LANKA	E.P	MADURU OYA RESERVOIR	10200	1
	N.W.P	USGALA SIYAMBALANGAMUWA TANK	1538	2

Other important sites

In SE Asia, the major sites identified during the AWC were Tram Chin Nature Reserve in Vietnam (FYM 710, 3yr) and Thale Noi Non-hunting Area (FYM 404, 2yr) in Thailand.

Pygmy Cormorant*Phalacrocorax pygmaeus*

Monotypic; globally threatened. Breeds from SE Europe east through the Black Sea and Caspian regions to the Aral Sea and SE Kazakhstan. Populations breeding in the Caspian region and Aral Sea winter mainly in the SW Caspian, lower Iraq and the upper Amu Darya Valley (Figure 16). The species has been recorded as a vagrant in Pakistan during the AWC. Only one population is relevant.

- SW Asia: A (5,000) [AWC 313; 1,160 with 1970s data]

Trends: Declining.

Potential sites of international importance

Two sites had a FYM of 50 or more birds (1% level): Aggel Lake in Azerbaijan (100, 1yr), and the central sector of Anzaly Marsh (FYM 80, 3yr) in Iran. In addition, one of the sites counted in Iraq in the 1970s exceeded the 1% level: Haur Om Am Nyaj (max. 100). As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Three sites in Iran seem likely to qualify on this criterion: the eastern sector on Anzaly Marsh (FYM 34, 5yr), Rasht Fishpond (33, 1yr), and Lavandavil Marsh (FYM 48, 3yr).

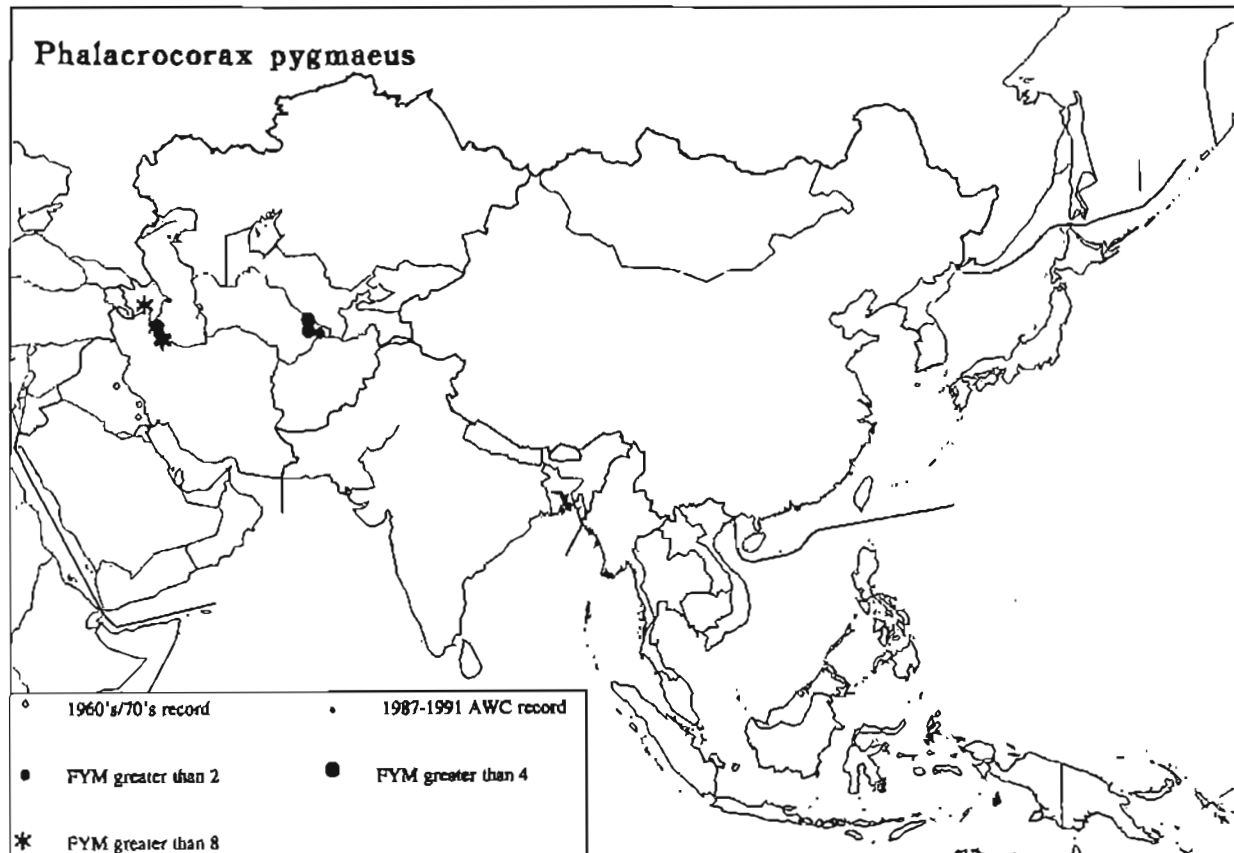


Figure 16: Distribution of *Phalacrocorax pygmaeus* as shown by the AWC 1987-1991

ANHINGIDAE

African Darter

Anhinga rufa

This otherwise strictly Afrotropical species has a tiny, isolated population in the marshes of Mesopotamia in Iraq. The species formerly bred at Amik Golu in Turkey, but became extinct there following drainage in the 1950s. It was recorded as a very scarce winter visitor to Khuzestan in SW Iran in the 1970s. The Middle Eastern population has been described as a distinct subspecies, *A. rufa chantrei*, but the validity of this form has been questioned (Cramp & Simmons 1977). No records were obtained as part of the AWC, and the total population may now number fewer than 50 birds.

Oriental Darter

Anhinga melanogaster

Monotypic. Largely sedentary, but subject to some local movements. The species occurs in S and SE Asia east to the Philippines, Sulawesi and Lesser Sundas (Indonesia). It is possibly now threatened in S Asia, where comparatively small numbers were recorded during the AWC despite fairly good coverage (Figure 17). For the present purposes, two populations are recognized.

- S Asia: A (4,000) [AWC 2,300]
Trends: Probably declining.
- SE Asia: Unknown [AWC 360]
Trends: Unknown.

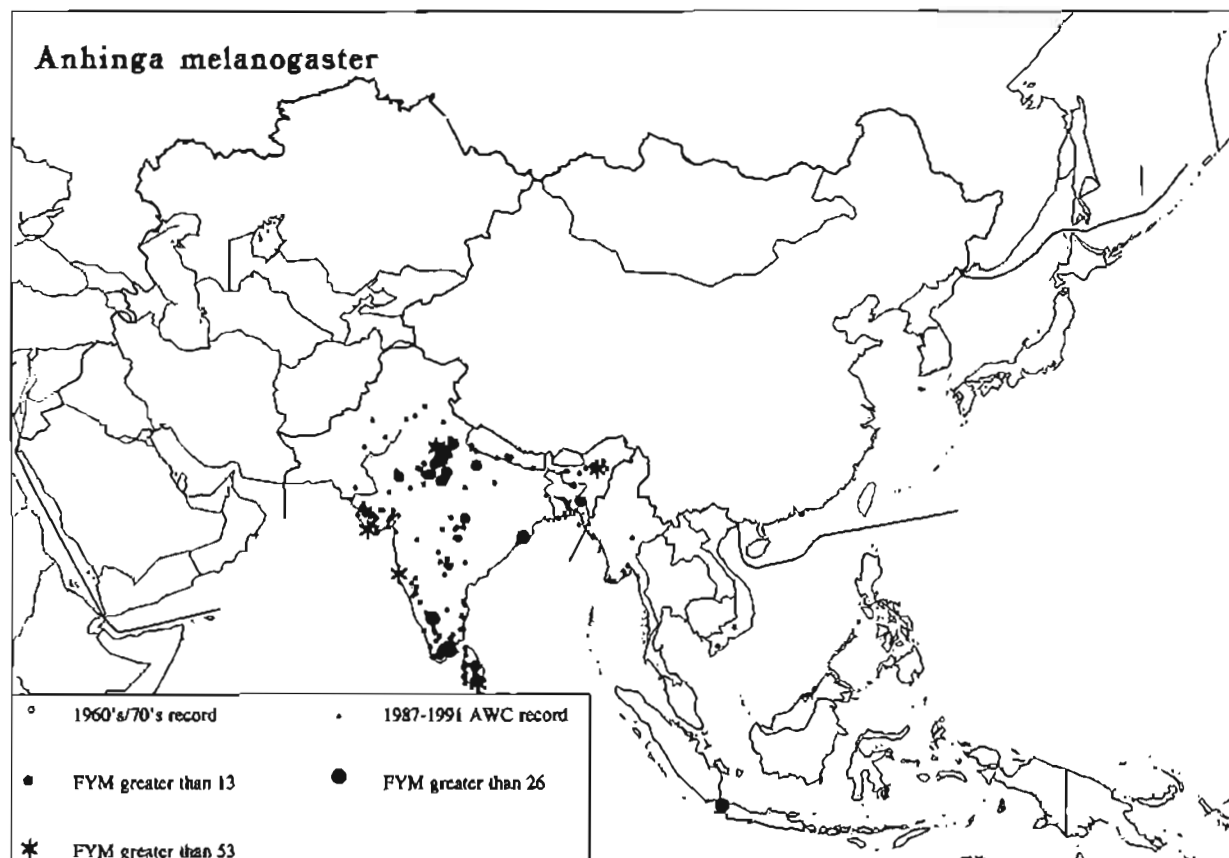


Figure 17: Distribution of *Anhinga melanogaster* as shown by the AWC 1987-1991

Potential sites of international importance

These can be identified only in S Asia. Seven sites reached a FYM of 40 (1% level) or more (Table 13), but the majority were covered only once or twice and their importance remains to be confirmed.

Table 13: Potential sites of international importance for *Anhinga melanogaster* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ASSAM	KAZIRANGA N.P	320	1
	DELHI	DELHI ZOO	154	5
	GUJARAT	VERI DAM	60	2
	MADHYA PRADESH	RALAWAY TERIKE	58	1
	MAHARASHTRA	WASHISTHI RIVER	309	2
	ORISSA	NANDANKANAN BIOLOGICAL PARK	40	1
	SRI LANKA	S.P	BUTTAWA	222

Other important sites

The largest concentration in SE Asia was at Muara Angke (48, 1yr) in Indonesia.

Australian Darter*Anhinga novaehollandiae*

Monotypic (although often regarded as a subspecies of *Anhinga melanogaster*). A common winter visitor to southern New Guinea from Australia, but only a vagrant further west to Lesser Sundas in Indonesia. Only one population is recognized.

- Australasia (entire population): C or D [AWC 250]

Trends: Unknown.

Only a few records were obtained during the AWC, all in S Papua New Guinea, and no sites of international importance can be identified. The most important site was Bensbach River and Floodplain (250, 1yr).

ARDEIDAE

Grey Heron

Ardea cinerea

Three subspecies occur: *A. c. cinerea* breeds across northern Eurasia to W China and winters mainly in the Western Palearctic and West Asia, although a few reach Pakistan and NW India. *A. c. rectirostris* breeds throughout S and E Asia, southern populations being rather sedentary and northeastern populations migratory. *A. c. altirostris* occurs in peninsular Malaysia, Singapore, and Indonesia (Java and Sumatra), and appears to be rather sedentary. Three wintering groups are recognized (Figure 18):

- SW Asia: B (10,000+) [AWC 5,700; 7,200 with 1970s data]
Trends: Unknown.
- S Asia: B or C (20,000+) [AWC 11,000]
Trends: Declining in some areas.
- E/SE Asia: C or D [AWC 19,700]
Trends: Possibly declining.

Potential sites of international importance

These can be identified only in SW and S Asia where population estimates exist (Table 14). In S Asia, only four sites reach a FYM of 200 (1% level), suggesting that the species is very scattered in winter in this region. The importance of Chilka Lake (FYM 2,500, 3yr) in India is outstanding.

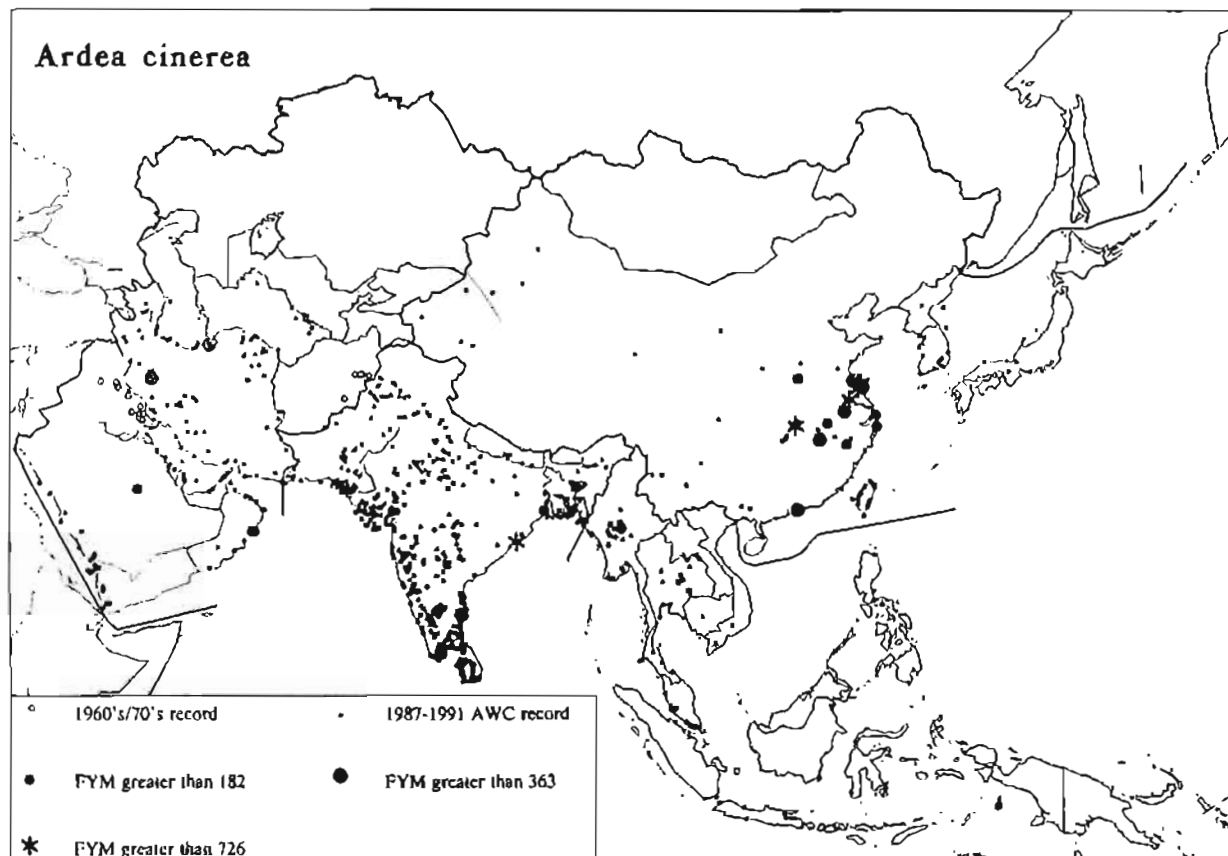


Figure 18: Distribution of *Ardea cinerea* as shown by the AWC 1987-1991

In SW Asia, 15 sites (five each in Iran, Oman and Saudi Arabia) hosted on average over 100 birds (1% level). In addition, six sites in Iraq and Afghanistan held concentrations of over 100 in the 1970s: Haur Al Hammar (max. 260), Shatra marshes (max. 145) and Haur Suweicha (max. 130) in Iraq; and Hamoun-i Puzak (max. 425), Ab-i-Istada (max. 260) and Duronta Lake (max. 210) in Afghanistan. The overall arid character of the region possibly leads to a more clumped distribution of Grey Herons than in S Asia.

Other important sites

In E Asia, three sites in China had a FYM of over 1,000 birds: the Yancheng shore (FYM 4,280, 2yr), Gaoyou and Shabo Lakes (FYM 2,880, 2yr), and Hannan Lake (1,360, 1yr).

Table 14: Potential sites of international importance for *Ardea cinerea* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ORISSA	CHILKA LAKE	2528	4
	TAMIL NADU	VEDANTHANGAL BIRD SANCTUARY	372	4
	WEST BENGAL	JHAUKHALI	327	3
IRAN	HAMADAN	AB-BANDANS RUDBARY AND VASEJ	400	1
	KHUZESTAN	IZEH & SHIEKHON LAKES	126	4
	KHUZESTAN	SHADEGAN MARSHES PROTECTED REGION	123	4
	MAZANDARAN	GOMISHAN MARSH	582	2
	SEISTAN & BALUCHISTAN	HAMOUN-I HELMAND	159	4
OMAN		BARR AL HIKMAN	268	3
		DAWHAT SAWQIRAH	125	3
		DHOFAR KHAWRS	158	4
		DUQM	177	3
		MASTRAH ISLAND	195	3
PAKISTAN	SIND	HADERO LAKE	225	5
SAUDI ARABIA	CENTRAL	EL HAIR WATERCOURSE (RESERVE)	220	1
	CENTRAL	WADI HANIFAH 50KM	146	1
	EASTERN	ALAWAYMIYAH & SAFWA MANGROVES,		
		TAROUT BAY	153	1
	EASTERN	ANAK, TAROUT BAY	105	1
	EASTERN	ZUR SALT MARSH, TAROUT	120	1

White-bellied Heron

Ardea insignis (A. imperialis)

Monotypic; globally threatened. Apparently largely sedentary in the East Himalayan foothills and Myanmar; now very rare with a total population of possibly only 10-100 birds (R. Lansdown, pers. comm). No records were obtained during the AWC.

Great-billed Heron

Ardea sumatrana

Monotypic. Sedentary in SE Asia and N Australia. Only a few records were obtained during the AWC, in Myanmar and S Vietnam [AWC 5]. The total world population may be in the range B or C (R. Lansdown, pers. comm.).

Goliath Heron

Ardea goliath

Monotypic; sedentary over most of its range, but its status in Asia is uncertain. Known to breed in Iraq and along the south coast of Iran in very small numbers. Scattered records in Pakistan, India and Bangladesh (Figure 19) could relate to vagrants from SW Asia or Africa, but perhaps more likely to hitherto undiscovered breeding populations in S Asia. Records along the Red Sea coast of Saudi Arabia probably refer to birds from African populations. Two populations are recognized, both of them rare and threatened.

- SW Asia: A (50) [AWC 11; 35 with 1970s data]

Trends: Unknown.

- S Asia: A (20 ?) [AWC 10]

Trends: Unknown.

Potential sites of international importance

With 1% levels of less than one individual, all sites regularly used by the tiny populations in Iran/Iraq and S Asia qualify as sites of international importance.

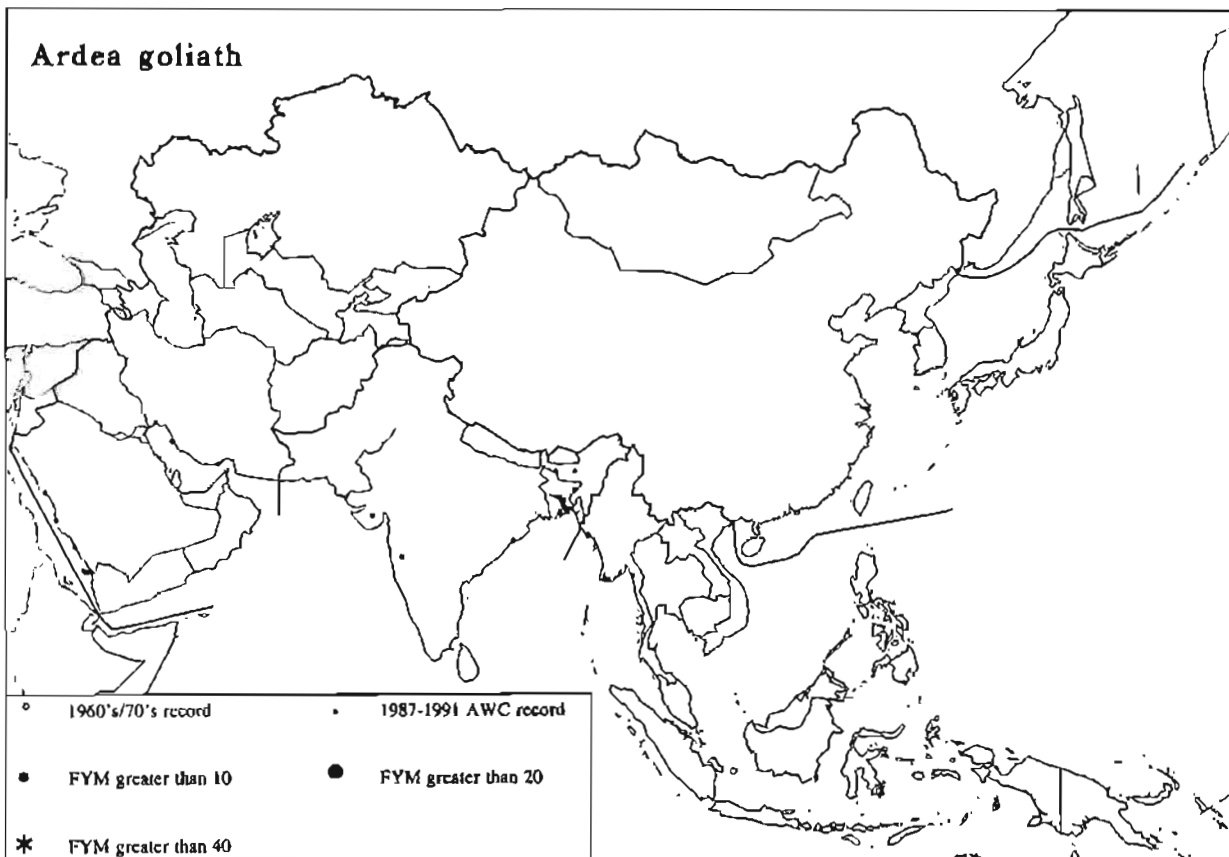


Figure 19: Distribution of *Ardea goliath* as shown by the AWC 1987-1991

Purple Heron

Ardea purpurea

Eastern populations of the nominate subspecies breed in Central and SW Asia, and winter mostly in E and S Africa although some birds remain in SW Asia. The subspecies *manilensis* occurs from Pakistan eastward to E and SE Asia (Figure 20); only birds from the NE extremity of the range migrate south in winter. Three groups are recognized.

- SW Asia/E & S Africa: D [AWC 49; 159 with 1970s data]
Trends: Unknown.
- S Asia: A (5000) [AWC 1,530]
Trends: Unknown.
- E/SE Asia: B or C [AWC 2,590]
Trends: Apparently declining.

The species is very inadequately covered in all regions due to its secretive habits and its habitat (reed beds and other dense, tall aquatic vegetation).

Potential sites of international importance

In S Asia, a single wetland, counted only once, has a FYM of over the 1% level (50 birds): the Vadiponds in Tamil Nadu, India (105, 1yr); its importance remains to be confirmed.

Other important sites

In SE Asia, Tempe Lake in Indonesia (S Sulawesi) held an estimated 1,520 birds on the single occasion it was covered; this was an extrapolation from counts at limited sectors of the lake. Another important site was Tuan Bo Wa (a part of Beida Gang) in Hebei, China (100, 1yr).

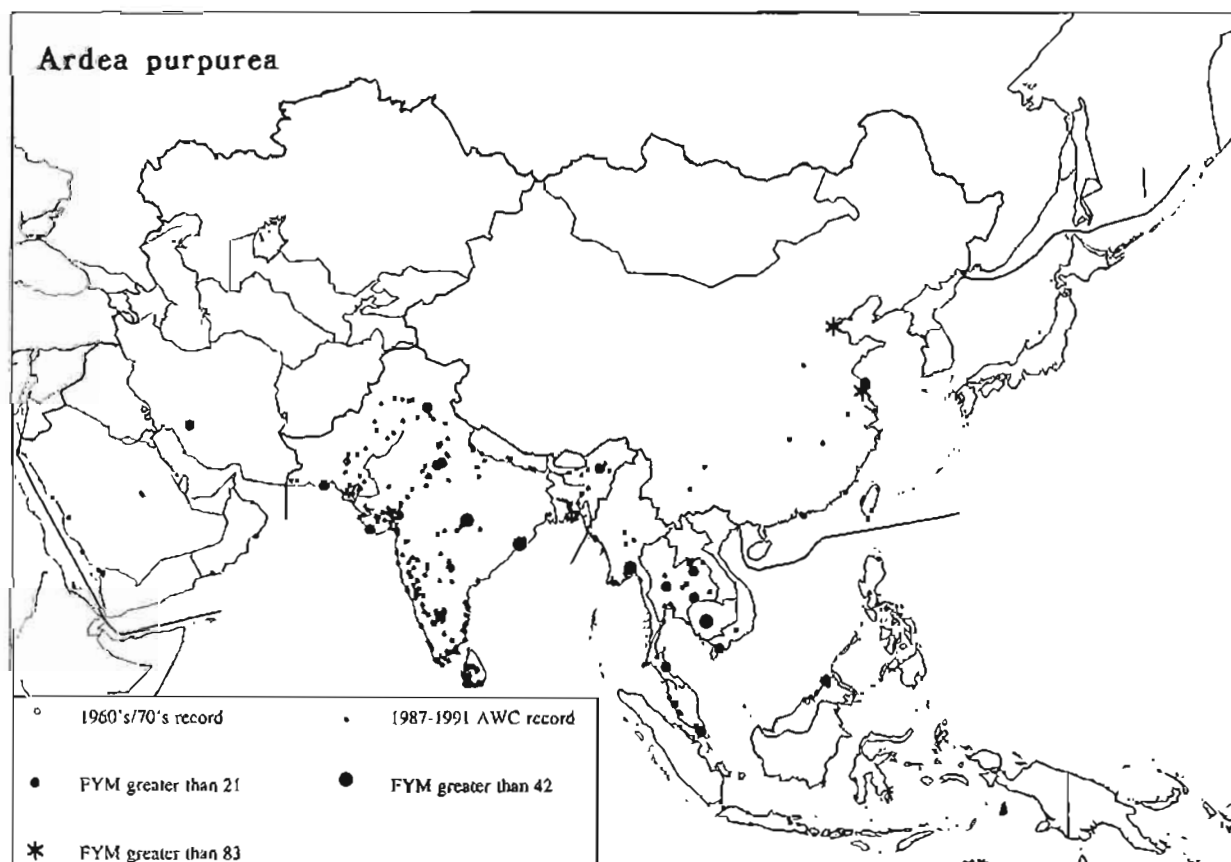


Figure 20: Distribution of *Ardea purpurea* as shown by the AWC 1987-1991

Great White Egret

Egretta alba

Two subspecies occur: the nominate form breeds across northern and central Eurasia to N China and northern Japan, and winters south to India and S China; *E. a. modestus* breeds in southern Asia from the Arabo-Persian Gulf to southern Japan and almost throughout Australasia west to Sumatra (Giesen and Sukotjo 1991), and is mainly sedentary (Figure 21). Four main groups, involving a mixture of migratory *alba* and sedentary *modestus*, are recognized.

- SW Asia: B (10,000) [AWC 3,080; 7,900 with 1970s data]

Trends: Unknown.

- S Asia: B/C (25,000) [AWC 15,400]

Trends: Apparently stable.

- E Asia (south to N Vietnam): B or C [AWC 4,000]

Trends: Possibly declining.

- SE Asia: Unknown [AWC 6,600]

Trends: Unknown.

Potential sites of international importance

These can be identified only in SW and S Asia, where population estimates exist. Seventeen sites are identified (Table 15). In SW Asia, most of these had a FYM of between 100 and 200, although Gomishan Marsh in Iran was a notable exception with an average 560 birds (4 yr). Two sites in Afghanistan held concentrations exceeding the 1% level in the 1970s: Hamoun-i Puzak (max. 1,830) and Ab-i-Istada (max. 190). Much the most important site in S Asia was Chilka Lake in India, with a FYM of 2,650 (4 yr).

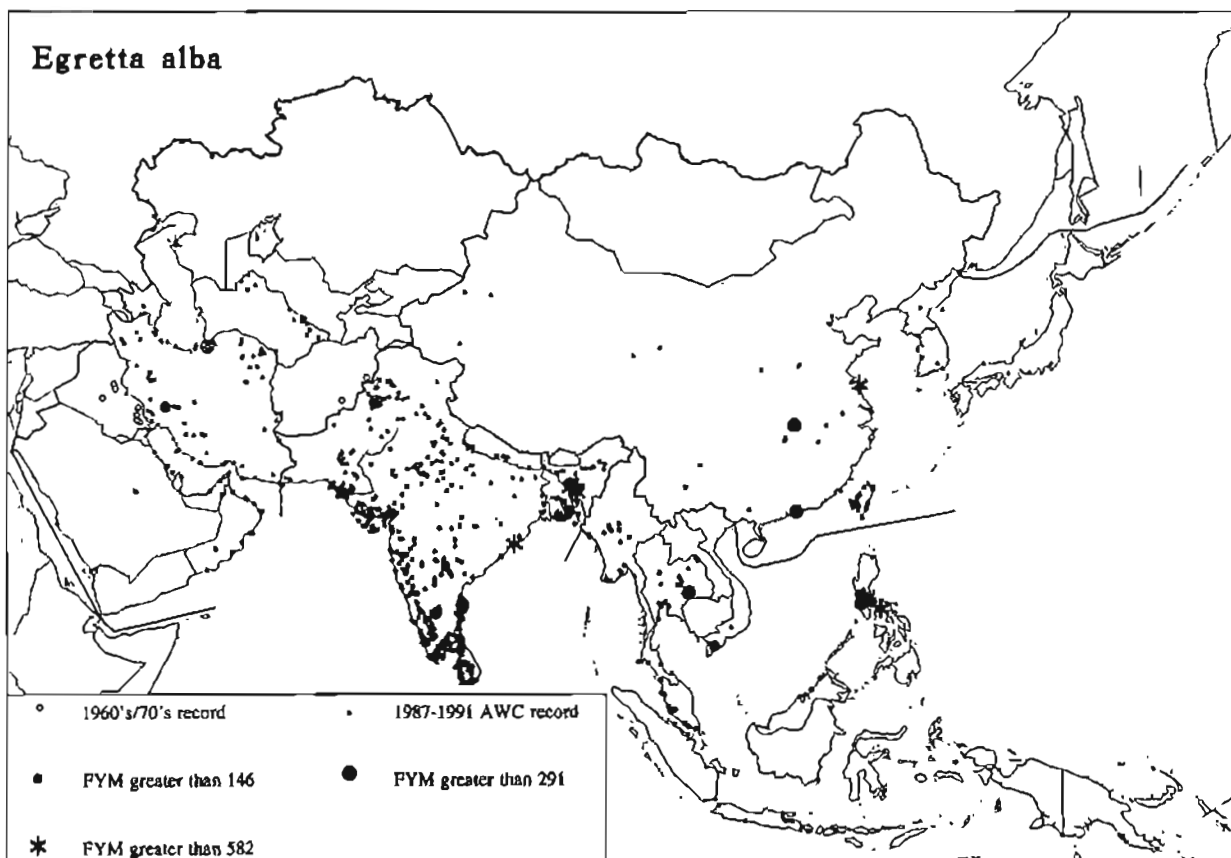


Figure 21: Distribution of *Egretta alba* as shown by the AWC 1987-1991

Table 15: Potential sites of international importance for *Egretta alba* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	MAULVIBAZAR	HAIL HAOR	288	4
	MAULVIBAZAR	KAWADIGHI HAOR	600	2
	SYLHET	MATIAN HAOR	370	1
	SYLHET	PASUA HAOR	600	1
INDIA	ANDHRA PRADESH	PULICAT LAKE	387	4
	ORISSA	CHILKA LAKE	2650	4
IRAN	BANDAR ABAS	HARA PROTECTED REGION	125	1
	BANDAR ABAS	KHOR TIAB AND KHOR KOLAHY	100	2
	BANDAR ABAS	PERS. GULF, BANDAR ABAS-BANDAR KHAMIR	105	1
	E.AZERBAYJAN	DASHT MOGHAN (ARAS RIVER)	129	2
	GILAN	ANZALI MARSH, CENTRE	110	3
	KHORASAN	SARRAKHS FISHPOOL	130	1
	KHUZESTAN	DEZ DAM & RIVER	125	4
	KHUZESTAN	IZEH & SHIEKHON LAKES	160	4
	MAZANDARAN	GOMISHAN MARSH	560	2
	OMAN		BARR AL HIKMAN	130
PAKISTAN	PUNJAB	CHASHMA BARRAGE RESERVOIR	361	5

Other important sites

In E and SE Asia, four sites had a FYM of over 500 birds: the Yancheng shore in China (860, 1yr), and three sites in the Philippines: the Calanan rice paddies, Luzon (500, 1yr), the Cameling ricefields, Mindanao (1,000, 1yr) and the Ragay Gulf, Luzon (FYM 1,670, 2yr).

Pied Egret*Egretta picata*

Monotypic. An abundant bird in southern New Guinea during the dry season, at the time of the AWC, but not known to breed there. It is probably therefore a regular migrant from Australia. Only one population is recognized.

- Australasia (entire population): D [AWC 350]

Trends: Unknown.

Only a few records were obtained during the AWC, all in S Papua New Guinea, and no sites of international importance can be identified.

Intermediate Egret*Egretta intermedia*

Two subspecies occur. The nominate form breeds across southern Asia from Pakistan to Japan and the Greater Sundas in Indonesia. *M. i. plumifera* breeds in Australia, New Guinea and the southern Moluccas (Figure 22). Populations in E Asia and Australasia are migratory. Three wintering groups are recognized.

- S Asia: B or C (25,000) [AWC 14,900]

Trends: Apparently declining in some areas.

- E/SE Asia (south to Greater Sundas): B or C [AWC 8,680]

Trends: Apparently declining in some areas.

- Australasia (northwest to Moluccas): C or D

Trends: Unknown.

This species is not always easily distinguished from the Great White Egret in the field, and the data may therefore contain some misidentifications.

Potential sites of international importance

Eight sites in S Asia had a FYM of 250 (1% level) or more (Table 16), much the most important being Chilka Lake in India, with a FYM of over 1,100 birds (4 yr).

Table 16: Potential sites of international importance for *Egretta intermedia* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	HATIYA	JONAK CHAR	389	4
INDIA	GUJARAT	LUNIVAV DAM	400	1
	KARNATAKA	HIDKAL RESERVOIR	250	4
	KERALA	KOLE WETLANDS	455	3
	ORISSA	CHILKA LAKE	1172	4
	PONDICHERRY	OUSTERI TANK	648	4
	TAMIL NADU	PUTHUPALLI ALAM	520	3
SRI LANKA	W.P	MUTHURAJAWELA	250	1

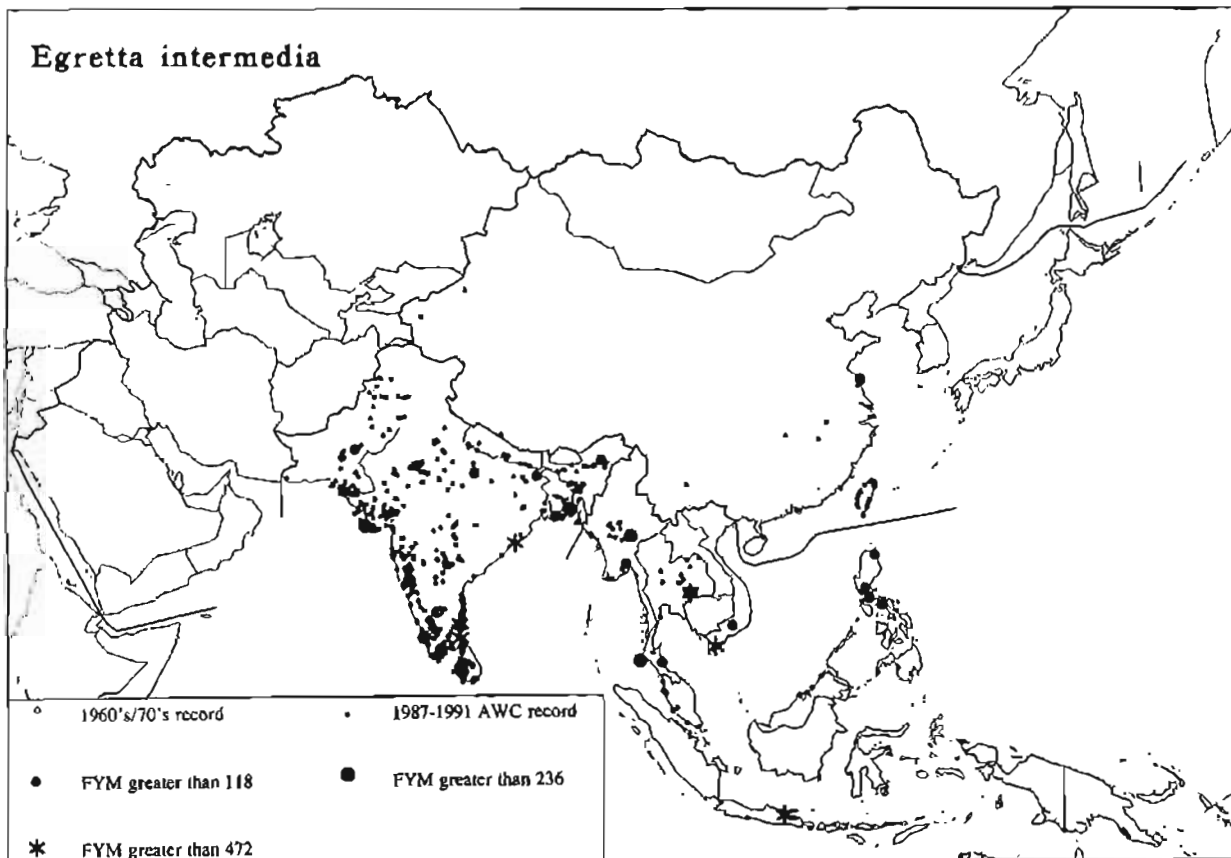


Figure 22: Distribution of *Egretta intermedia* as shown by the AWC 1987-1991

Other important sites

In E/SE Asia, the two most important sites were Huai Talat Non-hunting Area in Thailand (2,500, 1yr) and Tram Chin Nature Reserve in Vietnam (FYM 1,450, 3yr).

White-faced Heron

Egretta novaehollandiae

A widespread Australasian species; the nominate subspecies extends through New Guinea into the Lesser Sundas (where known to breed) and the Moluccas (where probably only a non-breeding visitor). No records were obtained during the AWC.

Western Reef Egret

Egretta gularis

The subspecies *asha* occurs from the Arabo-Persian Gulf to Sri Lanka and E India (Figure 23). Although the species is largely sedentary in Africa and parts of SW Asia, it is reported to move locally in India and Sri Lanka. This species is sometimes considered conspecific with the Little Egret (e.g. Hancock & Kushlan 1984). Only one population is recognized.

- SW/S Asia (entire population of *asha*): B (17,000) [AWC 5,310; 6,050 with 1970s data]

Trends: Unknown.

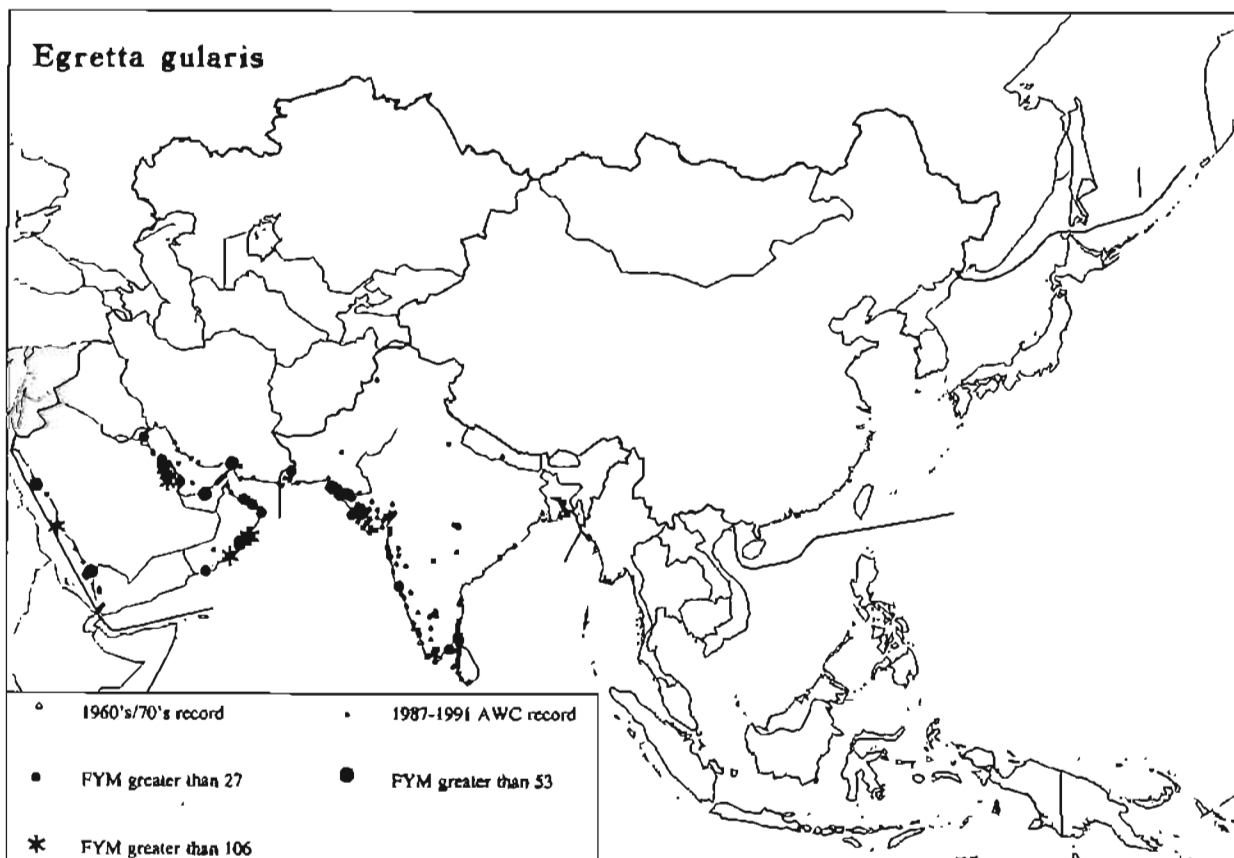


Figure 23: Distribution of *Egretta gularis* as shown by the AWC 1987-1991

Potential sites of international importance

Only three sites, all in Oman, reach a FYM of over 170 birds (1% level): Barr al Hikman (FYM 770, 3yr), Dawhat Sawqirah (FYM 600, 3yr) and Masirah Island (FYM 330, 3yr). This indicates a generally wide distribution in small numbers throughout its range outside the breeding season. None of the coastal sites counted in Iraq in the 1970s held numbers exceeding the 1% level.

Little Egret

Egretta garzetta

Two subspecies occur. The nominate subspecies breeds across Eurasia south to S Asia and winters south to Sri Lanka, Malaysia and the Philippines. Rather few individuals winter in SW Asia, the bulk of the West/Central Asian populations wintering in Africa. *E. g. nigripes* breeds in Australasia and migrates north to Sulawesi, the Moluccas and the Lesser Sundas (Figure 24). Both subspecies have been recorded in Borneo, although only in small numbers. For the present purposes, four wintering groups are recognized.

- SW Asia/Black Sea/Middle East: C (25,000+) [AWC 2,420]

Trends: Unknown.

- S Asia: C (60,000) [AWC 38,900]

Trends: Possibly declining.

- E/SE Asia (to the Philippines): C [AWC 23,000]

Trends: Declining.

- Australasia/E Indonesia: C or D [AWC 20]

Trends: Unknown.

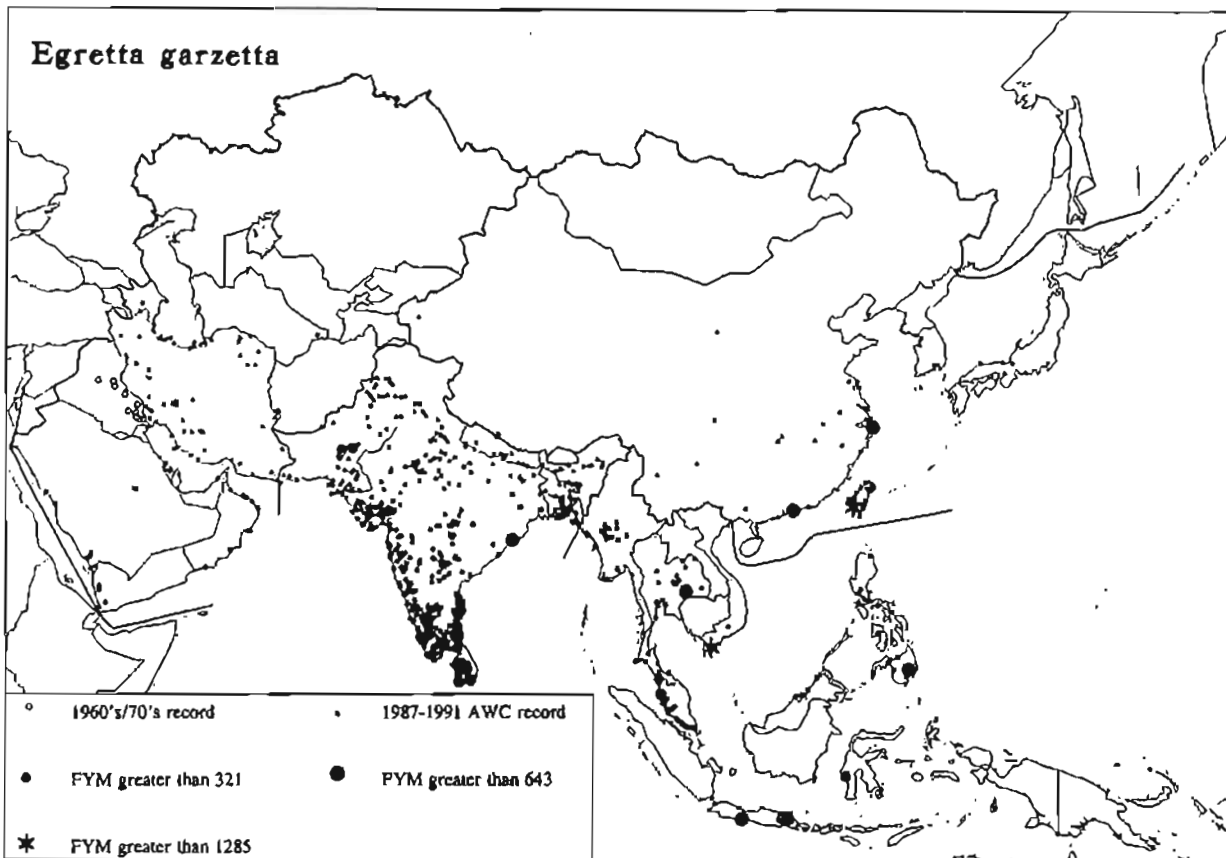


Figure 24: Distribution of *Egretta garzetta* as shown by the AWC 1987-1991

Potential sites of international importance

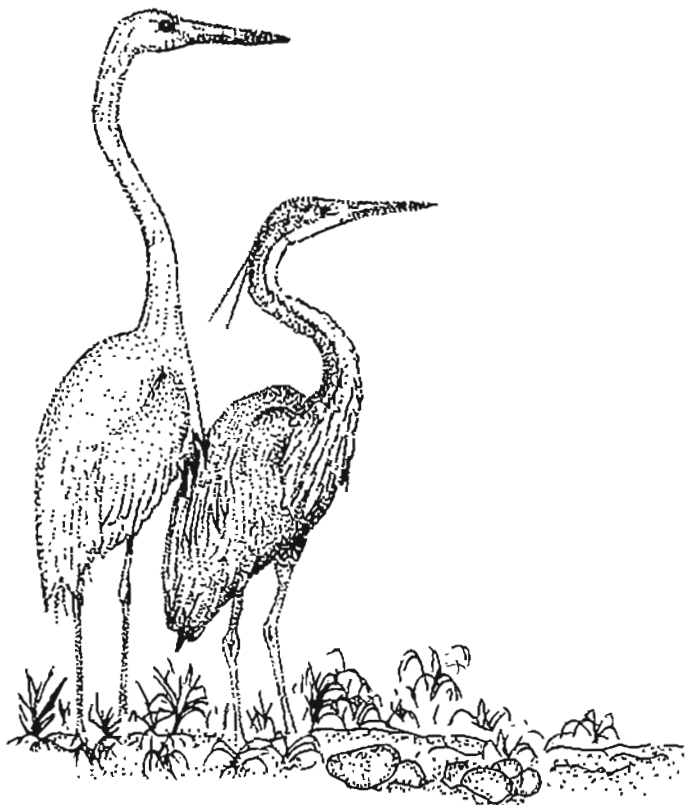
Sites of international importance can be identified only in SW Asia (1% level: 250) and S Asia (1% level: 600). Six sites were identified (Table 17). As with other egrets, Chilka Lake in India is the most important site, with an average of 900 (4 yr).

Table 17: Potential sites of international importance for *Egretta garzetta* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	KARNATAKA	NARASAMBUDHI TANK	809	1
	ORISSA	CHILKA LAKE	900	4
	TAMIL NADU	PUTHUPALLI ALAM	675	3
IRAN	MAZANDARAN	GOMISHAN MARSH	290	2
SRI LANKA	C.P	MAHAWELI GANGA AT KANDY	756	1
	S.P	BOPITIYA	600	1

Other important sites

In E and SE Asia, six sites reached a FYM of over 1,000 birds: the wetlands of Wu Chisan Mountain in China (1,000, 1yr); Dua Island and surrounding rice fields (1,500, 1yr) and Segara Anakan and Donan River (1,100, 1yr), both in Java, Indonesia; Tseng-wen Chi River in Taiwan (FYM 2,450, 3yr); Huai Talat Non-hunting Area in Thailand (1,000, 1yr) and Tram Chin Nature Reserve in Vietnam (FYM 1,430, 3yr).



Chinese Egret

Egretta eulophotes

A monotypic, globally threatened species which breeds in E China and off the west Korean peninsula, and winters in coastal wetlands in SE Asia south to the Philippines, Borneo and Singapore (Figure 25). Only one population is recognized.

- East/SE Asia (entire population): A (2,500) [AWC 1,920]

Trends: Unknown.

The total breeding population has been estimated at 960 pairs (Lansdown 1990).

Potential sites of international importance

Three sites had a FYM of over 25 birds (1% level): the Yancheng shore (60, 2yr) in China; and Olango Island (FYM 36, 2yr) and Ormoc Intertidal Flat (1,600, 1yr), both in the Philippines. The latter site held over half the known world population on the one occasion that it was counted, and clearly merits further investigation.

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

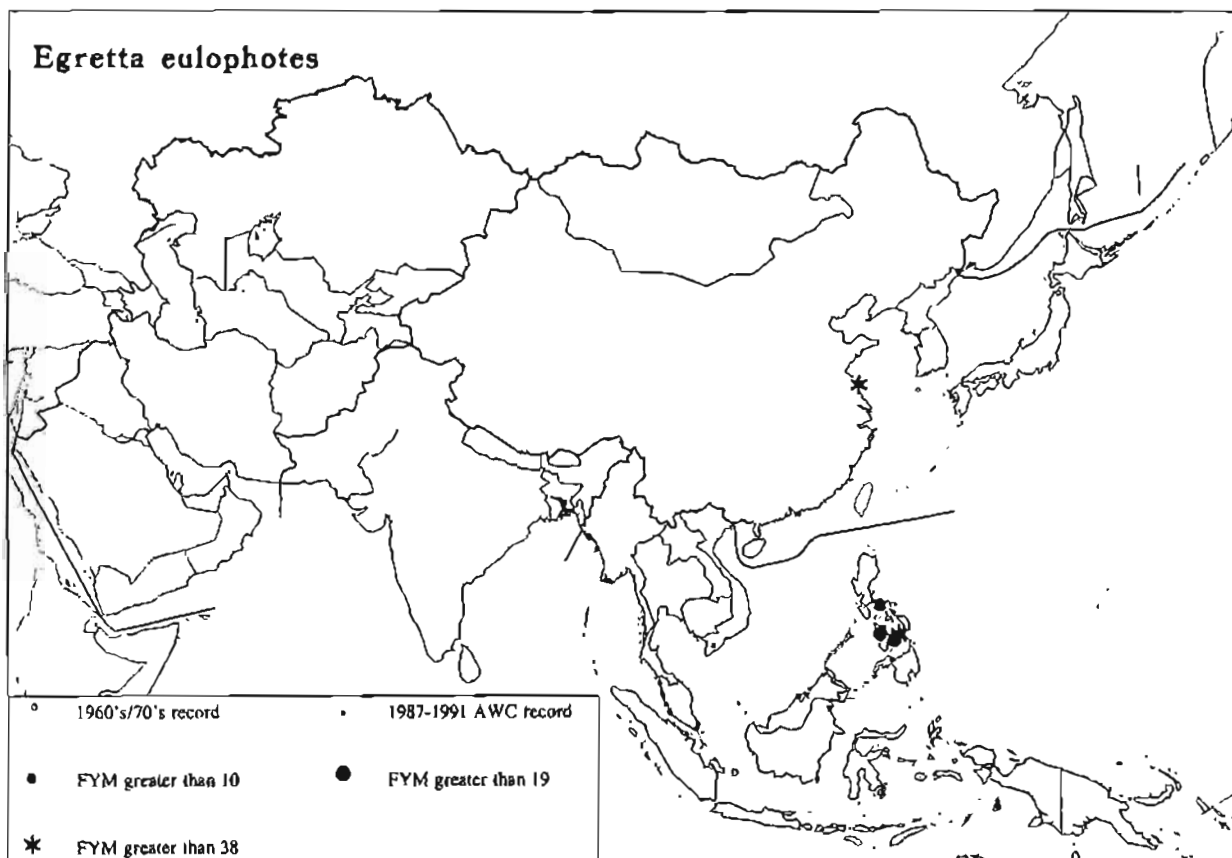


Figure 25: Distribution of *Egretta eulophotes* as shown by the AWC 1987-1991

Pacific Reef-Egret***Egretta sacra***

Only the nominate subspecies occurs. A largely sedentary, coastal species of SE Asia (from Bangladesh eastward) and Australasia (Figure 26). Only one population is recognized.

- E/SE Asia: Unknown [AWC 80]

Trends: Unknown.

Very few birds have been recorded during the AWC, and no sites of international importance can be identified.

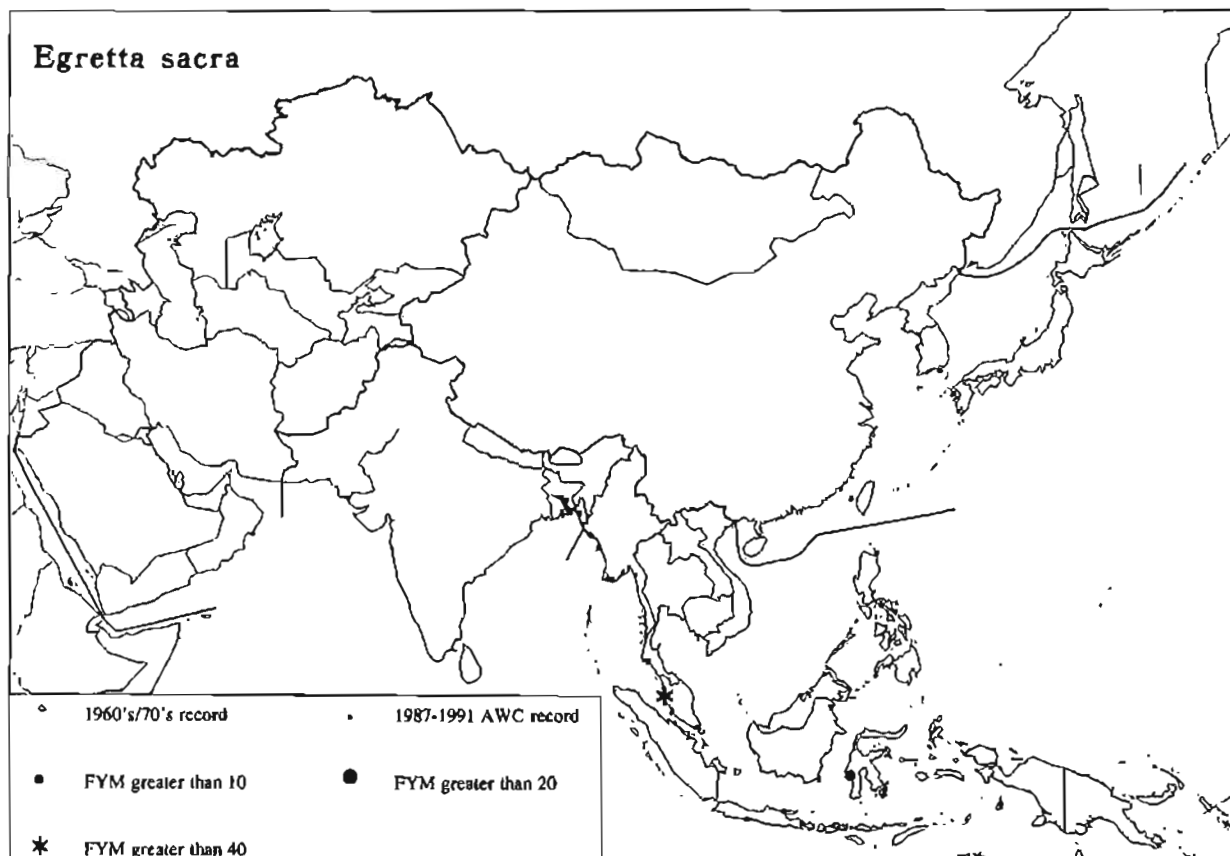


Figure 26: Distribution of *Egretta sacra* as shown by the AWC 1987-1991

Cattle Egret***Bubulcus ibis***

Two subspecies occur: the nominate subspecies extends from Africa and Europe across SW Asia east to the Caspian; *coromandus* occurs from Pakistan eastward (Figure 27). Four wintering groups are recognized.

- SW Asia/E Mediterranean: A or B [AWC 2,120]

Trends: Unknown.

- S Asia: D or E [AWC 42,900]

Trends: Increasing.

- E/SE Asia (south to Greater Sundas): C or D [AWC 8,600]

Trends: Unknown.

- Australasia (northwest to Moluccas): C or D [25]

Trends: Increasing in Australia.

A good proportion of the SW Asian population winters outside the region, in tropical Africa, which explains the very low regional AWC figure. In at least parts of tropical Asia (e.g. the Indian subcontinent), the species is very common and widespread in non-wetland habitats (dry and irrigated cultivation etc.) as well as wetlands; it is therefore impossible to census it adequately through the AWC. For example, 60,000-160,000 birds were estimated along the Coromandel coast of SE India alone, through sampling methods (Perennou 1990), whereas the total AWC figure for S Asia was only 42,900. Figure 27 clearly shows that, within S Asia, the major non-breeding concentrations are to be found in S India and Sri Lanka. The species is known to undertake regular movements within peninsular India (Santharam 1987, 1988).

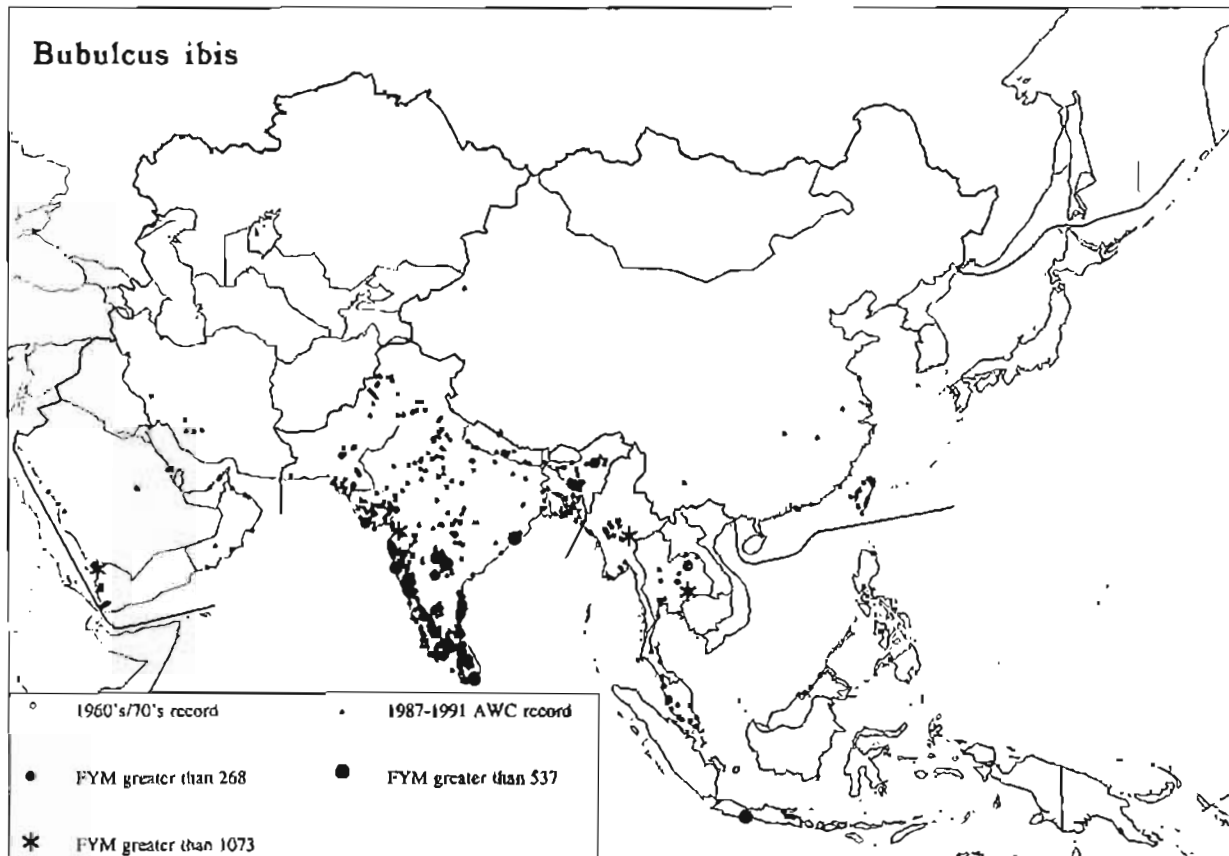


Figure 27: Distribution of *Bubulcus ibis* as shown by the AWC 1987-1991

Important sites

In the absence of population estimates, no sites of international importance can be identified. However, five sites in SW, S and SE Asia reached a FYM of over 1,000 birds: Wadi Jizan Dam in Saudi Arabia (FYM 1,195, 2yr), Bahadur Sagar in Madhya Pradesh, India (1,500, 1yr), Inle Lake in Myanmar (FYM 1,640, 4yr), Kumbuk Wewa in Sri Lanka (1,000, 1yr) and Huai Talat Non-hunting Area in Thailand (1,900, 1yr).

Squacco Heron

Ardeola ralloides

Monotypic. Largely extralimital, breeding mainly in Africa and S Europe, but extending east through SW Asia to about 67°E in central Kazakhstan and NE Iran. Birds breeding in Asia winter mainly in eastern Africa, with only a small number remaining throughout the winter in SW Asia (Figure 28). Only one population is recognized.

- SW Asia/E Africa: C [AWC 56; 96 with 1970s data]

Trends: Unknown.

The birds wintering in SW Asia constitute only a tiny proportion of the SW Asian breeding population, the bulk of which winters in Africa, and there are unlikely to be any sites of international importance for the species in the region.

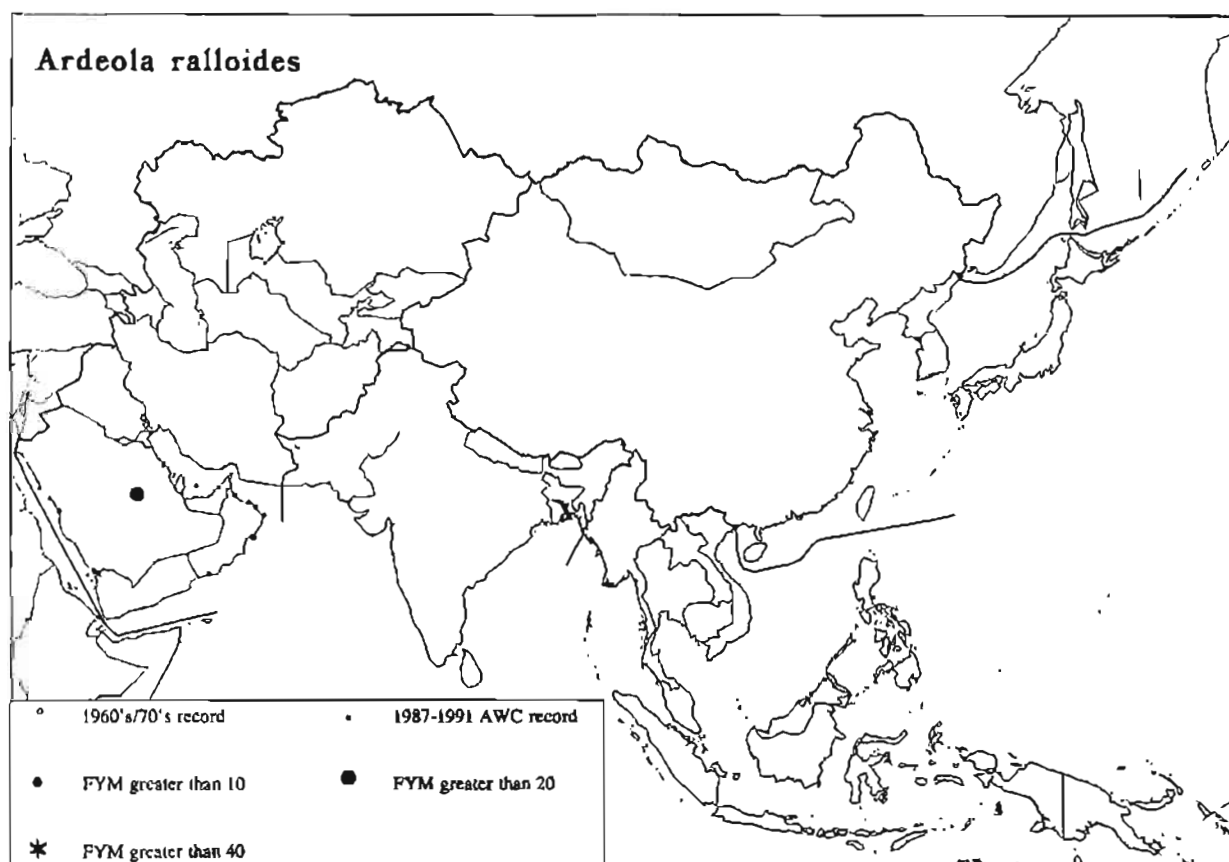


Figure 28: Distribution of *Ardeola ralloides* as shown by the AWC 1987-1991

Indian Pond Heron

Ardeola grayii

There are two subspecies: the nominate form occurs from SE Iran to Myanmar (Figure 29); *phillipsi* is confined to the Maldives which have never been counted as part of the AWC. Largely sedentary over much of its range but subject to local movements; undertakes regular migrations within peninsular India (Santharam 1987, 1988). Two groups are recognized within the nominate subspecies.

- SW/S Asia: D [AWC 33,500]

Trends: Unknown.

- SE Asia: [AWC 420]

Trends: Unknown.

The species is very widely distributed in natural and artificial wetlands, as well as irrigated ricefields, and is therefore very difficult to census accurately. The *Ardeola* species are very difficult to identify in the field when in non-breeding plumage, and specific numbers where several species coexist (e.g. NE India, Bangladesh, SE Asia) should be treated with caution.

Important sites

In the absence of population estimates, no sites of international importance can be identified. However, large numbers were recorded on the Mahaweli Ganga at Kandy in Sri Lanka (4,220, 1yr), and at Chilka Lake (FYM 660, 4yr), Dharmasagar Reservoir, Andhra Pradesh (FYM 510, 2yr), and the Kole wetlands, Kerala (FYM 740, 3yr), in India.

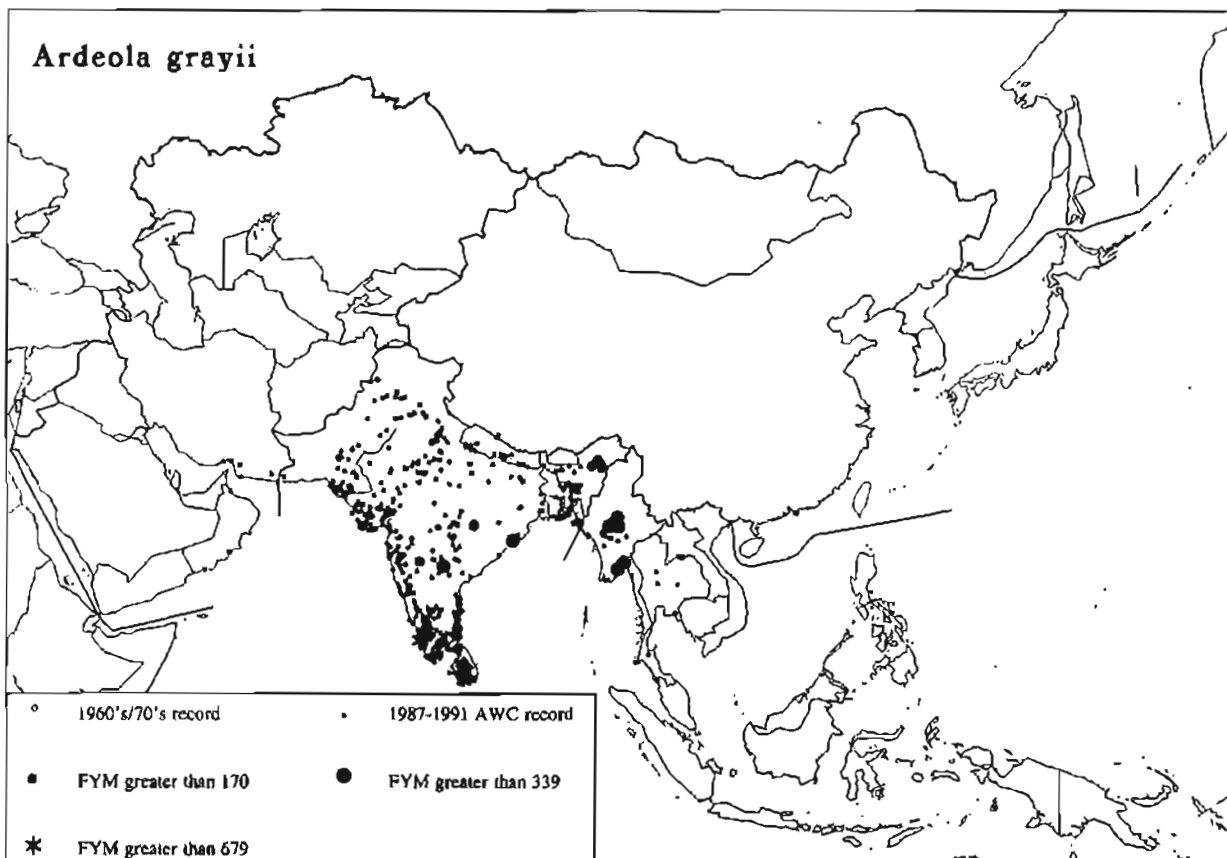


Figure 29: Distribution of *Ardeola grayii* as shown by the AWC 1987-1991

Chinese Pond Heron

Ardeola bacchus

Monotypic. The northern populations migrate to winter in the southern part of the range (Figure 30). Only one population is recognized.

- E/SE Asia (to NE India; entire population): B or C [AWC 5,230]

Trends: Unknown.

The *Ardeola* species are very difficult to identify in the field when in non-breeding plumage, and specific numbers where *bacchus* mixes with *grayii* in Bangladesh, NE India and Myanmar, and with *speciosa* in Thailand and Indochina, should be treated with caution.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Three sites had a FYM of over 300, all in Thailand: Sananbin Non-hunting Area (350, 1yr), Huai Talat Non-hunting Area (400, 1yr) and Khao Sam Roi Yot National Park (FYM 480, 2yr).

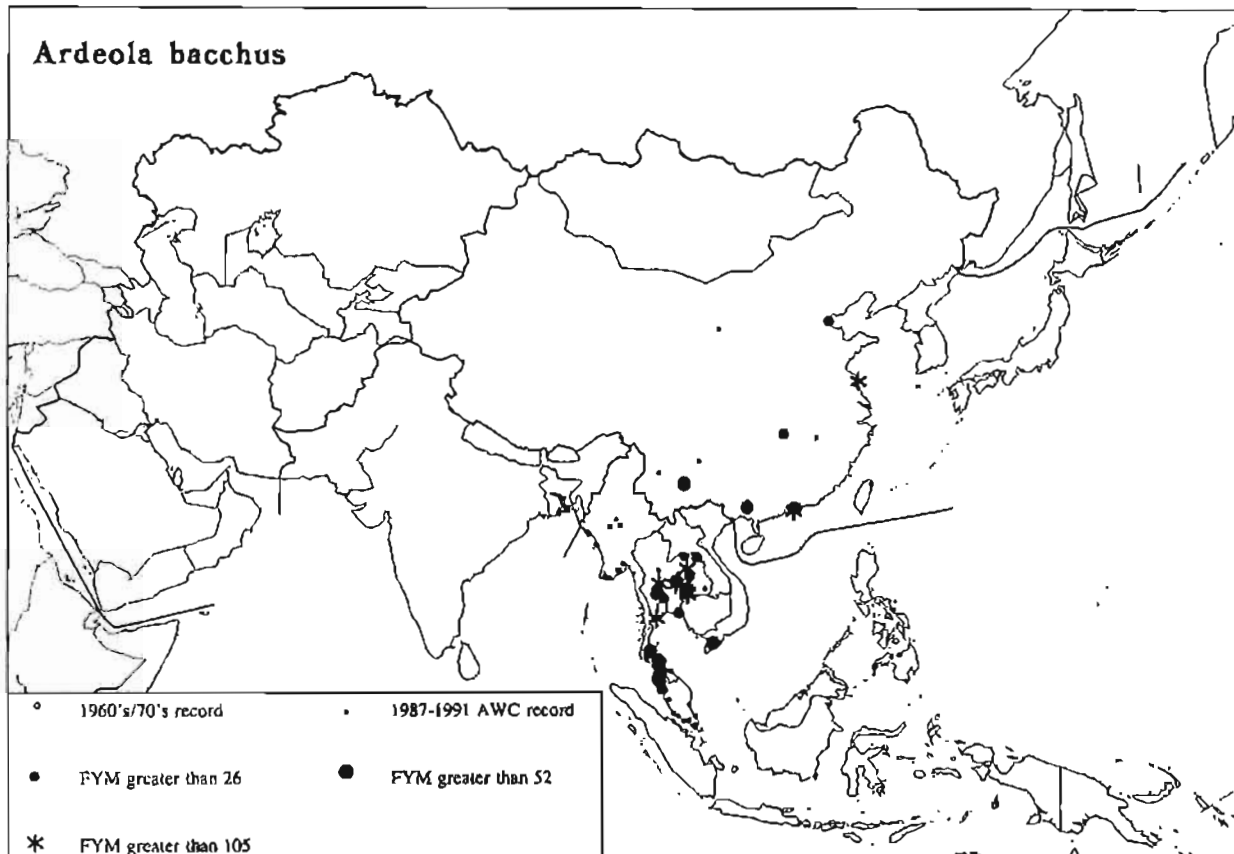


Figure 30: Distribution of *Ardeola bacchus* as shown by the AWC 1987-1991

Javan Pond Heron

Ardeola speciosa

Two subspecies have been described: the nominate form in Borneo, Java, Sumatra, Sulawesi and the Lesser Sundas, and *A. s. continentalis* in Thailand and Indochina (Figure 31). Apparently sedentary. Two populations are recognized and the total AWC figure for these populations is 9,150.

- Mainland SE Asia (*continentalis*): B or C [AWC 6,150]
Trends: Unknown.
- Insular populations (*speciosa*): Unknown [AWC 3,000]
Trends: Unknown.

The *Ardeola* species are very difficult to identify in the field when in non-breeding plumage, and specific numbers in SE Asia, where two species often occur together (see previous species), should be treated with caution.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. The most important site identified so far is Tempe Lake, South Sulawesi, Indonesia, where extrapolations from sample counts produced an estimated 8,480 birds on the single occasion it was visited.

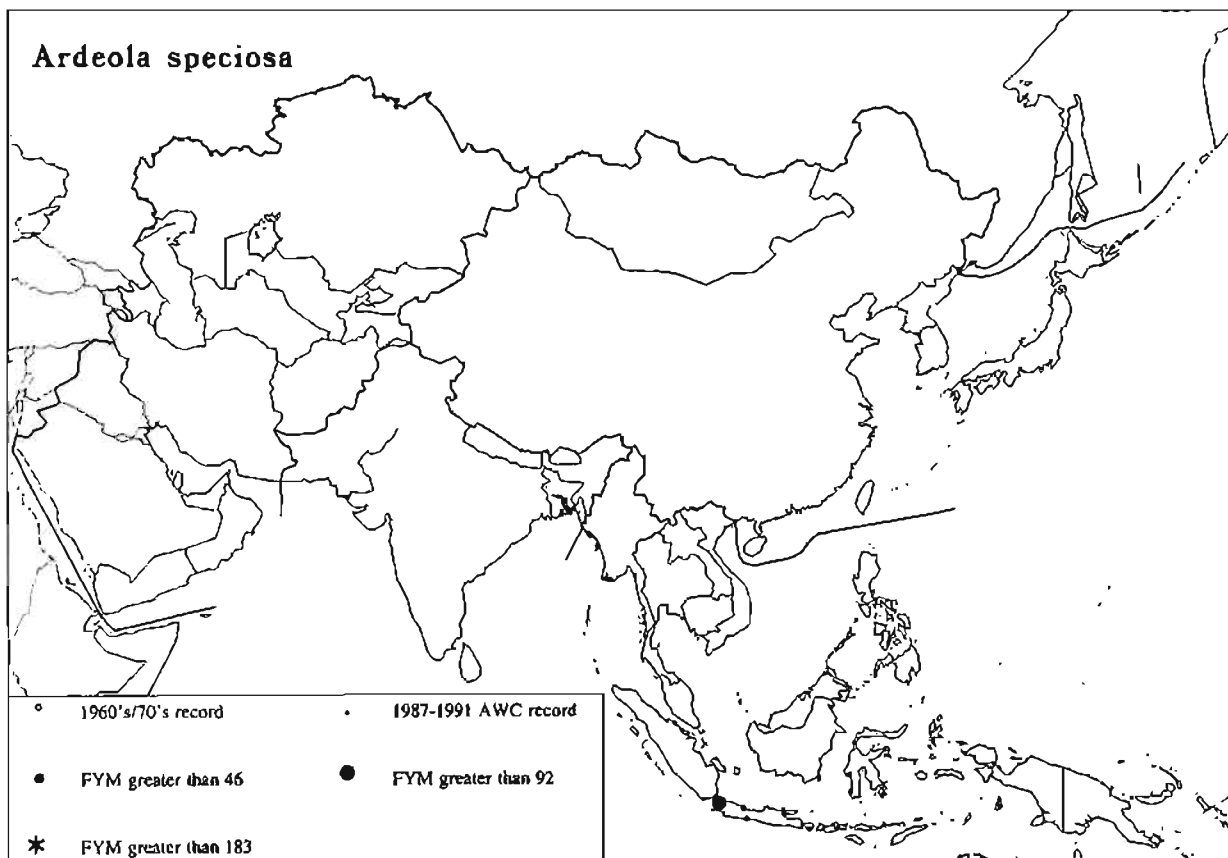


Figure 31: Distribution of *Ardeola speciosa* as shown by the AWC 1987-1991

Green-backed Heron

Butorides striatus

Of the 30 or so subspecies which have been described, about 13 occur in Asia. Only two of these are migratory: *amurensis*, which breeds in extreme eastern Russia, Korea, Japan and NE China and winters south to Taiwan, the Philippines, the Greater Sundas and Sulawesi; and *actophilus*, which breeds in S China and N Indochina and winters mainly in Indonesia (Figure 32). In E/SE Asia, wintering populations mix with resident populations, and no separation into discrete units is therefore possible. For the present purposes, three groups are recognized.

- SW Asia (*B. s. brevipes*): Unknown [AWC 13; 63 with 1970s data]
Trends: Unknown.
- S Asia (*B. s. chloriceps*): Unknown [AWC 580]
Trends: Unknown.
- East/SE Asia (to Sulawesi): Unknown [AWC 1,450]
Trends: Unknown.

As a rather secretive inhabitant of mangroves, other wooded swamps and densely vegetated water courses, the Green-backed Heron is grossly under-recorded by the AWC, and no indication of the real population sizes can be gained from the counts.

Important sites

In the absence of population estimates, no sites of international importance can be identified. Three sites had a FYM of over 100 birds: Sholavandan in Tamil Nadu, India (150, 1yr), Tempe Lake, South Sulawesi, Indonesia (220, 1yr) and Kampong Sungai Sala, Kedah, Malaysia (FYM 190, 3yr).

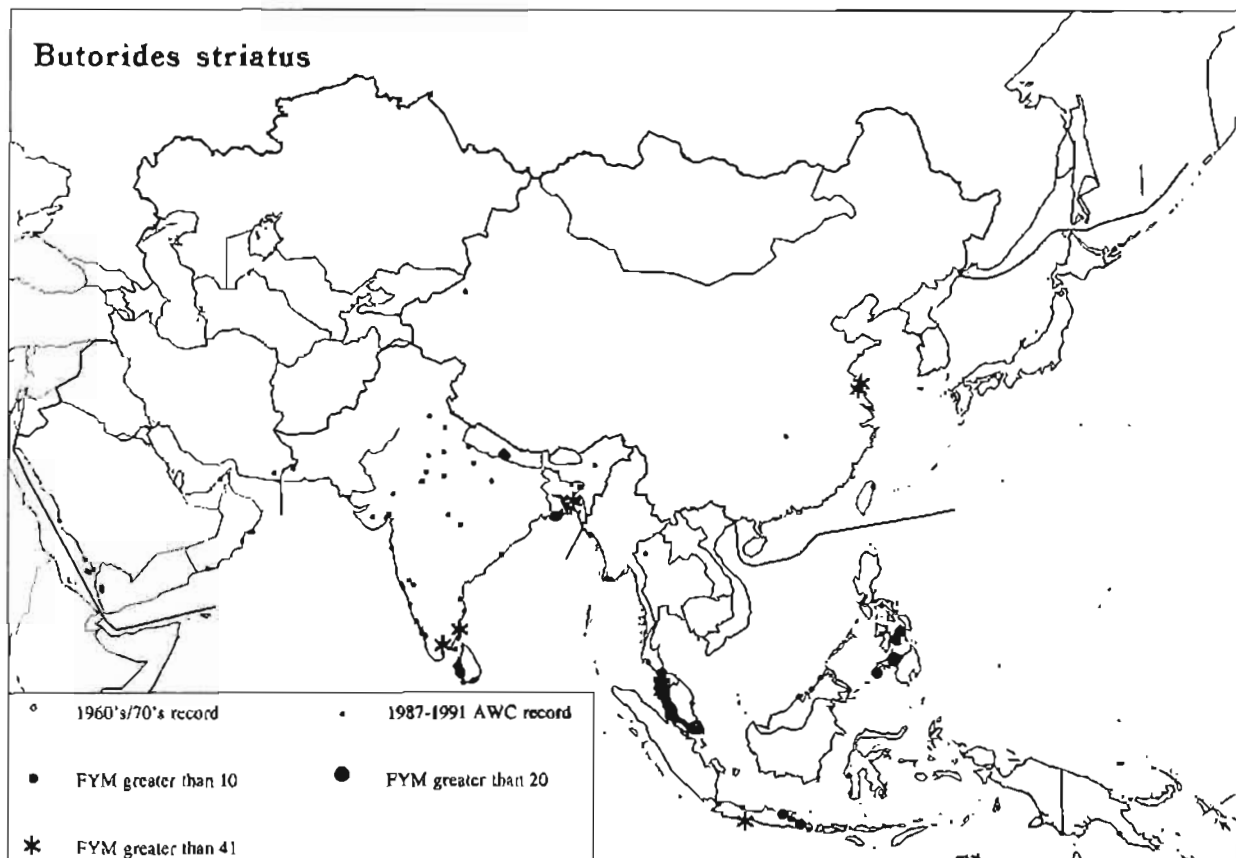


Figure 32: Distribution of *Butorides striatus* as shown by the AWC 1987-1991

Black-crowned Night Heron*Nycticorax nycticorax*

Only the nominate subspecies occurs. West Asian populations winter mainly in lower Iraq and NE Africa (Figure 33). Three main wintering groups are recognized.

- SW Asia/NE Africa: B (10,000+) [AWC 200; 2,400 with 1970s data]

Trends: Unknown.

- S Asia: C [AWC 14,000]

Trends: Perhaps stable.

- E/SE Asia: C [AWC 8,960]

Trends: Unknown.

A nocturnal species which during the daytime roosts in dense vegetation and is not adequately covered by the AWC.

Potential sites of international importance

In SW Asia, only one site, counted once, reaches the 1% level of 100: Wadi Hanifah in Saudi Arabia, with 130 birds. However, two sites counted in Iraq in the 1970s held much larger numbers: Haur Chubaisah (800 in 1979) and Hammar Marshes (1,000 in 1979).

Other important sites

Five sites in S Asia and E/SE Asia had a FYM of over 1,000 birds: Pichavaram Mangroves (FYM 1,900, 5yr) and Simpson Estate, Madras (FYM 2,360, 5yr), both in Tamil Nadu, India; Drigh in Sind, Pakistan (FYM 3,350, 5yr); Surabaya Zoo, Java, Indonesia (1,520, 1yr); Xijiao near Shanghai Zoo, China (FYM 1,920, 2yr).

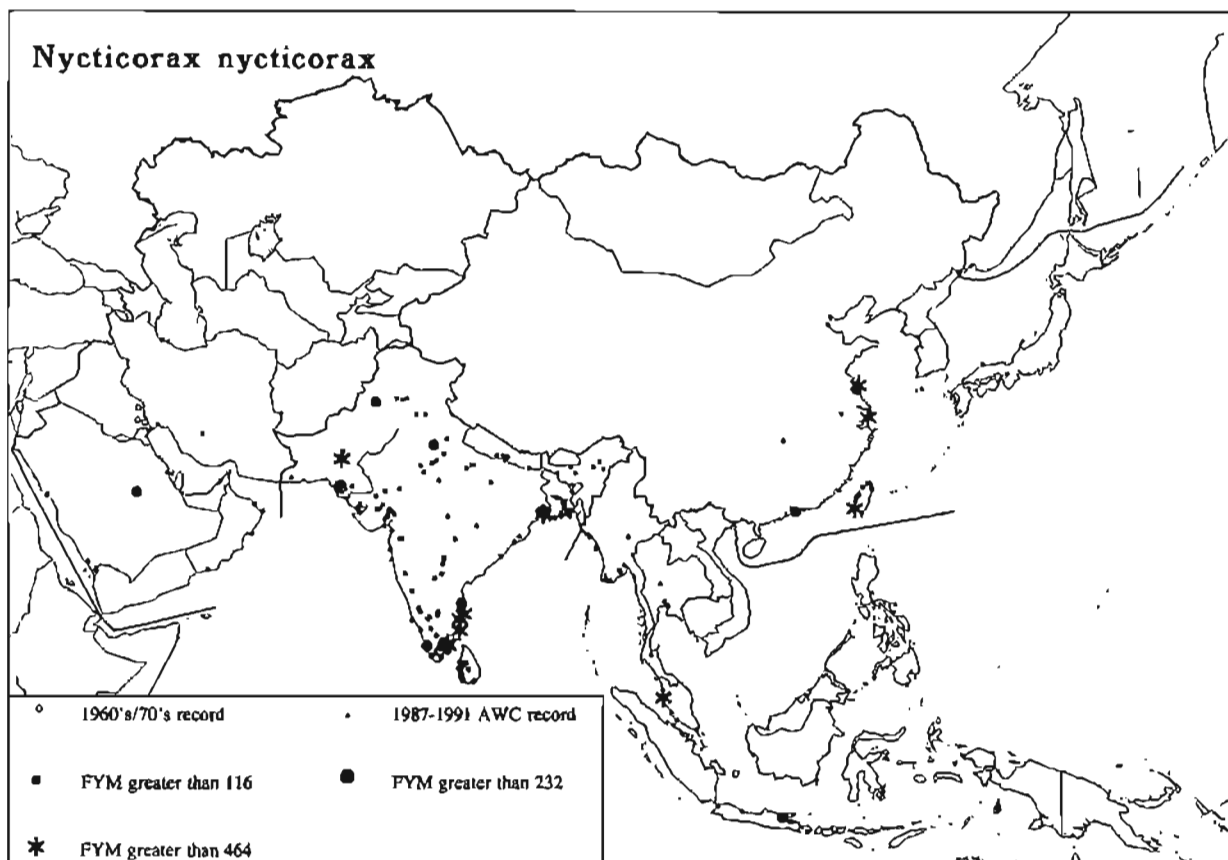


Figure 33: Distribution of *Nycticorax nycticorax* as shown by the AWC 1987-1991

Rufous Night Heron*Nycticorax caledonicus*

This is mainly an Australasian species that extends north into parts of SE Asia. Two subspecies occur: *manillensis* in the Philippines and north Borneo, and *hilli* in E Indonesia and New Guinea. The species is largely sedentary, but subject to lengthy post-breeding dispersive movements. As all nocturnal herons, the species is very inadequately covered by the AWC. Only a few birds have been counted as part of the AWC in S New Guinea [AWC 65]. No population estimate can be given, and no sites of international importance can be identified.

White-eared Night Heron*Gorsachius magnificus*

Monotypic; globally threatened. Confined to China, where breeding is restricted to Hainan. The species is extremely rare and may be on the verge of extinction. It was not recorded during the AWC.

Japanese Night Heron*Gorsachius goisagi*

Monotypic; globally threatened. Breeds in Japan and winters mainly in the Philippines. It is also recorded in eastern China, Taiwan, Sulawesi and Borneo. Only one population is recognized.

- E/SE Asia (entire population): A or B [AWC 0]

Trends: Declining.

As with all nocturnal herons, this species is very inadequately covered by the AWC. There were no confirmed records during the AWC.

Malayan Night Heron*Gorsachius melanolophus*

Four subspecies occur. Three of these are sedentary: *minor* of the Nicobar Islands, and *kutteri* and *rufolineatus* of the Philippines. Birds of the nominate subspecies breeding in the northern parts of the species' range in Myanmar and NE India overfly populations in Thailand and Vietnam to winter in Malaysia and Indonesia. Four populations are recognized.

- S India/Sri Lanka: Probably A; everywhere scarce [AWC 10]

Trends: Probably declining.

- SE Asia (including NE India): Unknown [AWC 36]

Trends: Probably declining.

- Philippines (*kutteri* & *rufolineatus*): Unknown [AWC 0]

Trends: Probably declining.

- Nicobar Islands (*minor*): Unknown [AWC 0]

Trends: Unknown.

As with all nocturnal herons, the species is very inadequately covered by the AWC, and only a few records were obtained in Bangladesh, Java (Indonesia), peninsular Malaysia and Sri Lanka. No sites of international importance can be identified.

Little Bittern*Ixobrychus minutus*

Only the nominate subspecies occurs. This breeds across Eurasia east to the Central Asian Republics, NW China and NW India. Almost the entire population winters in Africa, although birds breeding in Pakistan and India apparently winter in S Asia (Figure 34). Two populations are recognized.

- Central/SW Asia: Probably C [AWC 5]
Trends: Unknown.
- South Asia: Probably B, but very poorly known [AWC 0]
Trends: Unknown.

Like all bitterns, because of its size and habitat (dense aquatic vegetation), the species is inadequately covered by the AWC. No sites of international importance can be identified.

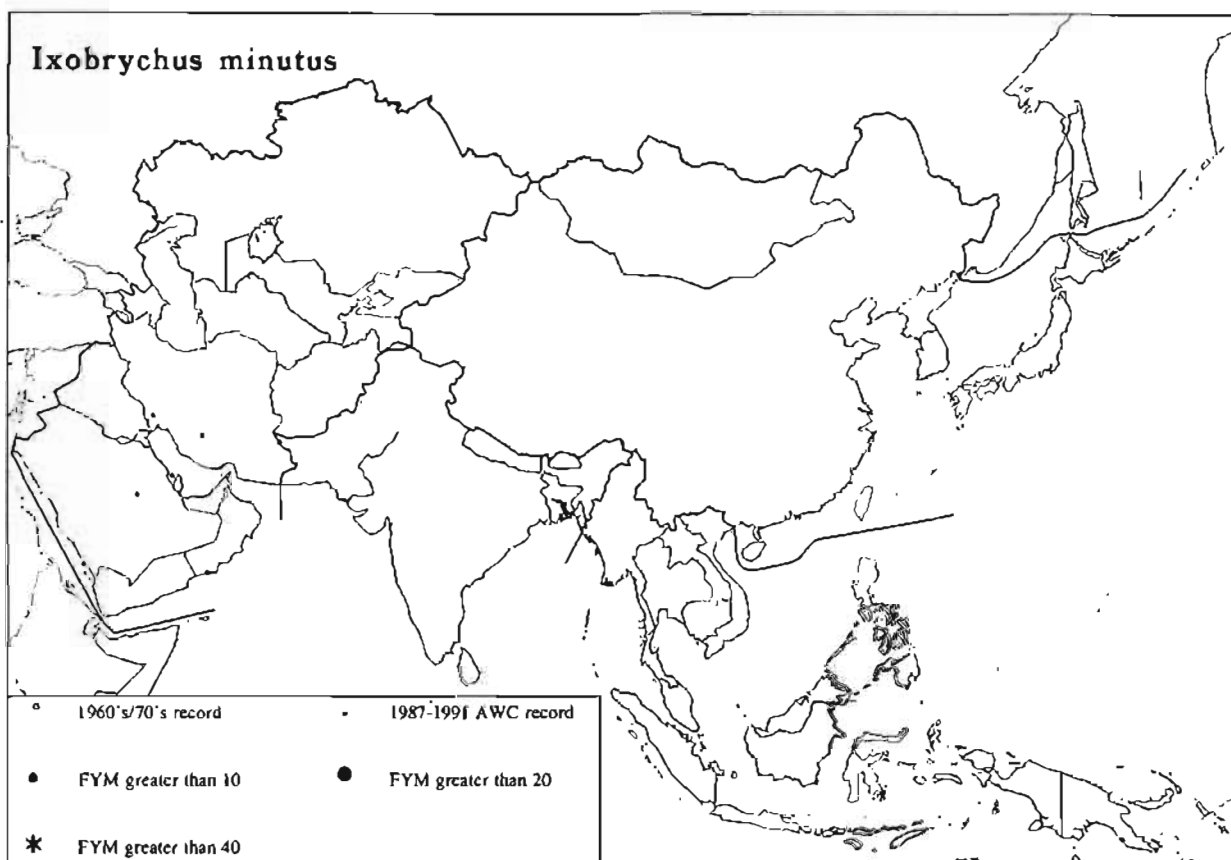


Figure 34: Distribution of *Ixobrychus minutus* as shown by the AWC 1987-1991

Yellow Bittern*Ixobrychus sinensis*

Monotypic. Birds breeding in the northeastern part of the species' range in China and Japan winter in SE Asia, Indonesia and New Guinea. Southern populations in S and SE Asia are largely sedentary (Figure 35). Two populations are recognized.

- S Asia: Probably C, but very poorly known. [AWC 160]
Trends: Possibly declining in some areas.
- E/SE Asia: Probably C, but very poorly known. [AWC 1,520]
Trends: Unknown.

Like all bitterns, because of its size and habitat (dense aquatic vegetation), the species is inadequately covered by the AWC. In the absence of a population estimate, no sites of international importance can be identified.

Important sites

The largest number recorded during the AWC was an estimated 1,390 birds at Tempe Lake, South Sulawesi, Indonesia. However, this is an extrapolated figure based on sample counts in a relatively small area, and is therefore not directly comparable with the actual counts reported from elsewhere.

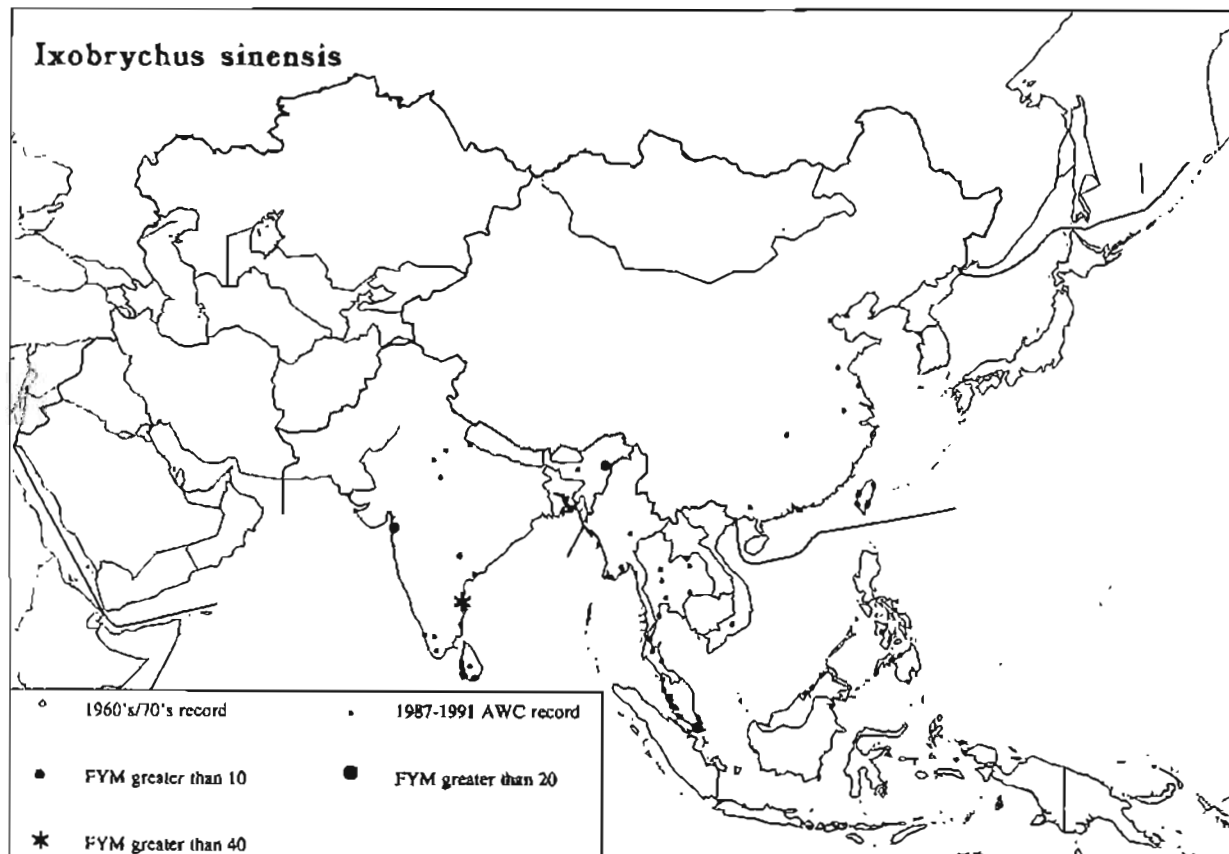


Figure 35: Distribution of *Ixobrychus sinensis* as shown by the AWC 1987-1991

Schrenck's Bittern

Ixobrychus eurhythmus

Monotypic. Birds breeding in the northeastern part of the species' range in China and Japan winter in southern China and SE Asia. Only one population is recognized.

- E/SE Asia (entire population): B or C, but very poorly known; generally rather scarce. [AWC 2]

Trends: Unknown.

Like all bitterns, because of its size and habitat (dense aquatic vegetation), the species is inadequately covered by the AWC, and no potential site of international importance can be identified. Only one AWC record was obtained from E China.

Cinnamon Bittern*Ixobrychus cinnamomeus*

Monotypic. Populations of northern India, Bangladesh and China are migratory; southern populations are largely sedentary (Figure 36). Two populations are recognized.

- S Asia: Probably C or D, but very poorly known. [AWC 123]

Trends: Perhaps stable.

- E/SE Asia: Probably C or D, but very poorly known. [AWC 1,160]

Trends: Unknown.

Like all bitterns, because of its size and habitat (rice fields and dense aquatic vegetation), the species is inadequately covered by the AWC.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. The largest number recorded during the AWC was an estimated 1,070 birds at Tempe Lake, South Sulawesi, Indonesia, but this is an extrapolated figure based on sample counts. Kaziranga National Park in Assam, India, had a single count of 58.

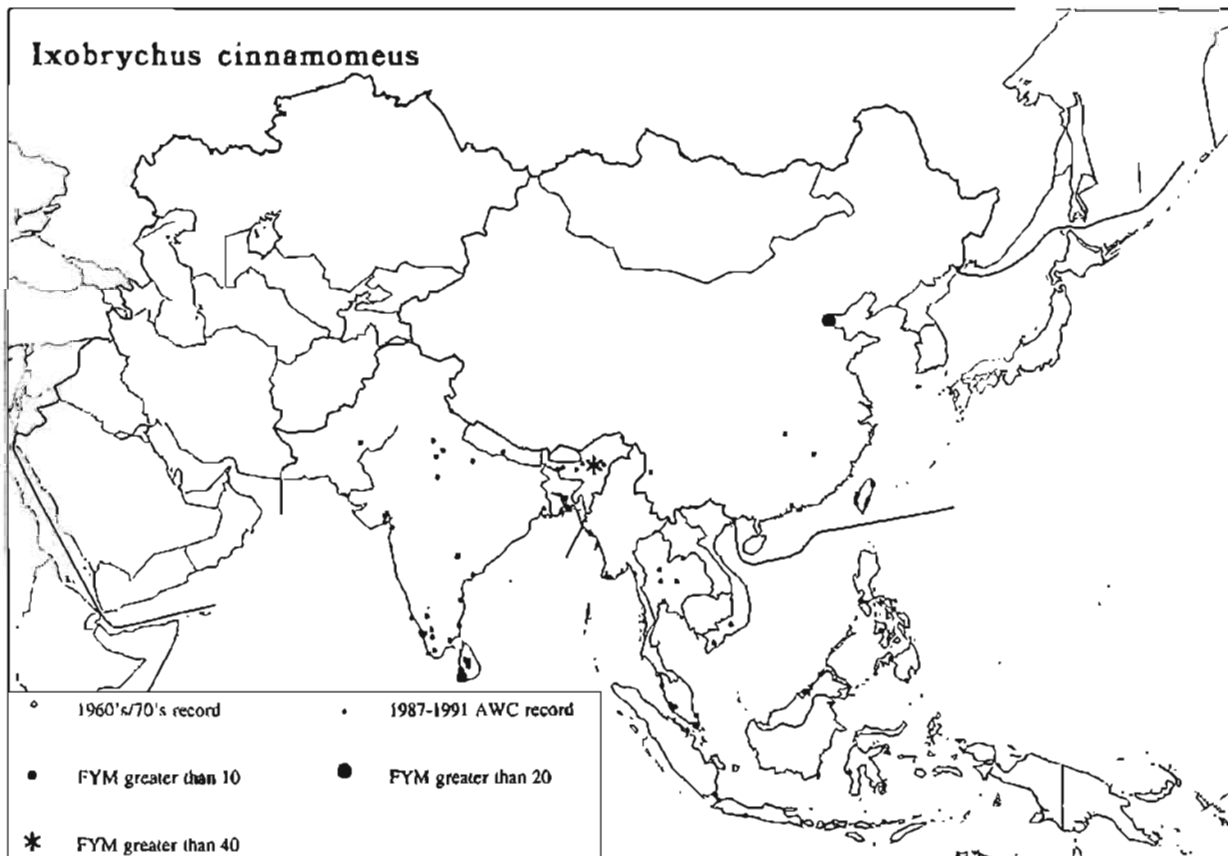


Figure 36: Distribution of *Ixobrychus cinnamomeus* as shown by the AWC 1987-1991

Black Bittern*Ixobrychus flavicollis*

Two subspecies occur, one being mainly or entirely sedentary (*australis* of Timor, Indonesia). Northern populations of the nominate form are migratory, breeding in India and southern China and wintering south to Sri Lanka, the Maldives, the Greater Sundas and Sulawesi in Indonesia (Figure 37). Two populations are recognized.

- S Asia: Probably C, but very poorly known. [AWC 91]
Trends: Possibly declining.
- E/SE Asia: Probably C or D, but very poorly known. [AWC 16]
Trends: Unknown.

Like all bitterns, because of its size and habitat (dense aquatic vegetation), the species is inadequately covered by the AWC. However, the concentration of winter records in S India and Sri Lanka is clear.

In the absence of population estimates, no sites of international importance can be identified.

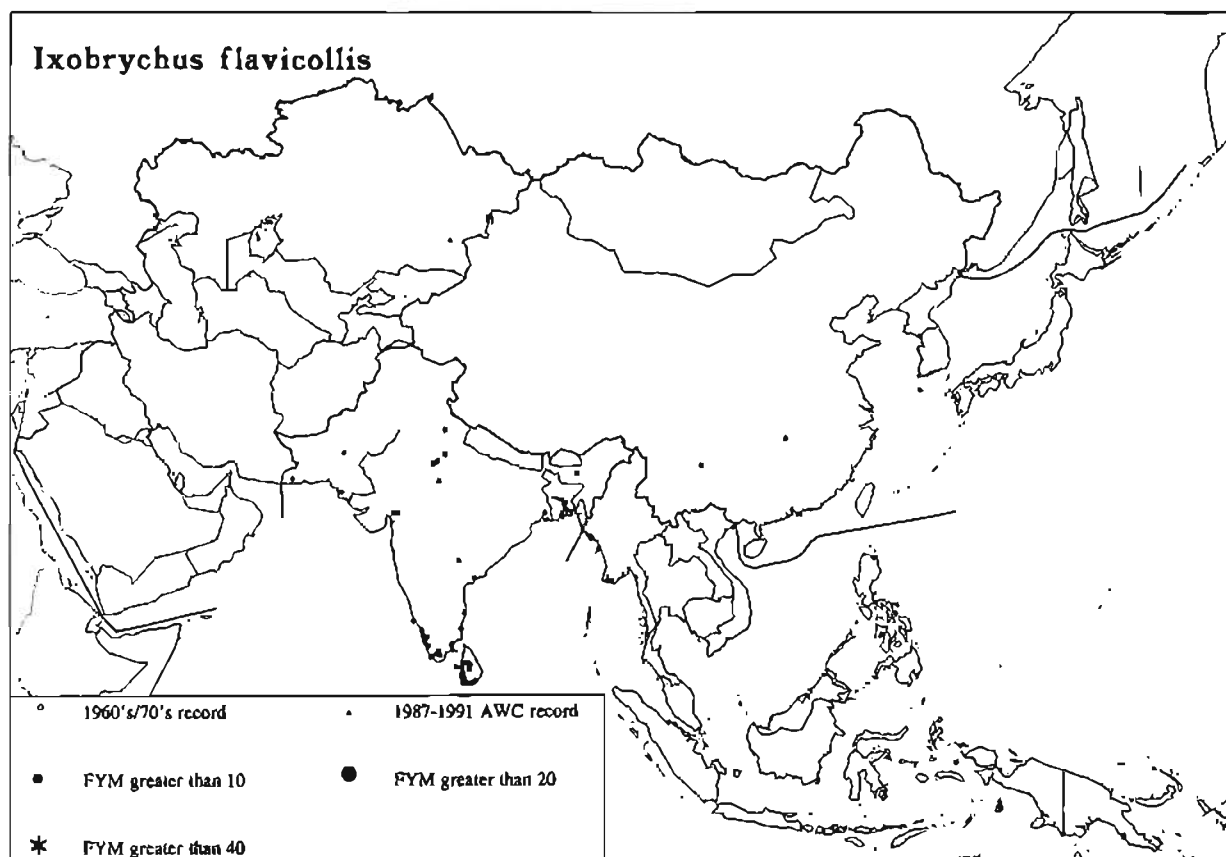


Figure 37: Distribution of *Ixobrychus flavicollis* as shown by the AWC 1987-1991

Eurasian Bittern

Botaurus stellaris

Only the nominate subspecies occurs in Asia. This breeds widely across temperate Asia (locally further south), and winters widely across southern Asia (Figure 38). Three wintering groups are recognized. The birds wintering in Turkmenistan and Seistan (Iran/Afghanistan border) may belong either to the S or SW Asian populations.

- SW Asia: A or B; very poorly known [AWC 7]
Trends: Unknown.
- S Asia: Probably C, but very poorly known [AWC 53]
Trends: Possibly declining.
- E Asia: Probably C or D, but very poorly known [AWC 2,210]
Trends: Unknown.

Like all bitterns, because of its secretive behaviour and habitat (dense aquatic vegetation), the species is inadequately covered by the AWC.

In the absence of population estimates, no sites of international importance can be identified.

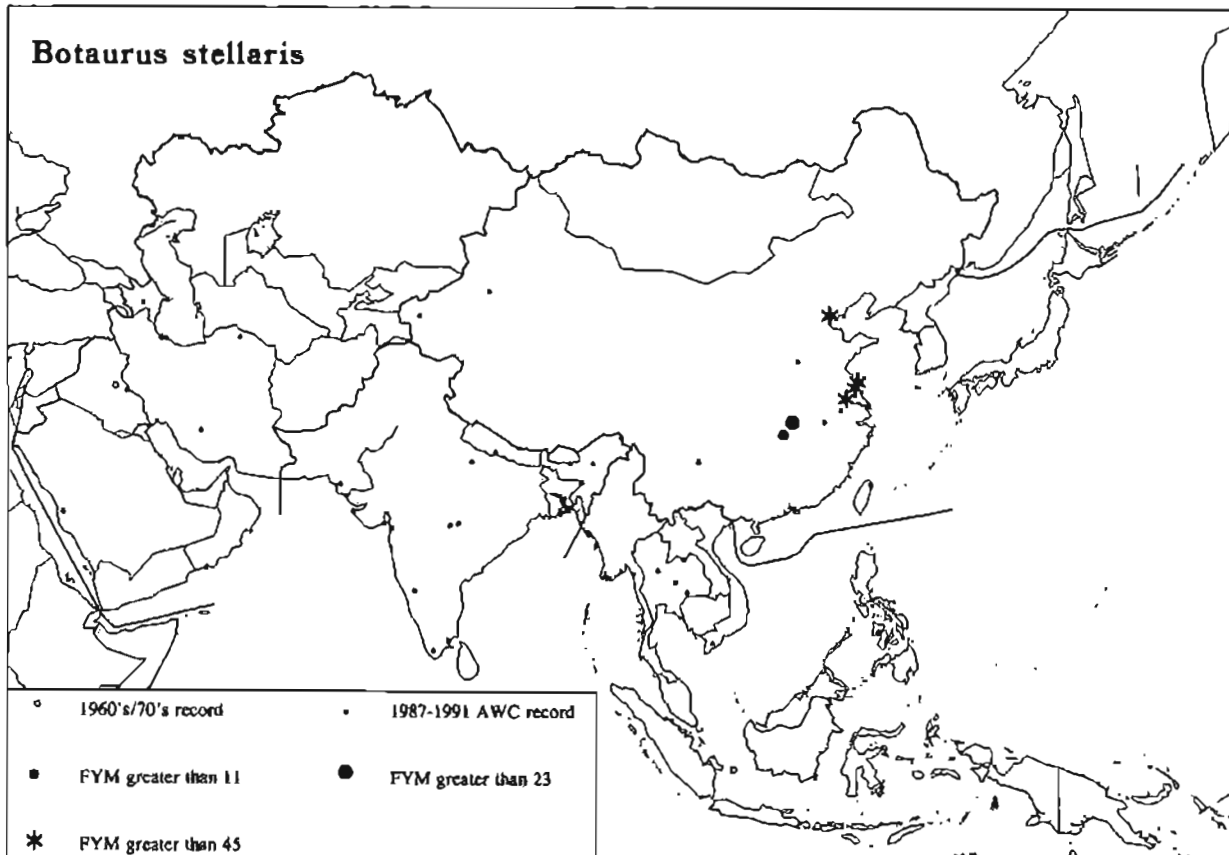


Figure 38: Distribution of *Botaurus stellaris* as shown by the AWC 1987-1991

Important sites

Important numbers were reported at two sites in Jiangsu Province, China: Gaoyou/Shabo Lakes (FYM 100, 2yr) and the Yancheng shore (FYM 410, 2yr). This is obviously a major wintering area, although the numbers appear extremely high for the species and need to be confirmed.

CICONIDAE

Milky Stork

Mycteria cinerea

This monotypic, globally threatened species is confined to SE Asia (Figure 39). There is no evidence of regular mixing between the small population of about 100 individuals in Peninsular Malaysia and the main population in Indonesia. Elsewhere, the species is known only from Vietnam where it is possibly now extinct. Two populations are recognized.

- Peninsular Malaysia: A (100) [AWC 61]
Trends: Declining.
- Indonesia: A (6,000; Verheugt 1987) [AWC 360]
Trends: Declining.

Potential sites of international importance

Two sites in Indonesia reached the 1% level of 60 birds: the Banyuasin Delta (FYM 230, 3yr) and Segara Anakan and Donan river (110, 1yr). Several other very important breeding and roosting sites in southern Sumatra have not been counted during the AWC (M. Silvius, pers. comm.).

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

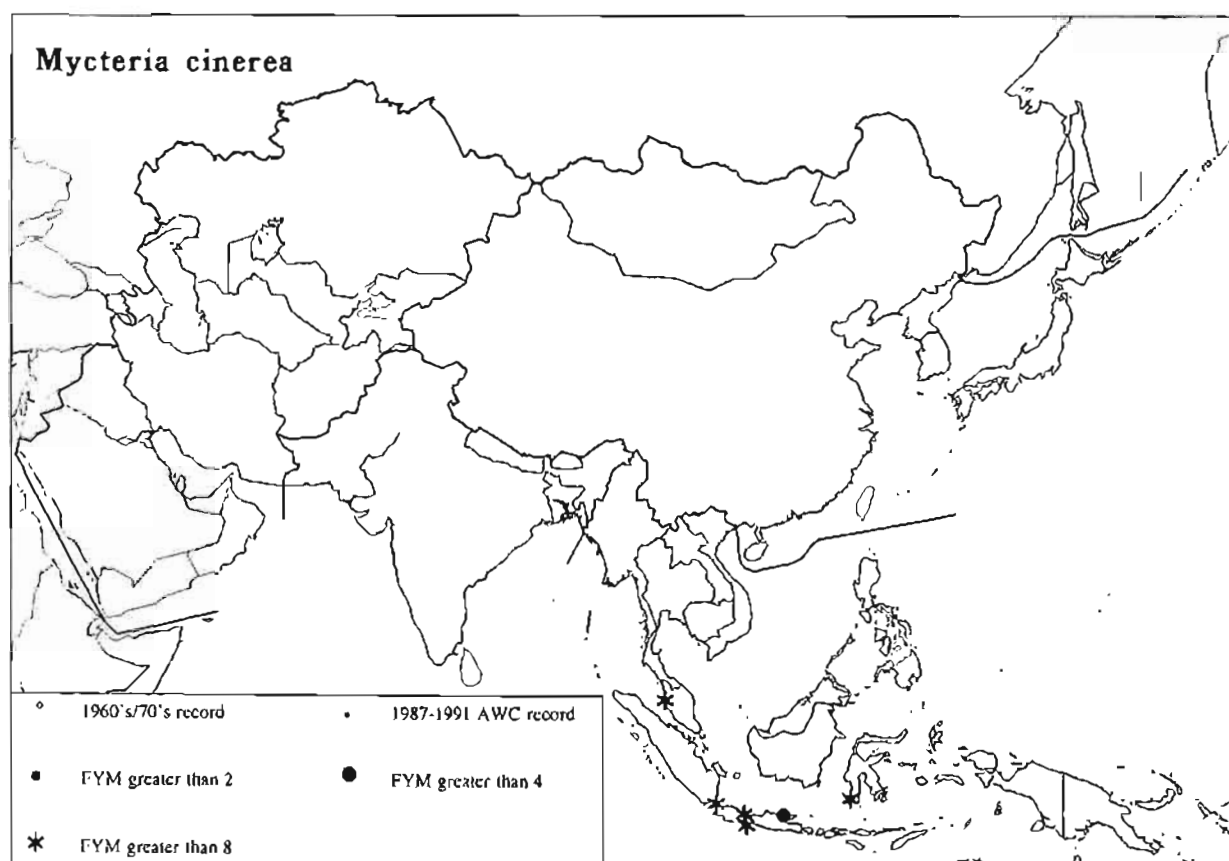


Figure 39: Distribution of *Mycteria cinerea* as shown by the AWC 1987-1991

Painted Stork

Mycteria leucocephala

Monotypic. The species is widespread in S Asia (Figure 40); in SE Asia it was recorded by the AWC in very small numbers in Cambodia, Myanmar and Thailand, and in Vietnam in slightly higher numbers. It may be threatened in SE Asia, but coverage was insufficient to be conclusive. The species is largely sedentary, but subject to local movements. Two groups are recognized.

- S Asia: B (15,000) [AWC 6,840]

Trends: Unknown.

- SE Asia: A [AWC 135]

Trends: Probably declining.

Potential sites of international importance

In the absence of a population estimate for SE Asia, sites can be identified only in S Asia. Nine sites reached a FYM of over the 1% level of 150 birds (Table 18), all in India and Sri Lanka; they comprise both freshwater, inland wetlands and coastal, brackish sites. Keoladeo Ghana National Park in Bharatpur is also a major breeding site in the months preceding the census, with up to 1,750 nests in 1985 (Ali & Vijayan 1986). The overall smaller size of mid-winter concentrations, as recorded by the AWC, points to an important post-breeding dispersal.

Other important sites

In SE Asia, the only large numbers were found in Tram Chin Nature Reserve in Vietnam (FYM 92, 3yr).

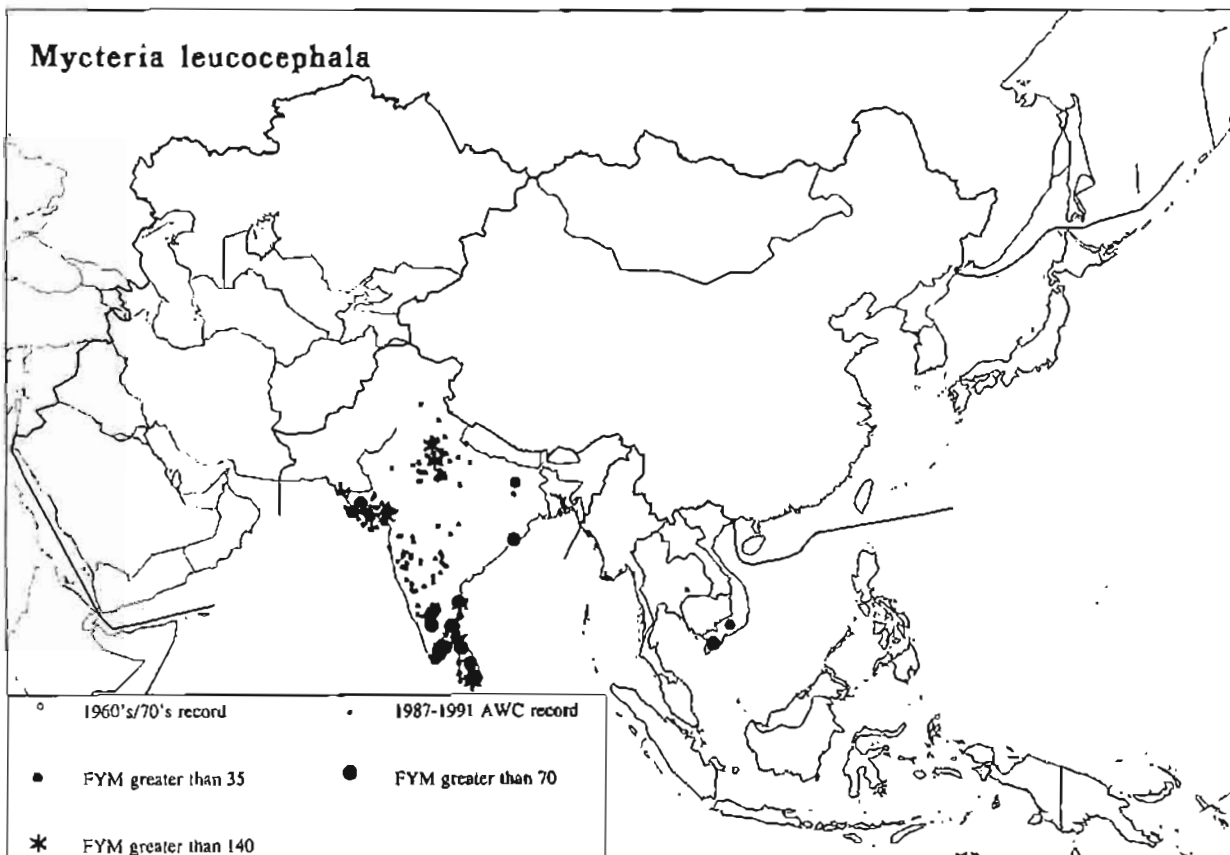


Figure 40: Distribution of *Mycteria leucocephala* as shown by the AWC 1987-1991

Table 18: Potential sites of international importance for *Mycteria leucocephala* in South Asia

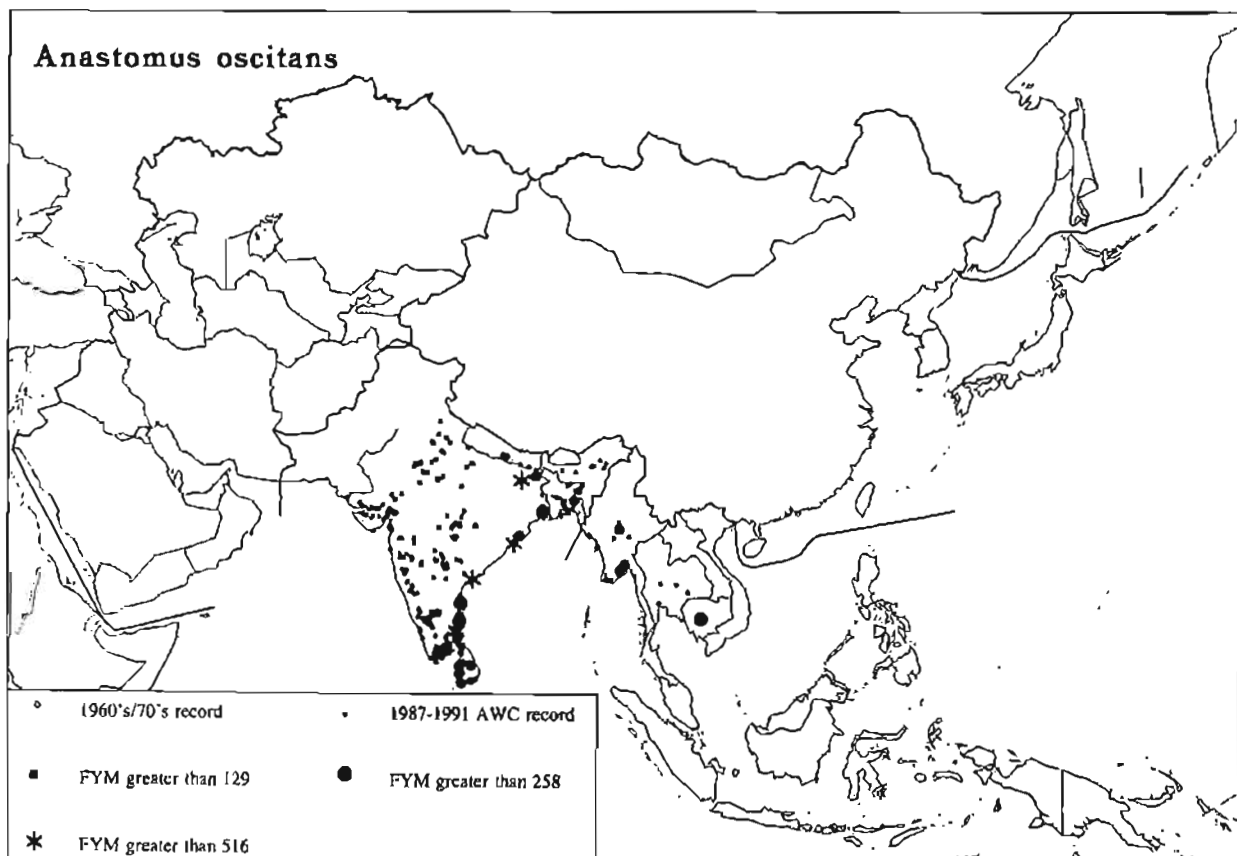
Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	VEDURAPATTU	229	2
	DELHI	DELHI ZOO	154	5
	GUJARAT	PATADI GAM TALAV SEWAGE POND	162	2
	GUJARAT	SANTALPUR TANK	191	2
	PUNJAB	LEHALAN	366	3
	RAJASTHAN	KEOLADEO GHANA N.P. BHARATPUR	314	5
TAMIL NADU		POINT CALIMERE B.S	160	5
	SRI LANKA	S.P	BUNDALA SANCTUARY	210
SRI LANKA	S.P	EMBILKALA LEWAYA	190	3

Asian Openbill Stork*Anastomus oscitans*

Monotypic. The species occurs across S Asia from Pakistan to Cambodia and Vietnam (Figure 41). However, there are indications that the large breeding population in Thailand migrates through Myanmar into Bangladesh and NE India (McClure 1974). Thus there may be no distinction between S and SE Asian populations. Only one population is recognized.

- S/SE Asia (entire population): C (50,000+) [AWC 25,800]

Trends: Declining in some areas.

**Figure 41:** Distribution of *Anastomus oscitans* as shown by the AWC 1987-1991

Potential sites of international importance

Five sites in India had a FYM of over 500 (1% level): Kolleru Lake in Andhra Pradesh (FYM 8,000, 2yr); Chilka Lake in Orissa (FYM 3,000, 4yr); Viranam Eri in Tamil Nadu (FYM 1,015, 3yr); Khabartaal in Bihar (685, 1yr) and Saman Jheel, U.P. (500, 1yr). These are mostly freshwater wetlands, except for Chilka Lake, a coastal brackish wetland.

Black Stork*Ciconia nigra*

Monotypic. Two discrete populations are recognized, one breeding in Central Asia and wintering in SW and S Asia, and one breeding in E Russia and wintering in E China and Korea (Figure 42).

- SW/S Asia: Probably A [AWC 350]

Trends: Unknown.

- E Asia: A (1,500 to 2,000; M. Coulter, pers. comm.) [AWC 101]

Trends: Declining.

Both populations, which are widely scattered in winter along streams, on forest ponds etc., are very inadequately covered by the AWC.

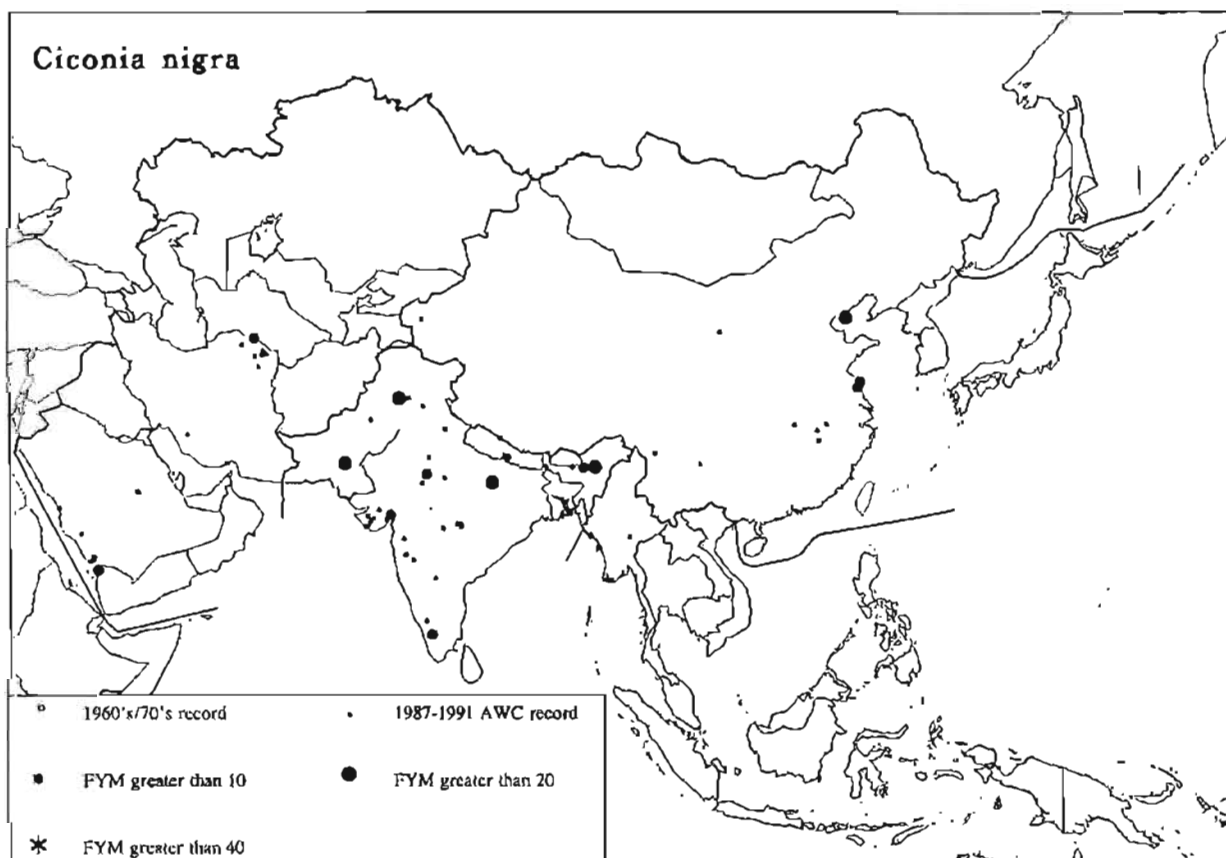


Figure 42: Distribution of *Ciconia nigra* as shown by the AWC 1987-1991

Important sites

In the absence of population estimates, no sites of international importance can be identified. The most important sites were in China at Beidaihe, Hebei (35, 1yr); in India at Kaziranga National Park, Assam (32, 1yr) and the Ramganga Barrage in Corbett National Park, Uttar Pradesh (FYM 32, 2yr); and in Pakistan at Naro Lake, Sind (FYM 34, 2yr).

Abdim's Stork*Ciconia abdimii*

Monotypic. This Afrotropical, mainly grassland species extends to the Arabian Peninsula, where it is resident in Yemen (Al-Safadi 1990) and possibly also in Saudi Arabia. The Arabian population is not considered to be distinct from the large African population.

- Africa/SW Asia: C [AWC 34]

Only a few records were obtained during the AWC, in Yemen and Oman, and no sites of international importance can be identified.

Woolly-necked Stork*Ciconia episcopus*

Two subspecies have been reported in Asia, the nominate form in S and SE Asia east to the Philippines and Sumatra, and *neglecta* in Java and Wallacea, but the status of these two forms and their relationship to *C. stormi* remain poorly understood (White & Bruce 1986). The species appears to be largely sedentary in Asia. It is less aquatic and more widely dispersed than most storks, and is therefore poorly covered by the AWC. Pending further clarification of the status of the two forms in SE Asia, only two groups are recognized (Figure 43).

- S Asia: A or B [AWC 1,070]

Trends: Unknown.

- SE Asia (including *neglecta*): probably A [AWC 57]

Trends: Unknown.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. However, four sites in India have a FYM of over 30, but all were counted only once and their importance remains to be confirmed. Two very high counts at Narasambudhi Tank, Karnataka (101, 1yr) and Suraha Taal, U.P. (200, 1yr) are considered dubious since this is not a very gregarious stork. The two other sites were Kaziranga National Park, Assam (51, 1yr) and Koilsagar Reservoir, A.P. (38, 1yr).

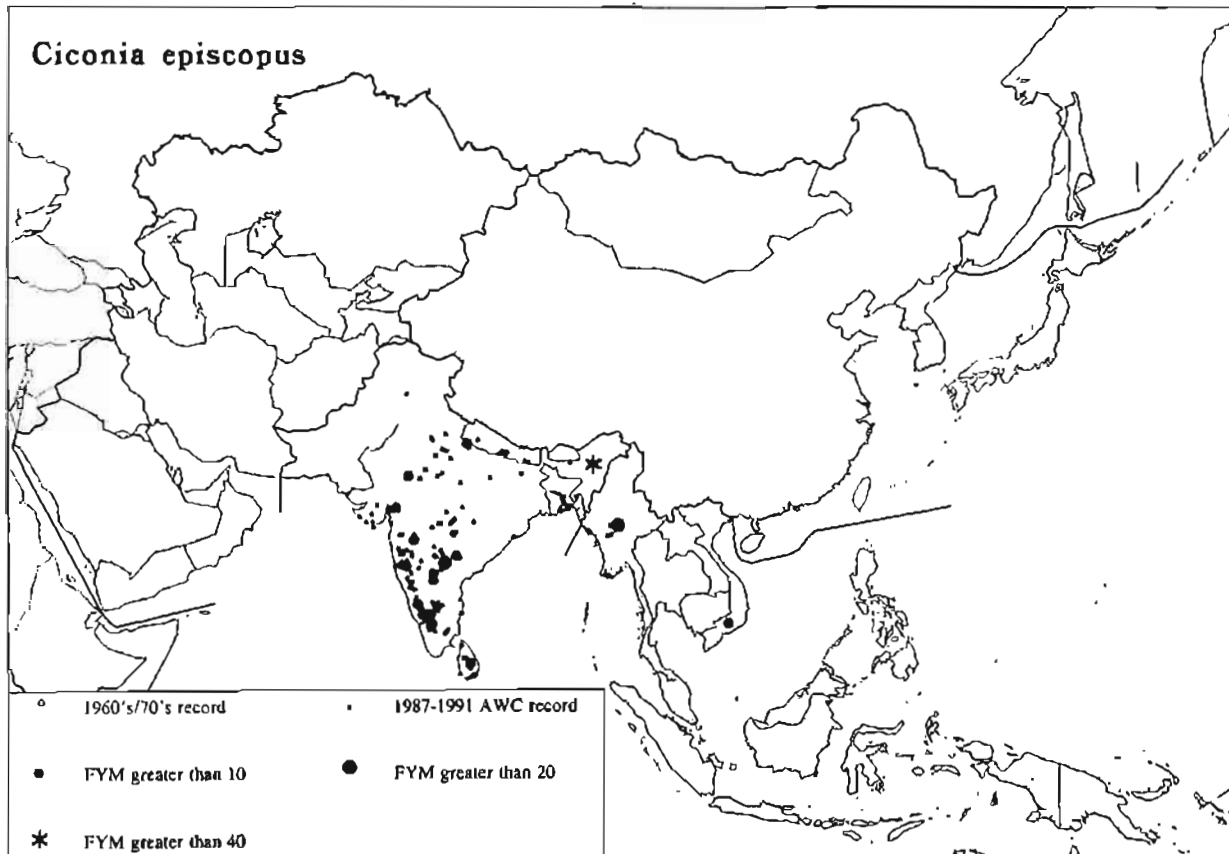


Figure 43: Distribution of *Ciconia episcopus* as shown by the AWC 1987-1991

Storm's Stork

Ciconia stormi

Monotypic. A sedentary, globally threatened species confined to the tropical forests of Indonesia, Malaysia and S Thailand. No records were obtained during the AWC.

White Stork

Ciconia ciconia

The nominate subspecies breeds from Europe east to W Iran. SW Asian populations migrate southwest to winter mainly in Mesopotamia and Africa; this population is therefore not adequately covered by the AWC. Further east, the subspecies *asiatica* breeds in Kazakhstan, Turkmenistan, Uzbekistan and Kirghizistan, and winters in S Asia, mainly along a broad band extending from N Pakistan to SE India (Figure 44). Ringing recoveries indicate that at least some birds from the very large European population of *C. c. ciconia* migrate southeast to winter in S Asia where they mix with *asiatica* (Ali & Ripley 1983). Two distinct wintering groups are recognized.

- SW Asia/E Africa (*ciconia*): C (25,000+) [AWC 820; 3,160 with 1970s data]
Trends: Unknown.
- S Asia (mainly *asiatica*): A (3,000) [AWC 620]
Trends: Possibly increasing in some areas.

Potential sites of international importance

Five sites reach a FYM of 250 (1% level in SW Asia) or 30 (S Asia): Wadi Jizan Dam (FYM 290, 2yr) in Saudi Arabia; Bagodara-Nal Kantha, Gujarat (200, 1yr), Kanewal, Gujarat (FYM 110, 5yr) and Kaliveli, Tamil Nadu (FYM 60, 4yr) in India; and Nur-ri, Badin (FYM 50, 4yr) in Pakistan. Not all sites are regularly used, and the averages cover large inter-annual differences; for example, the counts at Kaliveli consist mainly of one very high count in 1987 and very low counts thereafter.

None of the sites counted in Iraq in the 1970s held over 250 birds, although four sites (Haur Al Haushiya, Haur Al Rayan/Umm Osbah, Central Marshes and Shatt Al Arab Marshes) held over 100 birds.

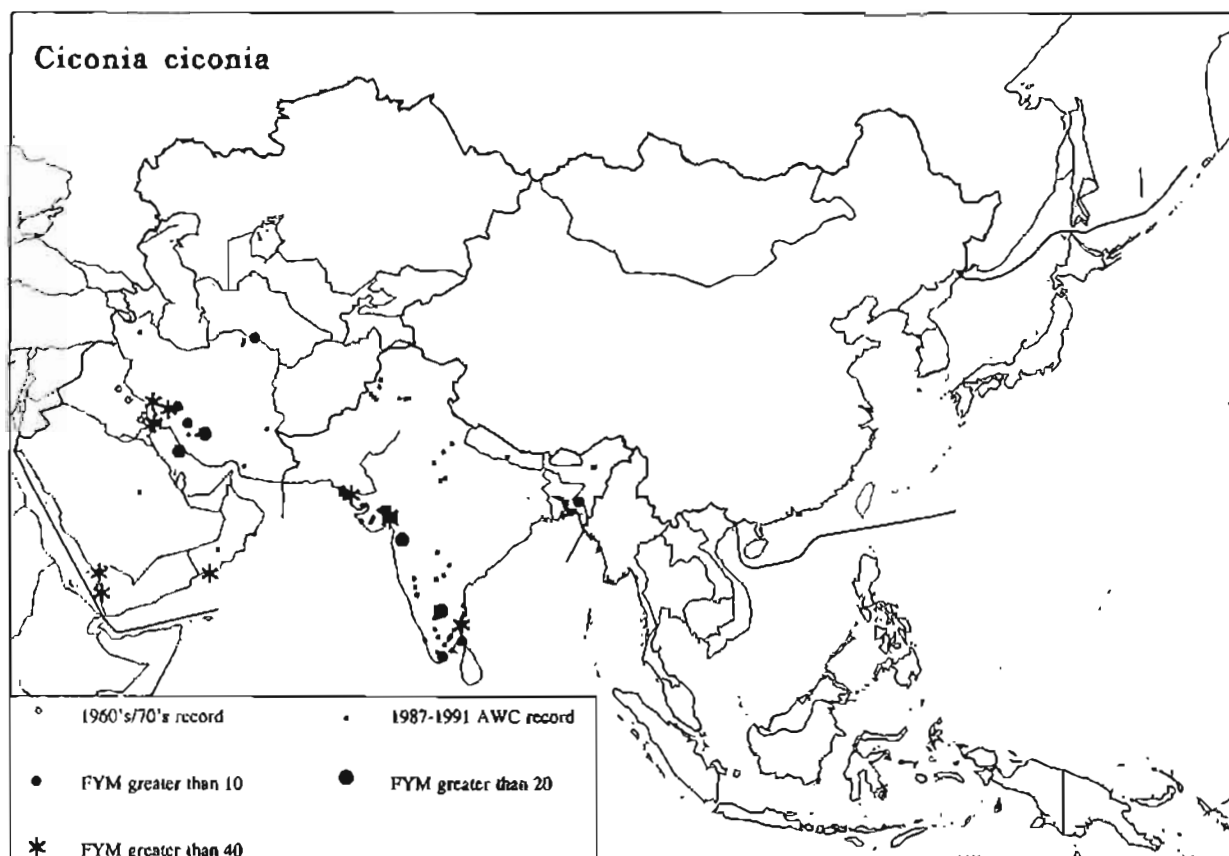


Figure 44: Distribution of *Ciconia ciconia* as shown by the AWC 1987-1991

Oriental Stork*Ciconia boyciana*

Monotypic; globally threatened. Breeds in SE Siberia and NE China, and migrates to winter in E and S China (Figure 45); only one population is recognized. The historical and present status of the Oriental Stork have recently been reviewed by Chan (1990), Coulter *et al.* (1991) and Anonymous (1992a).

- E Asia (entire population): A (2,500; Anonymous 1992a) [AWC 1,045]

Trends: Declining.

Potential sites of international importance

Five sites have been identified in China on the basis of the 1% criteria, and three of these (Shengjin Hu, East Dongting Lakes and Poyang Lake) are clearly of great importance for the species (Table 19).

Table 19: Potential sites of international importance for *Ciconia boyciana* in East Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	ANHUI	SHENGJIN HU	221	4
	HUBEI	HANNAN (WUHAN LAKES)	96	1
	HUBEI	LONG GAN HU FARM	32	1
	HUNAN	EAST DONGTING LAKES	134	4
	JIANGXI	POYANG LAKE	456	4

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

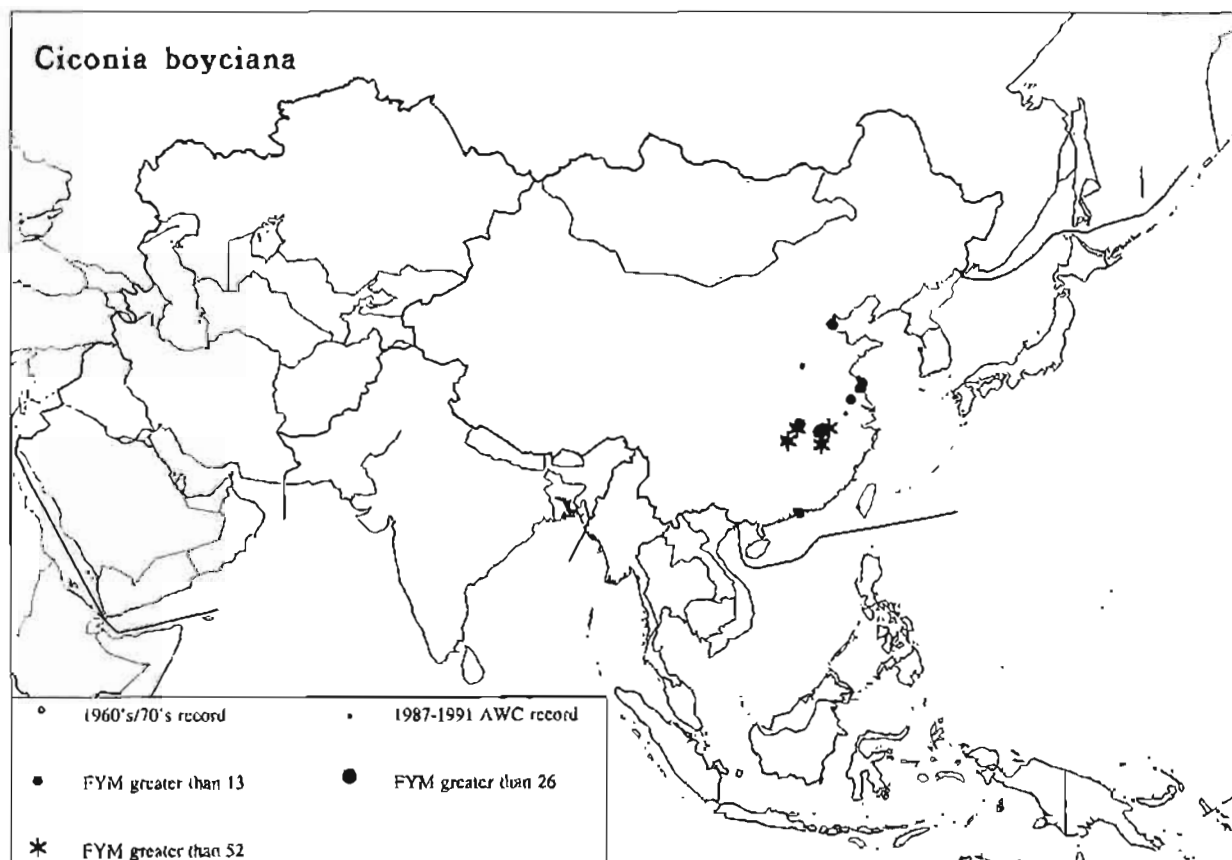


Figure 45: Distribution of *Ciconia boyciana* as shown by the AWC 1987-1991

Black-necked Stork

Ephippiorhynchus asiaticus

Two subspecies have been described: the nominate form in S Asia and mainland SE Asia to Malaysia and Indochina, and *E. a. australis* in New Guinea and Australia. This largely sedentary species was recorded almost only in S Asia during the AWC (Figure 46).

- S/SE Asia (*asiaticus*): A (400 ?) [AWC 234]

Trends: decreasing alarmingly; now very threatened (Rahmani 1989).

- New Guinea/Australia (*australis*): Unknown [AWC 2]

Trends: Possibly stable.

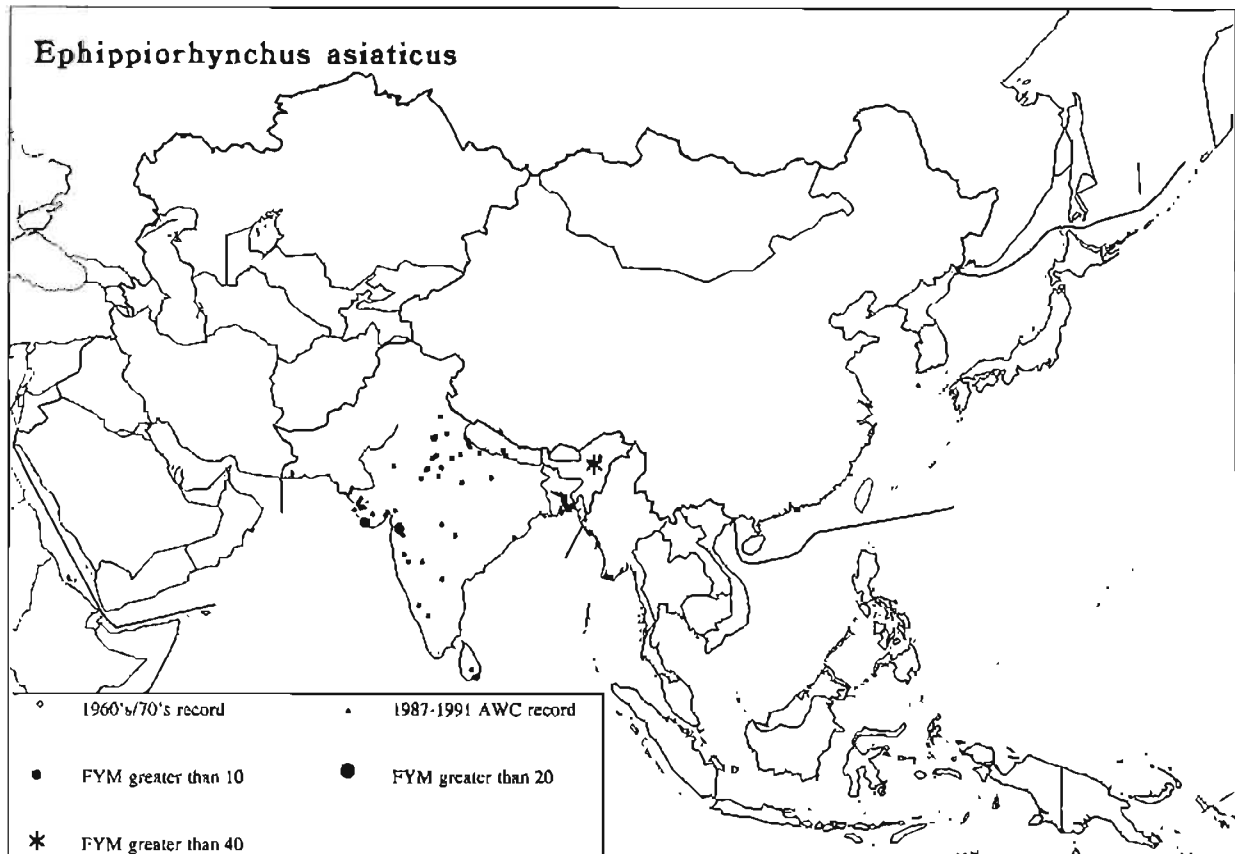


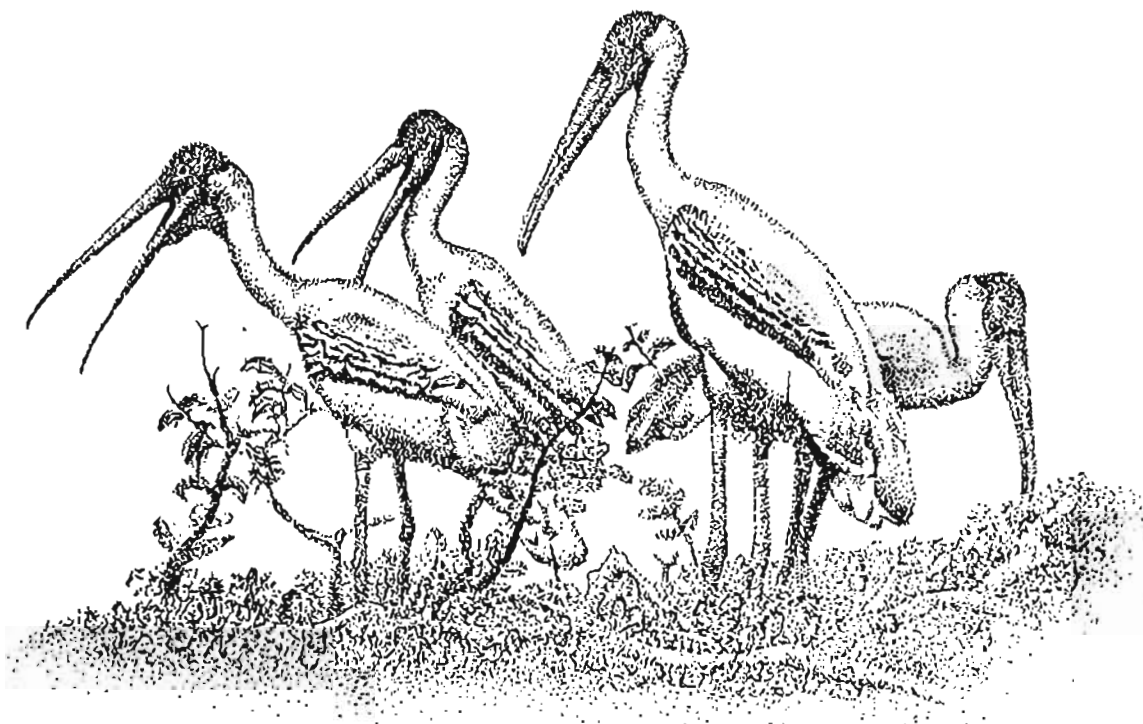
Figure 46: Distribution of *Ephippiorhynchus asiaticus* as shown by the AWC 1987-1991

Potential sites of international importance

This stork is a rather solitary species, and few concentrations are noted. Nine sites have a FYM of over four (1% level; Table 20). Kaziranga National Park in Assam, with a single count of 86 birds, appears to be the remaining stronghold in India (in other years, the park was divided into sub-units and two of these had counts of over four birds). Most sites were counted only once or twice and their importance has yet to be fully confirmed. In Irian Jaya in Indonesia, large numbers have been observed at two sites, Kimaam Island (300) and Wasur/Rawa Biru (350), and smaller numbers elsewhere (Silvius & Verheugt 1989).

Table 20: Potential sites of international importance for *Ephippiorhynchus asiaticus* in South and Southeast Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ASSAM	KAZIRANGA NP, AGORATOLI RANGE	5	1
	ASSAM	KAZIRANGA NP, BAGURI RANGE	9	1
	ASSAM	KAZIRANGA N.P.	86	1
	GUJARAT	LUNIVAV DAM	8	1
	GUJARAT	VERI DAM	10	2
	MADHYA PRADESH	BAHADUR SAGAR	15	1
	RAJASTHAN	KEOLADEO GHANA N.P. BHARATPUR	8	5
	TAMIL NADU	PICHAVARAM MANGROVE	15	5
	UTTAR PRADESH	DUDHWA NATIONAL PARK	5	1



Greater Adjutant*Leptoptilos dubius*

Monotypic; globally threatened. Formerly a regular wet season migrant to NE India from breeding areas in Myanmar; now very rare, but perhaps still migratory between NE India, Bangladesh and Myanmar. Recently, 126 nests have been found in a survey in Assam, NE India (M. Coulter, pers. comm.), which now seems to be the global stronghold for the species (Figure 47). A small population (10-11 birds) was located around the Great Lake in Cambodia in 1992 (D.A. Scott, unpublished report). Only one population, now critically endangered, is recognized.

- S/SE Asia (entire population): A (400) [AWC 51]

Trends: Declining alarmingly.

Potential sites of international importance

Three sites, all in Assam, India, have a FYM of four or more birds: Kaziranga National Park (22, 1yr), Deepor Beel (FYM 12, 5yr) and Panidihing (FYM 5, 2yr). All are critical for the survival of this species, the rarest of the world's storks.

All sites regularly used by an appreciable number of individuals are of international importance for this species.

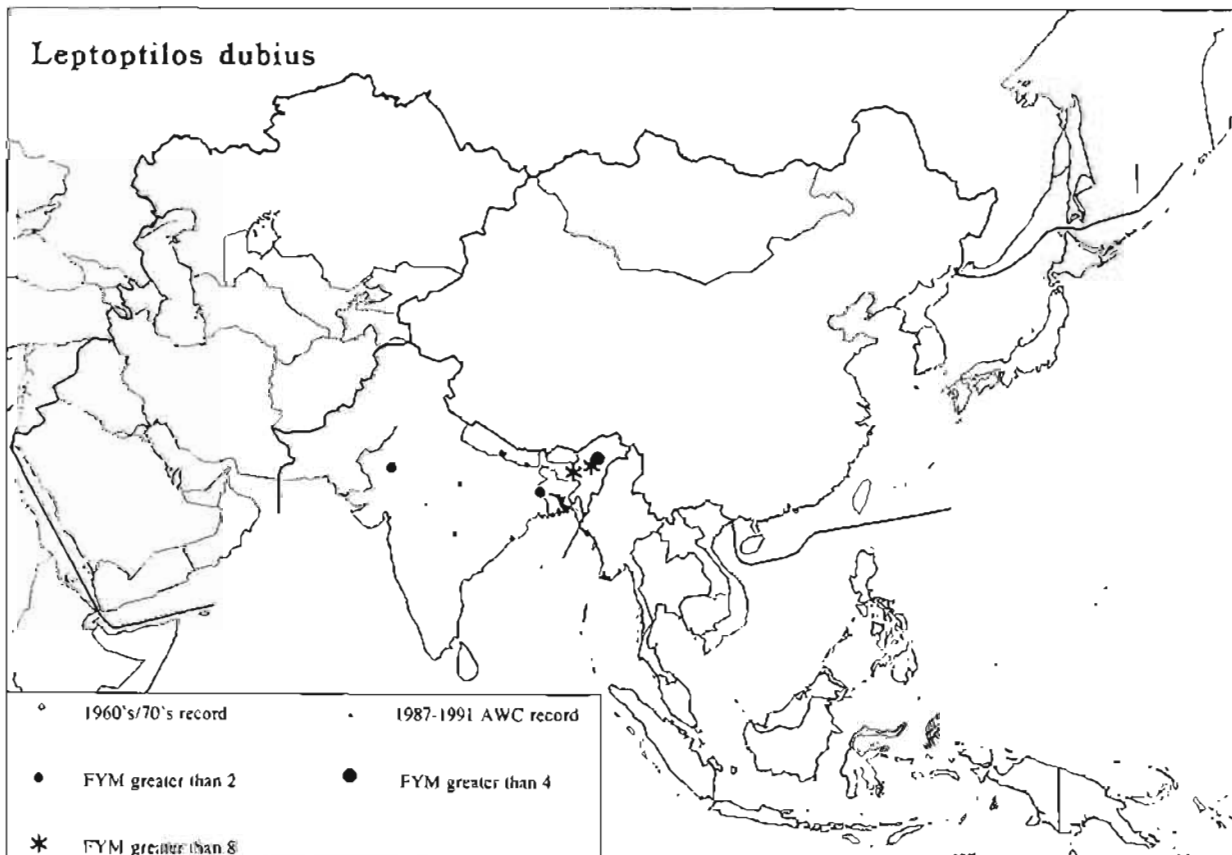


Figure 47: Distribution of *Leptoptilos dubius* as shown by the AWC 1987-1991

Lesser Adjutant

Leptoptilos javanicus

Monotypic; globally threatened. Breeds widely across southern Asia from India and Sri Lanka east to Vietnam, Malaysia and western Indonesia (Figure 48), but now much reduced in numbers. Generally rather sedentary over much of its range, but locally migratory, e.g. between India and Nepal and in SE Asia. Only one population is recognized.

- S/SE Asia (entire population): A (4,500+) [AWC 1,550]

Trends: Declining.

Potential sites of international importance

Five sites have a FYM of over 45 (1% level): the Sunderbans mangroves in Khulna Province, Bangladesh (FYM 46, 2yr); Kaziranga National Park in Assam, India (720, 1yr); the Banyuasin Delta in S Sumatra (FYM 52, 3yr), Indonesia; and Maduru Oya Reservoir in Sri Lanka (200, 1yr). Several sites in Sumatra and Timor in Indonesia are known to support large numbers of birds (up to 500), but these sites were not counted during the AWC (M. Silvius, pers. comm.). All sites regularly used by an appreciable number of individuals are of international importance.

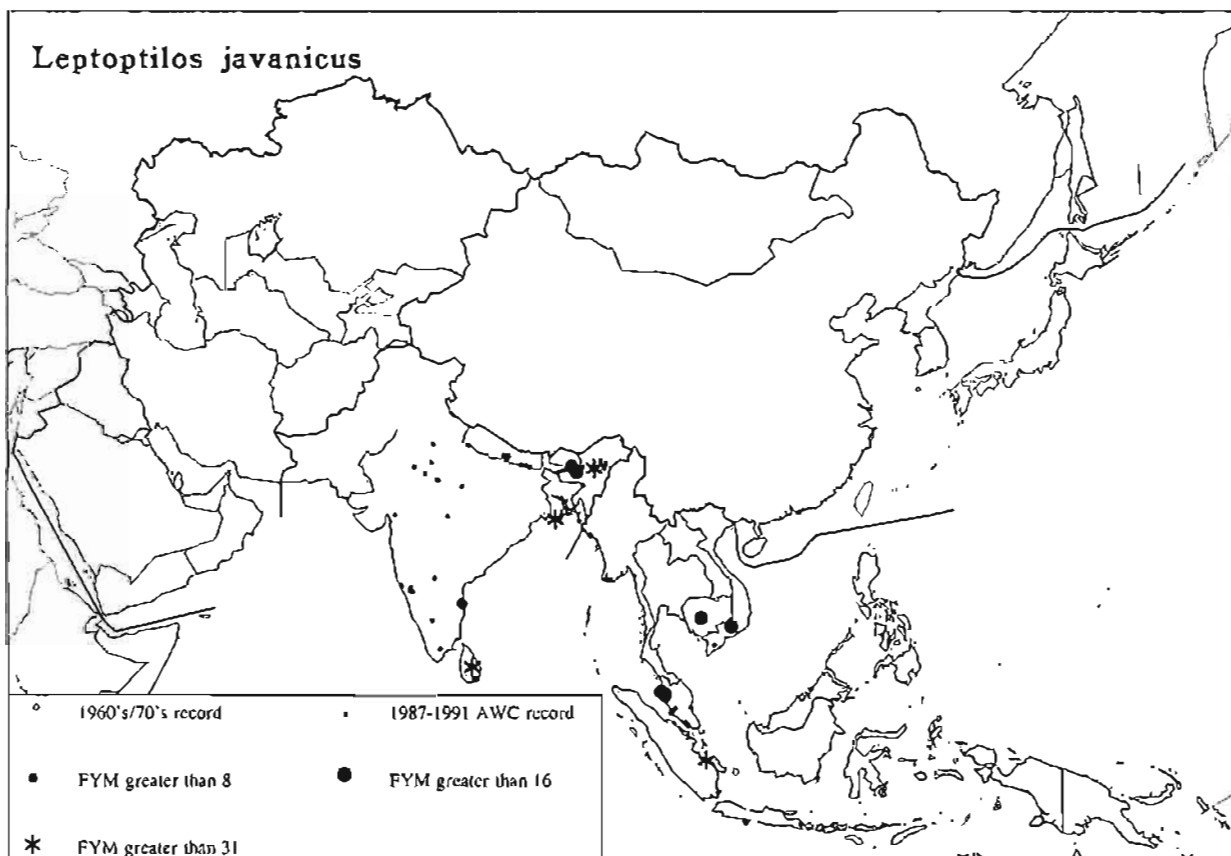


Figure 48: Distribution of *Leptoptilos javanicus* as shown by the AWC 1987-1991

THRESKIORNITHIDAE

Sacred Ibis

Threskiornis aethiopicus

This Afrotropical species has a small, isolated, resident population of the nominate form in the marshes of southern Iraq and neighbouring SW Iran.

- SW Asia: A (200) [AWC 16; 120 with 1970s data]

Trends: Declining.

Potential sites of international importance

For this tiny, isolated biogeographical population with a 1% level of only two individuals, all sites regularly used by the species are of international importance. Few records were obtained during the AWC, and only one site was identified as being important for the species, namely Horeh Bamdej Marsh in Khuzestan, Iran (max. 30 in 1989). Other sites in SW Iran where the species was recorded regularly in the 1970s included the Dez River Marshes (max. 41), Karun River Marshes (max. 12) and Shadegan Marshes (max. 8). The species was recorded at two of the sites counted in Iraq in the 1970s: Haur Al Rayan/Osbah (36 in 1979) and Qalit Salih Ponds (4 in 1979).

Black-headed Ibis

Threskiornis melanocephalus

Monotypic. Three groups are recognized, although the first two possibly constitute a single biogeographical population: a S Asian, a SE Asian and a small, isolated, highly migratory E Asian population which breeds in NE China and winters in S China (Figure 49).

- S Asia: B (10,000+) [AWC 5,570]

Trends: Declining.

- SE Asia: Probably B [AWC 590]

Trends: Unknown.

- E Asia: A (probably less than 1,000) [AWC 7]

Trends: Declining.

Potential sites of international importance

In S Asia, nine sites reach the 1% criteria of 100 birds (Table 21). These include three breeding colonies in S India active during mid-winter: Chitrangudi, Nellapattu and Vedanthangal. All other sites were surveyed only once or twice, and further data are needed to confirm their importance.

Table 21: Potential sites of international importance for *Threskiornis melanocephalus* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	NELLAPATTU PELICANRY	106	4
	HARYANA	BHINDAVAS LAKE BIRD SANCTUARY	169	1
	KARNATAKA	ATTIVERI BIRD SANCTUARY	655	1
	KARNATAKA	CAUVERY RIVER: MUDUKA THORE	146	1
	RAJASTHAN	KHARDA	115	1
	TAMIL NADU	CHITRANGUDI TANK	360	4
	TAMIL NADU	VEDANTHANGAL BIRD SANCTUARY	112	4
	SRI LANKA	N.P	GIANTS TANK	125
S.P		BUTTAWA	351	1

Other important sites

Two sites in Myanmar held over 100 birds: Letkok Kon (118, 1yr) and Minhla-Nyaung Lake in Mandalay (FYM 265, 2yr). The Banyuasin Delta in S. Sumatra, Indonesia is known to support a maximum of 598 birds in November 1988 (Verheugt *et al* 1993), although such high numbers were not recorded during the AWC.

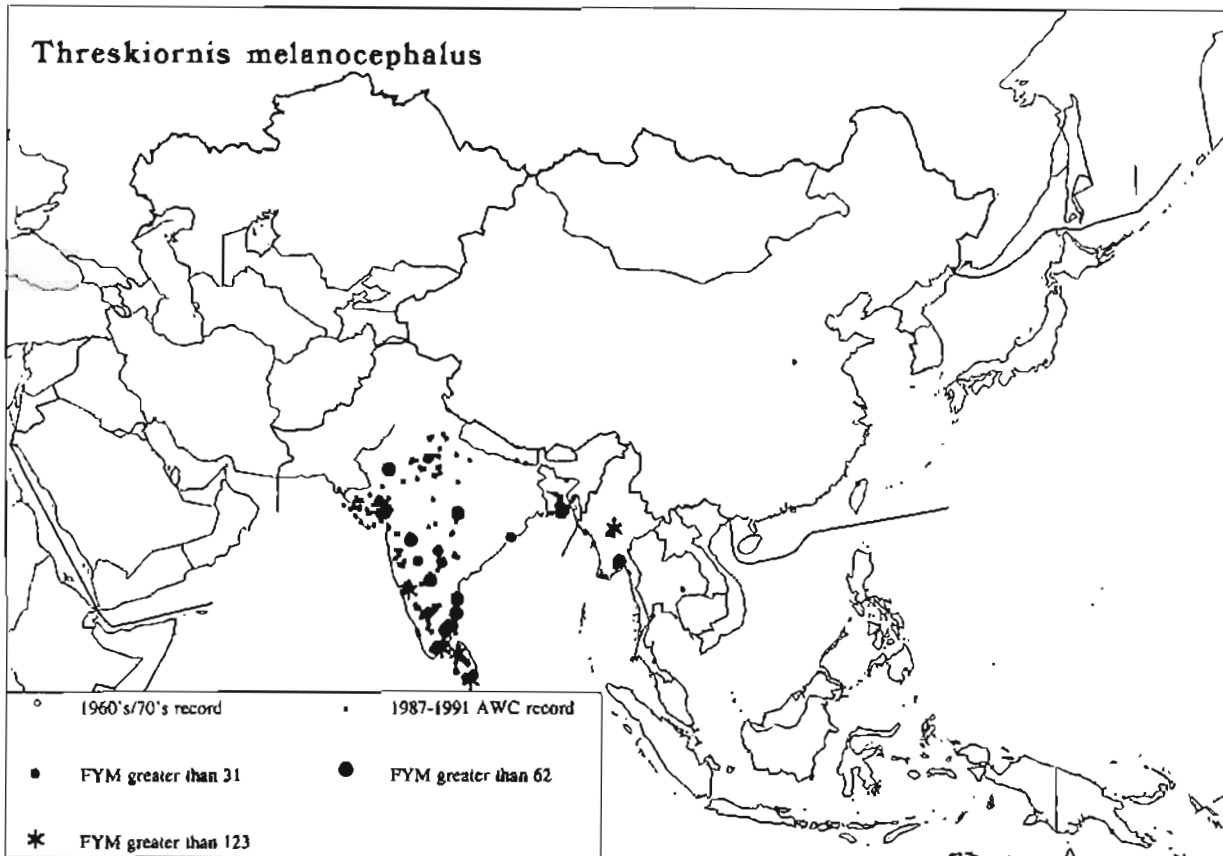


Figure 49: Distribution of *Threskiornis melanocephalus* as shown by the AWC 1987-1991

Australian White Ibis*Threskiornis molucca*

Monotypic. An abundant dry season visitor to New Guinea and eastern Indonesia from Australia. Only one population is recognized.

- SE Asia/Australasia (entire population): C (80,000; M. Coulter, pers. comm.) [AWC 50]

Trends: Stable.

Only a few records were obtained from S Papua New Guinea during the AWC, and no sites of international importance can be identified. However, Wasur National Park in Irian Jaya (Indonesia) is known to support a breeding colony of over 10,000 birds (Silvius *et al.* 1989), and is clearly of great importance for the species. This site was not counted during the AWC.

Straw-necked Ibis*Carphibis spinicollis*

Monotypic. A common dry season visitor to southern New Guinea from Australia.

- Australasia (entire population: D (500,000; M. Coulter, pers. comm.).

Trends: Stable or increasing.

No records were obtained during the AWC.

Black Ibis*Pseudibis papillosa*

Monotypic. Apparently a sedentary species, endemic to the Indian subcontinent (almost exclusively India and Nepal; Figure 50). Only one population is recognized.

- South Asia: B (10,000) [AWC 3,510]

Trends: Unknown.

This species is under-represented during the census, as it feeds commonly in non-wetland habitats such as dry cultivation.

Potential sites of international importance

Two sites in India had a FYM equal to or above 100 (1% level): Kalale Tank, Karnataka (178, 1yr) and Veri Dam, Gujarat (FYM 100, 2yr).

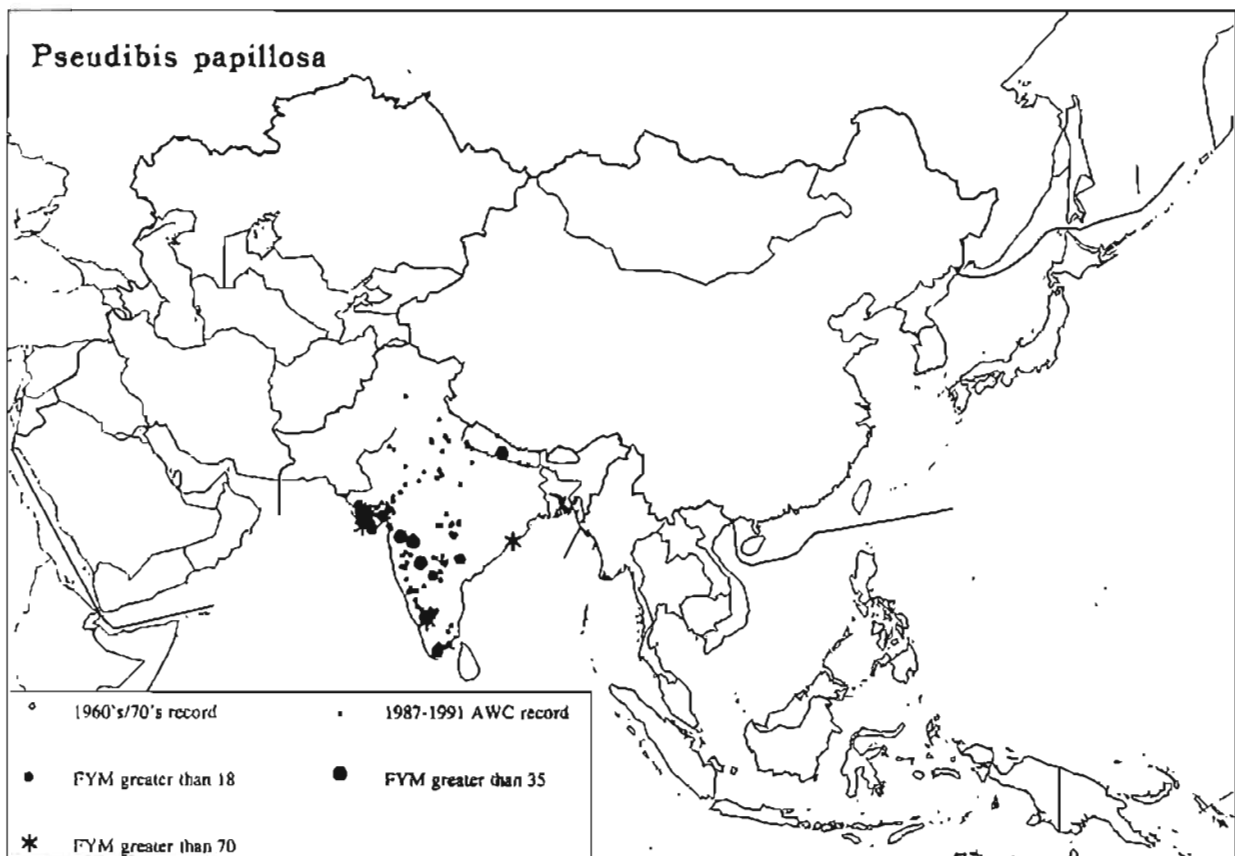


Figure 50: Distribution of *Pseudibis papillosa* as shown by the AWC 1987-1991

White-shouldered Ibis*Pseudibis davisoni*

Monotypic; globally threatened. This apparently sedentary species is confined to SE Asia, and is now very rare (Collar & Andrew 1988). It has recently been found only in Indonesia, Laos and Vietnam, although it also probably still exists in Cambodia. The largest number recorded in recent years is a group of 12-13 birds on the Mahakam River in East Kalimantan, Indonesia, in 1989 (Peterson 1991). No records were obtained during the AWC.

Giant Ibis*Pseudibis gigantea*

This monotypic, globally threatened species is endemic to Indochina. It appears to be sedentary, and is now extremely rare (Collar & Andrew 1988). The species has recently been found only in Laos, where it was rediscovered in 1993 after a gap of 30 years (T. Evans, pers. comm.), but it probably also still survives in Cambodia. No records were obtained during the AWC.

Northern Bald Ibis*Geronticus eremita*

This monotypic, globally threatened species is now confined to two widely separated populations: one in NW Africa and one in SW Asia. The SW Asian population formerly bred in Turkey and wintered in Northeast Africa (mainly Ethiopia). The Turkish breeding population is now extinct in the wild (one bird surviving in 1989), although there is a small captive breeding population from which a few birds are released each year. A small number of birds has 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 southwestern Saudi Arabia in March 1991 (Rahmani & Shobrak 1992). It seems likely that these are birds from hitherto unknown breeding colonies in southwestern Arabia.

- SW Asia: A (minimum of 27) [AWC 1]

Trends: Marked decrease; virtually extinct.

Potential sites of international importance

Only a few records were obtained during the AWC, and all were from the Taiz sewage lagoon in Yemen [AWC 1]. All sites regularly used by this critically endangered species are of international importance.

Oriental Crested Ibis*Nipponia nippon*

Monotypic; globally threatened. Formerly widespread in China, Korea, Japan and SE Siberia, this species has disappeared from most of its range and is now known only from a tiny area of central China where the population was recently found to be a minimum of 22 birds (Zhang 1992). No records were obtained during the AWC.

Glossy Ibis

Plegadis falcinellus

Two subspecies occur. The nominate form occurs from E Europe through West and Central Asia, east to Lake Balkash, and through S Asia (breeding recently confirmed in India, Tiwari 1993) to Myanmar and Vietnam. Populations breeding from the North Caspian eastward winter in S and SE Asia where they mix with the resident populations. Populations breeding elsewhere in SW Asia, including the South Caspian region, appear to winter in SW Asia and in NE Africa south to the Equator. *P. f. peregrinus* breeds locally in Indonesia, possibly in the S Philippines, and also in Australia. Australian populations are migratory with large numbers migrating to New Guinea during the dry season (Figure 51). Three wintering groups are recognized.

- SW Asia/E Africa: B (10,000+) [AWC 1,490]
Trends: Unknown.
- S and SE Asia: B (10,000+) [AWC 4,020]
Trends: Possibly declining.
- SE Asia/Australasia (*peregrinus*): C or D [AWC 3,430]
Trends: Unknown.

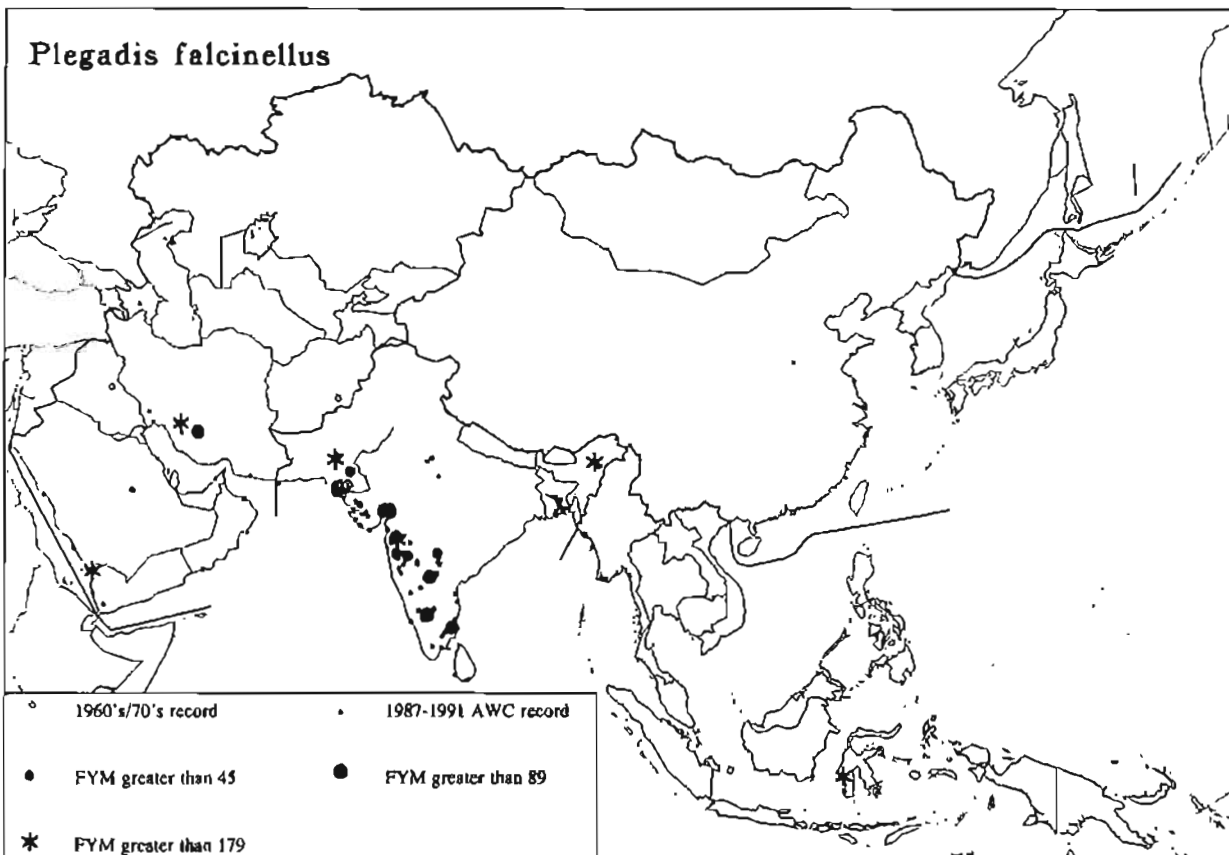


Figure 51: Distribution of *Plegadis falcinellus* as shown by the AWC 1987-1991

Potential sites of international importance

Fourteen sites reach the 1% level of 100 in SW Asia (three) and S Asia (11) (Table 22). In S Asia, these sites are concentrated along a broad band extending from SE Pakistan to SE India. Wadi Jizan Dam in Saudi Arabia is the most important site in SW Asia, with a FYM of 960 over two years. Only one of the sites counted in Iraq in the 1970s held over 100 birds (Central Marshes; 150 in 1979).

Other important sites

In SE Asia, major concentrations were recorded at Mampi Game Reserve (3,000, 1yr) and Tempe Lake (340, 1yr), both in Indonesia. At least 2,500 birds have been recorded at Pulau Kimaam in Irian Jaya, Indonesia (Silvius & Taufik 1989), but this site was not covered during the AWC.

Table 22: Potential sites of international importance for *Plegadis falcinellus* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ASSAM	PANDIHING	456	2
	GUJARAT	HERANJ	196	4
	GUJARAT	KANEWAL	153	5
	GUJARAT	KOTHAVI VILLAGE POND	123	3
	GUJARAT	LAMBVEL POND	140	4
	GUJARAT	NAGHRAMA	146	3
	HARYANA	BHINDAVAS LAKE BIRD SANCTUARY	140	1
	KARNATAKA	MR. JAVARDHANA RAJ'S IRRIGATED RICE FIELD	103	1
	MAHARASHTRA	NANDUR MADHMESHWAR	188	4
	TAMIL NADU	VIRANAM ERI	114	3
	IRAN	FARS	BAKHTEGAN & TASHK LAKES	130
FARS		PARISHAN LAKE	252	4
PAKISTAN	SIND	HAMAL KATCHRI LAKE	249	4
SAUDI ARABIA	SOUTH WEST	WADI JIZAN DAM (MALAKI)	963	2

Eurasian Spoonbill*Platalea leucorodia*

Only the subspecies *major* occurs. Two discrete populations are recognized (Figure 52). One breeds from the Caspian region and lower Iraq east to Lake Balkash and the Indian subcontinent; birds breeding in the Caspian region migrate to SW and S Asia where they mix with local populations. Another population breeds in eastern Asia and winters from Japan west to China and Hong Kong.

- SW/S Asia (lower Iraq to Bangladesh): B (23,000) [AWC 14,600]
Trends: Declining locally.
- E Asia: Probably A [AWC 1,600]
Trends: Probably declining.

Potential sites of international importance

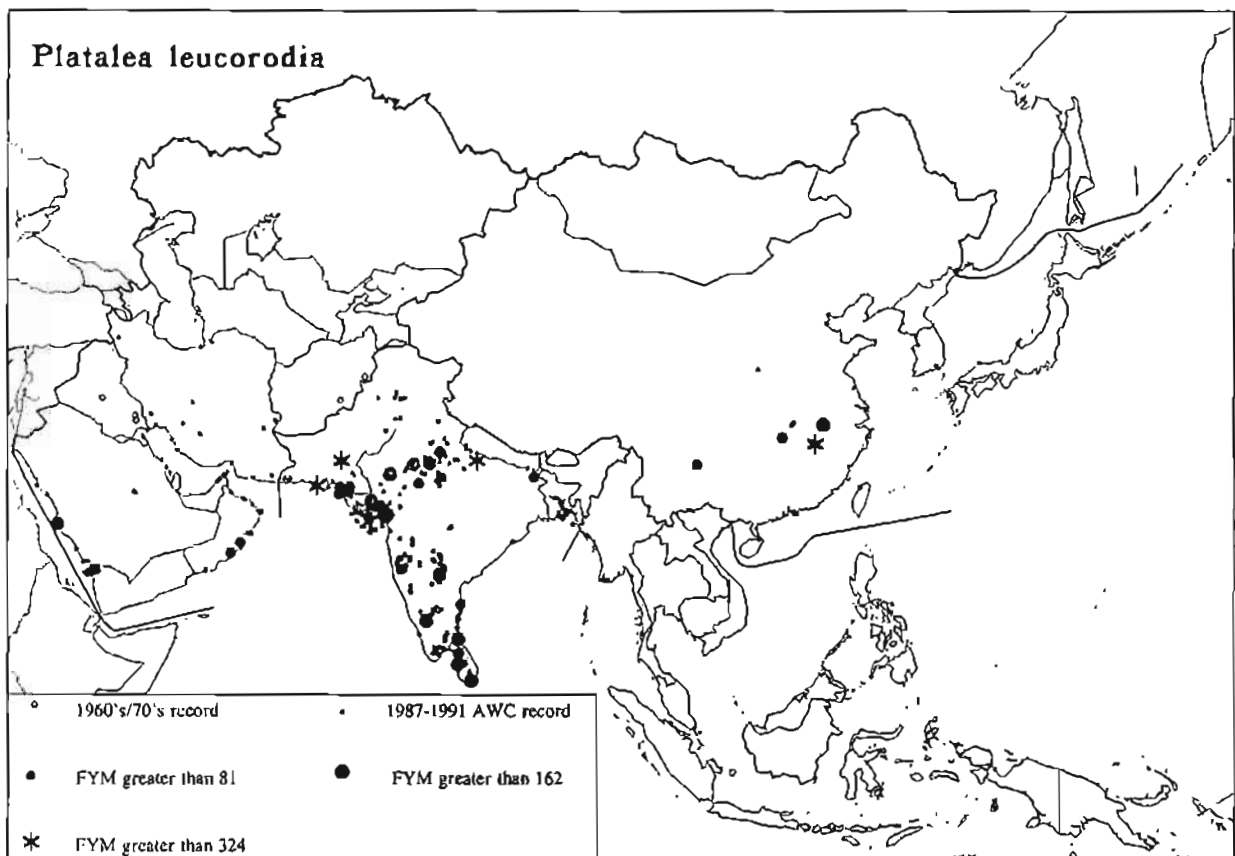
In SW/S Asia, 11 sites reached a FYM of 230 (1% level) (Table 23). Most were counted only once, and therefore only Point Calimere Sanctuary in Tamil Nadu, India (FYM 230, 5yr) and Pagri, Sind, Pakistan (FYM 670, 4yr) are so far confirmed as of international importance. None of the sites counted in Iraq and Afghanistan in the 1970s held over 230 birds, the highest count being 175 at Haur Al Hammar in Iraq in 1972.

Other important sites

In E Asia, major sites were Poyang Lake (FYM 1,075, 4yr) in Jiangxi, and Shengjin Hu (FYM 219, 4yr) in Anhui.

Table 23: Potential sites of international importance for *Platalea leucorodia* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	GUJARAT	BAGODARA - NAL KANTHA	300	1
	RAJASTHAN	CHHAPARWADA	298	1
	RAJASTHAN	KHARDA	300	1
	TAMIL NADU	POINT CALIMERE B.S	230	5
	UTTAR PRADESH	SITADWAR	460	1
PAKISTAN	BALUCHISTAN	HINGOL HOR	325	1
	SIND	JAM SAR	260	1
	SIND	PAGRI	670	4
	SIND	WASO	320	1
SAUDI ARABIA	SOUTH WEST	JEDDAH SOUTH CORNICHE	277	1
SRI LANKA	N.W.P	PERIYAKADAWALA WEWA (NAWADARAKULAM)	250	1

Figure 52: Distribution of *Platalea leucorodia* as shown by the AWC 1987-1991**Black-faced Spoonbill***Platalea minor*

Monotypic; globally threatened. The species breeds in Korea and NE China, and winters in S China, Taiwan and N Vietnam (Figure 53). Only one population is recognized.

- E/SE Asia (entire population): A (350; Kennerley 1989) [AWC 196]

Trends: Declining.

The status of the Black-faced Spoonbill has recently been reviewed by Kennerley (1989).

Potential sites of international importance

Four sites had a FYM exceeding four birds (1% level). Tseng-wen Chi River in Taiwan is the single most important site so far known for the species (FYM 140, 3yr). The Xan Thuy area in the Red River Delta, Vietnam (27, 1yr), and the Deep Bay/Mai Po area in Hong Kong (FYM 19, 5yr) are the next most important sites, while China has one small concentration, at Futien Reserve (FYM 4, 5yr) adjacent to Deep Bay.

All sites regularly used by an appreciable number of individuals are of international importance. Information on many of these sites is given in Kennerley (1989).

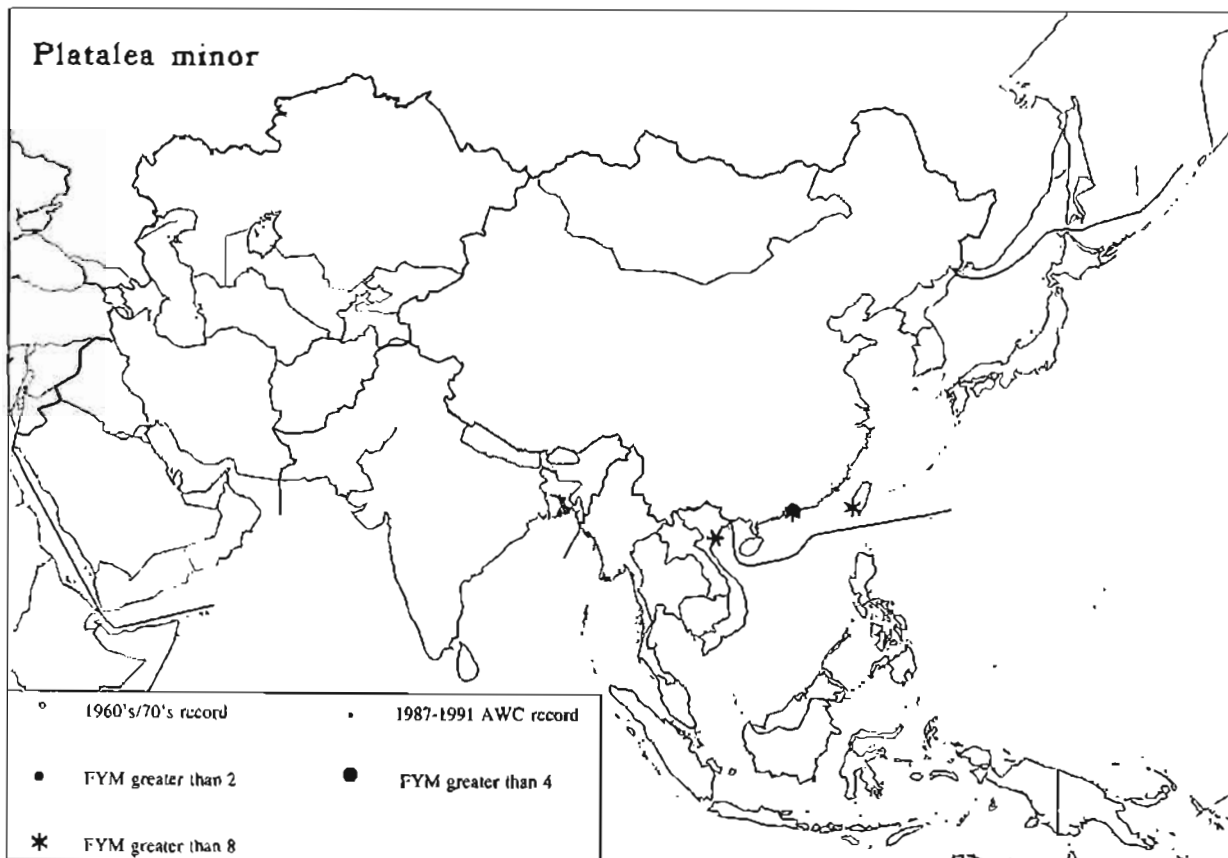


Figure 53: Distribution of *Platalea minor* as shown by the AWC 1987-1991

Royal Spoonbill

Platalea regia

Monotypic. A common dry season visitor from Australia to southern New Guinea and elsewhere in Indonesia west to Java. Only one population is recognized.

- SE Asia/Australasia (entire population): C or D [AWC 100]

Trends: Apparently declining.

Only a few records were obtained in S Papua New Guinea during the AWC, and no sites of international importance can be identified. As many as 130 birds have been recorded at Pulau Kimaam in Irian Jaya, Indonesia (Silvius & Taufik 1989), but this site was not covered during the AWC.

SCOPIDAE

Hamerkop

Scopus umbretta

This common and widespread Afrotropical species extends into Asia in the SW corner of the Arabian peninsula (Saudi Arabia and Yemen), where it is apparently resident (Figure 54). The subspecies concerned, *S. u. bannermanni*, occurs west to Cameroon and south to South Africa. It is not known whether the birds in the Arabian peninsula comprise a distinct, isolated population or whether they are part of the much larger African population.

- SW Asia: A [AWC 21]

Trends: Unknown.

No sites of international importance can be identified.

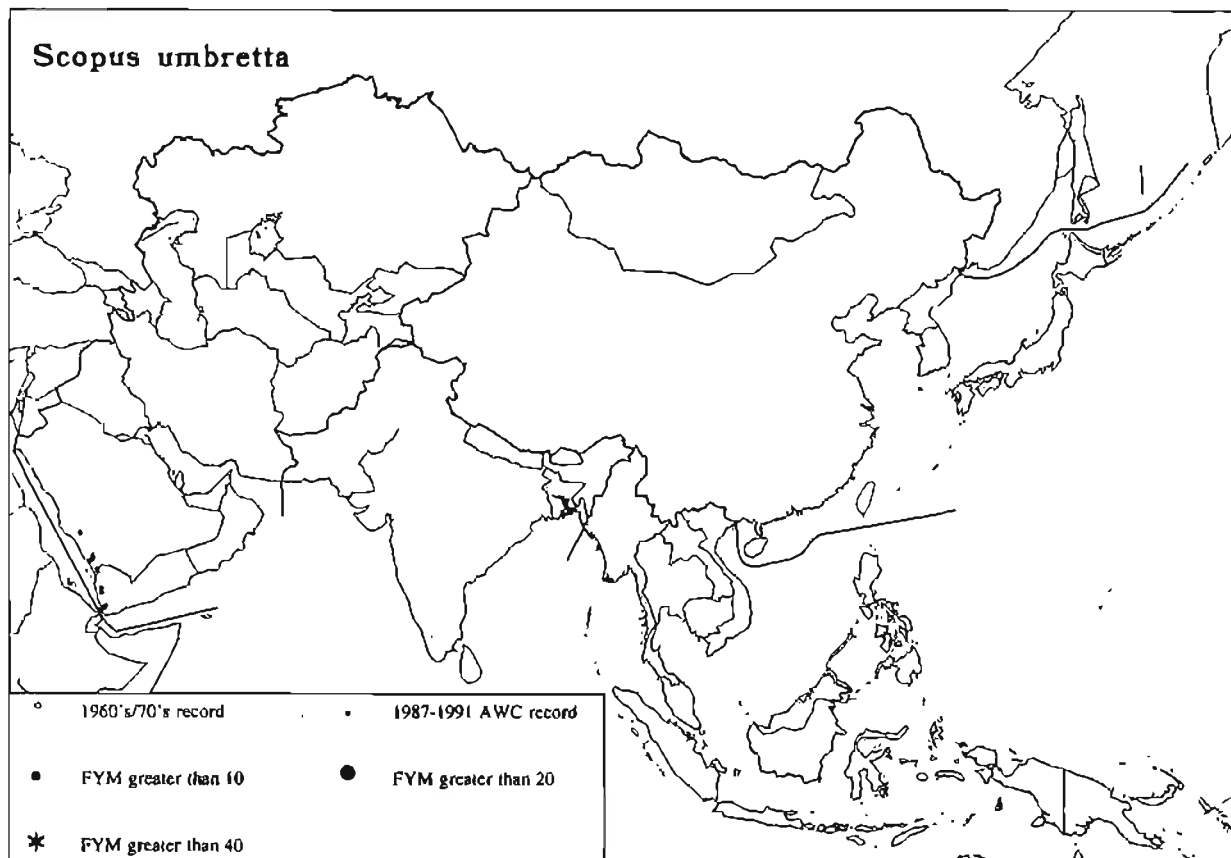


Figure 54: Distribution of *Scopus umbretta* as shown by the AWC 1987-1991

PHOENICOPTERIDAE

Greater Flamingo

Phoenicopterus ruber

Only the subspecies *roseus* occurs. There is a considerable amount of mixing between all breeding populations from central Turkey to Kazakhstan and NW India (Figure 55). For example, many birds ringed in the colony at Lake Uromiyeh in NW Iran have been recaptured in India (Argyle 1976). In India, breeding is reported very irregularly due to the inaccessibility of the breeding sites, but occurs in the Great Rann of Kachchh whenever water levels are suitable (most recently in 1990-91: Bapat 1992, and 1993: M.K. Himmatsinhji pers. comm.). Only one population is recognized.

- SW/S Asia: D (500,000) [AWC 243,000]

Trends: Increasing in some areas; perhaps declining in others.

Potential sites of international importance

Eleven sites have a FYM of over the 1% level of 5,000 (Table 24), the majority in Iran and Pakistan (Sind Province). However, the highest count came from the Great Rann of Kachchh in India, which held 50,000 birds on the one occasion that it was counted. The difficulties of access to this vast and remote area prevent regular ground surveys, and the proximity of the Indo-Pakistan border has prevented aerial surveys.

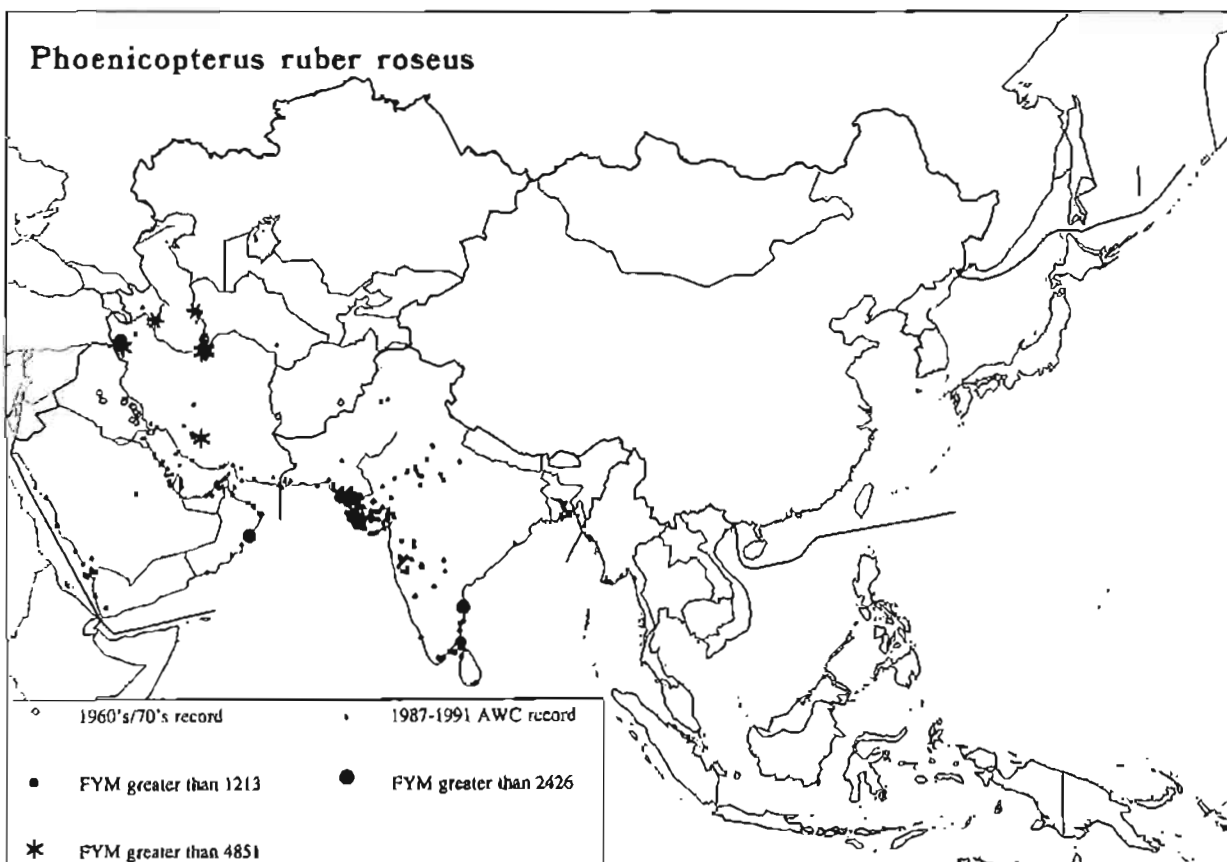


Figure 55: Distribution of *Phoenicopterus ruber* as shown by the AWC 1987-1991

In SW Asia, only one of the sites counted in Iraq and Afghanistan in the 1970s held over 5,000 birds, namely Haur Suweicha in Iraq (max. 6,600).

Table 24: Potential sites of international importance for *Phoenicopterus ruber* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KJROV BAY	12970	1
INDIA	GUJARAT	GREAT RANN OF KACHCHH	50000	1
IRAN	FARS	BAKHTEGAN & TASHK LAKES	32404	5
	MAZANDARAN	CASPIAN COAST BANDAR TURKMAN -CIS BORDER	14583	3
	MAZANDARAN	GOMISHAN MARSH	13000	2
	MAZANDARAN	MIANKALEH PROTECTED REGION	11976	5
PAKISTAN	SIND	JABHO/KUR	10543	5
	SIND	LAKHI DHAND	11250	2
	SIND	NUR-RI, BADIN	13505	4
	SIND	SANDHO	11000	2
TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	16300	1

Lesser Flamingo

Phoeniconaias minor

Monotypic. Primarily an African species which in Asia is confined as a breeding species to the Great and Little Ranns of Kachchh in NW India (Ali 1974, Mundkur *et al.* 1989). Although there were no reports of the species in Pakistan between the turn of the century and the late 1980s (Roberts 1991), large numbers of Lesser Flamingos have occurred in the eastern part of the Indus Delta in recent years (Figure 56). Whether this is a new phenomenon or has simply been overlooked in the past is not known. One population is recognized.

- S Asia: D (150,000) [AWC 64,100]

Trends: Probably stable or increasing.

Potential sites of international importance

Three sites reach a FYM of over 1,500, all located very close to the colonies: Charakla saltworks (FYM 2,980, 2yr) and Khambat mudflats (50,000, 1yr) in Gujarat, India, and Lakhi Dhand (FYM 1,600, 2yr) in Sind, Pakistan. Further censuses are required to confirm the international importance of these sites.

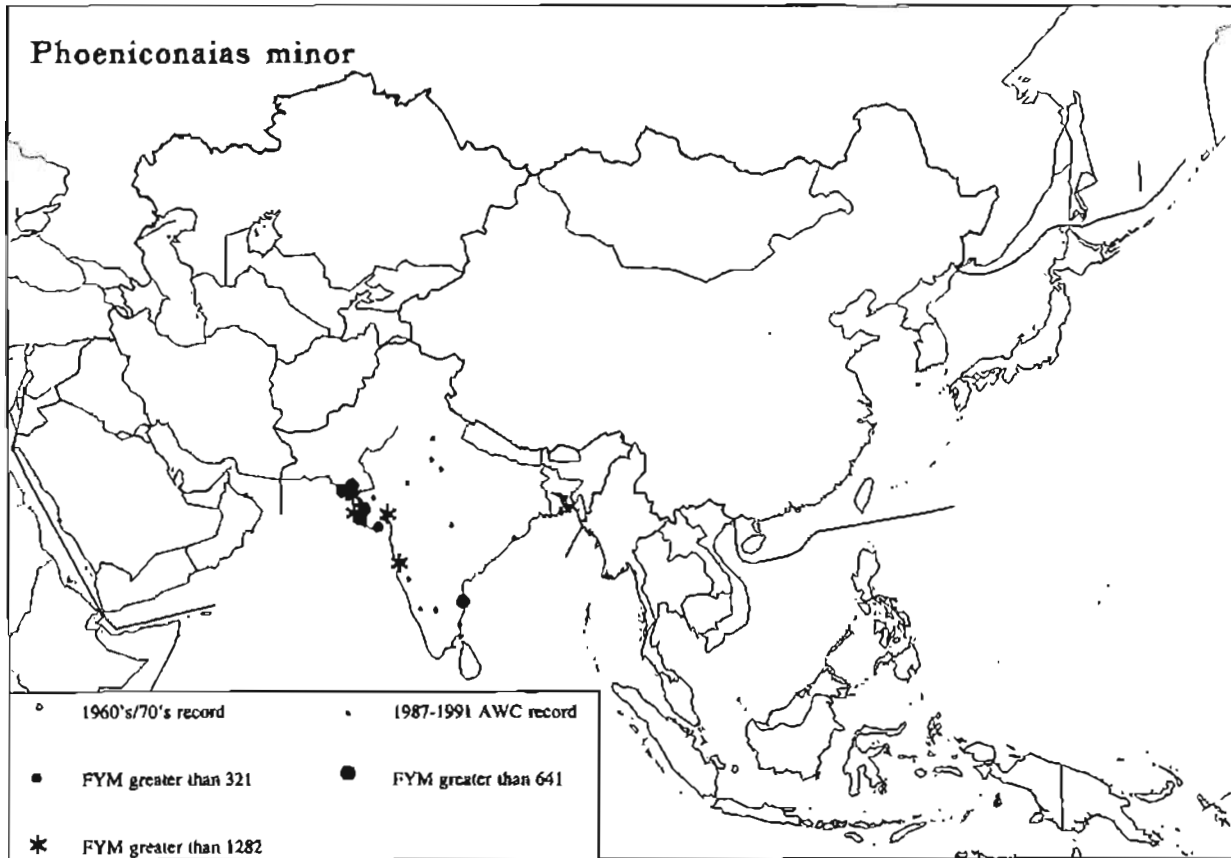


Figure 56: Distribution of *Phoeniconaias minor* as shown by the AWC 1987-1991

ANATIDAE

Magpie Goose

Anseranas semipalmata

Monotypic. Confined to northern Australia and southern New Guinea; reasonably sedentary with some local movements and occasional long distance movements. Some northern Australian birds move to New Guinea in some years, but there is no evidence of a regular migration.

Only a few AWC records were obtained, all from Papua New Guinea [AWC 5,000]. In the absence of a population estimate, no sites of international importance can be identified. Over 17,000 were recorded on Pulau Kimaam in Irian Jaya, Indonesia, in 1988 (Silvius & Taufik 1989), but this site has not been covered during the AWC.

Spotted Whistling-Duck

Dendrocygna guttata

Monotypic. An apparently sedentary species of E Indonesia, S Philippines and Papua New Guinea. One population is recognized.

- SE Asia: B [AWC 155]

Trends: Unknown.

Only a few scattered records were obtained during the AWC, and no sites of international importance can be identified.

Fulvous Whistling-Duck

Dendrocygna bicolor

Only the nominate subspecies occurs. Formerly widespread in the Indian Subcontinent and Myanmar, the Asian population is now largely concentrated in NE India and Bangladesh (Figure 57). Only one population is recognized.

- S Asia: B (20,000) [AWC 14,100]

Trends: Probably declining.

Potential sites of international importance

Six sites reach a FYM of over 200 (1% level), the two most important being in Bangladesh and the rest in India (Table 25). Most were counted only once and further surveys are necessary to confirm their importance.

Table 25: Potential sites of international importance for *Dendrocygna bicolor* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	SYLHET	KANAMAIYA HAOR & PAKERTALA BIL	3874	1
	SYLHET	TANGUA HAOR COMPLEX	5300	1
INDIA	ASSAM	DIGHOLI BEEL	219	3
	ASSAM	KAZIRANGA N.P	1800	1
	GUJARAT	PANSA TALAV	558	1
	TRIPURA	GUMTI RESERVOIR	893	3

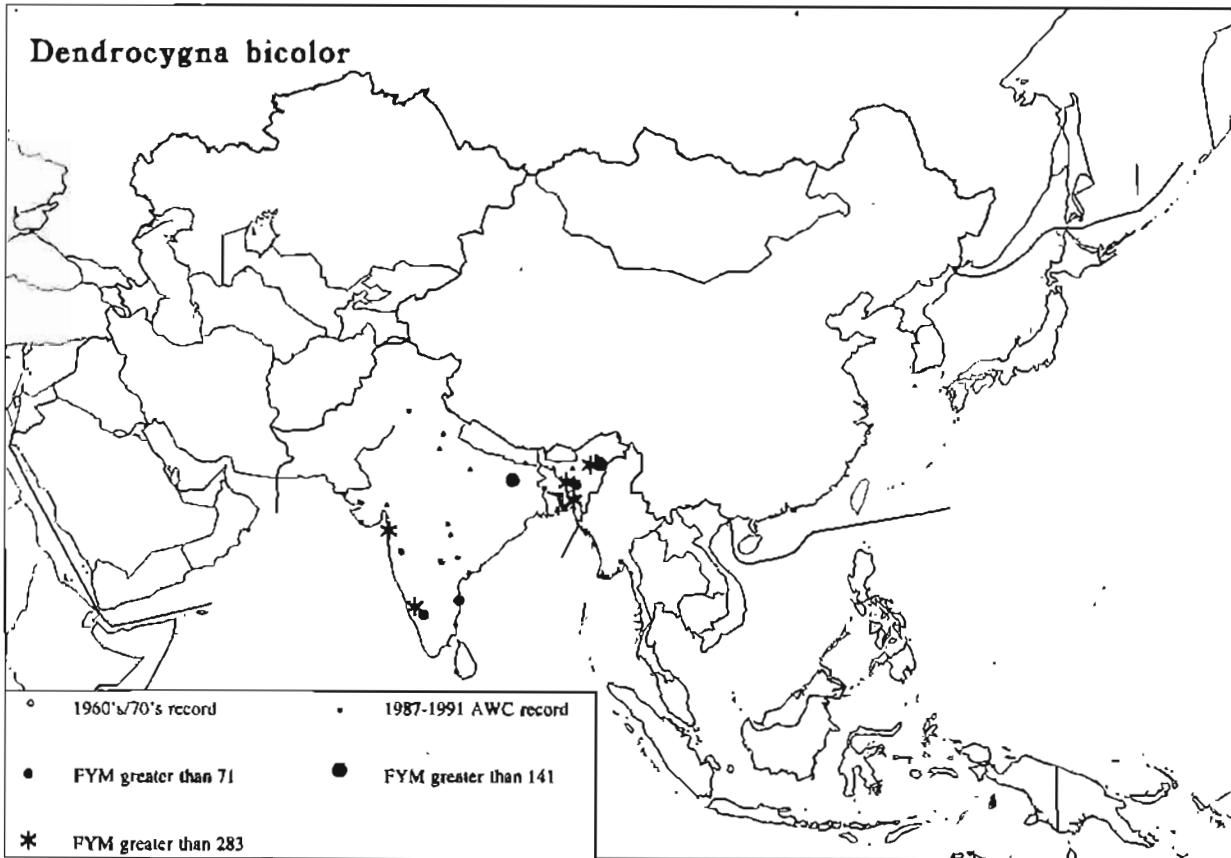


Figure 57: Distribution of *Dendrocygna bicolor* as shown by the AWC 1987-1991

Wandering Whistling-Duck

Dendrocygna arcuata

Two subspecies occur. The nominate subspecies of the Philippines and Indonesia appears to be mainly sedentary, while *D. a. australis* of Australia and New Guinea is migratory, apparently undertaking regular movements between N Australia and S New Guinea (Figure 58). Two populations are recognized.

- Australia/New Guinea: D or E
Trends: Probably stable.
- Indonesia/Philippines: Unknown.
Trends: Unknown.

The total AWC figure for these two populations is 4,200. The species is very poorly covered by the AWC.

Important sites

In the absence of population estimates, no sites of international importance can be identified. Major concentrations were found at Segara Anakan and Donan River, Java (600, 1yr) and at Tempe Lake (2,610, 1yr), S Sulawesi, both in Indonesia, and at Bensbach River and Floodplain (500, 1yr) in Papua New Guinea.

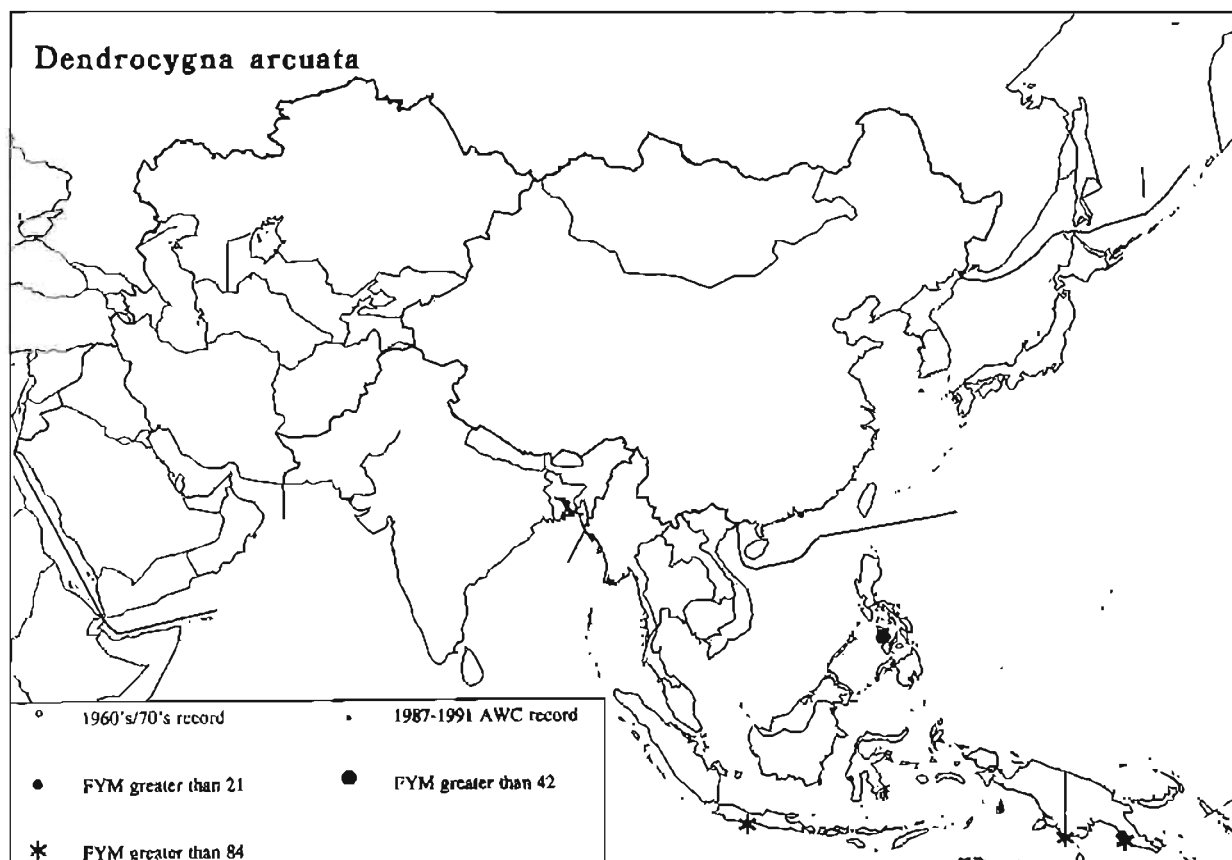


Figure 58: Distribution of *Dendrocygna arcuata* as shown by the AWC 1987-1991

Lesser Whistling-Duck

Dendrocygna javanica

A monotypic species, confined to S and SE Asia east to southern China and Ryuku islands (Japan). The northern populations are migratory; elsewhere the species is largely sedentary (Figure 59). Two groups are recognized.

- S Asia: D (100,000+) [AWC 66,600]
Trends: Declining in some areas.
- E/SE Asia: D [AWC 81,200]
Trends: Declining in some areas.

Potential sites of international importance

These can be identified only in S Asia, where a population estimate exists. Many sites reach the 1% level of 1,000 birds (Table 26), mainly in India and Bangladesh, where they are concentrated towards the northeast. The four most important sites (FYM of 3,000 or more) were counted only once, and their importance needs to be confirmed with more data.

Other important sites

In E/SE Asia, the most important sites were Kye-In (5,470, 1yr), Mandalay, in Myanmar, and five sites in Thailand: Beung Boraphet (FYM 10,710, 5yr); Bung Cha-vak (11,000, 1yr), Nong Waeng (FYM 5,100, 2yr) and Nong Nam Khao (FYM 6,920, 3yr) Non-hunting Areas, Kasetsart University (Kampaengsaen) (FYM 6,500, 2yr). The size of these concentrations would indicate that the species may be more numerous in SE than S Asia.

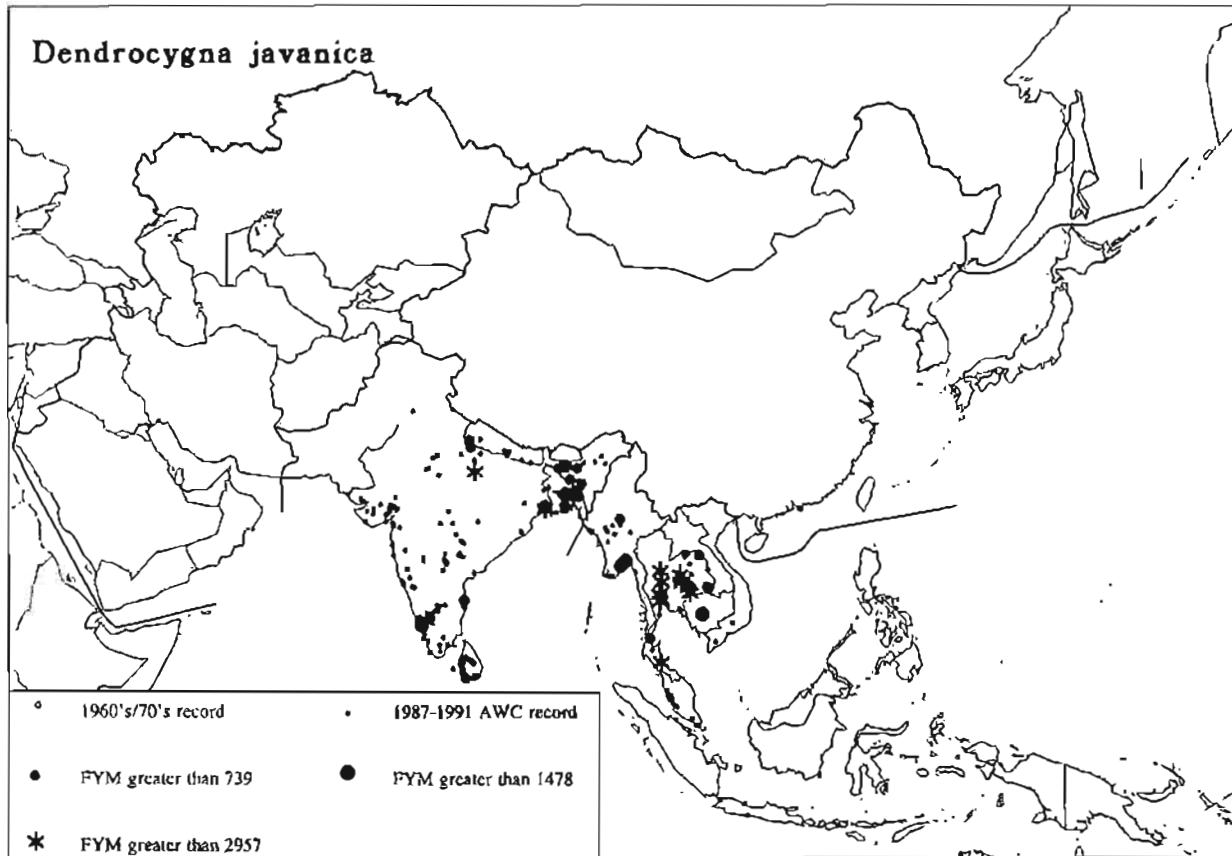


Figure 59: Distribution of *Dendrocygna javanica* as shown by the AWC 1987-1991

Table 26: Potential sites of international importance for *Dendrocygna javanica* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	DHAKA	MIRPUR ZOOLOGICAL GARDEN	2714	5
	DHAKA	PEELKHANA BIRD PARK	2634	3
	SAVAR	JAHANGIR NAGAR UNIVERSITY	3000	1
	SYLHET	HAKALUKI HAOR	1461	5
INDIA	ANDHRA PRADESH	PULICAT LAKE	1250	4
	ASSAM	DEEPOR BEEL	1441	5
	ASSAM	DHIR BEEL	2201	3
	KARNATAKA	KABINI RESERVOIR	4700	1
	KERALA	AMBALAMEDU LAKE	2166	3
	TRIPURA	GUMTI RESERVOIR	1333	3
	TRIPURA	SEPAHIJALA RESERVOIR	1853	2
	UTTAR PRADESH	BANKI TAAL, DUDHWA N.P	1230	2
	UTTAR PRADESH	MANKAPUR	1000	1
	UTTAR PRADESH	SAMASPUR BIRD SANCTUARY	3000	1
	WEST BENGAL	DUMUR JOLA, BANTRA, HOWRAH	2000	2
	WEST BENGAL	KALYANI LAKE	2000	2
	WEST BENGAL	SANTRAGACHI RAILWAY JHEELS	1350	1
WEST BENGAL	SOUTH EASTERN RAILWAY CENTENARY	6000	1	
SRI LANKA	S.P	WALAHANDUWA PADDY FIELDS	1010	3

Swan Goose

Anser cygnoides

A monotypic species with a fragmented breeding distribution in E Russia, Mongolia and NE China. It formerly wintered widely in China, Japan and Korea, but now occurs almost exclusively in E China (Figure 60). Only one population is recognized.

- E Asia (entire population): C (50,000; Lu 1992; Green 1992b) [AWC 37,000]

Trends: Declining.

There are indications that the rapid decline of the species could warrant its inclusion in the list of globally threatened species.

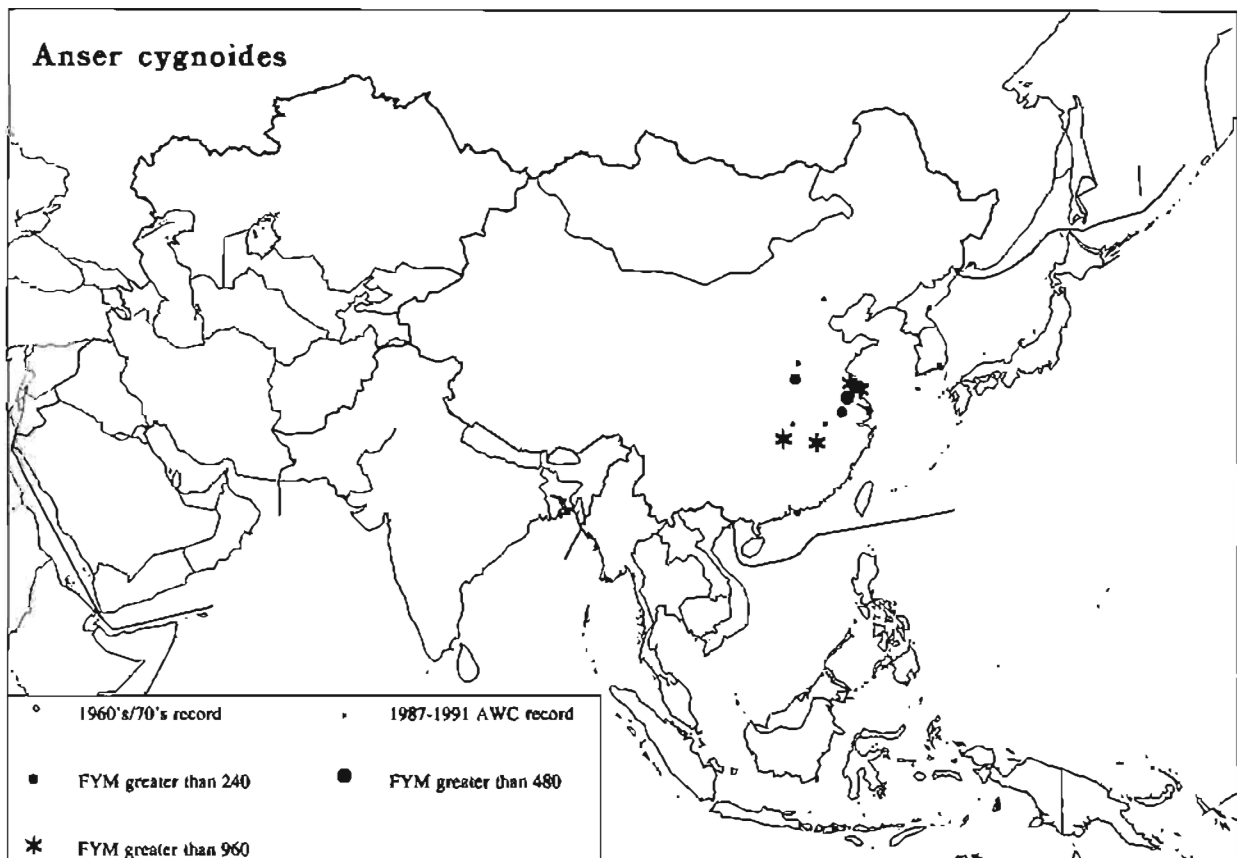


Figure 60: Distribution of *Anser cygnoides* as shown by the AWC 1987-1991

Potential sites of international importance

Five sites, three of which are in Jiangsu Province, exceeded a FYM of 500 (1% level) (Table 27). However, some very high counts, especially at Poyang Lake, have been questioned (Lu Jianjian, pers. comm.), and require confirmation.

Table 27: Potential sites of international importance for *Anser cygnoides* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	HUNAN	EAST DONGTING LAKES	1262	4
	JIANGSU	GAOYOU AND SHABO LAKES	550	2
	JIANGSU	YANCHENG NATURE RESERVE, CORE AREA	939	2
	JIANGSU	YANCHENG SHORE (300KM)	10770	2
	JIANGXI	POYANG LAKE	25660	4

Bean Goose

Anser fabalis

Three subspecies occur. *A. f. middendorffi* of east-central Asia and *A. f. serrirostris* of northeast Asia both winter in Japan, Korea and China (Figure 61), and are not counted to the subspecies level; *johanseni* of north-central Asia apparently winters mainly from Turmenistan to western China. For the present purposes, two wintering groups are recognized.

- E Asia (*middendorffi* and *serrirostris*): C (30,000; Lu 1992) [AWC 32,700]
Trends: Declining.
- Central/SW Asia (*johanseni*): Unknown [AWC 300].
Trends: Unknown.

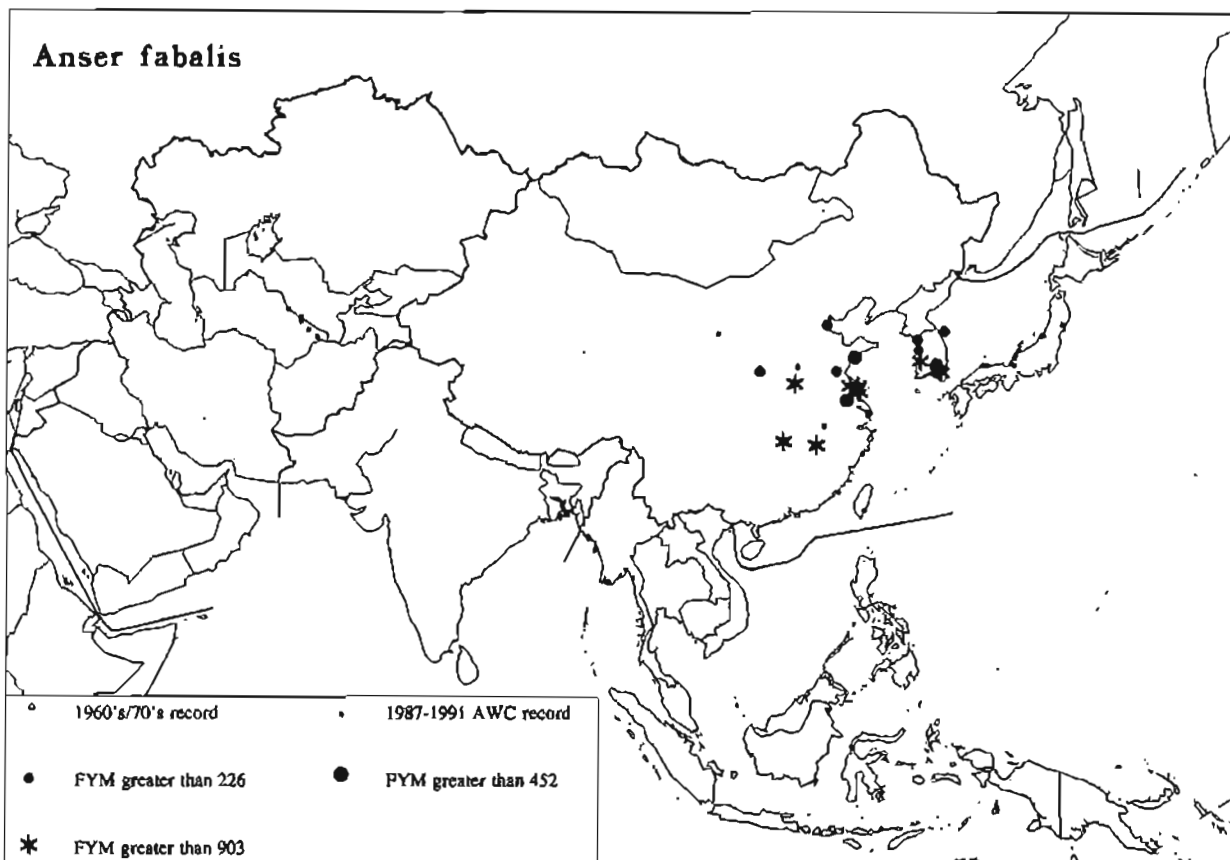


Figure 61: Distribution of *Anser fabalis* as shown by the AWC 1987-1991

Potential sites of international importance

In E Asia, 15 sites had a FYM exceeding the 1% level of 300 birds, all in China and South Korea (Table 28). In the absence of a population estimate, no sites of international importance can be identified in Central/SW Asia.

Table 28: Potential sites of international importance for *Anser fabalis* in East Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	HENAN	YELLOW RIVER, HEI GANG KUO	2000	1
	HUNAN	EAST DONGTING LAKES	4381	4
	JIANGSU	GAOYOU AND SHABO LAKES	650	2
	JIANGSU	SHEYANG SALT WORKS	1830	2
	JIANGSU	YANCHENG SHORE (300 KM)	5684	2
	JIANGSU	YANCHENG NATURE RESERVE, CORE AREA	839	2
	JIANGXI	POYANG LAKE	2337	4
	SHANDONG	QING DAO	500	1
	SHANDONG	TANGCUN RESERVOIR	400	1
	SOUTH KOREA	CHUNG CHING NAM BUK	KUM RIVER	1602
GYONG SANG NAM		NAKDONG ESTUARY	1016	4
GYONG SANG NAM		SANNAM, CH'UNSAN, TONGP'AN RES	1682	4
GYONG SANG NAM		UPO MARSH	713	4
GYONGGI		SUNDU-RI MUDFLATS (S.KANGHWA ISLAND)	370	3
GYONGGI		TAESONG'DONG, PANMUNCH'OM MARSH	517	4

White-fronted Goose*Anser albifrons*

Two subspecies occur. One population of the western, nominate form winters in SW Asia east to the Caspian Sea and possibly also the Aral Sea. The E Asian subspecies *frontalis* winters in China, Korea and Japan (Figure 62). This subspecies also breeds in Alaska and winters in the western United States. Two populations are recognized. The occasional records in S Asia may relate to birds from either of these.

- SW Asia: A (5,000); [AWC 2,300, 4,450 with 1970s data]

Trends: Declining in some areas.

- E Asia: C (50,000) [AWC 50,800]

Trends: Unknown.

Potential sites of international importance

In SW Asia, five sites have a FYM of 50 or more (Table 29), in Iran, Azerbaijan and Turkmenistan. In addition, one of the sites counted in Iraq in the 1970s held over 50 birds: Haur Suweicha in Iraq (max. 325). In E Asia, five sites reach a FYM of 500 (1%). Poyang Lake in China, with a FYM of 21,700 (4 years of data), appears as the single most important site.

Table 29: Potential sites of international importance for *Anser albifrons* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	1520	1
CHINA	JIANGXI	POYANG LAKE	21719	4
IRAN	E.AZERBAIJAN	DASHT MOGHAN (ARAS RIVER)	165	2
	KHUZESTAN	DASHT-E-SHOEYBI	1274	1
	MAZANDARAN	PERIDOON KENAR DAMGAH	398	5

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
JAPAN	MIYAGI	IZUNUMA	2805	2
SOUTH KOREA	CHUNG CHING NAM BUK	KUM RIVER	4835	2
	CHUNG CHONG SOUTH	ASAN LAKE	600	1
	GYONG SANG NAM	SANNAM, CH'UNSAN, TONGP'AN RES	919	4
TURKMENISTAN	KERKI	KELIPSKJYE LAKES	271	5

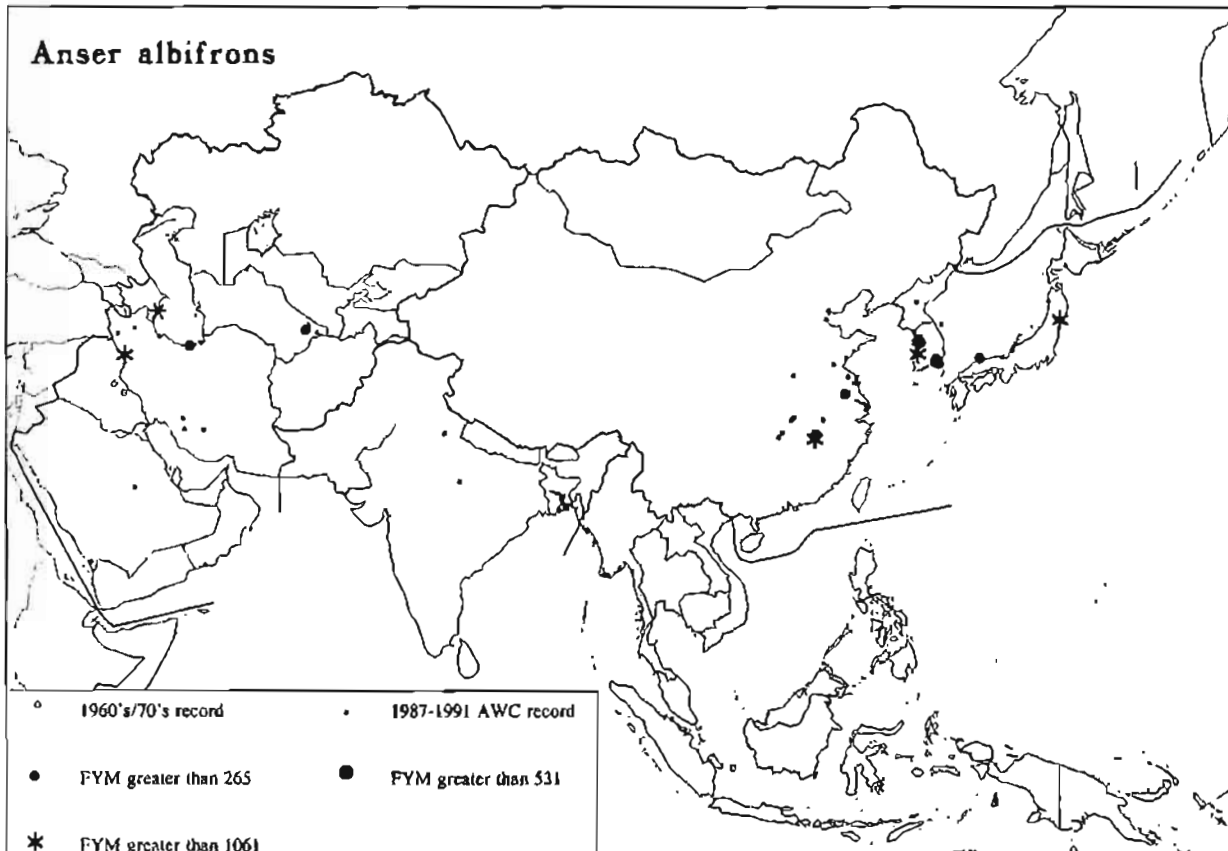


Figure 62: Distribution of *Anser albifrons* as shown by the AWC 1987-1991

Lesser White-fronted Goose

Anser erythropus

Monotypic; globally threatened. Two widely separated populations are recognized: one wintering in China, and one wintering in SE Europe and SW Asia east to the Caspian Sea (Figure 63).

- SW Asia/SE Europe: B or C [AWC 7; 5,430 with 1970s data].

Trends: Declining.

- E Asia: A (6,000; A. Andreev, pers. comm.) [AWC 3,420]

Trends: Declining.

Potential sites of international importance

In E Asia, four sites in China had a FYM of over 60 birds: the East Dongting Lakes (FYM 170, 4yr), Hannan Lake (360, 1yr), Poyang Lake (FYM 2,450, 4yr), and Shijiu Hu (FYM 410, 3yr). However, there have been some doubts cast over the reliability of some of the counts at Poyang Lake, because of possible confusion with *A. albifrons* (Lu Jianjian, pers. comm.).

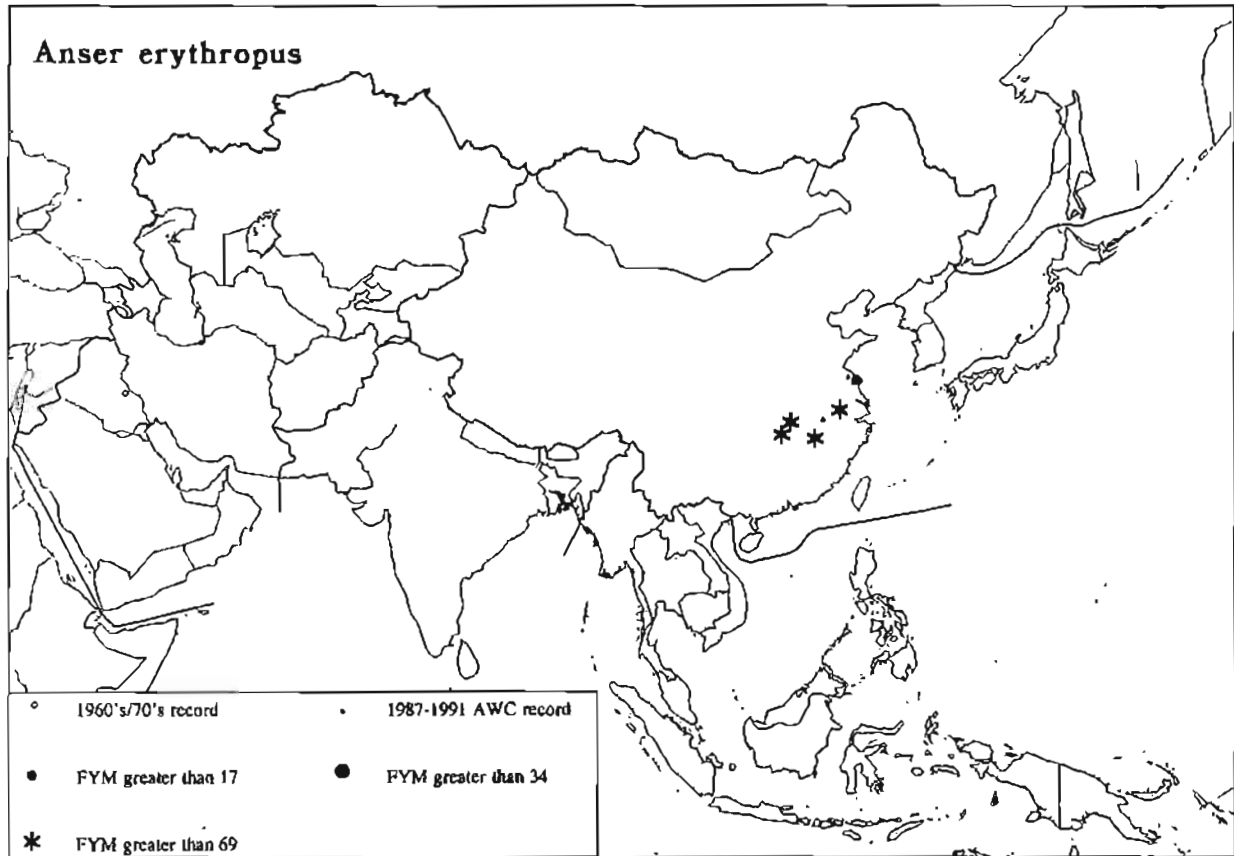


Figure 63: Distribution of *Anser erythropus* as shown by the AWC 1987-1991

In SW Asia, the Lesser White-fronted Goose was recorded on only one occasion during the period 1987-91: a count of 35 at Miankaleh Protected Region in Iran in 1989. However, in the early 1970s, it was estimated that the total population wintering in Iran varied between 4,500 and 7,500 (Scott 1976), with most of the birds occurring in Miankaleh Protected Region. The main feeding areas of the geese at Miankaleh became flooded in the early 1980s as a result of the rapid rise in level of the Caspian Sea, and few birds have been seen there since. It is not known whether these birds have disappeared from the population entirely, or simply shifted to new wintering grounds where they have been overlooked. Elsewhere in SW Asia, only small flocks of Lesser White-fronted Geese were found in Iraq in the 1970s, the largest concentration being 70 at Haur Suweicha in 1972.

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

Greylag Goose

Anser anser

Only the eastern subspecies *rubrirostris* occurs. Three wintering populations are recognized (Figure 64).

- SW Asia: C/D (100,000) [AWC 78,400].
Trends: Possibly increasing in some areas.
- S Asia: B (15,000) [AWC 8,890]
Trends: Possibly increasing in some areas.
- E Asia (south to N Vietnam): C (25,000+) [AWC 12,800]
Trends: Unknown.

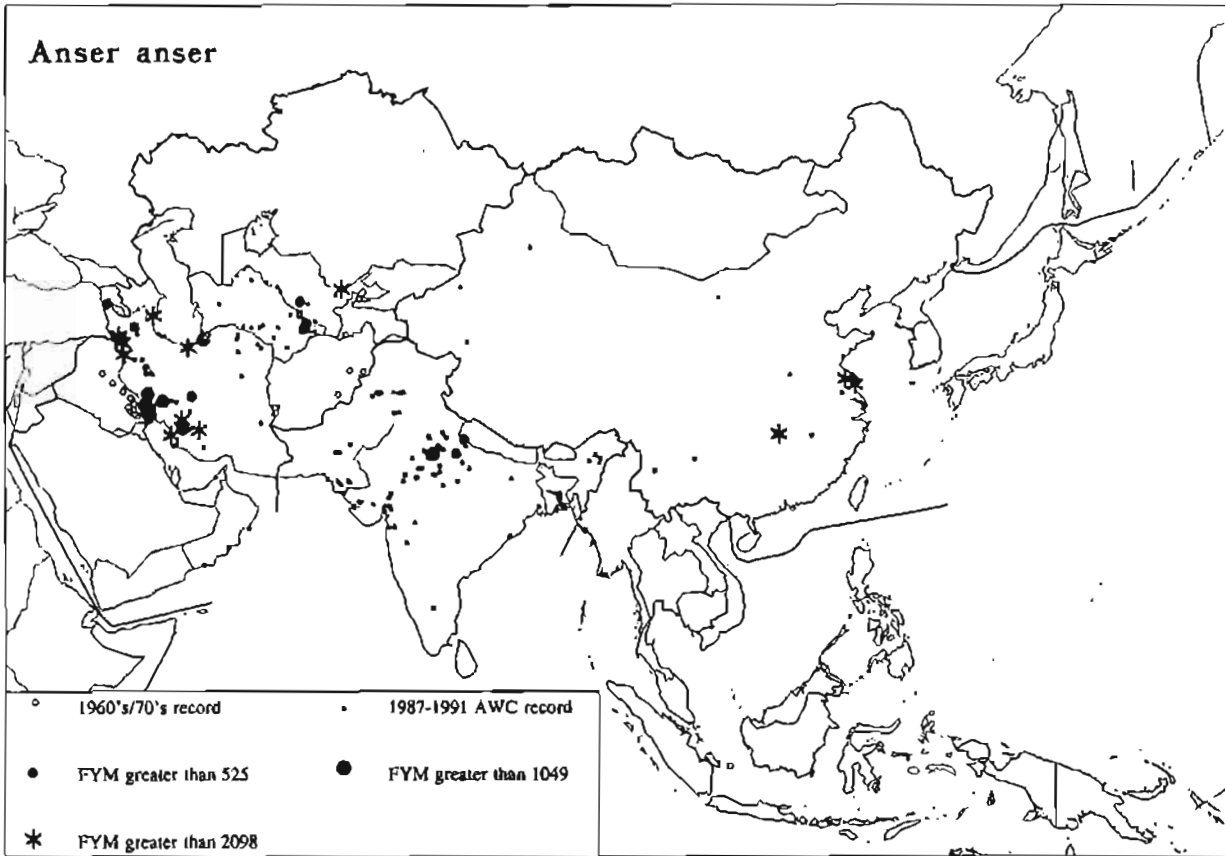


Figure 64: Distribution of *Anser anser* as shown by the AWC 1987-1991

Potential sites of international importance

Many sites (41) reach a FYM over the 1% thresholds of 1,000 (SW Asia), 150 (S Asia) or 250 (E Asia) mostly in Iran, India and China (Table 30). Iran seems to host the largest concentrations in Asia, with Dasht-e-Shoeybi (10,100) and Zargan Plain (7,500) being the main sites; however, both these sites were counted only once and their importance remains to be confirmed. The same holds true for the next most important site, Kirov Bay in Azerbaijan.

Table 30: Potential sites of international importance for *Anser anser* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	6040	1
CHINA	GUIZHOU	CAOHAI RESERVE	468	2
	HUNAN	EAST DONGTING LAKES	4475	4
	JIANGSU	GAOYOU AND SHABO LAKES	440	2
	JIANGSU	SHEYANG SALT WORKS	977	2
	JIANGXI	POYANG LAKE	508	4
	SHANDONG	RIZHAO' SHORE (70KM)	265	1
	SHANDONG	ZHUYU, WANGWU, YIMU	305	1
	XINJIANG	MENGJIN SHIUKU	400	1
	INDIA	ASSAM	KAZIRANGA N.P	380
ASSAM		MISAMARI BEEL	365	2
ASSAM		PANIDIHING	214	2
BIHAR		PAWAPURI TANK	275	1
GUJARAT		RANIPORDA	215	3

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
	GUJARAT	WADWANA RESERVOIR	173	3
	HARYANA	BHINDAVAS LAKE BIRD SANCTUARY	556	1
	RAJASTHAN	KEOLADEO GHANA N.P. BHARATPUR	1597	5
	UTTAR PRADESH	BAHOSI LAKE	500	2
	UTTAR PRADESH	BANKI TAAL, DUDHWA N.P.	768	2
	UTTAR PRADESH	DUDHWA NATIONAL PARK	160	1
	UTTAR PRADESH	HARAI KA TAL	400	1
	UTTAR PRADESH	LAKH LAKE	525	2
	UTTAR PRADESH	NARORA DAM (GANGA RIVER)	266	3
IRAN	BUSHEHR	HELLEH REGION: RIVER + DELTA	2736	5
	PARS	DASHT-I-ARJAN MARSH	1493	4
	PARS	BAKHTEGAN & TASHK LAKES	2895	5
	PARS	PARISHAN LAKE	3993	4
	KHUZESTAN	DASHT-E-SHOBYBI	10076	1
	KHUZESTAN	DEZ DAM & RIVER	1900	4
	KHUZESTAN	HAMIDIEH GRASSLAND	3903	3
	KHUZESTAN	HOREH SOSANGERD	1995	1
	KHUZESTAN	IZEH & SHIEKHON LAKES	1722	4
	KHUZESTAN	OVEIZEH AND SURROUNDS	1850	1
	KHUZESTAN	SHADEGAN MARSHES PROTECTED REGION	1427	4
	KHUZESTAN	ZARGAN PLAIN	7500	1
	MAZANDARAN	CASPIAN COAST BANDAR TURKMAN -CIS BORDER	1967	3
	MAZANDARAN	PERIDOON KENAR DAMGAH	2282	5
	W.AZERBAYJAN	GOPY LAKE	2333	3
	W.AZERBAYJAN	UROMIEH LAKE	2542	4
KAZAKHSTAN	CHIMKENT OBLAST	CHARDARA RESERVOIR	2500	1

In SW Asia, three sites in Iraq and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur As Sa'adiyah (max. 1,000) in Iraq, and Hamoun-i Puzak (max. 3,150) and Ab-i-Istada (max. 1,460) in Afghanistan.

Bar-headed Goose

Anser indicus

Monotypic. The AWC considerably extended the known wintering area of the species (compare Figure 65 with Madge & Burn 1988), with important numbers being reported from Tibet in the north to S India in the south. It is not known whether this represents a real range expansion or better coverage. In China, the species winters mostly on the Tibetan plateau. The importance of the Tibetan Plateau as a wintering area for this species was only fully appreciated in 1992 (Bishop 1992), and it is therefore not taken into account in the 1987-91 data. Only one population is recognized.

- S Asia (east to Myanmar)/E Asia: C (50,000) [AWC 27,000]

Trends: Possibly increasing in India.

Numbers would be distributed roughly as follows: 35,000 in S Asia, east to Myanmar, and 15,000+ in E Asia (Lu 1992; Bishop 1992).

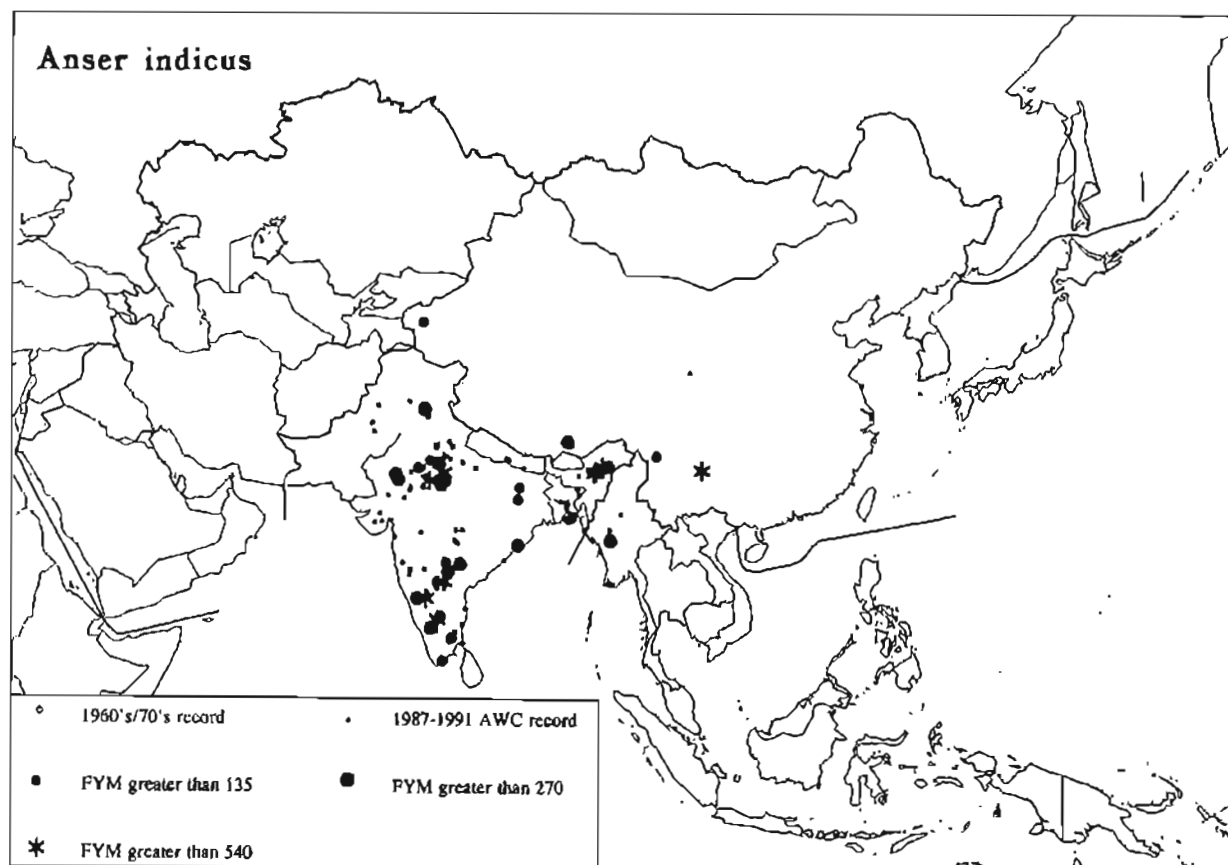


Figure 65: Distribution of *Anser indicus* as shown by the AWC 1987-1991

Potential sites of international importance

Ten sites reach a FYM of over 500 (1%) in China and India (Table 31), but in both countries most were counted only once or twice and their importance has still to be confirmed. In India, Assam holds major concentrations. Important sites in Tibet have been identified by Bishop (1992).

Table 31: Potential sites of international importance for *Anser indicus* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	GUIZHOU	CAOHAI RESERVE	1864	2
INDIA	ANDHRA PRADESH	SINGUR UPSTREAM-MANJIRA RIVER	1458	1
	ASSAM	KAZIRANGA NP, AGORATOLI RANGE	1456	1
	ASSAM	KAZIRANGA NP, BAGURI RANGE	774	1
	ASSAM	KAZIRANGA N.P	1830	1
	ASSAM	PANIDIHING	2598	2
	KARNATAKA	HAGARI BOMMANALI RESERVOIR	800	1
	KARNATAKA	T G HALLI TANK	600	1
	RAJASTHAN	ANGAI (PARVATI) BUND	953	1
RAJASTHAN	MANSAROVAR	626	3	

Snow Goose*Anser caerulescens*

Only the nominate form occurs in Asia. Although they probably represent only a tiny, marginal part of the large N American populations rather than a distinct one, small numbers (about 50) seem to winter regularly in China (A. Andreev, pers. comm.) and may be the origin of vagrants recorded elsewhere in Asia. Two records were obtained during the AWC: at Poyang Lake, China, and in Gujarat, India (Mundkur *et al.* 1991).

Emperor Goose*Anser canagica*

Monotypic. Confined to Russia and Alaska, with Asian birds wintering in the Aleutian Islands. The total population has been estimated at 165,000 birds (Ellis-Joseph *et al.* 1992). The wintering areas are not covered by the AWC, and no birds were recorded during the census.

Canada Goose*Branta canadensis*

A vagrant from North America to Russia and Japan. No records were obtained during the AWC.

Brent Goose*Branta bernicla*

Two subspecies occur: *B. b. orientalis* breeds in northern Russia between the Lena River and the Anadyr Basin and winters along the coasts of China and Korea; *B. b. nigricans* breeds from the Anadyr Basin east to Alaska and northern Canada. Most of this population winters on the Pacific coast of North America, but some 3,000-5,000 birds migrate southwest to winter in Kamchatka (Russia) and Japan (A. Andreev, pers. comm.; A. St Joseph, pers. comm.). Two populations are recognized.

- China/Korea (*orientalis*): A (1,700) [AWC 9]

Trends: Unknown.

- Japan & Kamchatka (*nigricans*): A (3,000-5,000) [AWC 340]

Trends: Unknown.

Only a few records were obtained during the AWC, in South Korea and China, and no sites of international importance can be identified.

Red-breasted Goose*Branta ruficollis*

Monotypic; globally threatened. Breeds in northern Russia (east to 100°E) and migrates southwest to winter in SE Europe; now only a vagrant to the S Caspian which was formerly a major wintering area. The one record obtained during the AWC was of 48 birds in the Amu Darya Valley, Turkmenistan, in 1991.

Whooper Swan*Cygnus cygnus*

Monotypic. Two populations are recognized: one wintering in western Asia from the Caspian Sea east to the region of Lake Balkash, and one wintering in Japan, Korea and NE and central China (Figure 66).

- W/Central Asia: Unknown [AWC 3,600]
Trends: Probably declining.
- E Asia: B (30,000) [AWC 18,900]
Trends: Declining.

The population wintering in W Asia and breeding in the West Siberian plains has been estimated from extrapolated counts in the breeding season at 316,000 birds (Ravkin 1991); however, this number is probably an over-estimate, although many important wintering areas for swans (e.g. the N Caspian) are not included in the AWC.

The wintering distribution of the Whooper Swan is affected by the prevailing weather in the Caspian region, as shown by the counts in Iran in the 1970s, where Scott (1976) estimated that 25-350 birds wintered in 'normal' winters (1972/73, 1973/74, 1974/75) as against 700-900 in January 1972, a particularly severe winter in the Caspian region (Scott 1972); meanwhile, the total number of swans wintering in the N Caspian (presumably mostly Mute Swan) varied between 12,000-20,500 in the same 'normal' winters and dropped to 400 in January 1972 (Krivonosov & Rusanov 1990).

Potential sites of international importance

These can be identified only in E Asia, where a population estimate exists. Fourteen sites reach a FYM of over 300 (1% level), in China, South Korea and Japan (Table 32).

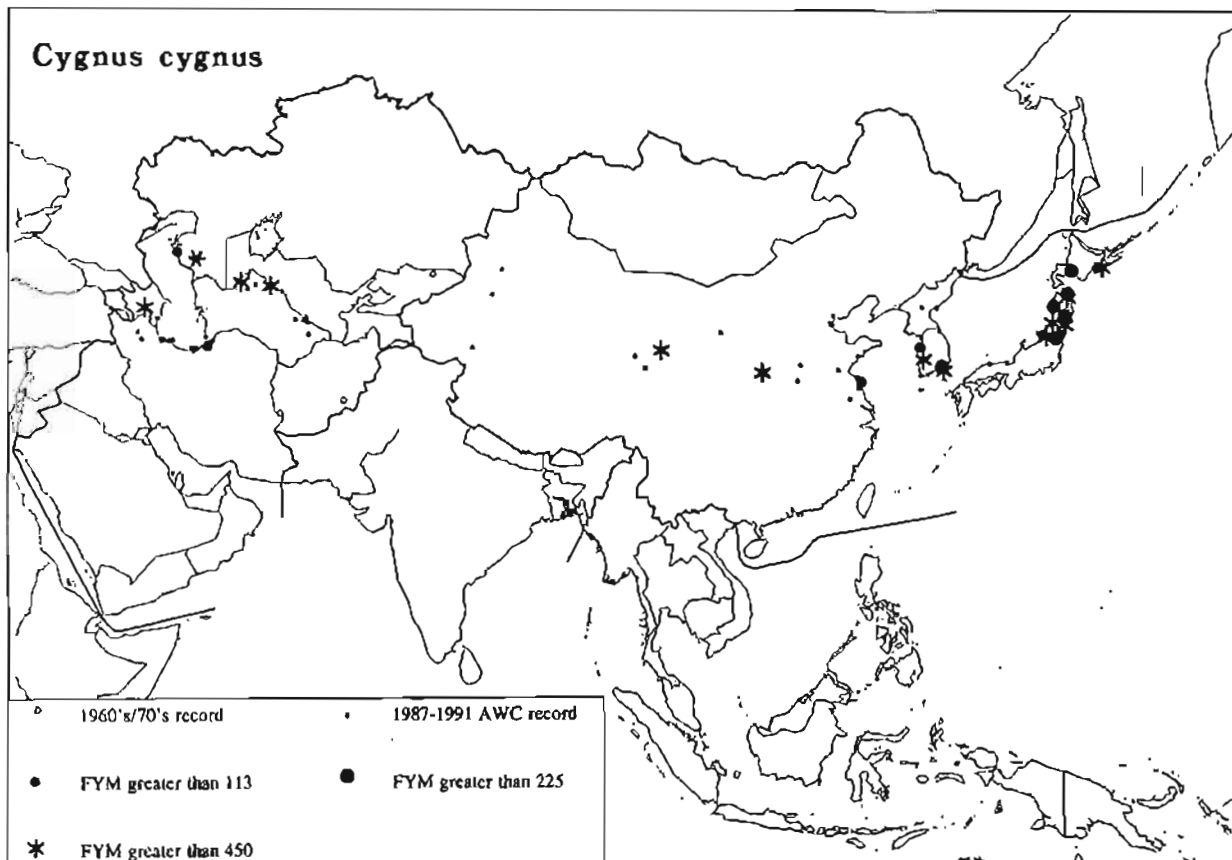


Figure 66: Distribution of *Cygnus cygnus* as shown by the AWC 1987-1991

Other important sites

In W Asia, important concentrations were recorded during the AWC at Aggel Lake (900, 1yr) in Azerbaijan, and in the Amu Darya Valley between Druzhba and Nukus (FYM 500, 3yr) and at Lake Sarakamysh (FYM 850, 4yr) in Turkmenistan.

Table 32: Potential sites of international importance for *Cygnus cygnus* in East Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	QINGHAI	QINGHAI HU	580	3
	SHANXI	XIAOCHI	546	1
JAPAN	AKITA	HACHIROGATA	387	2
	AOMORI	OBUCHI-NUMA LAKE	383	3
	AOMORI	OGAWARA LAKE	916	3
	HOKKAIDO	AKKESHI LAKE	931	3
	HOKKAIDO	LAKE UTONAI	342	3
	IWATE	SHINTSUTSUMI POND	414	3
	MIYAGI	IZUNUMA/UCHINUMA LAKE	1639	2
	NIIGATA	HYOKO LAKE	492	3
	YAMAGATA	MOGAMI RIVER	725	2
	SOUTH KOREA	CHUNG CHING NAM BUK	KUM RIVER	516
GYONG SANG NAM		NAKDONG ESTUARY	560	4

Bewick's Swan (Tundra Swan)

Cygnus columbianus

Two subspecies occur. *C. c. jankowski* of East Asia winters south to Japan, Korea and NE China. The western subspecies *bewickii* is largely extralimital, wintering mainly in western Europe but with a small population wintering in the Caspian region. Two populations are recognized (Figure 67).

- SW Asia: A (100) [AWC 75]

Trends: Unknown.

- E Asia: B or C (30,000) [AWC 20,300]

Trends: Declining.

Potential sites of international importance

In SW Asia, three sites qualify, all in NW Iran (Table 33). In E Asia, 10 sites reach a FYM of 300 or more, Poyang Lake in China (FYM 3,340, 4yr) being by far the most important one.

Table 33: Potential sites of international importance for *Cygnus columbianus* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	JIANGXI	POYANG LAKE	3340	4
	SHANGHAI	CHONGMING ISLAND	1000	2
IRAN	E.AZERBAIJAN	GAREH-GHESHLAGH MARSHES	13	3
	W.AZERBAIJAN	NOWROOZ LOO (NOUREOZLO) DAM	25	2
	W.AZERBAIJAN	UROMIEH LAKE	15	4
JAPAN		LAKE SAGATA-KAMISAGATA-MITARAIGATA	1835	3
	FUKUSHIMA	ABUKUMA RIVER	465	3
	FUKUSHIMA	INAWASHIRO LAKE	493	3
	NIIGATA	HYOKO LAKE	1444	3
	NIIGATA	TOYANOGATA & SEIGOROGATA LAKES	756	3
	SHIMANE	NAKAUMI LAKE (CHUKAI)	1096	2
YAMAGATA	MOGAMI RIVER	415	2	

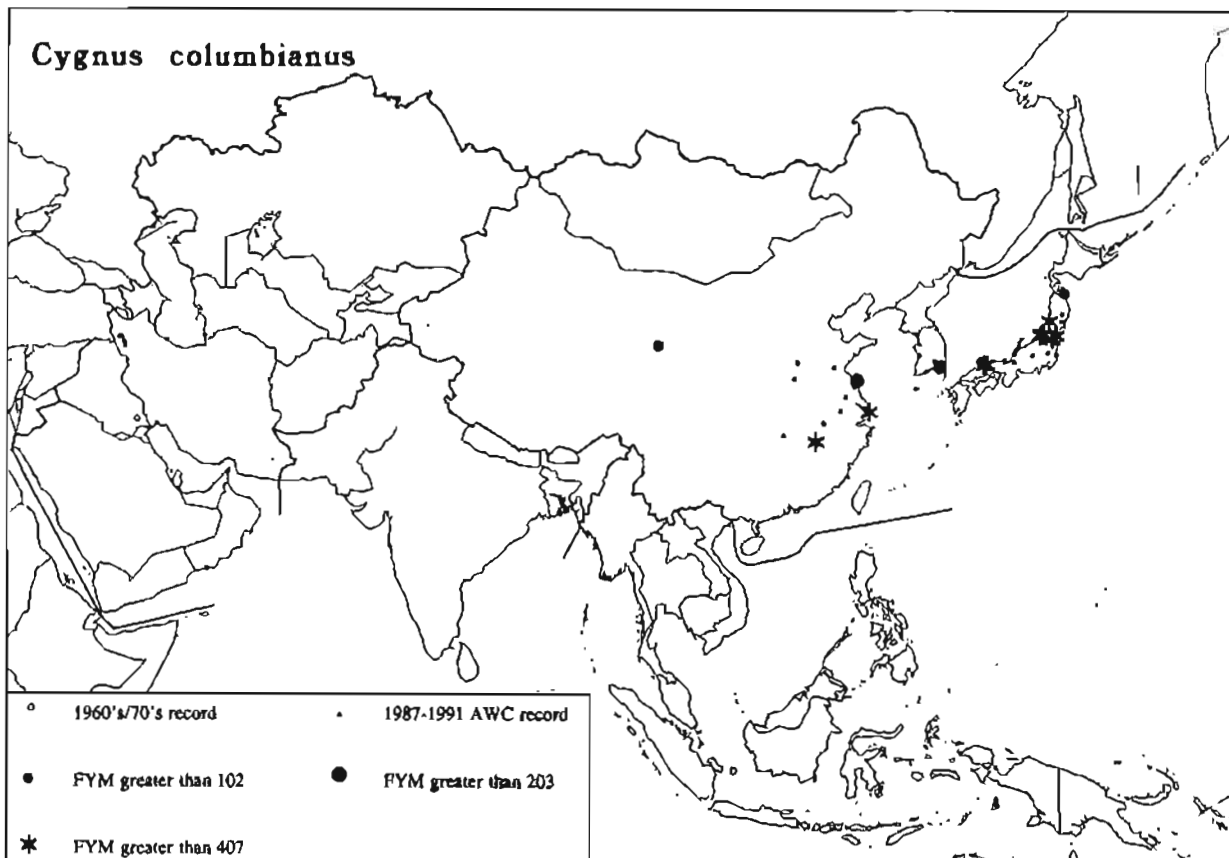


Figure 67: Distribution of *Cygnus columbianus* as shown by the AWC 1987-1991

Mute Swan

Cygnus olor

Monotypic. There are two discrete breeding populations in Central/East Asia: one breeding in the Lake Baykal region, Mongolia and NW China, which appears to winter mainly in W China and has not been recorded by the AWC; and a population breeding in Amurland and Manchuria which winters in NE China and Korea. Populations breeding in W Asia migrate southwest to winter in the Western Palearctic east to the South Caspian and Turkmenistan (Figure 68). Three wintering populations are recognized.

- SW Asia (Caspian region): C (50,000) [AWC 23,400]
Trends: Unknown.
- Central Asia: Unknown; possibly C.
Trends: Unknown.
- E Asia: A (possibly less than 1,000) [AWC 131]
Trends: Declining.

The large numbers estimated during the breeding season in the N Caspian region (240,000; Krivonosov 1991) are picked up neither by mid-winter counts in the Black Sea region (Monval & Pirot 1989), nor by the AWC: they may be over-estimates or may winter mainly in areas not covered by any regular census (e.g. the North Caspian in Russia, where 134,300 unidentified swans were counted in January 1991). Due to these uncertainties, a conservative estimate is given for SW Asia, based upon the AWC only.

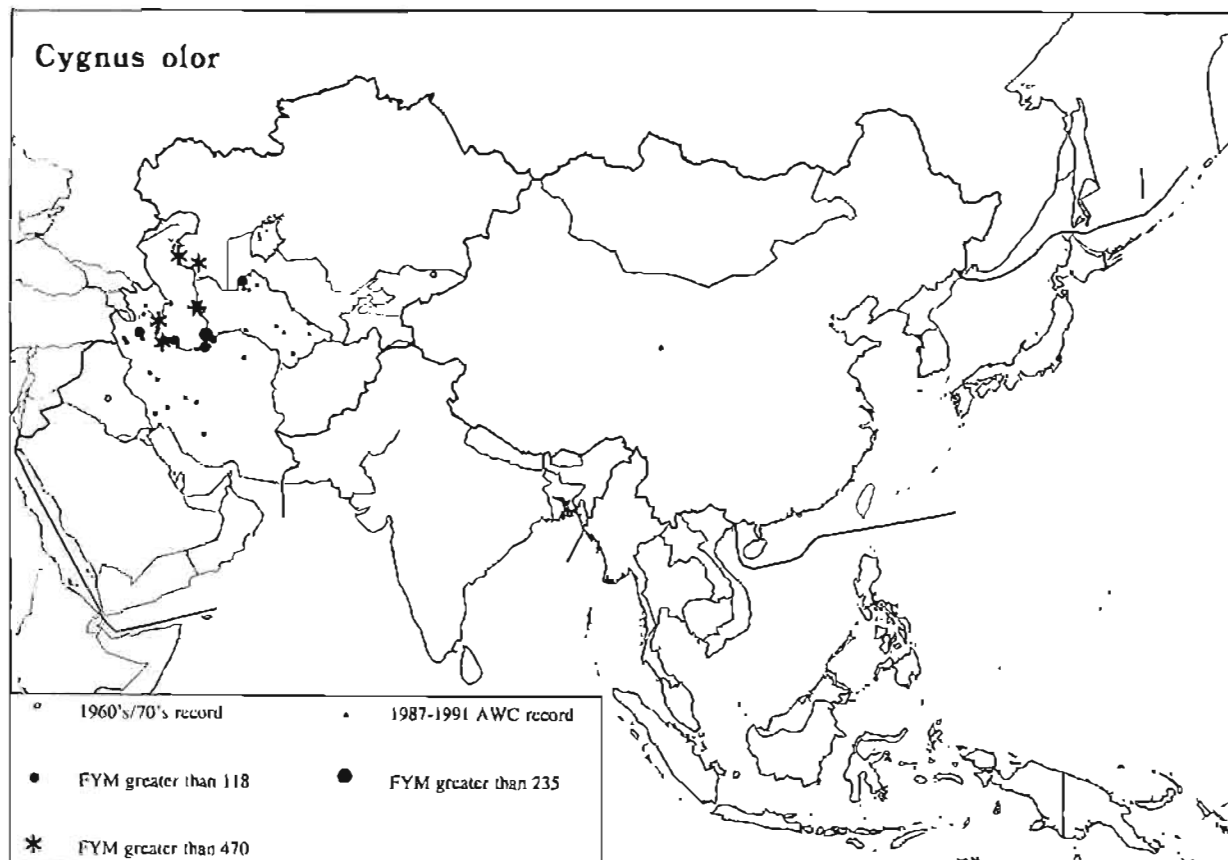


Figure 68: Distribution of *Cygnus olor* as shown by the AWC 1987-1991

The wintering distribution is affected by the prevailing weather in the Caspian region, as shown by the counts in Iran in the 1970s, where Scott (1976) estimated that 100-550 birds wintered in 'normal' winters (1972/73, 1973/74, 1974/75) as against 8,500-9,000 in January 1972, a particularly severe winter in the Caspian region (Scott 1972); meanwhile, the total number of swans wintering in the N Caspian varied between 12,000-20,500 in the same 'normal' winters and dropped to 400 in January 1972 (Krivonosov & Rusanov 1990).

Potential sites of international importance

Sites of international importance can be identified only in SW Asia, where the 1% level is 500. Four sites had FYMs far in excess of this level, but all were counted only once: Kirov Bay (8,500) in Azerbaijan; Karakol Lake (8,000) and the Caspian Coast between O-va Durneva and the Turkmenistan border (4,000) in Kazakhstan; and Krasnovodsk-North Cheleken Bays (2,530) in Turkmenistan. Only one other site reached the 1% level of 500 birds: Siahkeshim Protected Region (FYM 610, 5yr) in Gilan, Iran. None of the sites counted in Iraq and Afghanistan in the 1970s held over 500 birds.

Comb Duck

Sarkidiornis melanotos

Only the nominate subspecies occurs. The species is a partial migrant with movements linked with seasonal rains. The bulk of the population is now confined to India, although small numbers of migrants still appear in Bangladesh, Myanmar and Thailand (Figure 69). Only one population is recognized.

- S/SE Asia (entire population): A (6,000) [AWC 4,160]

Trends: Declining.

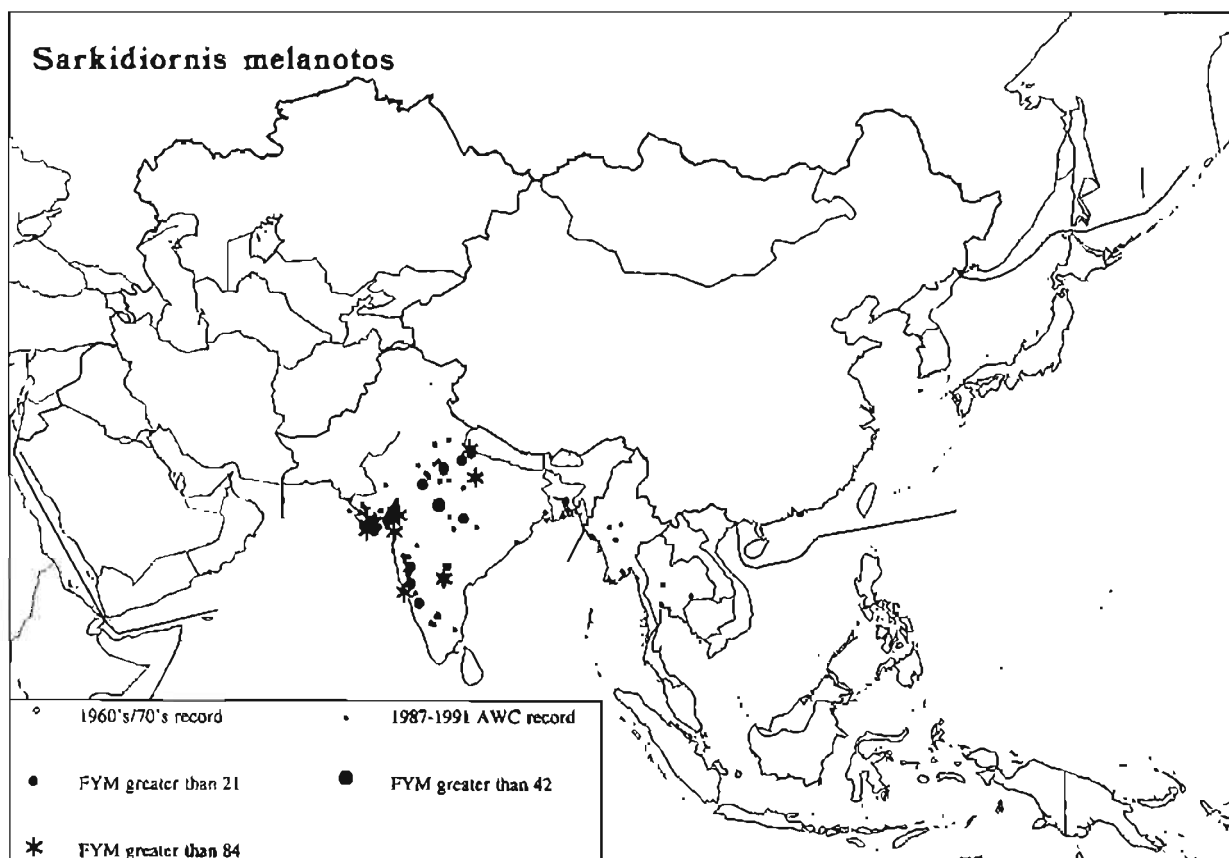


Figure 69: Distribution of *Sarkidiornis melanotos* as shown by the AWC 1987-1991

Potential sites of international importance

Twelve sites, mostly in N India and counted only once or twice, reach a FYM over the qualifying 1% level of 60 (Table 34). The site in Tamil Nadu (S India) needs to be verified since the species is not very common in this state. Similarly, the unusually large concentration at Singur on the Manjira River in India (a single count of 754) needs to be confirmed by further surveys.

Table 34: Potential sites of international importance for *Sarkidiornis melanotos* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	SINGUR UPSTREAM-MANJIRA RIVER	754	1
	GOA	MACAZZEN TANK	287	1
	GUJARAT	AMIPUR TANK	127	2
	GUJARAT	BHUTSAD TANK	200	1
	GUJARAT	DEV IRRIGATION PROJECT	100	1
	GUJARAT	LUNIVAV DAM	182	1
	GUJARAT	VACHHAPARI DAM	72	1
	GUJARAT	VARI TALAB	197	2
	GUJARAT	VERI DAM	205	2
	TAMIL NADU	VADIP PERENNIAL PONDS/TANKS	114	1
	UTTAR PRADESH	BANKI TAAL, DUDHWA N.P	168	2
	UTTAR PRADESH	SAMASPUR BIRD SANCTUARY	200	1

Ruddy Shelduck

Tadorna ferruginea

Monotypic. The species has a wide distribution across central and southern Asia, and no discrete populations are identifiable (Figure 70). The AWC has shown the Ruddy Shelduck to be even more widely distributed in China and S Asia than was formerly supposed (e.g. see Madge & Burn 1988). Three main wintering groups are recognized.

- SW Asia (to Afghanistan): C (30,000+) [AWC 21,900]

Trends: Increasing in Iran (five- or six-fold in the last 15-20 years).

- S Asia (including Myanmar): C (50,000) [AWC 30,300]

Trends: Unknown (apparent decline in Pakistan, but affecting relatively small numbers).

- E Asia: C (30,000+) [AWC 17,100]

Trends: Unknown.

Potential sites of international importance

Thirty sites (12 in SW Asia, 10 in S Asia and eight in E Asia) reach the respective 1% levels of 300, 500 and 300 (Table 35). Iran, India and China hold most of these, but the largest concentration (10,000) was recorded during the single count at Letkok Kon in Myanmar and needs confirmation by further counts.

In SW Asia, two of the sites counted in Iraq in the 1970s held concentrations exceeding the 1% level: the Attariya floodplains (max. 410) and Haur Suweicha (max. 1,280).

Table 35: Potential sites of international importance for *Tadorna ferruginea* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN	AGJABEDI	AGGEL (AH GOL) LAKE	300	1
CHINA	GANSU	LANZHOU	524	1
	GUIZHOU	CAOHAI RESERVE	5837	2
	JIANGSU	GAOYOU AND SHABO LAKES	645	2
	JIANGSU	NORTH JIANGSU COAST	2277	1
	JIANGXI	POYANG LAKE	3174	4
	SHANDONG	QING DAO	1000	1
	SHANXI	HUAYAN RESE	350	1
	TIBET	YAMDROK TSO	300	1
INDIA	ANDHRA PRADESH	SINGUR UPSTREAM - MANJIRA RIVER	849	1
	HIMACHAL PRADESH	PONG DAM BIRD SANCTUARY	1516	3
	ORISSA	CHILKA LAKE	840	4
IRAN	UTTAR PRADESH	GANGES E. BANK: KUNOAN BGE.- CHILA BGE.	586	2
	ESFAHAN	GAVEKHONI MARSH	1926	4
	FARS	DASHT-I-ARJAN MARSH	1704	4
	FARS	BAKHTEGAN & TASHK LAKES	7527	5
	FARS	KAPEH UAZD KHASHT AND SHOHREHPAR	403	1
	FARS	MAHARLOO LAKE	1780	5
	FARS	PARISHAN LAKE	572	4
	KHUZESTAN	DASHT-E-SHOEYBI	643	1
	W.AZERBAYJAN	ARAS RUD (BRALAN-ARAS DAM)	1131	2
	W.AZERBAYJAN	UROMIBH LAKE	447	4
KAZAKHSTAN	W.AZERBAYJAN	YADEGARLO LAKE	587	4
	CHIMKENT OBLAST	CHARDARA RESERVOIR	1500	1
MYANMAR		LETKOK KON	10000	1
	MAGWE	IRRAWADDY R.: MAGWE-MYEDE	550	1
	MAGWE	IRRAWADDY R.: SINBYUKYUN - MINBU	850	1
NEPAL	NARAYANI	NARAYANI R. + DEVI, MANNA TALS	1237	5
PAKISTAN	SIND	JABHO/KUR	1333	5
	SIND	SHAHBUNDER SALT BED	665	2

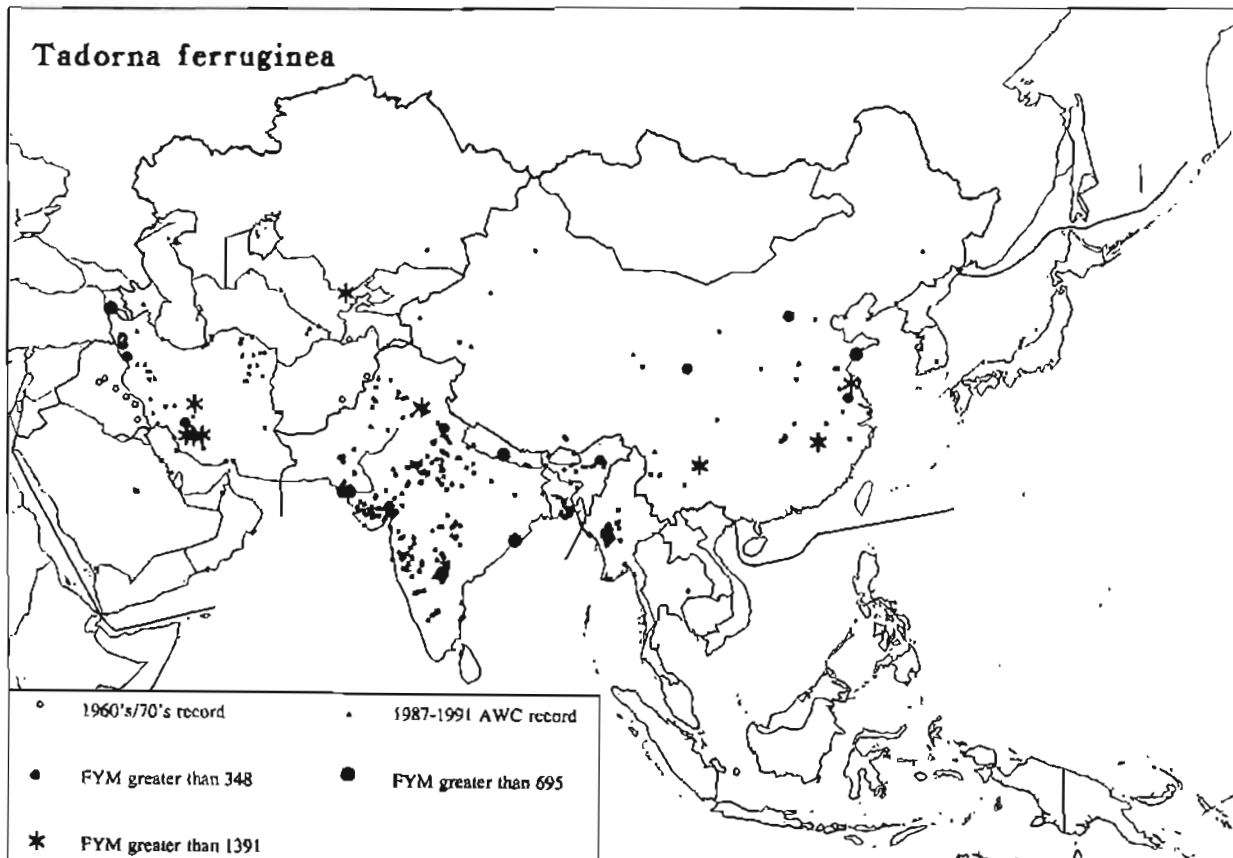


Figure 70: Distribution of *Tadorna ferruginea* as shown by the AWC 1987-1991

Common Shelduck

Tadorna tadorna

Monotypic. The species is widely distributed in winter throughout SW Asia, in northern S Asia and in E Asia (Figure 71). Three populations are recognized.

- SW Asia: C (80,000) [AWC 75,400]

Trends: Increasing in Iran (+50% between 1971-77 and 1987-91).

- S Asia: B (10,000+) [AWC 5,420]

Trends: Unknown (apparent decline in Pakistan in last 20 years, but this affecting only small numbers).

- E Asia: C (60,000+) [AWC 32,400]

Trends: Unknown.

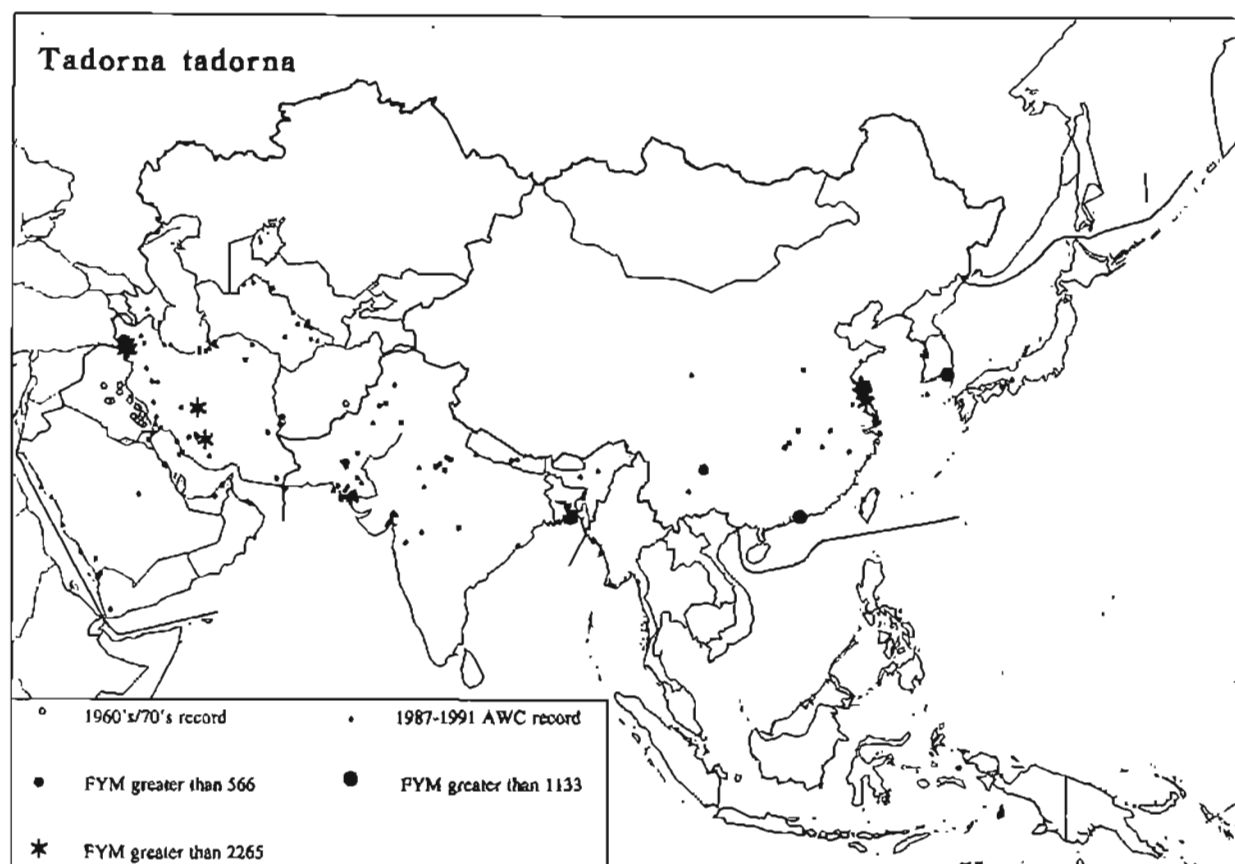
Potential sites of international importance

A total of 25 sites reach a FYM of 800 in SW Asia, 100 in S Asia and 600 in E Asia (Table 36). Most are in regions where the species has long been known to winter in substantial numbers, but new major wintering areas have been discovered during the AWC in Bangladesh, where seven sites reach the 1% level, and in South Korea, where the Nakdong estuary has been found to be a site of international importance for the species. However, the major Asian concentrations (over 3,000) remain in Iran and China.

In SW Asia, none of the sites counted in Iraq and Afghanistan in the 1970s held concentrations exceeding the 1% level.

Table 36: Potential sites of international importance for *Tadorna tadorna* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	BARISAL	SHONAR CHAR	1100	2
	CHITTAGONG	MAULAVIR CHAR + GHASIAR CHAR	335	1
	HATIYA	CHAR PIYA	169	4
	HATIYA	HATIYA ISLAND: DHAL CHAR	143	4
	HATIYA	JONAK CHAR	598	4
	MONPURA	CHAR PEAL	400	1
	MONPURA	KALKINY CHAR	610	1
CHINA	GUIZHOU	CAOHAI RESERVE	1001	2
	JIANGSU	GUANDONG SALT WORKS	9193	2
	JIANGSU	HAI FENG FARM	3800	1
	JIANGSU	SHEYANG SALT WORKS	3091	2
	JIANGSU	XINTAN SALTWORKS	6060	2
	JIANGSU	YANCHENG SHORE (300KM)	1685	2
HONG KONG		DEEP BAY AREA	1614	5
INDIA	ASSAM	KAZIRANGA N.P	104	1
	ORISSA	CHILKA LAKE	112	4
IRAN	ESFAHAN	GAVEKHONI MARSH	5232	4
	E.AZERBAYJAN	GAREH-GHESHLAGH MARSHES	5120	3
	PARS	BAKHTEGAN & TASHK LAKES	2872	5
	W.AZERBAYJAN	UROMIEH LAKE	2930	4
	W.AZERBAYJAN	W.OF UROMIEH LAKE, TABBAT-HEYDAR-ABAD	6438	1
PAKISTAN	SIND	JABHO/KUR	872	5
	SIND	LAKHI DHAND	323	2
	SIND	NUR-RI, BADIN	100	4
SOUTH KOREA	GYONG SANG NAM	NAKDONG ESTUARY	1362	4

Figure 71: Distribution of *Tadorna tadorna* as shown by the AWC 1987-1991

Crested Shelduck*Tadorna cristata*

Monotypic; globally threatened if not already extinct. The species is known with certainty only from Russia and Korea, but it possibly also occurred in China and Japan. The last reliable record was in 1971, but rumours of its existence persist. No reports were received during the AWC.

Radjah Shelduck*Tadorna radjah*

Only the subspecies *radjah* occurs. This is confined to New Guinea and the Moluccas, where it is largely sedentary. Only a few records were obtained during the AWC along the south coast of New Guinea [AWC 24], and no sites of international importance can be identified.

White-winged Wood Duck*Cairina scutulata*

Monotypic; globally threatened. An apparently sedentary species of the rainforests of NE India, Bangladesh, Myanmar, Thailand, Cambodia, Vietnam and Indonesia (Sumatra). The species is very poorly covered by the AWC, and only a single record was obtained (in Vietnam). Green (1992a) has recently summarized the status of the bird, and estimated the world population at a minimum of 211 individuals. All sites which regularly support the species should be considered to be internationally important.

Mandarin Duck*Aix galericulata*

Monotypic. Only a single population is recognized, wintering in China, Korea and Japan (Figure 72). It has been suggested that the mainland and Japanese populations are discrete, but there is insufficient evidence to support this.

- E Asia (entire population): B (50,000; Green 1992b) [AWC 10,890]

Trends: Declining on the mainland; stable in Japan.

Potential sites of international importance

Two Chinese sites reach a FYM of over 500 birds (1%): Fuchun Reserve in Jiangsi (540, 1yr) and the Yancheng shore in Jiangsu Province (FYM 1082, 2yr). In Japan the species seems to be highly dispersed and may never occur in such high concentrations.

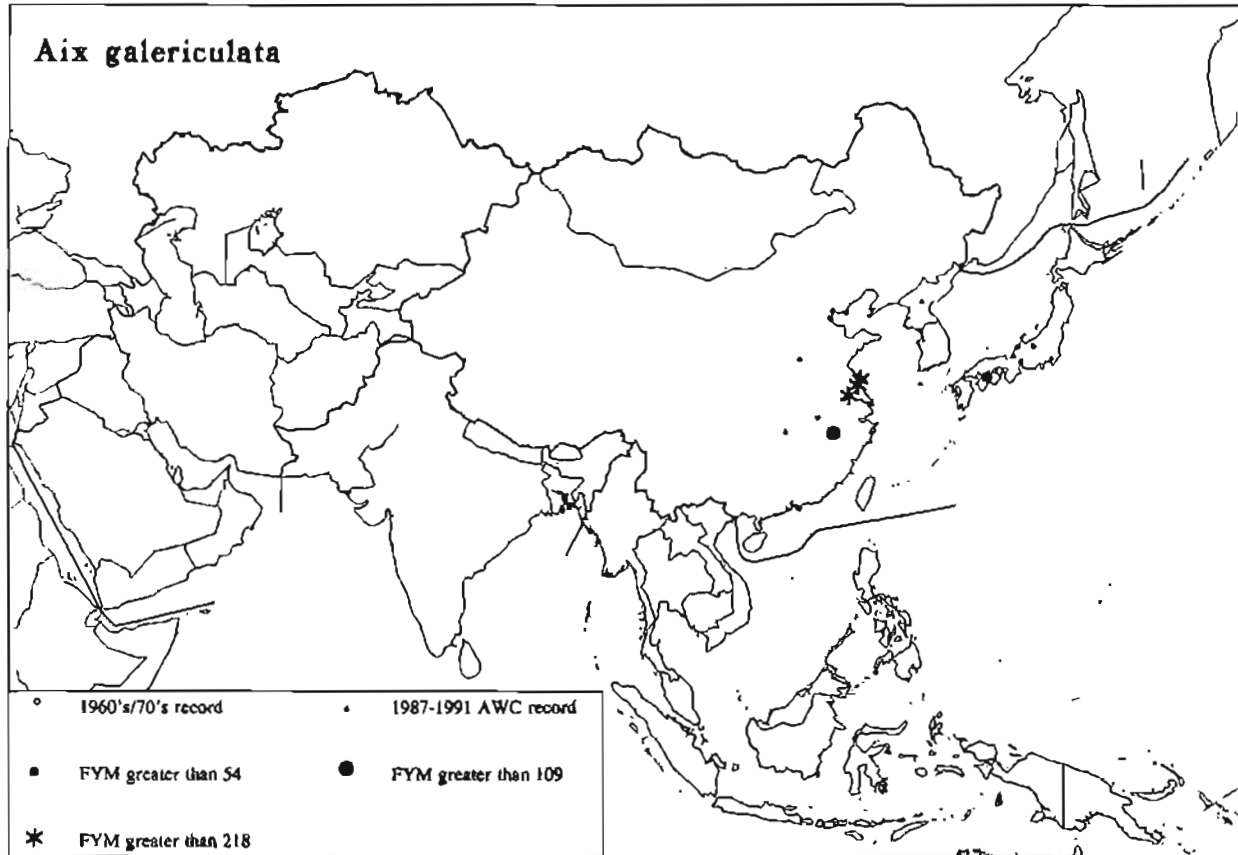


Figure 72: Distribution of *Aix galericulata* as shown by the AWC 1987-1991

Green Pygmy-goose

Nettapus pulchellus

Monotypic. A regular migrant from northern Australia to New Guinea during the wet season. Only a few records were obtained during the AWC, in S New Guinea [AWC 54].

Cotton Teal

Nettapus coromandelianus

Only the nominate subspecies occurs in Asia. The northernmost populations are migratory, and other populations undertake extensive dispersive movements during the wet season. Although the E Asian population would appear to be quite isolated from the SE Asian population (Figure 73), coverage is too incomplete to confirm this. The small number of birds wintering in the Arabian peninsula are presumably stragglers from the large S Asian population. Two populations are recognized.

- S Asia: C (50,000+) [AWC 26,100]

Trends: Unknown.

- E/SE Asia: C or D [AWC 5,870]

Trends: Unknown.

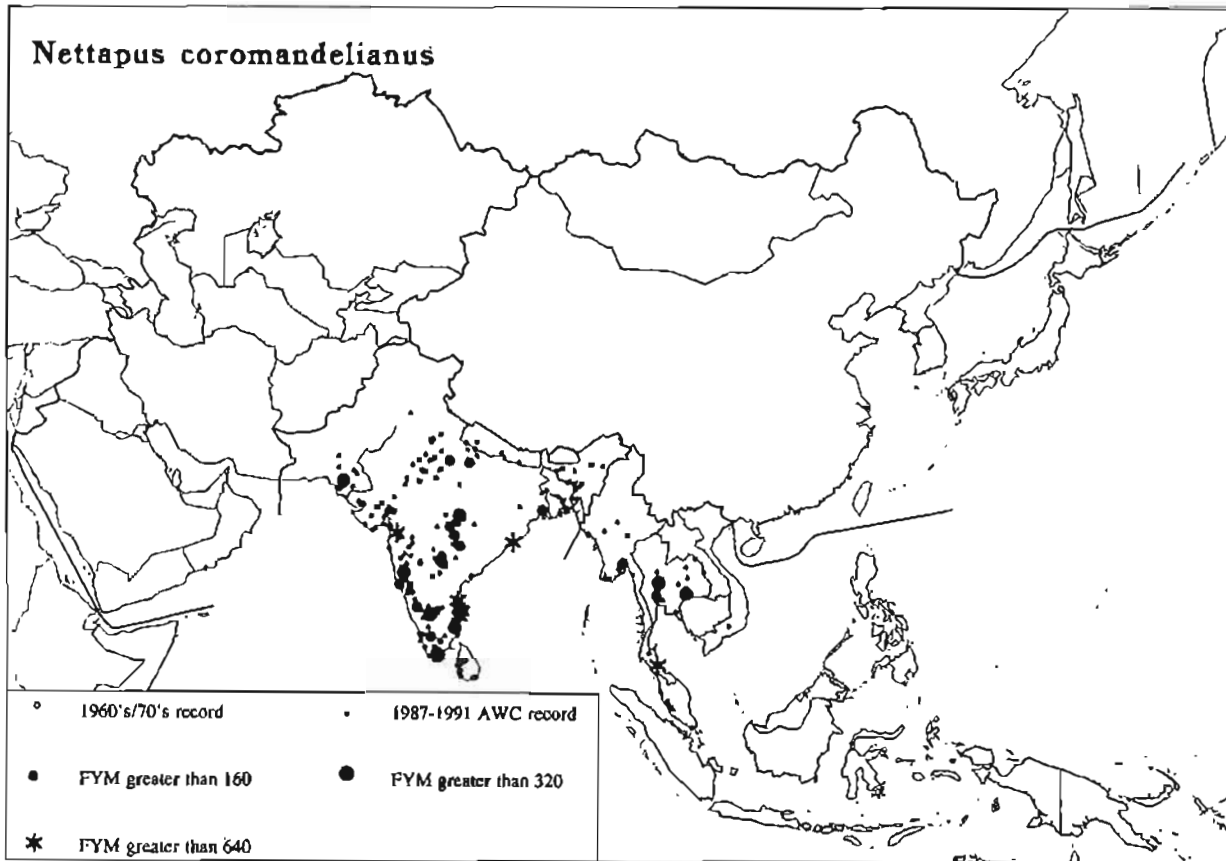


Figure 73: Distribution of *Nettapus coromandelianus* as shown by the AWC 1987-1991

Potential sites of international importance

Seven sites in India reach a FYM over the 1% qualifying level of 500 birds (Table 37). The large, brackish Chilka Lake in Orissa, with a FYM of 5,700, is by far the most important, which is surprising considering that this is predominantly a freshwater species elsewhere (e.g. in SE India, Perennou 1990).

Other important sites

In Thailand, three sites reached a FYM of over 500 birds: Beung Boraphet (FYM 640, 5yr), Thale Noi Non-hunting Area (FYM 690, 2yr) and Thale Sap (FYM 2,700, 2yr). The Dhofar Khawrs in Oman were the only site in SW Asia where the Cotton Teal was observed (FYM 23, 4yr), and constitute the westernmost limit for the species.

Table 37: Potential sites of international importance for *Nettapus coromandelianus* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	GUDUR TANK	1503	4
	GUJARAT	VACHHAPARI DAM	512	1
	MADHYA PRADESH	BAHADUR SAGAR	1222	1
	MAHARASHTRA	NAVEGAON LAKE	517	2
	ORISSA	CHILKA LAKE	5707	4
	TAMIL NADU	CHINGLEPET TANK	701	3
	TAMIL NADU	CHOLAVARAM ERI	950	1

Salvadori's Teal

Salvadorina waigiensis

Monotypic. Sedentary; confined to New Guinea (Indonesia and Papua New Guinea), where scarce and apparently declining. The population is thought to be in the range of 2,500-10,000 individuals (Callaghan & Green 1993). No records were obtained during the AWC.

Eurasian Wigeon

Anas penelope

Monotypic. The species has a wide wintering distribution across central and southern Asia. Figure 74 shows a much more widespread distribution in peninsular India and Sri Lanka than was previously known (e.g. Madge & Burn 1988), as well as a scattering of records along the entire Arabian coastline. No discrete populations are identifiable, but, for the present purposes, three main wintering groups are recognized.

- SW Asia (to Afghanistan): D (250,000) [AWC 111,000; 210,000 with 1970s data]
Trends: Declining (Apparent decrease by 62% in Iran in last 20 years; see Chapter IV).
- S Asia (including Myanmar): D (250,000) [AWC 160,000]
Trends: Apparent increase by 230% in Pakistan over last 20 years; see Chapter IV).
- E Asia (south to Vietnam): D [AWC 168,000]
Trends: Declining.

The much higher AWC estimate for SW Asia based on 1970s data can in part be attributed to better coverage of the huge wetlands in southern Iran in the 1970s because of the use of aerial surveys.

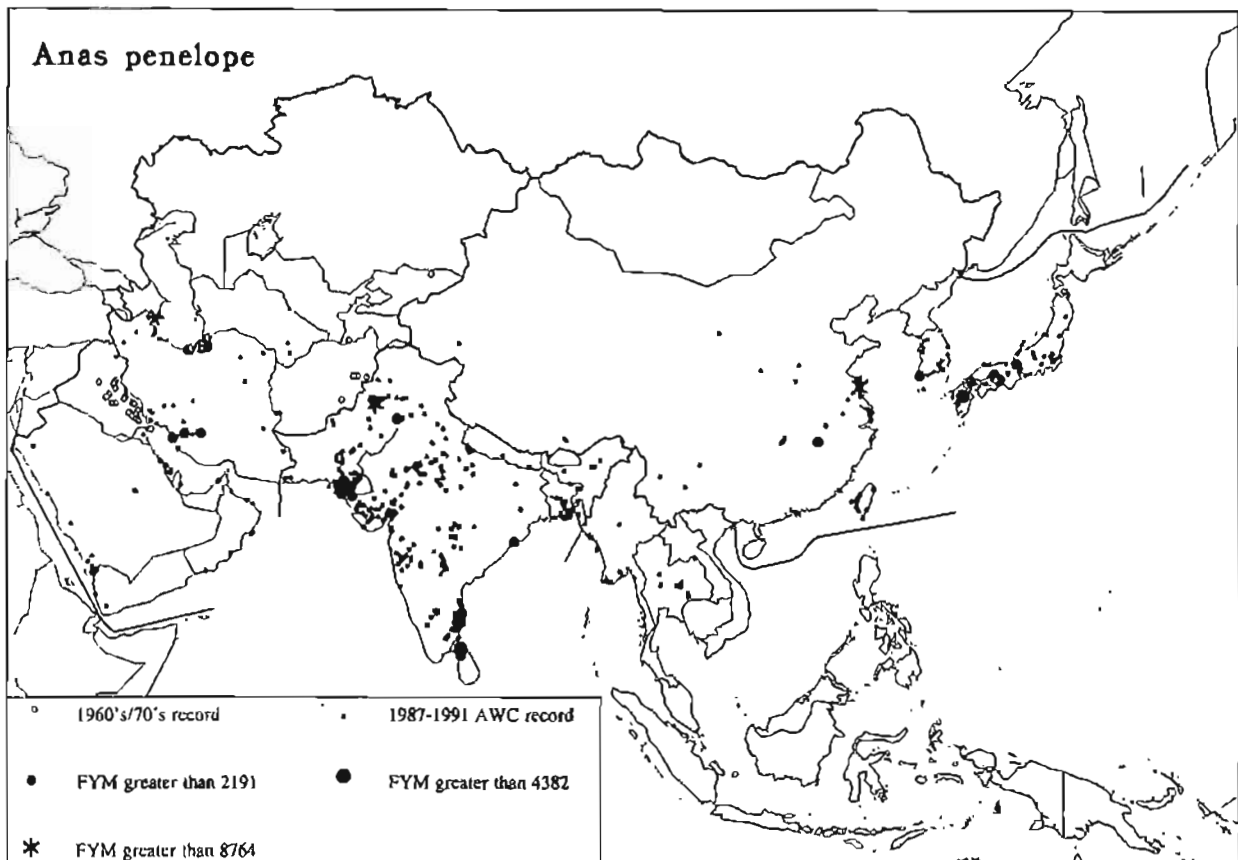


Figure 74: Distribution of *Anas penelope* as shown by the AWC 1987-1991

However, the species has also declined in the South Caspian Region, where coverage in recent years has been similar to that in the 1970s.

Potential sites of international importance

Fourteen sites in S Asia reach the qualifying level of 2,500, as do a further six sites in Iran and one in Azerbaijan (Table 38). Apart from the massive concentration at Kirov Bays, Azerbaijan (61,900, 1yr), Pakistan holds the largest concentrations, with two sites, Hadero Lake and Chashma Barrage having a FYM of over 15,000 birds.

In SW Asia, five sites in Iraq and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur Aluwez (max. 6,000), Haur As Sa'adiyah (max. 2,850), Haur Suweicha (max. 2,700) and Haur Al Ahmar/Haur Al Habara (max. 5,000) in Iraq, and Hamoun-i Puzak (max. 11,050) in Afghanistan.

Other important sites

In E Asia, eight sites had a FYM of over 2,500 birds, the main ones being the Yancheng shore (FYM 16,300, 2yr) and Sheyang Saltworks (FYM 9,300, 2yr) in China, and Ezu Lake (FYM 5,400, 2yr) in Japan.

Table 38: Potential sites of international importance for *Anas penelope* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	61900	1
INDIA	ORISSA	CHILKA LAKE	3575	4
	TAMIL NADU	CHEMBARAMBAKKAM TANK	3283	5
	TAMIL NADU	KALIVELI	6482	4
IRAN	BUSHEHR	HELLEH REGION: RIVER + DELTA	2614	5
	FARS	DASHT-I-ARJAN MARSH	3208	4
	FARS	BAKHTEGAN & TASHK LAKES	2934	5
	MAZANDARAN	FERIDOON KENAR DAMGAH	4304	5
	MAZANDARAN	GOMISHAN MARSH	8000	2
	MAZANDARAN	MIANKALEH PROTECTED REGION	5748	5
PAKISTAN	PUNJAB	CHASHMA BARRAGE RESERVOIR	28929	5
	PUNJAB	KHARAL (KHARRAR) LAKE	3316	5
	SIND	HADERO LAKE	16609	5
	SIND	HALEJI LAKE	6322	5
	SIND	HAMAL KATCHRI LAKE	3625	4
	SIND	KEENTHAR LAKE	8721	5
	SIND	LAKHI DHAND	2500	2
	SIND	RARR (HATHUNGO LAKES)	2500	1
	SIND	SHAHBUNDER SALT BED	4200	2
SRI LANKA	N.P	GIANTS TANK	3000	2
	N.P	KAITAD(Y)	4800	2

American Wigeon

Anas americana

Monotypic. An abundant North American species which regularly winters in Japan and eastern Russia in very small numbers (a few dozens). Only a few records were obtained in Japan as part of the AWC.

Falcated Teal

Anas falcata

Monotypic. Breeds in NE Asia and winters mainly in E Asia, with a few birds west to N India and south to Thailand (Figure 75). Only one population is recognized.

- E/SE Asia (to NE India; entire population): C (50,000+) [AWC 34,100]

Trends: Possibly declining.

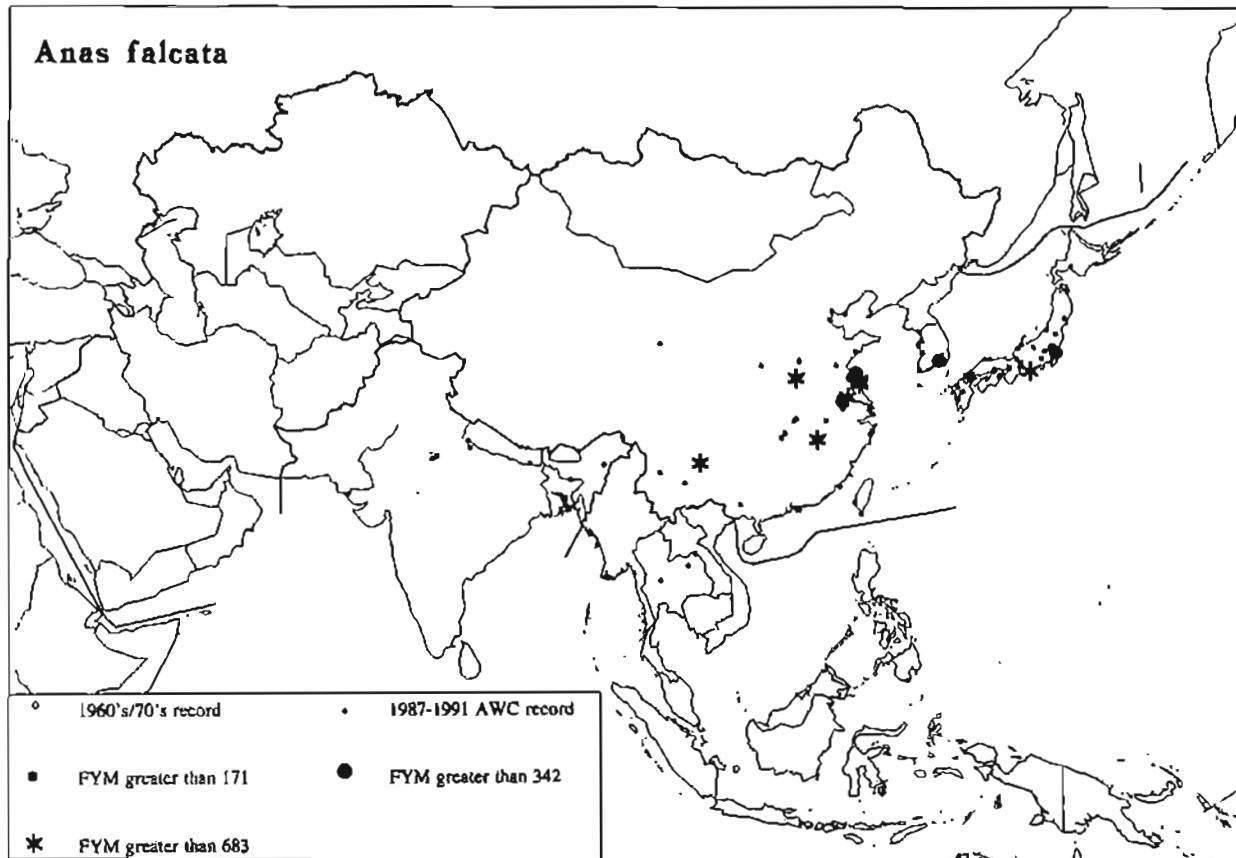


Figure 75: Distribution of *Anas falcata* as shown by the AWC 1987-1991

Potential sites of international importance

Ten sites, mainly located in China and counted only once or twice, have a FYM reaching 500 birds (1% level; Table 39). Among these, Poyang Lake (FYM 7,800, 4yr), Sheyang Salt Works (FYM 6,800, 2yr) and the Yancheng shore (FYM 2,230, 2yr) are by far the most important.

Table 39: Potential sites of international importance for *Anas falcata* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	GUIZHOU	CAOHAI RESERVE	1507	2
	HENAN	YELLOW RIVER, HEI GANG KUO	824	1
	JIANGSU	GAOYOU AND SHABO LAKES	735	2
	JIANGSU	GUANDONG SALT WORKS	527	2
	JIANGSU	YANCHENG SHORE	2230	2
	JIANGSU	SHEYANG SALT WORKS	6800	2
	JIANGSU	XUANWU LAKE	560	1
	JIANGXI	POYANG LAKE	7842	4
JAPAN	SHIZUOKA	HAMANA LAKE	1363	3
SOUTH KOREA	GYONG SANG NAM	BUNGAL LAKE (MARSH)	550	1

Gadwall***Anas strepera***

Only the nominate subspecies occurs; this has a wide distribution across central and southern Asia. Compared to the previously known distribution, the species appears to be regular along the Arabian coast (Figure 76). No discrete populations are identifiable. For the present purposes, three main wintering groups are recognized.

- SW Asia (to Afghanistan): D (130,000) [AWC 50,000; 93,600 with 1970s data]
Trends: Unknown.
- S Asia (including Myanmar): D (150,000) [AWC 83,400]
Trends: Apparent increase by 100% in Pakistan in last 20 years (see Chapter IV).
- E Asia (south to Vietnam): C [AWC 22,200]
Trends: Declining.

Potential sites of international importance

Eight sites in SW Asia (mainly in Iran) and 11 in S Asia (mainly in Pakistan) reach the respective 1% levels of 1,300 and 1,500 (Table 40). Chilka Lake in India, with a FYM of nearly 35,000, and Feridoon Kenar Damgah in Iran (FYM of 10,400) appear as the main wintering sites in Asia.

In SW Asia, nine sites in Iraq, Afghanistan, Tadjikistan and Kirghizistan held concentrations exceeding the 1% level in the 1970s: Haur Aluwez (max. 5,380), Fuhud Marshes (max. 5,390), Ali Sharqi Ponds (max. 1,310), Haur As Sa'adiyah (max. 5,000), Usathe Lake (max. 3,000) and Haur Al Ahmar/Haur Al Habara (max. 6,000) in Iraq; Hamoun-i Puzak (max. 12,050) in Afghanistan; the Tigrovaya Balka Reserve (max. 1,790) in Tadjikistan, and Lake Issyk Kul (max. 1,600) in Kirghizistan.

Other important sites

In E Asia, two sites had a FYM of over 1,500, both in Jiangsu, China: the Yancheng shore (FYM 1,800, 2yr) and Sheyang Saltworks (FYM 2,160, 2yr).

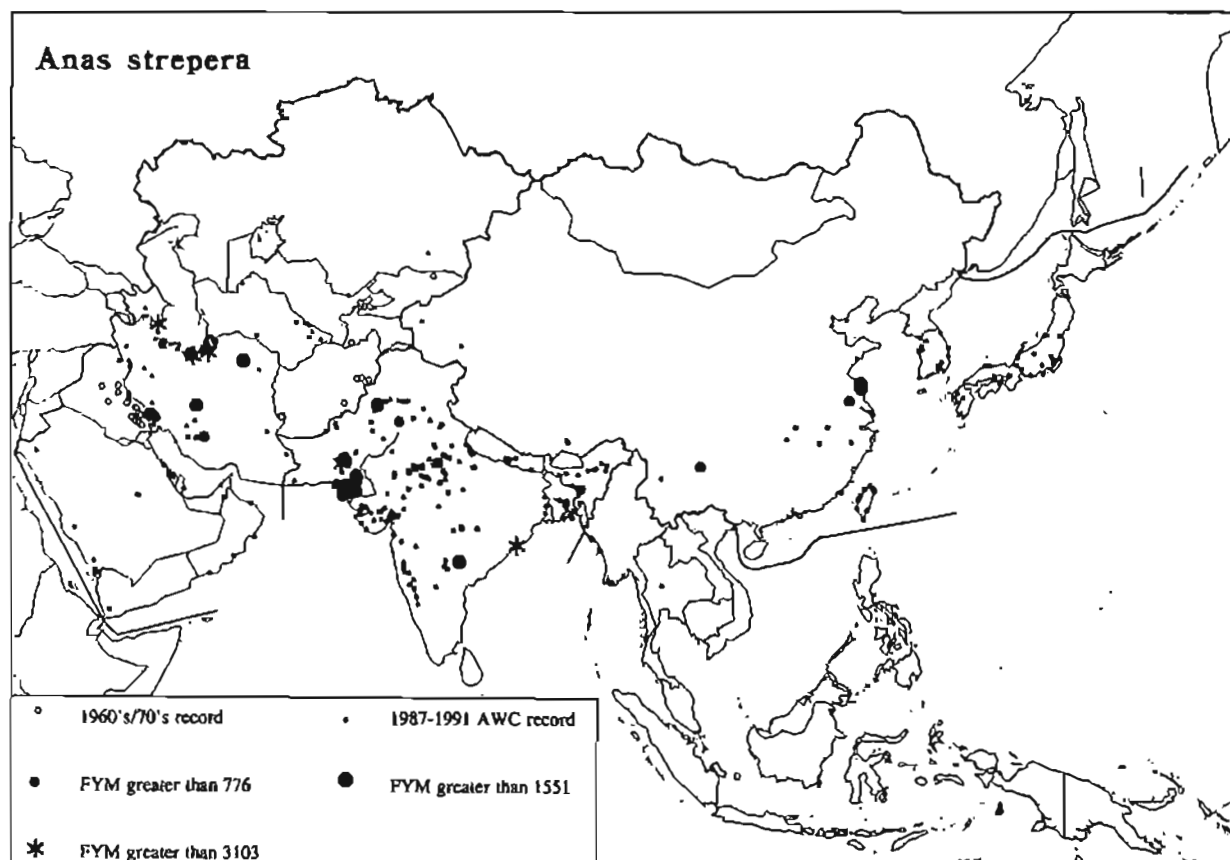


Figure 76: Distribution of *Anas strepera* as shown by the AWC 1987-1991

Table 40: Potential sites of international importance for *Anas strepera* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	3460	1
INDIA	ANDHRA PRADESH	ISCHARLA LAKE	2125	1
	ORISSA	CHILKA LAKE	34722	4
IRAN	ESFAHAN	GAVEKHONI MARSH	1651	4
	KHORASAN	KALSHOR SABZAVAR AND K.NISHABOR	2410	1
	KHUZESTAN	HOREH SOSANGERD	1755	1
	MAZANDARAN	DAMGAH AZBARAN	1950	1
	MAZANDARAN	FERIDOOON KENAR DAMGAH	10443	5
PAKISTAN	MAZANDARAN	GOMISHAN MARSH	6500	2
	PUNJAB	CHASHMA BARRAGE RESERVOIR	1874	5
	SIND	DRIGH	2274	5
	SIND	HALEJI LAKE	1773	5
	SIND	HAMAL KATCHRI LAKE	4375	4
	SIND	KALKAN WARI CHAND	1500	2
	SIND	KEENJHAR LAKE	1656	5
	SIND	KHANJO (OR KHAWAJA)	2527	4
	SIND	PAGRI	1640	4
	SIND	SOONAHRI (I+II)	2593	5
TURKMENISTAN	BALKANSKAJA OBLAST	ADZHIYAB FLOODLANDS	2986	3

Baikal Teal

Anas formosa

Monotypic; globally threatened. Breeds in NE Asia and winters in E Asia (Figure 77). Only one population is recognized.

- E Asia (entire population): C (75,000; Poole 1994) [AWC 25,700]

Trends: Declining.

Green (1992b) estimated the world population of *A. formosa* at 40,000-60,000 birds, with up to half of the total occurring in winter on the Sannam, Ch'un-san and Tongp'an reservoirs in South Korea. However, an estimated 30,000-35,000 *A. formosa* were discovered wintering at Sapkyo Lake in South Korea in January and February 1993 (Won 1993). Twenty thousand *A. formosa* were present on the Sannam, Ch'un-san and Tongp'an reservoirs at the same time, giving a wintering population of at least 50,000 birds in South Korea alone. This suggests a world population of about 75,000, the figure given by Poole (1994).

Potential sites of international importance

Three sites covered during the AWC had a FYM of 750 or more birds: the Sannam, Ch'un-san and Tongp'an reservoirs (FYM 17,800, 4yr) in South Korea (see Poole *et al.* 1990), and the East Dongting Lakes, Hunan (FYM 1,690, 4yr), and Gaoyou and Shabo Lakes, Jiangsu (FYM 2,550, 2yr), in China. Further work is required to determine if the recently discovered wintering flock of 30,000-35,000 at Sapkyo Lake in South Korea is a regular phenomenon.

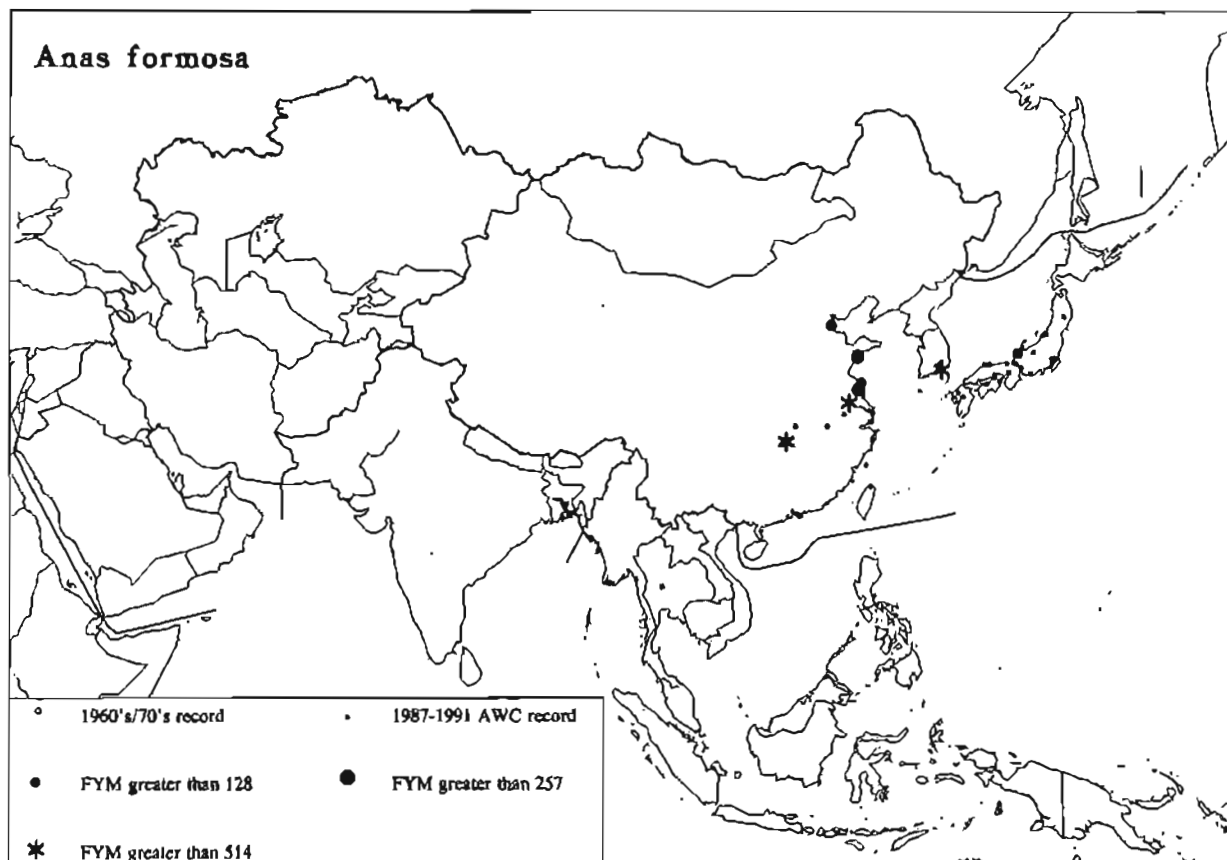


Figure 77: Distribution of *Anas formosa* as shown by the AWC 1987-1991

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. The conservation status of *A. formosa* has recently been reviewed by Poole (1994), who lists all sites known to be of importance for the species.

Common Teal

Anas crecca

Only the nominate subspecies occurs. This has a wide distribution across central and southern Asia (Figure 78); no discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia (to Afghanistan): E (1,500,000) [AWC 367,000; 1,330,000 with 1970s data]
Trends: Declining (Apparent decrease by 78% in Iran in last 20 years; see Chapter IV)
- S Asia: D (400,000) [AWC 248,000]
Trends: Apparent decrease by 45% in Pakistan in last 20 years (see Chapter IV).
- E/SE Asia: D [AWC 200,000]
Trends: Declining.

The much higher AWC estimate for SW Asia based on 1970s data can in part be attributed to better coverage of the huge wetlands in southern Iran in the 1970s because of the use of aerial surveys. However, the species has also declined in the South Caspian Region, where coverage in recent years has been similar to that in the 1970s.

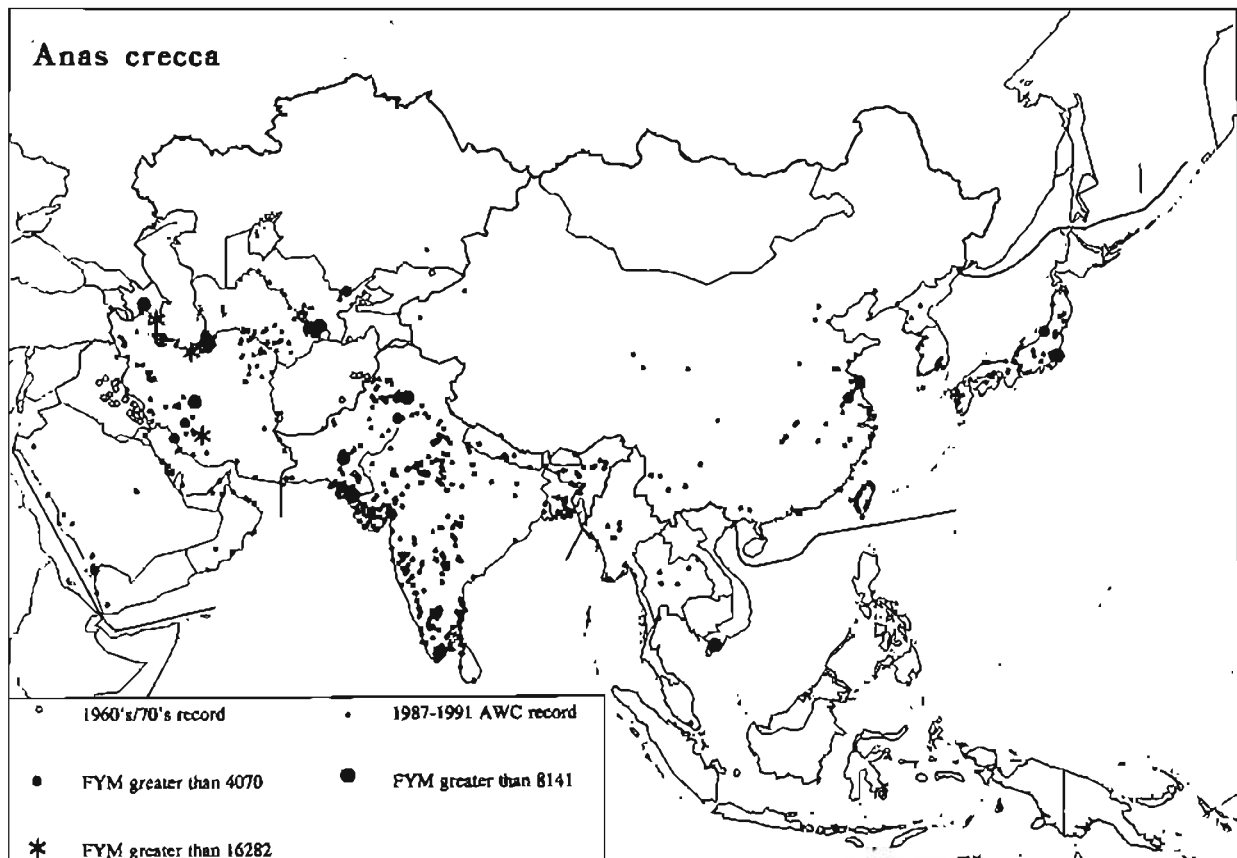


Figure 78: Distribution of *Anas crecca* as shown by the AWC 1987-1991

Table 41: Potential sites of international importance for *Anas crecca* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	66200	1
IRAN	ESPAHAN	GAVEKHONI MARSH	15840	4
	FARS	BAKHTEGAN & TASHK LAKES	16460	5
	MAZANDARAN	PERIDOON KENAR DAMGAH	56659	5
	MAZANDARAN	GOMISHAN MARSH	15000	2
PAKISTAN	PUNJAB	HEAD MARALA BARRAGE	11265	5
	PUNJAB	KHARAL (KHARRAR) LAKE	5998	5
	PUNJAB	RASUL BARRAGE	6188	5
	SIND	DRIGH	6154	5
	SIND	HALEJI LAKE	5024	5
	SIND	JABHO/KUR	5374	5
	SIND	KALKAN WARI CHAND	5500	2
	SIND	LAKHI DHAND	11250	2
	SIND	NUR-RI, BADIN	11950	4
	SIND	PAGRI	9825	4
TURKMENISTAN	BALANSKAJA OBLAST	ADZHIYAB FLOODLANDS	16566	3

Potential sites of international importance

In SW Asia, six sites reach the 1% level of 15,000 birds (Table 41). This region, especially the South Caspian Sea area, harbours the major wintering grounds in Asia, with two sites having a FYM of over 50,000: Kirov Bay in Azerbaijan (a single count of 66,200) and Feridoon Kenar Damgah in Iran. In addition, three sites in Iraq and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur Al Hammar (max. 47,500) and Fuhud marshes (max. 16,300) in Iraq, and Hamoun-i Puzak (max. 27,200) in Afghanistan.

In S Asia, 10 sites exceeded the 1% level of 4,000, all in Pakistan, but they hold smaller concentrations overall (from 5,000 to 12,000) than SW Asia.

Other important sites

In E and SE Asia, seven sites reach a FYM of over 5,000, the most important being Kasumigaura in Japan (FYM 11,300, 2yr) and Tram Chin Nature Reserve in Vietnam (FYM 9,800, 3yr).

Grey Teal*Anas gibberifrons*

Sedentary; confined to Andaman and Cocos Islands (*albogularis*) and Indonesia and Papua New Guinea (*gibberifrons*). Only scattered records in Indonesia and Papua New Guinea were obtained during the AWC (Figure 79) [AWC 193], where, in the absence of a population estimate, no sites of international importance can be identified. No data were collected in the range of *albogularis*, which numbers about 3,000-4,000 birds (Green 1992b).

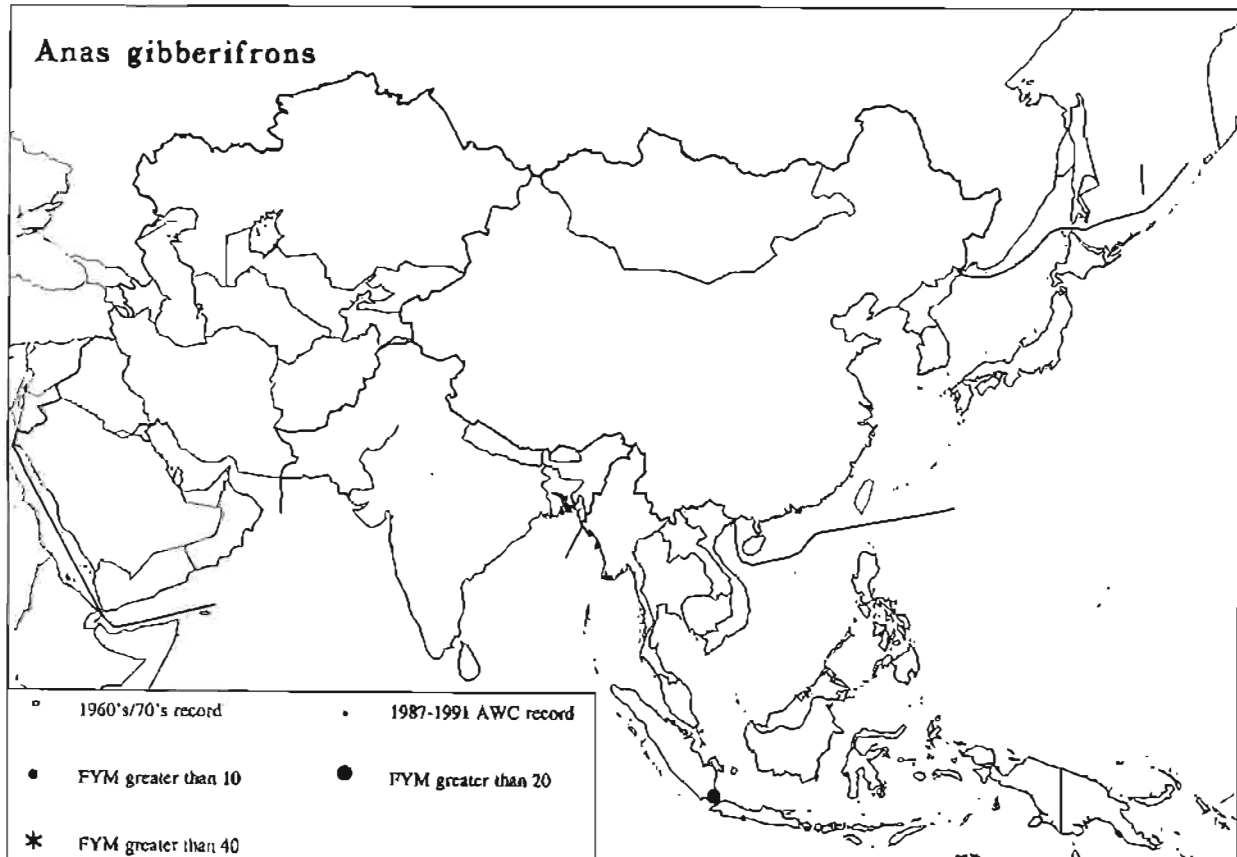


Figure 79: Distribution of *Anas gibberifrons* as shown by the AWC 1987-1991

Mallard

Anas platyrhynchos

Only the nominate subspecies occurs. This has a wide breeding distribution across northern Eurasia to northern S and SW Asia, and a wide wintering distribution across central and southern Asia (Figure 80); no discrete populations are identifiable. For the present purposes, three main wintering groups are recognized.

- SW Asia (to Afghanistan): D (800,000) [AWC 548,000; 719,000 with 1970s data]
Trends: Unknown.
- S Asia (to Myanmar): C (75,000) [AWC 39,800]
Trends: Possibly increasing in some areas, but apparent decrease by 25% in Pakistan over last 20 years (see Chapter IV).
- E Asia: D or E [AWC 519,000]
Trends: Unknown.

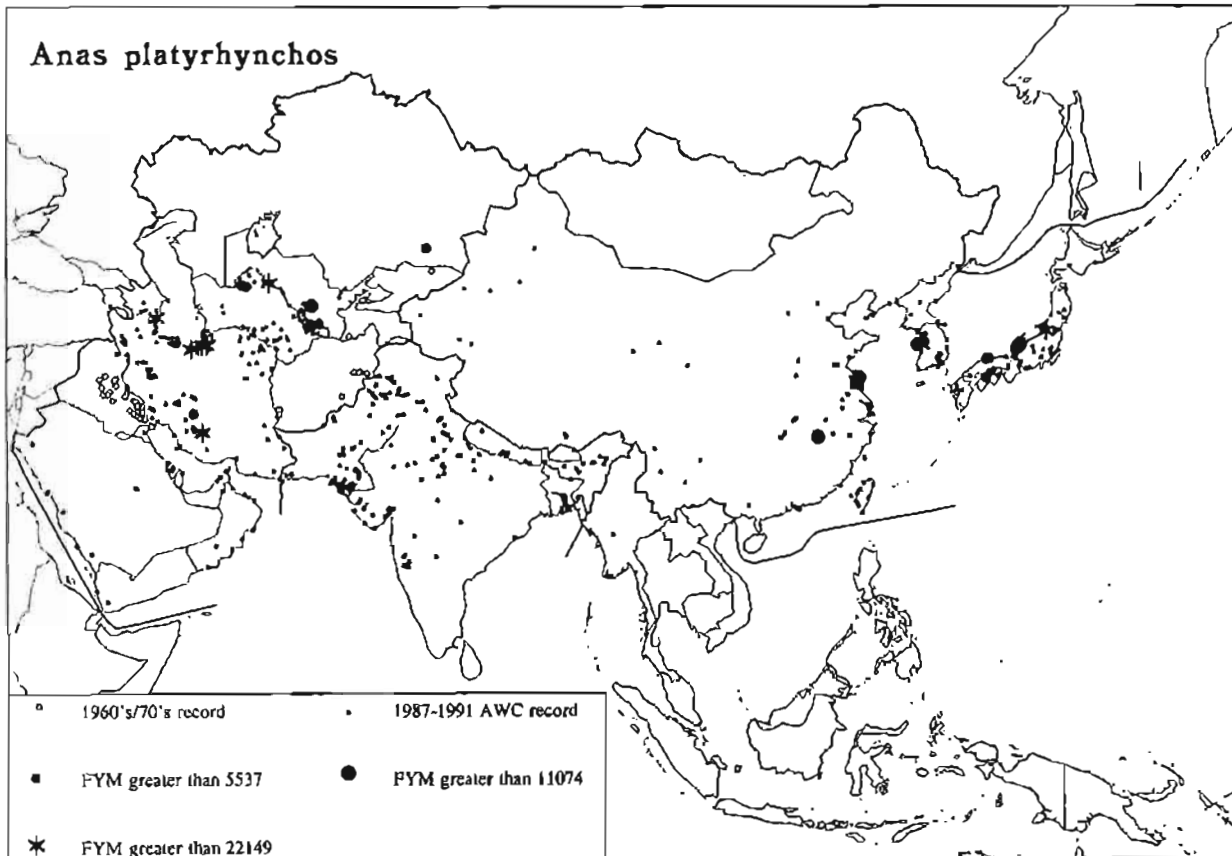


Figure 80: Distribution of *Anas platyrhynchos* as shown by the AWC 1987-1991

The higher AWC estimate for SW Asia based on 1970s data can be attributed to better coverage of the huge wetlands in southern Iran in the 1970s because of the use of aerial surveys. Similar aerial surveys have not been possible in recent years.

The wintering distribution of the Mallard in SW Asia is affected by the prevailing weather in the Caspian region, as shown by the counts in Iran in the 1970s. Scott (1976) estimated 0.5-0.7 million Mallard in Iran in January 1972, a particularly severe winter in the Caspian region, against only 250,000-400,000 birds in 'normal' winters (1972/73, 1973/74, 1974/75); this was related to an influx from the North Caspian (Scott 1973).

Potential sites of international importance

In SW Asia, where the qualifying level is 8,000, nine sites in Azerbaijan, Iran and Turkmenistan qualify (Table 42), all but one holding over 17,000 birds.

Also in SW Asia, three sites in Iraq, Afghanistan and Tadjikistan held concentrations exceeding the 1% level in the 1970s: Haur Al Hammar (max. 10,800) in Iraq, Hamoun-i Puzak (max. 21,300) in Afghanistan, and Kairakkum Reservoir (max. 50,900) in Tadjikistan.

In S Asia, a much lower level of 750 birds is applied and 14 sites (11 in Pakistan, three in India) qualify on average counts.

Other important sites

Nine sites in E Asia reached a FYM of over 10,000, the main ones being Sapkyo Lake in South Korea (FYM 47,800, 2yr) and Hyoko in Japan (FYM 28,000, 3yr).

Table 42: Potential sites of international importance for *Anas platyrhynchos* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	36730	1
INDIA	HIMACHAL PRADESH	PONG DAM BIRD SANCTUARY	1166	3
	ORISSA	CHILKA LAKE	1250	4
IRAN	FARS	BAKHTEGAN & TASHK LAKES	54034	5
	MAZANDARAN	FERIDOON KENAR DAMGAH	30169	5
	MAZANDARAN	GOMISHAN MARSH	26905	2
	MAZANDARAN	MIANKALEH PROTECTED REGION	24781	5
PAKISTAN	AZAD JAMMU & KASHMIR	MANGLA RESERVOIR	4883	4
	BALUCHISTAN	BUND KHUSHDIL KHAN	2182	4
	CAPITAL FED. TERRIT.	RAWAL DAM	2026	3
	N.W.F.P	TARBELA RESERVOIR	1804	5
	PUNJAB	HEAD MARALA BARRAGE	5094	5
	PUNJAB	HEAD QADIRABAD	1250	5
	PUNJAB	RASUL BARRAGE	1901	5
	PUNJAB	TAUNSA BARRAGE	1000	4
	PUNJAB	UCCHALI	950	5
	SIND	GUDDU BARRAGE	1525	4
	SIND	PHOOSNA I	800	1
TURKMEN -ISTAN	BALKANSKAJA OBLAST	CASPIAN COAST, GASANKULI-KUIDZHUK	17320	1
	CHARDZHOU OBLAST	AMUDARYA VALLEY: CHARDZHOU-NEFTEZAVODSK	8243	5
	CHARDZHOU OBLAST	AMUDARYA VALLEY: DRUZHBA-NUKUS	34949	3
	CHARDZHOU OBLAST	AMUDARYA VALLEY: KERKY-KARABEKAUL	18932	5

Pacific Black Duck*Anas superciliosa*

Two subspecies occur: *A. s. pelewensis* in N New Guinea and the W Pacific islands, and *A. s. rogersi* in E Indonesia, S New Guinea and Australia. The species appears to be mainly sedentary, although it undertakes some dispersive movements within Australia. Only a few records were obtained during the AWC, in New Guinea [AWC 238], and no sites of international importance can be identified.

Spot-billed Duck*Anas poecilorhyncha*

Three subspecies occur. The northern subspecies *A.p. zonorhyncha* is migratory, breeding in eastern Siberia, Manchuria, northern China and Japan and wintering south to south China and Taiwan. The two southern subspecies, *A.p. poecilorhyncha* and *A.p. haringtoni*, are largely sedentary with some dispersal during the rainy season. The three subspecies may partly overlap in winter and are not distinguished in the field by counters (Figure 81). For the present purposes, three groups are recognized.

- S Asia (mainly *poecilorhyncha*): C (50,000) [AWC 15,300]
Trends: Unknown.
- SE Asia (mainly *haringtoni*): B or C [AWC 2,140]
Trends: Unknown.
- E Asia (*zonorhyncha*): D [AWC 208,000]
Trends: Declining.

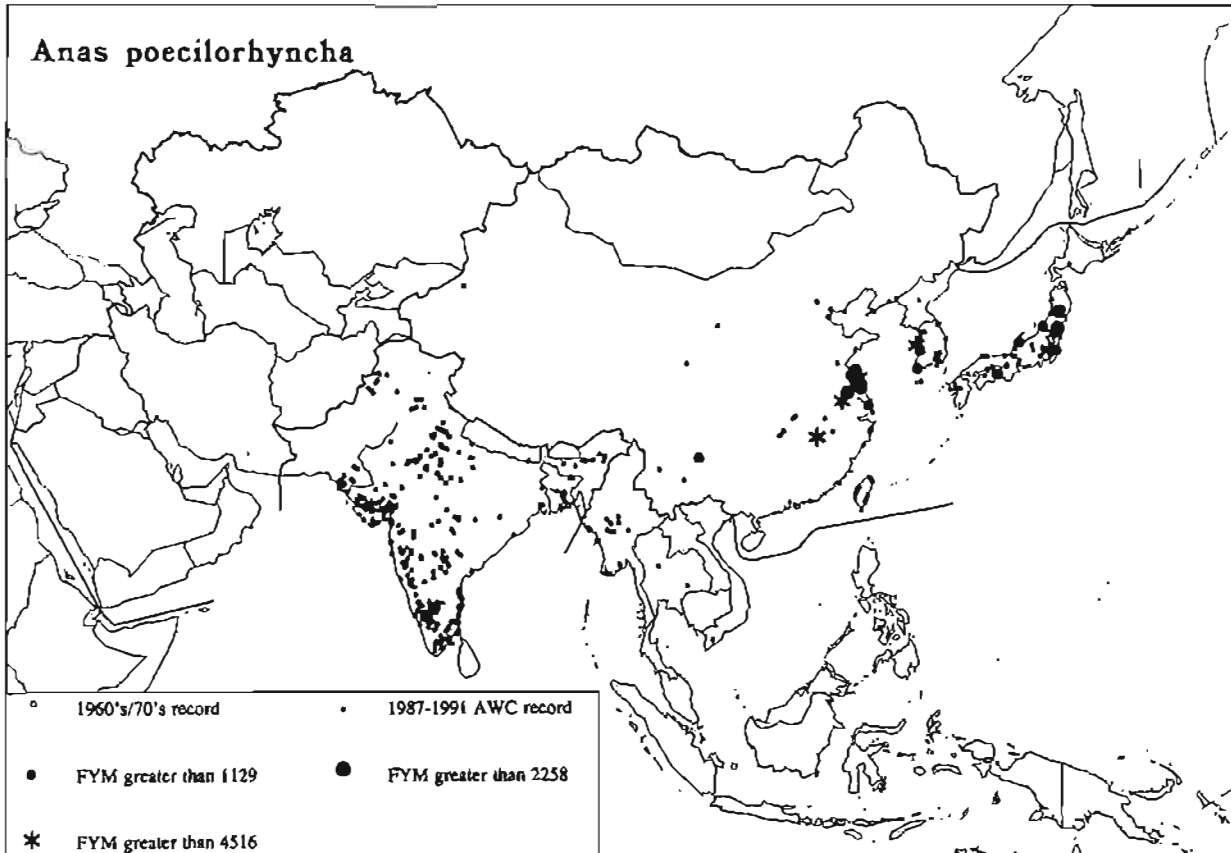


Figure 81: Distribution of *Anas poecilorhyncha* as shown by the AWC 1987-1991

Potential sites of international importance

Due to the absence of a population estimate elsewhere, sites can be identified only in S Asia, where two sites, counted only once, reach over 500 birds (1% level): Kabini Reservoir in Karnataka (2,100, 1yr) and Ravriyal Lake in Andhra Pradesh (600, 1yr).

Other important sites

Four sites in E Asia had a FYM of over 5,000: the Yancheng shore (FYM 7,300, 2yr) and Poyang Lake (FYM 7,000, 4yr) in China, Inawashiro in Japan (FYM 5,100, 3yr), and Chonsu Lake in South Korea (6,170, 1yr).

Philippine Duck

Anas luzonica

Monotypic. A resident species confined to the Philippines (Figure 82), where it is potentially threatened; only one population is recognized.

- SE Asia (total population): B or C [AWC 375].

Trends: Declining (Callaghan & Green 1993).

Potential sites of international importance

Two sites have a FYM of over 20 birds: Candaba Swamp (FYM 77, 2yr) in Luzon, and Hinaktakan, Bitu-on, Lapaz-Jaro in Visayas (FYM 285, 2yr). In view of the small size of the population and the declining numbers, the species would appear to merit designation as a 'globally threatened species', in which case all sites regularly used by an appreciable number of individuals could be considered to be of international importance.

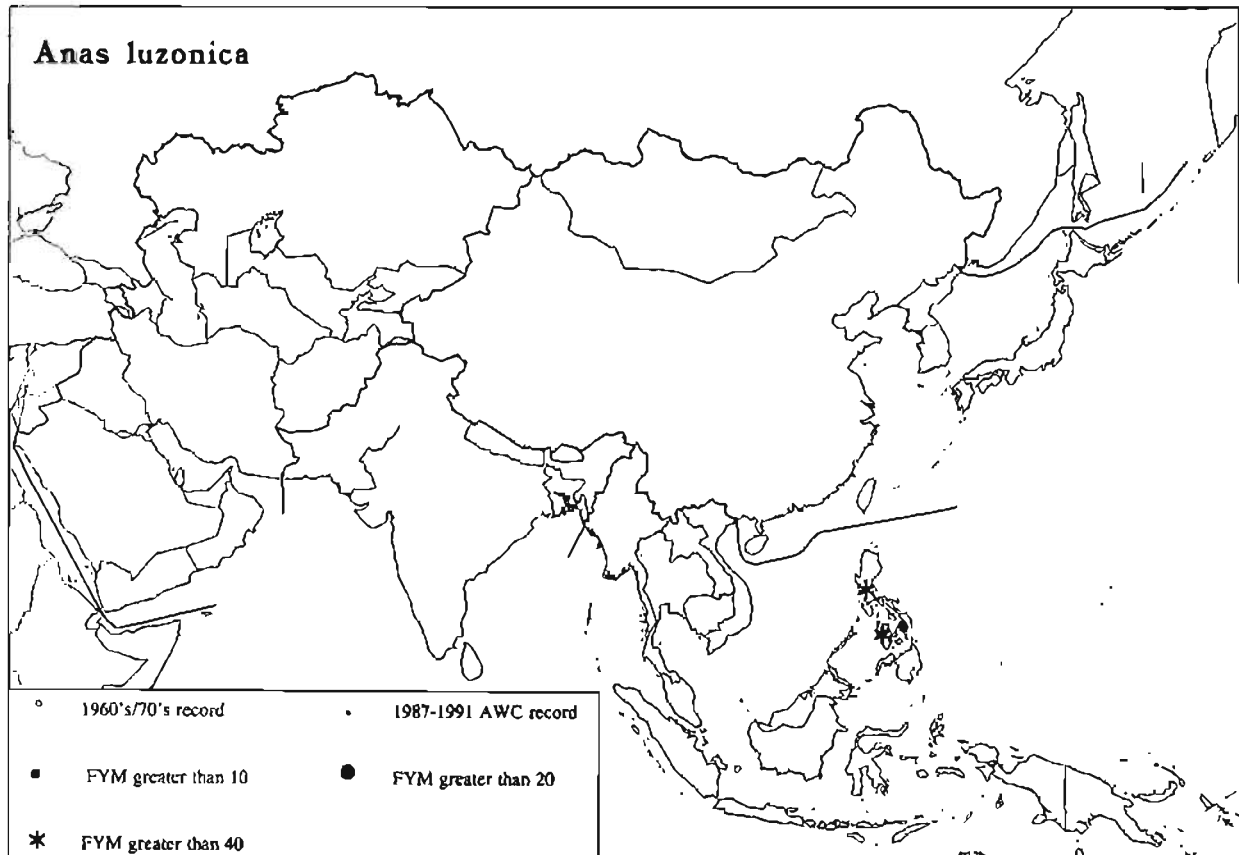


Figure 82: Distribution of *Anas luzonica* as shown by the AWC 1987-1991

Northern Pintail

Anas acuta

Only the nominate subspecies occurs. This has a wide breeding distribution across northern Eurasia, and a wide wintering distribution across central and southern Asia; no discrete populations are identifiable (Figure 83). For the present purposes, three wintering groups are recognized.

- SW Asia (to Afghanistan): D (650,000) [AWC 83,600; 462,000 with 1970s data]
Trends: Unknown.
- S Asia: D or E (750,000+) [AWC 426,000]
Trends: Apparent decrease by 17% in Pakistan in last 20 years (see Chapter IV).
- E/SE Asia (south to Thailand): D [AWC 211,000]
Trends: Declining.

The much higher AWC estimate for SW Asia based on 1970s data can be attributed to better coverage of the huge wetlands in southern Iran in the 1970s because of the use of aerial surveys. Similar aerial surveys have not been possible in recent years.

Potential sites of international importance

Eleven sites reach the 1% level of 6,500 (SW Asia) or 7,500 (S Asia) (Table 43). Resumption of aerial surveys in Iran would no doubt identify more such sites. The most important S Asian sites are located in India, where three wetlands reach a FYM of over 30,000.

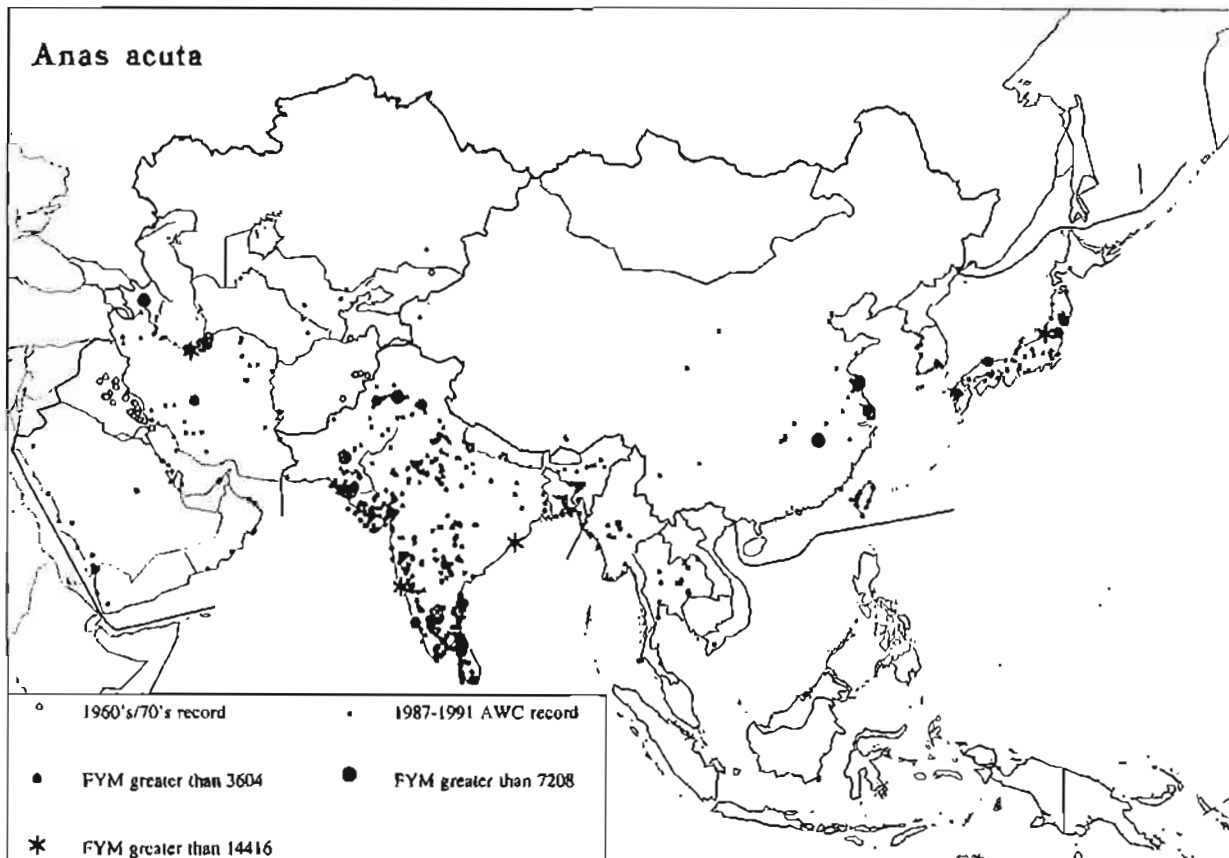


Figure 83: Distribution of *Anas acuta* as shown by the AWC 1987-1991

In addition, in SW Asia, two sites in Iraq and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur Al Hammar (max. 9,700) in Iraq, and Hamoun-i Puzak (max. 15,600) in Afghanistan.

Other important sites

In E/SE Asia, four sites reached a FYM of over 5,000: Baoshan steel plant reservoirs in Shanghai (FYM 7,400, 2yr) and Poyang Lake (FYM 13,900, 4yr) in China; and Hyoko (FYM 19,000, 3yr) and Izunuma (FYM 7,000, 2yr) in Japan.

Table 43: Potential sites of international importance for *Anas acuta* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	GOA	CARAMBOLIM TANK	30000	3
	GOA	MANDOVI ESTUARY	33333	3
	KARNATAKA	BYRAMANGALA RESERVOIR	9967	1
	ORISSA	CHILKA LAKE	37672	4
	UTTAR PRADESH	NANAKMATA RESERVOIR	10000	1
IRAN	MAZANDARAN	FERIDOON KENAR DAMGAH	18850	5
	MAZANDARAN	MJANKALEH PROTECTED REGION	10698	5
PAKISTAN	PUNJAB	RASUL BARRAGE	7713	5
	SIND	NUR-RI, BADIN	13075	4
	SIND	PAGRI	8450	4
SRI LANKA	N.P	UPPU ARU LAGOON WEST (9)	8615	2

Garganey

Anas querquedula

Monotypic species breeding widely across temperate Asia. Many birds from Western Siberia migrate southwest through SW Asia to winter almost exclusively in East Africa, while some birds from the same breeding area migrate southeast through Iran and Afghanistan to winter in S Asia. Three main wintering groups are recognized.

- SW Asia/E Africa: D [AWC 203]
Trends: Unknown.
- S Asia: D (250,000) [AWC 196,000]
Trends: Unknown.
- E/SE Asia: D [AWC 77,800]
Trends: Unknown.

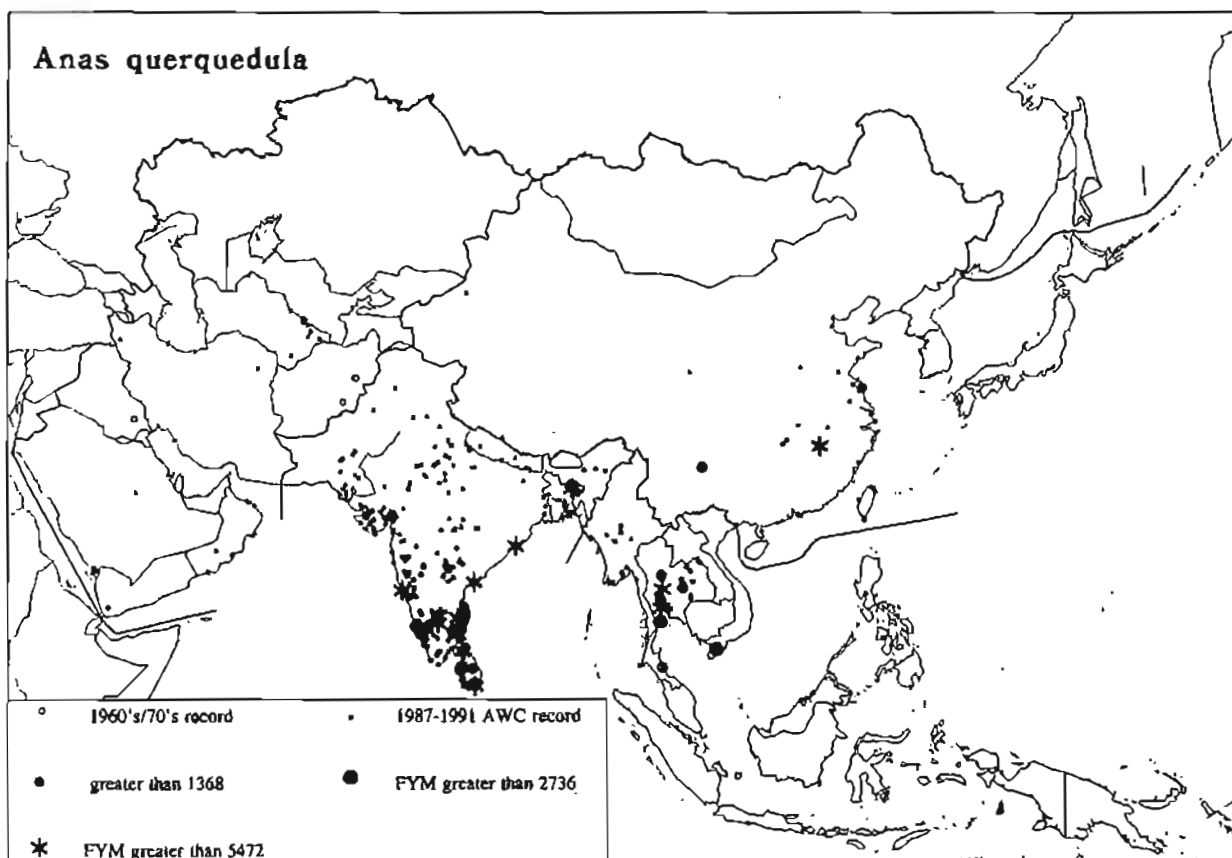


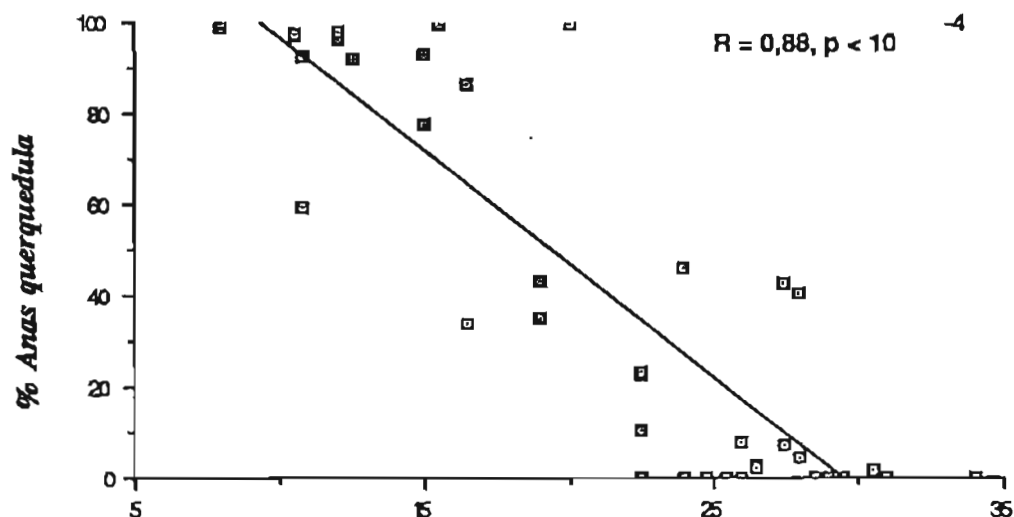
Figure 84: Distribution of *Anas querquedula* as shown by the AWC 1987-1991

The small number of birds recorded in winter in SW Asia represent only the extreme northern edge of the large wintering population in East Africa. In S Asia, the species is largely concentrated in S India and Sri Lanka (Figure 84). In S Asia there is a very clear latitudinal gradient in the proportion of wintering Garganey and similar-sized Common Teal (Figure 85, from Perennou 1990), with the former having a more southerly distribution than the latter.

Potential sites of international importance

These can be identified only in S Asia, where a 1% level of 2,500 birds is applied. Twenty-four sites were identified (Table 44), concentrated largely in SE India (Tamil Nadu) and Sri Lanka. The two

outstanding sites with a FYM of over 20,000 are reservoirs in Sri Lanka (Wirawila Tank) and India (Viranam Eri). The latter held over 50,000 Garganey in 1989.



Average latitude of states (India), provinces (Pakistan) or country (Bangladesh, Sri Lanka)

Figure 85: Ratio of *Anas querquedula* to *A. querquedula* and *A. crecca* for teals wintering in South Asia (after Perennou 1990)

Table 44: Potential sites of international importance for *Anas querquedula* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	SYLHET	MATJIAN HAOR	3330	1
	SYLHET	TANGUA HAOR COMPLEX	6227	1
INDIA	ANDHRA PRADESH	KOLLERU LAKE	7500	2
	GOA	CARAMBOLIM TANK	5666	3
	KARNATAKA	BYRAMANGALA RESERVOIR	7434	1
	KERALA	AMBALAMEDU LAKE	5166	3
	KERALA	KATTAMPALLY	3500	4
	ORISSA	CHILKA LAKE	6000	4
	TAMIL NADU	CHEMBARAMBAKKAM TANK	2920	5
	TAMIL NADU	KAVERIPAKKAM TANK	5566	3
	TAMIL NADU	MADURANTHAKKAM TANK	3033	3
	TAMIL NADU	PERUMAL ERI	5083	3
	TAMIL NADU	VIRANAM ERI	20043	3
	TAMIL NADU	WILLINGDON RESERVOIR	4300	1
SRI LANKA	E.P	MADURU OYA RESERVOIR	2500	1
	N.P	UPPU ARU LAGOON WEST (9)	5975	2
	N.W.P	ANAIWILUNDAWA TANKS	2733	3
	N.W.P	MAYAWA WEWA	2500	2
	N.W.P	MUNDEL LAKE	5000	1
	N.W.P	PERIYAKADAWALA WEWA (NAWADARAKULAM)	3000	1
	N.W.P	PINKATTIYA WEWA	2500	2
	S.P	BUNDALA SANCTUARY	5306	2
	S.P	MALALA LEWAYA / KALAPUWA	2721	3
	S.P	WIRAWILA TANK	20029	5

Other important sites

Five sites in E/SE Asia reached a FYM of over 5,000: Poyang Lake (FYM 7,800, 4yr) in China; Bang Lung Tua (10,500, 1yr), Beung Boraphet (FYM 8,100, 5yr) and Kasetsart University (FYM 16,500, 2yr) in Thailand; and Tram Chin Nature Reserve (FYM 5,000, 3yr) in Vietnam.

Northern Shoveler

Anas clypeata

Monotypic. This has a wide distribution across central and southern Asia (Figure 86), and no discrete populations are identifiable. For the present purposes, three main wintering groups are recognized.

- SW Asia/E Africa: D (300,000) [AWC 53,000; 119,000 with 1970s data]
Trends: Unknown.
- S Asia: D (300,000+) [AWC 212,000]
Trends: Apparent decrease by 13% in Pakistan in last 20 years (see Chapter IV).
- E/SE Asia (S to Thailand and the Philippines): C or D [AWC 51,700]
Trends: Unknown.

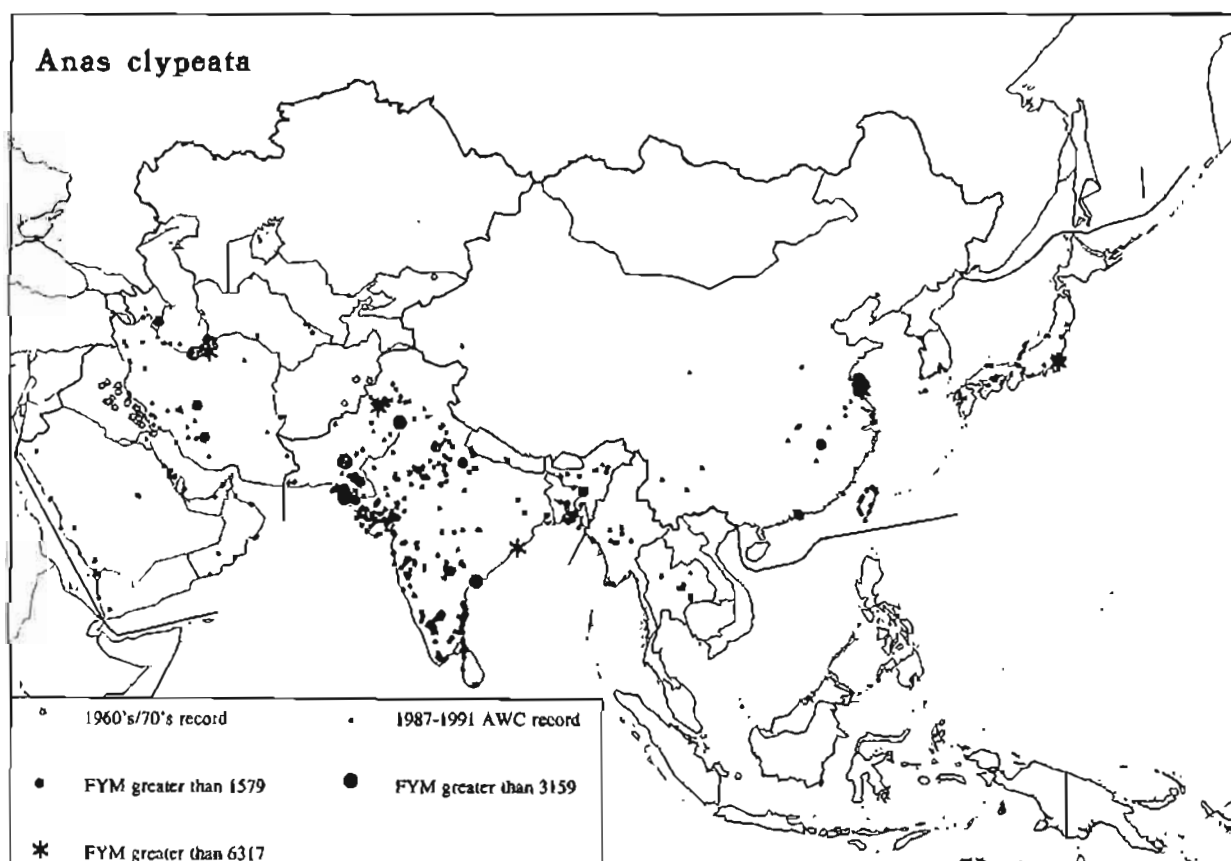


Figure 86: Distribution of *Anas clypeata* as shown by the AWC 1987-1991

Potential sites of international importance

Five sites in SW Asia (Azerbaijan, Iran and Turkmenistan) and ten in S Asia (India and Pakistan) reach the 1% levels of 3,000 birds (Table 45). With a FYM of nearly 79,000, Chilka Lake in Orissa (India) is of outstanding importance for the species, accounting for one third of the Shoveler counted in S Asia. In SW Asia, seven sites in Afghanistan and Iraq held concentrations exceeding the 1% level in the late

1960s and 1970s: Hamoun-i Puzak (max. 10,100) in Afghanistan, and six sites in Iraq: Haur Ibn Najim (max. 3,270), Usathe Lake (max. 5,000), Haur Suweicha (max. 3,000), Baghdad-Kerbala area (max. 6,020), Haur Abul Warid and Haur Al Abara (max. 4,000) and Haur Al Ahmar (max. 3,000). Iraq is obviously a key wintering area for this species, and the SW Asian/E African population cannot be monitored adequately without counts in this country.

Table 45: Potential sites of international importance for *Anas clypeata* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	3060	1
INDIA	ANDHRA PRADESH	KOLLERU LAKE	4000	2
	DELHI	NAJAFGARH DRAIN	3044	3
	HARYANA	BHINDAVAS LAKE BIRD SANCTUARY	4000	1
	ORISSA	CHILKA LAKE	78690	4
IRAN	MAZANDARAN	FERIDOON KENAR DAMGAH	4754	5
	MAZANDARAN	GOMISHAN MARSH	6844	2
	MAZANDARAN	MIANKALEH PROTECTED REGION	3975	5
PAKISTAN	PUNJAB	CHASHMA BARRAGE RESERVOIR	8603	5
	PUNJAB	KHARAL (KHARRAR) LAKE	3611	5
	SIND	DRIGH	3369	5
	SIND	HALEJI LAKE	3403	5
	SIND	PAGRI	4150	4
	SIND	SHAHBUNDER SALT BED	3600	2
TURKMEN- ISTAN	BALKANSKAJA OBLAST	ADZHIYAB FLOODLANDS	3880	3

Other important sites

Three wetlands in E Asia reach a FYM of over 5,000 birds: the Yancheng shore (FYM 6,100, 2yr) and Sheyang Saltworks (FYM 8,000, 2yr) in China, and Kasumigaura-hokubu in Japan (9,400, 1yr).

Marbled Teal

Marmaronetta angustirostris

Monotypic; globally threatened. Breeds from the Mediterranean eastwards to central Asia. A very large proportion of the world population winters in SW Iran. The population breeding in Pakistan and W China and wintering in Pakistan and NW India is probably discrete (Figure 87). Two populations are recognized.

- SW Asia: C (25,000; Green 1992b) [AWC 6,500; 20,200 with 1970s data]

Trends: Apparently stable.

- S Asia: A (5,000) [AWC 1,590]

Trends: Possibly an increase in some areas.

Potential sites of international importance

Iran holds much the largest concentrations of this species in the world (Table 46). However, this table does not adequately reflect the true importance of all sites: the lack of recent aerial surveys in the vast Shadegan Marshes (close to the Iraqi border) prevents assessment of their real importance. In the 1970s, such surveys revealed that Shadegan Marshes regularly held concentrations of 10,000 to 20,000 Marbled Teals, and there is no evidence to suggest that these have disappeared.

In Pakistan, two sites in Sind reach the 1% level (50 birds). The species appears to have recently increased in this region, where it was virtually unknown to Roberts (1991); whether this is just a displacement from previous (unknown) wintering quarters is unknown. Records from India may be misidentifications and should be treated with caution, although there have been confirmed records from NW India (Kachchh in Gujarat State, J.K. Tiwari, pers. comm., and Harike in Punjab, S.A. Hussain, pers. comm.).

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Green (1993) has recently reviewed the conservation status of the Marbled Teal, and lists all sites known to be of importance for the species.

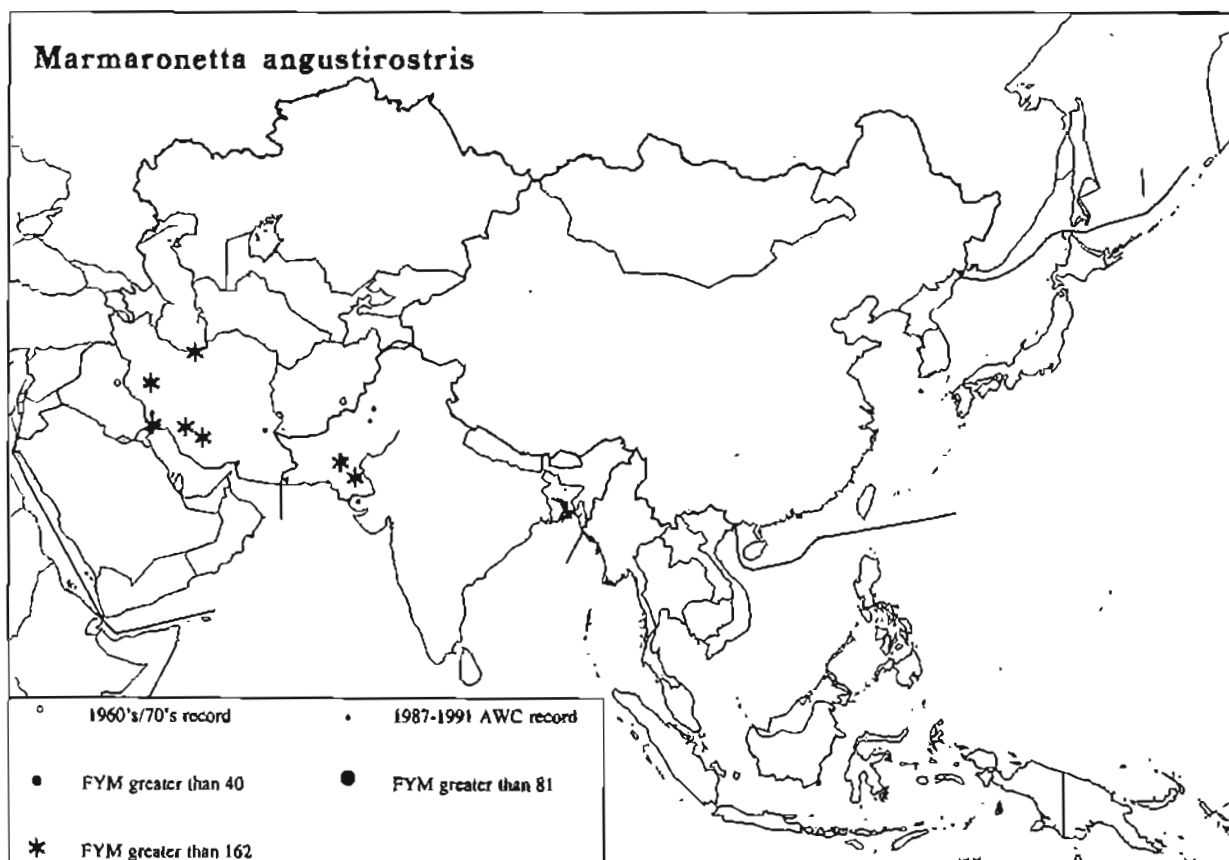


Figure 87: Distribution of *Marmaronetta angustirostris* as shown by the AWC 1987-1991

Table 46: Potential sites of international importance for *Marmaronetta angustirostris* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
IRAN	PARS	BAKHTEGAN & TASHK LAKES	1680	5
	PARS	PARISHAN LAKE	2203	4
	HAMADAN	GAREH CHAY RUD	705	4
	KHUZESTAN	SHADEGAN MARSHES PROTECTED REGION	1575	4
	MAZANDARAN	ROSHANDAN AB-BANDAN	287	4
PAKISTAN	SIND	HAMAL KATCHRI LAKE	408	4
	SIND	SOONAHRI (I+II)	297	5

Pink-headed Duck*Rhodonessa caryophyllacea*

Probably extinct. Formerly occurred in NE India and Nepal, and believed to be mainly sedentary, but not reliably reported in the wild since 1935, although rumours of its continued survival persist (Collar & Andrew 1988). None was reported during the AWC.

Red-crested Pochard*Netta rufina*

A monotypic species that breeds widely across central Asia. From the AWC results (Figure 88), the species appears more widespread in India, Pakistan and east of the Caspian Sea than was previously known (e.g. Madge & Burn 1988). Two populations are recognized.

- SW Asia (Central Asian Republics and Iran): D (200,000) [AWC 150,000; 181,000 with 1970s data]

Trends: Unknown.

- S Asia (Pakistan to Myanmar and SW China): C (40,000+) [AWC 27,900]

Trends: Unknown (Apparent four-fold increase of the relatively small numbers wintering in Pakistan in last 20 years; see Chapter IV).

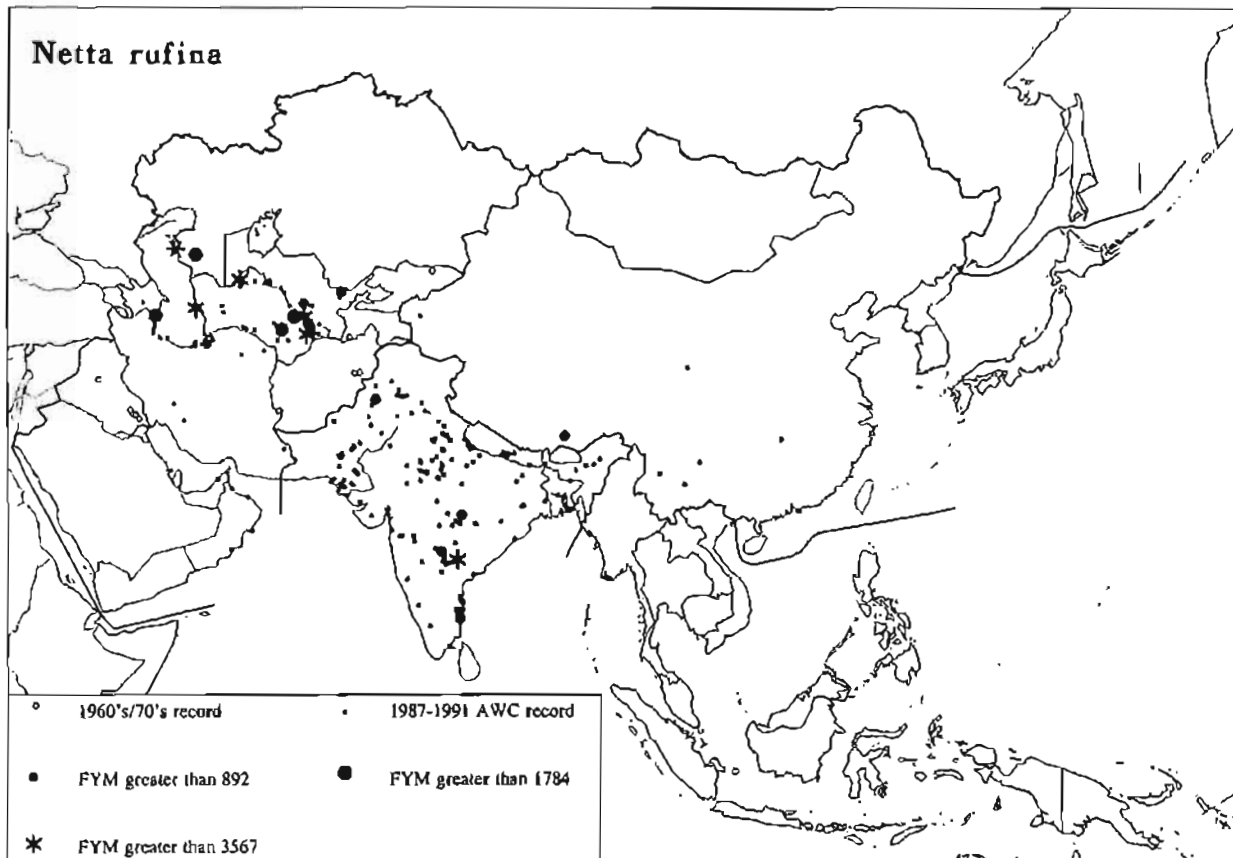


Figure 88: Distribution of *Netta rufina* as shown by the AWC 1987-1991

The wintering distribution of the Red-crested Pochard in SW Asia seems to be affected by prevailing weather in the Caspian region and further east, as shown by the counts in Iran in the 1970s. Scott (1976) estimated that 15,000-20,000 birds wintered in Iran in January 1972, a particularly severe winter in the Caspian region (Scott 1972), against only 500-4,500 birds in 'normal' winters (1972/73, 1973/74,

1974/75). The counts received from Turkmenistan in the 1970s are not sufficiently comprehensive to determine whether a simultaneous reversal in numbers occurred on the usual, main wintering grounds (Krasnovodsk-North Cheleken Bays and Lake Sarakamysh).

Potential sites of international importance

Eight sites in the Central Asian Republics reach a FYM over the 1% regional criterion (2,000), and a further 13 sites in S and E Asia reach a FYM of over 400 birds (Table 47). Central Asia obviously holds the major concentrations of the world's population, with Krasnovodsk-North Cheleken Bays (counted only once: 67,900) and Lake Sarakamysh, both in Turkmenistan, together holding 100,000.

In SW Asia, three sites in Afghanistan, Tadjikistan and Kirghizistan held concentrations exceeding the 1% level in the late 1960s and 1970s: Hamoun-i Puzak in Afghanistan (max. 2,500), the Tigrovaya Balka Reserve in Tadjikistan (max. 2,440), and Lake Issyk Kul in Kirghizistan (average 1967-71: 29,900; max. 50,300).

In S and E Asia, most sites were counted only once or twice, so their international importance for the Red-crested Pochard remains unconfirmed.

Table 47: Potential sites of international importance for *Netta rufina* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	2600	1
CHINA	GUIZHOU	CAOHAI RESERVE	500	2
	TIBET	YAMDROK TSO	1736	1
	XIZANG	YANGCAO-YONGCOU	868	1
	YUNNAN	ERHAI LAKE	501	2
INDIA	ANDHRA PRADESH	GHANPUR TANK	6500	1
	ANDHRA PRADESH	NIZAMSAGAR DAM	900	1
	ANDHRA PRADESH	RAIGIRI LAKE	753	1
	BIHAR	SITARAMPUR DAM	735	2
	MAHARASHTRA	AMBAZARI RESERVOIR	517	5
	MAHARASHTRA	NAVEGAON LAKE	1255	2
	ORISSA	CHILKA LAKE	555	4
	TAMIL NADU	KALIVELI	1604	4
KAZAKHSTAN		CASPIAN COAST: O-VA-DURNEVA-TURKM.BORDER	10000	1
		KARAKOL LAKE	3000	1
PAKISTAN	PUNJAB	CHASHMA BARRAGE RESERVOIR	1530	5
TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	67900	1
		LAKE ROMANKUL	3460	2
	KERKI	KELIFSKIYE LAKES	4538	5
	TASCHAUS OBLAST	LAKE SARAKAMYSH	33567	4
UZBEKISTAN	BUKHARA	LAKE DENGIZKUL	3705	2

Canvasback

Aythya valisineria

A vagrant from North America to Japan; only a few records were obtained in Japan as part of the AWC.

Common Pochard

Aythya ferina

Monotypic. Breeds widely across Eurasia at temperate latitudes. From the AWC results (Figure 89), the species appears more widespread in winter in peninsular India and continental E Asia (Korea, NE China) than previously known (e.g. Madge & Burn 1988). With such a wide distribution across central and southern Asia, no discrete populations are identifiable; for the present purposes, three main wintering groups are recognized.

- SW Asia (to Afghanistan): D (350,000) [AWC 191,000; 260,000 with 1970s data]
Trends: Unknown.
- S Asia: D (350,000+) [AWC 202,000]
Trends: Possibly stable; numbers apparently doubled in Pakistan in last 20 years (see Chapter IV).
- E/SE Asia (S to Thailand, Vietnam, Philippines): D [AWC 138,000]
Trends: Unknown.

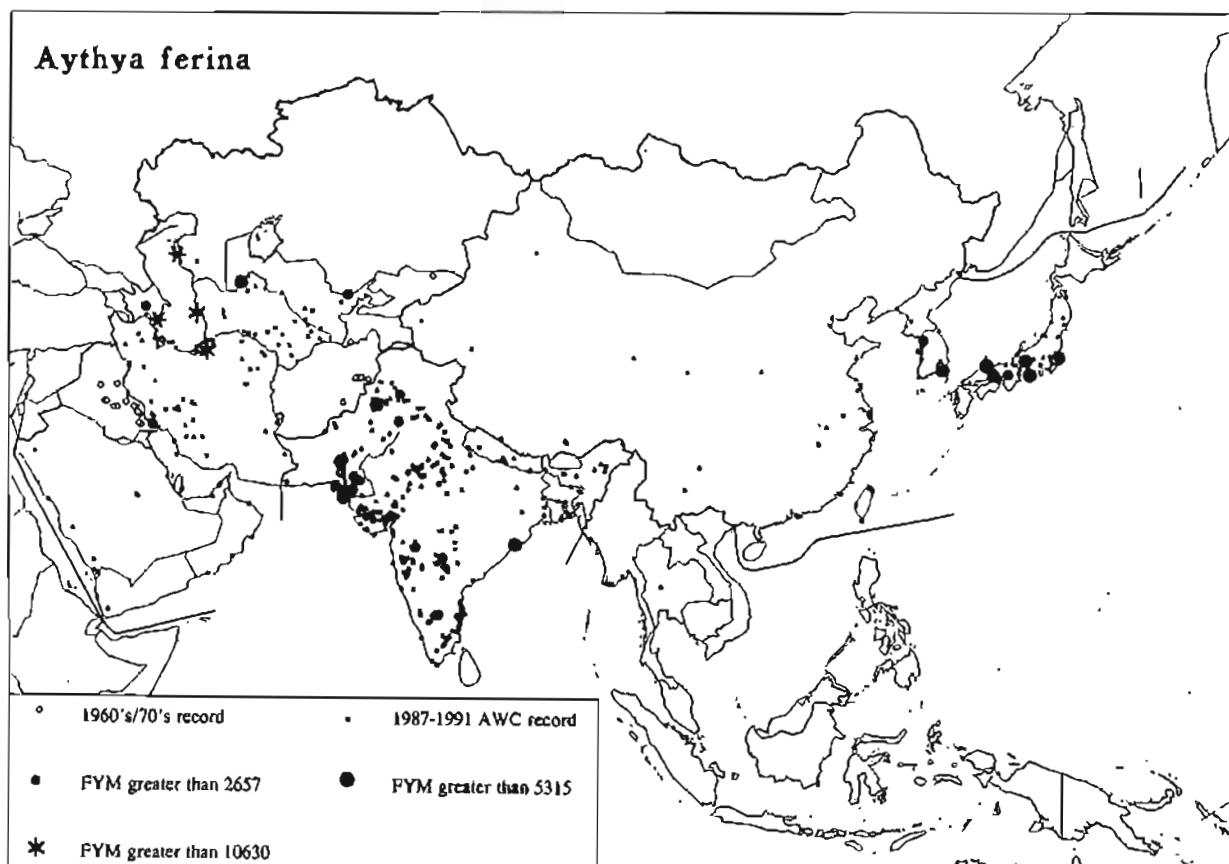


Figure 89: Distribution of *Aythya ferina* as shown by the AWC 1987-1991

Potential sites of international importance

Nine sites in SW Asia, and 15 in S Asia reach a FYM of 3,500 birds (Table 48). The two most important sites, Kirov Bay in Azerbaijan (93,300) and Krasnovodsk-North Cheleken Bays in Turkmenistan (33,700), were counted only once. Only Pakistan, Kazakhstan and Iran also had sites with a FYM of over 10,000 birds.

In SW Asia, three sites in Afghanistan and Kirghizistan held concentrations exceeding the 1% level in the 1970s: Hamoun-i Puzak (max. 50,000) and Ab-i-Istada (max. 15,000) in Afghanistan, and Lake Issyk Kul (max. 3,780) in Kirghizistan.

Table 48: Potential sites of international importance for *Aythya ferina* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts	
AZERBAIJAN		KIROV BAY	93300	1	
INDIA	ANDHRA PRADESH	NIZAMSAGAR DAM	4500	1	
	MAHARASHTRA	JAYAKWADI B.S	3967	3	
	ORISSA	CHILKA LAKE	7820	4	
IRAN	GILAN	SHAHKESHIM P.R	4321	5	
	KHUZESTAN	SHADEGAN MARSHES PROTECTED REGION	3744	4	
	MAZANDARAN	GOMISHAN MARSH	11470	2	
	MAZANDARAN	MIANKALEH PROTECTED REGION	6151	5	
KAZAKHSTAN		CASPIAN COAST: O-VA-DURNEVA			
		-TURKM.BORDER	20000	1	
PAKISTAN	AZAD JAMMU & KASHMIR	MANGLA RESERVOIR	4919	4	
	PUNJAB	CHASHMA BARRAGE RESERVOIR	10057	5	
	SIND	DHANIPAT LAKE, SANGHAR	3500	2	
	SIND	DRIGH	3771	5	
	SIND	HADERO LAKE	4566	5	
	SIND	HALEJI LAKE	5107	5	
	SIND	HAMAL KATCHRI LAKE	6600	4	
	SIND	HUB DAM	5076	5	
	SIND	KEENJHAR LAKE	10672	5	
	SIND	MANCHAR LAKE	4682	4	
	SIND	PHOOSNA I	4500	1	
	SIND	SHAHBUNDER SALT BED	6750	2	
	TURKMEN-ISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	33700	1
		TASCHAUS OBLAST	LAKE SAKAMYSH	8845	4
UZBEKISTAN		CHARDARYA RESERVOIR	4791	2	

Other important sites

The six most important sites in E Asia (FYM over 5,000) were Kojima Lake (FYM 6,130, 3yr), Nakaumi (8,570, 2yr), Asaishinden Fishponds (FYM 9,900, 2yr), Kitauranambu (6,060, 1yr) and Hamana Lake (FYM 7,000, 3yr) in Japan, and the Nakdong Estuary (FYM 5,890, 4yr) in South Korea.

Ring-necked Duck

Aythya collaris

A vagrant from North America to Japan; only a few records were obtained in Japan during the AWC.

Hardhead

Aythya australis

An Australian species, chiefly resident; a single record in New Guinea was obtained during the AWC.

Baer's Pochard*Aythya baeri*

Monotypic; a globally threatened species of E Asia, extending to NE India (Figure 90). Only one population is recognized.

- E/SE Asia (to NE India; entire population): B (10,000+) [AWC 7,140]

Trends: Declining.

There has probably been some confusion in NE India between this species and the Ferruginous Duck, with the same sites reported to hold major concentrations of Ferruginous Ducks and Baer's Pochards in different years. Counts at some of these sites should therefore be treated with caution, and taken only as a pointer to possibly important sites which should be checked carefully by observers familiar with both species.

The many records in Thailand represent an extension in the known range of the species (see, for example, Madge & Burn 1988).

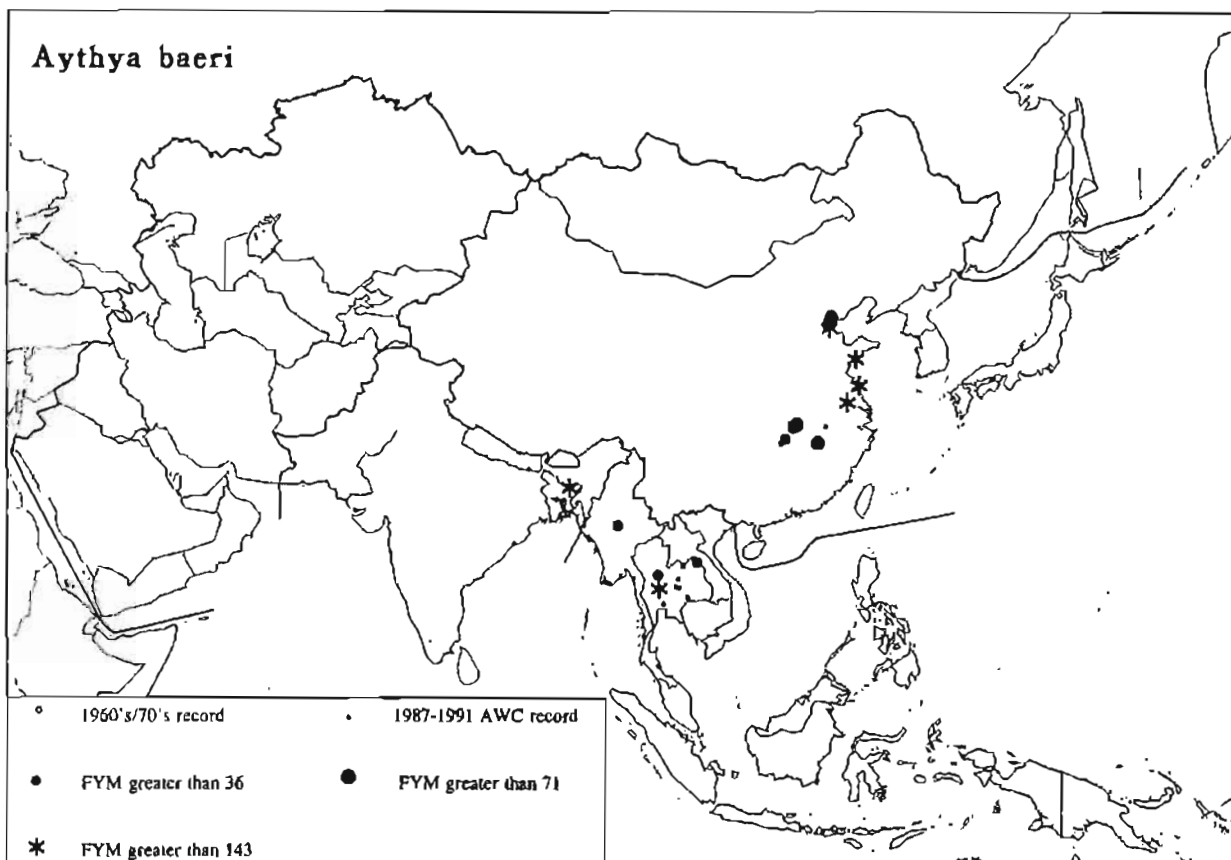


Figure 90: Distribution of *Aythya baeri* as shown by the AWC 1987-1991

Potential sites of international importance

Ten sites, across five different countries, are potentially of international importance for the species (with FYMs of over 100 birds), although most of these sites were counted only once or twice (Table 49). China would appear to hold the major sites (two sites with single counts in excess of 1,500).

Table 49: Potential sites of international importance for *Aythya baeri* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	SYLHET	TANGUA HAOR COMPLEX	661	1
CHINA	HUBEI	CHEN HU LAKE	100	1
	HUBEI	HANNAN (WUHAN LAKES)	140	1
	JIANGSU	GAOYOU AND SHABO LAKES	265	2
	JIANGSU	YANCHENG SHORE	821	2
	SHANDONG	QING DAO	2000	1
	TIANJIN	BEIDAGANG	200	1
INDIA	ASSAM	DEEPOR BEEL	654	5
MYANMAR	MANDALAY	YEWAI LAKE	512	1
THAILAND	NAKHON SAWAN	BEUNG BORAPHET	191	5

Ferruginous Duck

Aythya nyroca

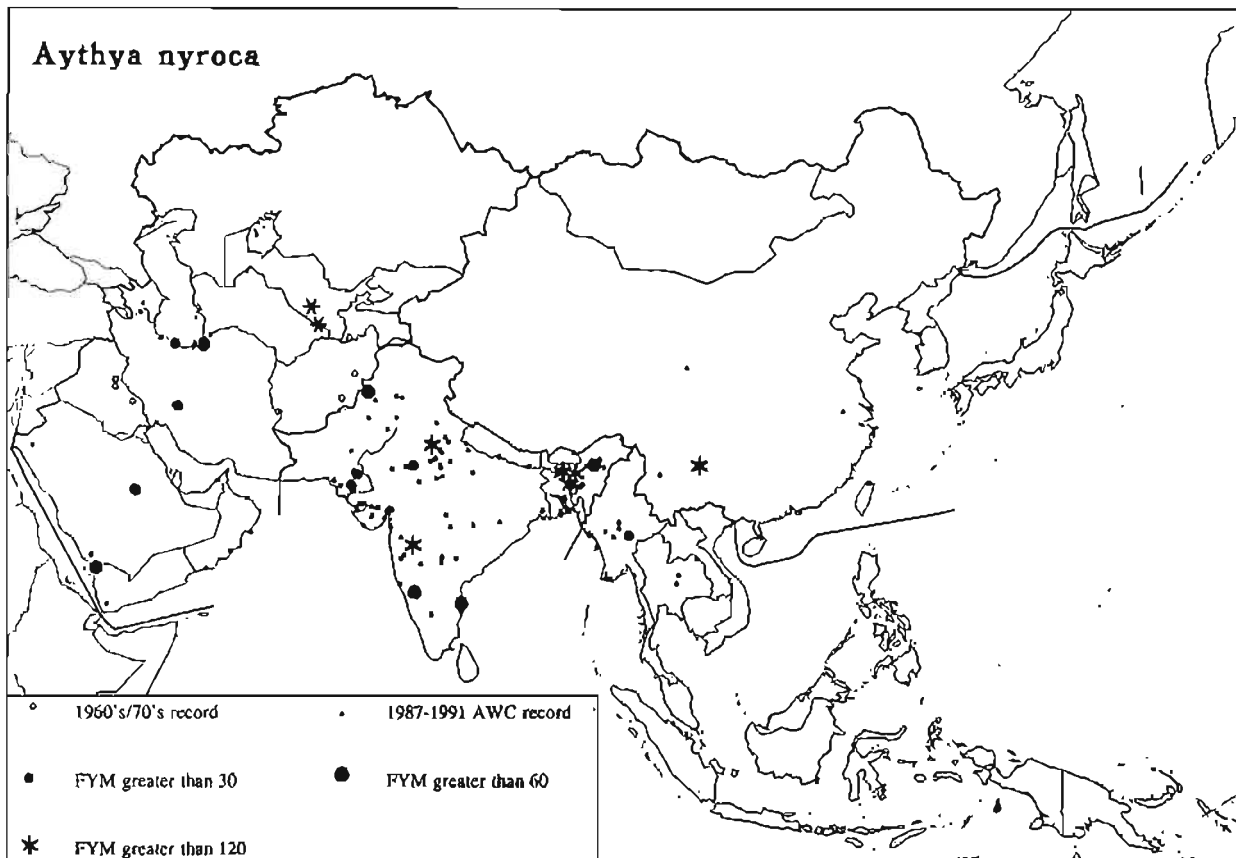
Monotypic; possibly threatened (Green 1992b) but comparatively little known. Breeds from E Europe across central Asia to W China. Two wintering populations are recognized (Figure 91).

- SW Asia (Central Asian Republics and Iran): A (5,000) [AWC 820; 5,980 in the 1970s]

Trends: Declining.

- S/SE/E Asia (Pakistan to SW China): B (10,000+) [AWC 5,160]

Trends: Declining (by 80% in the small numbers wintering in Pakistan in the last 20 years; see Chapter IV).

Figure 91: Distribution of *Aythya nyroca* as shown by the AWC 1987-1991

The possible confusion between this species and Baer's Pochard in NE India is discussed in the Baer's Pochard account.

Potential sites of international importance

Four sites in SW Asia (one in Iran, two in Uzbekistan and one in Saudi Arabia) reach the 1% level of 50 birds, while 11 sites in S/SE/E Asia reach the 1% level of 100 birds (Table 50). Bangladesh and China hold the largest concentrations (three sites with a FYM of over 500), but these sites were counted only once or twice.

In SW Asia, three sites in Iraq, Tadjikistan and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur Al Ahmar/Haur Al Habara (max. 1,000) in Iraq, the Tigrovaya Balka Reserve in Tadjikistan (max. 52), and Hamoun-i Puzak (max. 100) in Afghanistan. The Kelifskiye Lakes in Turkmenistan were formerly of great importance for the species, but no longer qualify. These lakes held 5,000 *nyroca* in 1974, 1,300 in 1976, 180 in 1978, and only occasional birds since then; the causes of this decline are unknown.

Table 50: Potential sites of international importance for *Aythya nyroca* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	SYLHET	MATIAN HAOR	590	1
	SYLHET	TANGUA HAOR COMPLEX	1320	1
CHINA	GUIZHOU	CAOHAI RESERVE	1000	2
INDIA	ASSAM	DEEPOR BEEL	137	5
	ASSAM	DHIR BEEL	166	3
	ASSAM	DIPLAI	188	3
	DELHI	YAMUNA RIVER: OKHLA BARRAGE	140	5
	KARNATAKA	HEGGERI TANK	100	3
	MAHARASHTRA	JAYAKWADI B.S	449	3
	WEST BENGAL	SAHEB BANDH	200	2
	IRAN	MAZANDARAN	GORGAN BAY	87
MYANMAR	MANDALAY	YEWAI LAKE	125	1
SAUDI ARABIA	SOUTH WEST	WADI JIZAN DAM (MALAKI)	62	2
UZBEKISTAN		CHARDARYA RESERVOIR	325	2
	KASHKA-DARYA OBLAST	TALIMARDZHAN RESERVOIR	150	2

Tufted Duck

Aythya fuligula

Monotypic. The species has a wide wintering distribution across central and southern Asia, and is much more widespread in peninsular India (Figure 92) than previously reported (e.g. Madge & Burn 1988). No discrete populations are identifiable but, for the present purposes, three main wintering groups are recognized.

- SW Asia (to Afghanistan): D (200,000) [AWC 113,000; 177,000 with 1970s data]

Trends: Unknown.

- S Asia: D (150,000+) [AWC 91,000]

Trends: Apparently increasing in some areas, e.g. S India (Perennou 1989), and Pakistan where apparent three-fold increase in last 20 years (see Chapter IV).

- E/SE Asia (to Thailand, Vietnam): D [AWC 73,500]

Trends: Unknown.

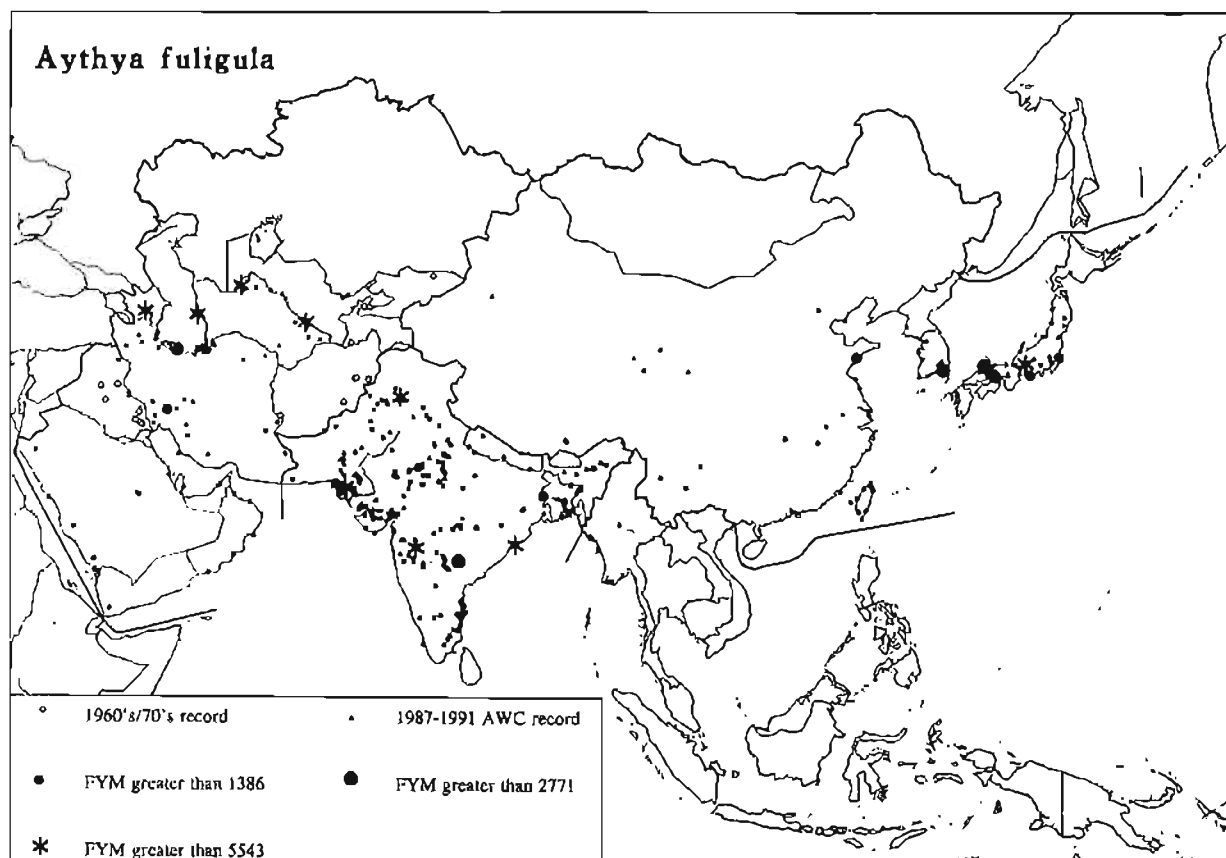


Figure 92: Distribution of *Aythya fuligula* as shown by the AWC 1987-1991

Potential sites of international importance

These can be identified only in SW and S Asia due to the absence of population estimates elsewhere; 1% levels are respectively 2,000 and 1,500. Seven sites in SW Asia (CIS and Iran) and eight in S Asia (India and Pakistan) have FYM exceeding these criteria (Table 51).

Table 51: Potential sites of international importance for *Aythya fuligula* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN	AGJABEDI	AGGEL (AH GOL) LAKE	9000	1
INDIA	ANDHRA PRADESH	GHANPUR TANK	2957	1
	MAHARASHTRA	JAYAKWADI B.S	10016	3
	ORISSA	CHILKA LAKE	29417	4
	WEST BENGAL	GOPALPUR	1500	1
IRAN	GILAN	CASPIAN COAST LANGARUD-RAMSAR	2265	1
	MAZANDARAN	CASPIAN COAST FARAHABAD-ASHUR	2642	4
	MAZANDARAN	CASPIAN COAST:LANGRUD-BABOLSAR	4253	5
PAKISTAN	AZAD JAMMU & KASHMIR	MANGLA RESERVOIR	8022	4
	SIND	HALEJI LAKE	3340	5
	SIND	HUB DAM	2615	5
	SIND	KEENJHAR LAKE	5822	5
	TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	6820
UZBEKISTAN	TASCHAUS OBLAST	LAKE SARAKAMYSH	8532	4
UZBEKISTAN	BUKHARA	LAKE DENGIZKUL	6040	2

In SW Asia, four sites in Iraq, Kirghizistan and Afghanistan held concentrations exceeding the 1% level in the 1970s: Haur Aluwez (max. 39,300) and Haur Al Hammar (max. 6,800) in Iraq; Lake Issyk Kul in Kirghizistan (max. 2,140); and Hamoun-i Puzak (max. 2,500) in Afghanistan.

Other important sites

Four sites in E Asia, all in Japan, had a FYM of over 5,000: Nakaumi Lake (FYM 10,925, 2yr), Shinji Lake (FYM 5,030, 3yr) and the Asaishinden Fishponds (FYM 8,000, 2yr).

Greater Scaup

Aythya marila

Two subspecies occur. The nominate West Eurasian subspecies is largely extralimital, wintering east to the Caspian Sea (Figure 93). The East Asian subspecies *mariloides* winters in China, Japan and Korea. The small number of birds wintering in N India and Bangladesh are probably stragglers from the Caspian population. Two populations are recognized, but the degree of isolation of the SW Asian population from Western Palearctic birds is unknown.

- SW Asia: C (35,000) [AWC 31,200]

Trends: Unknown.

- E Asia: D [AWC 219,000]

Trends: Unknown.

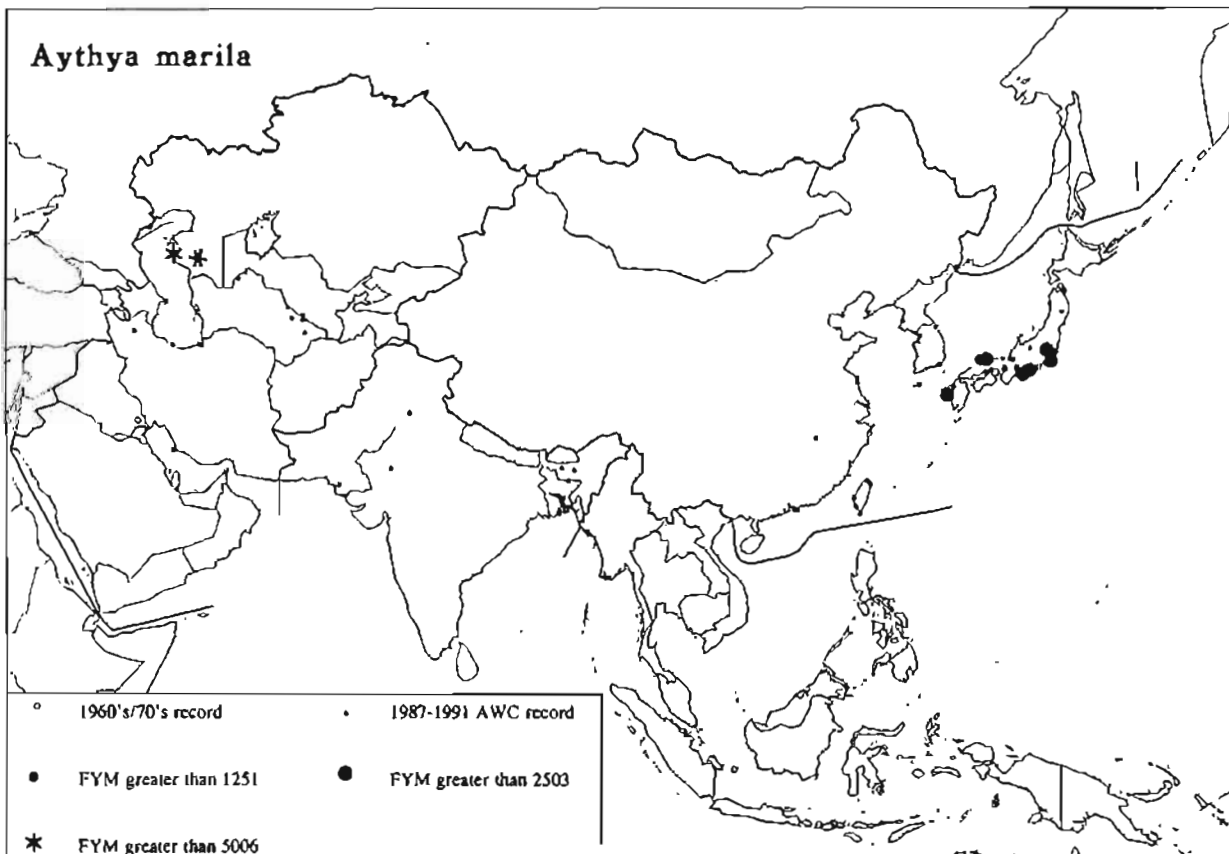


Figure 93: Distribution of *Aythya marila* as shown by the AWC 1987-1991

Potential sites of international importance

Two sites in SW Asia, both in Kazakhstan, reached the 1% level of 350 birds, but they were counted only once in 1991: the Caspian Sea between O-va-Durneva and the Turkmenistan border (25,000), and Karakol Lake (5,000).

Other important sites

Four sites in E Asia, all in Japan, reached a FYM of over 5,000: Hamana Lake (FYM 5,300, 3yr), Nakaumi Lake (FYM 6,980, 2yr), Ohori-Chisaki-Kaigan (FYM 9,950, 2yr) and Tabaru-wan (FYM 9,700, 2yr).

Steller's Eider*Polysticta stelleri*

A monotypic, coastal species which, in Asia, is almost confined to Russia. An uncommon visitor to Japan and vagrant to China. No records were obtained during the AWC.

Common Eider*Somateria mollissima*

A coastal species which, in Asia, is confined to Russia. Only the subspecies *v-nigra* occurs in Asia. No records were obtained during the AWC.

King Eider*Somateria spectabilis*

A monotypic, coastal species which, in Asia, is almost confined to Russia, although it has occurred as a vagrant in Japan. No records were obtained during the AWC.

Spectacled Eider*Somateria fischeri*

A monotypic, coastal species which, in Asia, is confined to Russia. No records were obtained during the AWC.

Harlequin Duck*Histrionicus histrionicus*

Only the subspecies *pacificus* occurs. Only one population is recognized.

- E Asia: C [AWC 1,170]

Trends: Unknown.

Only a few records were obtained during the AWC, along the coasts of Japan, South Korea and N China. In the absence of a population estimate, no sites of international importance can be identified.

Common Scoter*Melanitta nigra*

Only the subspecies *americana* occurs. Only one population is recognized.

- E Asia: C or D [AWC 3,310]

Trends: Unknown.

The species was recorded during the AWC along the coasts of South Korea and Japan. In the absence of a population estimate, no sites of international importance can be identified.

Surf Scoter

Melanitta perspicillata

A coastal species of North America which has occurred as a vagrant in Russia and Japan. No records were obtained during the AWC.

Velvet Scoter

Melanitta fusca

Two subspecies occur. The nominate form breeds from Scandinavia east to the Yenisey River and winters mainly in W Europe. A small, very isolated population of this form breeds in eastern Turkey, Georgia and Armenia, and appears to winter mainly on the Black Sea, although there have been some records from the SE Caspian Sea. The E Asian form *stejnegeri* breeds from the Yenisey basin east to Kamchatka and winters along the Pacific coast south to China, South Korea and Japan. Two populations are recognized.

- SW Asia: Presumably A, but very poorly known [AWC 0]
Trends: Unknown.
- E Asia: C or D [AWC 1,470]
Trends: Unknown.

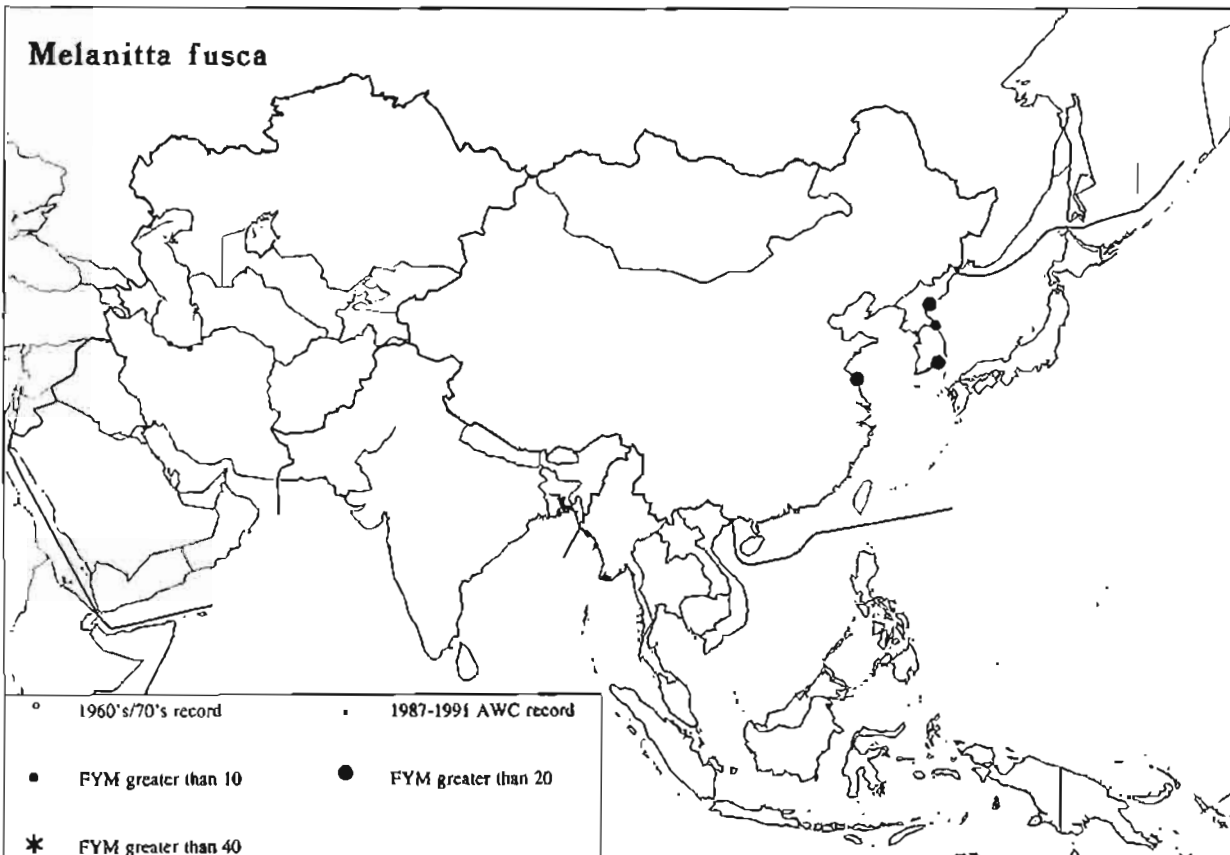


Figure 94: Distribution of *Melanitta fusca* as shown by the AWC 1987-1991

Only a few records were obtained during the AWC, all along the coasts of South Korea, North Korea and N China (Figure 94). In the absence of a population estimate, no sites of international importance can be identified. The most important site for the species was the Nakdong Estuary in South Korea (FYM 440, 4yr).

Long-tailed Duck*Clangula hyemalis*

Monotypic. Breeds across northern Eurasia. Two populations are recognized.

- SW Asia (Caspian Sea): Probably A [AWC 30]

Trends: Unknown.

- E Asia: Probably D [AWC 780]

Trends: Unknown.

Only a few records were obtained during the AWC in Turkmenistan, China, North Korea and Japan. In the absence of a population estimate, no sites of international importance can be identified. Major sites identified by the AWC were Kushiro Marsh and surrounding area in Japan (FYM 85, 2yr) and Majon in North Korea (20, 1yr).

Bufflehead*Bucephala albeola*

A vagrant from North America to Russia and Japan. Only stray records were obtained from Japan during the AWC.

Common Goldeneye

Bucephala clangula

Only the nominate subspecies occurs. Two populations are recognized (Figure 95).

- SW Asia (Central Asian Republics and Iran): A or B [AWC 780; 3,070 with 1970s data]

Trends: Unknown.

- E Asia: B or C [AWC 7,940]

Trends: Unknown.

The few birds recorded in S Asia [AWC 11] probably originate from the SW Asian population.

Important sites

In the absence of any population estimates, no sites of international importance can be identified. In SW Asia, the three most important sites (with a FYM of 100 or more) were Aggel Lake in Azerbaijan (100, 1yr), the Caspian coast between Langarud and Babolsar in Iran (FYM 125, 5yr), and Krasnovodsk-North Cheleken Bays in Turkmenistan (460, 1yr). In addition, one of the sites counted in Kirghizistan in the 1970s held over 100 birds, namely Lake Issyk Kul (average 1968-71 1,360; max. 1,795).

In E Asia, the three most important sites (FYM over 300) were in China: the Yellow River, Hei Gang Kuo (1,080, 1yr), Qing Dao (500, 1yr) and Beidaihe, Quinhuangdao (410, 1yr).

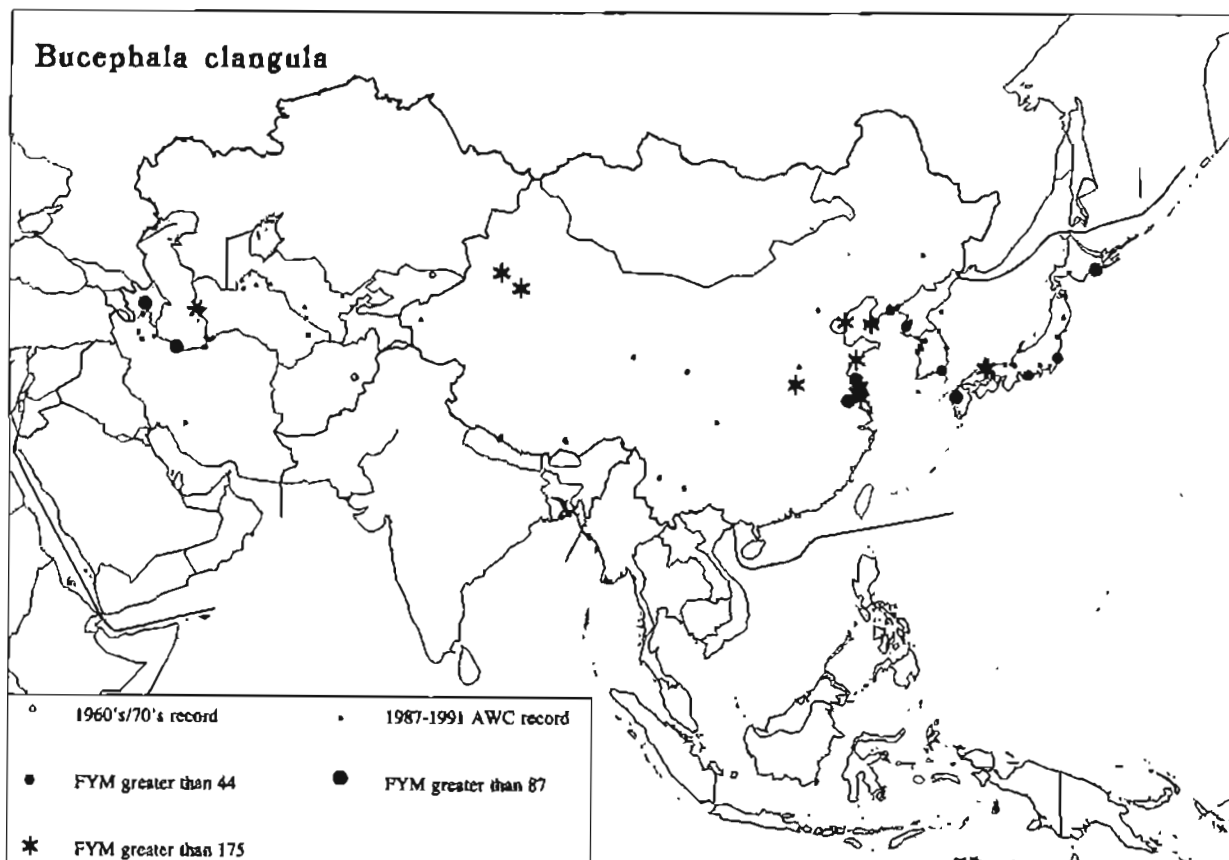


Figure 95: Distribution of *Bucephala clangula* as shown by the AWC 1987-1991

Smew

Mergellus albellus

Monotypic. Two populations are recognized: one wintering in the Central Asian Republics, Iran and Iraq, and the other wintering in E Asia south to central China (Figure 96). The small population which formerly wintered in the lower Indus valley in Pakistan seems to have disappeared since the 1970s (FYM of 44 in 1971-75).

- SW Asia: C (30,000) [AWC 2,640; 3,850 with 1970s data; 26,300 in Turkmenistan alone in 1986]

Trends: Unknown.

- E Asia: B or C [AWC 7,170]

Trends: Unknown.

The wintering distribution of the Smew in SW Asia seems to be affected by prevailing weather in the Caspian region and further east, as shown by the counts in Iran in the 1970s. Scott (1976) estimated that 2,500-3,000 birds wintered in Iran in January 1972, a particularly severe winter in the Caspian region (Scott 1972), against only 100-250 birds in 'normal' winters (1972/73, 1973/74, 1974/75). The counts received from the main wintering areas in Uzbekistan and Turkmenistan in the 1970s were not sufficiently comprehensive to determine whether a simultaneous, reverse variation occurred.

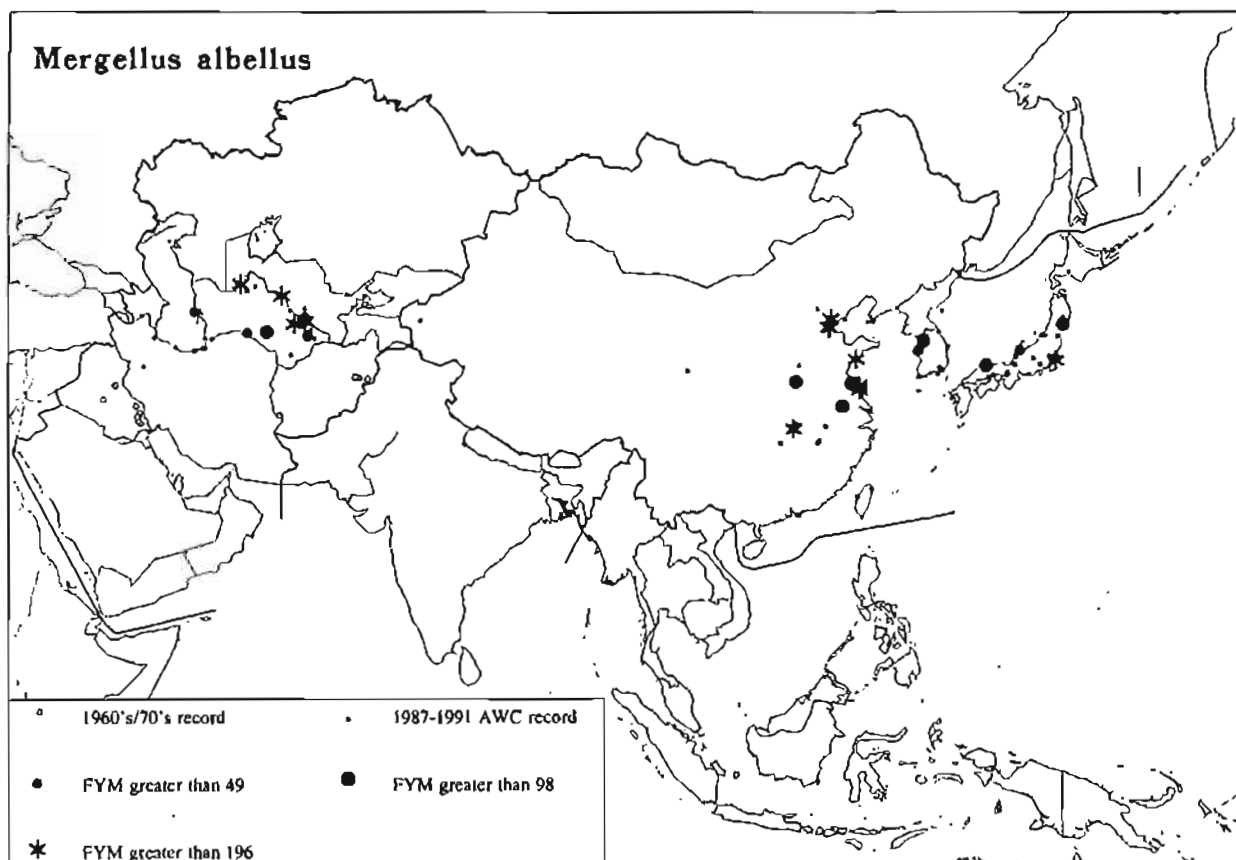


Figure 96: Distribution of *Mergellus albellus* as shown by the AWC 1987-1991

Potential sites of international importance

In the absence of a population estimate, no sites of international importance can be identified in E Asia. In SW Asia, three sites reach a FYM of over 300 birds (1% level): Tyuyamuyun Reservoir (FYM 400, 5yr) and Lake Sarakamysh (FYM 380, 4yr) in Turkmenistan, and Lake Dengizkul (FYM 320, 2yr) in

Uzbekistan. The latter held an enormous concentration of 26,000 Smews in January 1986, many times higher than the total counted in the region in any other year. In addition, one of the sites counted in Iraq in the 1970s exceeded the 1% level, namely Haur Abu Dibis (Lake Razazah; max. 1,000).

Other important sites

In E Asia, major sites (FYM over 500) were Beidagang (1,150, 1yr), Sheyang Saltworks (FYM 1,190, 2yr) and Tuan Bo Wa (a part of Beidagang) (900, 1yr), all in China.

Red-breasted Merganser

Mergus serrator

Only the nominate subspecies occurs. Two populations are recognized (Figure 97).

- SW Asia (Central Asian Republics and Iran): Probably A [AWC 280]

Trends: Unknown.

- E Asia: B or C [AWC 3,290]

Trends: Unknown.

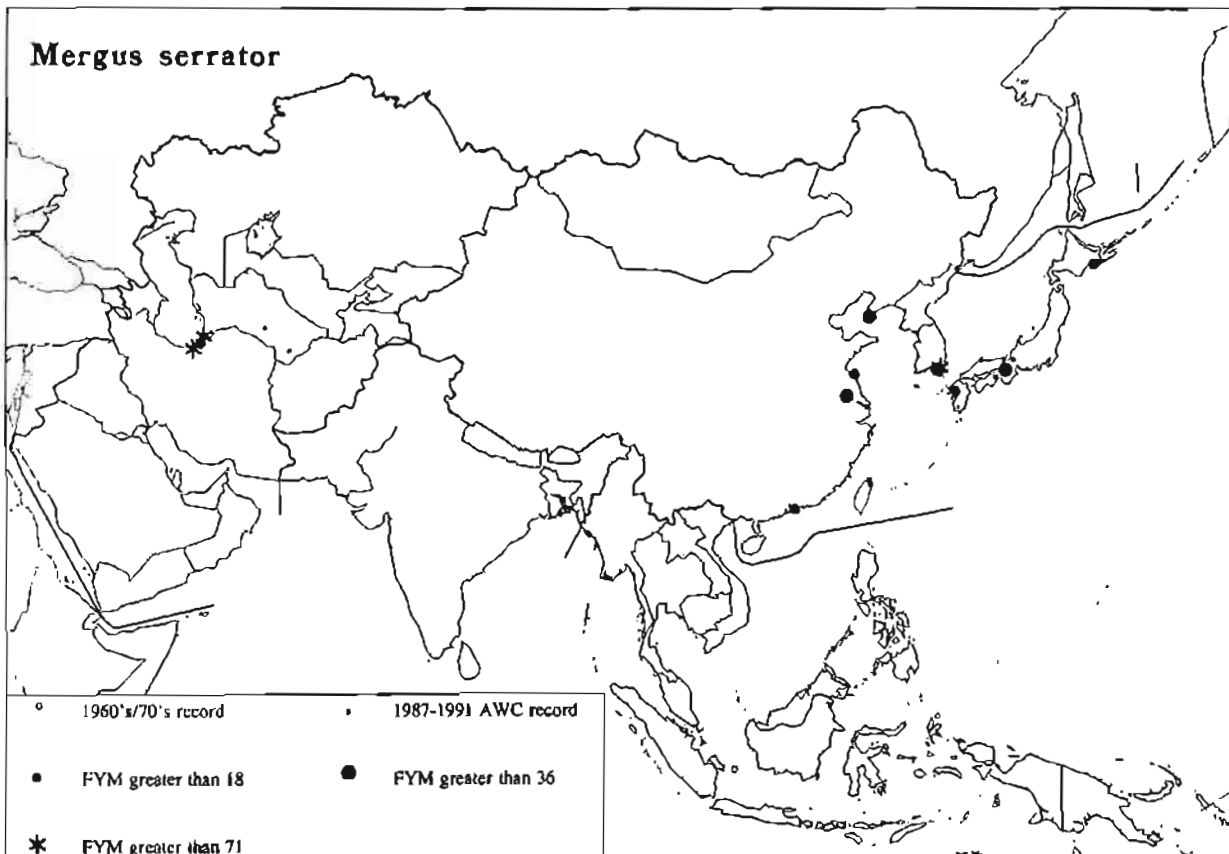


Figure 97: Distribution of *Mergus serrator* as shown by the AWC 1987-1991

Important sites

In the absence of a population estimate, no sites of international importance can be identified. However, major sites identified in the course of the AWC were the Caspian Sea between Gasankuli and Kuidzhuk (FYM 110, 5yr) in Turkmenistan, and the Nakdong Estuary in South Korea (FYM 140, 4yr).

Scaly-sided Merganser

Mergus squamatus

Monotypic; globally threatened. Breeds in extreme NE China and far-eastern Russia, and winters further south in E Asia. There are old records from Myanmar and Vietnam, and the species has recently been recorded in Thailand. Only one population is recognized.

- E Asia (entire population): A (4,000; Green 1992b) [AWC 64]

Trends: Declining.

The only records obtained during the AWC were in China, Taiwan and Thailand (Figure 98). A single bird observed on the Nam Mae Klang River in Doi Tuttaram National Park, Chiang Mai Province, in February 1991 constitutes the first record of *M. squamatus* in Thailand (P. Round, pers. comm.).

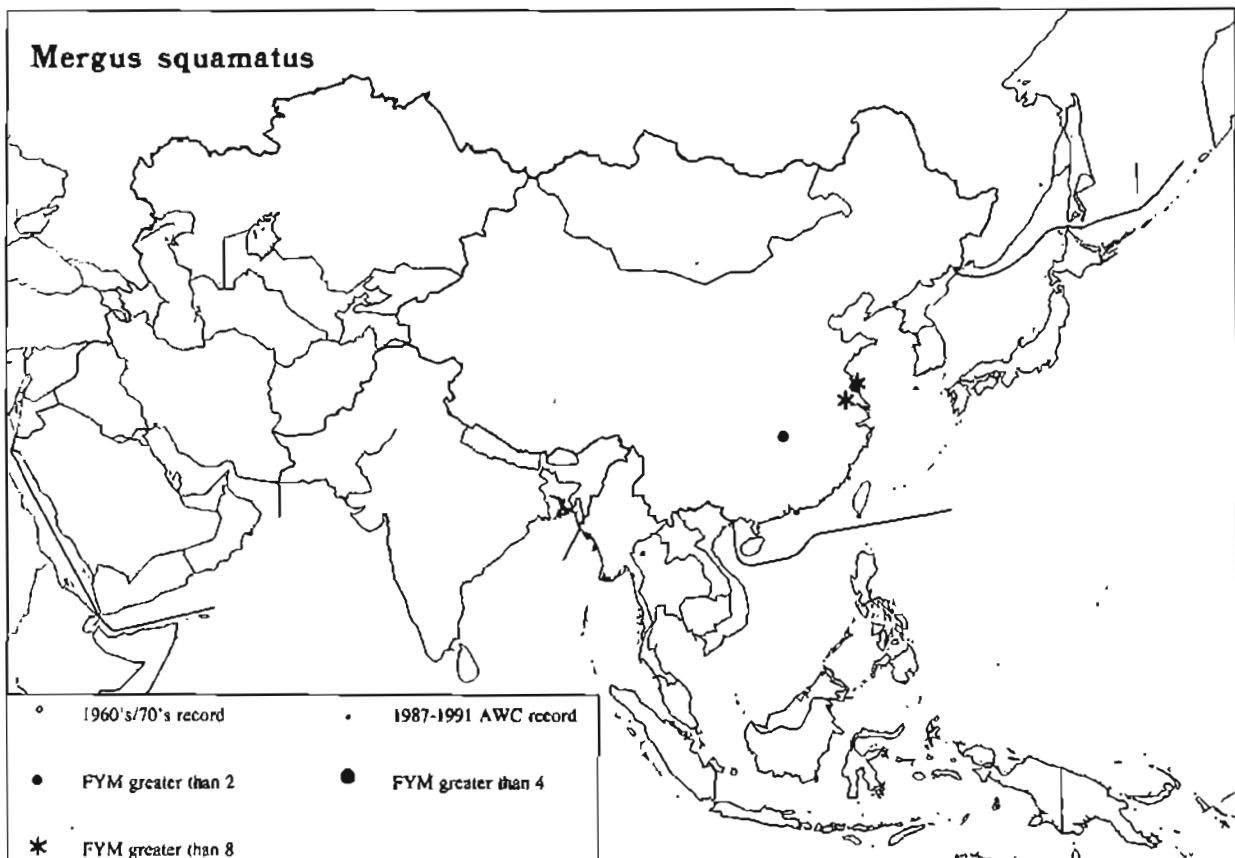


Figure 98: Distribution of *Mergus squamatus* as shown by the AWC 1987-1991

Potential sites of international importance

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

Goosander

Mergus merganser

Two subspecies occur. The nominate form breeds across northern Eurasia and winters mainly in the Western Palearctic east to the Caspian Sea and Central Asian Republics, and in China, Japan and Korea. *M.m. orientalis* breeds in Central Asia and winters south to N India and east to Japan. Both subspecies mix on their wintering grounds in East Asia. Three main wintering populations are recognized (Figure 99).

- SW Asia (Central Asian Republics and Iran): Probably A [AWC 760]
Trends: Unknown.
- S Asia (Pakistan to SW China): A or B [AWC 390]
Trends: Unknown.
- E Asia: C [AWC 18,500]
Trends: Unknown.

Important sites

In the absence of population estimates, no sites of international importance can be identified. However, four major concentrations were identified in E Asia: Caohai Reserve (FYM 1,100, 2yr), Guandong Saltworks (FYM 3,200, 2yr) and North Jiangsu Coast (1,400, 1yr) in China, and the Han River (FYM 3,740, 3yr) in South Korea.

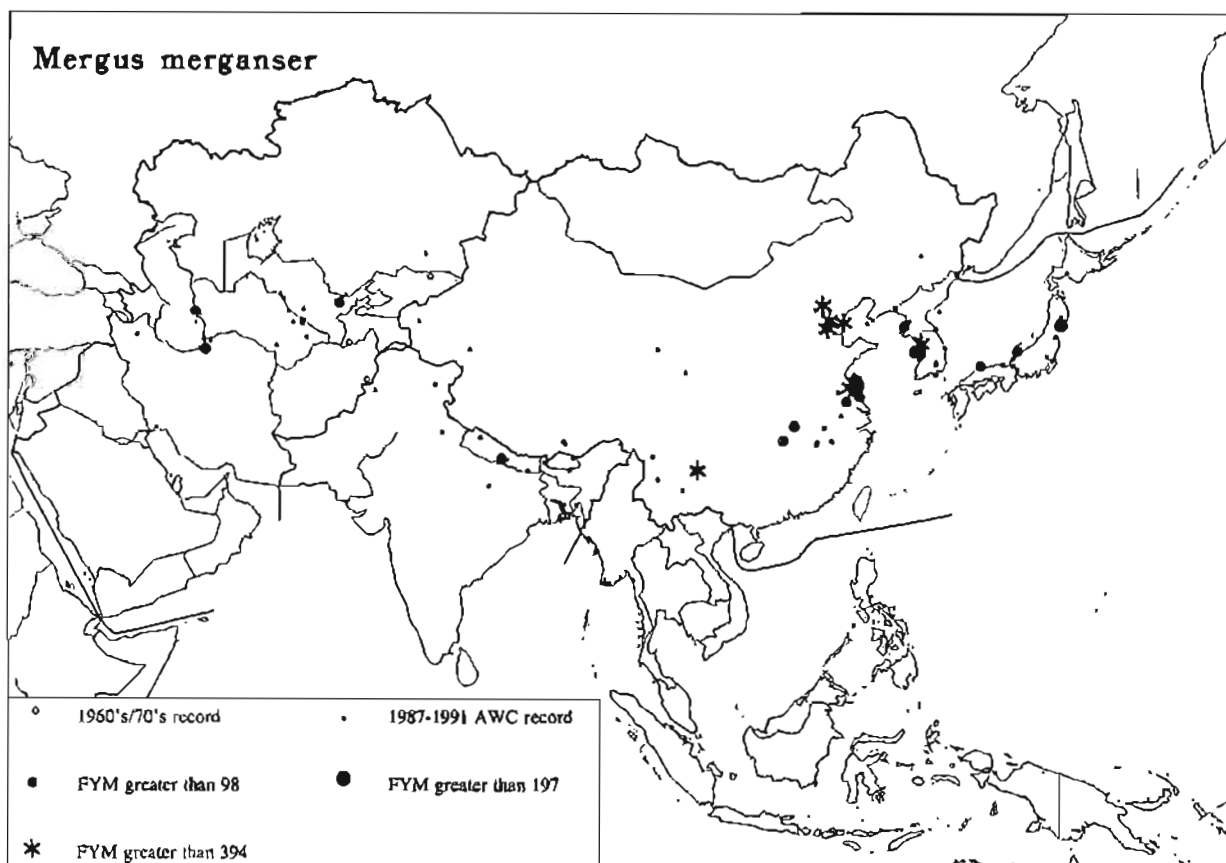


Figure 99: Distribution of *Mergus merganser* as shown by the AWC 1987-1991

White-headed Duck

Oxyura leucocephala

Monotypic; globally threatened. The bulk of the west-central Asian population migrates southwest to winter in the Caspian region and Turkey, while the breeding population of southern Iran appears to be sedentary (Figure 100). Thus the small population wintering in Pakistan 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.

- SW/Central Asia (with Turkey): B (17,000) [AWC 4,130 without Turkey]

Trends: Apparently stable.

- South Asia: A (300) [AWC 295]

Trends: Declining; the estimate based upon 1987-91 averages may now be too high (42 in 1991, 146 in 1992).

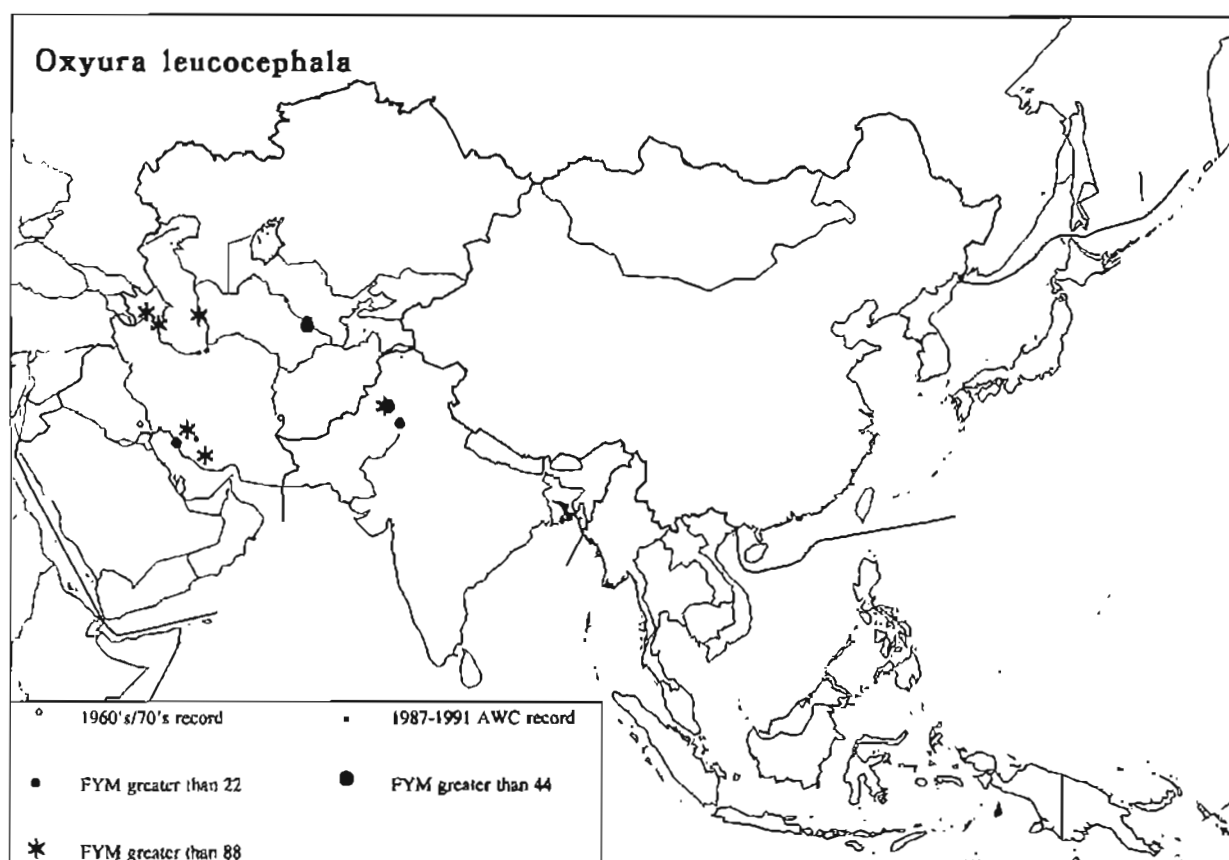


Figure 100: Distribution of *Oxyura leucocephala* as shown by the AWC 1987-1991

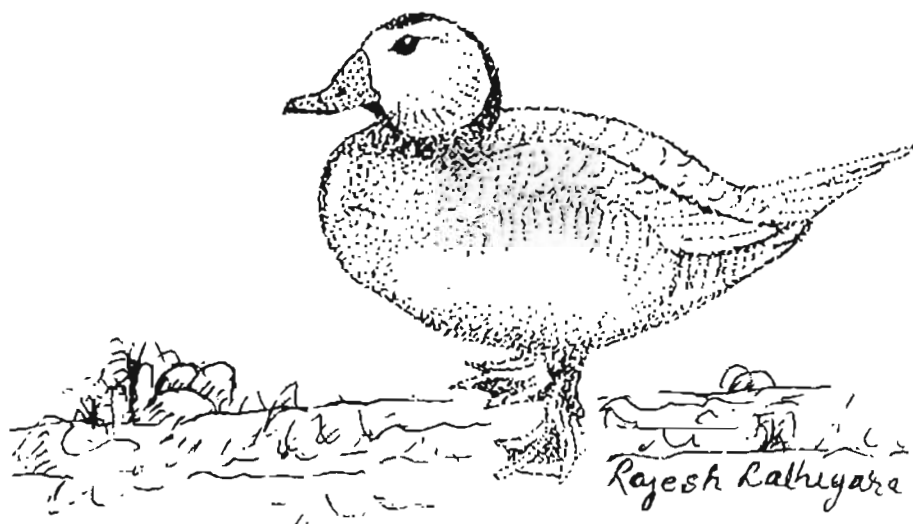
Potential sites of international importance

Three sites in SW Asia, each counted only once, held over 170 birds (1%), and three sites in Pakistan had a FYM of over three birds (Table 52). Further censuses are required at the sites in Azerbaijan and Turkmenistan to confirm their importance, especially Aggel Lake in Azerbaijan, which was only recently discovered to be the second most important site in the world for wintering White-headed Ducks (3,000 in 1991), after Burdur Golü in Turkey.

Table 52: Potential sites of international importance for *Oxyura leucocephala* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	520	1
		AGGEL (AH GOL) LAKE	3000	1
PAKISTAN	PUNJAB	JHALAR LAKE	65	5
	PUNJAB	KHARAL (KHARRAR) LAKE	25	5
	PUNJAB	UCCHALI	178	5
TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	223	1

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. More detailed information on sites of importance for *O. leucocephala* is provided by Anstey (1989) and Green & Anstey (1992).



GRUIDAE

Common Crane

Grus grus

Only the subspecies *liffordi* occurs. Three distinct populations occur in winter (Figure 101): one in eastern Iran and Iraq, one in the Indian subcontinent, and one in E China. Birds wintering in Myanmar may belong to either the S Asian or E Asian populations.

- SW Asia: B (20,000) [AWC 10,500]

Trends: Possibly increasing (2,800 in Iran in 1970s; 10,400 in recent years), but this could be due to a shift in the wintering grounds or better surveys in the main wintering areas.

- S Asia: B (20,000) [AWC 10,600]

Trends: Apparently stable.

- E Asia: Probably B [AWC 4,700]

Trends: Declining.

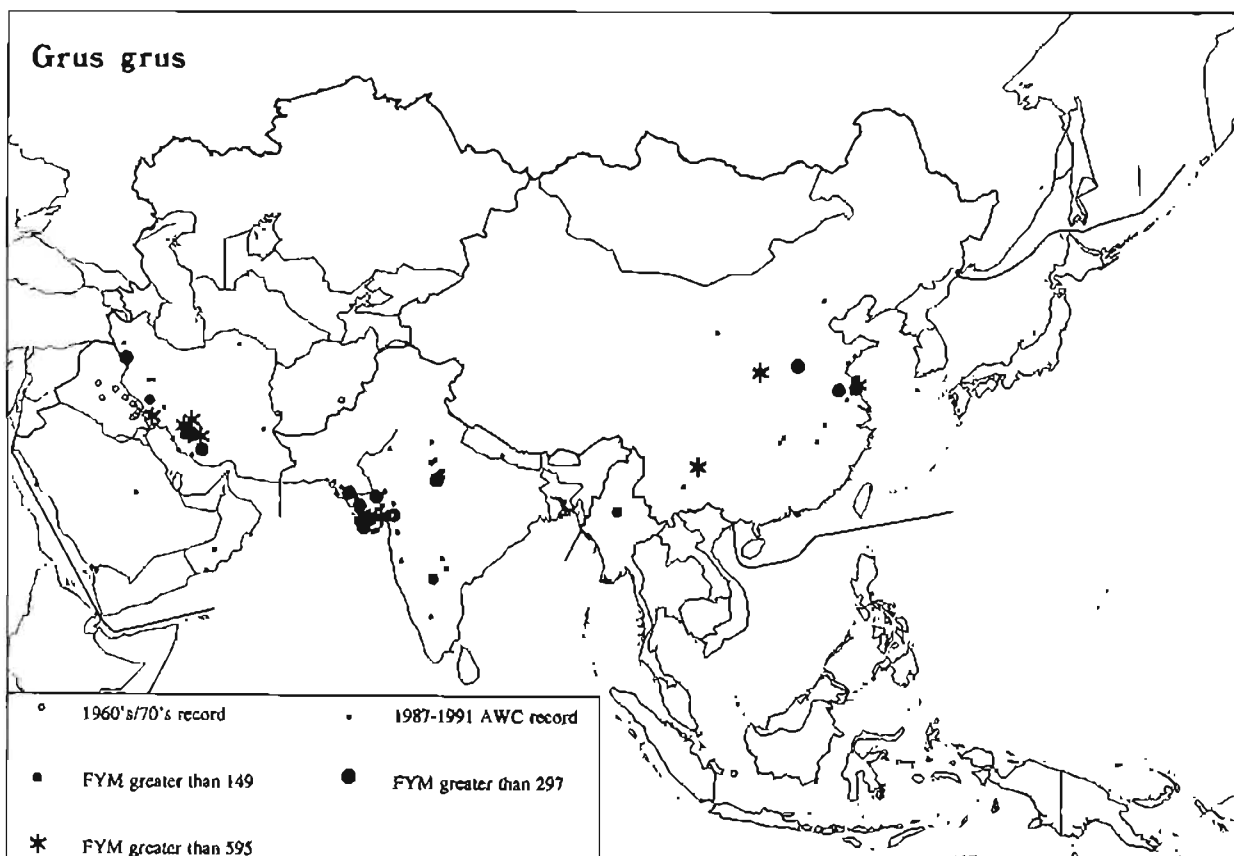


Figure 101: Distribution of *Grus grus* as shown by the AWC 1987-1991

Potential sites of international importance

Twenty-four sites are identified (Table 53). In S Asia, almost all of the important sites are in NW India. Most of these sites, however, were counted only once or twice, including the most important site (Gulf of Kachchh at Jamnagar; 2,500, 1yr); their international importance has therefore yet to be confirmed. One site in Myanmar is included in Table 53, although it is possible that the birds in question belong

to the E Asian population for which no 1% level is available. In SW Asia, all important sites are in Iran, where three sites in Fars province held an average of over 1,000 birds.

Other important sites

In the absence of a population estimate for E Asia, no sites of international importance can be identified in this region. However, important concentrations were recorded along the Yancheng shore (FYM 1,100, 2yr) and at Xiaochi in Shanxi (1,020, 1yr).

Table 53: Potential sites of international importance for *Grus grus* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	GUJARAT	AMIPUR TANK	500	2
	GUJARAT	BARADA SAGAR MARSH	204	1
	GUJARAT	CHHARI - DHANDH	300	1
	GUJARAT	GOMA DAM	650	1
	GUJARAT	GULF OF KACHCHH AT JAMNAGAR	2500	1
	GUJARAT	LODRA SANDHER	400	1
	GUJARAT	NAVA TALAO (VILLAGE SAVDA)	200	1
	GUJARAT	PATADI GAM TALAV SEWAGE POND	500	2
	GUJARAT	SURESHWARA	400	1
	GUJARAT	VARI TALAB	369	2
	GUJARAT	WADWANA RESERVOIR	474	3
	MADHYA PRADESH	MADHAV NATIONAL PARK	360	3
	IRAN	FARS	DASHT-I-ARJAN MARSH	212
FARS		BAKHTEGAN & TASHK LAKES	2076	5
FARS		HARM LAKE	451	2
FARS		KAPEH UAZD KHASHT AND SHOHREHPAR	2519	1
FARS		KAFTAR LAKE	1464	2
FARS		MAHARLOO LAKE	543	5
FARS		PARISHAN LAKE	638	4
KHUZESTAN		DASHT-E-SHOEYBI	456	1
KHUZESTAN		DEZ DAM & RIVER	295	4
KHUZESTAN	HOREH BAMDEJ MARSH	855	4	
MYANMAR	SAGAING	IRRAWADDY R.: KYAUKMYAUNG-SINGU	200	1
PAKISTAN	SIND	NUR-RI, BADIN	338	4

Black-necked Crane

Grus nigricollis

Monotypic; globally threatened. A short distance migrant; populations breeding in Tibet migrate to winter mainly in southern Tibet and adjacent provinces of S China, and to a lesser extent in Bhutan and NE India (Figure 102).

- S/E Asia (entire population): A (5,500; Bishop 1992) [AWC 3,960]

Trends: Possibly stable.

Only a small fraction of the population is counted during the AWC. However, recent surveys by the International Crane Foundation (Bishop 1991, 1992) have greatly improved our knowledge of the winter status of the species, and confirmed that the species is considerably more numerous than was formerly supposed.

Potential sites of international importance

Nineteen sites with a FYM of over 55 birds were identified (Table 54), mostly in China with a few in Bhutan.

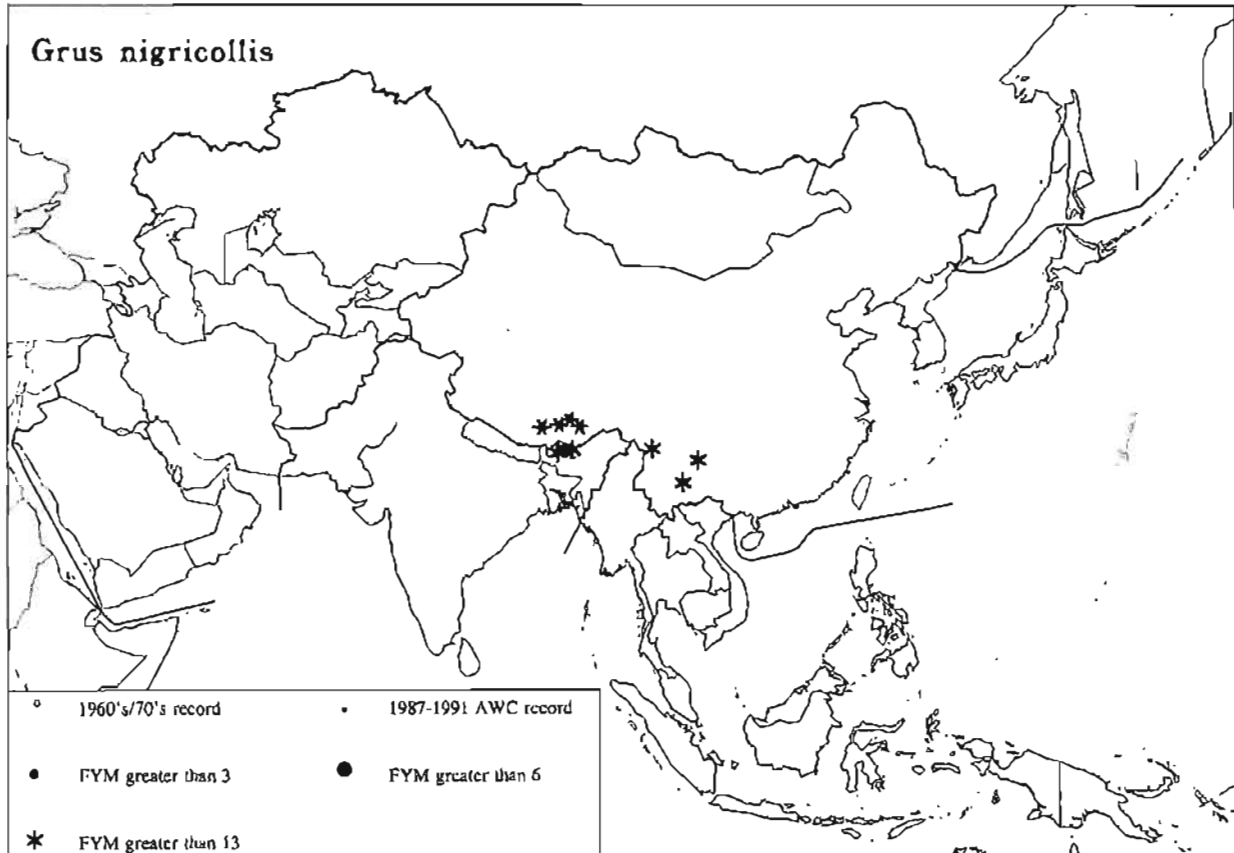


Figure 102: Distribution of *Grus nigricollis* as shown by the AWC 1987-1991

In addition, as for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance; these are listed in Bishop (1991, 1992).

Table 54: Potential sites of international importance for *Grus nigricollis* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BHUTAN		BUMDILING	163	4
		PHOBJIKHA VALLEY	112	4
CHINA	GUIZHOU	CAOHAI RESERVE	240	2
	TIBET	BAINANG CO., NYANG RIVER	109	1
	TIBET	DAGZE BRIDGE-MAIZO	768	1
	TIBET	DOILUNGDEQEN & QUXU COS: TOBING & LHASA R.	216	1
	TIBET	GONGGAR & ZHANANG COS: QUXU BRIDGE-SAMYE	224	1
	TIBET	JIDING & S TANA VALLEYS	165	1
	TIBET	LHAZE CO.: LHAZE-PINDZOLING	360	1
	TIBET	LHUNZUB CO, W. PENBO RIVER	280	1
	TIBET	NAMLING CO., S. SHANG RIVER	72	1
	TIBET	SHIGATSE MUN.: AIRPORT-DAGSHUKA FERRY	102	1
	TIBET	SHIGATSE MUN.: QUBUXIONG & JIACUO XIANG	207	1
	TIBET	SHIGATSE MUN.: SHIGATSE-NAMLING FERRY	135	1
	TIBET	XAITONGMOIN & TASHIKANG	169	1
	YUNNAN	HUIZE CO/CHANGHAIZI & DAQUIAO LAKES	193	2
	YUNNAN	MAOLIN, DAHAIZI, MASHU	49	2
	YUNNAN	NAPAHAI RESERVE	65	2
	YUNNAN	ZHAOTONG CITY / DASHANBAO	312	2

Hooded Crane

Grus monacha

Monotypic; globally threatened. The species breeds in SE Siberia (Russia) and migrates to winter in E Asia (Figure 103). Two wintering populations are recognized, one in east-central China and the other in Korea and Japan.

- China: A (800; ICF 1991) [AWC 713]

Trends: Declining.

- Korea/Japan: A (10,000; ICF 1991) [AWC data incomplete]

Trends: Stable.

Potential sites of international importance

In China, Shengjin Hu in Anhui (FYM 283, 4yr), Poyang Lake in Jiangxi (FYM 115, 3yr), Long Gan Hu Farm in Hubei (270, 1yr), East Dongting Lakes in Hunan (FYM 28, 4yr), and Chongming Island in Shanghai Principality (FYM 16, 2yr) have a FYM of over eight birds.

The great bulk of the second population spends the winter at Arasaki near Izumi in Kagoshima, Japan, where the numbers have been monitored annually for many years. Unfortunately, the annual census data have not been submitted to the AWC. Other well-known wintering sites for the species include Hwagun and Taegu in South Korea, but only single counts have been submitted for these sites (counts of 170 at Hwagun and 210 at Taegu).

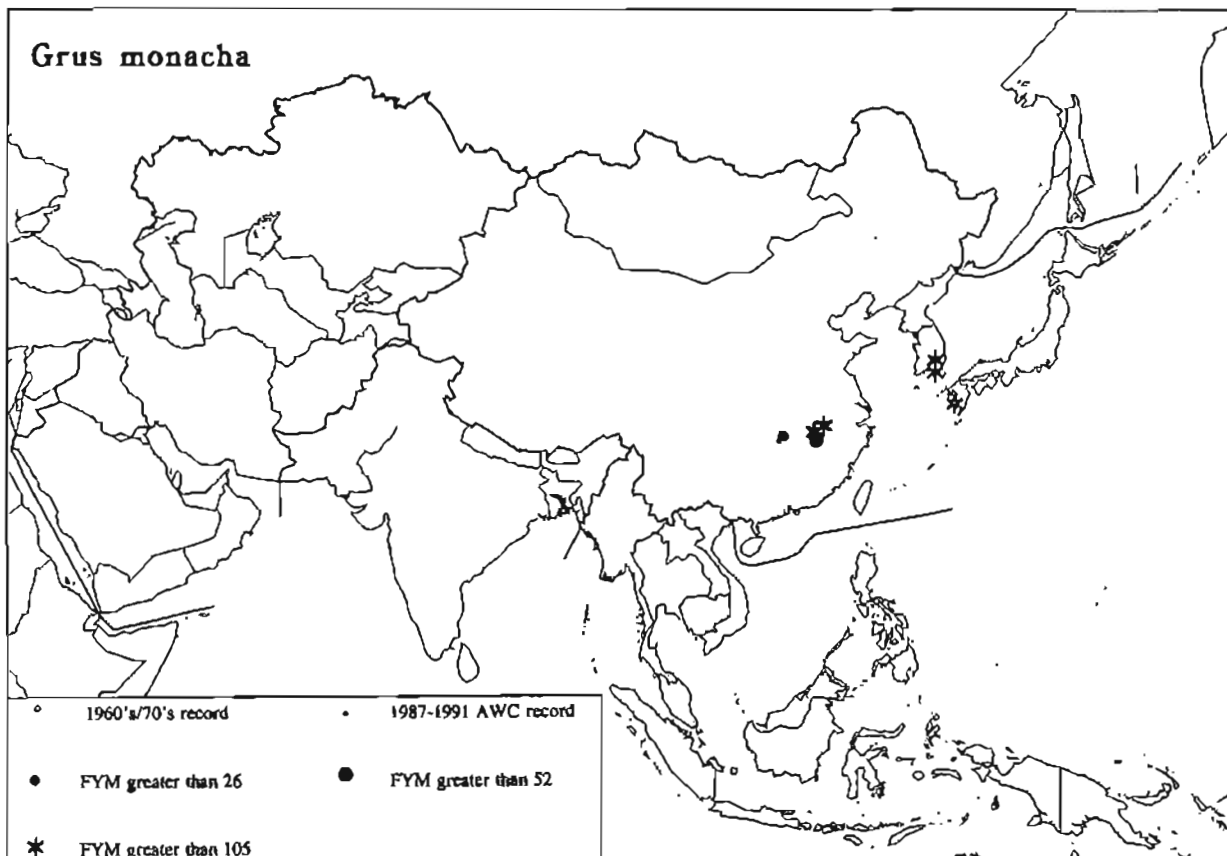


Figure 103: Distribution of *Grus monacha* as shown by the AWC 1987-1991

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

Sandhill Crane*Grus canadensis*

A North American species which has occurred as a vagrant in China, Japan and Korea. Only a few records were obtained during the AWC.

Red-crowned Crane*Grus japonensis*

Monotypic; globally threatened. The second rarest crane in the world, with a total population recently estimated at about 1,700 birds (G. Archibald, pers. comm.). The Japanese population is largely sedentary, whereas populations breeding in NE China and extreme SE Siberia (Russia) winter in east-central China and Korea (Figure 104). Three wintering groups are recognized.

- China: A (650-750) [AWC data unreliable]
Trends: Declining.
- Korea: A (400-500) [AWC data incomplete]
Trends: Declining.
- Japan: A (500) [AWC 469]
Trends: Stable.

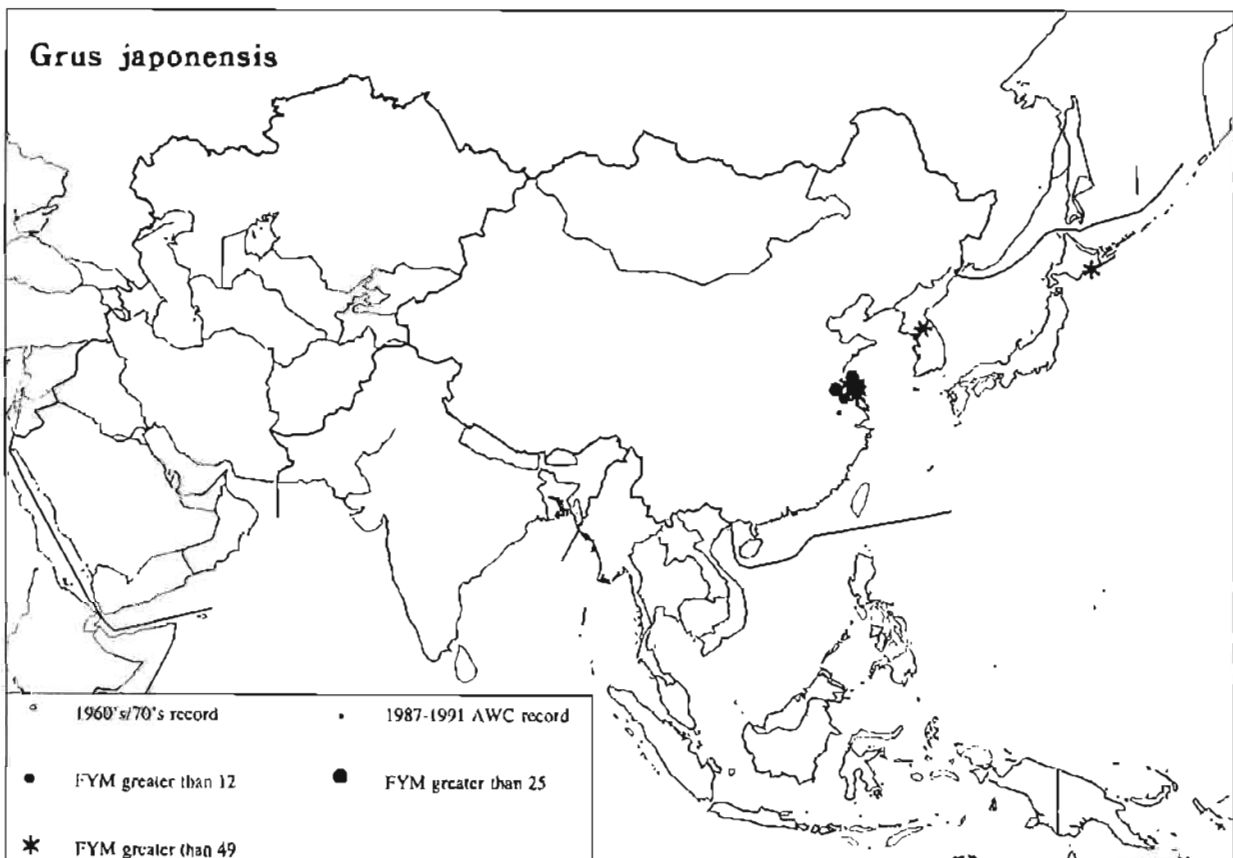


Figure 104: Distribution of *Grus japonensis* as shown by the AWC 1987-1991

Potential sites of international importance

The Japanese population is resident in Hokkaido. Almost the entire population winters in the Kushiro Marsh and surrounding area, where 469 were counted in 1989, 446 in 1990, 453 in 1991 and 502 in 1992 (ICF 1991; G. Archibald, pers. comm.).

In China, nine sites held appreciable numbers of birds (Table 55); however, most were counted only once or twice and it is suspected that they were not counted in years when they held few or no birds. The usual method used to produce AWC figures by summing five-year means is therefore not appropriate (see Chapter II), and the numbers in Table 55 are non-additive.

Few counts have been received from the main wintering areas in Korea, and only one site, Ch'olwon Basin in Kangwon (FYM 98, 4yr), can be identified on the basis of the AWC data.

Table 55: Potential sites of international importance for *Grus japonensis* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	JIANGSU	GUANDONG SALT WORKS	29	2
	JIANGSU	HAI PENG FARM	93	1
	JIANGSU	HONGZE HU	39	2
	JIANGSU	SHEYANG GANG ESTUARY	75	1
	JIANGSU	SHEYANG SALT WORKS	50	2
	JIANGSU	YANCHENG NATURE RESERVE, CORE AREA	255	2
	JIANGSU	YANCHENG SHORE (300KM)	552	2
JAPAN	AKKESHI/ KIRITAPPU	KUSHIRO MARSH AND SURROUNDING AREA	469	1
SOUTH KOREA	KANGWON	CH'OLWON BASIN	98	4

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

White-naped Crane*Grus vipio*

Monotypic; globally threatened. Breeds in NE China, NE Mongolia and SE Siberia, and winters in east-central China, Korea and Japan (Figure 105). Two wintering populations are recognized.

- China: A (2,000-2,700; ICF 1991)

Trends: Declining.

- Korea/Japan: A (3,000; N. Yanagisawa, pers. comm.)

Trends: Declining.

Potential sites of international importance

Poyang Lake in China held almost all of the Chinese population, with a FYM of 2,580 over four years. A large proportion of the Korean/Japanese population spends the winter at Arasaki near Izumi in Kagoshima, Japan, where the numbers have been monitored annually for many years. However, only one count was submitted to the AWC: a count of 1,416 birds in 1989. The only other important site identified by the AWC was Taesong'dong, Panmunch'om Basin in South Korea, which had a FYM of 93 over four years. As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

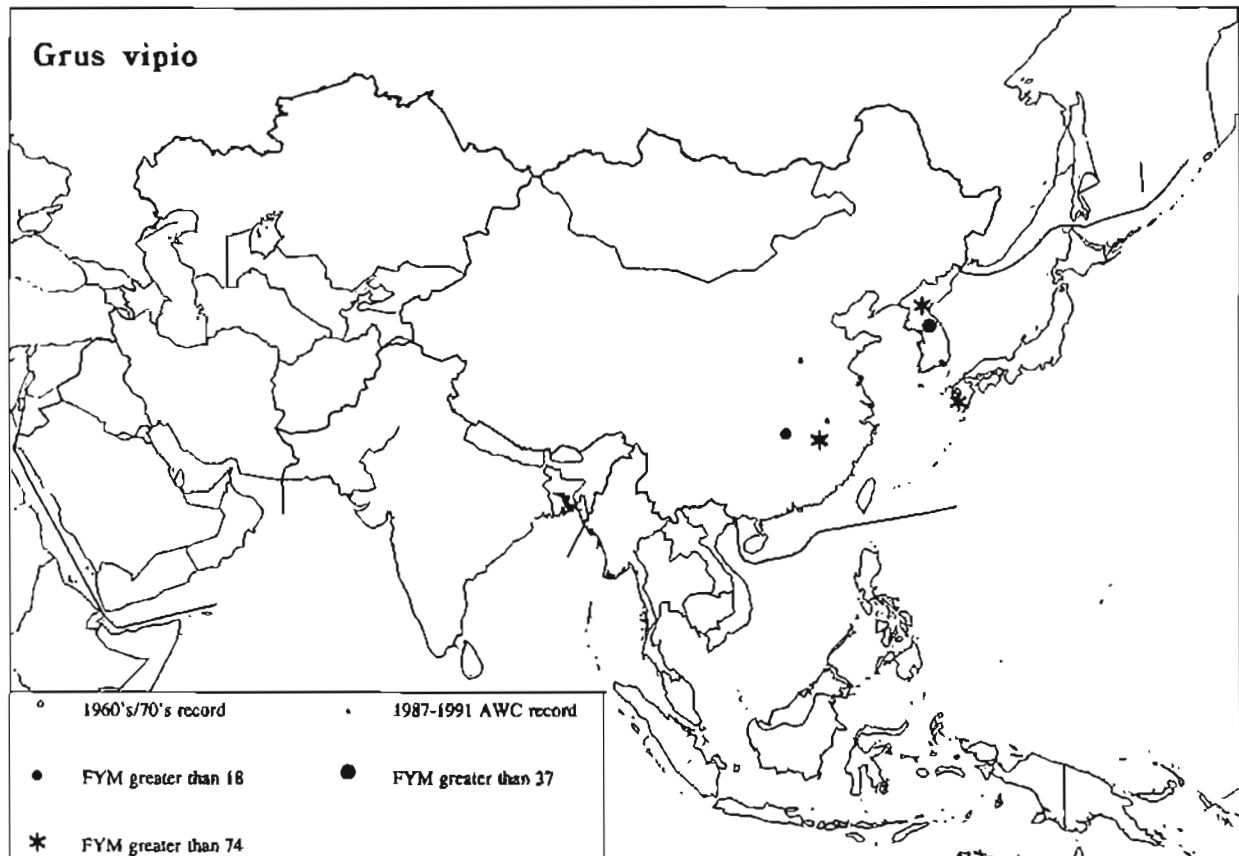


Figure 105: Distribution of *Grus vipio* as shown by the AWC 1987-1991

Sarus Crane

Grus antigone

Two subspecies occur. The nominate subspecies of the Indian subcontinent is largely sedentary, moving locally with conditions of drought and flood. This subspecies is now almost confined to India (Figure 106); a small breeding population still survives in the Nepal terai, but the species has become extinct as a breeding bird in Pakistan, and virtually so in Bangladesh. The eastern subspecies *sharpii* occurs in mainland SE Asia, and apparently undertakes regular seasonal migrations between its presumed breeding grounds in Laos and Cambodia and late winter (dry season) refuge in the Mekong Delta in Vietnam. Two populations are therefore recognized in Asia:

- S Asia (*antigone*): B (12,000-13,000; Gole 1990) [AWC 606]

Trends: Apparently decreasing (Gole undated).

- SE Asia (*sharpii*): A (800-1,100) [AWC 66]

Trends: Possibly now stable or increasing after a long period of decline.

In S Asia, the species is extremely difficult to census since it is widespread in small numbers in non-wetland habitats, especially cultivation. Numbers counted are therefore only a tiny fraction of the population; however, numbers were estimated through a specific survey using sampling methods, designed and coordinated in India by Gole (1990).

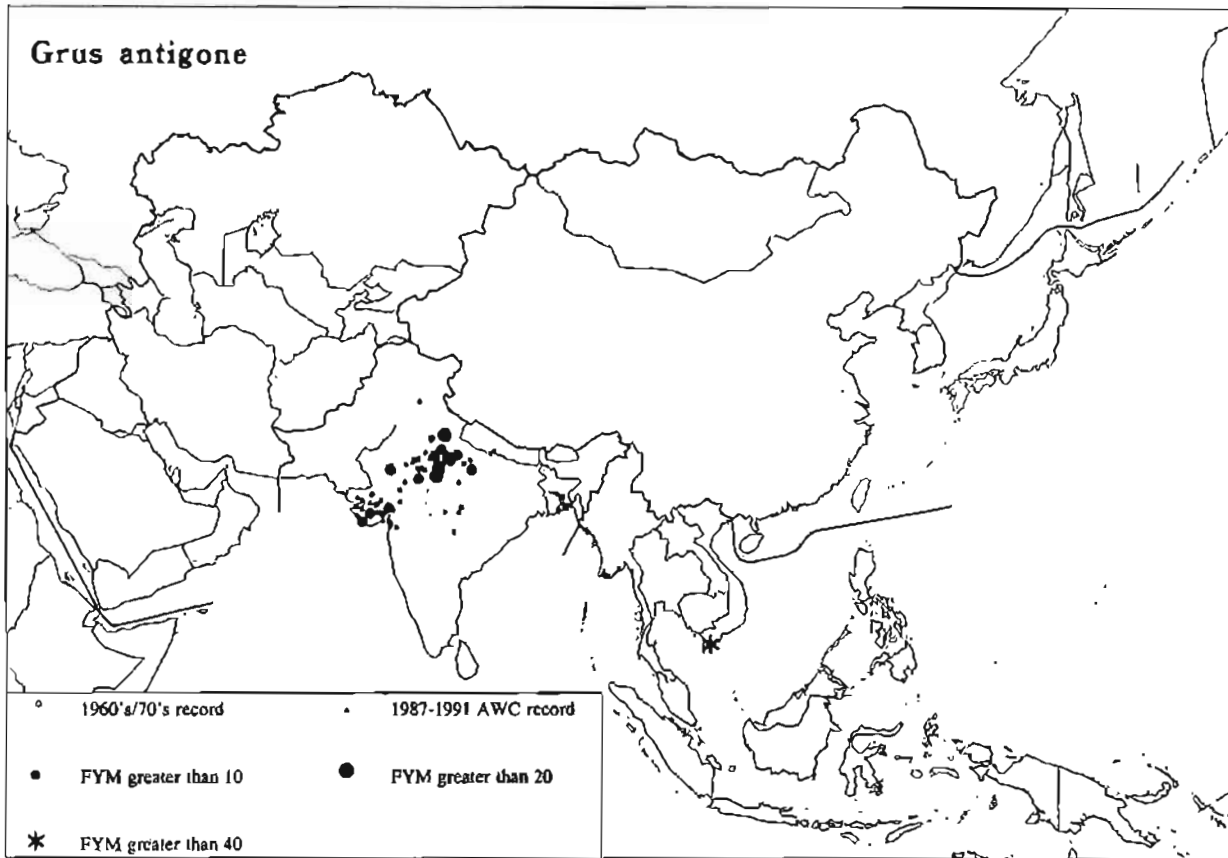


Figure 106: Distribution of *Grus antigone* as shown by the AWC 1987-1991

Potential sites of international importance

Because of its wide dispersion in small numbers in S Asia, no site reaches a FYM of 120 birds (1% level); concentrations of this size are exceptional. The maximum FYM recorded was at Shahjahanabad, Uttar Pradesh, India (30, 1yr). Larger concentrations occur during the dry season, i.e. after the AWC: for example, up to 275 in Keoladeo Ghana National Park, Bharatpur in India (Ali & Vijayan 1986).

In Vietnam, the Tram Chin Nature Reserve (FYM 66, 3yr) is the only site reaching 1% of the *sharpii* population. This important site may hold up to 700 cranes at the end of the dry season, i.e. most of the known population.

Brolga

Grus rubicunda

Monotypic. Confined to Australia and New Guinea, with no evidence of regular interchange between the two populations. Only one record was obtained during the AWC, in Papua New Guinea.

Siberian Crane

Grus leucogeranus

Monotypic; globally threatened. Breeds in northern Siberia. Three distinct populations are recognized (Figure 107).

- SW Asia (Iran): A (10-14) [AWC 6]
Trends: Stable, with minor annual fluctuations.
- S Asia (India): A (5 or 6 in 1992) [AWC 15]
Trends: Rapid decline in recent years.
- E Asia (China): A (2,600; ICF 1991) [AWC 1,700]
Trends: Declining.

Potential sites of international importance

The SW Asia population is confined in winter to Feridoon Kenar Damgah, in Mazandaran, Iran, and the S Asian population to Keoladeo Ghana National Park, Bharatpur, in India. Both are sites of critical importance for these populations. The dwindling S Asian population still numbered 38 birds in 1987, but is now virtually extinct (only five or six birds in 1992). The International Crane Foundation is currently attempting to reverse this trend by releasing captive-bred birds on the breeding grounds (G. Archibald, pers. comm.).

In E Asia, two sites in China reach a FYM of 25 or over: Poyang Lake, by far the most important, (FYM 1,530, 4yr) and the Yellow River, Hei Gang Kuo in Henan (86, 1yr).

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

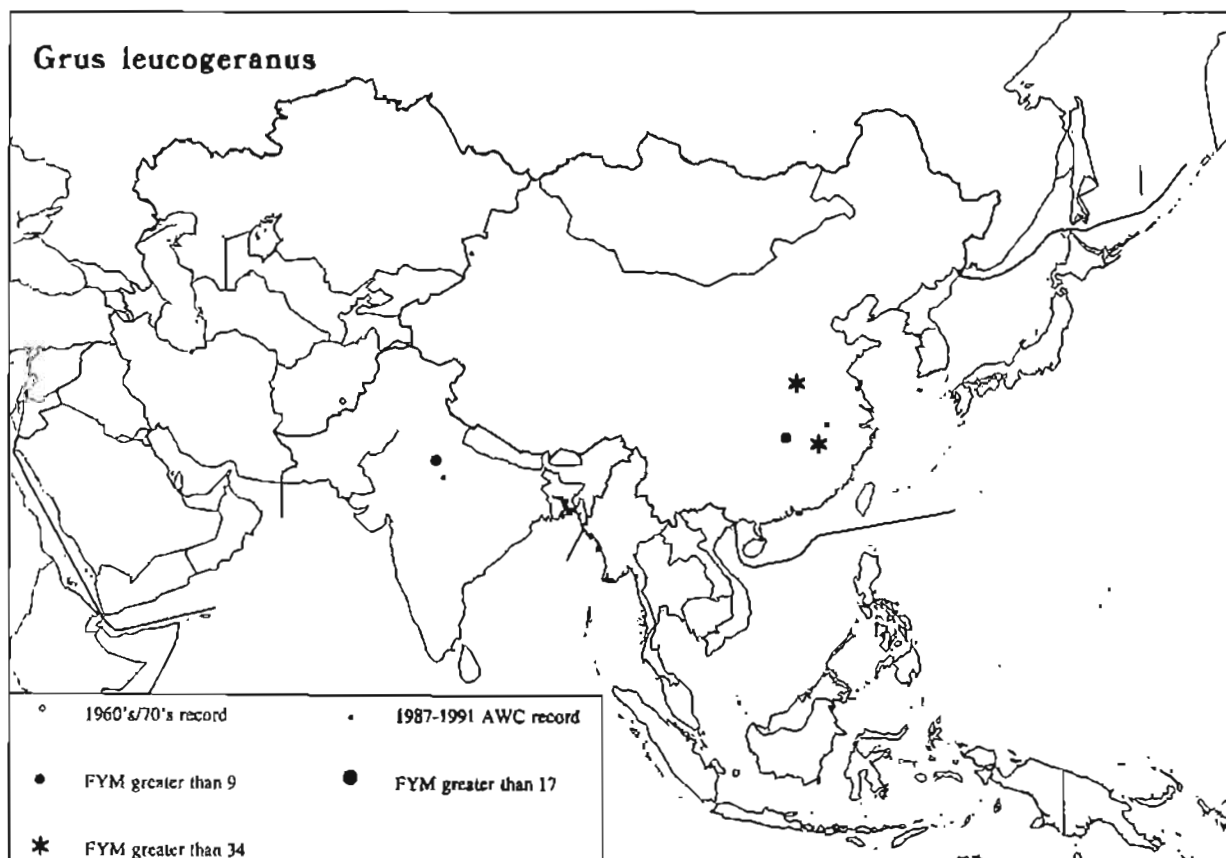


Figure 107: Distribution of *Grus leucogeranus* as shown by the AWC 1987-1991

Table 57: Potential sites of international importance for *Fulica atra* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN		KIROV BAY	243250	1
	AGJABEDI	AGGEL (AH GOL) LAKE	50000	1
CHINA	JIANGSU	YANCHENG SHORE	89400	2
INDIA	GUJARAT	KANEWAL	15544	5
	ORISSA	CHILKA LAKE	26700	4
IRAN	KHUZESTAN	IZEH & SHIBKHON LAKES	23118	4
	MAZANDARAN	GOMISHAN MARSH	47600	2
	MAZANDARAN	TORKMAN SAHRA	45400	1
PAKISTAN	PUNJAB	CHASHMA BARRAGE RESERVOIR	93515	5
	SIND	HADERO LAKE	25923	5
	SIND	HALEJI LAKE	61994	5
	SIND	HAMAL KATCHRI LAKE	23250	4
	SIND	HUB DAM	34870	5
	SIND	KEENJHAR LAKE	94331	5
TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	166500	1
	TASCHAUS OBLAST	LAKE SARAKAMYSH	87651	4

Common Coot

Fulica atra

Three subspecies occur, two of which appear to be mainly sedentary: *lugubris* in Java (Indonesia) and *novaeguineae* in New Guinea. The nominate subspecies is distributed widely across central and southern Asia, and no discrete populations are identifiable; however, for the present purposes, three main wintering groups are recognized (Figure 119).

- SW Asia (Iran and Central Asian Republics): E (2,000,000) [AWC 877,000; 1,453,000 with 1970s data]

Trends: Unknown overall, but declining in some areas.

- S Asia (to Bangladesh): E (1,500,000) [AWC 734,000]

Trends: Possibly stable.

- E/SE Asia (S to Thailand): D or E [AWC 269,000]

Trends: Unknown.

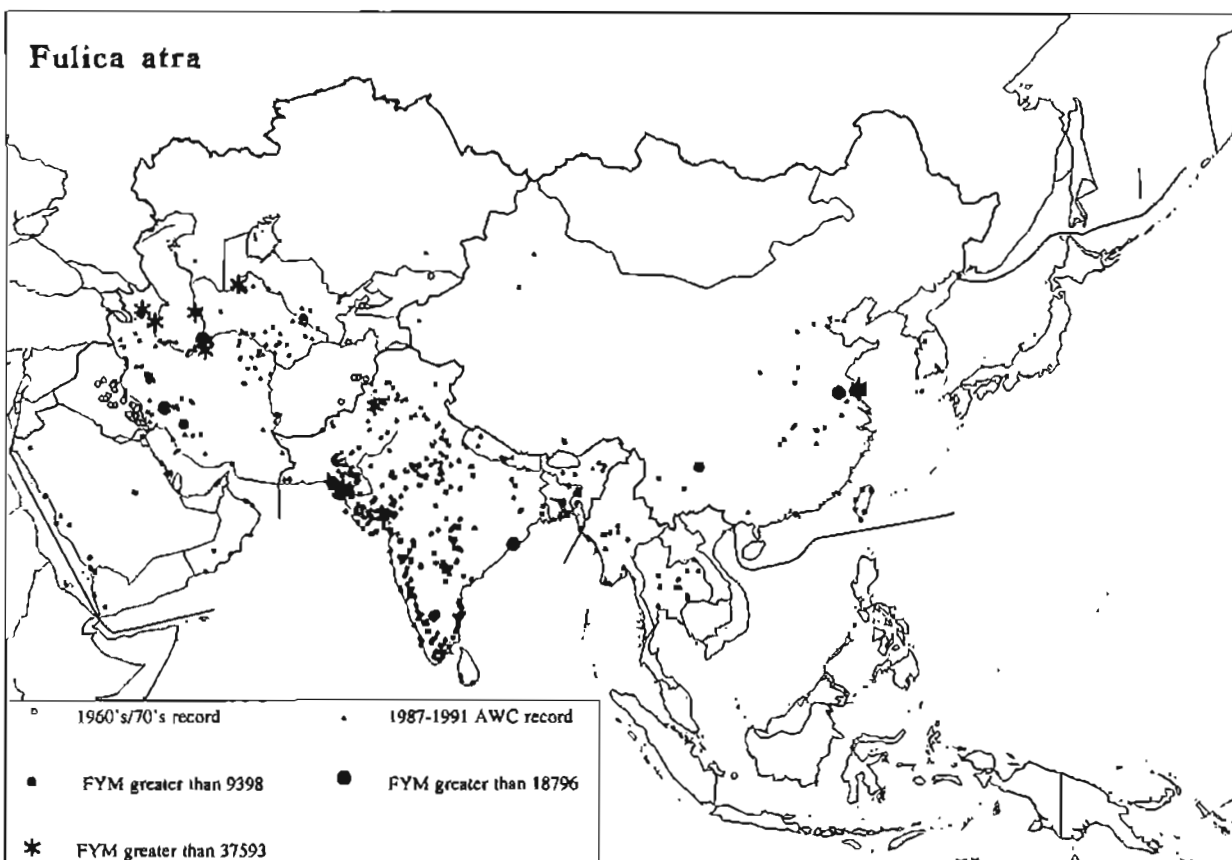


Figure 119: Distribution of *Fulica atra* as shown by the AWC 1987-1991

Potential sites of international importance

In SW Asia, seven sites (Table 57) have a FYM of over 20,000 (1% level): three in Iran, two in Azerbaijan, and two in Turkmenistan; several other sites supported about 10,000 birds each. In S Asia, eight sites (two in India and six in Pakistan) have a FYM of over 15,000 (1% level) and are likely to be of importance for the species. Two of the sites in Pakistan consistently support over 90,000 Coot.

In E Asia, despite the absence of a population estimate, the Jiangsu Coast in China (FYM 89,400, 2yr) is clearly of international importance.

Purple Swampphen

Porphyrio porphyrio

Six subspecies occur: *seistanicus* in the Caspian Region, E Iran and Afghanistan; *poliocephalus* from S Iraq to N Thailand; *viridis* from Myanmar and Thailand through Malaysia and Indochina to S China; *indicus* in Indonesia; *melanopterus* in E Indonesia and New Guinea; and *pulverulentus* in the Philippines. The species appears to be sedentary over most of its very extensive range. Three groups are recognized.

- SW Asia: Unknown; generally common. [AWC 8,040; 8,800 with 1970s data].
Trends: Unknown.
- S Asia: Unknown; generally common. [AWC 12,200].
Trends: Unknown.
- SE Asia: Unknown; generally common. [AWC 5,800].
Trends: Unknown.

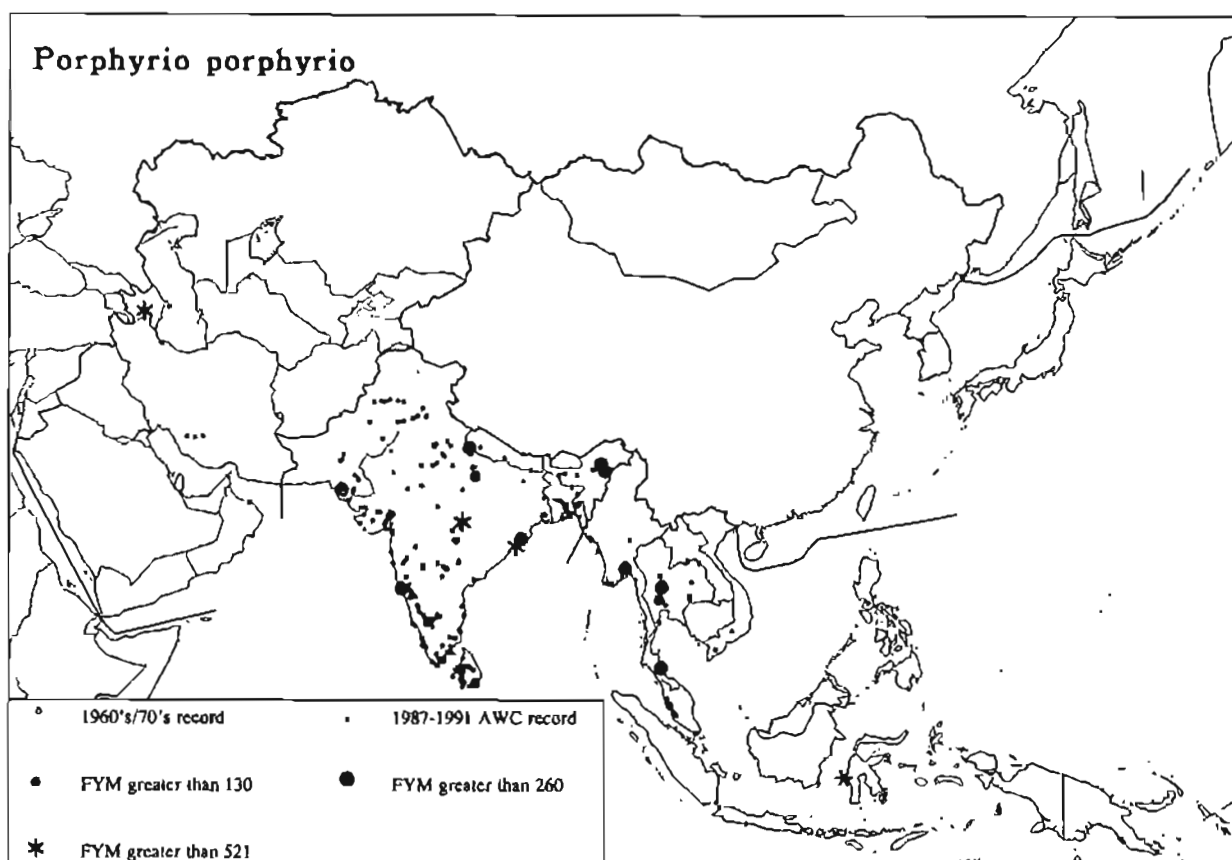


Figure 118: Distribution of *Porphyrio porphyrio* as shown by the AWC 1987-1991

The species is widely recorded throughout its range (Figure 118) and, unlike most rails, is relatively well covered by the AWC, although a large proportion of the population is still missed, particularly in SW Asia where the species tends to be secretive.

Important sites

In the absence of population estimates, no sites of international importance can be identified. The three most important sites were Lake Aggel in Azerbaijan (8,000, 1yr), Tempe Lake in Sulawesi, Indonesia (3,970, 1yr) and Chilka Lake in Orissa, India (FYM 2,660, 4yr).

Moorhen

Gallinula chloropus

Four subspecies occur in Asia. Two of these appear to be sedentary: *orientalis* of the Greater Sundas and Indonesia, and *lozanoi* of the Philippines. *G. c. indica* breeds from India east to Japan and is migratory in the northern part of its range in China, Korea, Japan and the eastern Russia. The nominate subspecies breeds widely in West Eurasia east to Central Asia; northern populations are migratory, wintering south to SW Asia and S Asia where they overlap with sedentary *indica* (Figure 117). Three main groups are recognized.

- SW Asia (*chloropus*): Probably D [AWC 1,784]
Trends: Unknown.
- S Asia (*chloropus* and *indica*): Unknown; generally common. [AWC 4,600]
Trends: Probably stable.
- E/SE Asia (*indica* only): Unknown; generally common. [AWC 5,600]
Trends: Unknown.

This common and widespread species was reported in nearly all parts of its range during the AWC. However, in the absence of a population estimate, no sites of international importance can be identified.

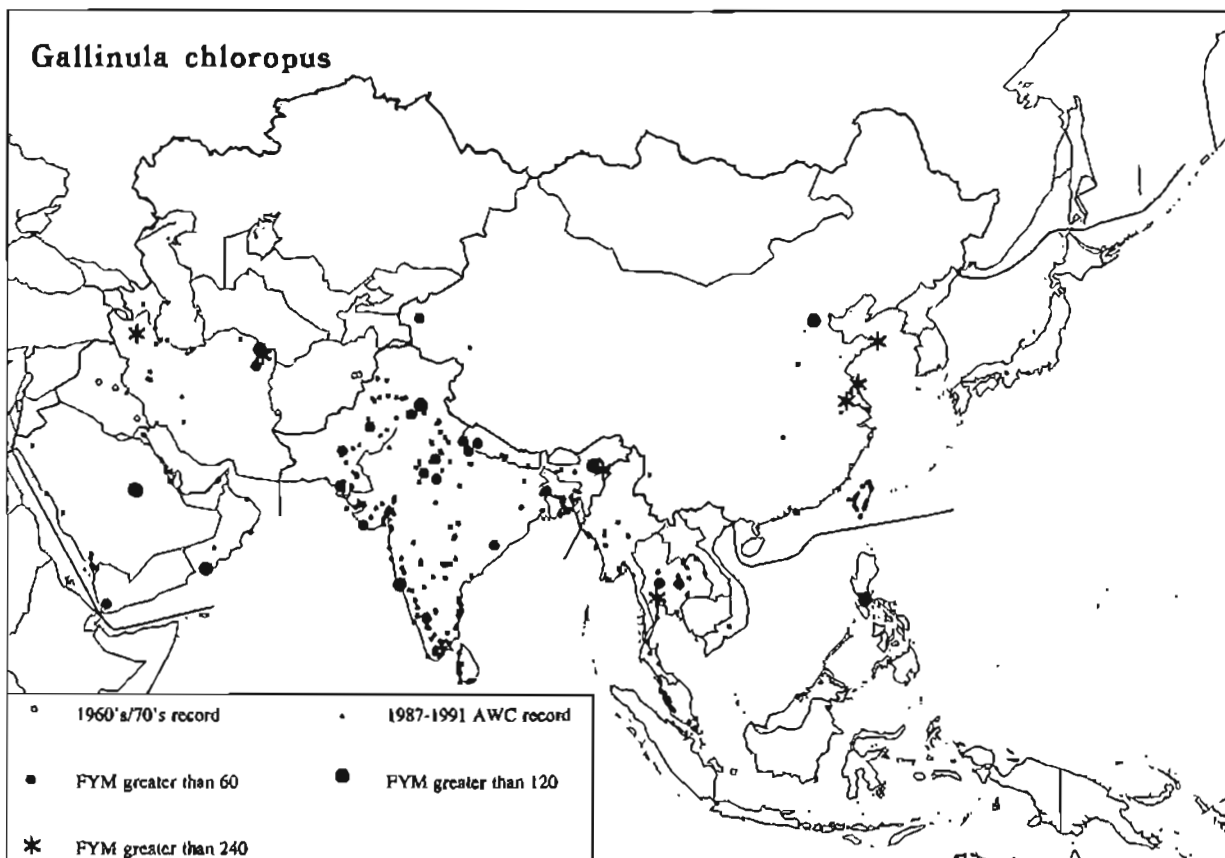


Figure 117: Distribution of *Gallinula chloropus* as shown by the AWC 1987-1991

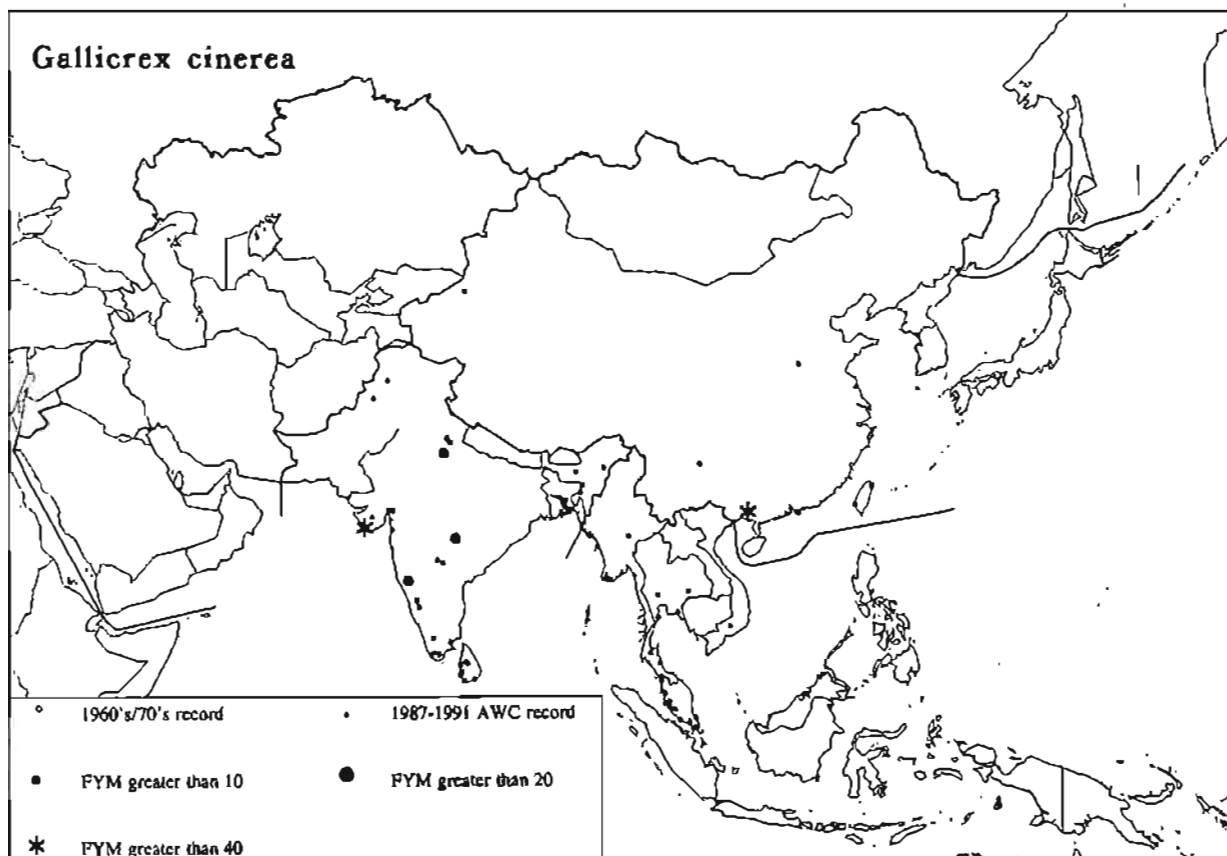


Figure 116: Distribution of *Gallicrex cinerea* as shown by the AWC 1987-1991

Dusky Moorhen

Gallinula tenebrosa

Two subspecies occur; both are probably sedentary.

- Indonesia and S New Guinea (*frontata*): Unknown [AWC 4,200]

Trends: Unknown.

- N New Guinea (*neumanni*): Unknown [AWC 0]

Trends: Unknown.

As with all rails, this species is very inadequately covered by the AWC. Only a few records were obtained in Papua New Guinea and Indonesia.

Important sites

Although no population estimates are available, an estimate of 8,900 birds at Lake Tempe in Sulawesi, Indonesia, by Baltzer (1990) could indicate that this site is potentially of international importance for the species. However, as this high figure was derived by extrapolation from sample counts in a relatively small area, the estimate should be treated with caution. No large numbers were reported from elsewhere.

Although many records were obtained (Figure 115), this species is widely dispersed in rice fields and ditches and so is very inadequately covered by the AWC. In the absence of population estimates, no sites of international importance can be identified. The only large concentration found was at Kaziranga National Park, India (330, 1yr).

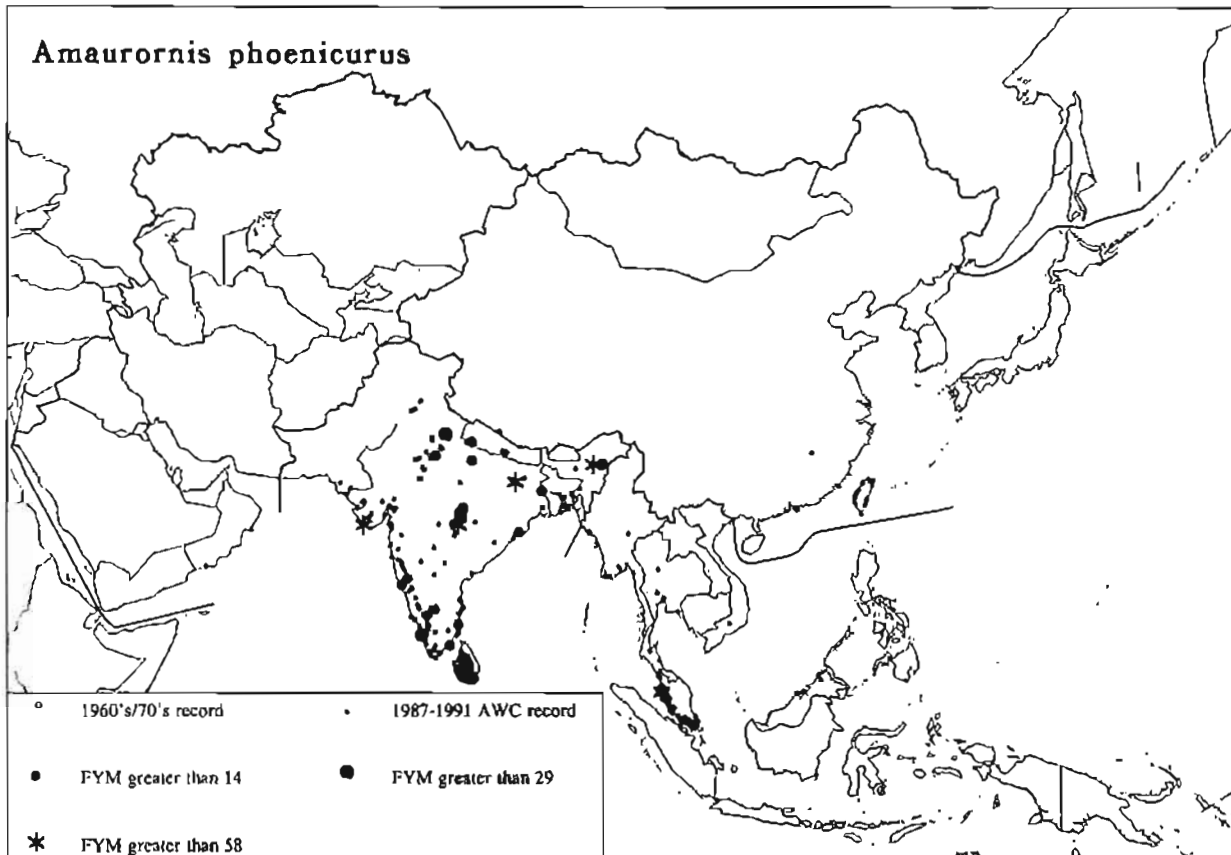


Figure 115: Distribution of *Amauornis phoenicurus* as shown by the AWC 1987-1991

Watercock

Gallicrex cinerea

Monotypic. Breeding populations in S Asia, SE Asia and the Philippines appear to be largely sedentary or subject only to local movements. Populations breeding in China and Korea are migratory, moving south to the Greater Sundas in Indonesia; in winter, they overlap with sedentary populations in SE Asia (Figure 116).

- S Asia: Unknown; widespread [AWC 230]

Trends: Unknown.

- E/SE Asia: Unknown; formerly very common. [AWC 360]

Trends: Declining.

Widely dispersed in ditches and rice fields, this species is very inadequately covered by the AWC. In the absence of population estimates, no sites of international importance can be identified.

Rufous-tailed Moorhen*Amaurornis olivaceus*

Three subspecies occur, all probably sedentary: the nominate subspecies of the Philippines, *moluccanus* of N and E New Guinea and the Moluccas, and *ruficrissus* from SE New Guinea. Only a few records were obtained as part of the AWC, in Papua New Guinea [AWC 2].

Isabelline Bush-hen*Amaurornis isabellinus*

Monotypic; confined to Sulawesi, Indonesia. No records were obtained as part of the AWC.

New Guinea Flightless Rail*Amaurornis ineptus*

A flightless rail confined to New Guinea. Two subspecies have been described, the nominate form and *pallidus*. No records were obtained as part of the AWC.

Brown Crake*Amaurornis akool*

Two subspecies have been described: the nominate form of N India and *coccineipes* of SE China and NE Indochina. The species appears to be sedentary over most of its range, but is a local migrant in northern India and central China.

As with all rails, this species is very inadequately covered by the AWC although there are a few records in India and Nepal [AWC 5]. In the absence of a population estimate, no sites of international importance can be identified.

Black-tailed Crake*Amaurornis bicolor*

Monotypic. Occurs from north India east to Indochina and southern China. Mainly sedentary with some local movements. No records were obtained as part of the AWC.

White-breasted Waterhen*Amaurornis phoenicurus*

Three subspecies occur. Two of these, *insularis* of the Andaman and Nicobar Islands in India, and *leucomelanus* of Sulawesi and the Lesser Sundas in Indonesia, are mainly sedentary. The nominate subspecies occurs widely across southern Asia from Pakistan to China, but only the northernmost populations in central China are migratory, spending the winter in SE Asia. Two groups are recognized.

- S Asia: Unknown; generally common. [AWC 2,300]

Trends: Possibly stable.

- E/SE Asia: Unknown; generally common. [AWC 560]

Trends: Possibly stable.

Spotted Crake

Porzana porzana

Monotypic. Central Asian populations winter in S Asia. W Asian populations are largely extralimital, and winter almost exclusively in Africa, with a few birds remaining in the Arabian Peninsula. Only a few records were obtained during the AWC, in Saudi Arabia and Oman. No important sites can be identified.

Ruddy-breasted Crake

Porzana fusca

Four subspecies occur: three appear to be mainly sedentary (the nominate subspecies of S and SE Asia to Sulawesi in Indonesia, *phaeopyga* of the Ryukyu Islands in Japan, and *zeylonica* of SW India and Sri Lanka); *P. f. erythrothorax* of China, Korea and Japan is migratory, wintering south to Myanmar, Thailand and Cambodia. Two groups are recognized.

- E/SE Asia: (*fusca* and *erythrothorax*): Unknown, generally fairly common. [AWC 213]
Trends: Unknown.
- S Asia: (*zeylonica* and *fusca*): Unknown [AWC 2]
Trends: Unknown.

As with all rails, this species is very inadequately covered by the AWC, although there are observations in various parts of its range (Figure 114). In the absence of a population estimate, no sites of international importance can be identified. In E China, the Yancheng shore (FYM 58, 2yr) had an unusually large number of Ruddy-breasted Crakes and the importance of this site needs to be confirmed.

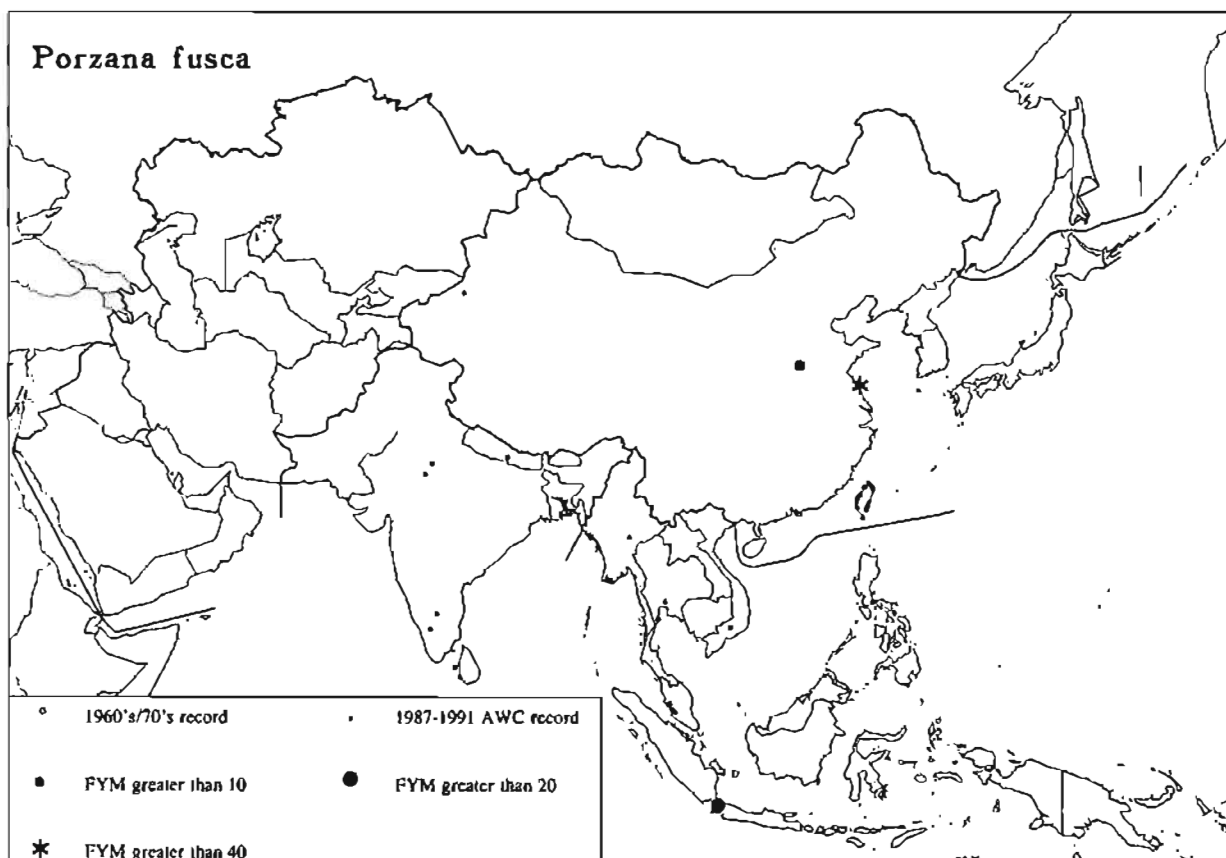


Figure 114: Distribution of *Porzana fusca* as shown by the AWC 1987-1991

Baillon's Crake

Porzana pusilla

Three subspecies occur, and two of these appear to be largely sedentary (*mira* of Malaysia and Indonesia and *mayri* of New Guinea). The nominate subspecies breeds across Eurasia to China and Japan and is widespread in southern Asia in winter. Two main groups are recognized.

- SW/S Asia: Unknown; possibly fairly common. [AWC 2]

Trends: Unknown.

- E/SE Asia (south to Malaysia and Philippines): Unknown; generally fairly common. [AWC 134].

Trends: Unknown.

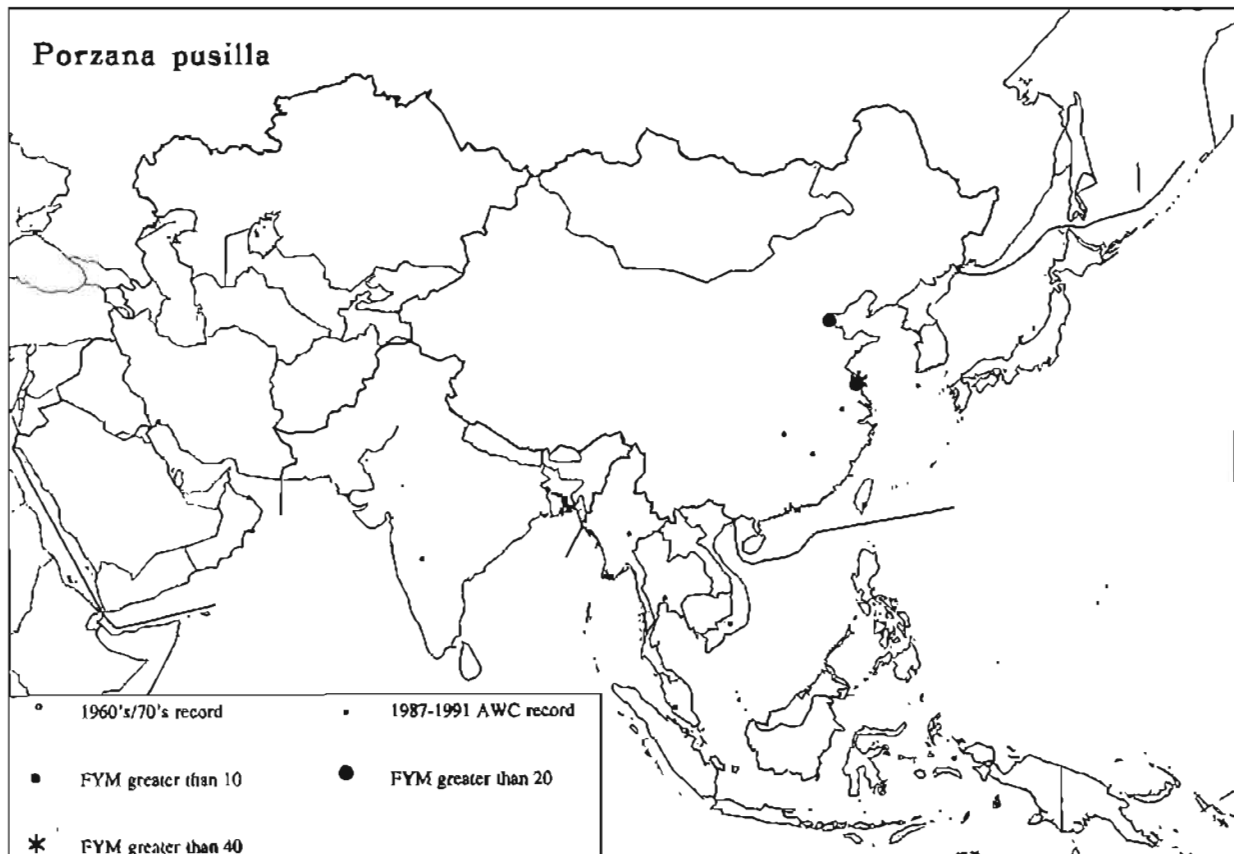


Figure 113: Distribution of *Porzana pusilla* as shown by the AWC 1987-1991

As with all rails, this species is very inadequately covered by the AWC. There are scattered observations in various parts of its range (Figure 113).

Important sites

In the absence of a population estimate, no sites of international importance can be identified. At three sites in E China, comparatively large numbers of Baillon's Crake were counted: Yancheng Shore (FYM 23, 2yr), Shijiu Hu (FYM 7, 3yr) and Beidagang (20, 1yr).

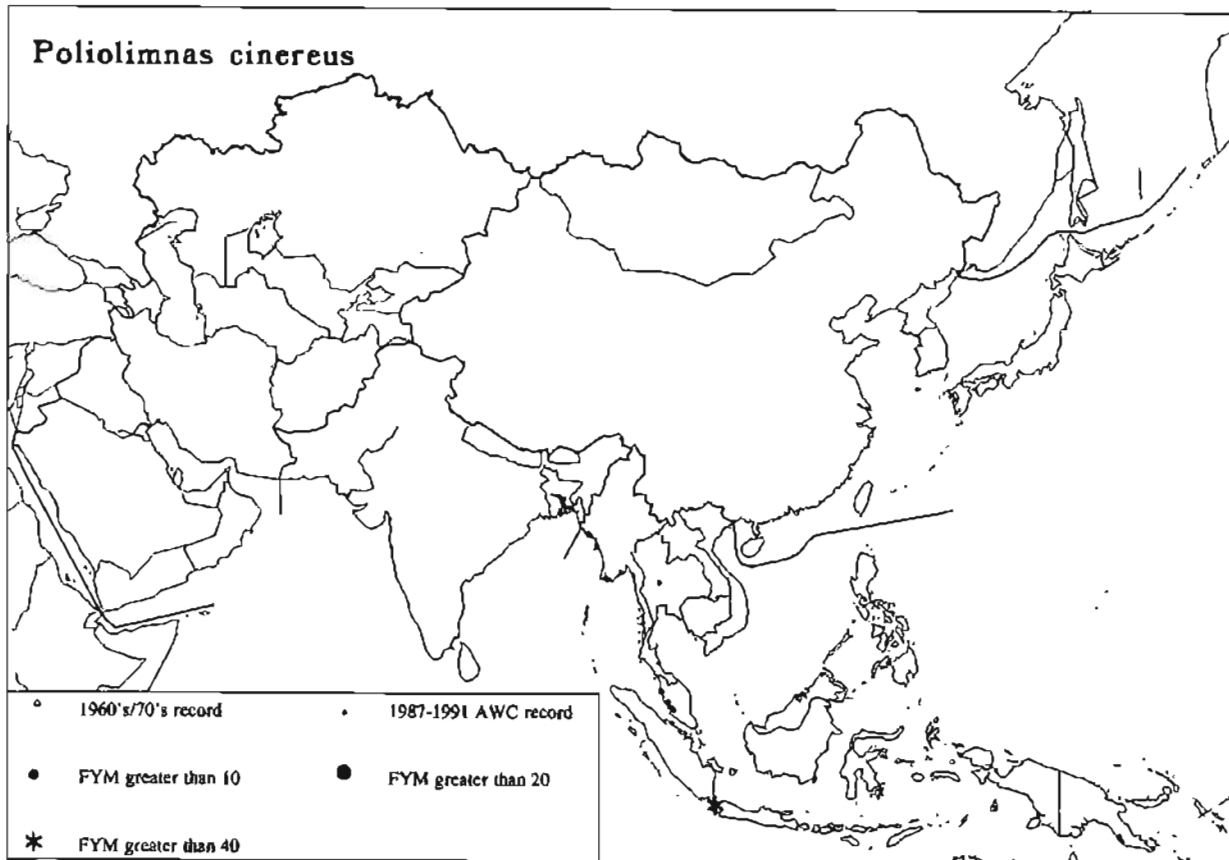


Figure 112: Distribution of *Poliolimnas cinereus* as shown by the AWC 1987-1991

Band-bellied Crake

Porzana paykullii

Monotypic. Resident in SE Asia and southern E Asia. Only one population is recognized.
- E/SE Asia (entire population): Unknown; generally very scarce. [AWC 1]
Trends: Unknown.

Only a few records were obtained during the AWC in China. No important sites can be identified.

Spotless Crake

Porzana tabuensis

Two subspecies occur in New Guinea, *edwardi* and *richardsoni*. The species appears to be mainly sedentary. No records were obtained as part of the AWC.

Little Crake

Porzana parva

The subspecies *illustris* breeds from Turkestan to western China and is believed to winter in Pakistan and NW India. One population is recognized.
- Central/S Asia: Unknown; scarce. [AWC 3]
Trends: Unknown.

Only a few records were obtained during the AWC. No important sites can be identified.

Red-legged Crake*Rallina fasciata*

Monotypic. Generally rather scarce. Only one population is recognized.

- SE Asia (entire population): Unknown; scarce. [AWC 1]

Trends: Unknown.

Only a few records were obtained during the AWC. No important sites can be identified.

Banded Crake*Rallina eurizonoides*

Six subspecies occur: four appear to be largely sedentary (*sepiaria* of the Ryukyu Islands, *formosana* of Taiwan, *minahasa* of Sulawesi and Sula Islands, and *eurizonoides* of the Philippines); *R.e. amauroptera* of S Asia is a winter visitor to Sri Lanka; *telmatophila* of Myanmar and Indochina is a migrant to Malaysia and Indonesia. Two populations are recognized.

- S Asia: Unknown; generally fairly common. [AWC 1]

Trends: Unknown.

- SE Asia: Unknown; generally fairly common. [AWC 8]

Trends: Unknown.

Only a few records were obtained during the AWC. No important sites can be identified.

Corn Crake*Crex crex*

A monotypic, globally threatened species of grasslands, crop fields and scrub, rarely found in wetlands. Mainly extralimital; the breeding populations in Central Asia (east to far western China at 115°E) migrate southwest to spend the winter in Africa south of the Sahara. The species occurs as a regular passage migrant in W Iran, and has been recorded as a vagrant in Pakistan and Sri Lanka. No records were obtained during the AWC.

Asian Yellow Rail*Coturnicops exquisitus*

Monotypic; globally threatened. Breeds from Siberia to N China and winters south to S China, Japan and Korea.

Only one record was obtained during the AWC: a single bird on the Yancheng shore, China, on 6 January 1991.

White-browed Rail*Poliolimnas cinereus*

Three subspecies occur: the nominate of Malaysia and Indonesia, *ocularis* of the Philippines and Sulawesi (Indonesia), and *leucophrys* of New Guinea. The species appears to be largely sedentary (Figure 112).

Few records were obtained during the AWC in SE Asia [AWC 79], and no important sites can be identified.

Potential sites of international importance

As with all rails, this species is very inadequately covered by the AWC, although there are records in all parts of its range (Figure 111). In the absence of population estimates, no sites of international importance can be identified. There are six sites in China where Water Rails have been counted regularly and which may be of importance for the species. Data from India are interesting as the species was thought to be restricted to the north and northwest part of the country (Ali & Ripley 1983); thus observations in S India need to be verified.

Okinawa Rail*Rallus okinawae*

Monotypic; a globally threatened species confined to Okinawa Island in Japan. The total population has been estimated at more than 1,500 birds (Collar & Andrew 1988). No records were obtained as part of the AWC as the island was not covered during the census.

Chestnut Forest-Rail*Rallina rubra*

A sedentary species confined to New Guinea; three subspecies have been described, the nominate, *tefolminensis* and *klossi*. No records were obtained as part of the AWC as the habitat of the species is not covered during the census.

White-striped Forest-Rail*Rallina leucospila*

A monotypic, sedentary species confined to New Guinea. No records were obtained as part of the AWC as the habitat of the species is not covered during the census.

Forbes' Rail*Rallina forbesi*

A sedentary species confined to New Guinea; four subspecies have been described, the nominate, *parva*, *dryas* and *steini*. No records were obtained as part of the AWC.

Mayr's Rail*Rallina mayri*

A sedentary species confined to New Guinea; two subspecies have been described, the nominate and *carmichaeli*. No records were obtained as part of the AWC.

Red-necked Crake*Rallina tricolor*

Apparently sedentary; a forest crake of New Guinea with two subspecies (nominate and *convicta*). No records were obtained as part of the AWC as the habitat of the species is not covered during the census.

Andaman Crake*Rallina canningi*

Monotypic. Confined to the Andaman Islands. No records were obtained as part of the AWC as the islands were not covered during the census.

Barred Rail*Rallus torquatus*

Apparently sedentary; five subspecies have been described: the nominate subspecies of the Philippines; *celebensis*, *sulcirostris* and *kuehni* of Indonesia; and *limarius* of NW New Guinea, suggesting little interchange between island populations. Only a few records were obtained as part of the AWC in SE Asia [AWC 7].

Water Rail*Rallus aquaticus*

Two subspecies occur. *R.a. korejewi* breeds in SW and Central Asia east to China, and winters mainly in S and SW Asia, although some may winter in S China. *R.a. indicus* breeds from N Mongolia to Japan and winters from NE India through SE Asia to S China. Two main wintering populations are recognized.

- S/SW Asia (mainly *korejewi*): Unknown; generally fairly common. [AWC 64]
Trends: Unknown.
- E/SE Asia (mainly *indicus*): Unknown; generally fairly common. [AWC 390]
Trends: Unknown.

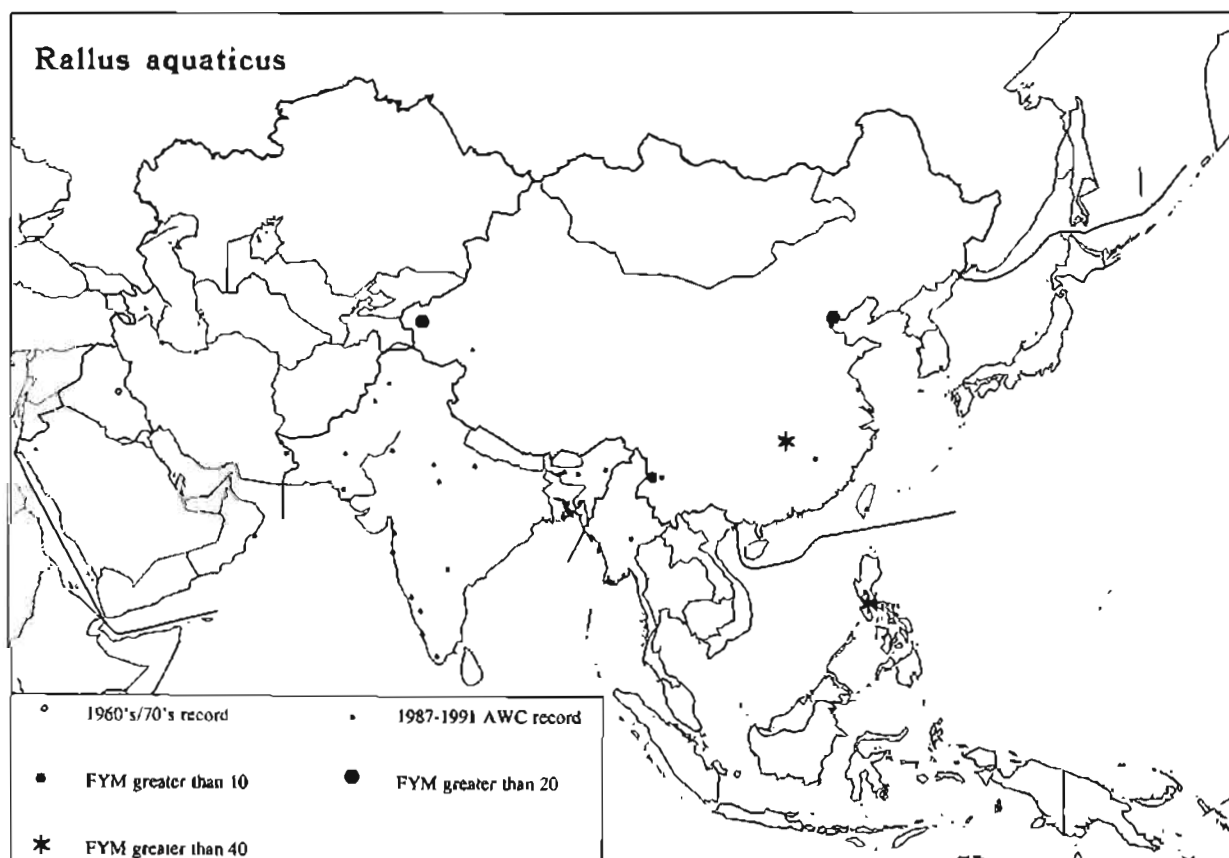


Figure 111: Distribution of *Rallus aquaticus*, as shown by the AWC 1987-1991

Brown-banded Rail*Rallus mirificus*

Monotypic; globally threatened. Confined to the Philippines. No record was obtained during the AWC.

Blue-breasted Banded Rail (Slaty-breasted Rail)*Rallus striatus*

Apparently sedentary, with seven subspecies in S Asia, SE Asia and the southern part of E Asia. Three main groups are recognized.

- S Asia: Unknown; fairly common. [AWC 1]
Trends: Unknown.
- SE Asia: Unknown; generally fairly widespread and common. [AWC 19]
Trends: Unknown.
- E Asia: Unknown [AWC 7]
Trends: Unknown.

Although widespread and common in rice fields and vegetated marshes in SE Asia, it is difficult to observe and only a few records were obtained during the AWC (Figure 110). In the absence of a population estimate, no important sites can be identified.

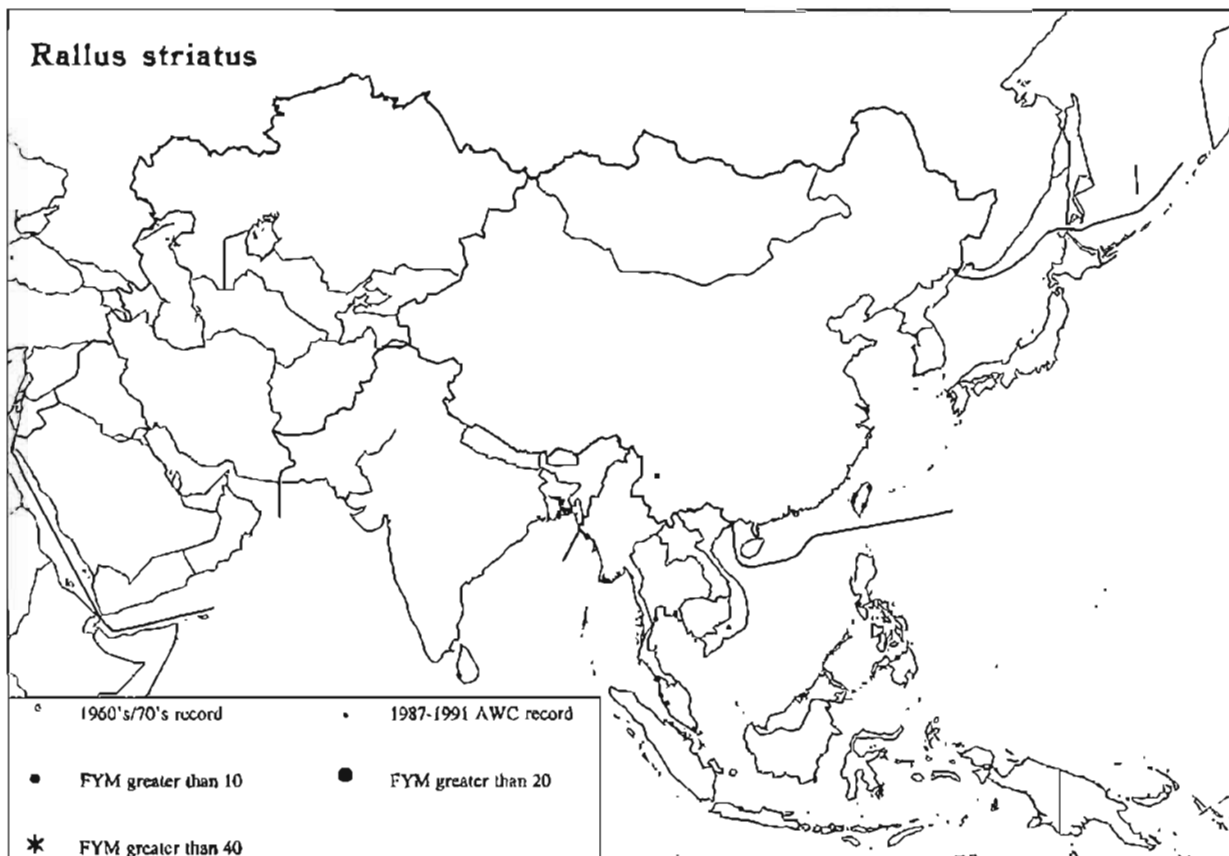


Figure 110: Distribution of *Rallus striatus* as shown by the AWC 1987-1991

RALLIDAE**Chestnut-bellied Rail***Eulabeornis castaneiventris*

One subspecies (*sharpei*) occurs in the Aru Islands in Indonesia. No records were obtained as part of the AWC as the islands were not covered during the census.

Bare-eyed Rail*Eulabeornis plumbeiventris*

Two subspecies occur; the nominate and *hoeveni* in Indonesia and Papua New Guinea. No records were obtained as part of the AWC.

Bald-faced Rail*Eulabeornis rosenbergii*

Monotypic; globally threatened. Restricted to N and C Sulawesi in Indonesia. No records were obtained as part of the AWC.

Snoring Rail*Rallus plateni*

Monotypic; globally threatened. Restricted to Sulawesi in Indonesia. No records were obtained as part of the AWC.

Wallace's Rail*Rallus wallacii*

Monotypic; globally threatened. Restricted to Halmahera Island in Indonesia. No records were obtained as part of the AWC as the island was not covered during the census.

New Britain Rail*Rallus insignis*

Monotypic; confined to New Britain Island in Papua New Guinea. No records were obtained as part of the AWC as the island was not covered during the census.

Banded Rail*Rallus philippensis*

Apparently sedentary; 24 subspecies have been described in SE Asia, suggesting little interchange between island populations.

- SE Asia: Unknown; fairly common. [AWC 30]

Trends: Unknown.

Only a few records were obtained during the AWC in the Philippines and Indonesia. No important sites can be identified.

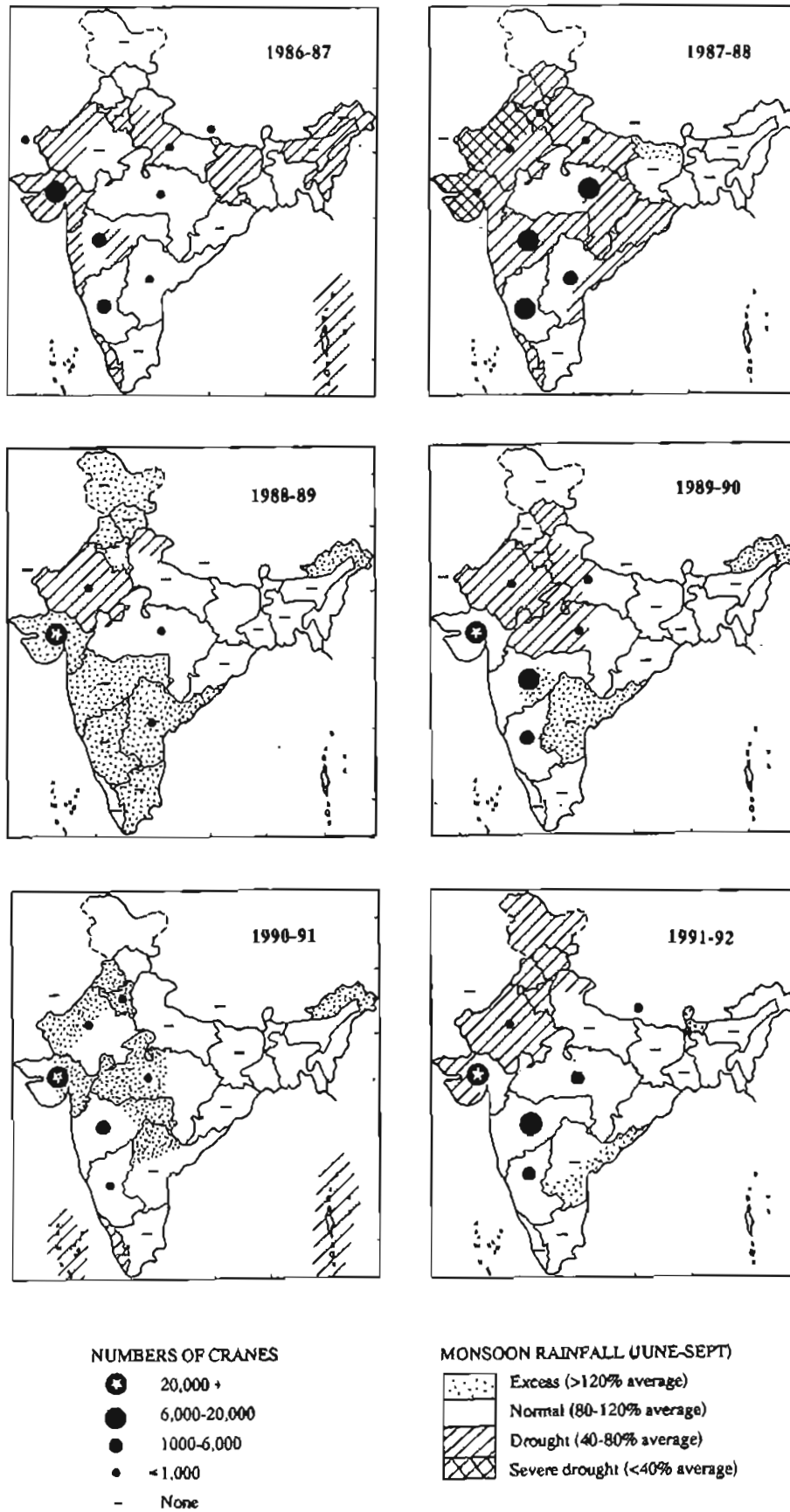


Figure 109: Distribution of *Anthropoides virgo* in South Asia, January 1989 to 1992, as a function of rainfall

The second most important site, Yeralwadi Tank (8,000, 1yr), is in Maharashtra; however, it was counted only once and its importance has yet to be confirmed.

Table 56: Potential sites of international importance for *Anthropoides virgo* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	POCHARAM	1866	3
	GUJARAT	AMIPUR TANK	10575	2
	GUJARAT	BAGODARA - NAL KANTHA	1500	1
	GUJARAT	GOMA DAM	3000	1
	GUJARAT	JAPRABAD SALT WORKS	3886	3
	GUJARAT	KANEWAL	3072	5
	GUJARAT	LUNIVAV DAM	2836	1
	GUJARAT	SADDA DAM	1956	1
	GUJARAT	VACHHAPARI DAM	1631	1
	GUJARAT	VERI DAM	1801	2
	KARNATAKA	HIDKAL RESERVOIR	2750	4
	MADHYA PRADESH	MADHAV NATIONAL PARK	2537	3
	MAHARASHTRA	BUDHIHAL	1500	1
	MAHARASHTRA	JAYAKWADI B.S	2695	3
	MAHARASHTRA	MADMESWAR, NASHIK	1543	1
	MAHARASHTRA	MORNA SMALL DAM	4013	1
	MAHARASHTRA	YERALWADI TANK	8000	1

Other important sites

In E Asia, the major site was the Yellow River at Hei Gang Kuo in Henan (92, 1yr).

Distribution as a function of rainfall

In India, the numbers counted during the AWC have been fairly consistent (37,000-46,000) since good coverage was first achieved in 1988. The distribution of Demoiselle Cranes varies considerably from year to year (Figure 109). It has long been suspected or known by local ornithologists that this depends on rainfall; the AWC demonstrates this by plotting the distribution of the cranes against the amount of rain received in the previous monsoon (June to September, as per The Hindu Weather Report). However, it should be kept in mind that the following analysis is based upon non-comprehensive counts and that confirmation of its results is still needed.

The figures suggest the following pattern. Following a bountiful monsoon in at least part of the state of Gujarat (1988-89 and 1990-91), the Demoiselle Cranes are highly concentrated (85-94%) in this state in January. Despite an equally good monsoon in states further south and east, very few birds winter there. An average monsoon (1989-90) or a moderate drought (1986-87, 1991-92) in Gujarat prompts substantial numbers of cranes to move further east and south in Maharashtra and Karnataka; but Gujarat still retains its status as the main wintering area. A very severe drought in Gujarat (1987-88) forces virtually all the cranes to winter in Maharashtra, Karnataka and even further east and south (Madhya Pradesh, Andhra Pradesh), in places with a normal monsoon or affected by only a moderate drought.

Therefore, while Gujarat is the core wintering area for the species in Asia (the states of Maharashtra and Karnataka are important complementary areas), Madhya Pradesh and Andhra Pradesh are critical refuges in times of severe drought. It also appears that following a very severe drought in Gujarat (1987-88), a bountiful monsoon brings wintering cranes back immediately (1988-89).

Demoiselle Crane

Anthropoides virgo

Monotypic; breeds from S Ukraine across S Russia and Kazakhstan to Mongolia and N China. Three wintering populations are recognized (Figure 108): a population wintering mainly in East Africa with a few birds remaining in SW Asia; a large population wintering in the Indian subcontinent (mostly NW India); and a small population wintering in China.

- E Africa/SW Asia: C/D (100,000; G. Archibald, pers. comm.) [AWC 3]

Trends: Unknown.

- S Asia: D (150,000) [AWC 82,600]

Trends: Unknown; possibly declining.

- E Asia: A (probably less than 1,000) [AWC 110]

Trends: Declining.

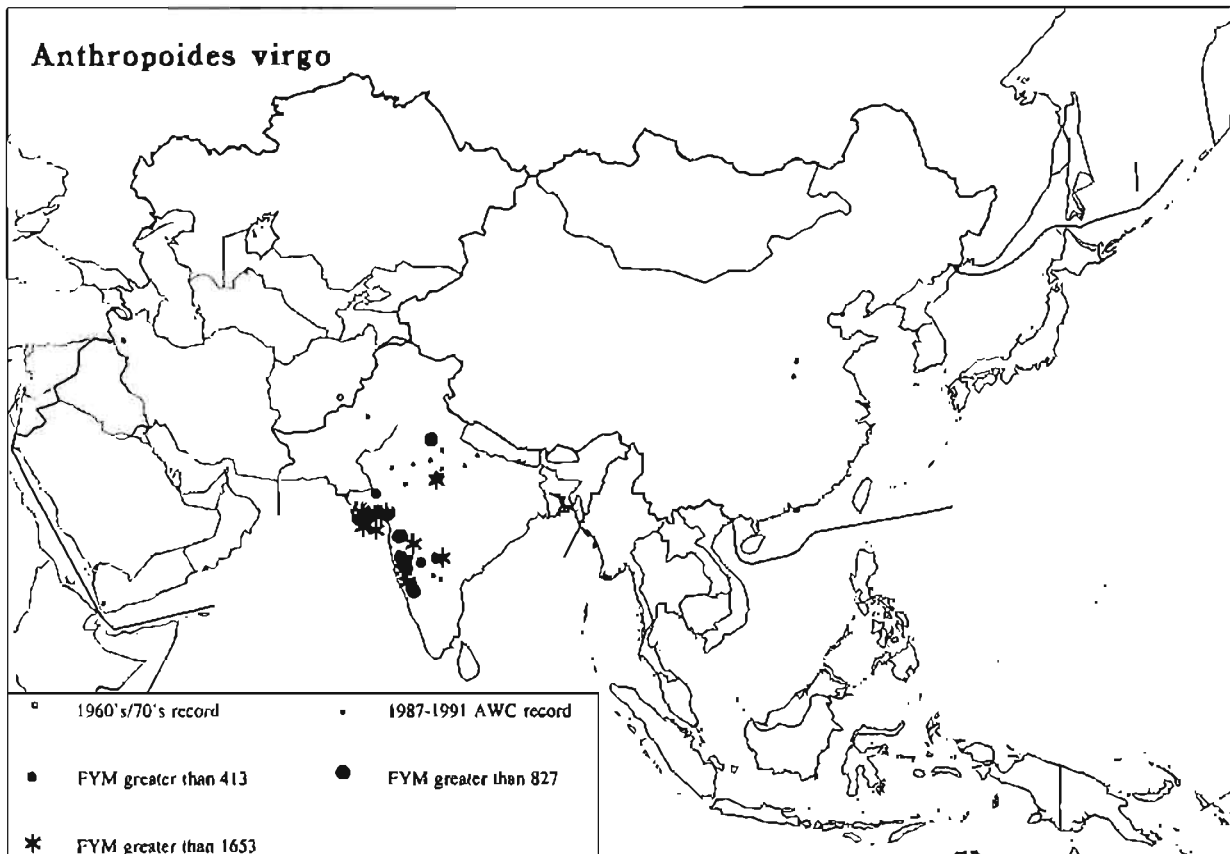


Figure 108: Distribution of *Anthropoides virgo* as shown by the AWC 1987-1991

Potential sites of international importance

Very few birds winter in SW Asia, and there are no sites of international importance for the species in this region.

In S Asia, 17 sites, all in India, reach an average of 1,500 birds (1% level) and are potentially of international importance (Table 56). For many of them, coverage has been scanty. Fourteen of these sites are in the NW states of Gujarat and Maharashtra. Outstanding among them is Amipur Tank (Gujarat), a large freshwater reservoir created in 1986-87, with an average of over 10,000 Demoiselle Cranes and a record of over 41,000 in January 1992 (pers. obs., not taken into account in the average).

HELIORNITHIDAE**Masked Finfoot***Hellopais personata*

Monotypic; globally threatened. The species occurs from NE India eastwards to Indochina, the Malay Peninsula, and Sumatra and Java (Indonesia). Only one population is recognized.

- SE Asia (to NE India; entire population): Probably A, but very poorly known. [AWC 2]

Trends: Declining.

Only a few records of this rare and shy species were obtained during the AWC, in Bangladesh and Peninsular Malaysia. As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.



JACANIDAE

Comb-crested Jacana

Irediparra gallinacea

Monotypic. The species occurs from Kalimantan in Indonesia eastwards to the Philippines and New Guinea, and appears to be sedentary, as it is rarely seen away from breeding areas.

- SE Asia: Unknown; generally common [AWC 130]

Trends: Unknown.

The species was recorded at all the sites counted in Papua New Guinea during the AWC. Lakes Iraguma and Bunu held the highest numbers (FYM 49, 2yr). In the absence of a population estimate, no sites of international importance can be identified.

Pheasant-tailed Jacana

Hydrophasianus chirurgus

Monotypic. The northernmost populations breeding in China are migratory, moving south to the Malay Peninsula outside the breeding season. The S Asian population is thought to be largely sedentary, although a few birds regularly cross the Indian Ocean to winter in the Arabian Peninsula (Figure 120). Two populations are recognized.

- S/SW Asia: Unknown; widely distributed in S Asia, scarce in SW Asia [AWC 8,000]

Trends: Unknown, but possibly declining.

- E/SE Asia: Unknown; generally rather scarce. [AWC 1,540]

Trends: Unknown.

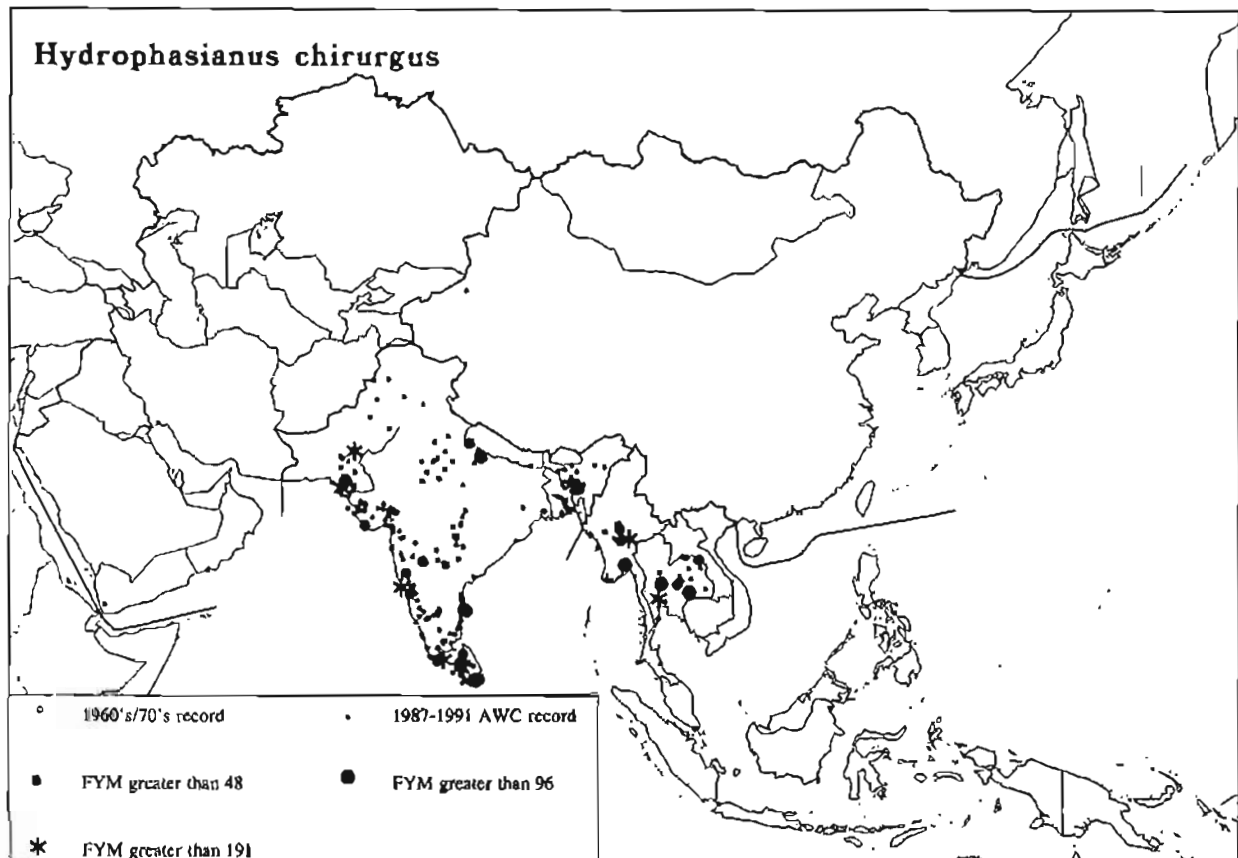


Figure 120: Distribution of *Hydrophasianus chirurgus* as shown by the AWC 1987-1991

The Pheasant-tailed Jacana is an inhabitant of vegetated freshwater habitats where it is usually difficult to census. The AWC shows that it is widely distributed in S Asia, and in Thailand and Myanmar in SE Asia. It is also common in Cambodia (AWC data for 1992/93; not indicated in Figure 120).

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Two sites each in Bangladesh, Myanmar and Pakistan, five each in India and Sri Lanka, and three in Thailand had a FYM of more than 100 birds. The most important of these were the Tangua Haor complex in Bangladesh with a concentration of 630 (1yr) and the Anaiwilundawa Tanks in Sri Lanka (FYM 555, 3yr).

Bronze-winged Jacana

Metopidius indicus

Monotypic. The species occurs from E Pakistan and India eastward to SW China, Cambodia, Thailand, and Java and Sumatra in Indonesia, although not in West Malaysia (Figure 121). It appears to be largely sedentary, except for some limited post-breeding dispersal. Only one population is recognized.

- S/SE Asia: Unknown; generally widespread [AWC 2,440]

Trends: Unknown overall, but declining in some parts.

The Bronze-winged Jacana is a bird of vegetated freshwater marshes where it is often difficult to census.

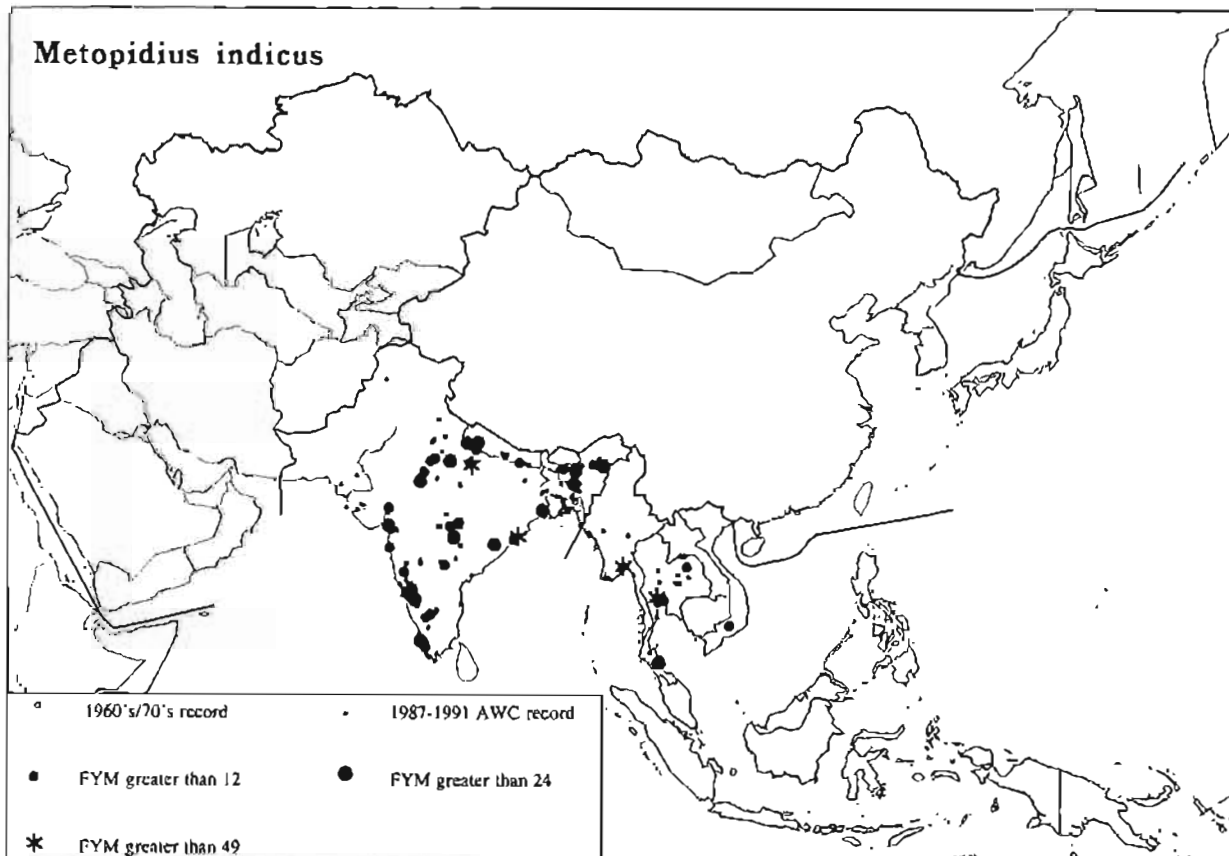
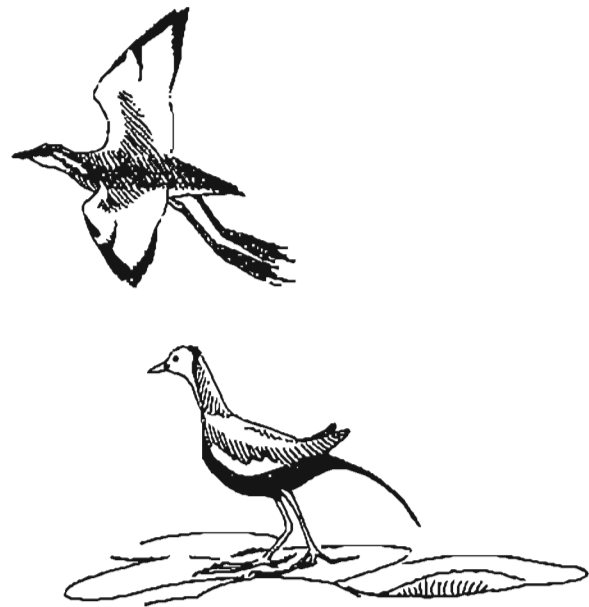


Figure 121: Distribution of *Metopidius indicus* as shown by the AWC 1987-1991

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Four sites in India, two in Myanmar, and one each in Nepal and Thailand had a FYM of more than 50 birds. The main sites were in Myanmar: Kye-In (120, 1yr) and Moyingyi (FYM 87, 4yr).



ROSTRATULIDAE

Painted Snipe

Rostratula benghalensis

Only the nominate subspecies is present, occurring widely across the region from S Asia to China, and south to Java in Indonesia. Northernmost populations in China are migratory, these birds apparently moving only a short distance to spend the winter further south in China. Elsewhere, mainly sedentary, but irregular movements occur in response to rainfall or drought (Figure 122).

- S Asia: Unknown [AWC 650]

Trends: Unknown.

- SE/E Asia: Unknown [AWC 520]

Trends: Unknown.

A skulking species of freshwater marshes and rice fields, this species is under-recorded by the AWC.

Important sites

Since no population estimates are available, no sites of international importance can be identified. Single sites in China and India had a FYM of more than 100: the Yancheng coast in E China (FYM 285, 2yr) and Chinatumbulum Tank in S India (254, 2yr).

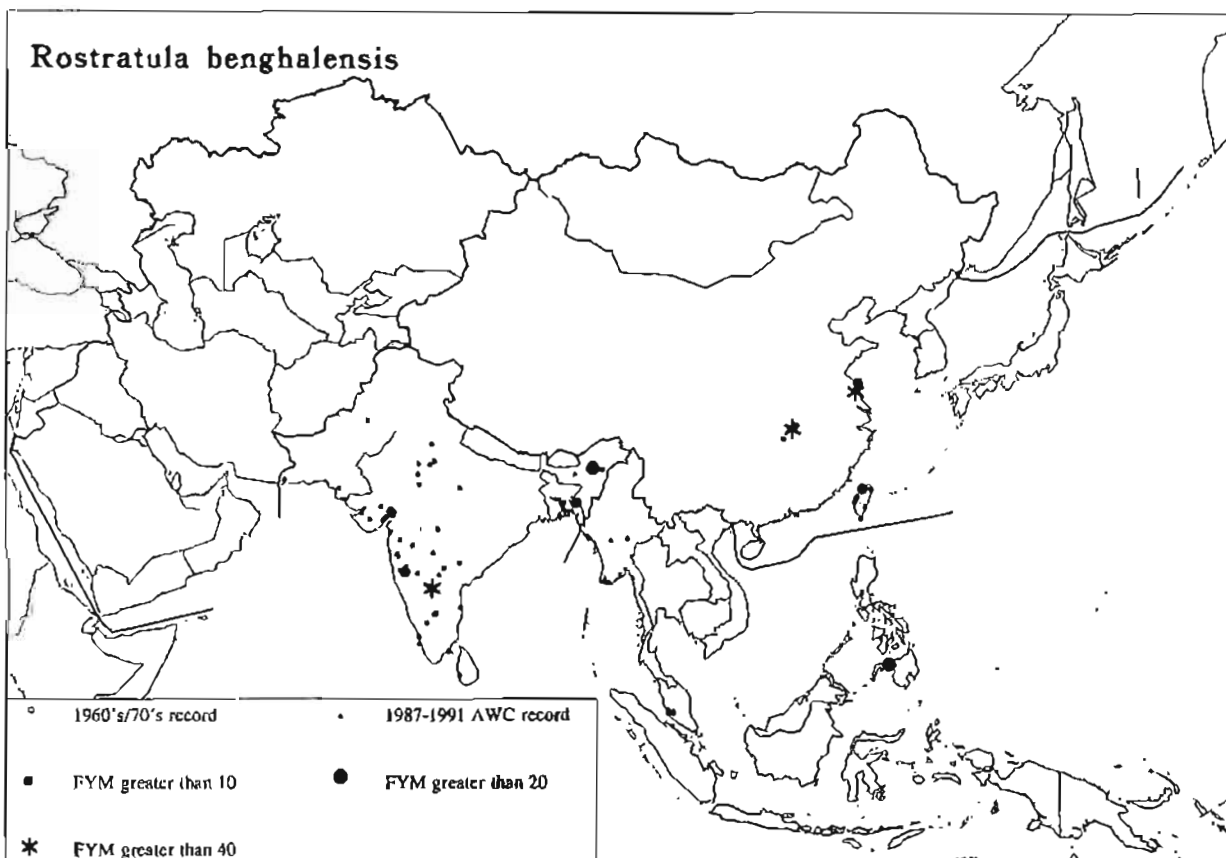


Figure 122: Distribution of *Rostratula benghalensis* as shown by the AWC 1987-1991

DROMADIDAE

Crab Plover

Dromas ardeola

A monotypic coastal species; known to breed only in the Arabo-Persian Gulf, Gulf of Oman, Gulf of Aden and southern Red Sea, although it probably also breeds in Pakistan and W India. The species occurs outside the breeding season east to Sri Lanka (less commonly to Bangladesh, Thailand and Malaysia) and south in East Africa to Mozambique and Madagascar (Figure 123). Only one population is recognized.

- S Asia/SW Asia/E Africa (entire population): C (43,000) [AWC 5,100]

Trends: Declining in some areas.

Potential sites of international importance

Four sites have a FYM of over 430 (1% level): Pirotan Island (500, 1yr) in India; Barr Al Hikman (1,860, 3yr) and Masirah Island (620, 3yr) in Oman, and Jizan Beach (FYM 430, 2yr) in Saudi Arabia. The Gulf of Kachchh in W India (of which Pirotan Island is a small part) is particularly important with an estimated population of at least 6,000 birds (Palmer and Briggs 1986).

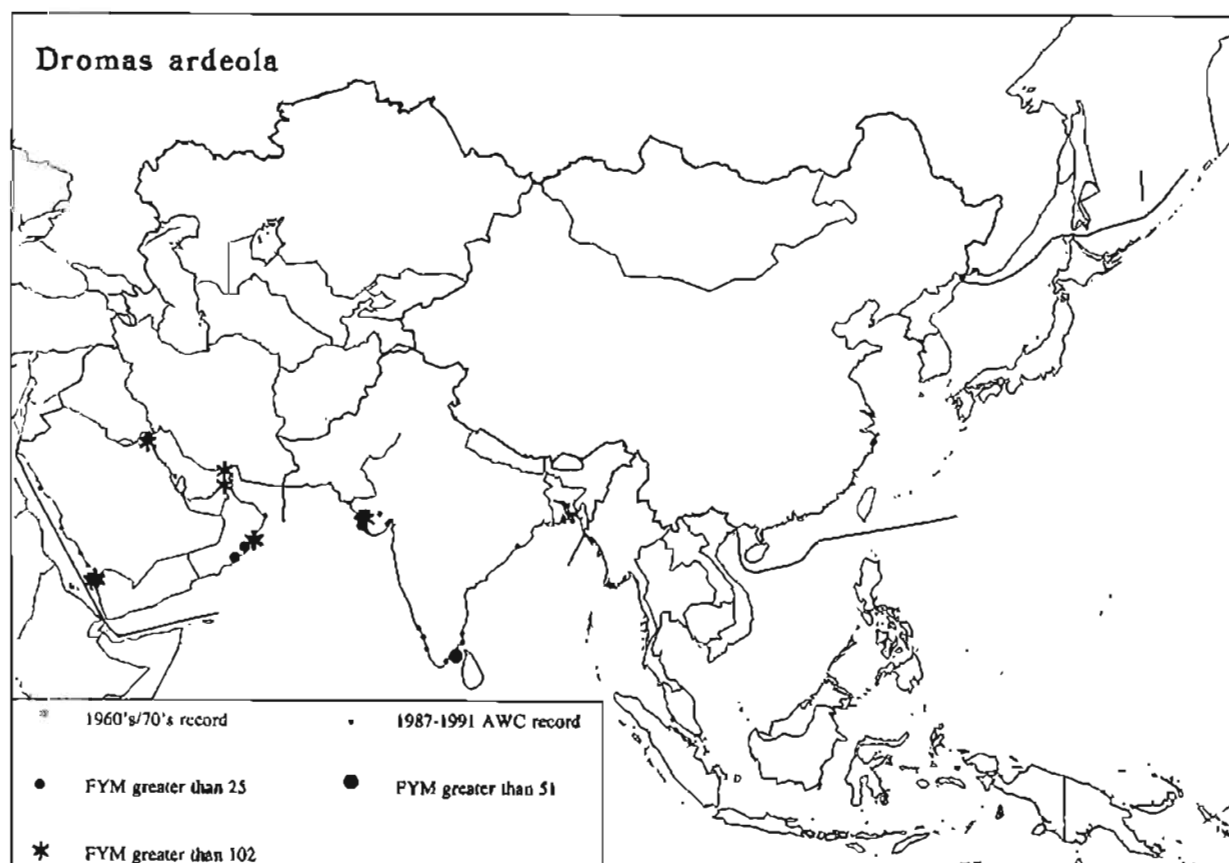


Figure 123: Distribution of *Dromas ardeola* as shown by the AWC 1987-1991

HAEMATOPODIDAE

Pied Oystercatcher

Haematopus longirostris

Monotypic (although *H. finschi* of New Zealand is often considered to be conspecific). Largely sedentary; confined to S New Guinea, the Aru Islands (Indonesia) and Australia. No records were obtained as part of the AWC.

Eurasian Oystercatcher

Haematopus ostralegus

Two subspecies occur: *longipes* breeds on inland waters of Central Asia and winters along the coasts of S Asia west to the Arabo-Persian Gulf, Arabian Peninsula and NE Africa (Figure 124); *osculans* breeds in NE Asia and winters south to S China and Taiwan. Two populations are recognized.

- S Asia/SW Asia/NE Africa: C (25,000+) [AWC 6,700; 16,800 with 1970s data]

Trends: Unknown.

- E Asia: Possibly A; very poorly known. [AWC 8]

Trends: Declining.

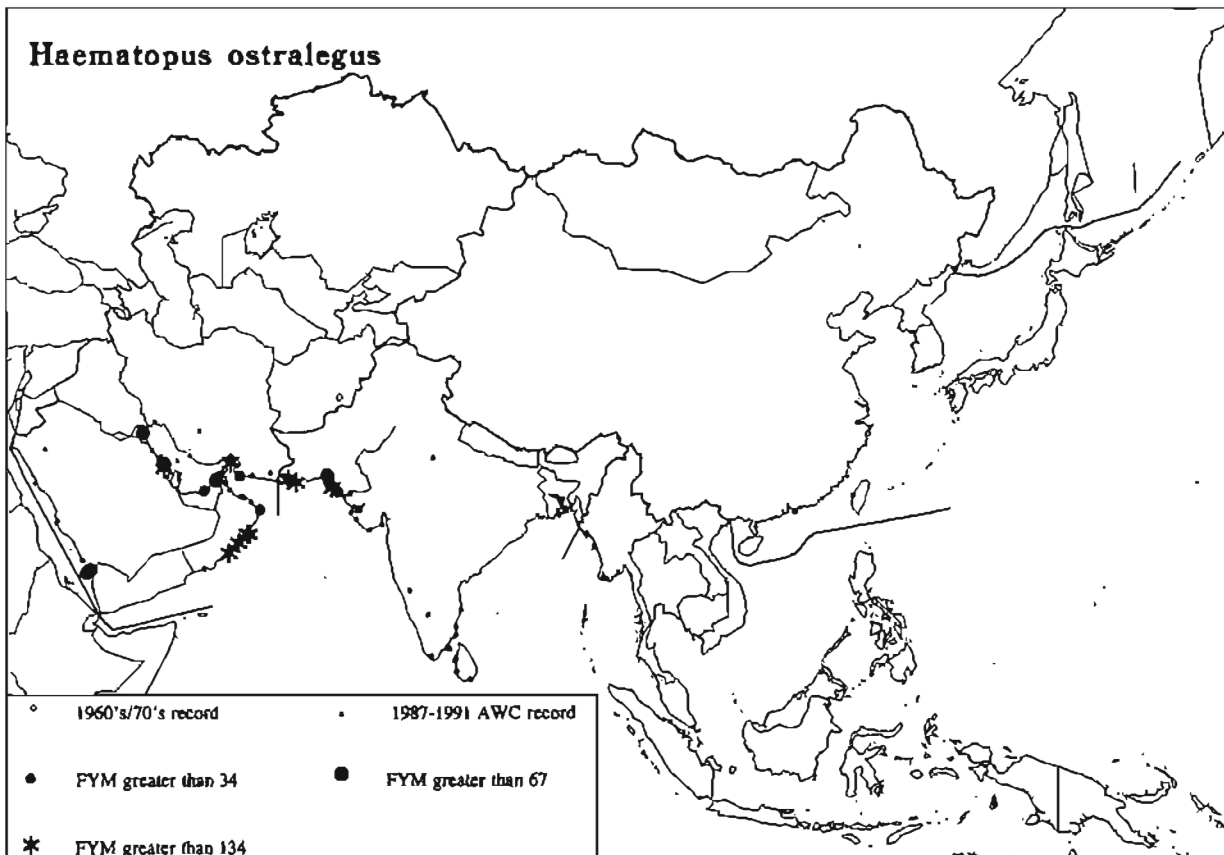


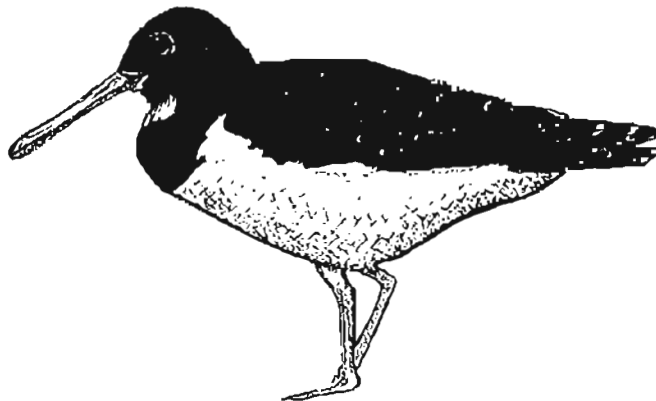
Figure 124: Distribution of *Haematopus ostralegus* as shown by the AWC 1987-1991

Aerial surveys of the entire south coast of Iran in the 1970s located a wintering population of 9,000-12,000 Eurasian Oystercatchers, mainly along the shores of the Straits of Hormoz and Persian Baluchistan. No aerial surveys have been possible in recent years, and these birds have gone unrecorded in the recent censuses.

The E Asian subspecies appears to be very scarce. Coastal China is believed to be an important wintering area, even though no large concentrations are recorded at any one site (Lu Jianjian, pers. comm.).

Potential sites of international importance

In the absence of a population estimate in E Asia, sites of international importance can be identified only in SW and S Asia. Five sites reached a FYM of 250 (1% level). Of these, Barr Al Hikman (FYM 2,100, 3yr) and Masirah Island (FYM 1,200, 3yr) in Oman were the most important, while smaller numbers were recorded at Korangi Creek (FYM 410, 4yr) and Ras Juddi (450, 1yr) in Pakistan, and at Tarout Bay South (310, 1yr) in Saudi Arabia. All inland records in S Asia need to be treated with caution.



IBIDORHYNCHIDAE

Ibisbill

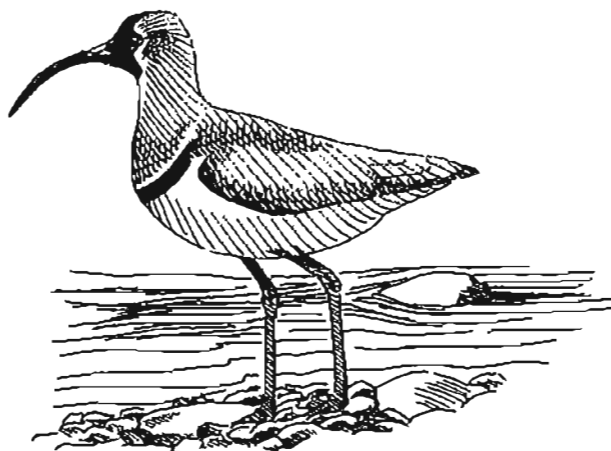
Ibidorhyncha struthersii

Monotypic. Largely sedentary, performing altitudinal migrations and remaining mostly within the breeding range. A few birds descend from the Himalayas of Nepal and Bhutan to spend the winter in the foothills of northern India.

- S/E Asia (entire population): Unknown; sparsely distributed [AWC 8]

Trends: Unknown.

This high altitude species frequents mountain streams, a habitat not covered adequately by the AWC, especially in China. A few AWC records were obtained in Nepal, India, Bhutan and China. In the absence of a population estimate, no sites of international importance can be identified.



RECURVIROSTRIDAE

Black-winged Stilt

Himantopus himantopus

Two subspecies occur. The nominate subspecies breeds widely in SW, central and southern Asia east to Indochina; northern populations are migratory; southern populations are mainly sedentary (Figure 125). The subspecies *ceylonensis* is confined to Sri Lanka. Three main wintering groups are recognized, all including migrants from Central Asia and resident breeding birds.

- SW Asia: B (10,000+) [AWC 6,800; 8,700 with 1970s data]

Trends: Possibly stable.

- S Asia: D (100,000+) [AWC 66,000]

Trends: Possibly stable.

- SE Asia (to SW China): B or C [AWC 2,770]

Trends: Unknown.

In S and E Asia, the Black-winged Stilt occurs commonly in rice fields which are not adequately covered by the AWC. The population estimate for S Asia is therefore likely to be an under-estimate.

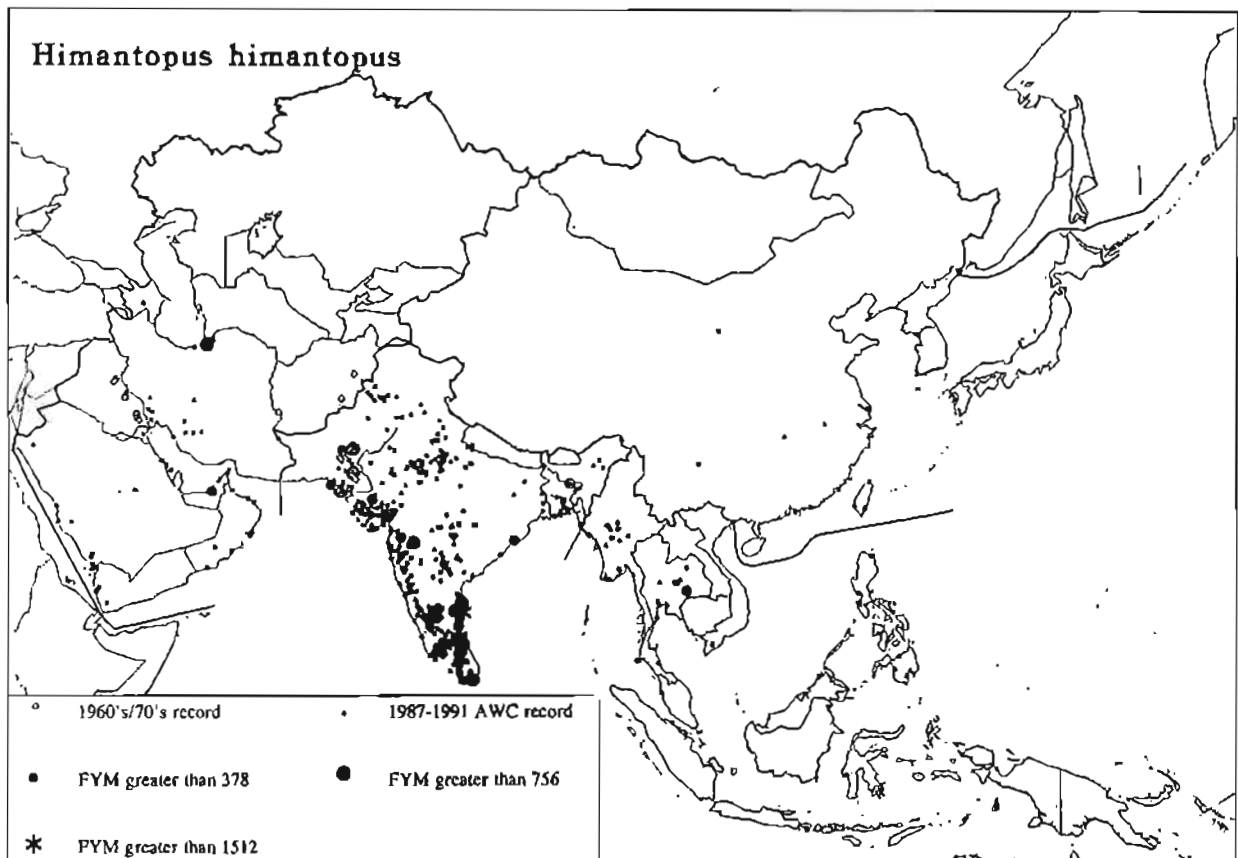


Figure 125: Distribution of *Himantopus himantopus* as shown by the AWC 1987-1991

Potential sites of international importance

In SW Asia, three sites in Iran and one site each in Azerbaijan, Oman, Saudi Arabia and U.A.E. had a FYM of 100 (1% level), but four of these sites were counted on only one or two occasions (Table 58). In S Asia, the 1% level of 1,000 identifies five sites in India and two each in Pakistan and Sri Lanka. Four additional sites in India (Byramangala Reservoir, Kaveripakkam Tank, Pulicat Lake and Jayakwadi Tank) fall just short of the 1% level and need to be monitored in the future.

Other important sites

In the absence of a population estimate, no sites of international importance can be identified in SE Asia. However, single sites in the Philippines and Taiwan, and three sites in Thailand had a FYM of over 100.

Table 58: Potential sites of international importance for *Himantopus himantopus* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN	AGJABEDI	AGGEL (AH GOL) LAKE	300	1
INDIA	GUJARAT	SABARMATI R.: VASANA BARRAGE	1000	1
	KARNATAKA	CHIKKABELAVANGLA TANK	2167	1
	TAMIL NADU	ADYAR ESTUARY	1798	5
	TAMIL NADU	PUTHUPALLI ALAM	2171	3
	TAMIL NADU	WIMCO SALT FACTORY	3550	1
IRAN	PARS	BAKHTEGAN & TASHK LAKES	101	5
	KHUZESTAN	HOREH BAMDEJ MARSH	237	4
	MAZANDARAN	GOMISHAN MARSH	850	2
OMAN		BARR AL HIKMAN	3569	3
PAKISTAN	SIND	ITHPAR	1316	4
	SIND	RUP (GHAUSPUR) LAKE	1260	5
SAUDI ARABIA	EASTERN	ZUR SALT MARSH, TAROUT	305	1
SRI LANKA	S.P	BUNDALA SANCTUARY	1179	2
	S.P	EMBILIKALA LEWAYA	1034	3
U.A.E	ABU DHABI	AL GHAR LAKE	490	1

White-headed Stilt*Himantopus leucocephalus*

Monotypic. Some populations are probably sedentary (e.g. New Zealand), but the Australian population is migratory, occurring north during the austral winter to Borneo and the Philippines. One population is recognized.

- SE Asia/Australasia (excluding New Zealand): D [AWC 39]

Trends: Unknown.

Only a few records of the species occurred during the AWC, in New Guinea and Brunei Darussalam. In the absence of a population estimate, no sites of international importance can be identified.

Avocet

Recurvirostra avosetta

Monotypic. In Asia, breeds in a narrow belt from the Caspian Sea to eastern China, and apparently winters in four main areas: SW Asia, E China, NW India/Pakistan and SE India (Figure 126). Three populations are recognized.

- SW Asia: B (10,000+) [AWC 1,540; 3,900 with 1970s data]
Trends: Unknown, possibly increasing.
- S Asia: B or C (20,000+) [AWC 12,400]
Trends: Apparently increasing in some areas.
- E Asia (rarely to SE Asia): Probably B [AWC 3,040]
Trends: Unknown.

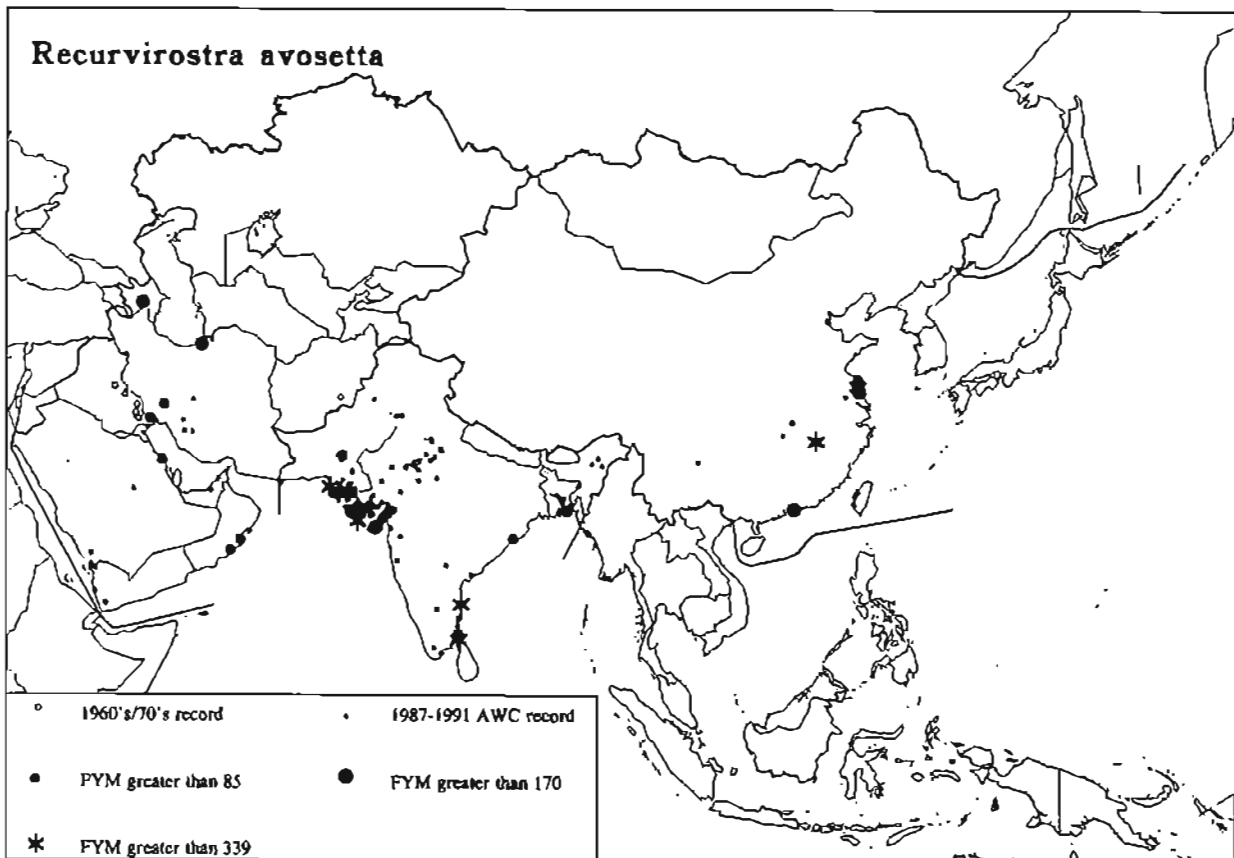


Figure 126: Distribution of *Recurvirostra avosetta* as shown by the AWC 1987-1991

Potential sites of international importance

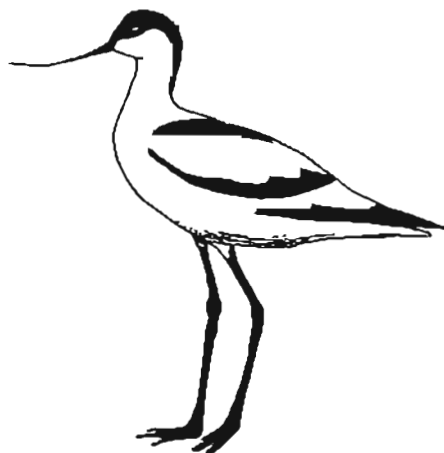
In SW Asia, two sites in Iran, one in Saudi Arabia and two in Oman had a FYM of 100 (1% level) or more, while in S Asia, seven sites in India and six in Pakistan had a FYM of 200 (1% level) or more (Table 59).

Other important sites

In the absence of a population estimate for E Asia, no sites of international importance can be identified in this region. Only three sites held over 200 birds, and all of these were in China: Hai Feng Farm (250, 1yr), Poyang Lake (FYM 1,430, 4yr) and Sheyang Salt Lakes (FYM 570, 2yr).

Table 59: Potential sites of international importance for *Recurvirostra avosetta* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN	AGJABEDI	AGGEL (AH GOL) LAKE	200	1
INDIA	ANDHRA PRADESH	PULICAT LAKE	483	4
	GUJARAT	CHARAKLA SALTWORKS	263	2
	GUJARAT	HALAR & KAMDAR S.W	211	1
	GUJARAT	JAFRABAD SALT WORKS	253	3
	GUJARAT	KUTCHIDI	561	2
	GUJARAT	NAWAB KHAN SALTWORKS	300	1
	TAMIL NADU	POINT CALIMERE B.S	618	5
IRAN	KHUZESTAN	IZEH & SHIEKHON LAKES	100	4
	MAZANDARAN	MIANKALEH PROTECTED REGION	304	5
OMAN		DAWHAT SAWQIRAH	139	3
		DUQM	110	3
PAKISTAN	SIND	HAWKS BAY-SANDSPIT & MAURI PUR	413	5
	SIND	JABHO/KUR	2497	5
	SIND	KALKAN WARI CHAND	530	2
	SIND	NUR-RI, BADIN	504	4
	SIND	SANDHO	600	2
	SIND	WARHARO, KADHAN	385	4
SAUDI ARABIA	EASTERN	JUBAYL LAGOONS (SABKAH AL FASL)	136	1



BURHINIDAE**Stone Curlew*****Burhinus oedicnemus***

Three subspecies occur: the nominate of SW Asia, *astutus* of Afghanistan and Pakistan, and *indicus* of India and Sri Lanka to Indochina. Northern and western populations are migratory, while those in S Asia are largely sedentary. Three populations are recognized.

- SW Asia (*oedicnemus*): Unknown [AWC 61]
Trends: Unknown.
- Afghanistan/Pakistan (*astutus*): Unknown [AWC 1]
Trends: Unknown.
- India to Indochina (*indicus*): Unknown [AWC 31]
Trends: Unknown.

The Stone Curlew is a bird of dry grasslands and semi-desert, visiting wetlands only occasionally. As a result, it is not adequately censused by the AWC. Much the highest counts were in Saudi Arabia: at Jizan Beach (FYM 31, 2yr) and on the Red Sea coast from Jeddah to Jizan (30, 1yr). It was also recorded in Oman, India, Nepal and Sri Lanka.

Spotted Dikkop***Burhinus capensis***

An Afrotropical species which extends into the SW corner of the Arabian Peninsula. The Arabian population has been assigned to the subspecies *dodsoni*. A bird of dry lands, not adequately covered by the AWC. Only one record was obtained during the AWC, in Oman.

Great Thick-knee***Esacus recurvirostris***

Monotypic. Mainly sedentary in S Asia and SW Asia (Iran and Oman), but inland populations undertake local movements in response to changes in water availability and feeding conditions.

- SW/S Asia: Unknown [AWC 580]
Trends: Unknown, possibly declining.

Mainly a crepuscular species, resting close to the water's edge during the day. The bird is well camouflaged and easily overlooked, and is obviously under-recorded by the AWC (Figure 127).

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Eight sites in India and nine in Sri Lanka had a FYM of more than 10. The Tungabhadra River-Ele Bichali Point (FYM 52, 2yr) and Bhadra Dam (32, 1yr) in India were the most important sites.

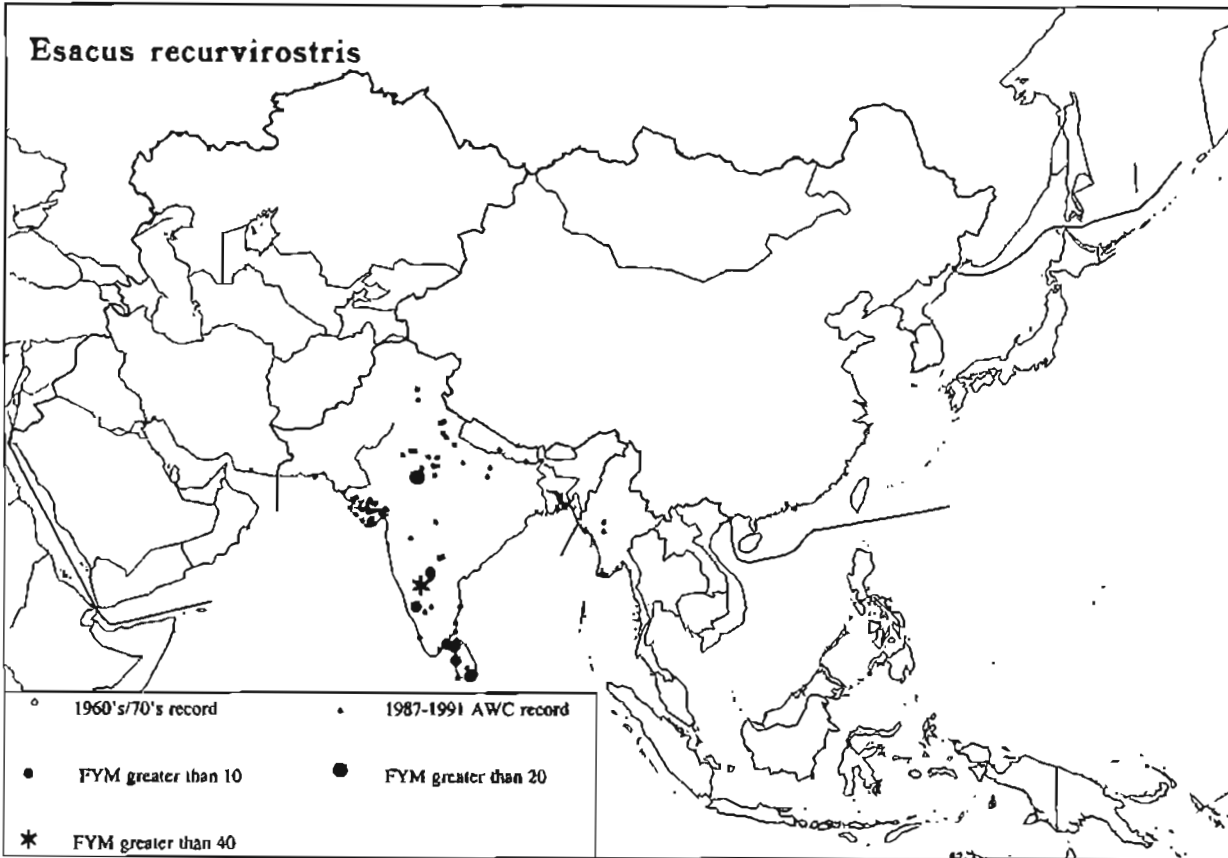


Figure 127: Distribution of *Esacus recurvirostris* as shown by the AWC 1987-1991

Beach Thick-knee

Esacus magnirostris

Monotypic; mainly sedentary, occurring in the Andaman and Nicobar Islands (India) and from the Malay Peninsula and Philippines through SE Asia to New Guinea and Australia.

- SE Asia (including Andaman and Nicobar Is): Probably A; very poorly known [AWC 1]

Trends: Declining in some areas.

The range of this primarily coastal species has not been adequately covered by the AWC, and the only records are from East Java and Bali in Indonesia. In the absence of a population estimate, no sites of international importance can be identified.

GLAREOLIDAE

Common Pratincole (Collared Pratincole)

Glareola pratincola

Two subspecies occur: the nominate from the Mediterranean to India, and *limbata* in Saudi Arabia. The Palearctic population is migratory, with the bulk of the population wintering in sub-Saharan Africa. The small breeding population in Pakistan migrates to W India where a few records were obtained during the AWC. This species is not adequately covered by the AWC, and confusion in the field with *G. maldivarum* is likely. No internationally important sites can be identified.

Oriental Pratincole

Glareola maldivarum

Monotypic. The species breeds widely from N India to NE China and Peninsular Malaysia; outside the breeding season it occurs south to Sri Lanka and northern Australia (Figure 128). Two populations are recognized.

- S Asia: C or D [AWC 190]

Trends: Unknown.

- E Asia/SE Asia/Australasia: Probably D [AWC 680]

Trends: Probably declining in some areas (e.g. Java).

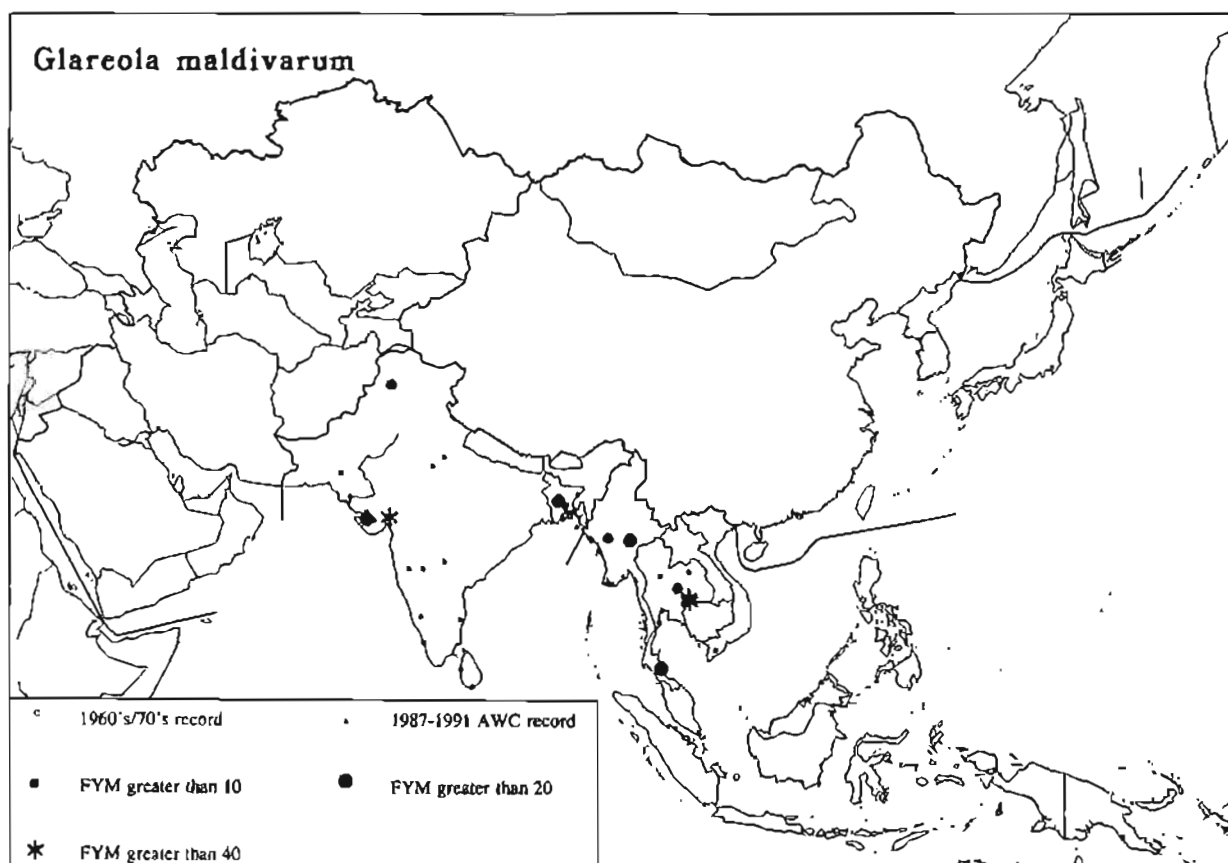


Figure 128: Distribution of *Glareola maldivarum* as shown by the AWC 1987-1991

Although there were records of Oriental Pratincole throughout its range, numbers recorded at individual sites were generally low. Some of the records in W India may have included misidentified *G. pratincola*.

Important sites

In the absence of population estimates, no sites of international importance were identified. The Huai Talat Non-hunting Area in Thailand (425, 1yr) was the most important site. North-central Java in Indonesia, an area not adequately covered by the census, is a very important site as large numbers are hunted there each year (Johnson *et al.* 1992).

Black-winged Pratincole

Glareola nordmanni

Monotypic; mainly extralimital. Breeds in west-central Asia (Ukraine and Kazakhstan) east to 85°E and winters in Africa. Very rare on migration in SW Asia. No records were obtained during the AWC.

Little Pratincole

Glareola lactea

Monotypic. Almost confined to S Asia and mainland SE Asia, but has occurred as a vagrant west to Iran and the Arabian Peninsula (Figure 129). A partial migrant, moving downstream outside the breeding season, when more frequent in estuaries and coastal areas. Only one population is recognized.

- S/SE Asia (entire population): B or C [AWC 4,510]

Trends: Unknown.

Important sites

No population estimate is possible, and no sites of international importance can be identified. The two most important sites for the species were Nur-ri, Badin in Pakistan (FYM 555, 4yr) and Marjim-Tembwado coastline in India (FYM 525, 2yr).

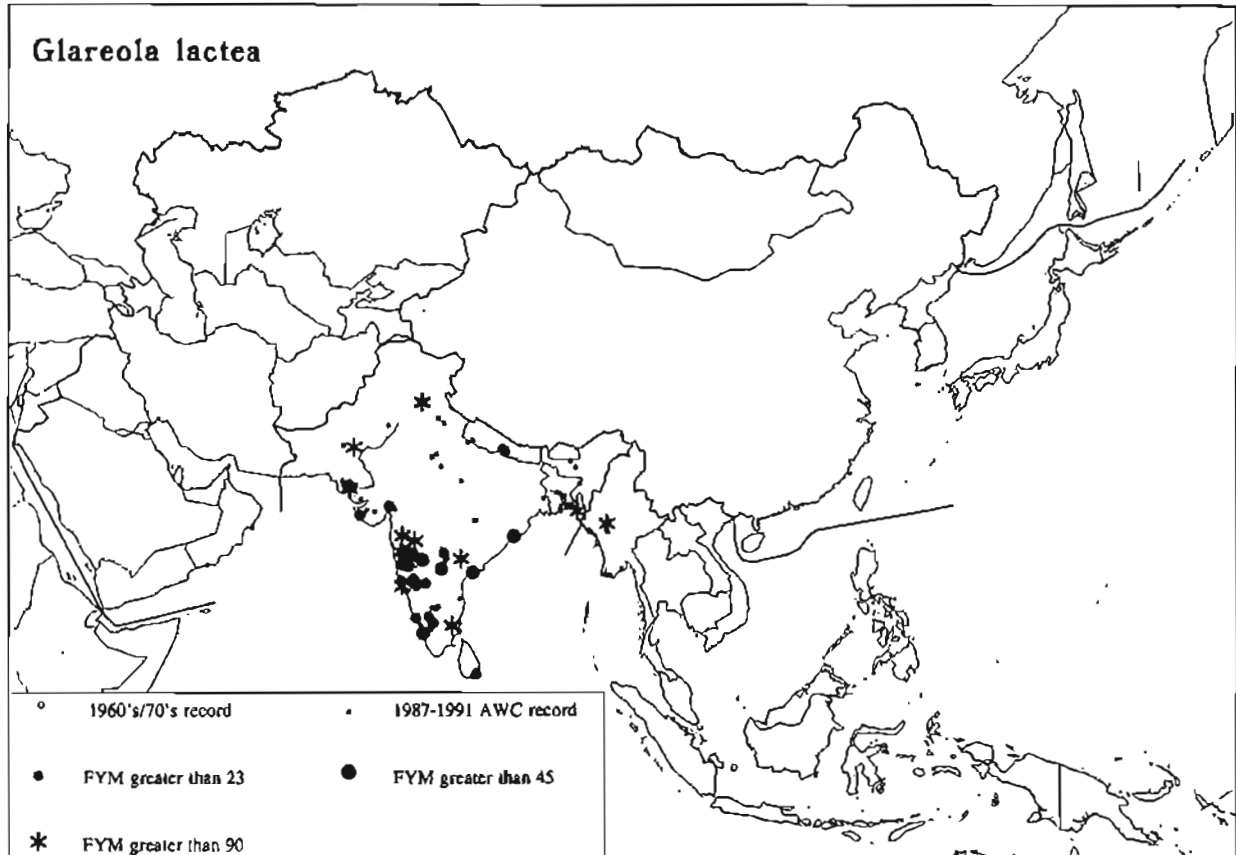


Figure 129: Distribution of *Glareola lactea* as shown by the AWC 1987-1991

Australian Pratincole

Siltia isabella

Monotypic. Apparently breeds only in Australia and migrates north to New Guinea and eastern Indonesia (as far as Java and Borneo) outside the breeding season. Only one population is recognized; this has been estimated at about 60,000 birds (Watkins 1993). The range of this dry land species has not been adequately covered by the AWC, and no records were obtained as part of the census.

CHARADRIIDAE

Northern Lapwing

Vanellus vanellus

Monotypic. Breeds at temperate latitudes across Asia to E China and winters in three main areas: E Asia, N India and Pakistan, and SW Asia east to the Caspian (Figure 130). Three populations are recognized.

- SW Asia: C or D [AWC 17,100; 30,400 with 1970s data]

Trends: Unknown.

- S Asia: Probably B [AWC 710]

Trends: Unknown.

- E Asia (S to Thailand): C [AWC 20,400]

Trends: Possibly increasing due to an expansion of the breeding range in E Russia (Tomkovich 1992).

The Northern Lapwing frequents grasslands and farmlands and is not adequately covered by the AWC.

Important sites

In the absence of population estimates, no sites of international importance can be identified. In SW Asia, the most important sites were all in Iran, with Feridoon Kenar Damgah (FYM 3,870, 5yr) and Damgah Azbaran (2,450, 1yr) holding the largest concentrations. In S Asia, three sites in India and one in Pakistan had an average of over 200 birds. Records from central India represent an extension of the known range of the species in the country, and confirmation of these sightings is needed.

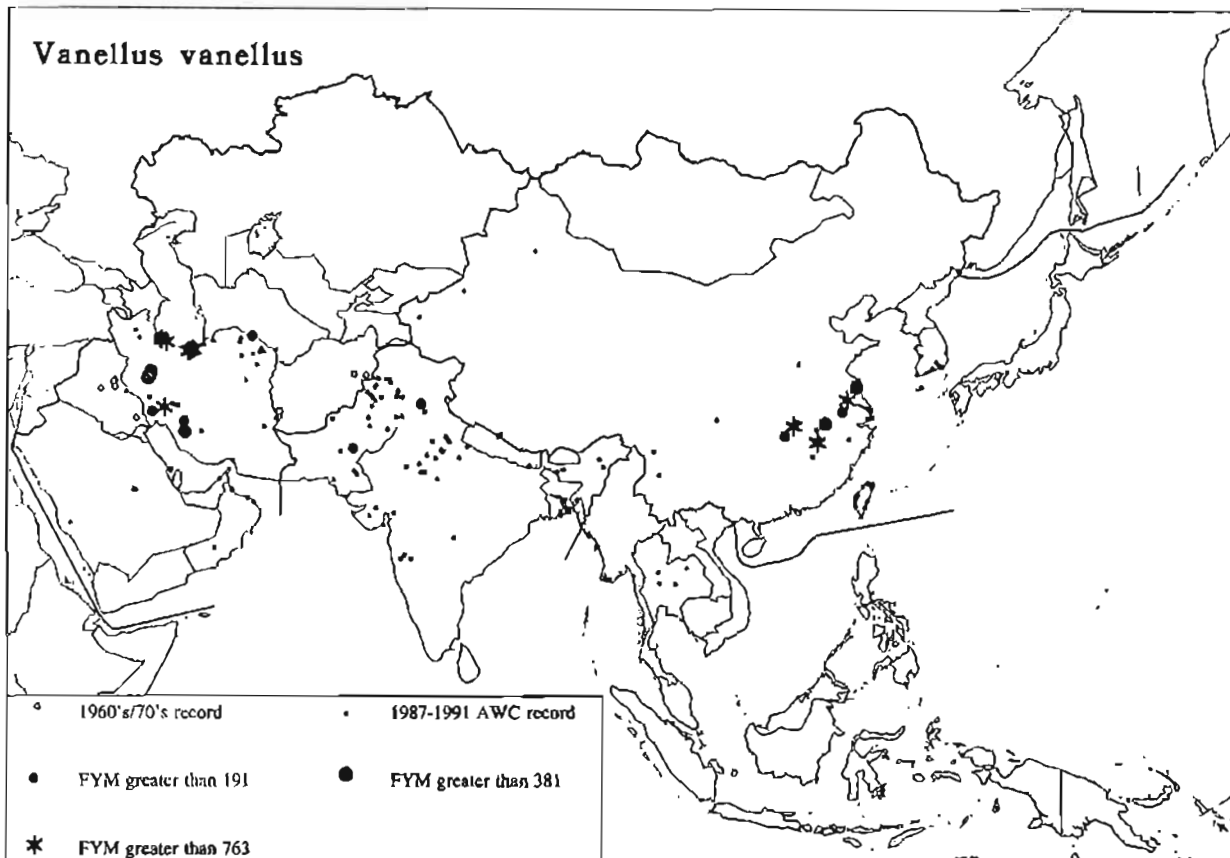


Figure 130: Distribution of *Vanellus vanellus* as shown by the AWC 1987-1991

Spur-winged Plover

Vanellus spinosus

Monotypic. Mainly an African species that extends into SW Asia in the western Arabian Peninsula and east to western Iraq. Birds breeding in SE Europe, 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 recognized, and this contains a mixture of migratory and sedentary birds.

- SW Asia/SE Europe/Egypt: Probably B [AWC 93]

Trends: Unknown.

In the absence of a population estimate, no sites of international importance can be identified. Birds were recorded from coastal and inland wetlands in Saudi Arabia and Yemen (Figure 131); the most important site was Wadi Sirr Pond in SW Saudi Arabia (54, 1yr).

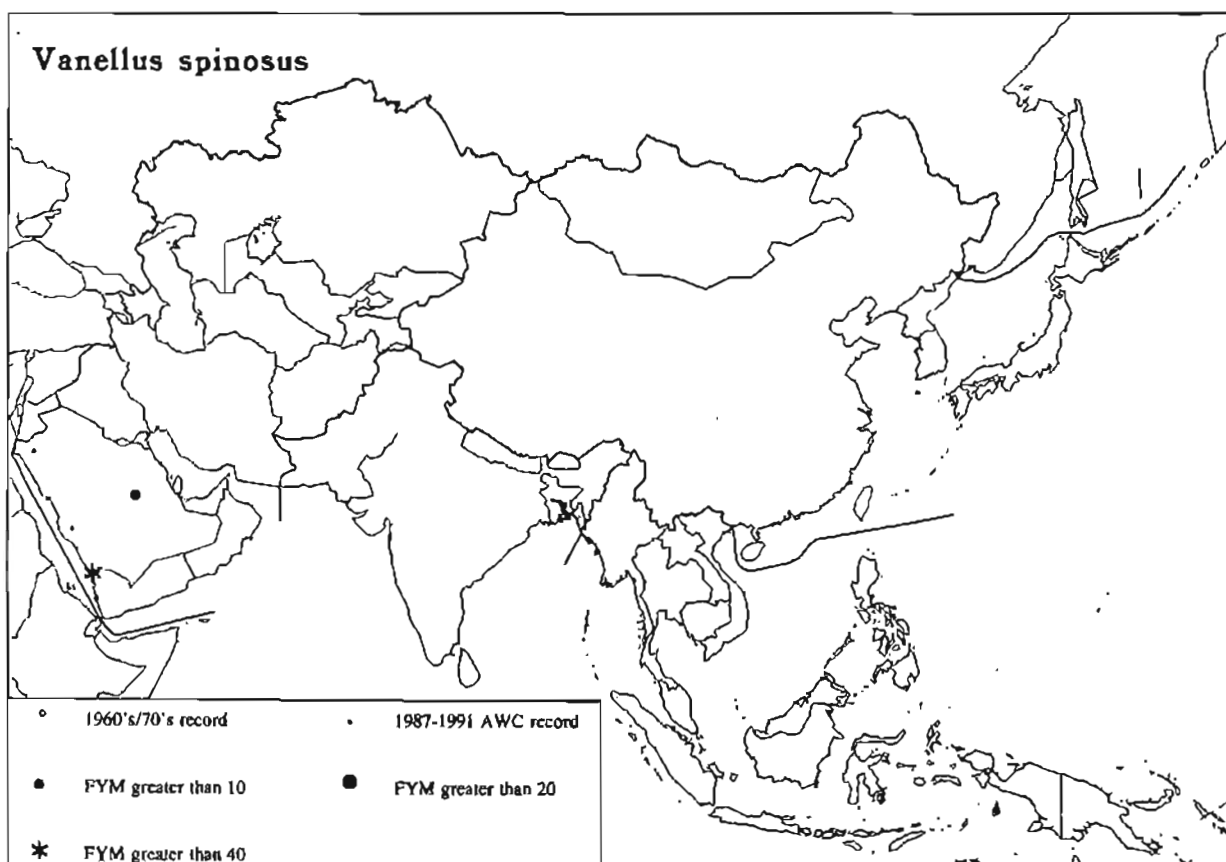


Figure 131: Distribution of *Vanellus spinosus* shown by the AWC 1987-1991

River Lapwing

Vanellus duvaucelii

Monotypic. A riverine species with a restricted distribution from Nepal through NE India to SW China (Figure 132). It appears to be almost entirely sedentary. Only one population is recognized.

- S/SE/E Asia (entire population): Possibly A or B [AWC 500]

Trends: Unknown.

Although no population estimate is available, it is possible that the population does not exceed 15,000 birds; it is therefore important that this species is monitored more closely in the future.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. The most important site was the Ramganga Barrage in the Corbett N.P., India (FYM 7, 2yr).

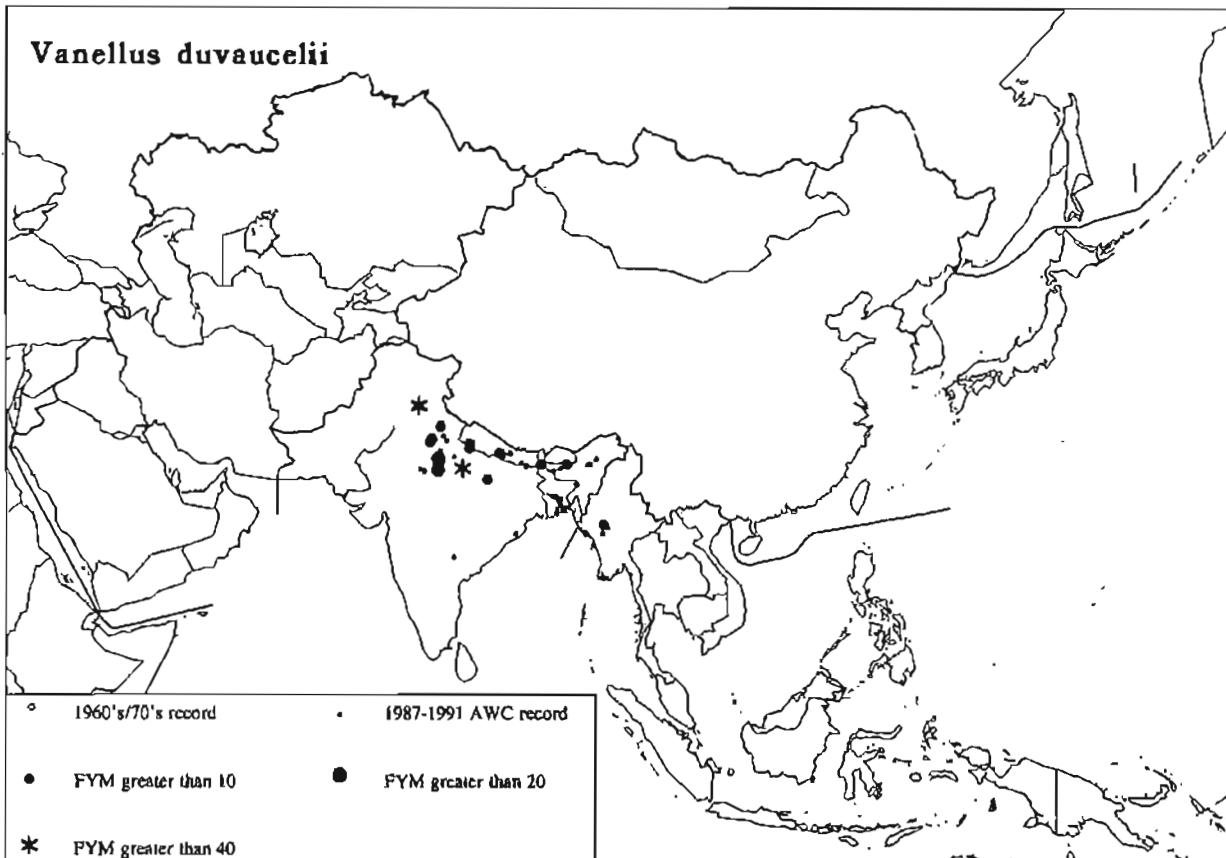


Figure 132: Distribution of *Vanellus duvaucelii* as shown by the AWC 1987-1991

Yellow-wattled Lapwing

Vanellus malabaricus

Monotypic; restricted to S Asia (Figure 133). Mainly sedentary, performing local movements. Only one population is recognized.

- S Asia (entire population): Unknown [AWC 1,520]

Trends: Unknown.

This species inhabits dry grassland and agricultural land, and so is not adequately covered by the census. No important sites were identified.

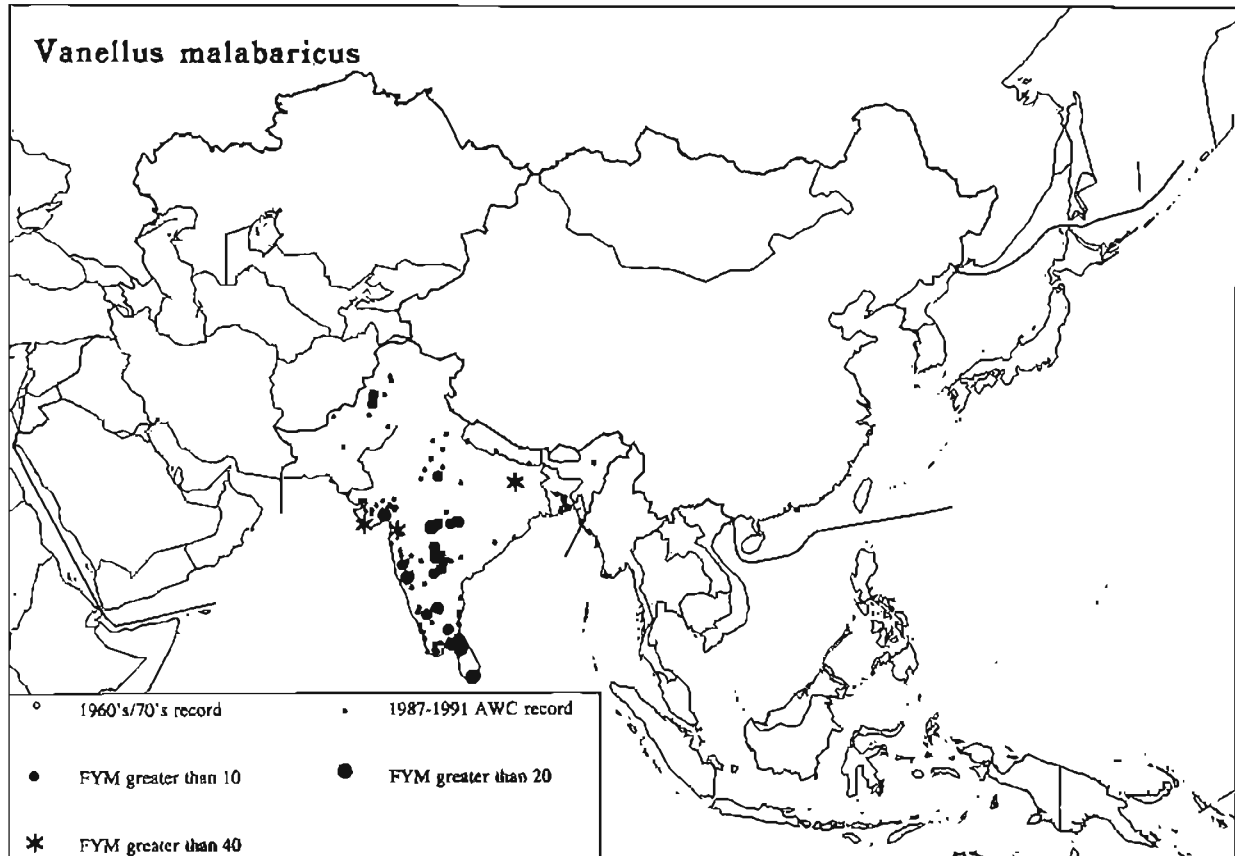


Figure 133: Distribution of *Vanellus malabaricus* as shown by the AWC 1987-1991

Sociable Plover

Vanellus gregarius

Monotypic; globally threatened. Breeds in Central Asia; most birds apparently migrate southwest to winter in Africa, but a few birds (possibly a discrete population) migrate south to winter in N India and Pakistan. In Asia, only one wintering population is recognized.

- S Asia: A (probably less than 1,000). [AWC 3]

Trends: Declining.

The species is normally confined to grasslands and dry land, and so is not adequately covered by the AWC. Three records were obtained during the census: two from central India and one from coastal Oman.

Potential sites of international importance

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

White-tailed Plover

Vanellus leucurus

Monotypic. Populations breeding in southern Iran and Iraq appear to be mainly sedentary, but populations breeding in NE Iran and the Central Asian Republics are migratory, some moving southwest to winter in SW Asia and NE Africa, and others moving southeast to Pakistan and NW India (Figure 134). Two populations are recognized.

- SW Asia: B or C [AWC 146; 2,080 with 1970s data]

Trends: Unknown, possibly increasing.

- S Asia: Probably B or C [AWC 500]

Trends: Unknown.

Major wintering areas in SW Iran and Iraq, and possibly in Seistan (E Iran/W Afghanistan), were poorly covered during the AWC. The species' breeding range is expanding locally in Central Asia and this may be associated with a growth in the population (Tomkovich 1992).

Important sites

In the absence of population estimates, no sites of international importance can be identified. A majority of records refer to single counts of between 10 and 15 birds in freshwater habitats. The highest numbers were recorded at two sites in India: Keoladeo Ghana National Park in Bharatpur (FYM 40, 5yr) and Dudhwa National Park (40, 1yr).

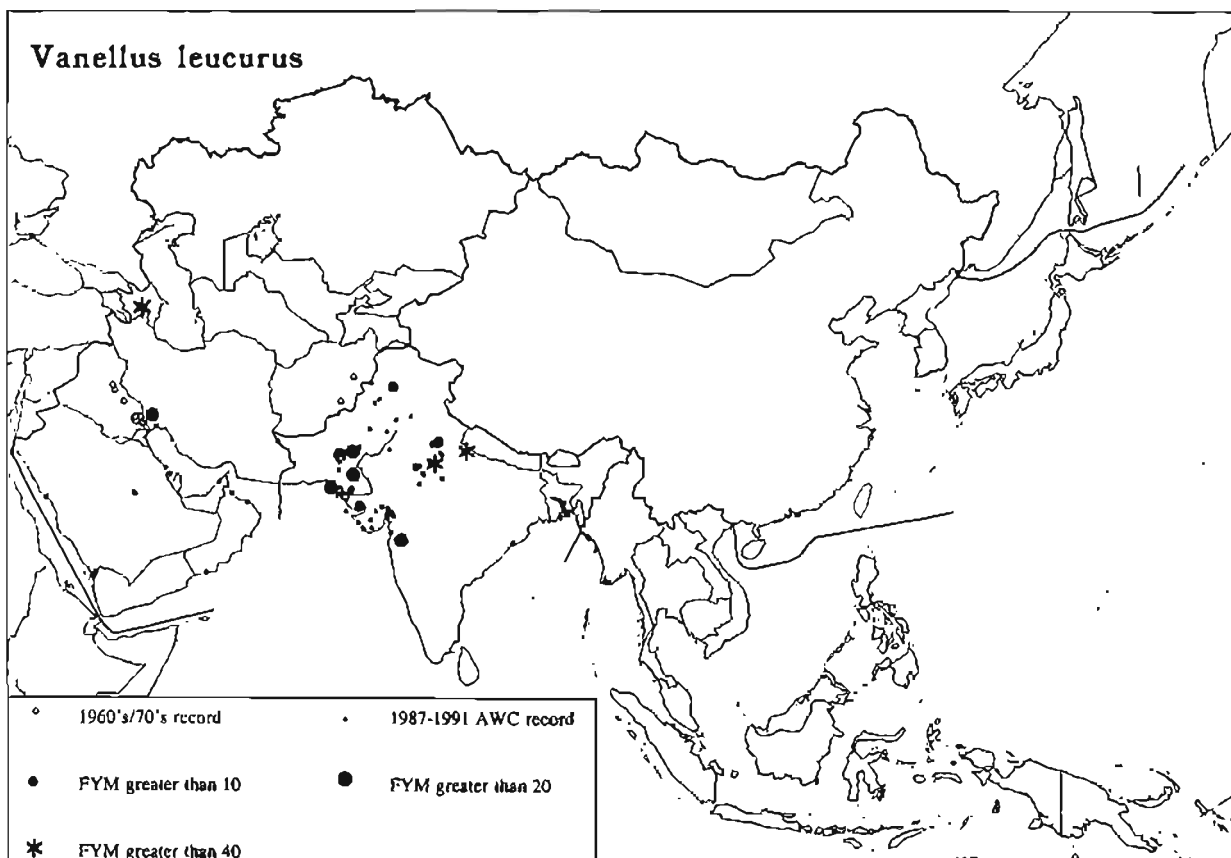


Figure 134: Distribution of *Vanellus leucurus* as shown by the AWC 1987-1991

Grey-headed Lapwing

Vanellus cinereus

Monotypic. Apparently two populations: a migratory population breeding in NE China and neighbouring Russia and wintering in freshwater habitats in SE Asia west to Bangladesh, NE India and Nepal (Figure 135); and a partly sedentary population in Japan.

- E/SE Asia to NE India (excluding Japan): A or B [AWC 2,360]

Trends: Probably declining.

- Japan: Unknown [AWC 0]

Trends: Unknown.

Important sites

In the absence of population estimates, no sites of international importance can be identified. The seven sites in Bangladesh and one in W China with an average of more than 100 birds highlight the importance of the region from Bangladesh eastwards to south Yunnan. The most important site was Hakaluki Haor in Bangladesh (FYM 310, 5yr). Records from W India are outside the range of the species as given by Ali & Ripley (1983), and need to be confirmed. However, there has been another observation of the species on the SW coast of India in recent years (Lainer 1991).

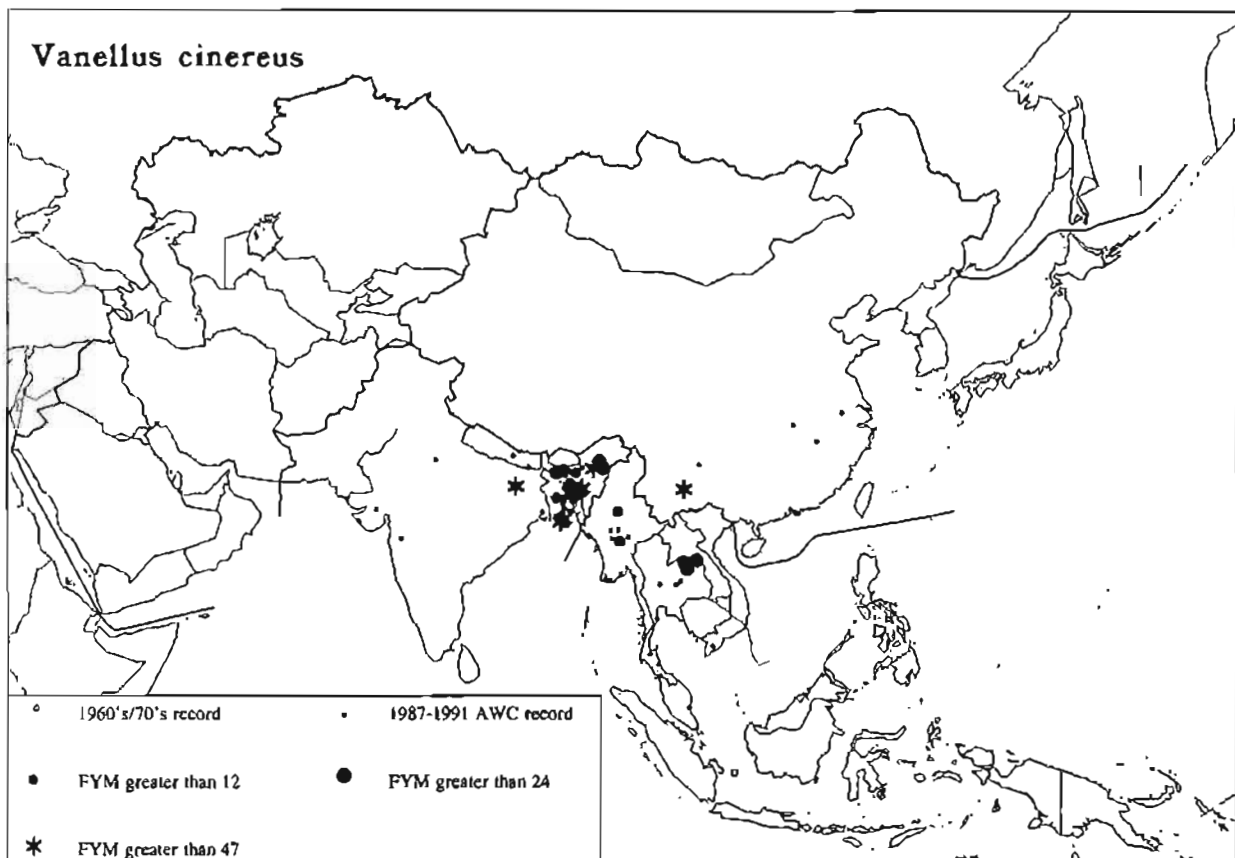


Figure 135: Distribution of *Vanellus cinereus* as shown by the AWC 1987-1991

Red-wattled Lapwing

Vanellus indicus

Three subspecies occur: the nominate in India and Sri Lanka, *aigleri* in SW Asia and Pakistan and *atronuchalis* of E India eastwards to SE Asia (Figure 136). Mainly sedentary over most of its range, but dispersive in response to rainfall or drought. The small population breeding in S Turkmenistan is migratory, presumably wintering in Afghanistan and/or Pakistan. Birds breeding at high altitudes in the Himalayas descend to the foothills in winter.

- SW Asia: C or D [AWC 250; 5,150 with 1970s data]

Trends: Unknown.

- S Asia: D [AWC 9,130]

Trends: Unknown.

- SE Asia: Unknown [AWC 370]

Trends: Unknown.

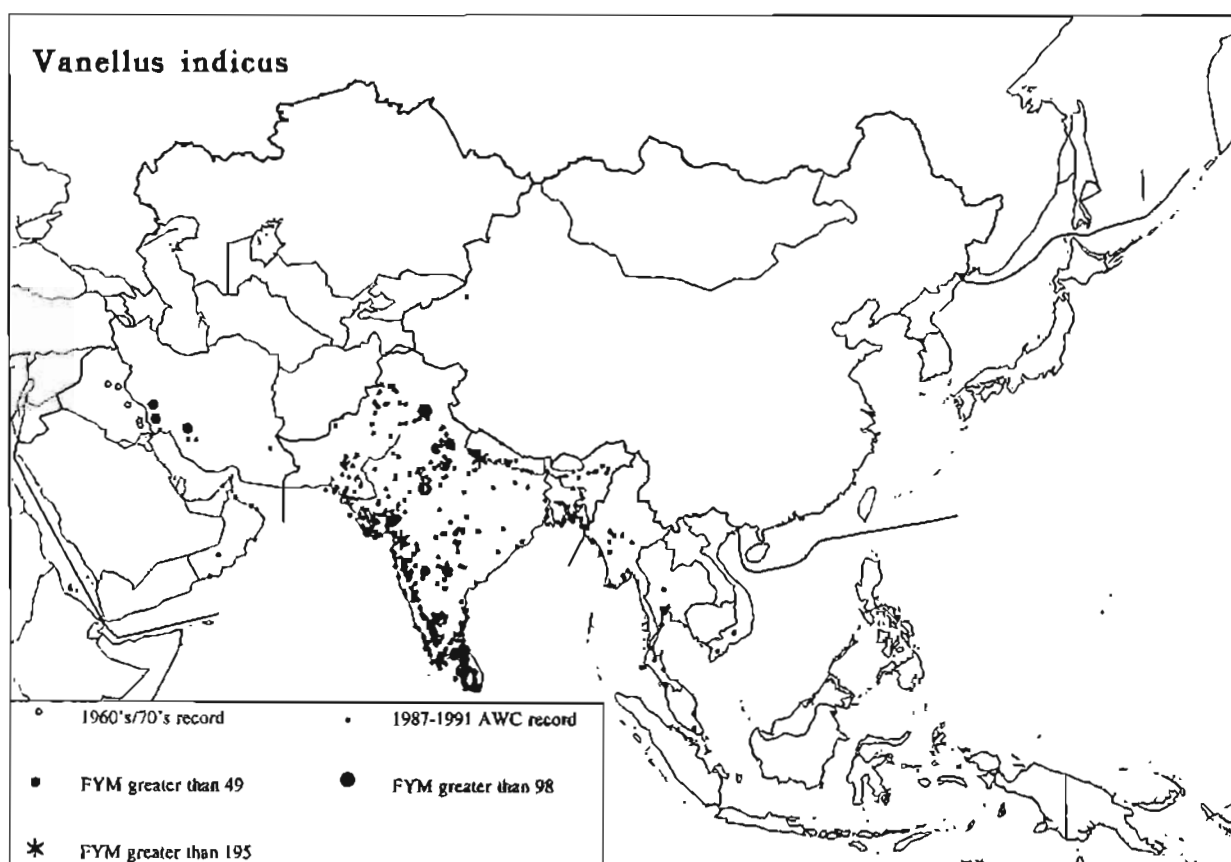


Figure 136: Distribution of *Vanellus indicus* as shown by the AWC 1987-1991

This species inhabits not only wetlands, but also farmland and dry land, and is therefore very poorly covered by the AWC. Numbers are likely to be much higher than recorded since it is a very common species, at least from S Iran to India.

Important sites

In the absence of a population estimate, no internationally important sites can be identified. In SW Asia, the main site was Horeh Bamdej Marsh (FYM 80, 4yr) in Iran, and in S Asia it was Bahadur Sagar, India (500, 1yr). In SE Asia, the main site was Kye-In, Myanmar (200, 1yr).

Javanese Wattled Lapwing*Vanellus macropterus*

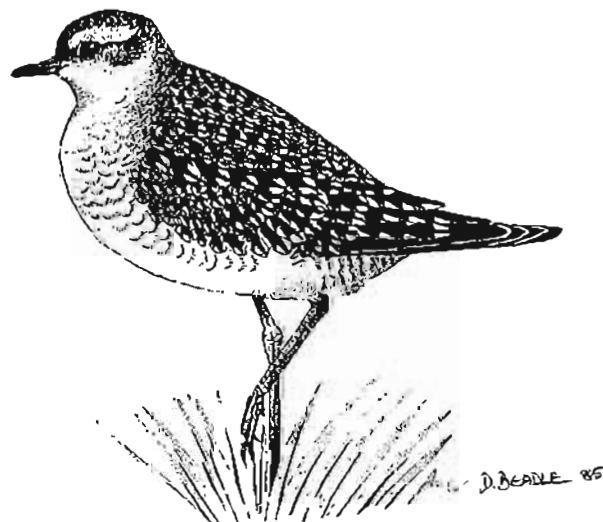
Monotypic; globally threatened. Confined to Indonesia (Java) and probably now extinct. There are no recent sightings of this freshwater species.

Masked Lapwing*Vanellus miles*

The nominate subspecies occurs in southern New Guinea and N Australia. It is apparently mainly sedentary, with no evidence of regular migrations, but it performs substantial post-breeding dispersals. The few AWC records were from freshwater and coastal sites in Papua New Guinea [AWC 580] with a maximum of 500 (1yr) on the Bensbach River and Floodplain.

Eurasian Golden Plover*Pluvialis apricaria*

Only the nominate subspecies occurs in Asia; this breeds in NW Eurasia east to about 100°E, and migrates southwest to winter mainly in Europe, although about 500-1,000 birds spend the winter in northern Iran (1970s data). In recent years, the breeding range in Russia has been expanding (Tomkovich 1992). Only one record was obtained from Iran during the AWC, and no sites of international importance can be identified.



Pacific Golden Plover

Pluvialis fulva

Monotypic. Breeds across northern Asia from the Urals to western Alaska, and winters throughout southern Asia from the Arabian peninsula east to Australia, New Zealand and the Pacific Islands. No discrete populations are identifiable. For the present purposes, two main wintering groups are recognized.

- S/SW Asia: C or D [AWC 13,700]
Trends: Unknown.
- E/SE Asia/Australasia: D (100,000+) [AWC 14,500]
Trends: Unknown.

The species is widespread in the region, with some large concentrations (Figure 137). By inhabiting grasslands in addition to coastal and riverine areas, a possibly important proportion of the population evades the AWC.

Potential sites of international importance

In E and SE Asia, two sites reached the 1% level of 1,000: the Cavite area of Manila Bay, Philippines (2,100, 1yr), and Sungei Serangoon estuary and ponds, Singapore (FYM 1,510, 2yr).

Other important sites

In S Asia, the most important site was the Adyar Estuary in Madras, SE India (FYM 1,380, 5yr).

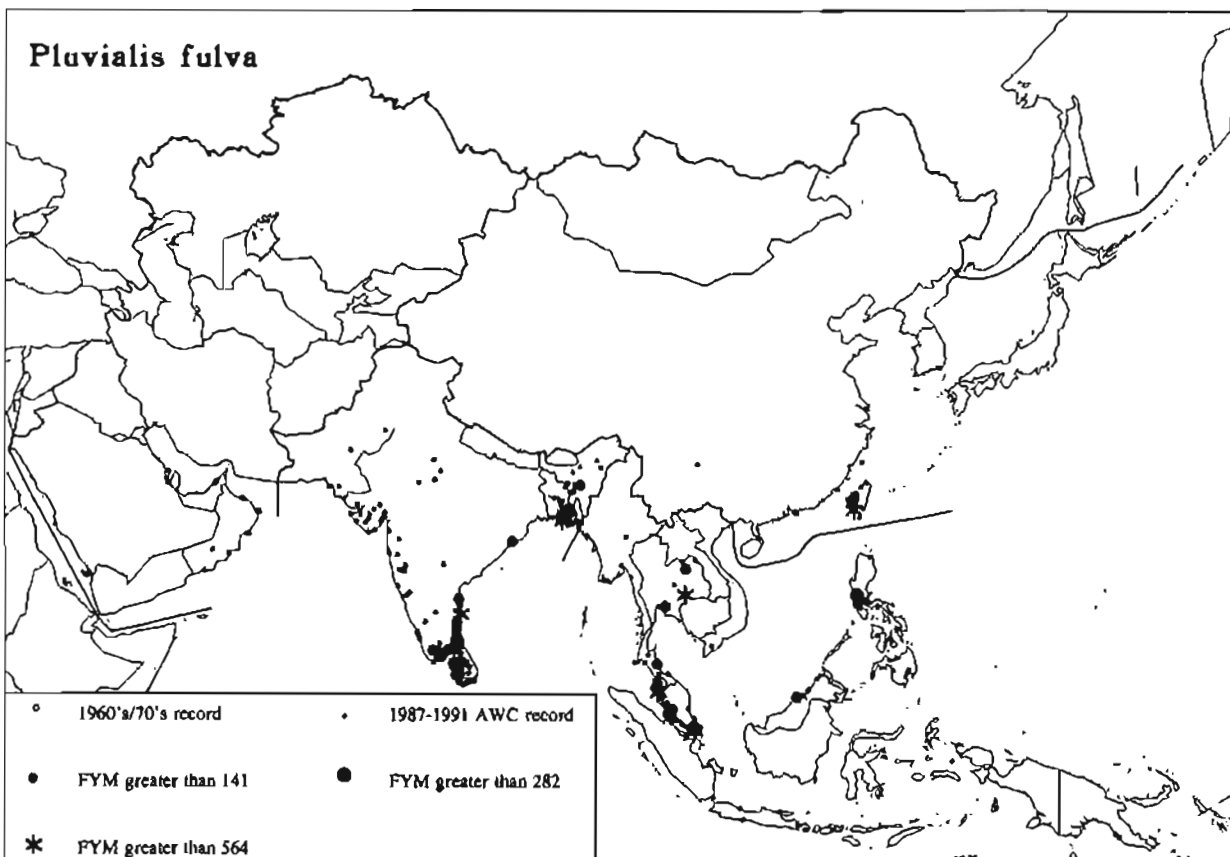


Figure 137: Distribution of *Pluvialis fulva* as shown by the AWC 1987-1991

Grey Plover

Pluvialis squatarola

Monotypic. Widespread outside the breeding season on coasts throughout southern Asia (Figure 138) from the Arabian Peninsula to Japan and also in Australasia. No discrete populations are identifiable; however, for the present purposes, three main wintering groups are recognized.

- SW Asia/E Africa: C (50,000) [AWC 6,800; 8,100 with 1970s data]

Trends: Unknown.

- S Asia: C (30,000) [AWC 14,100]

Trends: Unknown.

- E Asia/SE Asia/Australasia: Probably C [AWC 4,700]

Trends: Unknown.

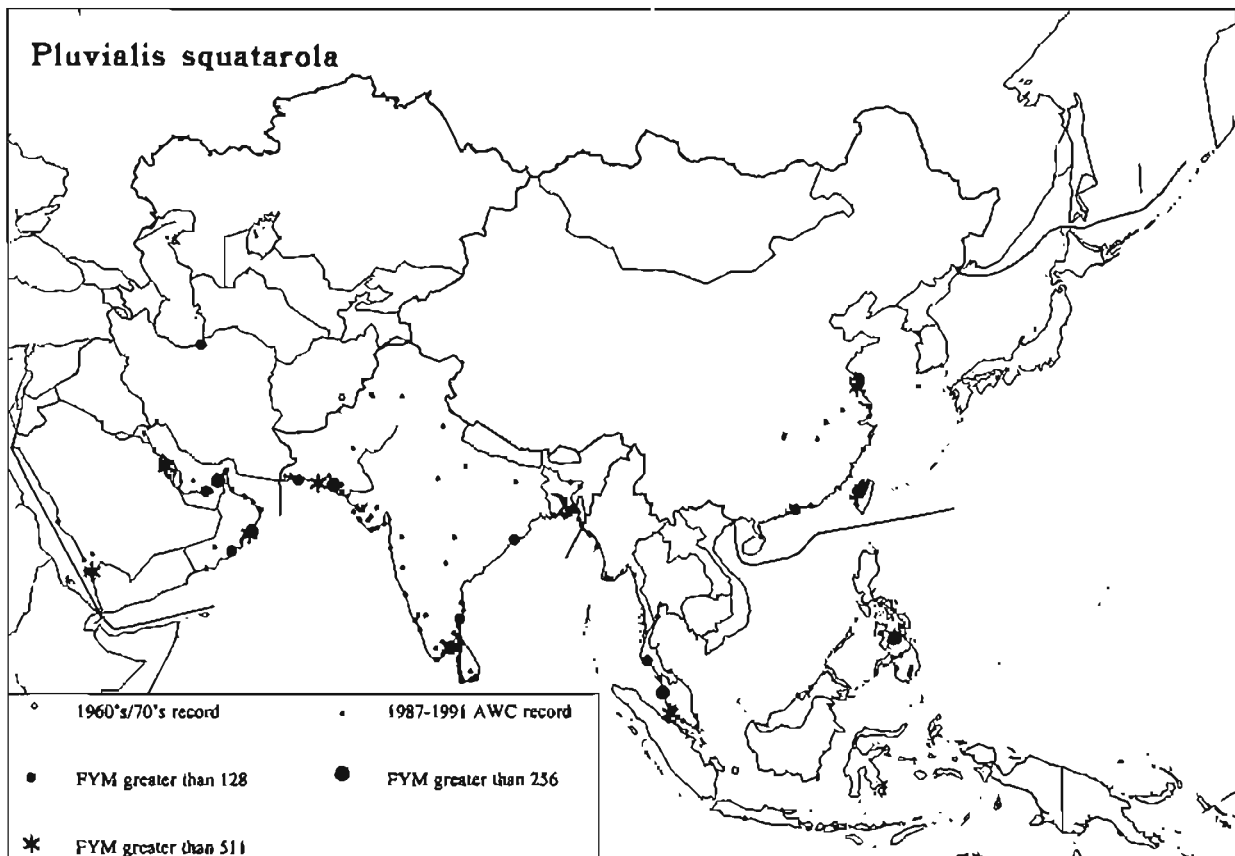


Figure 138: Distribution of *Pluvialis squatarola* as shown by the AWC 1987-1991

Potential sites of international importance

Three sites in SW Asia and five sites in S Asia had FYMs exceeding the 1% levels of 500 and 300 respectively (Table 60). The importance of half of these sites is based upon single counts, and therefore requires confirmation.

Other important sites

In E and SE Asia, where no population estimates are available, the most important site was Pulau Tengah on the west coast of peninsular Malaysia (FYM 860, 3yr). Wader data for Japan have not yet been incorporated into the AWC; the literature indicates that Tokyo Bay is important for Grey Plover, with 200-300 in January (Ishikawa and Kuwabara 1983). In November 1984, at least 400 birds were recorded at Hutan Bakau Pantai Timor in Sumatra, Indonesia (Silvius *et al.* 1986), a site not covered during the AWC.

Table 60: Potential sites of international importance for *Pluvialis squatarola* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH		KALADIA & BARADIA	329	1
INDIA	TAMIL NADU	RAMESWARAM AND MANALI ISLANDS	365	1
OMAN		BARR AL HIKMAN	1218	3
PAKISTAN	BALUCHISTAN	BAROON KIRTHEER LAKE/CANAL	1200	5
	BALUCHISTAN	HINGOL HOR	1200	1
	SIND	CLIFTON BEACH	368	5
SAUDI ARABIA	EASTERN	ZUR SALT MARSH, TAROUT	828	1
	SOUTH WEST	JIZAN BEACH	1125	2

Ringed Plover

Charadrius hiaticula

Only the subspecies *tundrae* occurs. This breeds across northern Russia east to the Bering Strait, but almost the entire population migrates southwest to winter in Africa and SW Asia east to Pakistan. It is a scarce passage migrant in China and Japan (with very few January records in Japan; Kuwabara *et al.* 1989), and very rare elsewhere in E, SE and S Asia (Figure 139). Only one population is recognized.

- E Africa/SW Asia: D (200,000+) [AWC 6,600; 10,000 with 1970s data]

Trends: Unknown.

In India, the great majority of AWC records undoubtedly refer to *Charadrius dubius* with which *C. hiaticula* is commonly confused. All records of *hiaticula* in India have therefore been ignored, although this is likely to have resulted in the loss of some genuine records. Records in Sri Lanka were carefully screened by the National Coordinator, and it is therefore possible that the species occurs regularly, although in very small numbers, inland and along the western coast of India south to Sri Lanka.

No site in SW Asia or Pakistan reached the 1% level of 2,000; major wintering sites for this population are in eastern Africa.

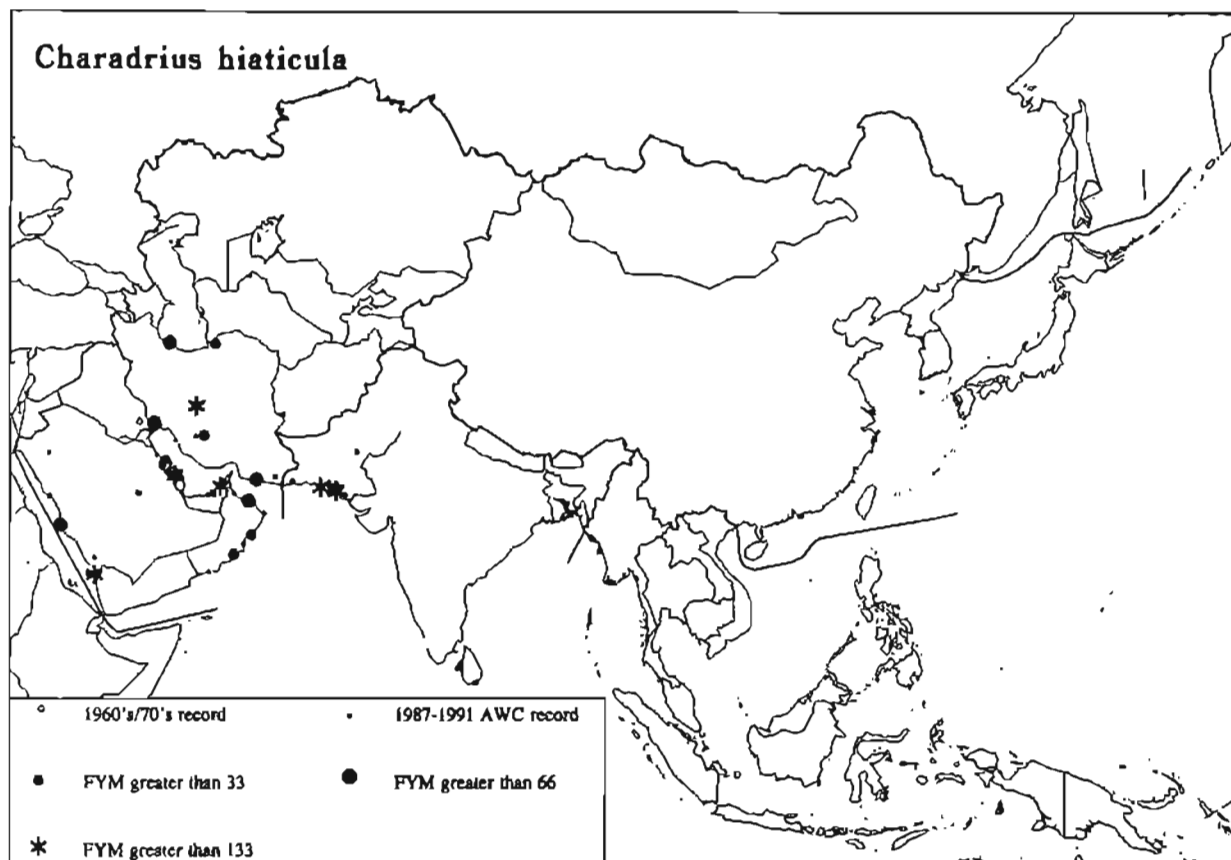


Figure 139: Distribution of *Charadrius hiaticula* as shown by the AWC 1987-1991

Long-billed Plover

Charadrius placidus

Monotypic. Populations breeding in E Russia and China are migratory and winter south to NE India and Indochina. The Japanese population appears to be mainly sedentary. Two populations are recognized.

- NE India/SE & E Asia (excluding Japan): Probably A; poorly known but apparently scarce everywhere. [AWC 19]

Trends: Declining.

- Japan: Unknown [AWC 0]

Trends: Unknown.

Only a few records from Bangladesh, China, Malaysia and Myanmar were obtained during the AWC, and no important sites can be identified.

Little Ringed Plover

Charadrius dubius

Four subspecies occur. *C. d. curonicus* breeds across northern Eurasia and is highly migratory, wintering from the Arabian Peninsula eastwards to Indonesia (with a very small number of birds reaching Australia). The nominate subspecies of S Japan, S China and the Philippines is largely sedentary, although the Japanese population is migratory. *C. d. jerdoni* of S and SE Asia and *C. d. papuanus* of New Guinea appear to be sedentary. There is extensive overlap of migratory and sedentary populations outside the breeding season (Figure 140). Two main wintering groups are recognized.

- S Asia: C [AWC 14,400]
Trends: Unknown.
- E/SE Asia (to Greater Sundas): Probably C [AWC 4,700]
Trends: Unknown.

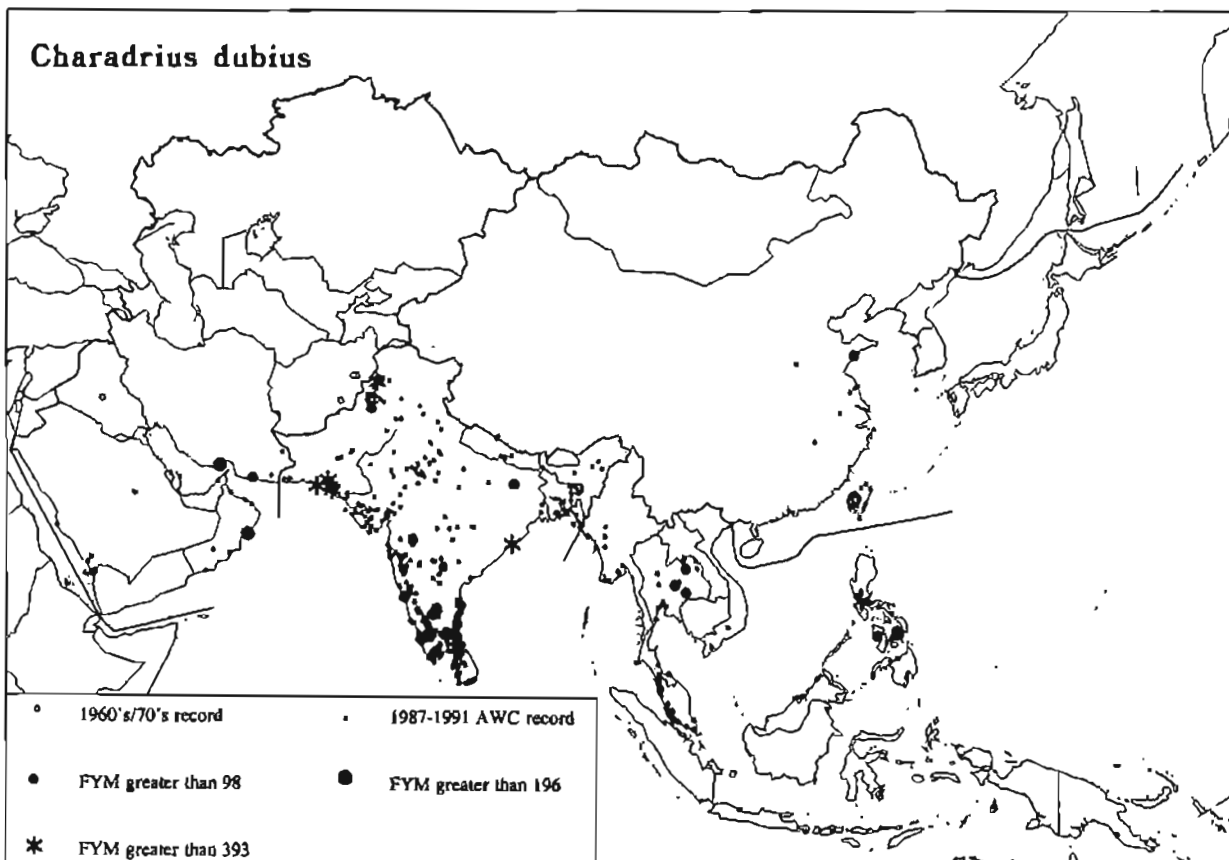


Figure 140: Distribution of *Charadrius dubius* as shown by the AWC 1987-1991

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Twelve sites had an average of 200 or more birds. Of these, five were in Pakistan, three in India, two in the Philippines and one each in Oman and Sri Lanka. Clifton Beach in Pakistan was the most important site with a FYM of 1,200 (Syr).

Kentish Plover

Charadrius alexandrinus

Three subspecies occur. The nominate subspecies breeds across northern Eurasia to eastern Russia and Korea, and winters widely along coasts and at freshwater wetlands from NE Africa through SW, S and SE Asia. *C. a. dealbatus* of Japan and eastern China appears to be mainly sedentary, while *C. a. seebohmi* is confined to Sri Lanka and southern India. No discrete populations are identifiable, and there is extensive overlap of migratory and sedentary populations in winter (Figure 141). Three main wintering groups are recognized.

- SW Asia/NE Africa: C or D [AWC 8,300; 23,300 with 1970s data]
Trends: Unknown.
- S Asia: C [AWC 17,500]
Trends: Unknown.
- E/SE Asia (to Greater Sundas): C or D [AWC 35,900]
Trends: Unknown.

Important sites

In the absence of population estimates, no sites of international importance can be identified. In SW Asia, the major sites were Barr al Hikman in Oman (FYM 1,250, 3yr) and Khor Dubai in the U.A.E. (FYM 1,330, 3yr). In S, SE and E Asia, 22 sites had a FYM of 1,000 or more birds: ten sites in China, four each in Pakistan and Taiwan, and two each in India and the Philippines. The most important site was Cho-Shui-Hsi S. in Taiwan (FYM 7,000, 2yr).

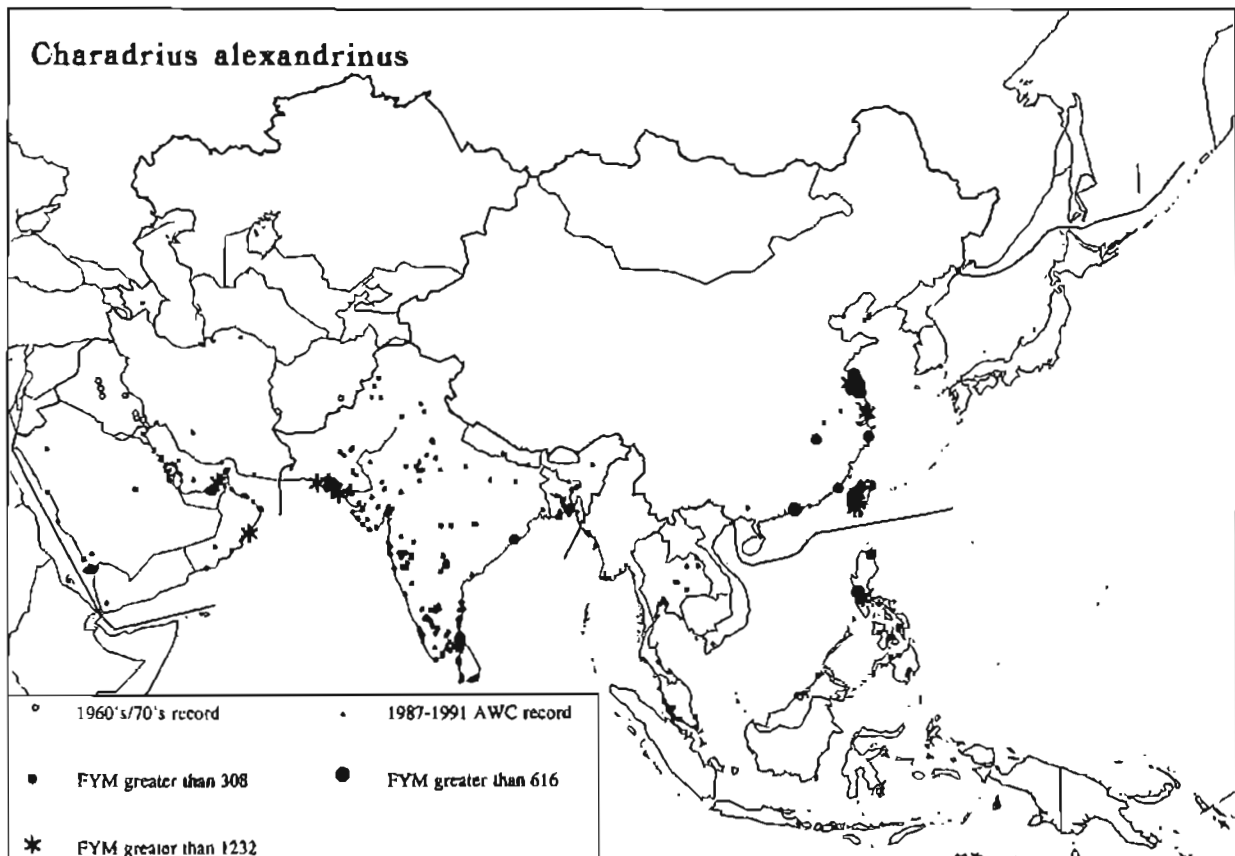


Figure 141: Distribution of *Charadrius alexandrinus* as shown by the AWC 1987-1991

Red-capped Plover*Charadrius ruficapillus*

Monotypic. Almost confined to Australia, but has been recorded at coastal sites in E Indonesia and New Guinea where its status is uncertain. No records were obtained as part of the AWC.

Malaysian Plover*Charadrius peronii*

Monotypic. Apparently sedentary in the Malay Peninsula, Borneo, the Philippines and W and C Indonesia (Figure 142).

- SE Asia: Possibly A [AWC 105]

Trends: Unknown; possibly declining.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Two coastal sites in the Malay Peninsula produced the highest counts: Kuala Sedili in Malaysia (FYM 26, 2yr) and Khao Sam Roi Yot N.P. in Thailand (FYM 10, 2yr).

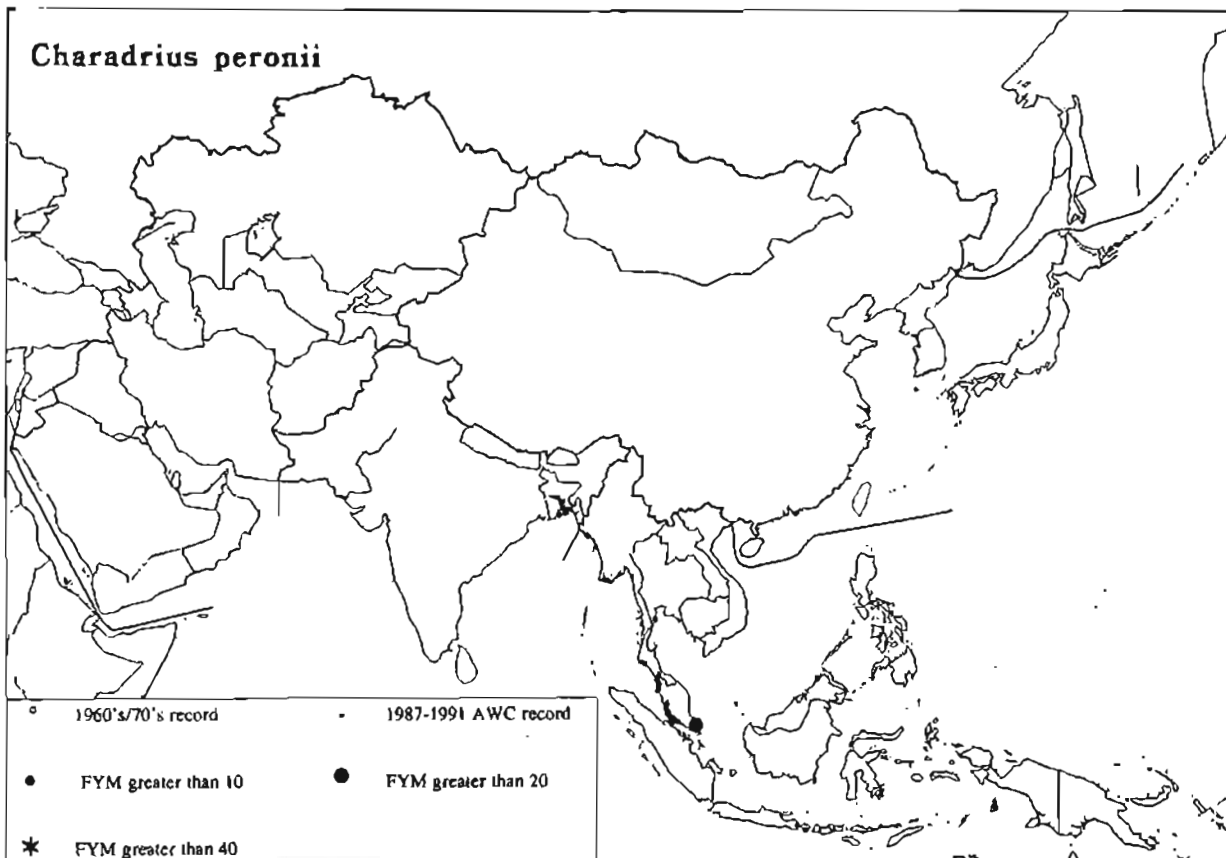


Figure 142: Distribution of *Charadrius peronii* as shown by the AWC 1987-1991

Javanese Plover*Charadrius javanicus*

Monotypic. A sedentary species confined to the island of Java, Indonesia. It is often considered to be a subspecies of *C. alexandrinus*. No records were obtained during the AWC.

Lesser Sand Plover (Mongolian Plover)

Charadrius mongolus

Five subspecies occur. *C. m. pamirensis* breeds in the Central Asian Republics and winters from E Africa through SW Asia to W India; *atrifrons* breeds in the Himalayas and Tibet and winters from Pakistan through S Asia to Sumatra in Indonesia; *schaeferi* breeds in W China and winters in SE Asia and the Greater Sundas in Indonesia; the nominate subspecies and *stegmanni* breed at high latitudes in NE Asia and migrate south through Japan and China to spend the boreal winter from the Philippines and E Indonesia to Australasia (Figure 143). Four main wintering groups are recognized.

- SW Asia/E Africa (mainly *pamirensis*): C (25,000+) [AWC 11,200; 15,000 with 1970s data]
Trends: Unknown.
- S Asia (mainly *atrifrons*): D (100,000+) [AWC 74,700]
Trends: Unknown.
- SE Asia to Greater Sundas (mainly *schaeferi*): Probably C [AWC 13,900]
Trends: Unknown.
- E Asia/Australasia (*mongolus* and *stegmanni*): Probably C [AWC 430]
Trends: Unknown.

Because of the difficulty of differentiating this species from the Greater Sand Plover, it is possible that some of the records submitted for these two species include misidentifications. The records should therefore be treated with caution.

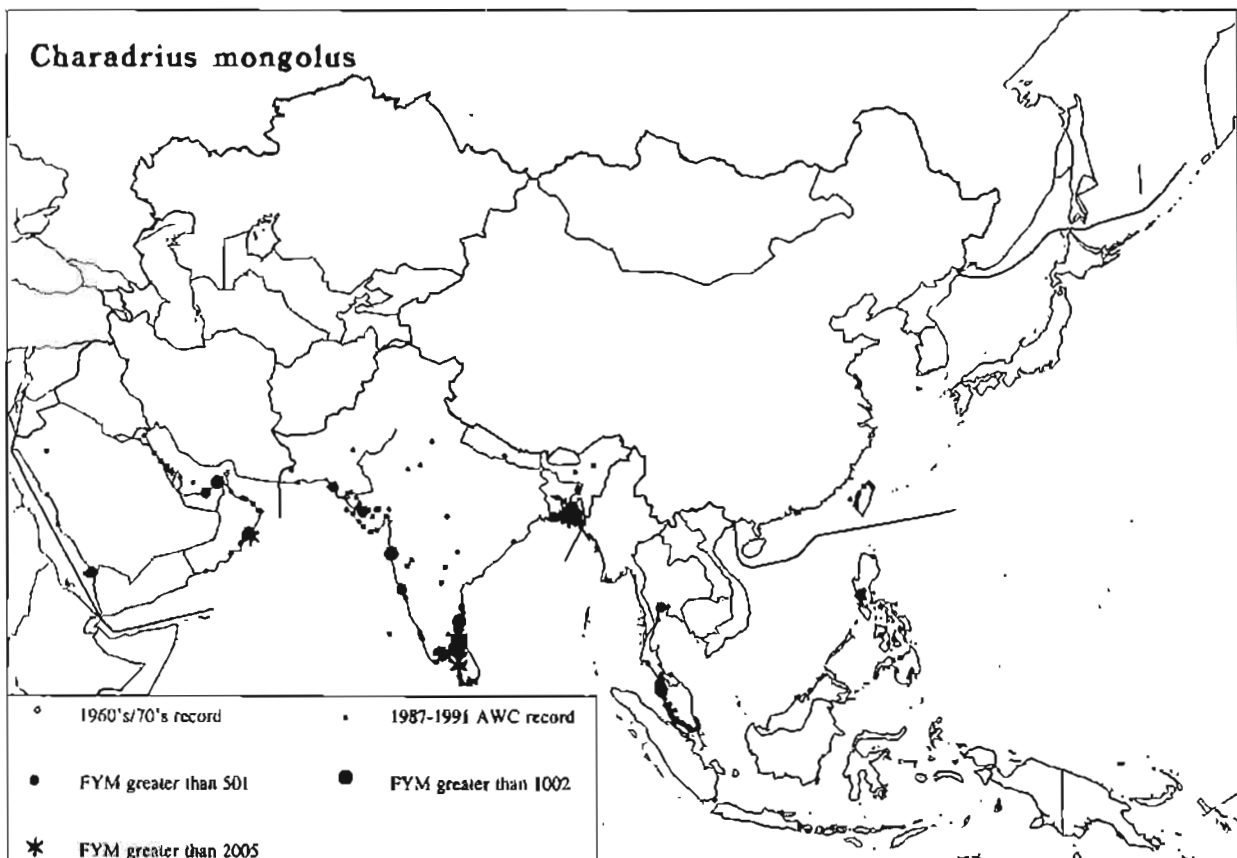


Figure 143: Distribution of *Charadrius mongolus* as shown by the AWC 1987-1991

Potential sites of international importance

With FYMs (1% level) of 250 and 1,000 for SW and S Asia respectively, 29 sites qualify (Table 61).

Other important sites

In SE and E Asia, no population estimates are available, and no sites of international importance can be identified. However, eight coastal sites in peninsular Malaysia, four in the Philippines and three in Thailand had an average of at least 250 birds. The most important site was Batu Maung in peninsular Malaysia (FYM 1,180, 3yr).

Table 61: Potential sites of international importance for *Charadrius mongolus* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BAHRAIN		ASRY CAUSEWAY, MUHARRAQ	269	3
		WEST SITRAH AND NORTH AL AKR BAY	260	2
BANGLADESH		GHATIBANGA	1986	1
	BARISAL	BURAGAURANGA RIVER	1144	1
	BARISAL	SHONAR CHAR	1207	2
	CHITTAGONG	CHAR BHATA	1062	4
	COX'S BAZAAR	CHARAN DWEEP	3970	2
	HATIYA	HATIYA ISLAND	4496	5
	HATIYA	MAULAVIR CHAR	2022	4
	HATIYA	NIJHUM DWEEP (CHAR OSMAN)	4278	4
INDIA	GOA	MARJIM - 'TEMBWADO' COASTLINE	1000	2
	MAHARASHTRA	VASHI CREEK INSIDE	1200	1
	TAMIL NADU	KALIVELI	1125	4
	TAMIL NADU	POINT CALIMERE B.S	1355	5
	TAMIL NADU	PUTHUPALLI ALAM	7816	3
	TAMIL NADU	RAMESWARAM AND MANALI ISLANDS	3450	1
	TAMIL NADU	SPIC NAGAR (TUTICORIN)	1000	3
	TAMIL NADU	WIMCO SALT FACTORY	2500	1
OMAN		BARR AL HIKMAN	1718	3
		DAWHAT SAWQIRAH	472	3
		MASIRAH ISLAND	2849	3
SAUDI ARABIA	GULF	SALT PAN WEST OF AL JUBAYL	400	1
	SOUTH WEST	JIZAN BEACH	562	2
SRI LANKA	N.P	ARALY SOUTH JETTY- PUNALAI	2050	1
	N.P	KAYTS ISLAND EAST + MANDAITIVU	1100	1
	N.W.P	SEGUWANTIVU MUDFLATS (MI OYA ESTUARY)	5250	1
U.A.E	ABU DHABI	ZUBBAYA (DUBBAYA, DHABIYA)	550	1
	DUBAI	KHOR DUBAI	1006	3
	UMM AL QUWAIN	KHOR AL BEIDAH	250	2

Greater Sand Plover

Charadrius leschenaultii

Two subspecies occur in the region. *C. l. crassirostris* breeds in Transcaspia east to SE Kazakhstan, and the nominate subspecies breeds in western China, Mongolia and adjacent Russia. A third subspecies, *columbinus*, which breeds in Turkey and Jordan east to the Caspian, is confined to the Western Palearctic. The species disperses widely outside the breeding season, occurring from Africa through southern Asia to China and Australasia (Figure 144). However, the distribution of the different subspecies at this time seems to be unknown. Three main wintering groups are recognized.

- SW Asia: C (65,000) [AWC 2,300; 9,850 with 1970s data]
Trends: Unknown.
- S Asia: Probably C [AWC 1,530]
Trends: Unknown.
- E Asia/SE Asia/Australasia: C or D [AWC 6,600]
Trends: Unknown.

Due to the difficulty of differentiating this species from the Mongolian Plover, it is possible that some of the records submitted for these two species include misidentifications. The records should therefore be treated with caution. Winter records of this coastal species from inland sites in India need to be confirmed.

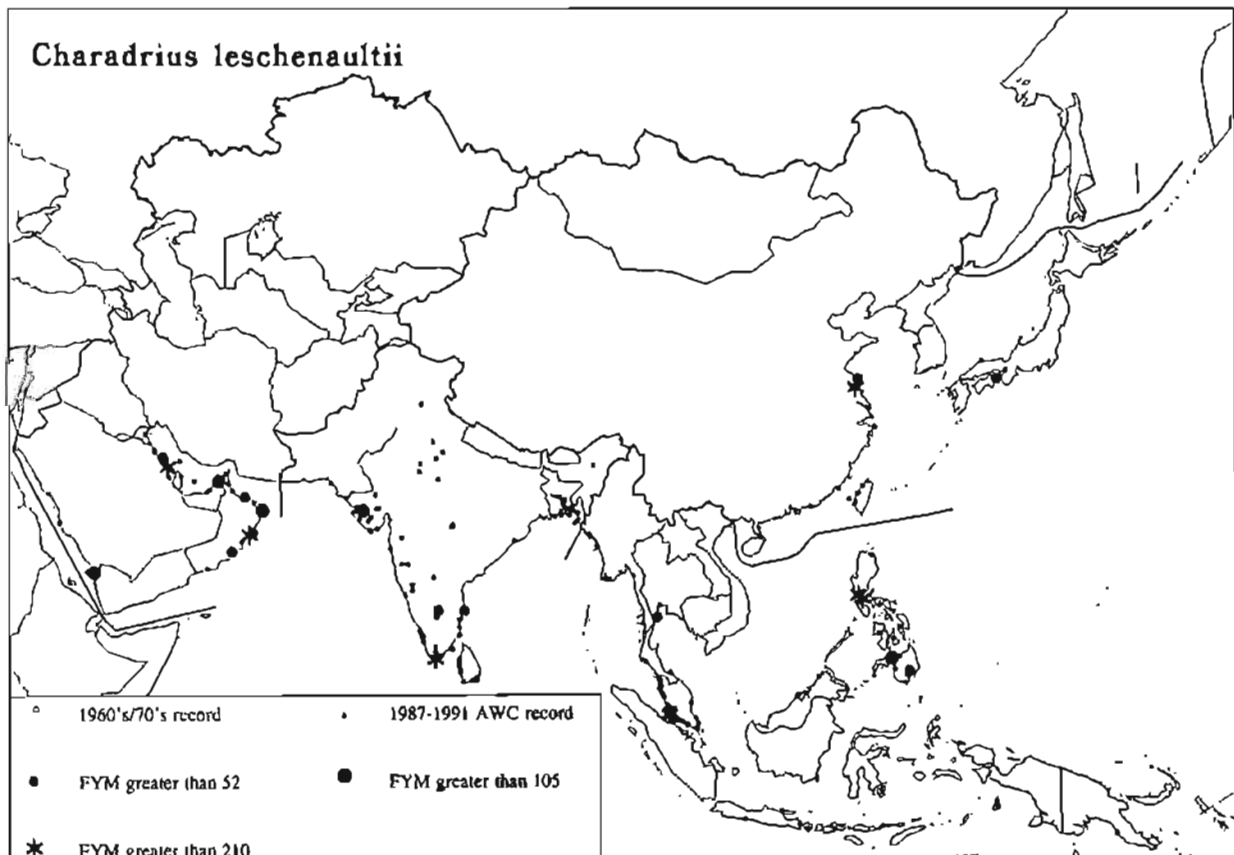


Figure 144: Distribution of *Charadrius leschenaultii* as shown by the AWC 1987-1991

Important sites

Although a population estimate is available for SW Asia, no site reaches the qualifying FYM of 650 (1% level). In S, SE and E Asia, seven coastal sites held an average of at least 100 birds: three in the Philippines, two in India, and one each in China and Malaysia. At Pulau Tengah in peninsular Malaysia, 1,868 were recorded in 1986 (Silvius *et al.* 1987).

Caspian Plover*Charadrius asiaticus*

Monotypic. Breeds in west-central Asia and migrates through SW Asia to winter in E and S Africa. A common passage migrant in N and W Iran, but only a vagrant east of Iran. No record was obtained during the AWC.

Oriental Plover*Charadrius veredus*

Monotypic. Breeds in N China and Mongolia and spends the boreal winter almost exclusively in Australia and E Indonesia. Only one population of 44,000 birds (Watkins 1993) is recognized. No records were obtained during the AWC.

Red-kneed Dotterel*Charadrius cinctus*

Monotypic; almost confined to freshwater habitats in Australia where it is partly nomadic. A few birds straggle to Papua New Guinea. No records were obtained during the AWC.

Eurasian Dotterel*Eudromias morinellus*

Monotypic. Breeds across northern Russia east to Alaska and in the mountain ranges of Central Asia south to NW China and N Mongolia, but all populations winter in the deserts of N Africa and SW Asia; a vagrant elsewhere in Asia. One wintering population is recognized.

- N Africa/SW Asia: B or C [AWC 20; 820 with 1970s data]

Trends: Unknown.

In its wintering areas, the Eurasian Dotterel inhabits dry stony or sandy ground, and is therefore not adequately covered by the AWC. There was a single record of 20 birds at Qurrayah Farm, Bahrain, during the AWC, and there are several records of small numbers in Iraq and Iran in the 1970s. No sites of international importance can be identified.

SCOLOPACIDAE

Black-tailed Godwit

Limosa limosa

Two subspecies occur. The nominate subspecies breeds from Europe east across temperate Asia to about 90°E and winters from SW Asia east to Myanmar. *L. l. melanuroides* breeds in NE Asia and migrates through Japan and E China to winter in SE Asia and Australasia (Figure 145). Three wintering groups are recognized.

- SW Asia: C (25,000+) [AWC 1,260; 17,100 with 1970s data]

Trends: Unknown.

- S Asia to Myanmar: C or D (100,000+) [AWC 52,500]

Trends: Increasing in some areas.

- E Asia/SE Asia/Australasia: C or D [AWC 6,200]

Trends: Unknown.

The wintering population of Black-tailed Godwits in Iran was estimated at 10,000-15,000 in the 1970s (Scott 1992). Most of these birds were located during aerial surveys of the extensive wetlands in southern Iran. No aerial surveys have been possible in recent years, and the major concentrations of Black-tailed Godwits have therefore been missed.

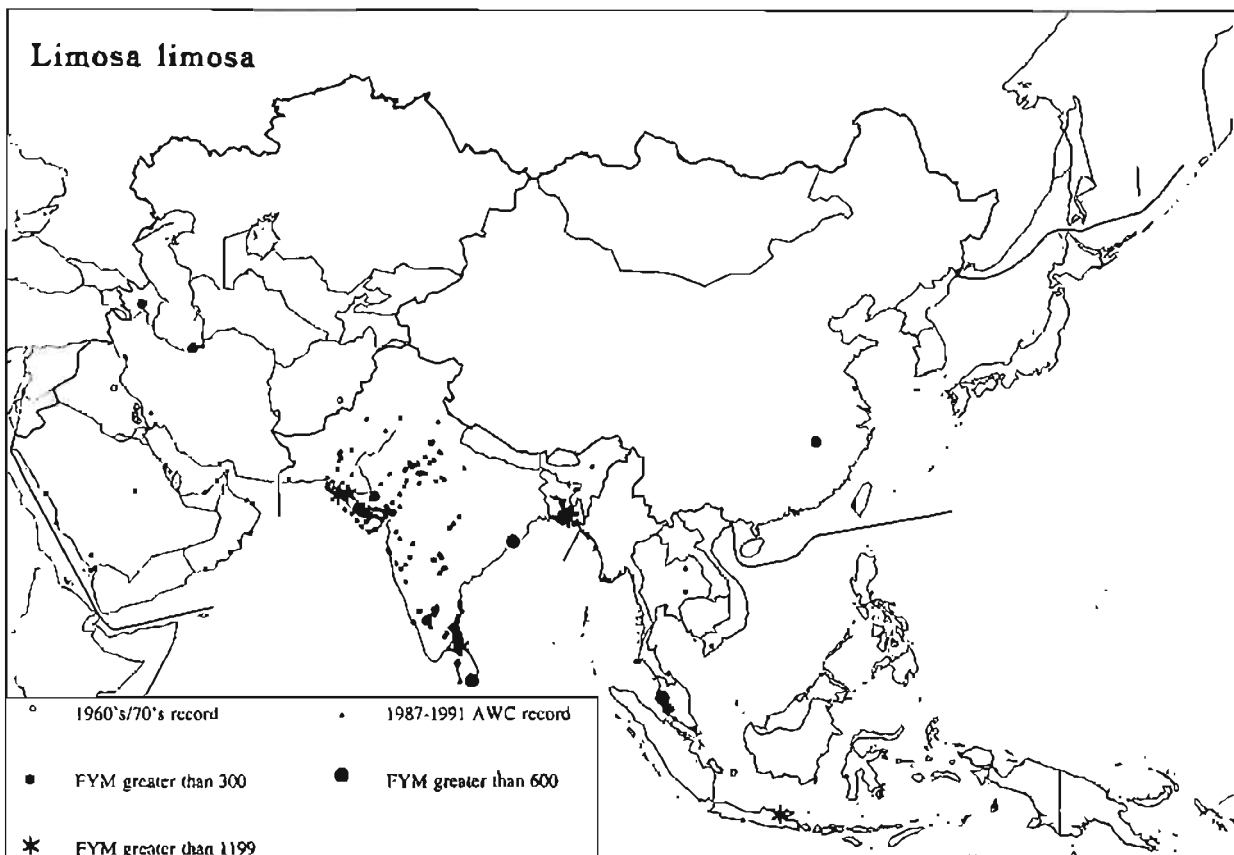


Figure 145: Distribution of *Limosa limosa* as shown by the AWC 1987-1991

The coast from Pakistan to the Gulf of Kachchh and adjoining inland sites in W India, as well as the SE coast near Sri Lanka, support large numbers. The AWC showed that the species is more widespread in S India and Sri Lanka than was previously known (e.g. Hayman *et al.* 1986).

Potential sites of international importance

With 1% levels of 250 and 1,000 in SW and S Asia respectively, seven sites qualify (Table 62).

Other important sites

In the absence of a population estimate, no sites of international importance can be identified in E and SE Asia. Studies carried out prior to the AWC revealed that the species is one of the most abundant wader species in Indonesia (Mundkur 1993), with a maximum of 25,100 in the Banyuasin Delta in Sumatra at the peak of migration, i.e. outside the AWC period (Verheugt *et al.* 1990). Up to 8,000 birds have been recorded in the Solo Delta in East Java, another site not covered during the AWC (M. Silvius, pers. comm.).

Table 62: Potential sites of international importance for *Limosa limosa* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
AZERBAIJAN	AGJABEDI	AGGEL (AH GOL) LAKE	300	1
BANGLADESH	HATIYA	NIJHUM DWEEP (CHAR OSMAN)	1205	4
IRAN	MAZANDARAN	ESBARAN	300	1
PAKISTAN	SIND	KALKAN WARI CHAND	14210	2
	SIND	NUR-RI, BADIN	2893	4
SRI LANKA	N.P	ANTANTIDAL - TONDAIMANNAR	3000	1
	S.P	EMBILIKALA LEWAYA	1036	3

Bar-tailed Godwit

Limosa lapponica

Two subspecies occur. The nominate subspecies breeds from N Europe east to the Khatanga River (105°E) and winters east to India. *L.l. baueri* breeds in NE Asia and western Alaska and migrates through Japan and China to SE Asia and Australasia (Figure 146). Two wintering populations are recognized.

- E Africa/SW Asia/S Asia (*lapponica*): D (100,000+) [AWC 48,700; 78,500 with 1970s data]
Trends: Unknown.

- SE Asia/Australasia (*baueri*): D [AWC 1,730]
Trends: Increasing in some areas.

Aerial surveys of the entire south coast of Iran in the 1970s located a wintering population of 25,000-35,000 Bar-tailed Godwits, mainly along the shores of the Straits of Hormoz and Persian Baluchistan. No aerial surveys have been possible in recent years, and these birds have gone unrecorded in the recent censuses.

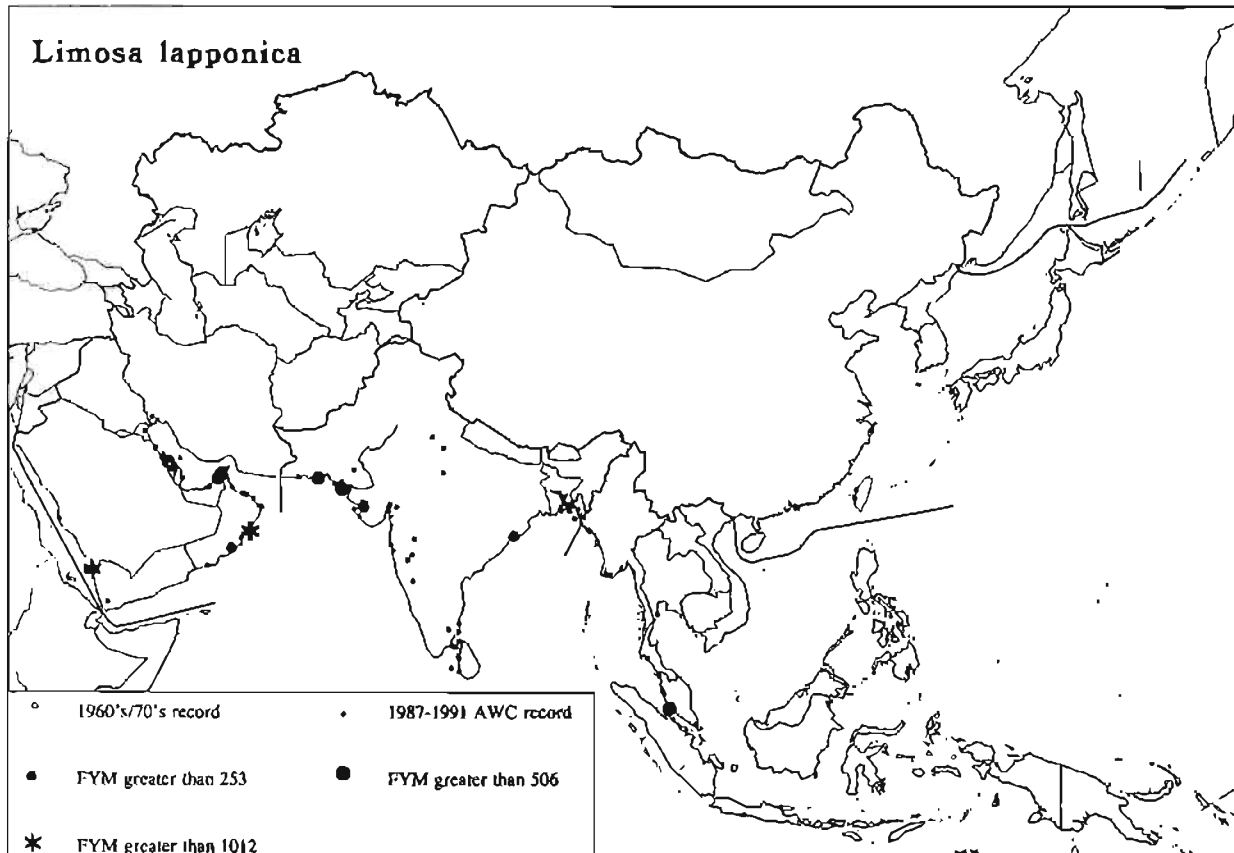


Figure 146: Distribution of *Limosa lapponica* as shown by the AWC 1987-1991

Potential sites of international importance

Three sites had a FYM of 1,000 (1% level) or more in SW and S Asia: Barr Al Hikman (FYM 34,600, 3yr) and Masirah Island (FYM 2,230, 3yr), both in Oman, and Jizan Beach in Saudi Arabia (FYM 1,560, 2yr).

Other important sites

In the absence of a population estimate, no sites of international importance can be identified in SE Asia. Five sites had a FYM of at least 200: four sites in the Malay Peninsula and one in the Philippines. The most important site was Pulau Tengah in the Klang Islands, peninsular Malaysia (FYM 970, 3yr), which may be the most important site in the country. At least 2,000 have been recorded in the Banyuasin Delta in Sumatra, Indonesia, a site not covered properly during the AWC (M. Silvius, pers. comm.).

Little Curlew

Numenius minutus

Monotypic. Breeds in C and E Siberia and migrates to Australia through China, overflying most of SE Asia (Lane 1987). Only one population is recognized.

- E Asia/eastern SE Asia/Australasia (entire population): D (200,000+; Watkins 1993) [AWC 23]

Trends: Unknown.

The bulk of the population spends the boreal winter in Australia (Lane 1987), where it inhabits dry country. Only a few records were obtained during the AWC, in Taiwan and the Philippines, and these need to be verified. No sites of international importance can be identified.

Whimbrel

Numenius phaeopus

Two subspecies occur. The nominate subspecies breeds from northern Europe east across northern Asia to about 90°E and winters east to Pakistan, W India and Sri Lanka. *N. p. variegatus* breeds in NE Asia and migrates through Japan and China to winter in SE Asia west to the Bay of Bengal and throughout Australasia (Figure 147). Two wintering populations are recognized.

- S/SW Asia (Arabo-Persian Gulf to Sri Lanka; *phaeopus*): C (25,000+) [AWC 11,800]
Trends: Unknown.
- SE Asia/Australasia (from NE India eastwards; *variegatus*): Probably C [AWC 4,100]
Trends: Unknown.

Potential sites of international importance

Two sites in S and SW Asia had a FYM of over 250 (1% level): Barr Al Hikman in Oman (FYM 430, 3yr), and Chilka Lake in India (FYM 9,900, 4yr).

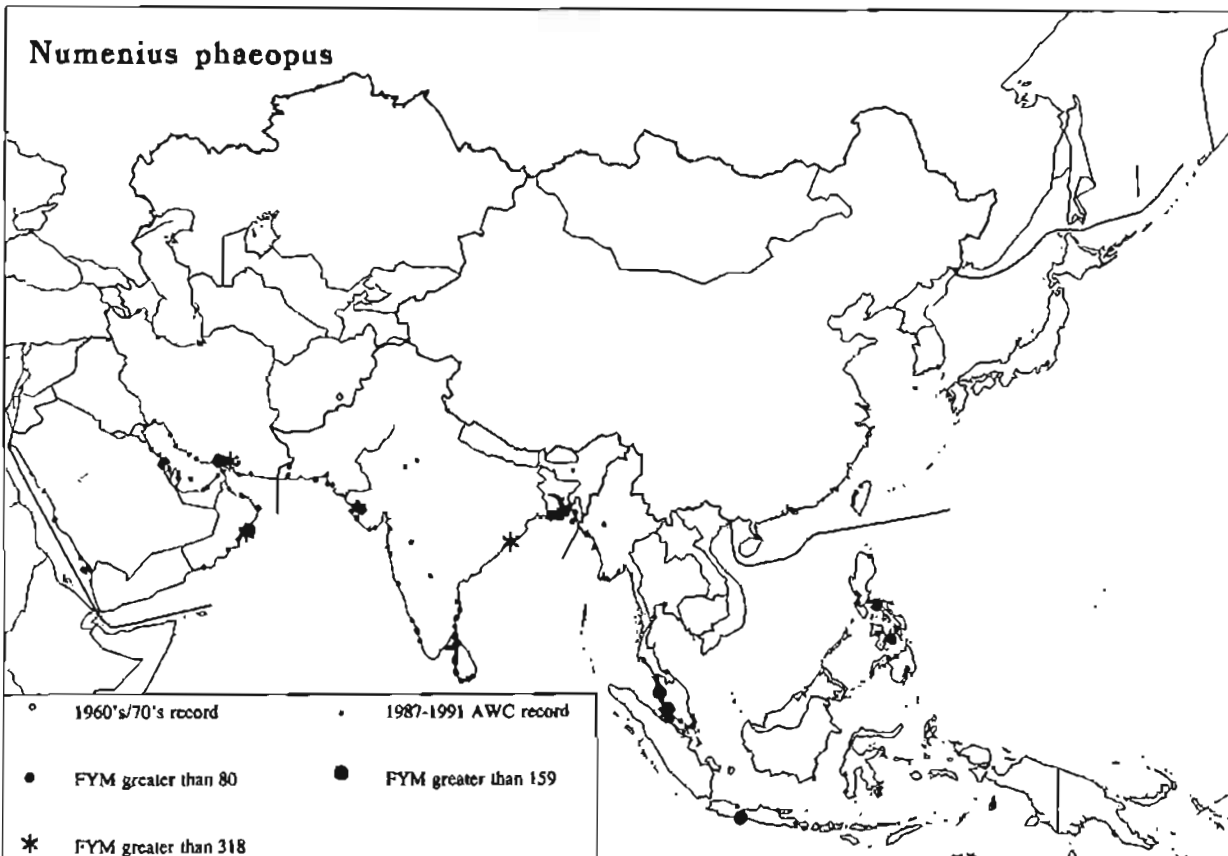


Figure 147: Distribution of *Numenius phaeopus* as shown by the AWC 1987-1991

Other important sites

No population estimates are available in E and SE Asia, and no sites of international importance can be identified. The most important site was Pulau Tengah in peninsular Malaysia (FYM 720, 3yr). Up to 750 were recorded in the Banyuasin Delta in Sumatra, Indonesia, prior to the AWC (M. Silvius, pers. comm.).

Slender-billed Curlew*Numenius tenuirostris*

Monotypic; globally threatened. The only definite breeding records are in the Tara region near Omsk (75°E) in Russia. The bulk of the population migrates WSW to winter in the Mediterranean Basin, but there appears to be a small wintering population in SW Asia. Six birds were found in Iraq in January 1979 (Scott & Carp 1982), and the species has recently been recorded as a very rare passage migrant and/or winter visitor in Iran and the Arabian Peninsula.

- SW Asia/Mediterranean (entire population): A (100-400; Gretton 1991) [AWC 10]

Trends: Declining.

There has been a massive decline in the numbers of Slender-billed Curlew during the present century, and the species would now seem to be on the verge of extinction. In a detailed review of the status of the species, Gretton (1991) concluded that the total population was between 100 and 400 individuals. Only a few records were obtained during the AWC, in Iran, SW Saudi Arabia and Oman. The recent records from Iran, some of which relate to quite large flocks, have yet to be fully confirmed.

Potential sites of international importance

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Gretton (1991) lists all sites at which the species is known to have occurred this century (up to 1990).

Eurasian Curlew*Numenius arquata*

Two subspecies occur. The nominate subspecies breeds in Europe east to the Urals, and winters east to Iran. *N. a. orientalis* breeds widely across temperate Asia to about 120°E and winters widely in southern Asia (Figure 148). Three main wintering groups are recognized.

- SW Asia/E Africa: C (28,000+) [AWC 6,800; 24,700 with 1970s data]

Trends: Unknown.

- S Asia: B or C [AWC 9,300]

Trends: Unknown.

- E/SE Asia (to Greater Sundas): B or C [AWC 5,400]

Trends: Unknown.

Aerial surveys of the entire south coast of Iran in the 1970s located a wintering population of 15,000-20,000 Eurasian Curlews, mostly along the shores of the Straits of Hormoz and Persian Baluchistan. No aerial surveys have been possible in recent years, and many of these birds have gone unrecorded in the recent censuses.

Potential sites of international importance

In SW Asia, three sites reach a FYM of 280 (1% level): Khor Kolahy in Iran (FYM 280, 2yr), and Barr Al Hikman (FYM 1,180, 3yr) and Masirah Island (FYM 480, 3yr) in Oman.

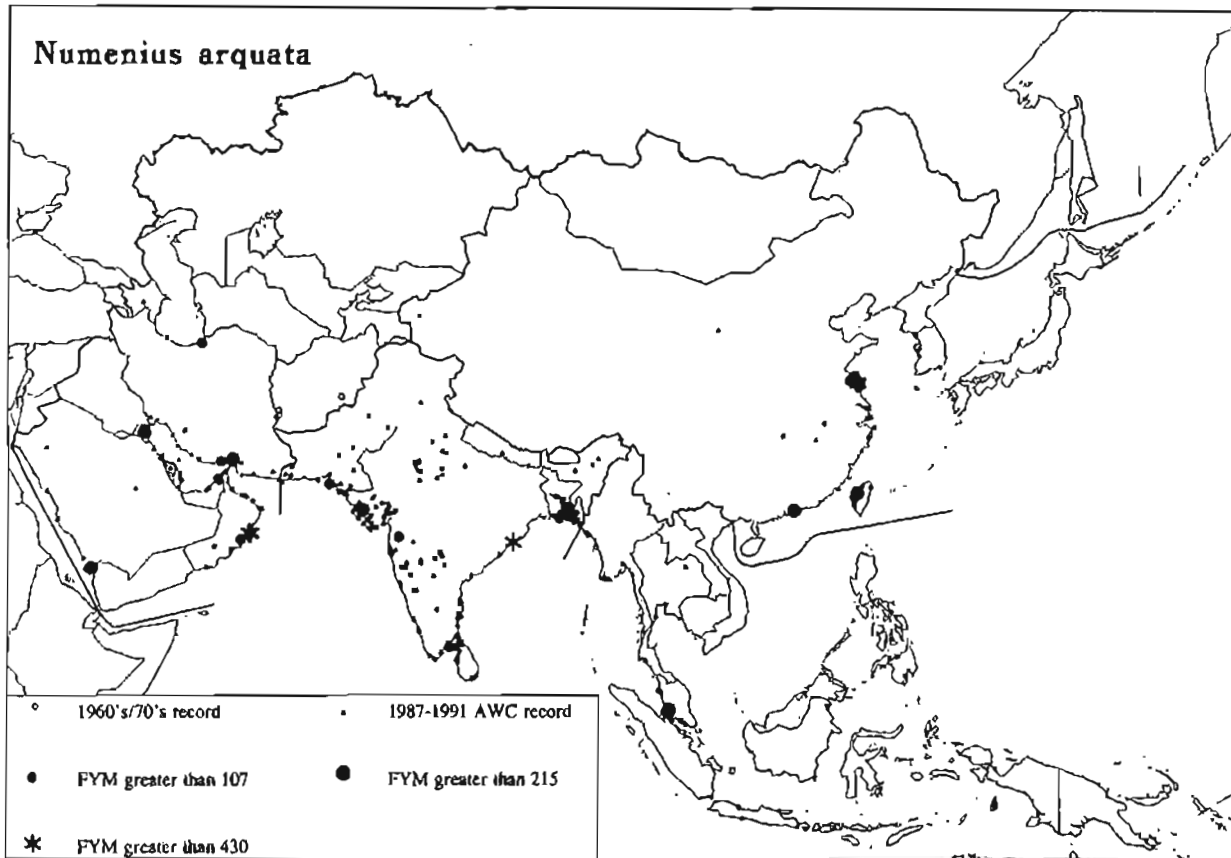


Figure 148: Distribution of *Numenius arquata* as shown by the AWC 1987-1991

Other important sites

Two sites each in Bangladesh, China and India, and one each in Hong Kong, Malaysia and Taiwan had an average of at least 250 birds. The most important site was Chilka Lake in India, (FYM 4,500, 4yr). At least four sites in Sumatra, Indonesia, not adequately covered by the AWC, support concentrations of over 500 birds, with one site, Banyuasin Delta holding up to 6,900 birds in November 1988 (M. Silvius, pers. comm.).

Far Eastern Curlew

Numenius madagascariensis

Monotypic. Breeds in E Siberia and migrates through China and SE Asia to spend the boreal winter mainly in Australia. Only one population is recognized.

- E Asia/SE Asia/Australasia (entire population): B (21,000, Watkins 1993) [AWC 483]

Trends: Declining (Watkins 1993).

Potential sites of international importance

The bulk of the population spends the boreal winter in Australia, and there are few sites in SE and E Asia where the Far Eastern Curlew is recorded in any numbers (Figure 149). Only the Banyuasin Delta in Sumatra, Indonesia (FYM 370, 3yr) qualifies as a site of international importance in Asia.

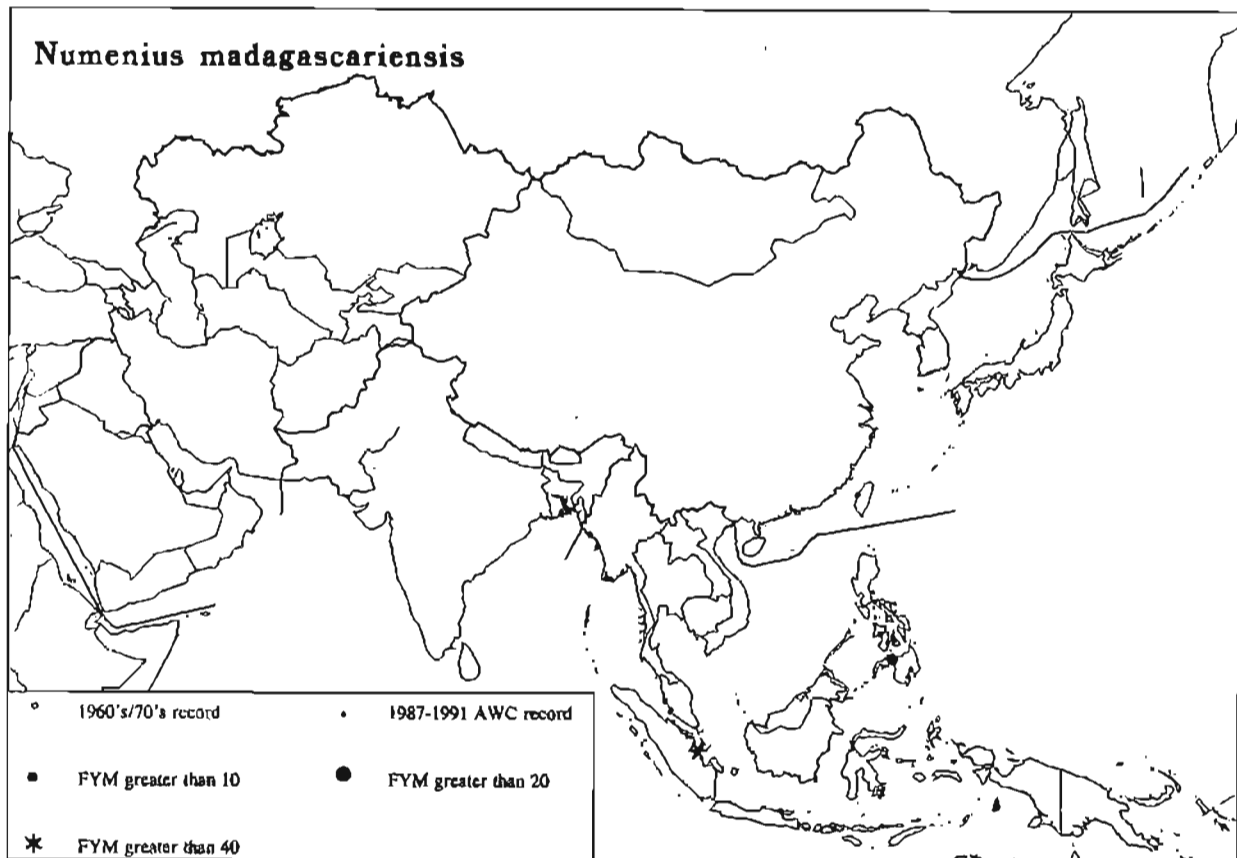


Figure 149: Distribution of *Numenius madagascariensis* as shown by the AWC 1987-1991

Spotted Redshank

Tringa erythropus

Monotypic. The species has a wide breeding distribution across northern Asia, and a wide wintering distribution from Africa eastwards across southern Asia north of the equator (Figure 150). Three main wintering groups are recognized.

- SW Asia/E Africa: B or C [AWC 7; 660 with 1970s data]
Trends: Unknown.
- S Asia: Probably B [AWC 980]
Trends: Unknown.
- E/SE Asia: B [AWC 3,130]
Trends: Unknown.

The species is common in Iraq, and possibly overlooked in Iran; hence the very small AWC numbers in SW Asia in recent years.

Important sites

In the absence of population estimates, no sites of international importance can be identified. The most important site was Poyang Lake in China (FYM 1,200, 4yr).

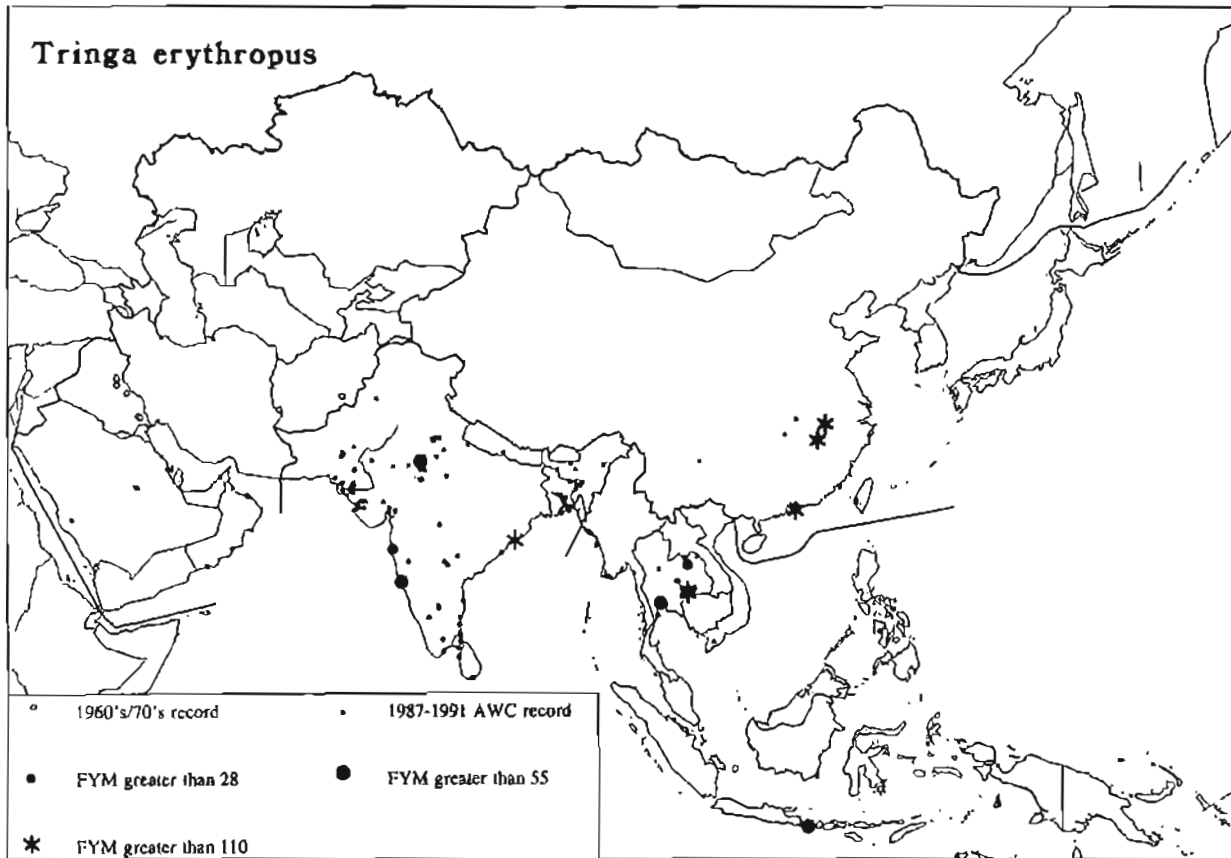


Figure 150: Distribution of *Tringa erythropus* as shown by the AWC 1987-1991

Redshank

Tringa totanus

Four subspecies occur: *ussuriensis* breeds across Russia from the Urals to Manchuria and winters from SW Asia to the Philippines; *eurhinus* breeds in N India, Tibet and the Pamirs and winters mainly in S Asia; *craggi* breeds in NW China (wintering grounds unknown); and *terrignotae* breeds in E and S China and winters in SE Asia. Three main wintering groups are recognized, although there is considerable overlap of subspecies (Figure 151).

- SW Asia/NE Africa (mainly *ussuriensis*): C (55,000) [AWC 21,500; 40,500 with 1970s data]
Trends: Unknown.
- S Asia (*ussuriensis* and *eurhinus*): C or D [AWC 17,400]
Trends: Unknown.
- E/SE Asia: (mainly *terrignotae*): C or D [AWC 14,800]
Trends: Unknown.

Potential sites of international importance

Six sites in SW Asia reach a FYM of 550 (1% level) (Table 63); most were counted only once or twice, and their importance has yet to be confirmed.

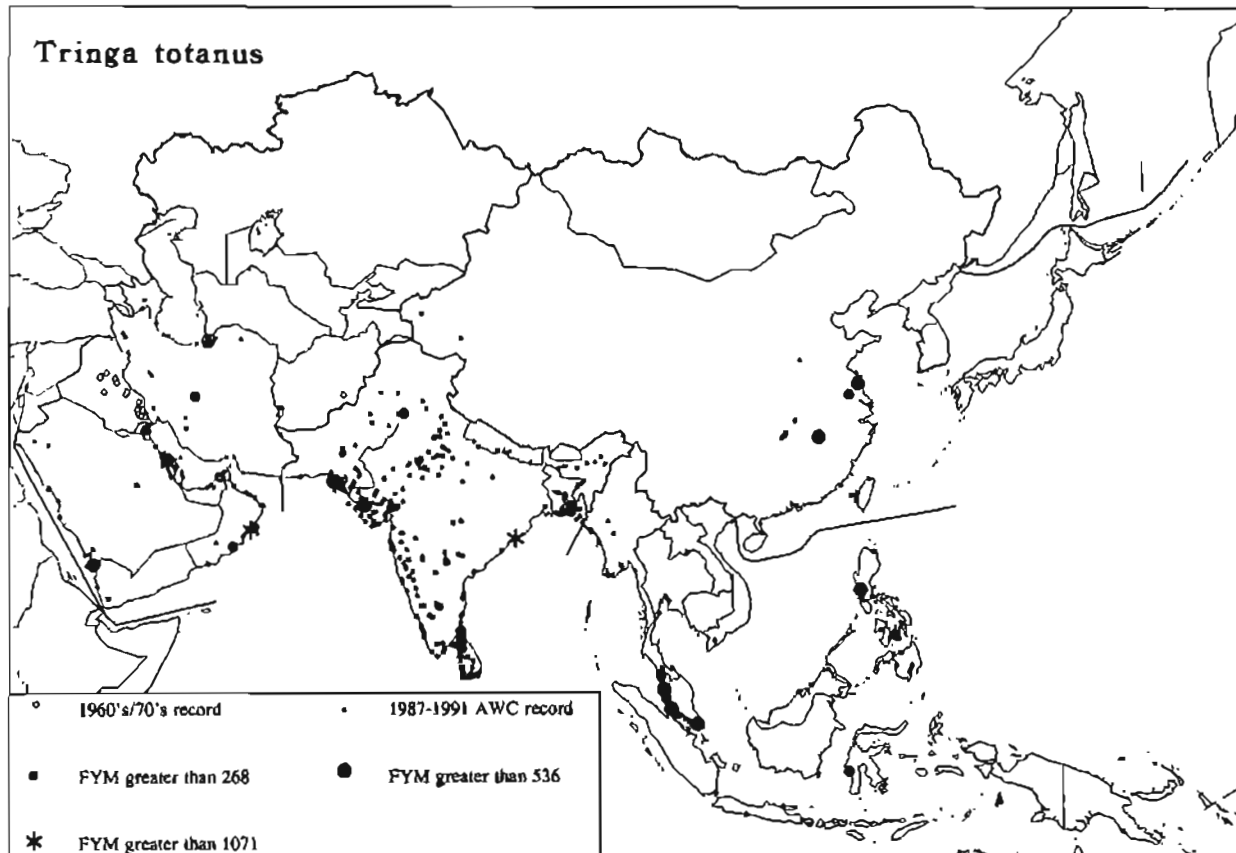


Figure 151: Distribution of *Tringa totanus* as shown by the AWC 1987-1991

Other important sites

No population estimates are available for S and SE Asia, and no sites of international importance can be identified in these regions. Thirteen sites had an average of at least 500 birds: three in peninsular Malaysia, two each in China, India and Pakistan, and one each in Bangladesh, Indonesia, Philippines and Singapore. The two most important sites were Chilka Lake in E India (FYM 1,710, 4yr) and Sungei Serangoon Estuary and Ponds in Singapore (FYM 1,010, 2yr). Concentrations of at least 1,000 birds have been recorded at three sites in Sumatra, Indonesia, not covered by the AWC (M. Silvius, pers. comm.).

Table 63: Potential sites of international importance for *Tringa totanus* in Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
IRAN	MAZANDARAN	GOMISHAN MARSH	750	2
OMAN		BARR AL HIKMAN	9423	3
SAUDI ARABIA	EASTERN	ALAWAYMIYAH & SAFWA MANGROVES, TAROUT BAY	2500	1
	EASTERN	TAROUT BAY SOUTH	801	1
	EASTERN	ZUR SALT MARSH, TAROUT	603	1
	SOUTH WEST	JIZAN BEACH	939	2

Marsh Sandpiper

Tringa stagnatilis

Monotypic. Breeds in a broad belt in the temperate zone from E Europe to about 115°E and winters widely across southern Asia south to Australia (Figure 152). The breeding range has been expanding in the eastern part of Russia and may be associated with an increase in the population (Tomkovich 1992). No discrete populations are identifiable; however, for the present purposes, three wintering groups are recognized.

- SW Asia/E Africa: Probably C [AWC 620; 1,080 with 1970s data]
Trends: Unknown.
- S Asia: C (60,000+) [AWC 42,200]
Trends: Unknown.
- E Asia/SE Asia/Australasia: Probably C [AWC 11,700]
Trends: Unknown.

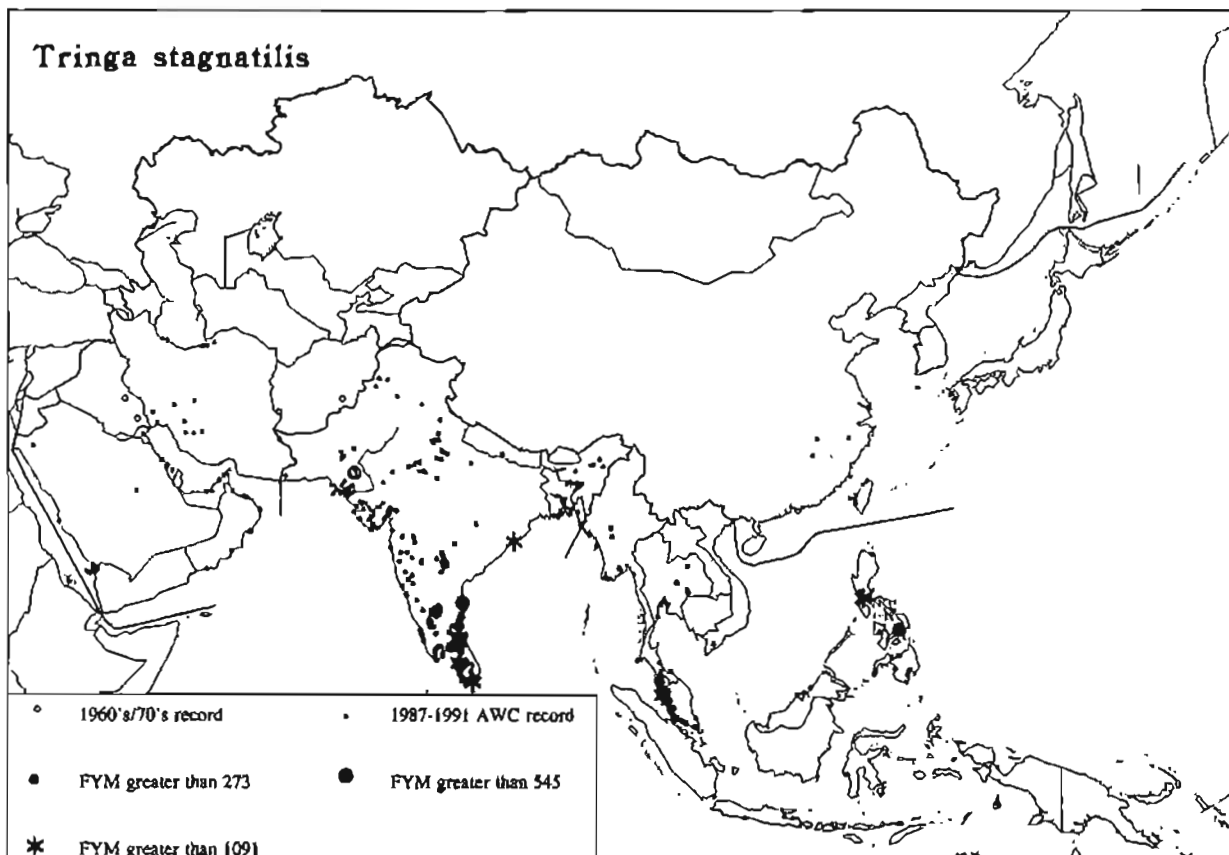


Figure 152: Distribution of *Tringa stagnatilis* as shown by the AWC 1987-1991

Potential sites of international importance

In S Asia, eleven sites reached a FYM of 600 (1% level), the majority being in Sri Lanka and on the SE coast of India (Table 64).

Other important sites

As no population estimates are available for SE and E Asia, no sites of international importance can be identified in these regions. Seven sites held an average of more than 600 birds: four sites in Malaysia, two in the Philippines and one in China. The most important sites were the Cavite area of Manila Bay in the Philippines (1,500, 1yr) and Kuala Gula at Kurau, peninsular Malaysia (FYM 1,310, 3yr).

Table 64: Potential sites of international importance for *Tringa stagnatilis* in South Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	PULICAT LAKE	1002	4
	ORISSA	CHILKA LAKE	1185	4
	TAMIL NADU	POINT CALIMERE B.S	3381	5
	TAMIL NADU	PUTHUPALLI ALAM	7043	3
	TAMIL NADU	WIMCO SALT FACTORY	3500	1
PAKISTAN	SIND	ITHPAR	957	4
SRI LANKA	N.P	KAYTS ISLAND EAST + MANDAITIVU	600	1
	N.W.P	MUNDEL LAKE	676	1
	N.W.P	SEGUWANTIVU MUDEPLATS (MI OYA ESTUARY)	7000	1
	S.P	BUNDALA SANCTUARY	6017	2
	S.P	KOHOLANKALA LEWAYA	1100	4

Greenshank*Tringa nebularia*

Monotypic. The species breeds widely across northern Asia, and is widespread throughout southern Asia in winter (Figure 153), also reaching Australia. No discrete populations are identifiable; however, for the present purposes, three main wintering groups are recognized.

- SW Asia/E Africa: C or D [AWC 2,600; 2,970 with 1970s data]

Trends: Unknown.

- S Asia: B or C [AWC 8,600]

Trends: Unknown.

- E Asia/SE Asia/Australasia: Probably C [AWC 7,700]

Trends: Unknown.

Important sites

In the absence of population estimates, no sites of international importance can be identified. However, Barr al Hikman in Oman (SW Asia) is clearly of outstanding importance for the species, with a FYM of 1,200 (3 yr). In S and SE Asia, 23 sites held an average of at least 100 birds: six in India, five in the Philippines, four in Malaysia, three in Thailand, two each in Bangladesh and Nepal, and one in Taiwan.

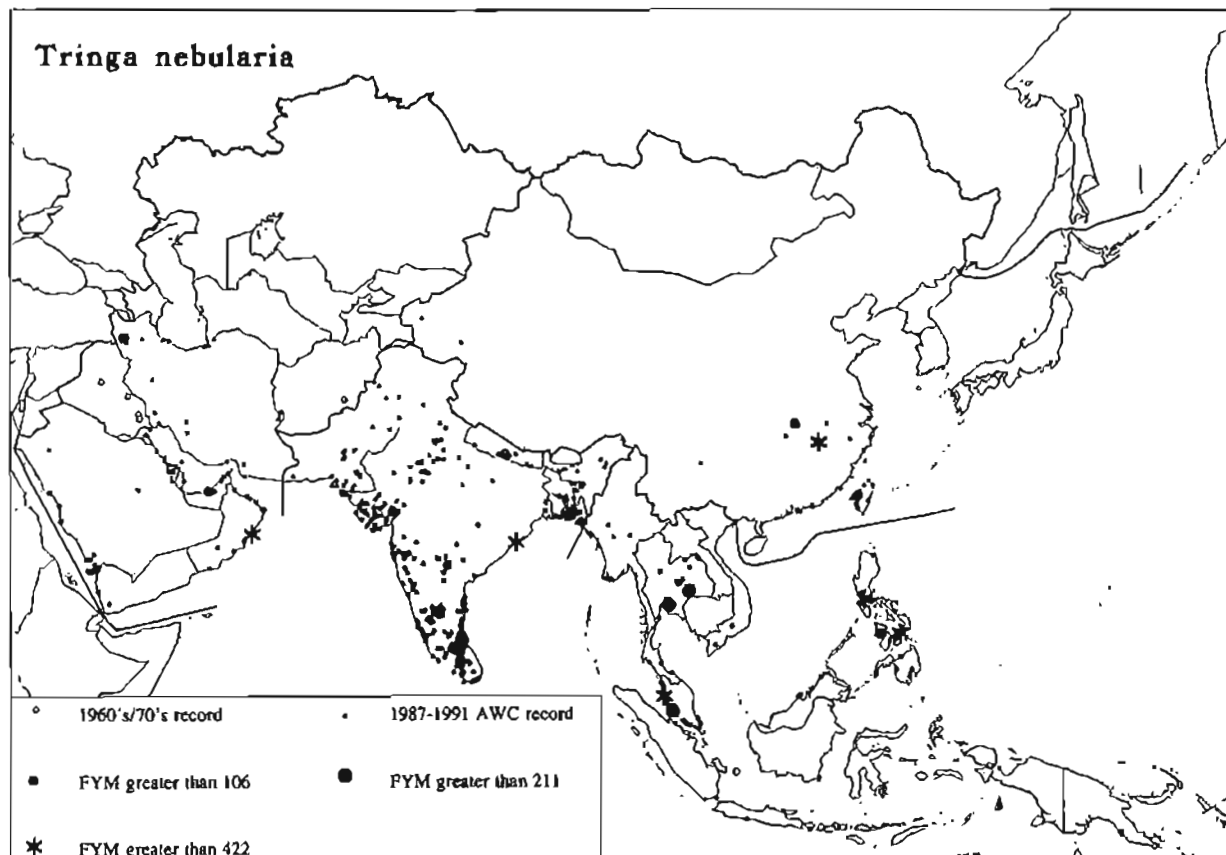


Figure 153: Distribution of *Tringa nebularia* as shown by the AWC 1987-1991

Spotted Greenshank

Tringa guttifer

Monotypic; globally threatened. Breeds in E Siberia and migrates to winter mainly in Bangladesh and SE Asia (Figure 154). Only one population is recognized.

- E/SE/S Asia (entire population): A (perhaps about 1,000; Howes and Parish 1989) [AWC 132]

Trends: Unknown.

The AWC records in India have not been fully substantiated and should be treated cautiously.

Potential sites of international importance

Three sites have a FYM over the 1% level of 10: Nijhum Dweep (Char Osman) (FYM 50, 4yr) and Maulavir Char (FYM 25, 4yr) in Bangladesh, and Krabi Bay in W Thailand (20, 1yr).

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

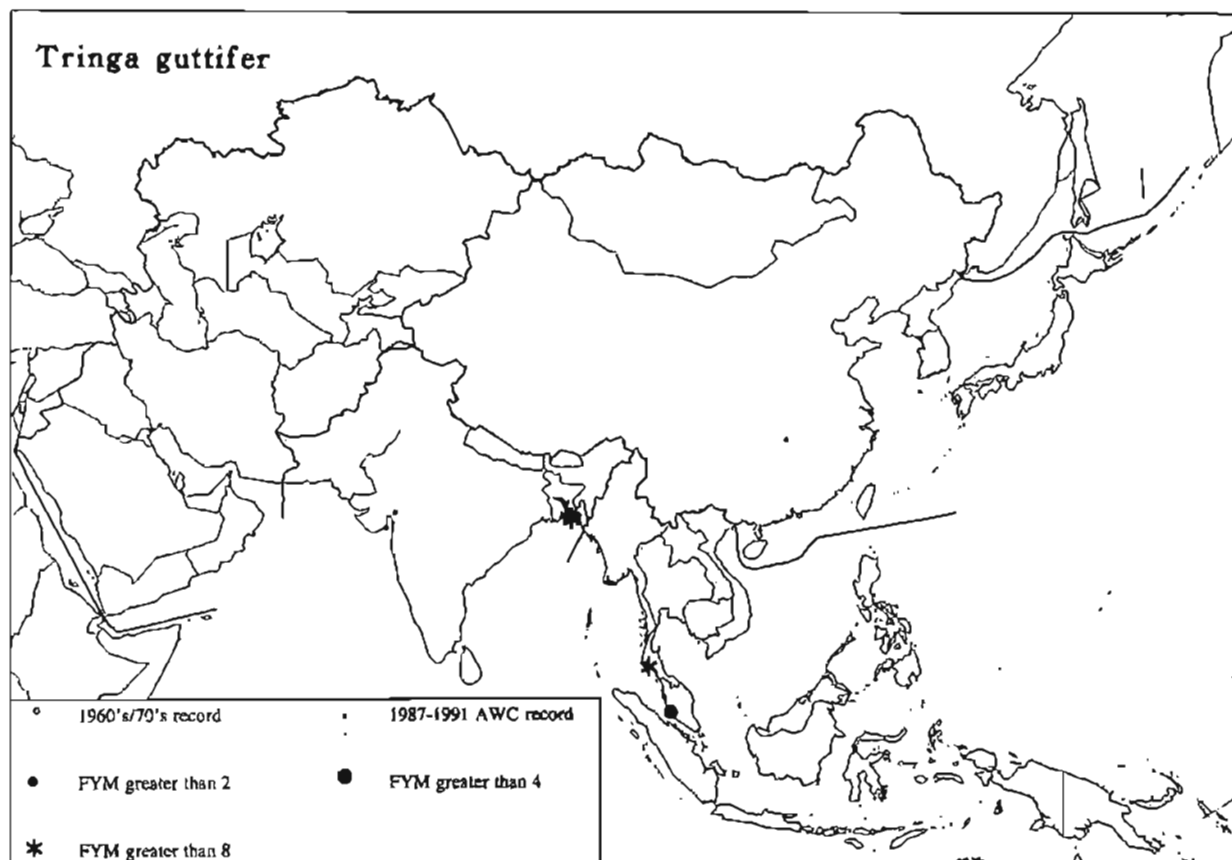


Figure 154: Distribution of *Tringa guttifer* as shown by the AWC 1987-1991

Greater Yellowlegs

Tringa melanoleuca

A vagrant from North America to Japan. No records were obtained during the AWC.

Lesser Yellowlegs

Tringa flavipes

A vagrant from North America to Japan and Indonesia. No records were obtained during the AWC.

Green Sandpiper

Tringa ochropus

Monotypic. Breeds widely across northern Asia and winters across southern Asia south to the equator (Figure 155). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia/E Africa: Unknown [AWC 270; 1,350 with 1970s data]
Trends: Unknown.
- S Asia: C or D [AWC 3,300]
Trends: Unknown.
- E Asia/SE Asia: C or D [AWC 2,300]
Trends: Unknown.

Almost exclusively a freshwater species, the Green Sandpiper is usually solitary or occurs in small groups, normally forming flocks only during migration. It often occurs around tiny pools, along streams or in ditches, and is therefore poorly covered by the AWC.

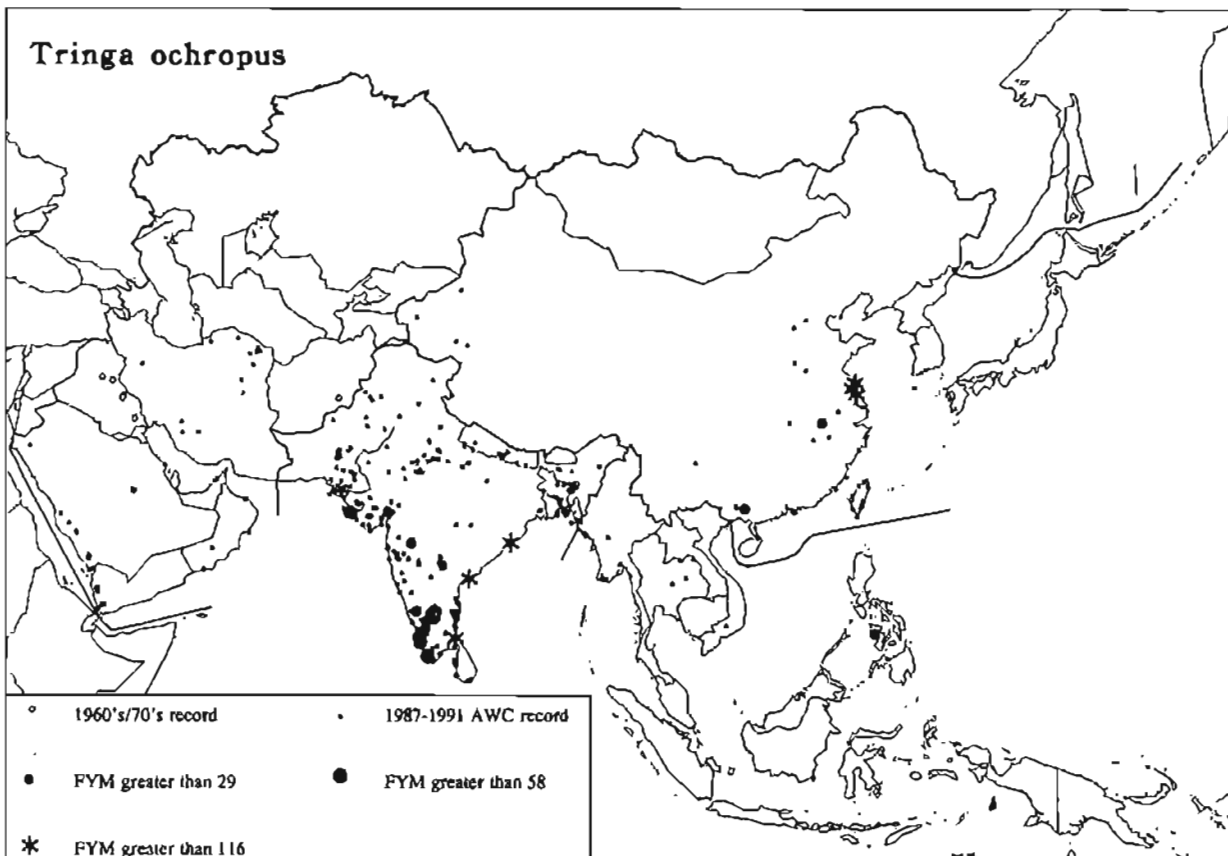


Figure 155: Distribution of *Tringa ochropus* as shown by the AWC 1987-1991

Important sites

In the absence of population estimates, no sites of international importance can be identified. Nine sites in India and four in China may be important as they supported an average of at least 50 birds. The most important site in S Asia was Chilkha Lake in E India (FYM 380, 3yr). In SE/E Asia, the highest total was obtained on the Jiangsu Coast in E China (FYM 1,150, 2yr); unless these counts are otherwise confirmed, the record should be treated with caution.

Wood Sandpiper

Tringa glareola

Monotypic. The species breeds widely across northern Asia, and occurs widely during the northern winter from Africa across southern Asia to Australasia (Figure 156). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia/E Africa: D or E [AWC 60; 110 with 1970s data]
Trends: Unknown.
- S Asia: Probably D [AWC 9,000]
Trends: Unknown.
- E Asia/SE Asia/Australasia: Probably D [AWC 5,800]
Trends: Unknown.

In winter, the Wood Sandpiper is concentrated on inland wetlands, rice fields and coastal wetlands south of about 25°N. Because rice fields cannot be covered adequately by the AWC, numbers are grossly under-estimated.

Important sites

In the absence of any population estimates, no sites of international importance can be identified. Sixteen sites in Asia have an average of 200 or more birds. The most important sites were Karagan Lewaya in Sri Lanka (FYM 620, 4yr) and Nong Han Kumphawapi in Thailand (FYM 500, 2yr). As many as 1,185 Wood Sandpipers were recorded at Sekinchan Rice Fields in peninsular Malaysia prior to the AWC (M. Silvius, pers. comm.).

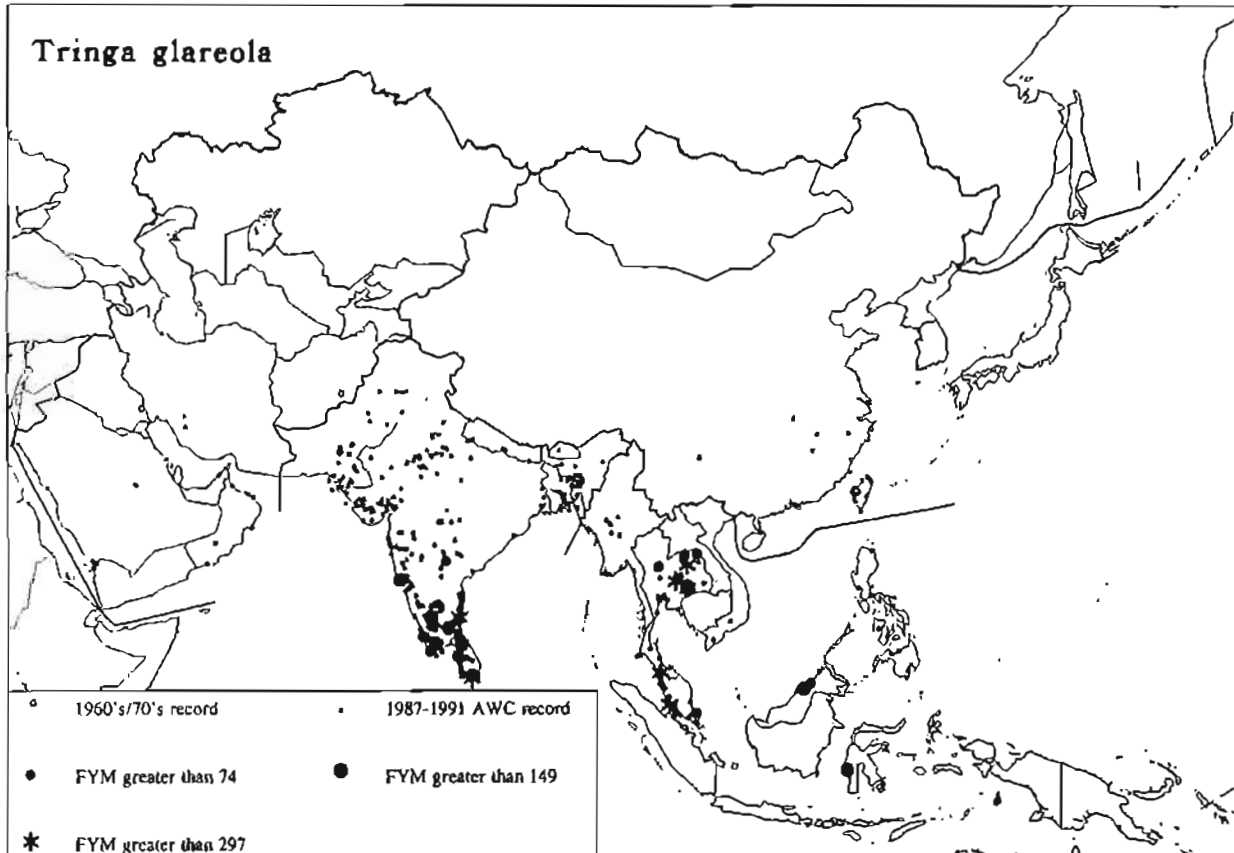


Figure 156: Distribution of *Tringa glareola* as shown by the AWC 1987-1991

Terek Sandpiper

Xenus cinereus

Monotypic. The species breeds widely across northern Asia, and occurs widely during the boreal winter from Africa across southern Asia to Australasia (Figure 157). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia/E Africa: C (44,000+) [AWC 1,340; 3,900 with 1970s data]
Trends: Unknown.
- S Asia: B or C [AWC 1,990]
Trends: Unknown.
- E Asia/SE Asia/Australasia: C or D [AWC 5,700]
Trends: Unknown.

Outside the breeding season, the Terek Sandpiper is mainly a coastal species, although it is occasionally recorded inland on freshwater wetlands during the migration seasons. The distribution of records during the AWC in India, Pakistan and elsewhere suggests that small numbers may also winter on freshwater sites, but these observations are as yet unsubstantiated.

Important sites

In SW Asia, no sites reach the 1% level of 440 as the bulk of the population winters in E Africa. The most important site in S Asia was the brackish Chilka Lake in E India (FYM 970, 4yr). In SE Asia, large numbers were recorded along the west coast of the Malay Peninsula, with the highest counts at the Kapar Power Station, Malaysia (FYM 1,050, 2yr). Over 5,600 have been counted in the Banyuasin Delta in Sumatra, Indonesia (M. Silvius, pers. comm.), but this site has not been properly covered during the AWC.

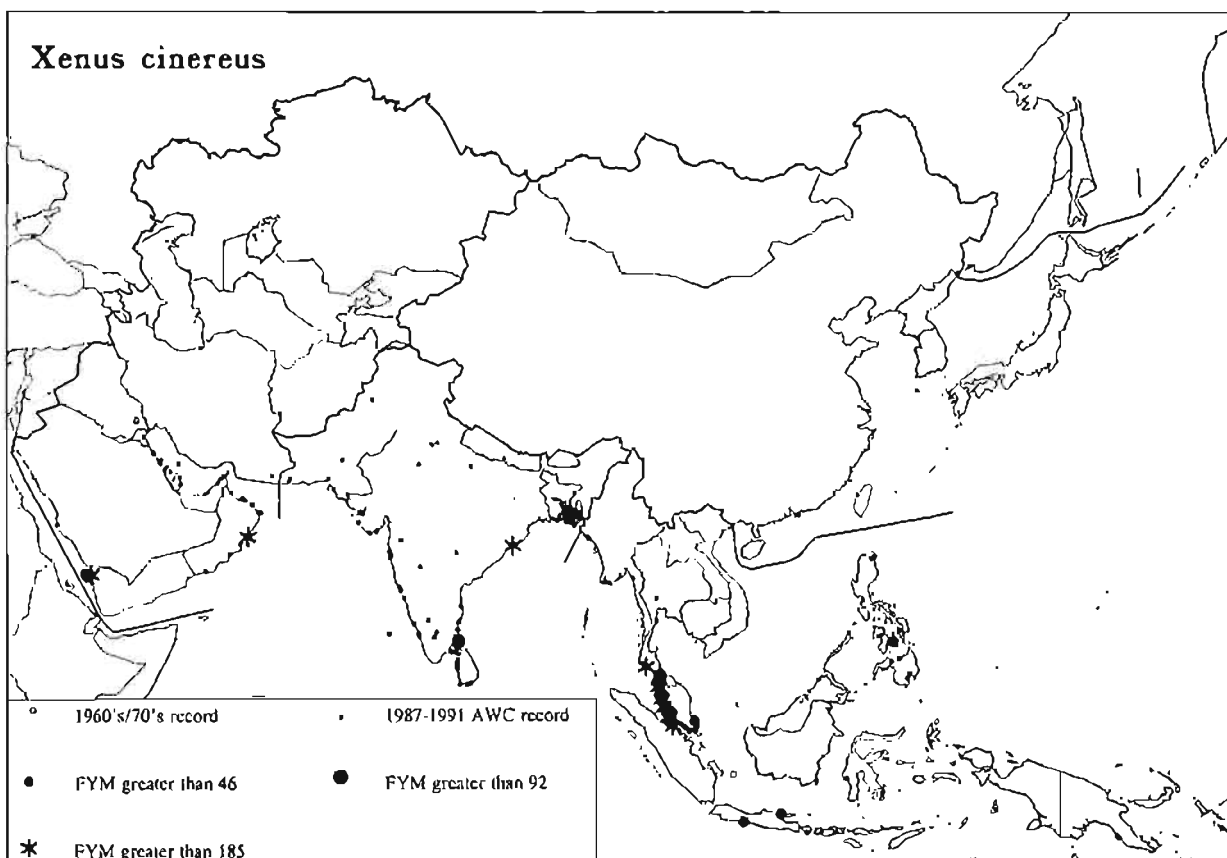


Figure 157: Distribution of *Xenus cinereus* as shown by the AWC 1987-1991

Common Sandpiper

Actitis hypoleucos

Monotypic. The species breeds widely across temperate Asia, and occurs widely during the boreal winter from Africa across southern Asia to Australasia (Figure 158). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia/E Africa: Unknown [AWC 395]
Trends: Unknown.
- S Asia: C or D [AWC 13,900]
Trends: Unknown.
- E Asia/SE Asia/Australasia: C or D [AWC 4,700]
Trends: Unknown.

In the absence of population estimates, no sites of international importance can be identified. The coastal mangrove forests on the west side of the Malay Peninsula hold large numbers of birds. The largest count in Asia, in the Cavite area of Manila Bay in the Philippines (500, 1yr), needs to be confirmed.

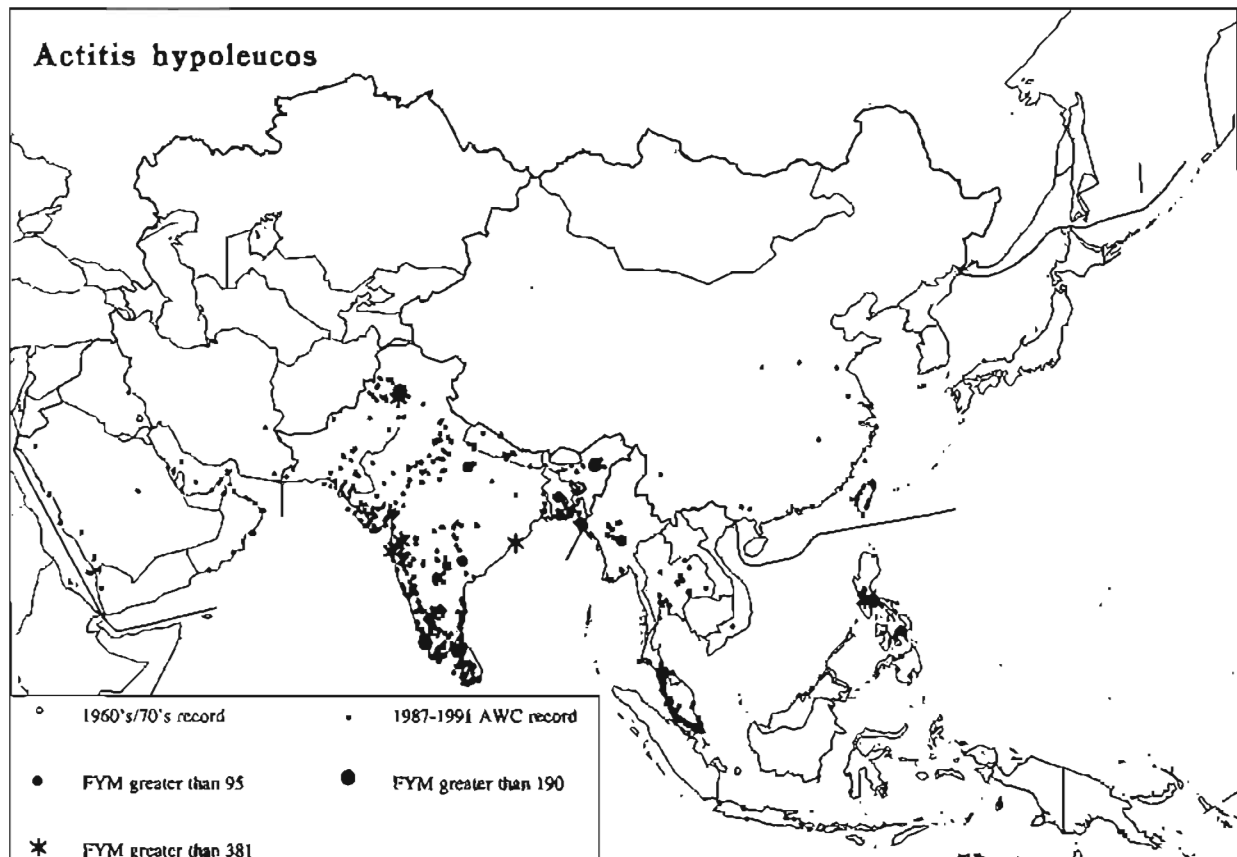


Figure 158: Distribution of *Actitis hypoleucos* as shown by the AWC 1987-1991

Wandering Tattler*Heteroscelus incanus*

Monotypic. Breeds in northwest Canada and migrates to the western USA and the Pacific Islands, with small numbers passing through Japan. No records were obtained as part of the AWC.

Grey-tailed Tattler*Heteroscelus brevipes*

Monotypic. Breeds in E Siberia with the bulk of the population migrating to Australasia through E and SE Asia (Figure 159). Only one population is recognized.

- E Asia/SE Asia/Australasia (entire population): C [AWC 450]

Trends: Unknown.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. The largest numbers were recorded in the Philippines, the most important site being Olango Island (220, 2yr).

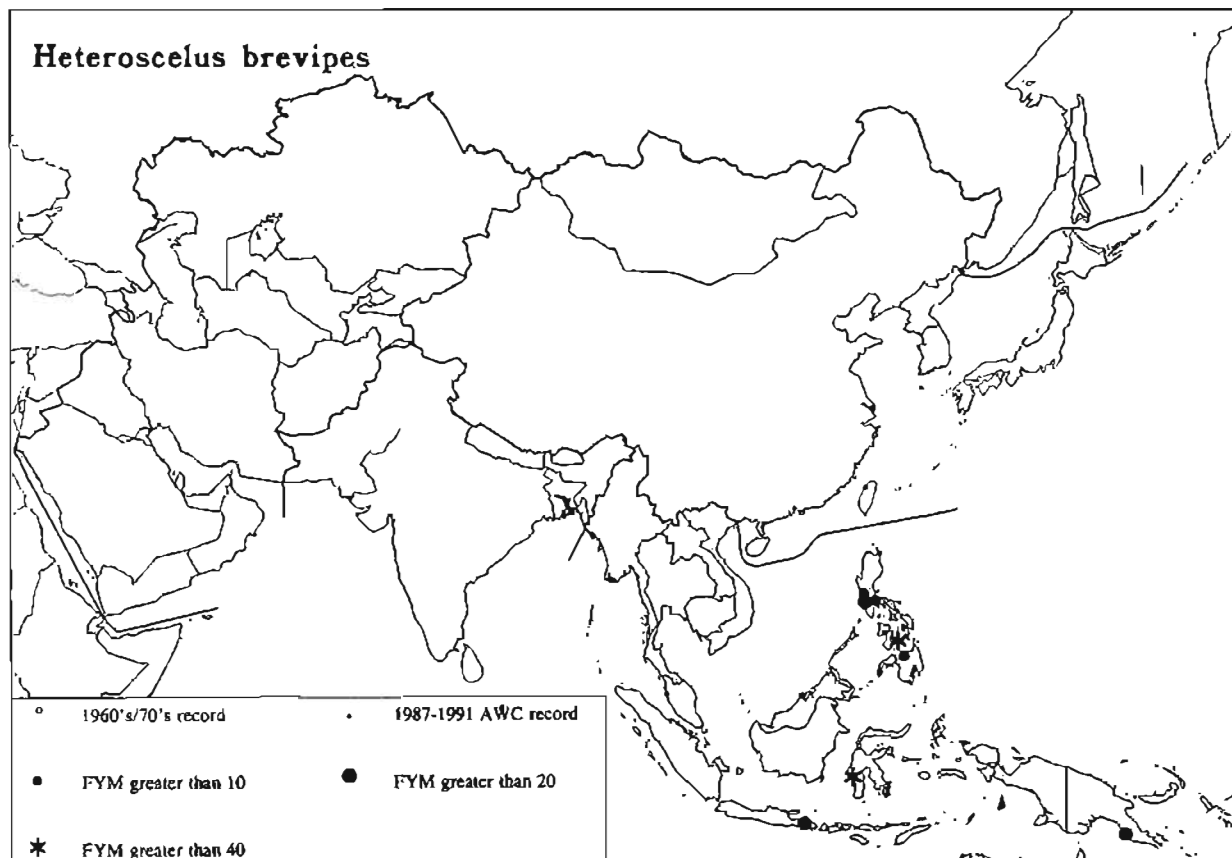


Figure 159: Distribution of *Heteroscelus brevipes* as shown by the AWC 1987-1991

Ruddy Turnstone

Arenaria interpres

Only the nominate subspecies occurs. This breeds across northern Asia, and during the boreal winter is widespread along coasts from Africa across southern Asia to Australia, New Zealand and the W Pacific Islands. No discrete populations are identifiable. Three main wintering groups are recognized (Figure 160).

- SW Asia/E Africa: C (50,000+) [AWC 4,300; 5,300 with 1970s data]
Trends: Unknown.
- S Asia: B or C [AWC 1,050]
Trends: Unknown.
- E Asia/SE Asia/Australasia: Probably C [AWC 1,300]
Trends: Unknown.

Potential sites of international importance

In SW Asia, two sites exceeded a FYM of 500 (1% level): Barr al Hikman (FYM 1,350, 3yr) in Oman, and Tarout Bay South (690, 1yr) in Saudi Arabia. In the absence of population estimates, no sites of international importance can be identified in S, E and SE Asia. However, six sites had a FYM of at least 100 birds: four in Taiwan and one each in China and Sri Lanka.

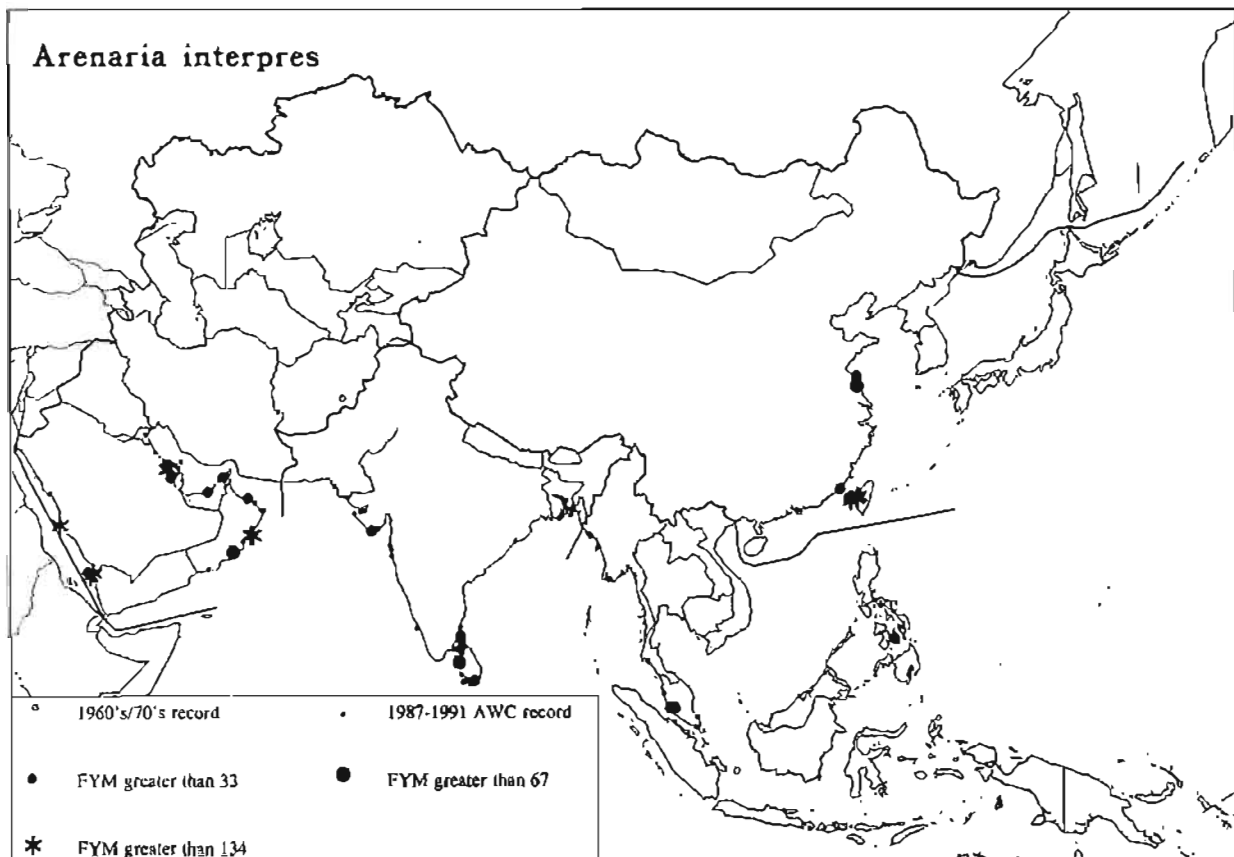


Figure 160: Distribution of *Arenaria interpres* as shown by the AWC 1987-1991

Red-necked Phalarope

Phalaropus lobatus

Monotypic. The entire West Eurasian population (east to about the Taymyr Peninsula) apparently winters off the Arabian Peninsula east to India, while the NE Asian population (and probably also the Alaskan population) winters at sea off Indonesia and New Guinea (Figure 161). Two wintering populations are recognized.

- SW Asia/S Asia: E [AWC 90]
Trends: Unknown.
- SE Asia/Australasia: Probably D [AWC no records]
Trends: Unknown.

The SW Asia/S Asia population includes most if not all of the breeding population from the Western Palearctic.

The Red-necked Phalarope, a highly gregarious species outside the breeding season, is mainly marine. The few records during the AWC are mainly of small numbers in coastal areas. It is not adequately covered by the AWC, and no sites of international importance can be identified.

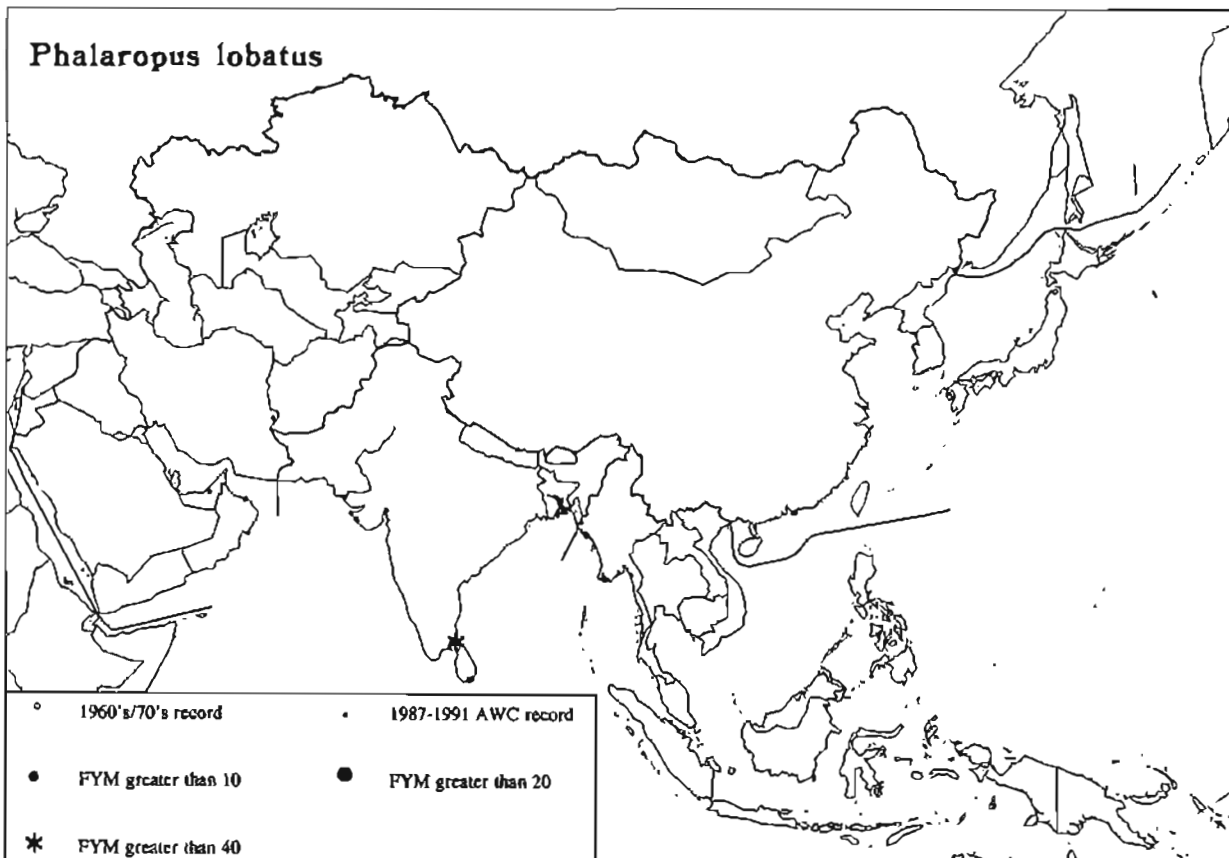


Figure 161: Distribution of *Phalaropus lobatus* as shown by the AWC 1987-1991

Grey Phalarope***Phalaropus fulicaria***

Monotypic. Birds breeding in NE Russia (west to about 80°E) migrate southeast to winter in the E Pacific off the coast of South America, and do not occur in the area covered by the AWC, except as rare wind-blown stragglers to Japan. The winter quarters of the small number of birds breeding in Svalbard and Novaya Zemlya are unknown. However, there is some evidence which suggests that there is a small wintering population in the Indian Ocean. Small numbers of Grey Phalaropes have been observed amongst the large flocks of Red-necked Phalaropes in the Arabo-Persian Gulf and Arabian Sea, 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 from Svalbard and Novaya Zemlya. No Grey Phalaropes were recorded as part of the AWC, but they might be expected in future censuses, especially in the Arabian peninsula.

Eurasian Woodcock***Scolopax rusticola***

Monotypic. Breeds in the Palearctic and winters widely in southern and eastern Asia. A forest bird, not covered by the AWC.

Amami Woodcock***Scolopax mira***

Monotypic. Confined to the Ryukyu Islands, Japan. A forest bird, not covered by the AWC.

Rufous Woodcock***Scolopax saturata***

Confined to the highlands of Sumatra and Java (Indonesia) and New Guinea. Two subspecies have been described; the nominate form in Sumatra and Java, and *rosenbergii* in New Guinea. A forest bird, not covered by the AWC.

Sulawesi Woodcock***Scolopax celebensis***

Globally threatened. Confined to Sulawesi, Indonesia. Two subspecies have been described; the nominate form in central Sulawesi, and *heinrichi* in N Sulawesi. A forest bird, not covered by the AWC.

Obi Woodcock***Scolopax rochussenii***

Monotypic; globally threatened and possibly extinct. Known only from Obi Island and possibly also Batjan Island in the Moluccas, Indonesia. A forest bird, not covered by the AWC.

Solitary Snipe*Gallinago solitaria*

Two subspecies occur. The nominate subspecies breeds in the mountain ranges of C Asia and winters in N India and parts of SE Asia. *G. s. japonica* breeds in NE Asia and winters in E Asia south to E China. Two wintering populations are recognized.

- S/SE Asia (including W China): Unknown; generally rather scarce. [AWC 41]

Trends: Unknown.

- E Asia: Unknown; generally rather scarce. [AWC 10]

Trends: Unknown.

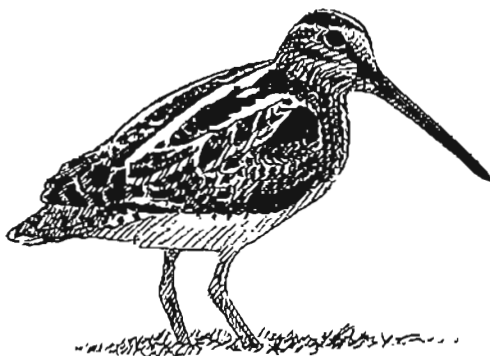
Normally occurs singly along mountain streams, occasionally in marshes and on the coast, and is not adequately covered by the AWC. The few records in China and NE India need to be confirmed, as snipe are notoriously difficult to identify in the field.

Latham's Snipe*Gallinago hardwickii*

Monotypic. Breeds in Japan and spends the boreal winter mainly in Australia, although small numbers also occur in New Guinea. Only one population (36,000 birds, Watkins 1993) is recognized. No records were obtained as part of the AWC.

Wood Snipe*Gallinago memoricola*

Monotypic; globally threatened. Mainly a long distance migrant and altitudinal migrant of S and SE Asia, although some populations appear to be sedentary. Very little is known about this solitary dweller of densely vegetated high altitude marshes. There were no records during the AWC.



Pintail Snipe

Gallinago stenura

Monotypic. Breeds across northern Asia and winters in S and SE Asia (Figure 162). Small numbers are recorded in the Arabian Peninsula [AWC 9]. Two groups are recognized.

- S Asia: C or D [AWC 1,200]

Trends: Unknown.

- E/SE Asia (to Lesser Sundas): C or D [AWC 2,600]

Trends: Unknown.

The great similarity between the different species of snipe and the overlap in their ranges make the identification of this group very difficult. Their habit of hiding when disturbed does not easily permit an accurate census, and they are thus grossly underestimated. In the absence of population estimates, no sites of international importance can be identified. Three sites held an average of at least 100 individuals: one each in China, India and Thailand. The most important site was Poyang Lake (FYM 1,200, 4yr) in China.

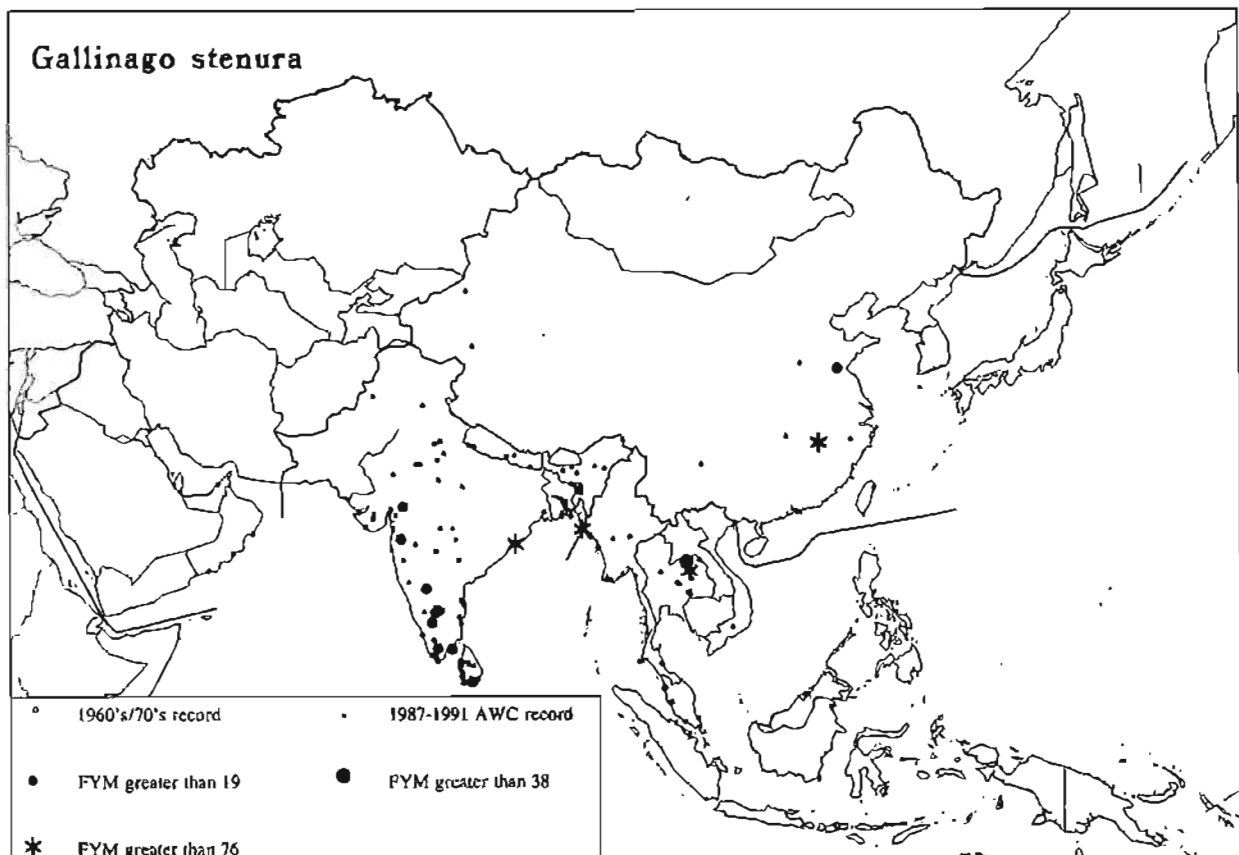


Figure 162: Distribution of *Gallinago stenura* as shown by the AWC 1987-1991

Swinhoe's Snipe*Gallinago megala*

Monotypic. Breeds in east-central Asia and occurs outside the breeding season south to India, eastern Indonesia and NW Australia. Only one population is recognized.

- S/SE Asia: Probably C; very poorly known. [AWC 120]

Trends: Unknown.

Records of Swinhoe's Snipe during the AWC were scattered across the species' range (Figure 163). However, because of the problems with snipe identification and the difficulty in censusing these secretive birds, it is obvious that the species was grossly under-recorded.

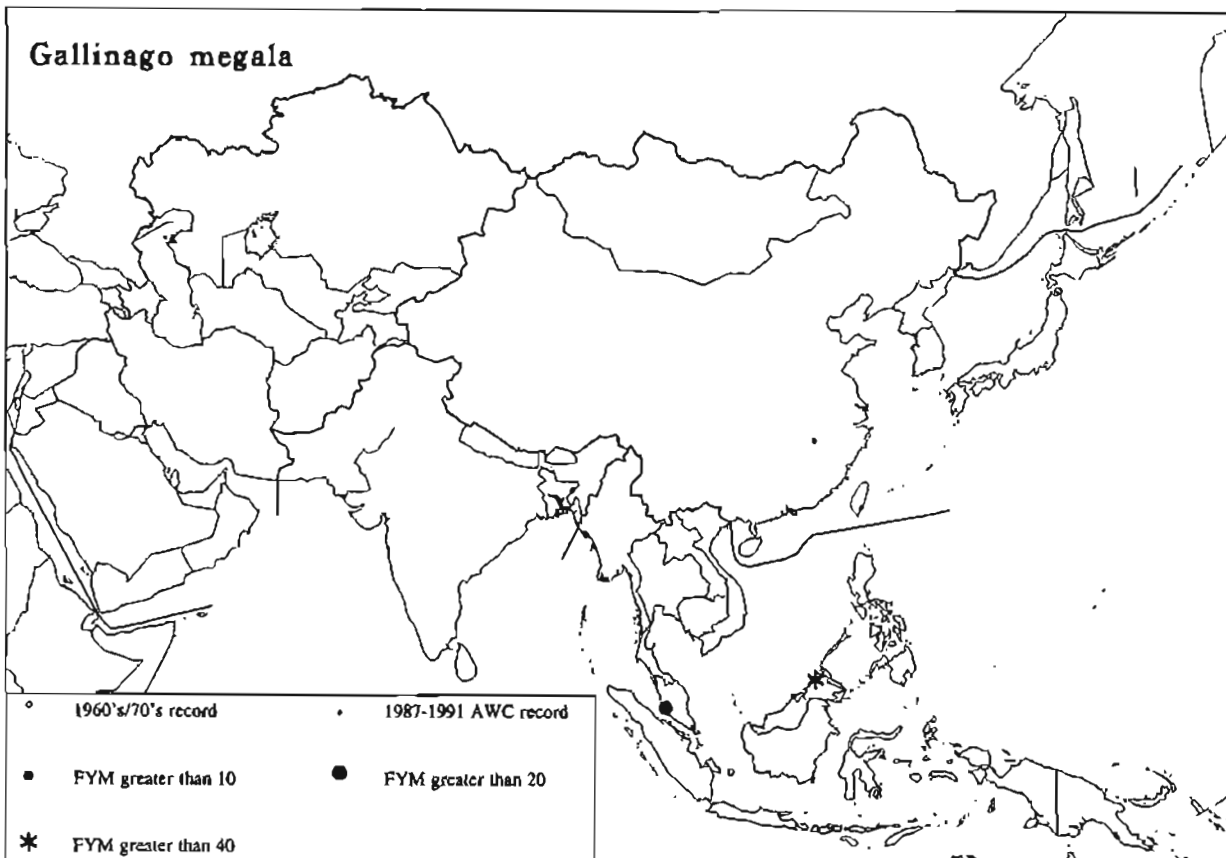


Figure 163: Distribution of *Gallinago megala* as shown by the AWC 1987-1991

Great Snipe*Gallinago media*

Monotypic. Mainly extralimital; breeds in western Russia east to 90°E and migrates southwest to winter in Africa. The species is a fairly common passage migrant in north and west Iran. Only a few records were obtained during the AWC, in Iran, the U.A.E and India, and no sites of international importance can be identified.

Common Snipe

Gallinago gallinago

Only the nominate subspecies occurs. This has a wide breeding distribution across northern Asia, and a wide wintering distribution across southern Asia (Figure 164). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia: Possibly E [AWC 630; 10,700 with 1970s data]
Trends: Unknown.
- S Asia: D or E [AWC 10,700]
Trends: Unknown.
- E/SE Asia (to Greater Sundas): Probably D [AWC 5,800]
Trends: Unknown.

The great similarity between the different species of snipe, the overlap in their ranges and their preference for marshy habitats make the identification of this group very difficult. Their habit of hiding when disturbed does not easily permit an accurate census, and they are thus grossly underestimated.

Important sites

In the absence of population estimates, no sites of international importance can be identified. Nineteen sites held an average of at least 100 birds; nine in Pakistan, four in China, three in India, two in Thailand and one in Bangladesh. Many of these were single counts, and the importance of the sites needs to be confirmed. The most important site was the Gaoyou and Shabo Lakes in E China (FYM 2,210, 2yr).

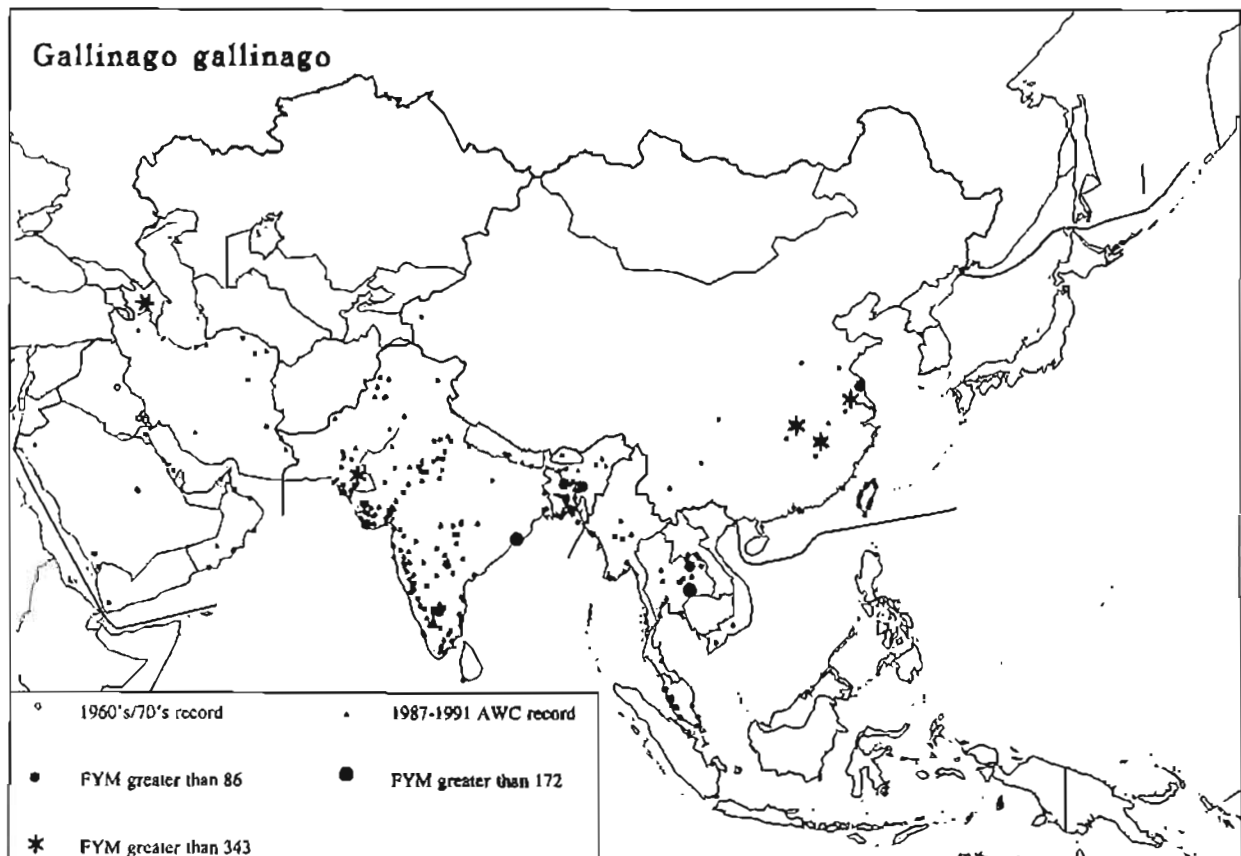


Figure 164: Distribution of *Gallinago gallinago* as shown by the AWC 1987-1991

Jack Snipe

Lymnocyptes minimus

Monotypic. The species has a wide breeding distribution across northern Asia, and a wide wintering distribution across southern Asia. No discrete populations are identifiable. Three wintering groups are recognized.

- SW Asia: Unknown. [AWC 12; 1,000 with 1970's data]
Trends: Unknown.
- S Asia: Unknown; apparently fairly common. [AWC 12]
Trends: Unknown.
- E/SE Asia: Unknown; apparently rather scarce. [AWC 0]
Trends: Unknown.

Like its larger relatives, the Jack Snipe hides when disturbed, making accurate censusing impossible. The species is therefore grossly under-recorded by the AWC. The few records obtained during the AWC are scattered across SW and S Asia, with a concentration in S India (Figure 165). In the absence of any population estimates, no sites of international importance can be identified.

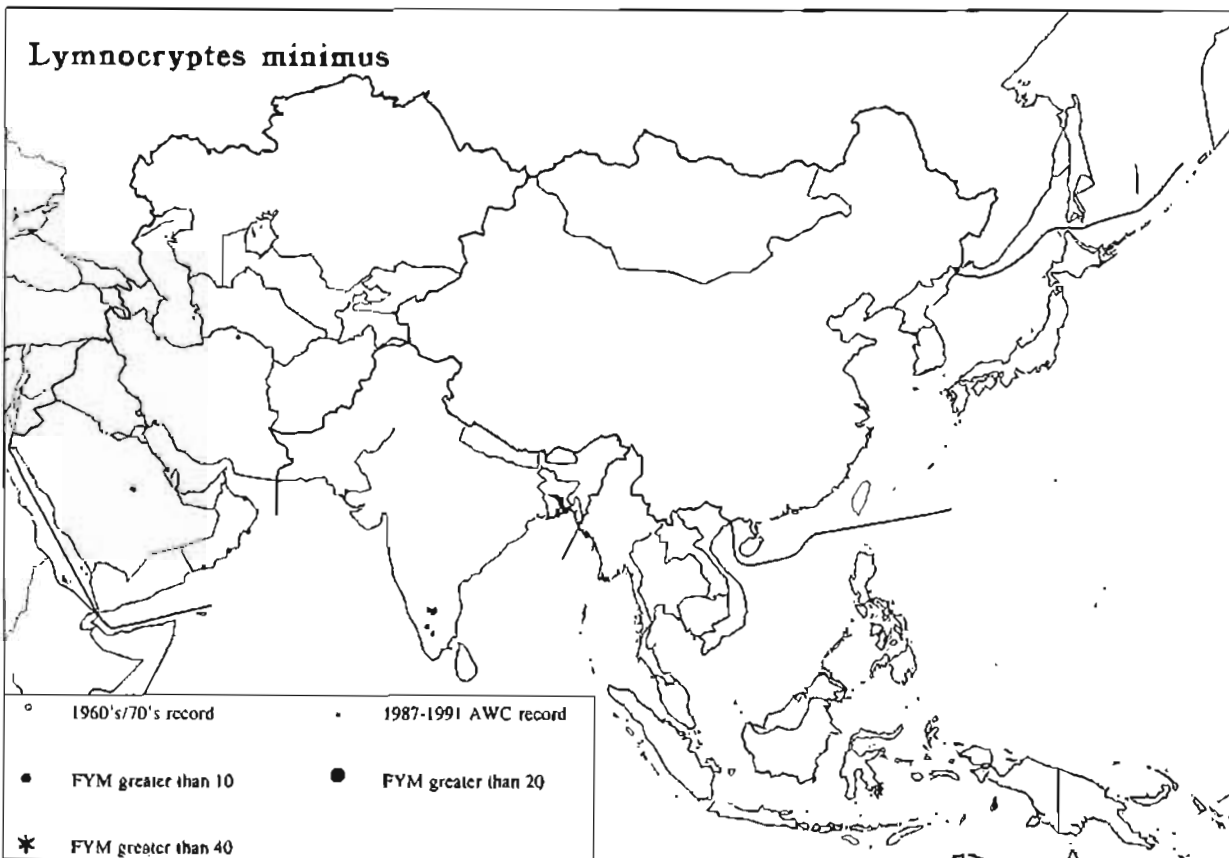


Figure 165: Distribution of *Lymnocyptes minimus* as shown by the AWC 1987-1991

Long-billed Dowitcher

Limnodromus scolopaceus

Mainly extralimital; the species breeds in northeastern Russia, Alaska and Canada, and winters mainly in North America. It has occurred as a straggler to Japan, Hong Kong, Thailand, Indonesia and Brunei Darussalam. No records were obtained as part of the AWC.

Asian Dowitcher

Limnodromus semipalmatus

Monotypic; globally threatened. The species breeds in W Siberia and Mongolia and winters from S and SE Asia to Australia (Figure 166). The most important wintering areas are in Sumatra and Java (Indonesia) and Borneo (Silvius & Erftemeijer 1989). Only one population is recognized. - S/SE Asia/Australasia (entire population): B (15,000-20,000, Howes & Parish 1989) [AWC 1,450]

Trends: Unknown.

Potential sites of international importance

Two sites in Indonesia had a FYM of over 150 (1% level): Ujung Pangkah in E Java (930, 1yr), and the Banyuasin Delta in Sumatra (FYM 450, 3yr). Unfortunately, the main wintering areas in Sumatra, Java and Borneo have not been adequately covered during the AWC. Surveys in the Banyuasin Delta during the migration season have recorded up to 13,000 birds, confirming the importance of this site for the species (Verheugt *et al.* 1990). Two other sites in Sumatra are known to be a great importance

during the migration season: Hutan Bakau Pantai Timor (with over 2,000 birds in April 1986) and Tanjung Jabung, Jambi (with 474 in April 1986). The Gulf of Thailand is also an important migration site, with peak counts in excess of 600 birds during the northward migration (Howes & Parish 1989).

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Additional information on sites of importance for the Asian Dowitcher is given by Howes & Parish (1989).

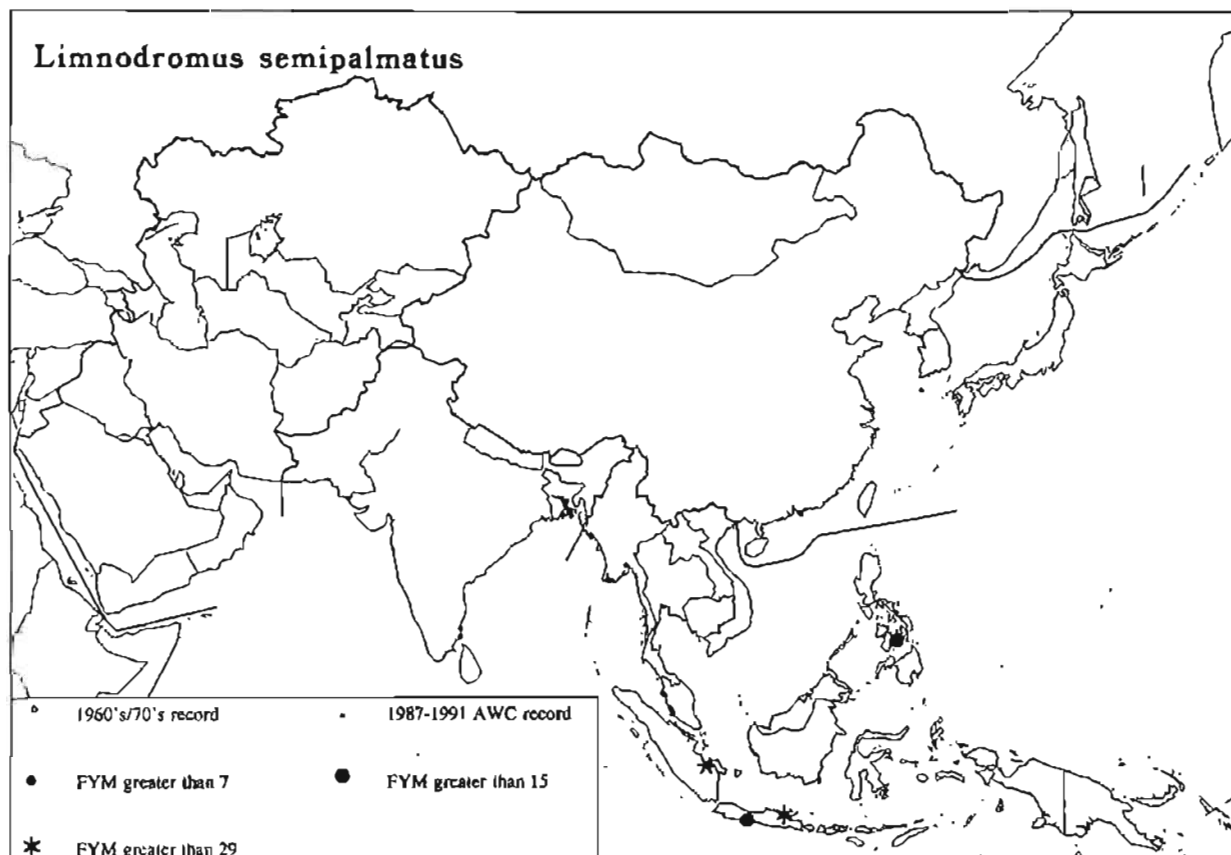


Figure 166: Distribution of *Limnodromus semipalmatus* as shown by the AWC 1987-1991

Red Knot*Calidris canutus*

Only the subspecies *rogersi* occurs, breeding in extreme NE Siberia (Wrangel Island) and western Alaska, and migrating through E and SE Asia to Australia and New Zealand (Figure 167). One population is recognized (the entire population of *rogersi*).

- E Asia/SE Asia/Australasia: D (255,000; Watkins 1993) [AWC 310]

Trends: Unknown.

As the bulk of the population spends the boreal winter in Australia and New Zealand, only small numbers of birds were recorded in Asia during the AWC. The highest count was at Mampi Game Reserve in South Sulawesi, Indonesia (286, 1yr).

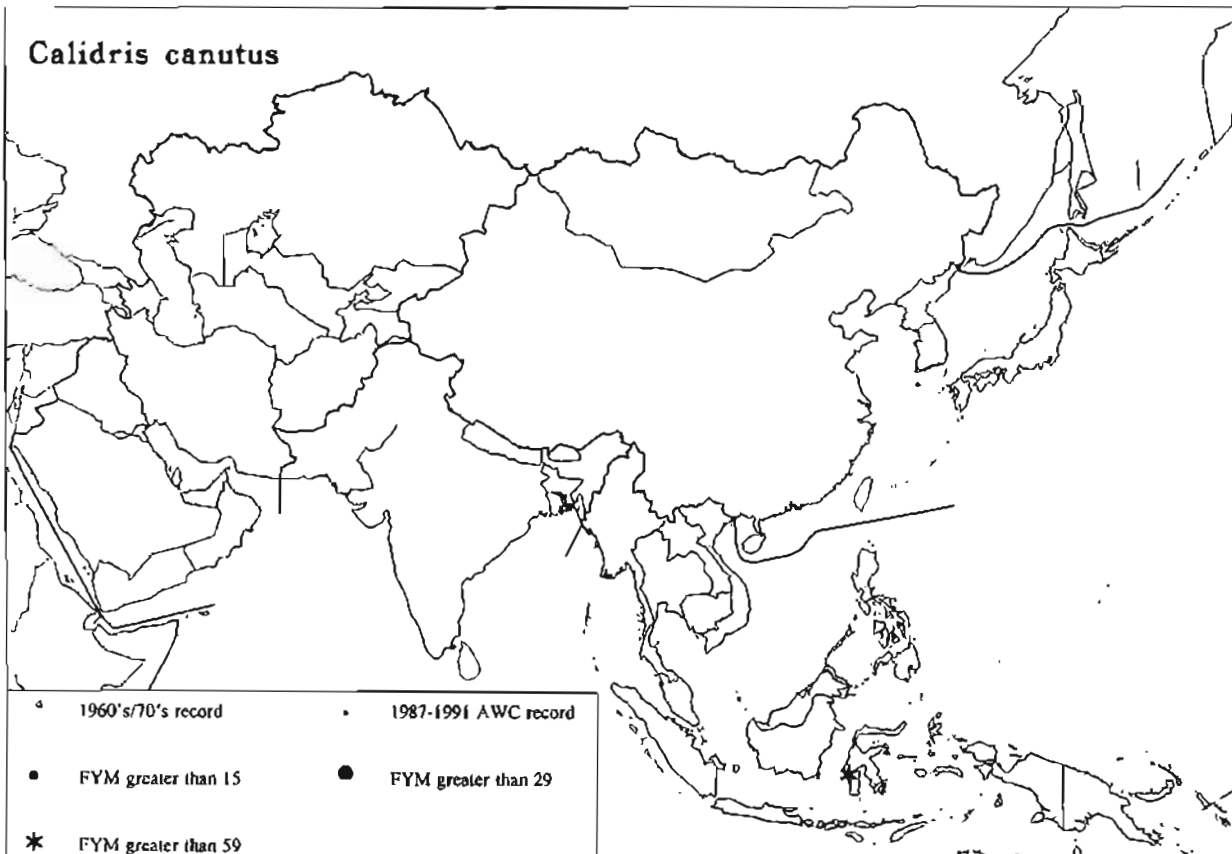


Figure 167: Distribution of *Calidris canutus* as shown by the AWC 1987-1991

Great Knot*Calidris tenuirostris*

Monotypic. Breeds in Siberia. Two wintering populations are recognized: a large population in SE Asia and Australia, and a small population on the shores of the Arabian Sea (from Oman and Pakistan to SE India; Figure 168).

- SW/S Asia: A (1,500+) [AWC 570]

Trends: Unknown.

- E Asia/SE Asia/Australasia: D (319,000; Watkins 1993) [AWC 1,290]

Trends: Possibly declining.

Potential sites of international importance

Three sites in SW and S Asia reach a FYM of 15 (1% level): Barr Al Hikman in Oman (FYM 440, 3yr), and Charakia Saltworks (FYM 40, 2yr) and Rameshwaram and Manali Islands (36, 1yr) in India. Only small numbers of Great Knot winter in SE Asia, the great bulk of the population spending the boreal winter in Australia. Small flocks were recorded at two sites in the Philippines and one site each in Indonesia, Malaysia and Thailand, but no site reached a FYM of 319 (1% level).

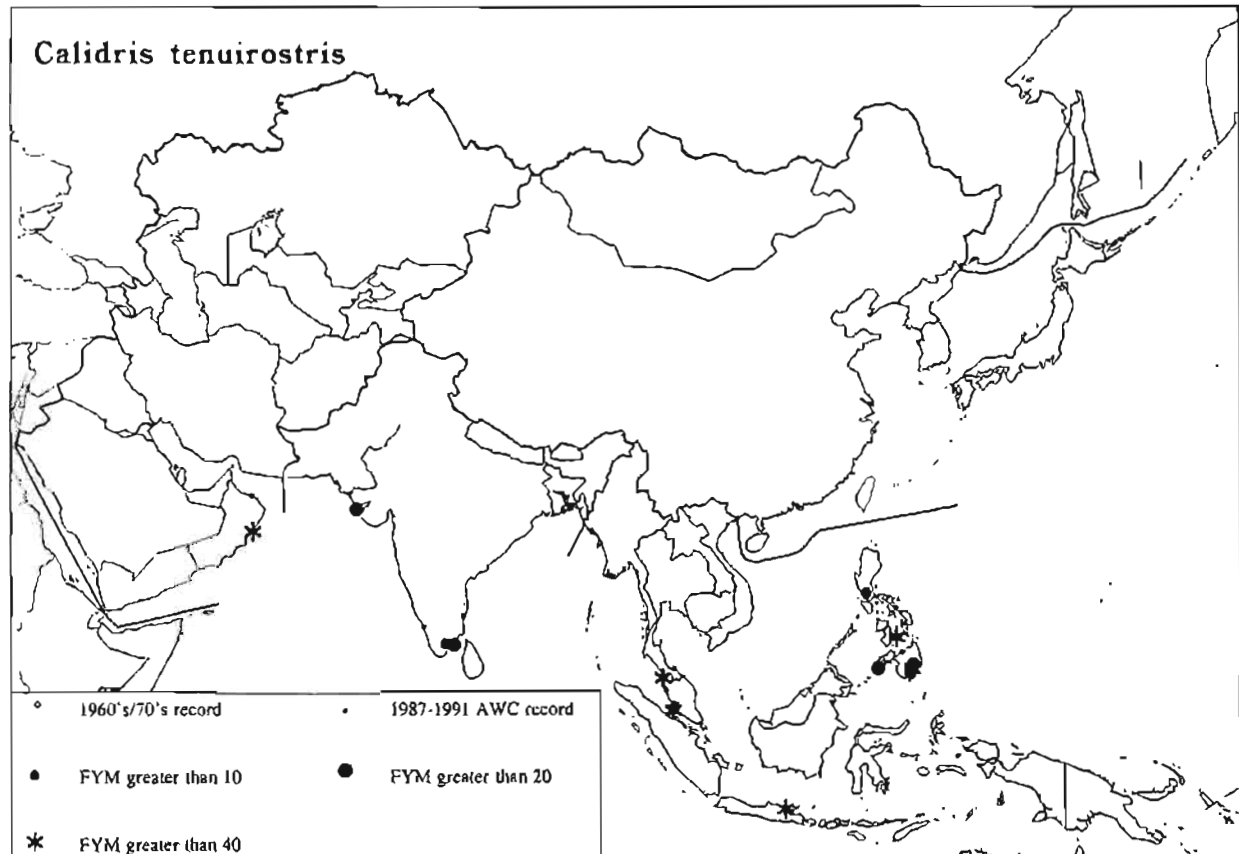


Figure 168: Distribution of *Calidris tenuirostris* as shown by the AWC 1987-1991

Western Sandpiper*Calidris mauri*

Extralimital, breeding mainly in North America, but with a small breeding population near the Bering Strait in extreme northeastern Russia. The entire population winters in North and South America. The species has occurred as a vagrant in Japan. No records were obtained as part of the AWC.

Sanderling*Calidris alba*

Monotypic. The species has a relatively restricted breeding range in extreme northern Russia, but a wide non-breeding distribution along coasts from Africa across southern Asia to Australasia (Figure 169). No discrete populations are identifiable. Three main wintering groups are recognized.

- SW Asia/E Africa: D (120,000) [AWC 4,050; 17,030 with 1970s data]
Trends: Unknown.
- S Asia: Probably C [AWC 3,700]
Trends: Unknown.
- E Asia/SE Asia/Australasia: B or C [AWC 140]
Trends: Unknown.

Aerial surveys of the entire south coast of Iran in the 1970s located some 10,000-15,000 wintering Sanderling. No aerial surveys have been possible in recent years, and most of these birds have gone unrecorded in the recent censuses.

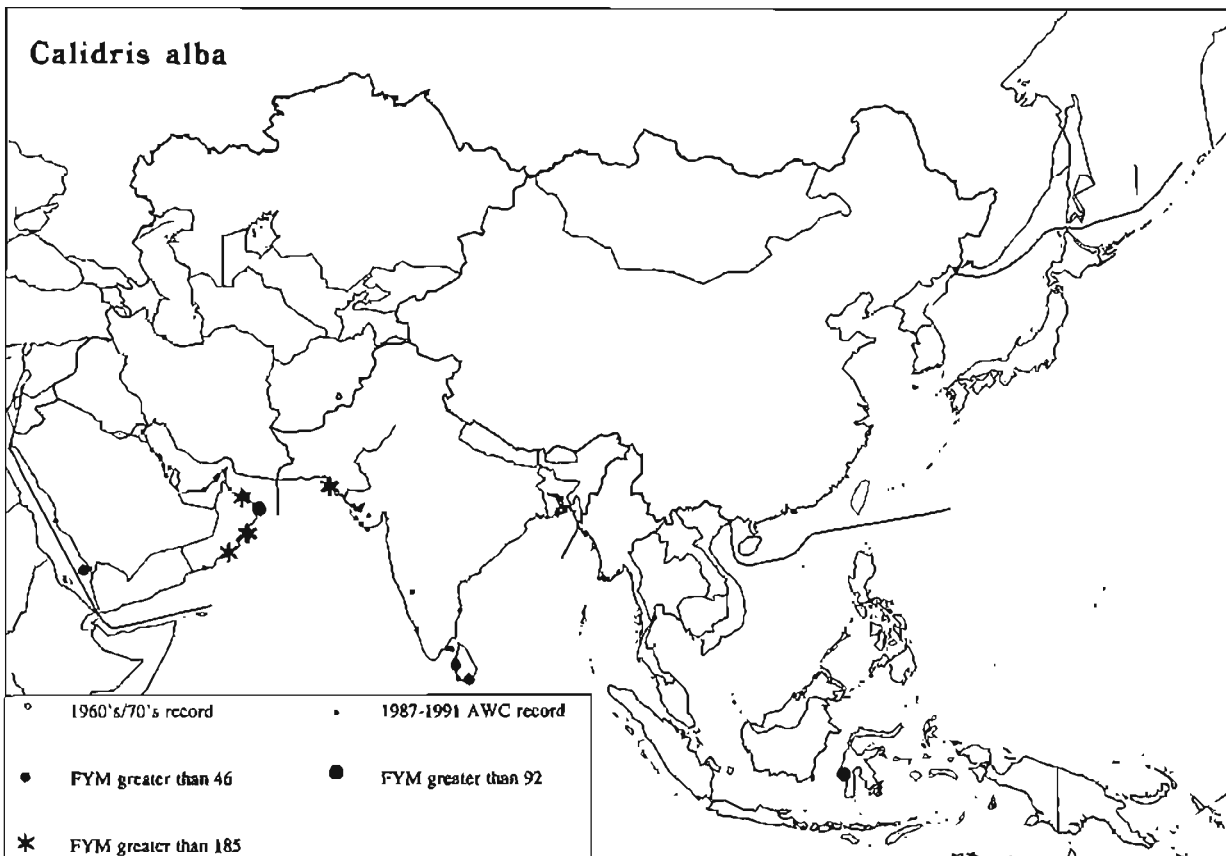


Figure 169: Distribution of *Calidris alba* as shown by the AWC 1987-1991

Potential sites of international importance

Only one site in SW Asia reaches the 1% level of 1,200: Barr al Hikman (FYM 2,300, 3yr) in Oman. However, important sites along the southern coast of Iran were not adequately surveyed during the AWC.

Other important sites

In the absence of population estimates, no sites of international importance can be identified in S, E or SE Asia. In S Asia, the most important sites were Clifton Beach (FYM 2,190, 5 yr) and Hawks Bay Sandspit (FYM 1,042, 4 yr) in Pakistan. In E and SE Asia, where the species is generally rather scarce, the only site with over 100 birds was Mampi Game Reserve in South Sulawesi, Indonesia (112, 1 yr).

Red-necked Stint

Calidris ruficollis

Monotypic. Only one population is recognized, breeding mainly in NE Asia but also in small numbers in Alaska. Migrates to winter from E India to E and SE Asia and Australasia (Figure 170).

- E Asia/SE Asia/Australasia (entire population): D [AWC 13,900]

Trends: Apparently declining.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. There are five sites which had a FYM of at least 500 birds: four in the Philippines and one in peninsular Malaysia. The most important site was the Cavite area of Manila Bay in the Philippines (2,000, 1yr).

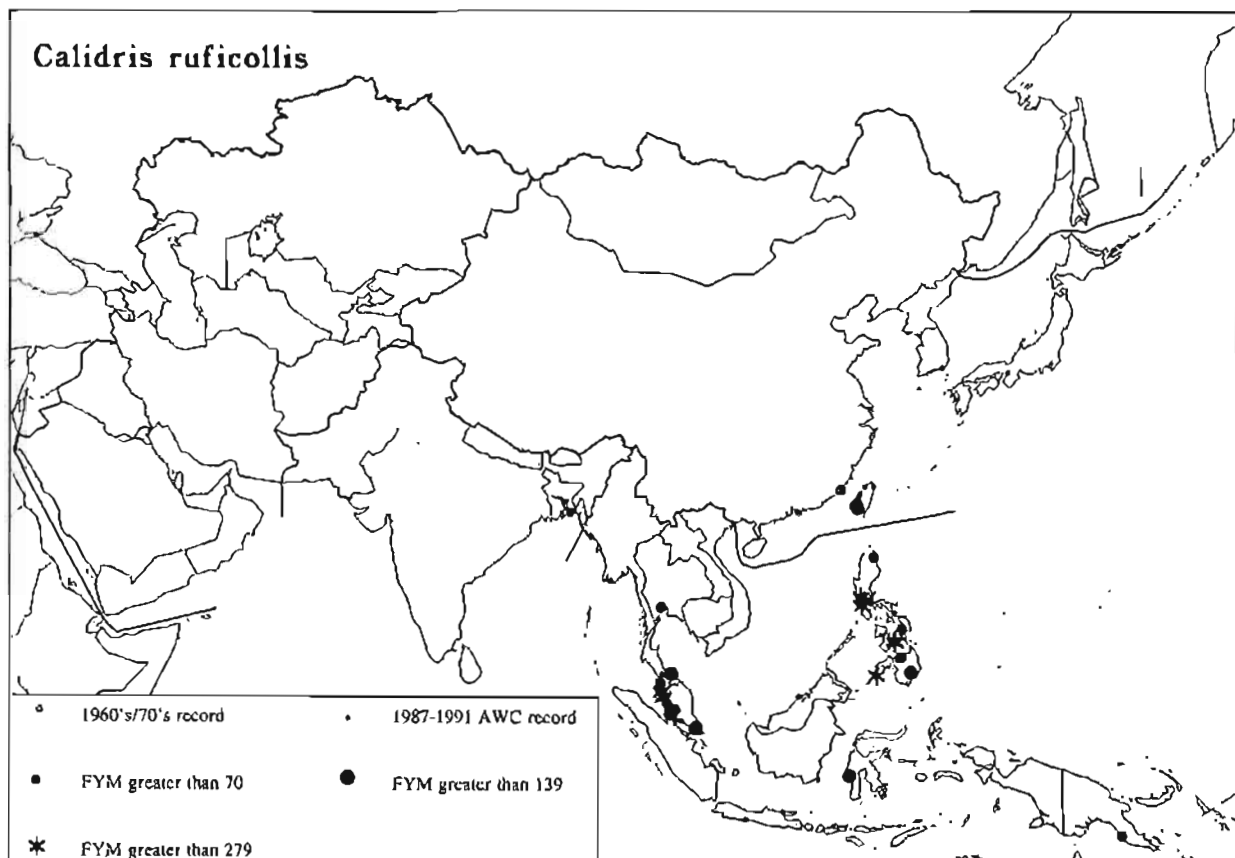


Figure 170: Distribution of *Calidris ruficollis* as shown by the AWC 1987-1991

Little Stint

Calidris minuta

Monotypic. The species has a wide breeding distribution across northern Asia east to about 150°E, and a wide wintering distribution from Africa across SW and S Asia east to Bangladesh (Figure 171). Two main wintering groups are recognized.

- SW Asia/E Africa: E (1,000,000+) [AWC 19,800; 25,600 with 1970s data]

Trends: Unknown.

- S Asia: D (200,000+) [AWC 122,000]

Trends: Unknown.

Potential sites of international importance

One site in SW Asia and twelve sites in S Asia reach the respective 1% levels of 10,000 and 2,000 (Table 65).

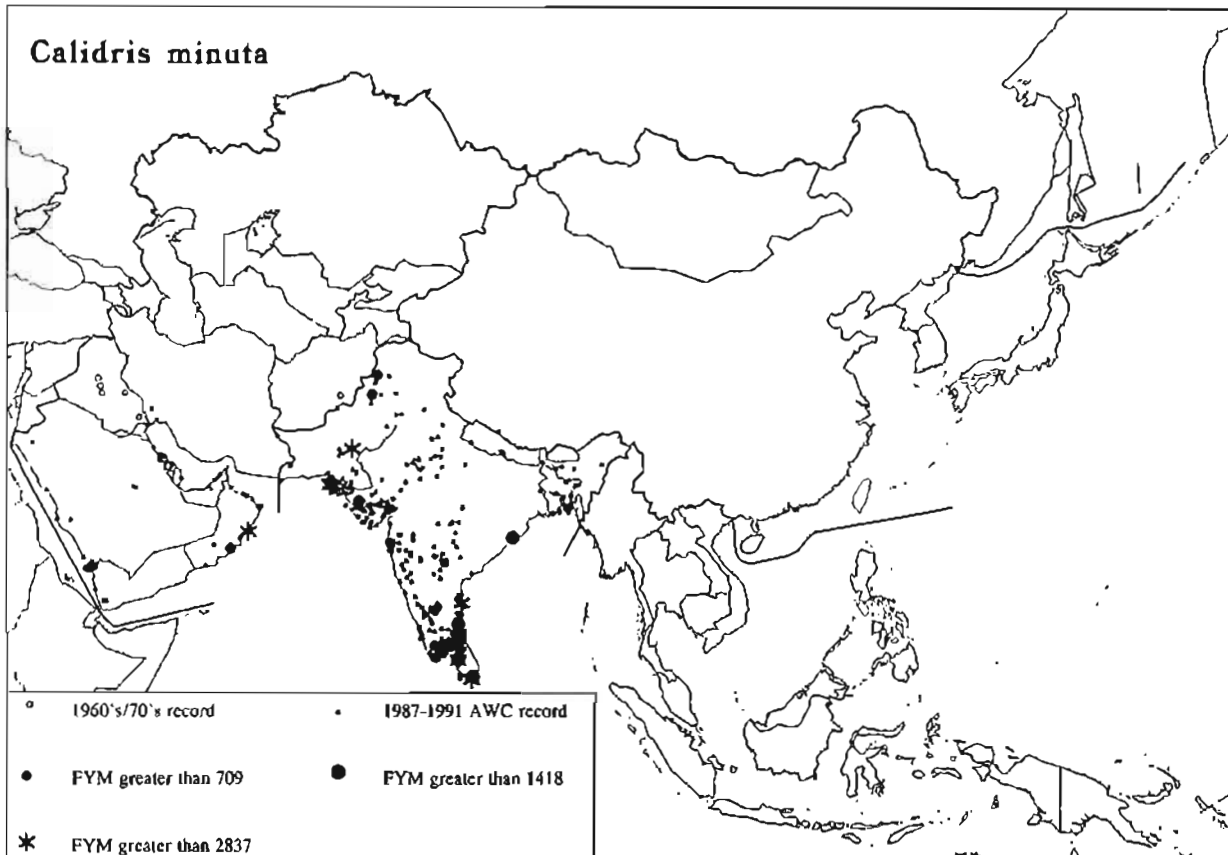


Figure 171: Distribution of *Calidris minuta* as shown by the AWC 1987-1991

Table 65: Potential sites of international importance for *Calidris minuta* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	ANDHRA PRADESH	PULICAT LAKE	3859	4
	TAMIL NADU	POINT CALIMERE B.S	9306	5
	TAMIL NADU	PUTHUPALLI ALAM	14533	3
	TAMIL NADU	SPIC NAGAR (TUTICORIN)	2200	3
	TAMIL NADU	VALINOKKAM, SALT PAN	2300	1
	TAMIL NADU	WIMCO SALT FACTORY	6200	1
	OMAN		BARR AL HIKMAN	10294
PAKISTAN	SIND	CLIFTON BEACH	4690	5
	SIND	HAWKS BAY-SANDSPIT & MAURI PUR	11770	1
	SIND	RUP (GHAUSPUR) LAKE	3565	5
SRI LANKA	N.P	ARALY SOUTH JETTY- PUNALAI	3000	1
	N.W.P	SEGUWANTIVU MUDFLATS (MI OYA ESTUARY)	5700	1
	S.P	BUNDALA SANCTUARY	4040	2

Temminck's Stint

Calidris temminckii

Monotypic. The species has a wide breeding distribution across northern Eurasia, and a wide wintering distribution in Africa and southern Asia (Figure 172). No discrete populations are identifiable but, for the present purposes, three main wintering groups are recognized. The relatively small numbers of birds wintering in SW Asia are part of a much larger population which winters mainly in Africa and probably originates mainly from the Western Palearctic part of the breeding range.

- SW Asia/E Africa: Unknown [AWC 43; 254 with 1970s data]

Trends: Unknown.

- S Asia: Probably C [AWC 3,780]

Trends: Unknown.

- E Asia/SE Asia: Probably B or C [AWC 725]

Trends: Unknown.

The species has apparently been overlooked in Iran in recent years, as it was found to be widespread and reasonably common there in the 1970s.

Important sites

In the absence of any population estimates, no sites of international importance can be identified. Six sites held an average of at least 100 birds: four in India and one each in China and Malaysia. The most important site was Chilka Lake (FYM 2,100, 4yr) in India.

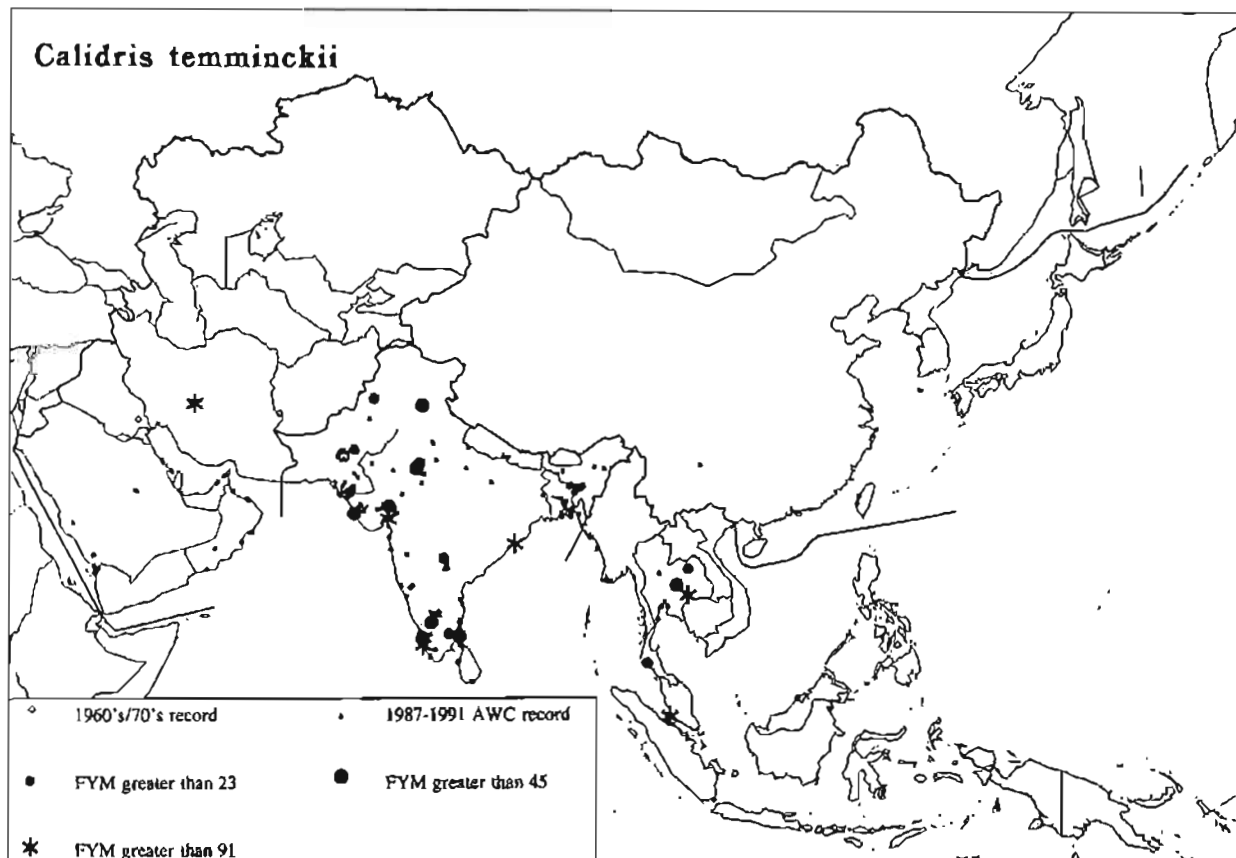


Figure 172: Distribution of *Calidris temminckii* as shown by the AWC 1987-1991

Long-toed Stint

Calidris subminuta

Monotypic. The species breeds in north-central and northeast Asia and winters in southern Asia from India east through SE Asia to the Greater Sundas in Indonesia (Figure 173). Only one population is recognized.

- E/SE/S Asia (entire population): Probably C [AWC 1,770]

Trends: Unknown.

The Long-toed Stint occurs mainly on inland wetlands, especially rice fields. Because rice fields cannot be adequately covered by the AWC, numbers are grossly under-estimated.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Two sites held an average of at least 100 birds: Sungai Bera Estuary in Brunei Darussalam (FYM 101, 5yr) and Ban Kupae Ite in Thailand (280, 1yr).

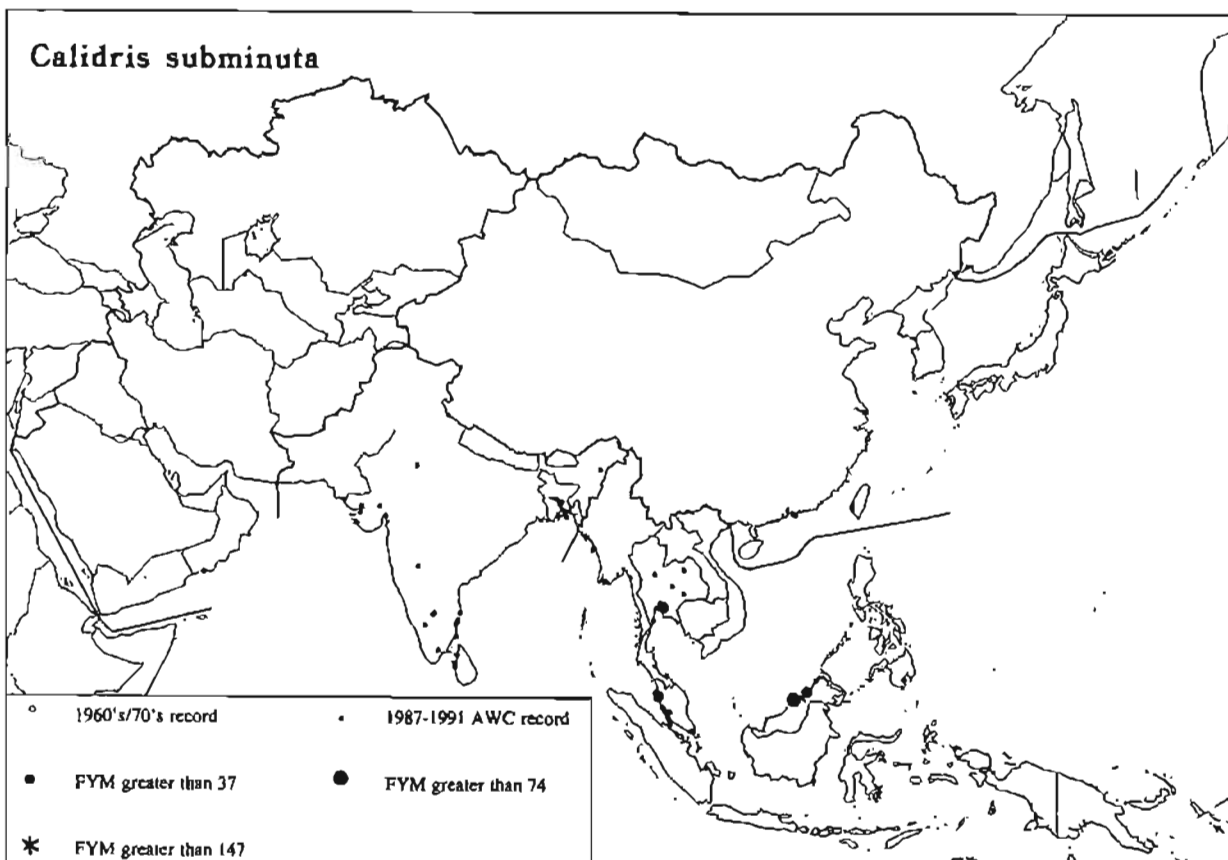


Figure 173: Distribution of *Calidris subminuta* as shown by the AWC 1987-1991

Baird's Sandpiper

Calidris bairdii

Extralimital, breeding mainly in North America and wintering in South America. The species has been recorded as a vagrant in Japan. No records were obtained as part of the AWC.

Pectoral Sandpiper***Calidris melanotos***

Mainly extralimital, breeding in northeastern Russia, Alaska and Canada, and wintering mainly in South America. It is a rare passage migrant in Japan, and has occurred as a vagrant in Hong Kong. No records were obtained as part of the AWC.

Sharp-tailed Sandpiper***Calidris acuminata***

Monotypic. The species breeds in NE Siberia and spends the boreal winter almost exclusively in Australasia (Figure 174). Only one population is recognized.

- E Asia/SE Asia/Australasia (entire population): D (166,000; Watkins 1993) [AWC 120]
Trends: Unknown.

Only small numbers were recorded during the AWC, in Taiwan, the Philippines and New Guinea, and no site reached the 1% level of 1,660 birds.

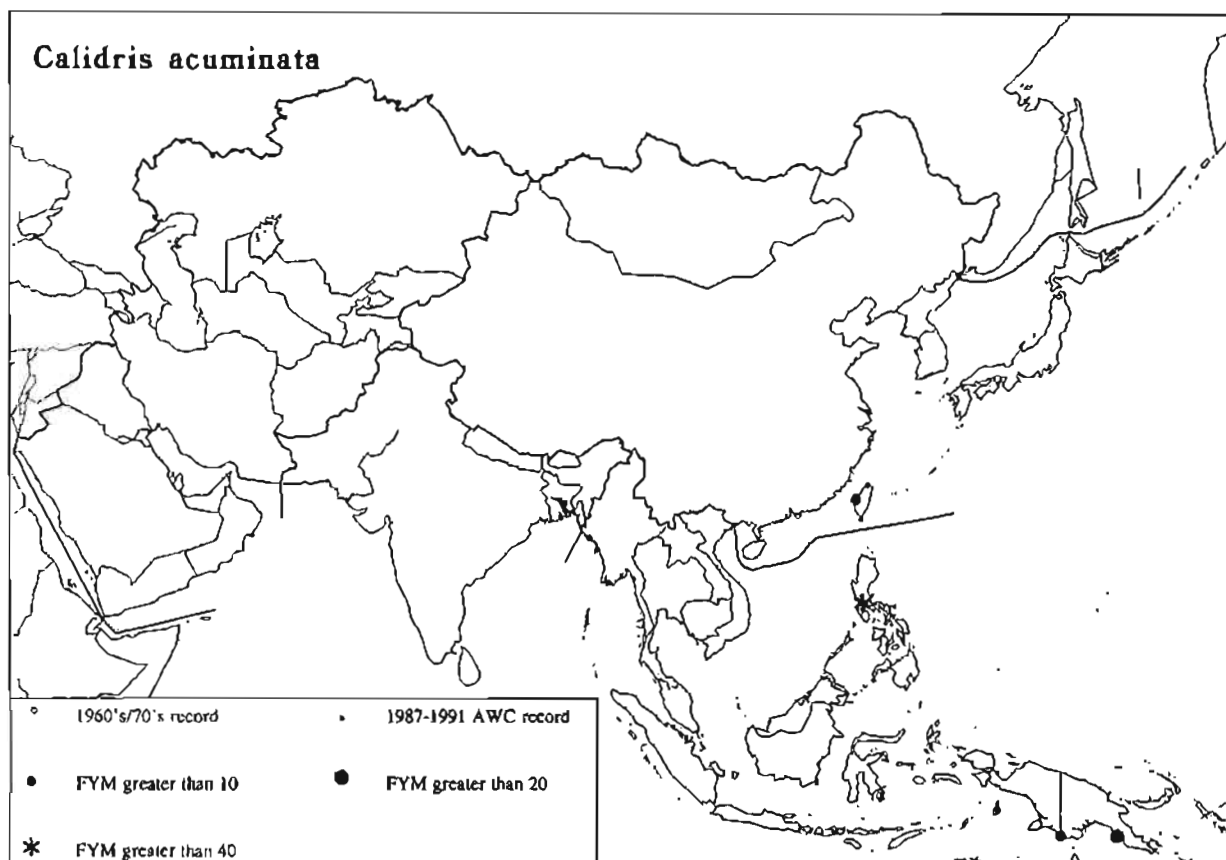


Figure 174: Distribution of *Calidris acuminata* as shown by the AWC 1987-1991

Rock Sandpiper

Calidris ptilocnemis

A partial migrant, breeding in extreme NE Russia and Alaska. Populations of three of the four subspecies are apparently sedentary. The subspecies *tschuktschorum*, which breeds on the mainland of eastern Russia and Alaska, is migratory, wintering south to California in North America and the Kurile Islands in NE Asia, with only a few birds reaching northern Japan. No records were obtained as part of the AWC.

Dunlin

Calidris alpina

Two subspecies occur: the nominate subspecies breeds across northern Asia east to about 160°E and winters east to India and Bangladesh; *C.a. sakhalina* breeds in NE Siberia and northern Alaska and winters in China, Korea and Japan, with vagrants occurring south to Malaysia, Singapore and Indonesia (Figure 175). Three wintering populations are recognized.

- SW Asia (*alpina*): D (150,000) [AWC 30,600; 110,000 with 1970s data]
Trends: Unknown.
- S Asia (*alpina*): C [AWC 13,000]
Trends: Unknown.
- E Asia (*sakhalina*): C or D [AWC 28,500]
Trends: Unknown.

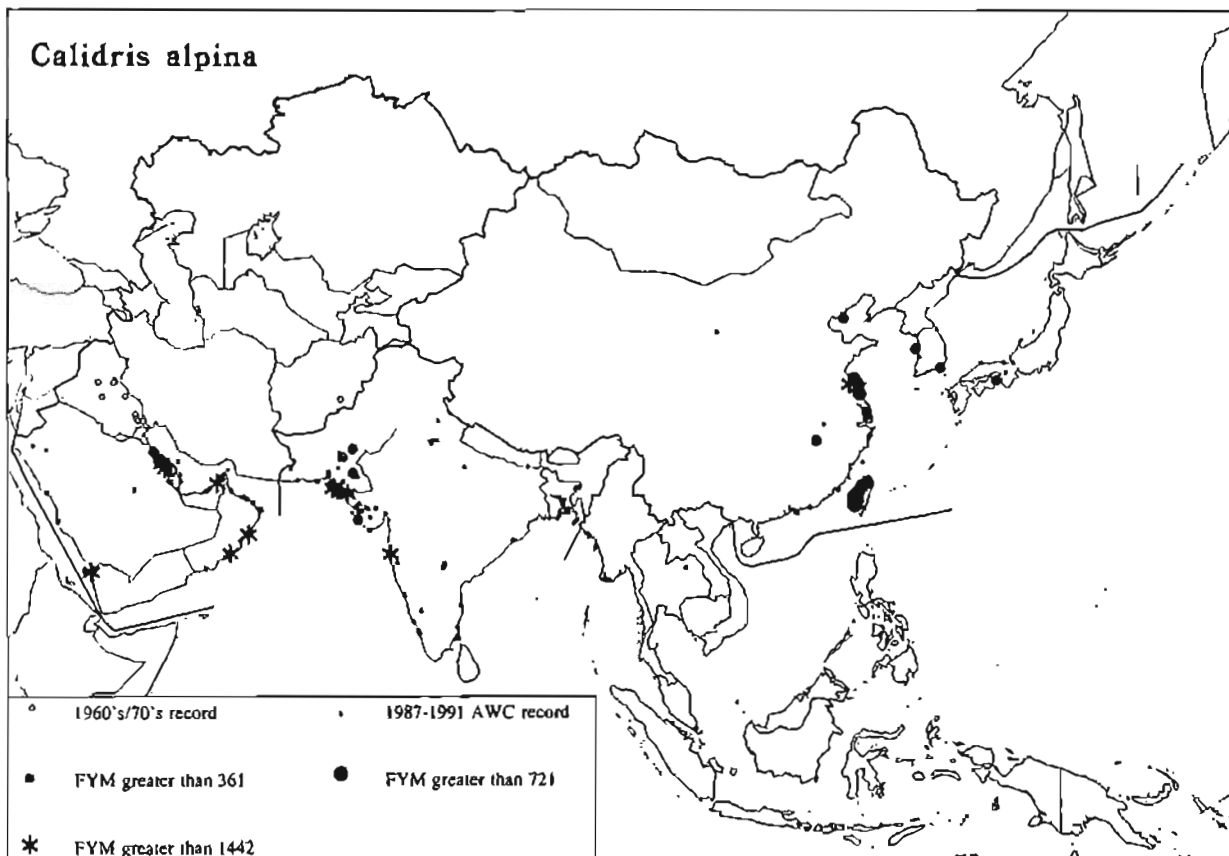


Figure 175: Distribution of *Calidris alpina* as shown by the AWC 1987-1991

Although the species is very common in Iran in winter (50,000-90,000 estimated in the 1970s, Scott 1992), no sites are indicated in Figure 175 because the species was not counted during the recent censuses in Iran.

Potential sites of international importance

Six sites in SW Asia reach the qualifying level of 1,500 (Table 66); those in Saudi Arabia have been counted only once or twice and more counts are needed to confirm their importance.

Table 66: Potential sites of international importance for *Calidris alpina* in Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
OMAN		BARR AL HIKMAN	9336	3
		DAWHAT SAWQIRAH	1811	3
SAUDI ARABIA	EASTERN	AS-SAYHAT BAY & LAGOONS (TAROUT BAY)	3252	1
	EASTERN	JUBAYL LAGOONS (SABKAH AL FASL)	2383	1
	SOUTH WEST	JIZAN BEACH	1636	2
U.A.E	DUBAI	KHOR DUBAI	2026	3

Other important sites

In S and E Asia, no population estimates are available, and no sites of international importance can be identified. However, 29 sites had an average of at least 500 birds: nine sites each in China and Taiwan, six in Pakistan, three in India and two in South Korea. The most important sites were Cho-shui-hsi S. (FYM 6,100, 2yr) in Taiwan, and Clifton Beach (FYM 3,400, 5yr) in Pakistan.

Curlew Sandpiper

Calidris ferruginea

Monotypic. The species has a rather restricted breeding distribution in extreme northern Russia, but a very wide distribution outside the breeding season, extending from Africa across southern Asia to Australia and New Zealand (Figure 176). No discrete populations are identifiable. However, for the present purposes, three main wintering groups are recognized.

- SW Asia/E Africa: D (310,000) [AWC 8,200]

Trends: Possibly stable.

- S Asia: D (100,000+) [AWC 61,300]

Trends: Unknown.

- E Asia/SE Asia/Australasia: D [AWC 14,700]

Trends: Possibly declining.

Potential sites of international importance

Sites of international importance can be identified only in SW and S Asia where population estimates are available. Only one site approaches the 1% level of 3,100 in SW Asia, whereas 12 sites reach the 1% level of 1,000 in S Asia (Table 67). The coasts of SW India and Sri Lanka appear to be the most important wintering areas for Curlew Sandpipers in Asia.

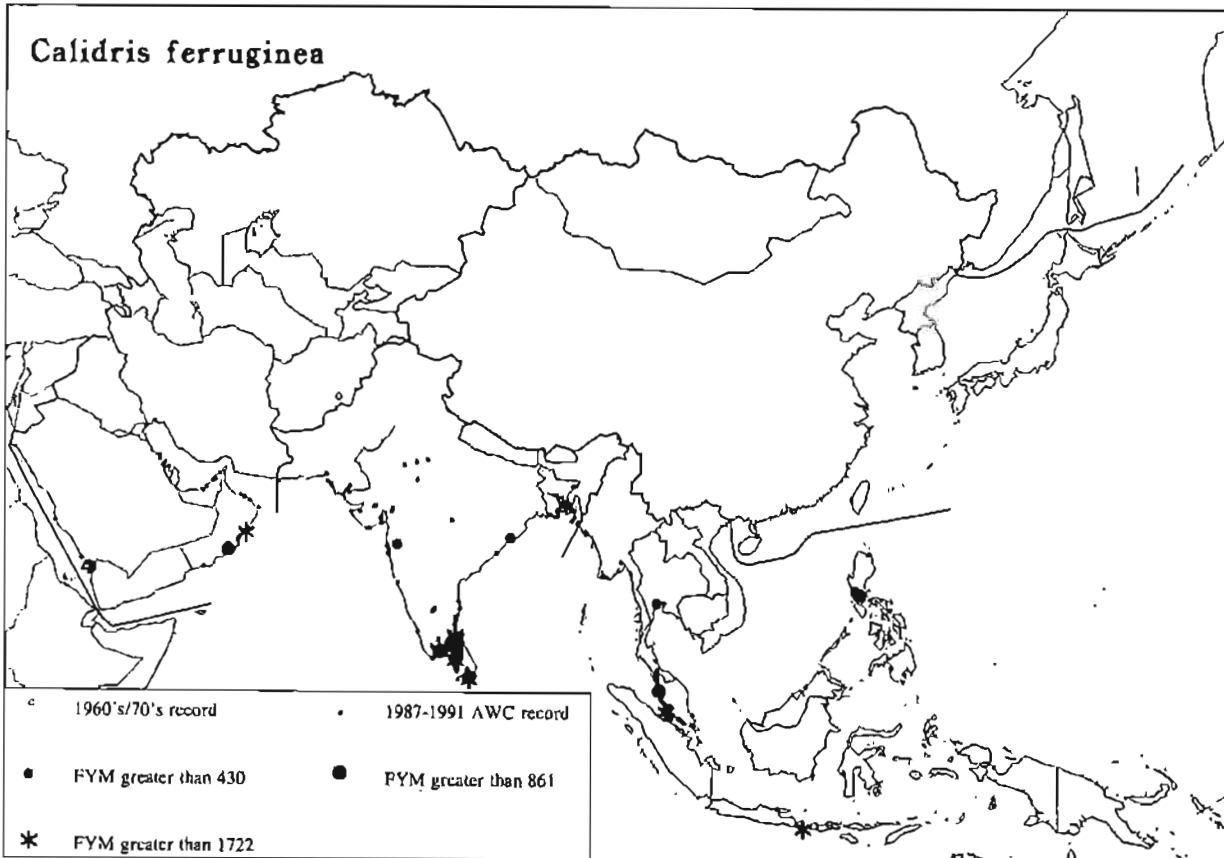


Figure 176: Distribution of *Calidris ferruginea* as shown by the AWC 1987-1991

Other important sites

In E and SE Asia, seven sites had a FYM of 500 or more birds, and are therefore of considerable importance for the species. Three of these are in peninsular Malaysia, two in the Philippines and one each in Indonesia and Thailand. A count of at least 1,000 birds has been obtained in the Banyuasin Delta in Sumatra, Indonesia (M. Silvius, pers. comm.), but this site has not been adequately covered during the AWC.

Table 67: Potential sites of international importance for *Calidris ferruginea* in South and Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	HATIYA	CHAR PIYA	1352	4
INDIA	TAMIL NADU	POINT CALIMERE B.S	2959	5
	TAMIL NADU	PUTHUPALLI ALAM	4690	3
	TAMIL NADU	RAMESWARAM AND MANALI ISLANDS	2450	1
	TAMIL NADU	SPIC NAGAR (TUTICORIN)	1166	3
	TAMIL NADU	WIMCO SALT FACTORY	3600	1
	OMAN		BARR AL HIKMAN	2986
SRI LANKA	N.P	AMAIPADDUKKAI	1200	1
	N.P	ARALY SOUTH JETTY-PUNALAI	4100	1
	N.P	PERIYAKALAPUWA MOUTH-W.OF KADASIKADU	700	1
	N.W.P	SEGUWANTIVU MUDFLATS (MI OYA ESTUARY)	2600	1
	S.P	BUNDALA SANCTUARY	5078	2
	S.P	KOHOLANKALA LEWAYA	1072	4

Spoon-billed Sandpiper***Eurynorhynchus pygmeus***

Monotypic; globally threatened. The species breeds in NE Russia and winters at scattered localities in E, S and SE Asia. Only one population is recognized.

- E/SE/S Asia (entire population): A (5,000+) [AWC 141]

Trends: Unknown.

The only records obtained during the AWC were in SE Bangladesh. This is the most important wintering area hitherto known for the species; the whereabouts of the rest of the population remains unknown.

Potential sites of international importance

Maulavir Char in SE Bangladesh had a FYM of 50 (4 yr), equal to the 1% level, and can be considered to be of international importance. One other site, Dhal Char also in SE Bangladesh, held 47 birds in the one year that it was counted, and clearly merits further investigation.

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Information on the wintering distribution of the Spoon-billed Sandpiper has been summarized by Howes and Parish (1989).

Broad-billed Sandpiper***Limicola falcinellus***

Two subspecies occur. The nominate subspecies breeds in northern Eurasia east to about the Yenisei River, and winters from Africa east to W and S India and Sri Lanka. *L. f. sibirica* breeds in NE Siberia and winters from NE India to SE Asia and Australia (Figure 177). Three populations are recognized.

- SW Asia/E Africa: B/C (25,000) [AWC 2,270; 3,040 with 1970s data]

Trends: Unknown.

- S India/Sri Lanka: B or C [AWC 490]

Trends: Unknown.

- NE India to Australasia (*sibirica* entire population): B or C [AWC 1,760]

Trends: Unknown.

Potential sites of international importance

Three sites in SW Asia reach a FYM of 250 (1% level): Barr al Hikman in Oman (FYM 620, 3yr), As-Sayhat Bay and Lagoons in Tarout Bay, Saudi Arabia (320, 1yr) and Khor Dubai in Dubai, United Arab Emirates (FYM 350, 3yr).

Other important sites

In the absence of population estimates in S and SE Asia, no sites of international importance can be identified there. Seven sites held an average of at least 100 birds: two sites each in Bangladesh, India, and Malaysia, and one in Thailand. The most important site was Samut Sakhon in the Gulf of Thailand (FYM 395, 2yr).

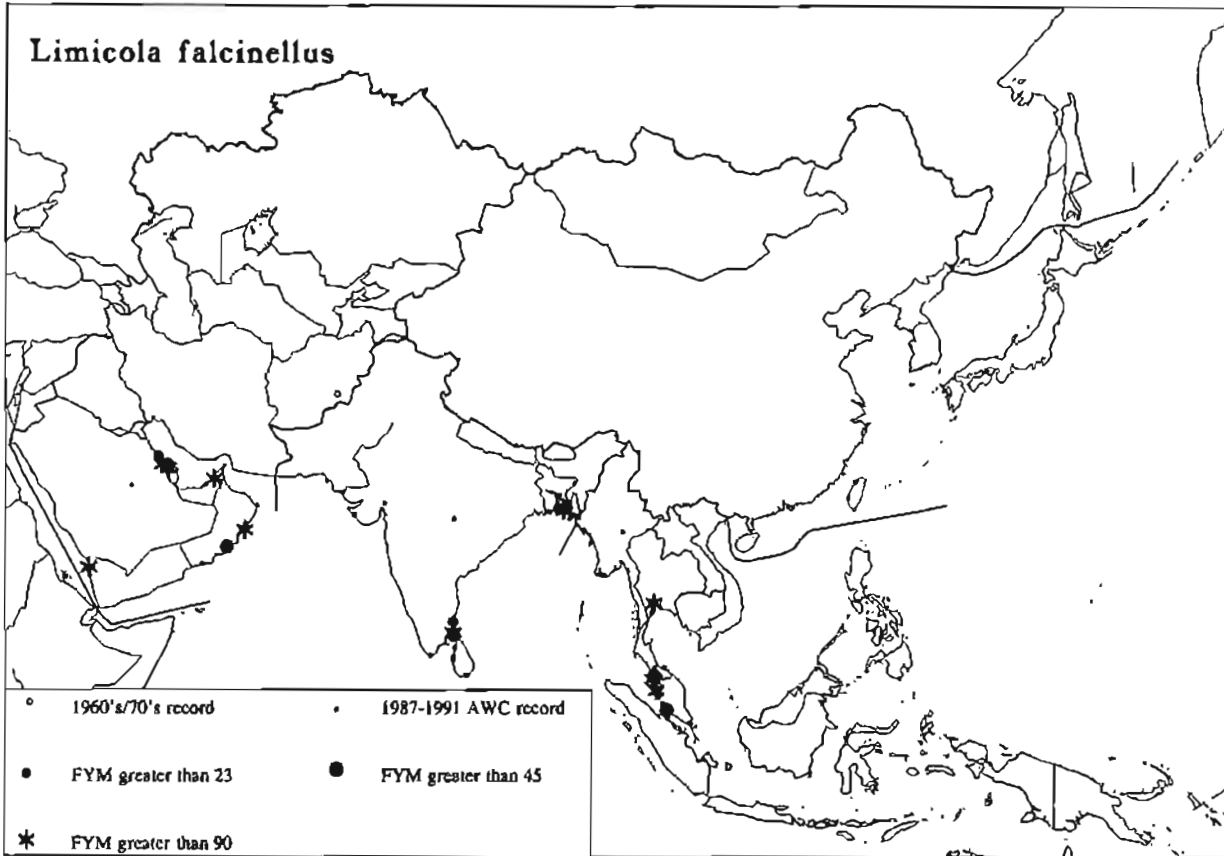


Figure 177: Distribution of *Limicola falcinellus* as shown by the AWC 1987-1991

Stilt Sandpiper

Micropalama himantopus

A vagrant from North America to Japan. No records were obtained as part of the AWC.

Buff-breasted Sandpiper

Tryngites subruficollis

Monotypic. Chiefly extralimital, breeding mainly in North America (and also Wrangel Island, Russia) and wintering in South America. The species has been recorded as a vagrant in Japan, India and Sri Lanka. No records were obtained as part of the AWC.

Ruff

Philomachus pugnax

Monotypic. The species has a wide breeding distribution across northern Eurasia east to about 170°E. The bulk of the world population winters in Africa south of the Sahara, but there is also a substantial wintering population in S Asia. Further east, the species is scarce and irregular (Figure 178). The small number of birds wintering in SW Asia (estimated at about 4,000) probably belong to the much larger population which winters in eastern Africa. According to Tomkovich (1992), the breeding range and numbers of Ruff in Russia have been increasing in recent years. Two populations are recognized.

- SW Asia/E Africa: D (100,000+) [AWC 1,100; 3,600 with 1970s data]
Trends: Unknown.
- S Asia: C [AWC 19,500]
Trends: Unknown.

Important sites

No sites in SW Asia had a FYM exceeding 1,000 (1% level). The three most important sites were all in Saudi Arabia: El Hair Watercourse (220, 1yr), Jeddah South Corniche (230, 1yr) and Sawarma (FYM 290, 2yr). In S Asia, the main sites were Chhapparwada in Rajasthan, India (3,000, 1yr), and Kalboro in Sind, Pakistan (FYM 1,230, 2yr).

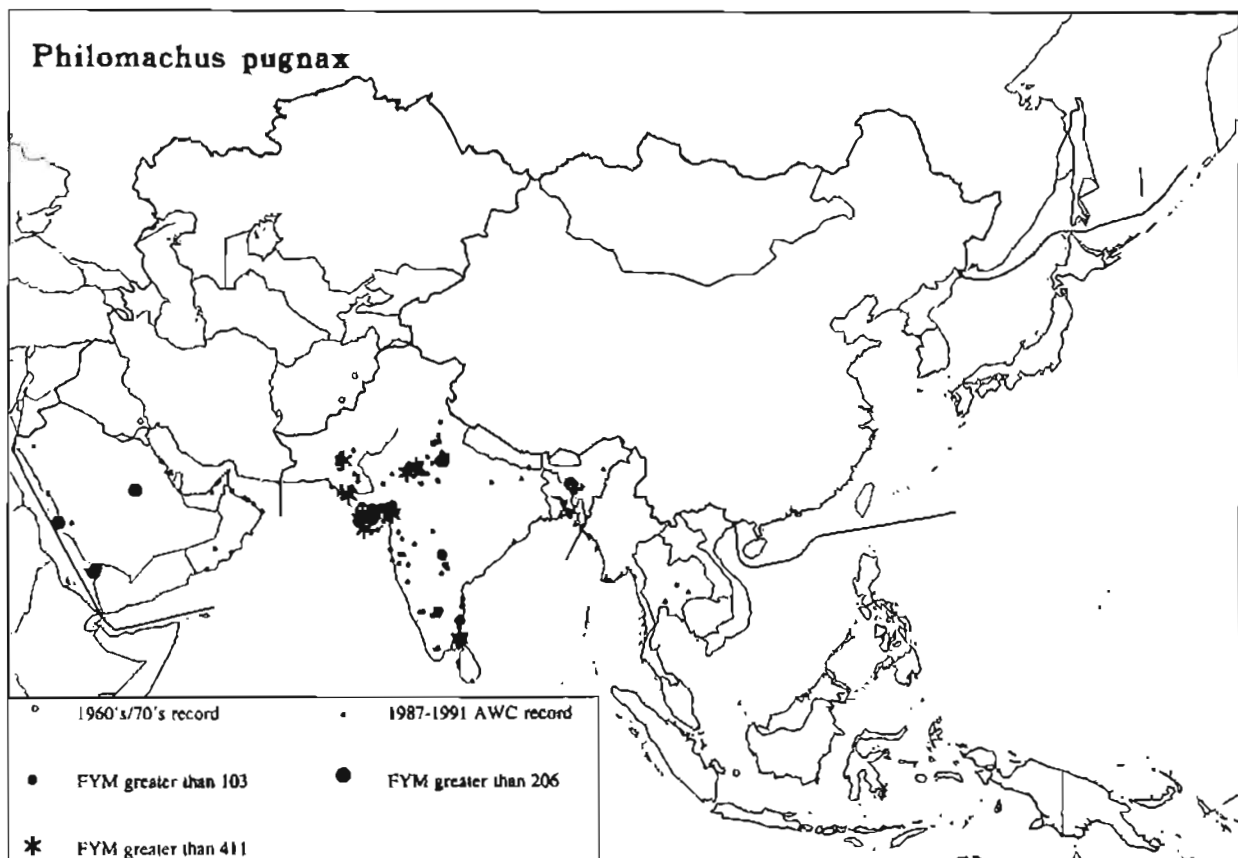


Figure 178: Distribution of *Philomachus pugnax* as shown by the AWC 1987-1991

LARIDAE

White-eyed Gull

Larus leucophthalmus

Monotypic; globally threatened. Endemic to the Red Sea, south coast of the Arabian peninsula and NE Africa (Figure 179); a vagrant to SE Iran.

- SW Asia/NE Africa (entire population): B (15,000) [AWC 340]

Trends: Stable.

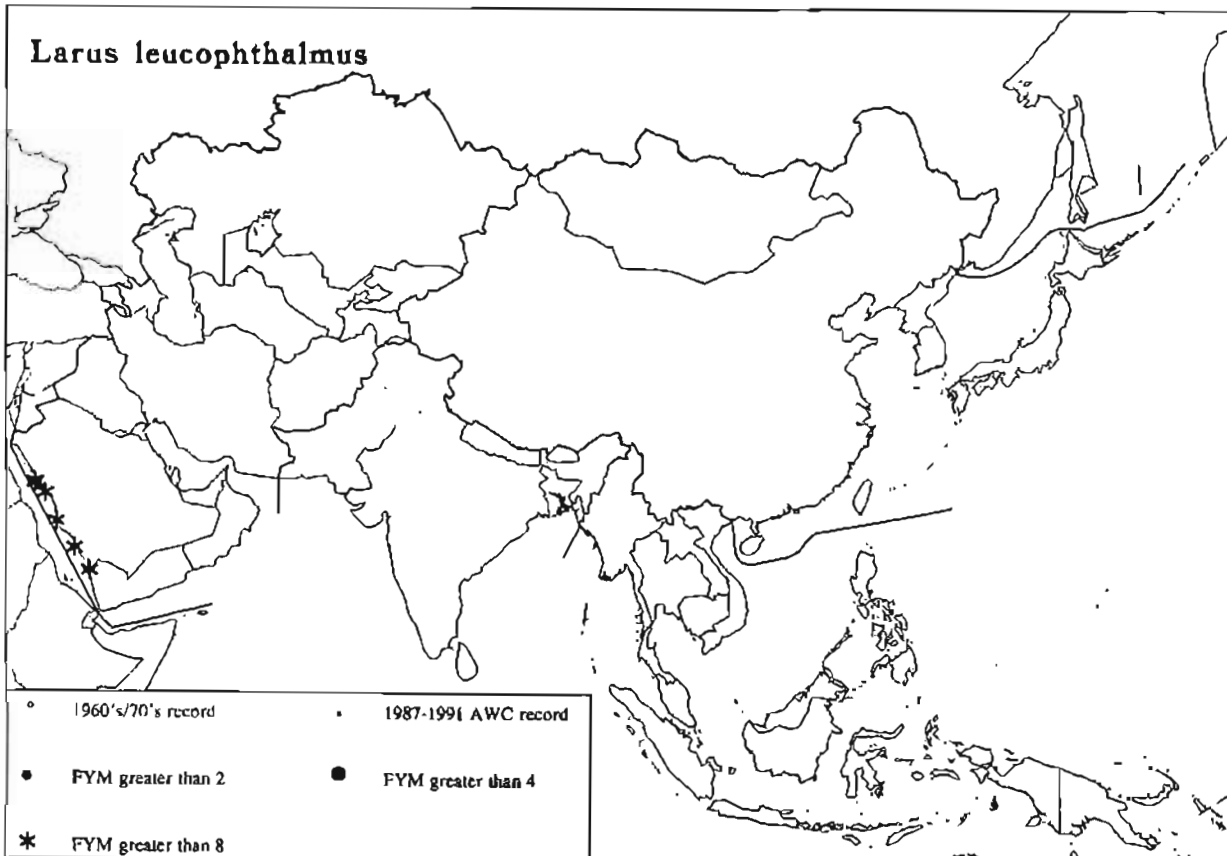


Figure 179: Distribution of *Larus leucophthalmus* as shown by the AWC 1987-1991

Potential sites of international importance

Only one site in Saudi Arabia (Um Lajj Fish Market, 155, 1yr) reached the 1% level of 150. As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

Sooty Gull

Larus hemprichii

Monotypic. Breeds in the Arabian Peninsula and NE Africa, and disperses outside the breeding season along the Indian Ocean coast to Pakistan (where a small population also breeds) and, very rarely, to India (Figure 180).

- SW/S Asia/E Africa (entire population): C (40,000) [AWC 23,200]

Trends: Unknown.

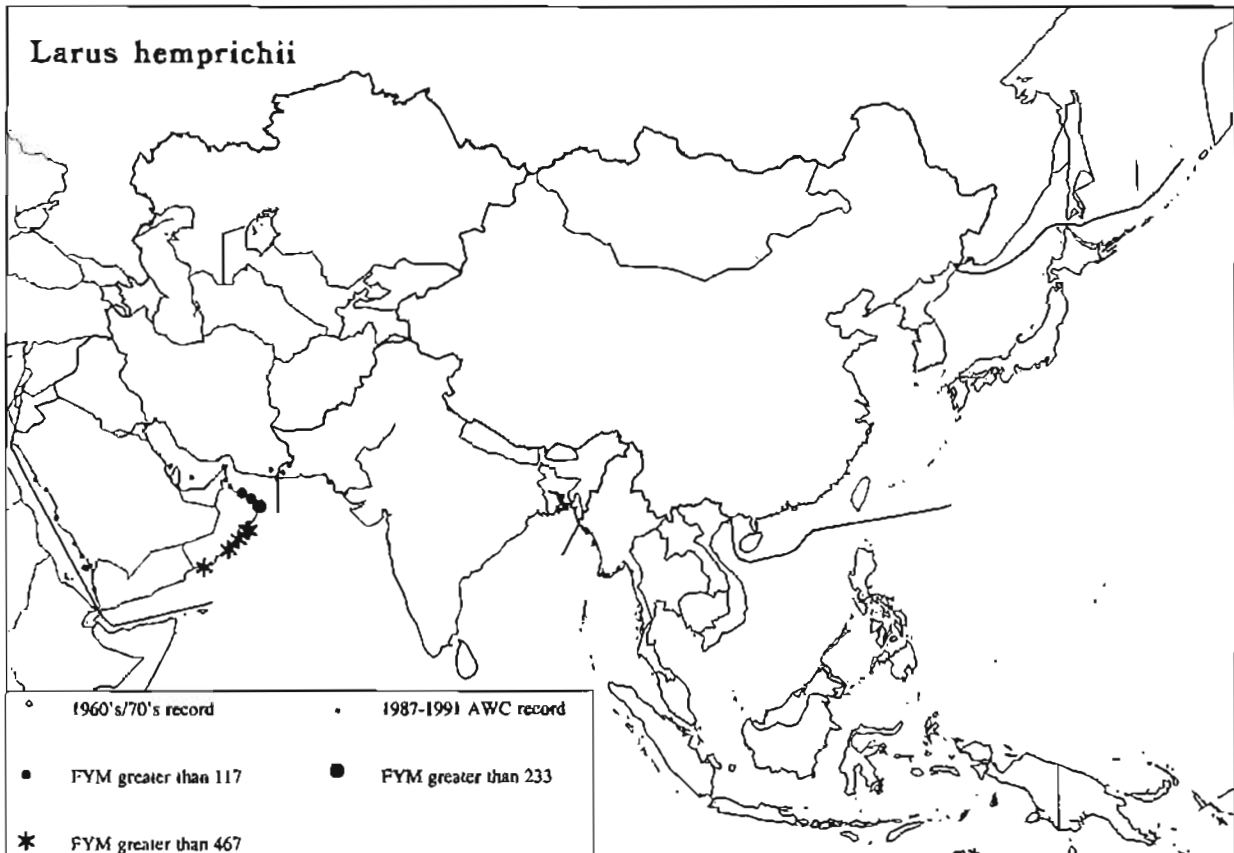


Figure 180: Distribution of *Larus hemprichii* as shown by the AWC 1987-1991

Potential sites of international importance

The coast of Oman is very important for the Sooty Gull: Barr Al Hikman (FYM 11,800, 3yr), Dawhat Sawqirah (FYM 6,850, 4yr), Dhofar Khawrs (FYM 1,000, 4yr), Duqm (FYM 820, 3yr) and Masirah Island (FYM 1,940, 3yr) consistently reached the FYM of 400 (1% level).

Black-tailed Gull*Larus crassirostris*

Monotypic. Mainly sedentary in E Asia, with some dispersal in winter (Figure 181).

- E Asia: D [AWC 4,200]

Trends: Possibly stable.

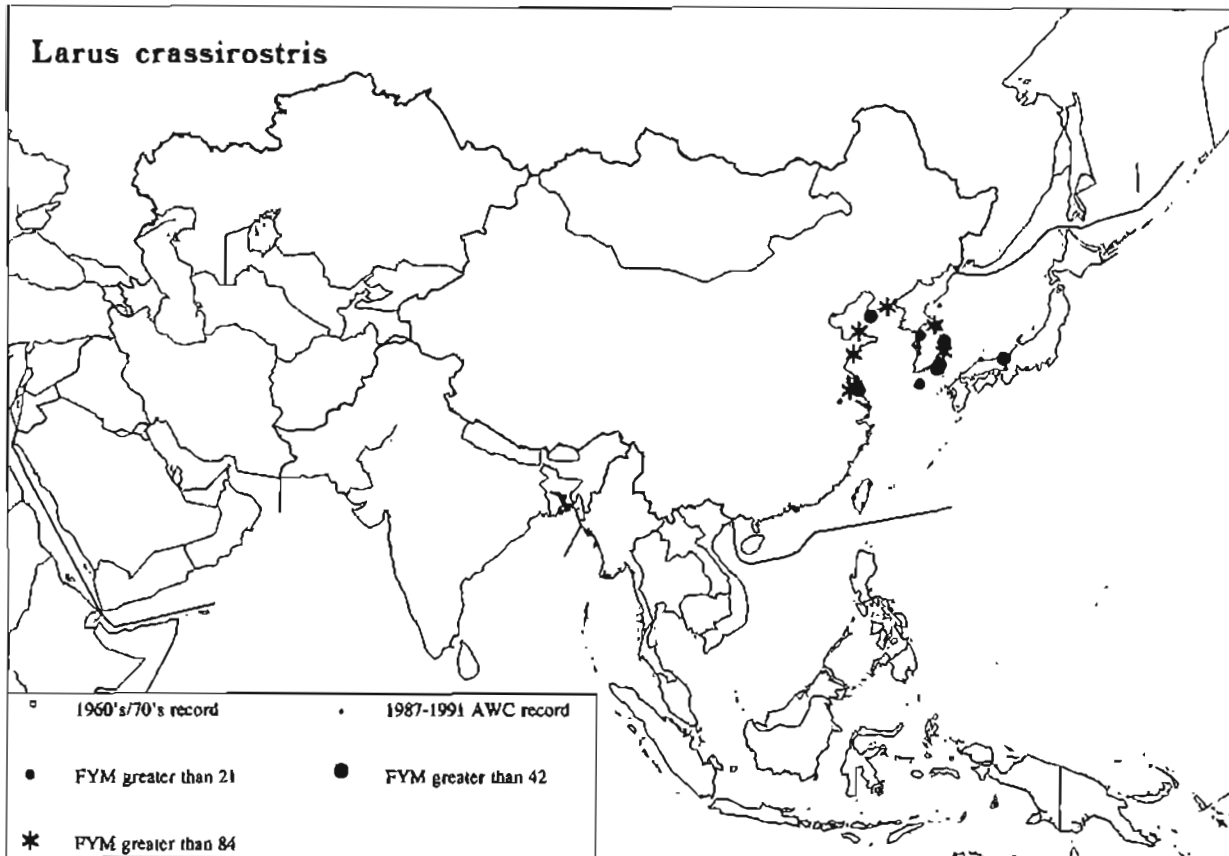


Figure 181: Distribution of *Larus crassirostris* as shown by the AWC 1987-1991

Important sites

As no population estimate is available for this marine species, no sites of international importance can be identified. A single count of 2,000 birds on the east coast of China at Qing Dao is the maximum number recorded at one site.

Common Gull*Larus canus*

Two subspecies occur: *heinei* breeds from the Kanin Peninsula and Moscow region east to the Lena River, and winters mainly in the Black and Caspian Seas, rarely further south to the Arabo-Persian Gulf and Arabian Sea; *L. c. kamtschatschensis* breeds in eastern Siberia and winters south from Ussuriland to Japan and S China (Figure 182). Two wintering populations are recognized.

- Black/Caspian Seas (*heinei*): C [AWC 300]

Trends: Unknown.

- E Asia (*kamtschatschensis*): Probably C [AWC 12,100]

Trends: Unknown.

Important sites

Ch'ongch'o Lake in South Korea, with a FYM of 4,500 (2yr), was the most important site identified.

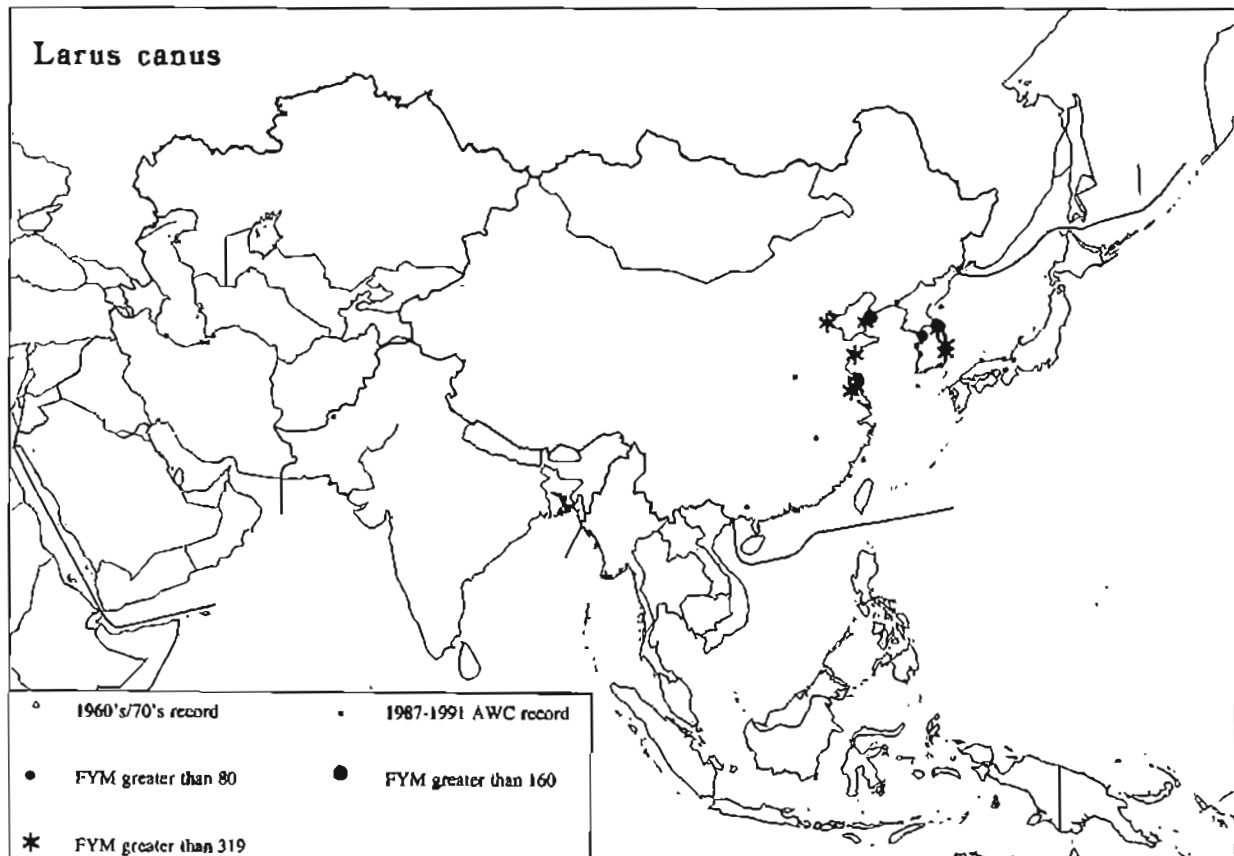


Figure 182: Distribution of *Larus canus* as shown by the AWC 1987-1991

Herring Gull*Larus argentatus*

The taxonomy of the *Larus argentatus/cachinnans/fuscus* group of gulls in Asia remains confused. Many forms have been described, but there is little consensus amongst authors as to how many species there are, and to which species the various subspecies should be assigned. Because of the confusion over taxonomy and difficulty of separating the various forms of the 'Herring Gull' and 'Yellow-legged Gull' in the field, no attempt was made during the AWC to distinguish between the *argentatus* and *cachinnans* groups, and all records of both species were listed on the census forms under the name 'Herring Gull'. In this report, only one subspecies of *L. argentatus* is recognized in Asia, namely *vegae*, which breeds in eastern Siberia and winters in E Asia. All other forms of the 'Herring Gull', which occur commonly in winter from SW Asia across S Asia to southern E Asia, are considered to be subspecies of the Yellow-legged Gull *L. cachinnans*. The combined records of both species are discussed under *L. cachinnans* below.

Yellow-legged Gull

Larus cachinnans

The Yellow-legged Gull occurs widely across southern Europe and Asia east to southern China, and winters south to E and W Africa, S India and SE Asia. At least six subspecies occur in Asia: *cachinnans*, *barabensis*, *mongolicus*, *heuglini*, *taimyrensis* and *armenicus*. The form *armenicus*, which breeds in Armenia, E Turkey and NW Iran, is often regarded as a separate species, the Armenian Gull, while the forms *heuglini* and *taimyrensis*, which breed in northern Siberia, are sometimes regarded as subspecies of the Lesser Black-backed Gull *L. fuscus*. Figure 183 presents all records of *L. cachinnans* and *L. argentatus* combined, because no distinction was made between these two closely related species during the AWC. Several subspecies of *cachinnans* overlap extensively in their winter quarters, while *L. argentatus vegae* overlaps with *L. cachinnans* in its winter quarters in E Asia. Thus, no discrete wintering populations of either species are identifiable from the AWC. Three main wintering groups are recognized in this report, each containing a mixture of subspecies of *L. cachinnans* and the E Asian group also including *L. a. vegae*.

- SW Asia (*L. cachinnans*): C (65,000) [AWC 25,700; 49,000 with 1970s data].
Trends: Probably increasing.
- S Asia (*L. cachinnans*): Probably C [AWC 6,200]
Trends: Unknown.
- E Asia (*L. cachinnans* and *L. argentatus*): C or D [AWC 15,100]
Trends: Unknown.

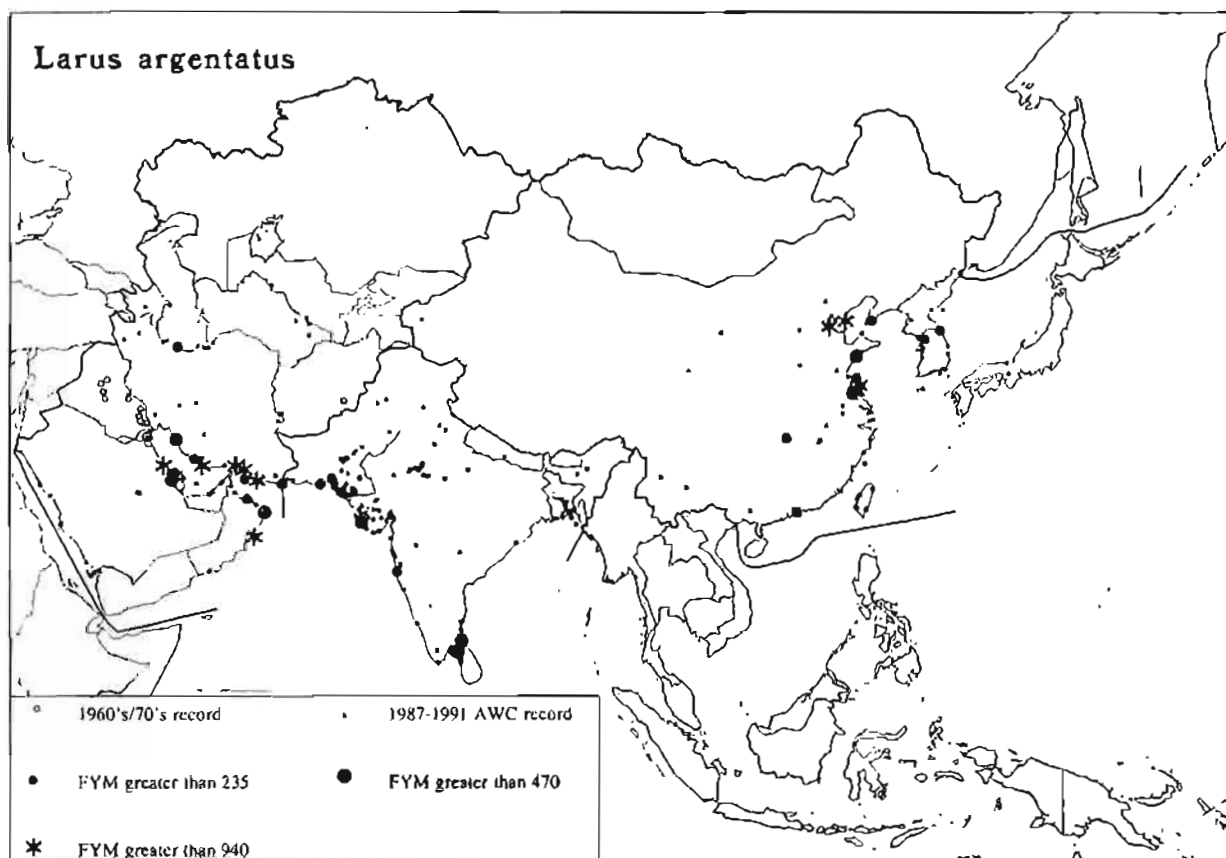


Figure 183: Distribution of *Larus argentatus/cachinnans* as shown by the AWC 1987-1991

Potential sites of international importance

Eight sites in SW Asia reach a FYM of 650 (1% level), concentrated in and around the mouth of the Arabo-Persian Gulf (Table 68). These birds are all treated here as belonging to the *cachinnans* group (including *armenicus* - possibly a distinct species), but further work is required to determine which subspecies are involved, and in what proportions.

Table 68: Potential sites of international importance for *Larus cachinnans* in Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BAHRAIN		ASKAR RUBBISH DUMP	7320	2
IRAN	BANDAR ABAS	KHOR HEJDAN	1507	4
	BANDAR ABAS	KHOR TIAB AND KHOR KOLAHY	1500	2
	BUSHEHR	PERSIAN GULF, BUSHEHR BAY		
	SEISTAN & BALUCHISTAN	+ SURRDS.	2508	3
OMAN		POZAM MAYTAB COAST	1279	2
		MASIRAH ISLAND	3054	3
SAUDI ARABIA	GULF	RAS AL HADD	763	4
		SALT PAN WEST OF AL JUBAYL	1100	1

Lesser Black-backed Gull*Larus fuscus*

Only the nominate subspecies occurs. This breeds in the Western Palearctic east to about 35°E and winters mainly off the coasts of Western Europe and Africa. It is an uncommon migrant in the Caspian Sea, and appears to be only a scarce winter visitor to the Arabo-Persian Gulf and possibly also the Arabian Sea. Most of the records submitted during the AWC were from the Arabo-Persian Gulf and Arabian Sea [AWC 2,300] and S Asia [AWC 6,000], where other observers have failed to find this species in any numbers. It seems likely, therefore, that most of the AWC records relate to dark-backed forms of *L. cachinnans* (especially *heuglini* and *taiyrensis*, which are sometimes considered to be subspecies of *L. fuscus*), and for this reason, no separate map is given.

Slaty-backed Gull*Larus schistisagus*

Monotypic. Breeds in NE Asia and winters south along the E Asian coast to Japan, Korea and China. Only one population is recognized.

- E Asia: C [AWC 1]

Trends: Unknown.

Only a few AWC records were obtained during the AWC, all in China.

Great Black-backed Gull*Larus marinus*

Monotypic. The species breeds widely on the coasts of northern Europe east to the Kola Peninsula, Russia, and is largely sedentary, although populations breeding north of the Arctic Circle are migratory, wintering south in Western Europe to the North Sea and occasionally the Bay of Biscay. Vagrants have been recorded in the Caspian Sea. The few records obtained from Iran during the AWC require confirmation.

Glaucous-winged Gull*Larus glaucescens*

Monotypic. A marine species; mainly extralimital, in Asia breeding only on the Commander Islands, Russia. It occurs as an uncommon winter visitor to Japan. No records were obtained as part of the AWC.

Glaucous Gull*Larus hyperboreus*

Only the subspecies *pallidissimus* occurs. This breeds in NE Asia and winters south along the E Asian coast to Japan, Korea and occasionally NE China.

- E Asia: Unknown, but apparently fairly common [AWC 4]

Trends: Unknown.

Only a few records were obtained from China and Korea as part of the AWC. No sites of international importance can be identified.

Great Black-headed Gull*Larus ichthyaetus*

Monotypic. The species breeds across Central Asia from the Black Sea to the Tibetan Plateau, and winters at large lakes and along coasts from NE Africa through southern Asia to China (Figure 184). Two wintering groups are recognized.

- SW Asia/NE Africa: B or C (20,000+) [AWC 3,600]

Trends: Unknown.

- S/E Asia: C [AWC 13,500]

Trends: Unknown.

Potential sites of international importance

Sites of international importance can be identified only in SW Asia (Table 69). Six sites in Oman and Iran had a FYM of over 200 (1% level), emphasising the importance of the Arabo-Persian Gulf for this species in winter.

Other important sites

In E Asia, large numbers were recorded at the East Dongting Lakes (FYM 1,800, 4yr), Ping Hu Bay (1,000, 1yr), and Wu Chizan Mountain (1,000, 1yr) in China. In S Asia, only small numbers were found in India and Pakistan, whereas Sri Lanka harboured large concentrations at Adam's Bridge East/Talaimannar (4,000, 1yr) and Amaipaddukkai (1,500, 1yr).

Table 69: Potential sites of international importance for *Larus ichthyaetus* in Southwest Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
IRAN	BUSHEHR	MOND PROTECTED REGION	250	4
	MAZANDARAN	GOMISHAN MARSH	264	2
OMAN		BARR AL HIKMAN	376	3
		DUQM	509	3
		MASIRAH ISLAND	690	3
		RAS AL HADD	318	4

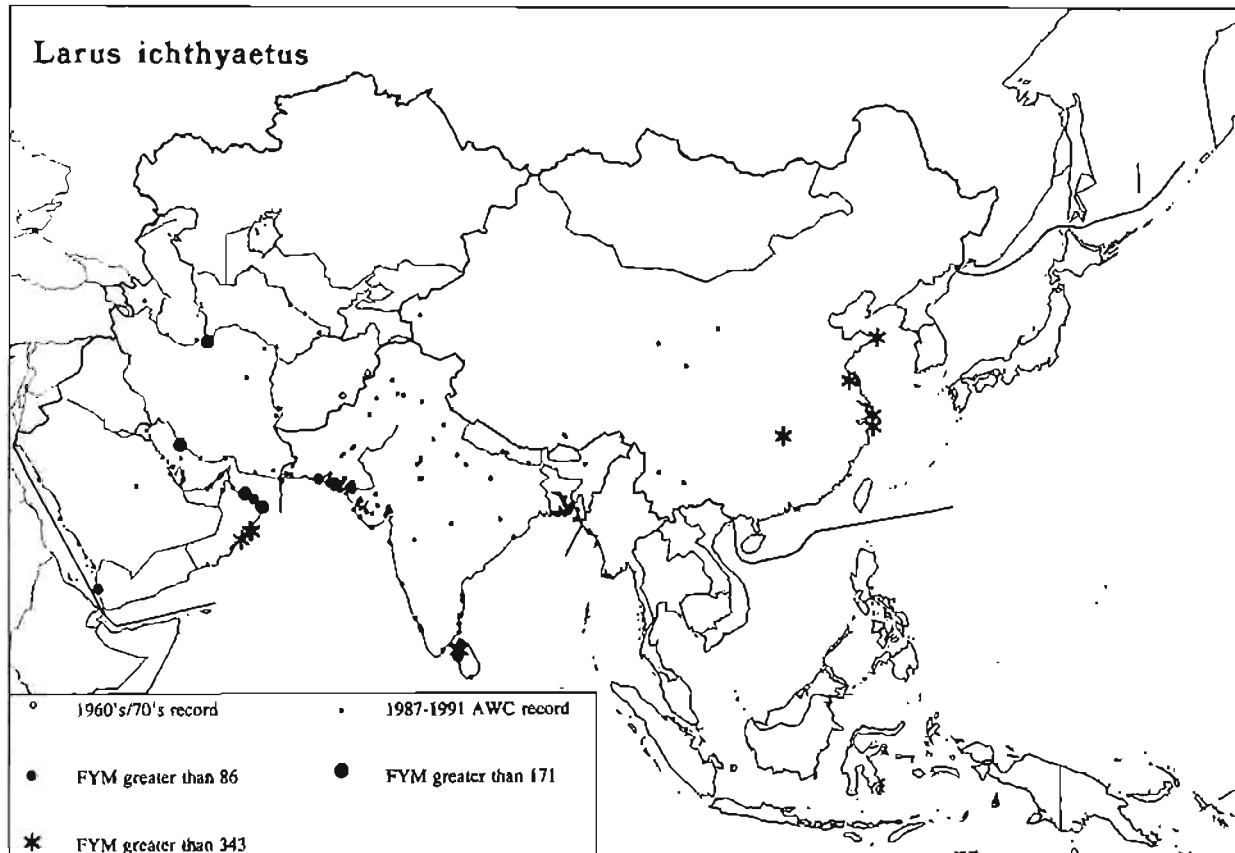


Figure 184: Distribution of *Larus ichthyaetus* as shown by the AWC 1987-1991

Brown-headed Gull

Larus brunnicephalus

Monotypic. The species breeds on the high plateaux of central Asia, and winters in southern Asia from Pakistan east to China and south to the Malay Peninsula (Figure 185). Vagrants have occurred west to the Arabo-Persian Gulf. Only one population is recognized.

- S/E/SE Asia (entire population): D (100,000+) [AWC 58,200]

Trends: Unknown.

Potential sites of international importance

Nine sites (Table 70) had a FYM of over 1,000 (1% level). The distribution of the AWC records suggests that the coasts of S India, N Sri Lanka and Bangladesh are the main wintering areas for the species.

Table 70: Potential sites of international importance for *Larus brunnicephalus* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH	CHITTAGONG	CHAR BHATA	1013	4
	HATIYA	HATIYA ISLAND: DHAL CHAR	1144	4
	HATIYA	NIJHUM DWEEP (CHAR OSMAN)	2000	4
	KHULNA	AKBAR DIA OR ANDDA CHAR	1063	1
	KHULNA	SUNDERBANS	4550	2

The White-checked Tern is a tropical, marine species. The bulk of the population apparently stays well offshore in winter, and is not recorded by the AWC. The only records obtained as part of the AWC were from the Arabian Peninsula, with the highest count coming from the E Red Sea coast between Jizan and Jeddah (610, 1yr) in Saudi Arabia.

Black-naped Tern

Sterna sumatrana

Two subspecies occur: the nominate of the east Indian Ocean islands eastwards to New Guinea and northern Australia, and *mathewsi* of the west Indian Ocean islands. A marine and mainly sedentary species, not adequately covered by the AWC. No population estimates are available. The only records obtained during the AWC were from the west coast of peninsular Malaysia and north coast of Java in Indonesia [AWC 260].

Black-bellied Tern

Sterna melanogaster (acuticauda)

Monotypic. Primarily a riverine species with a relatively restricted range in S Asia and northern SE Asia (Figure 196). A partial migrant, moving downstream outside the breeding season. Only one population is recognized.

- S/SE Asia (entire population): A [AWC 437]

Trends: Declining.

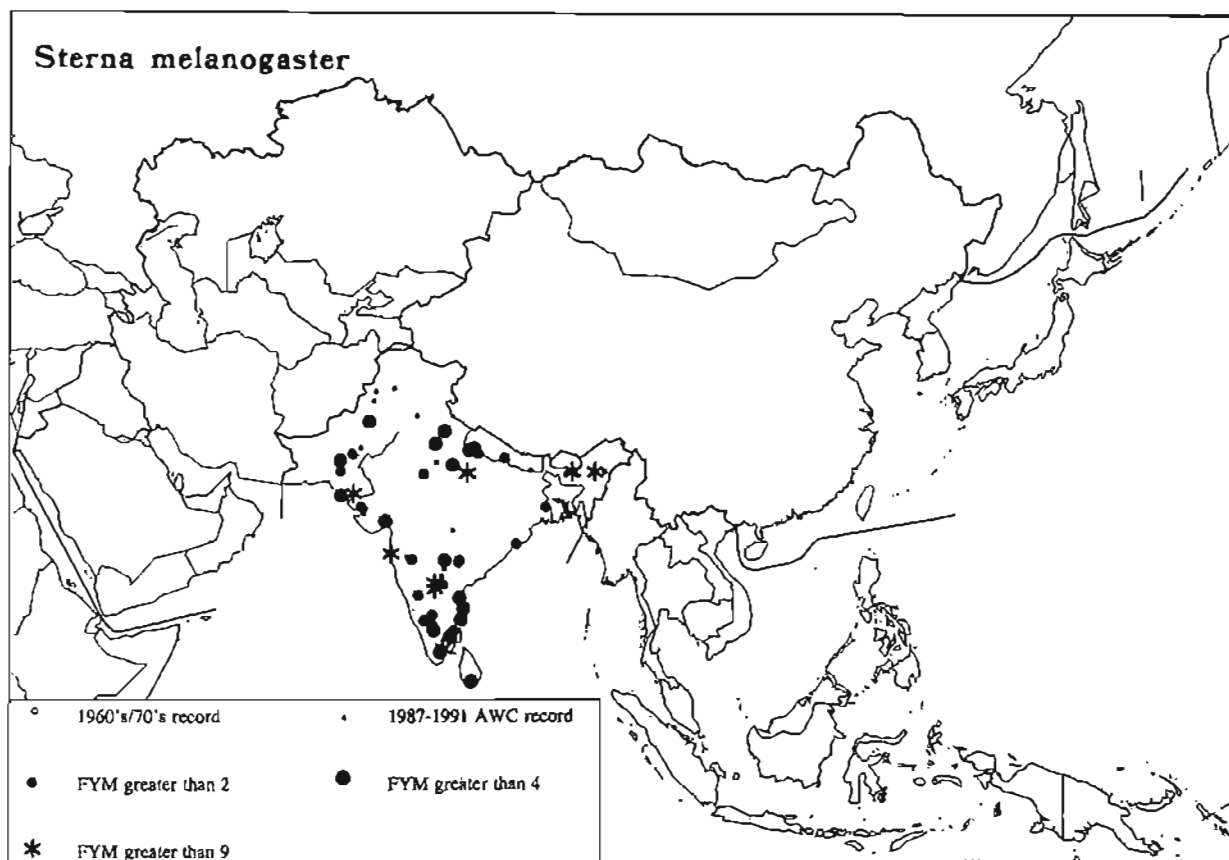


Figure 196: Distribution of *Sterna melanogaster* as shown by the AWC 1987-1991

Arctic Tern*Sterna paradisaea*

Monotypic. A marine species outside the breeding season. Populations breeding in northern Russia apparently migrate through the eastern Pacific to the southern oceans, and there are very few records elsewhere in Asia. No records were obtained as part of the AWC.

Roseate Tern*Sterna dougallii*

Polytypic, with three subspecies occurring in Asian waters: *bangsi*, *korustes* and *gracilis*. This is a marine species not adequately monitored by the AWC. A few records were obtained from Sri Lanka [AWC 9] as part of the AWC.

White-cheeked Tern*Sterna repressa*

Monotypic. A marine species, breeding mainly in the Arabo-Persian Gulf and Red Sea, but with an isolated breeding population on the west coast of India. Occurs on passage and in winter south to E Africa and east to Pakistan and W India (Figure 195). Only one population is recognized.

- NE Africa/SW Asia/S Asia (entire population): D (600,000; M. Evans, pers. comm.) [AWC 674]

Trends: Declining in some areas.

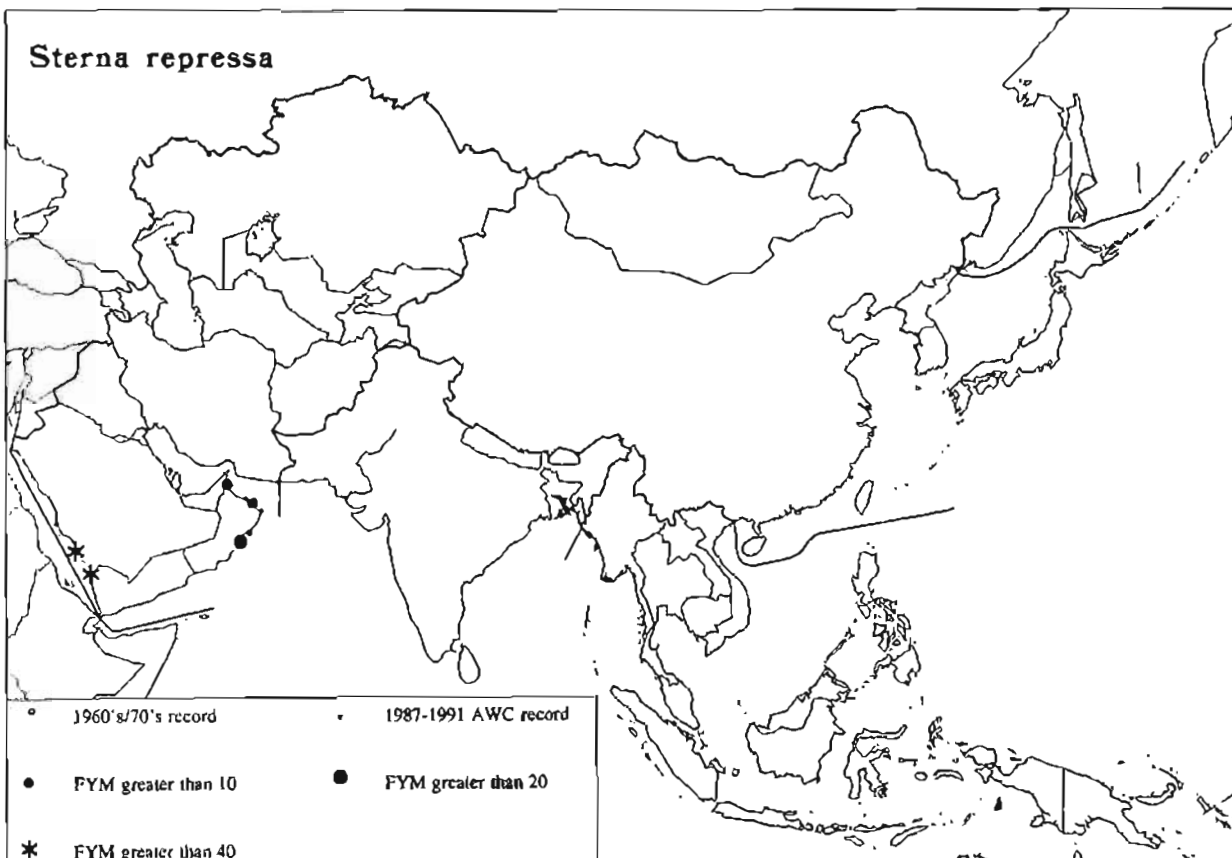


Figure 195: Distribution of *Sterna repressa* as shown by the AWC 1987-1991

- Western S Asia/SW Asia/NE Africa (*hirundo*): C or D [AWC 15,400]
Trends: Unknown.
- Eastern S Asia/SE Asia (*tibetana*): B or C
Trends: Unknown.
- E Asia/Australasia (*longipennis*): Probably C or D
Trends: Unknown.

The total number of *tibetana* and *longipennis* censused by the AWC is 4,800 birds. Inland records should be treated with caution as this is almost exclusively a coastal species in winter. There are indications that a majority of the inland records in S Asia refer to the Whiskered Tern, the most common tern in many inland parts of India.

Important sites

In the absence of population estimates, no sites of international importance can be identified. The main concentrations were on the coast between S India and Sri Lanka and on the west coast of peninsular Malaysia. Six sites in Sri Lanka and one each in India, Indonesia and Malaysia held an average of at least 500 birds. The most important site was Vellaimanal Sandspit (5,000, 1yr) in Sri Lanka.

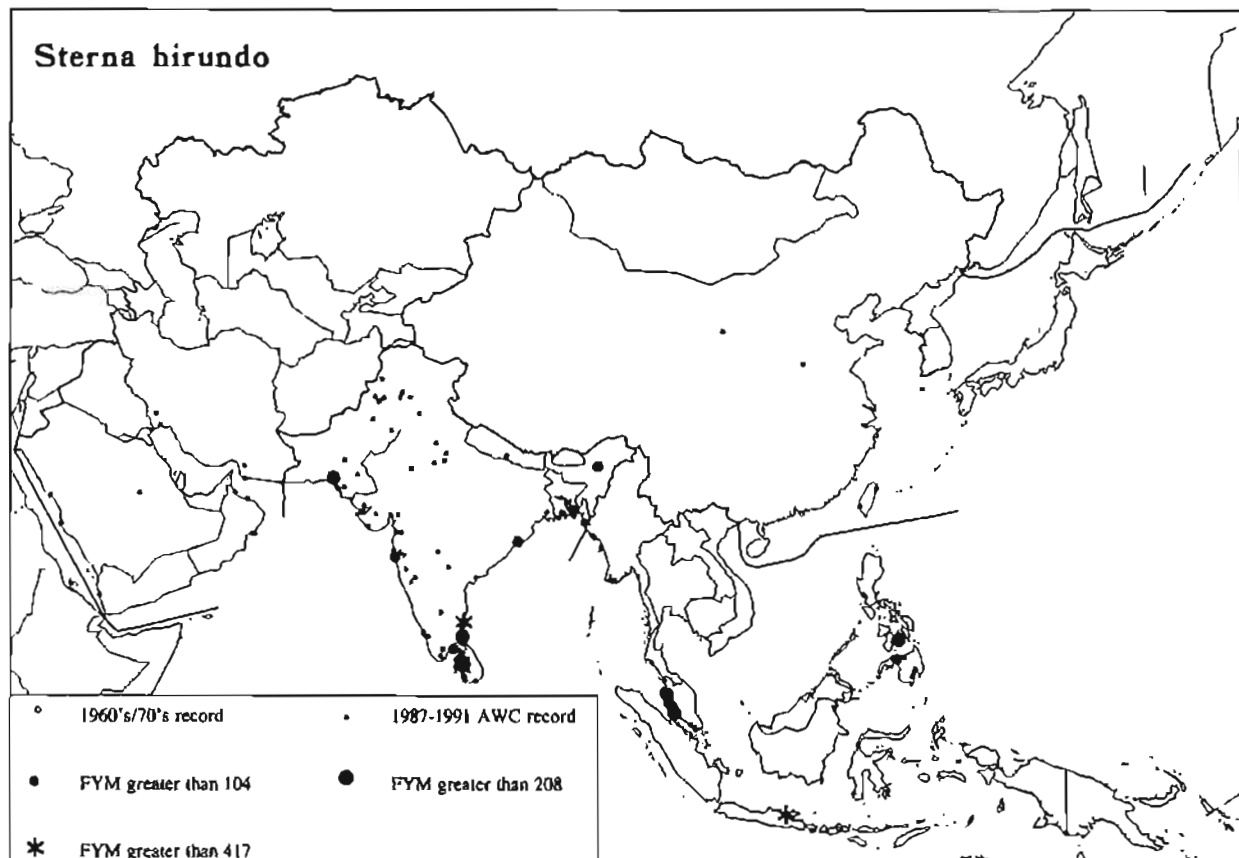


Figure 194: Distribution of *Sterna hirundo* as shown by the AWC 1987-1991

Indian River Tern

Sterna aurantia

Monotypic. A riverine species of S Asia (except Sri Lanka) and mainland SE Asia south to Thailand (where now possibly extinct) and Cambodia, also occurring in extreme SW China (Figure 193). A partial migrant, moving down rivers outside the breeding season. Only one population is recognized.

- S/SE Asia (entire population): B or C [AWC 6,200]

Trends: Declining in some areas.

Important sites

In the absence of a population estimate, no sites of international importance can be identified. The stronghold of the species is India, where twelve sites had an average of 100 birds or more; the most important site was Chilka Lake (FYM 700, 4yr).

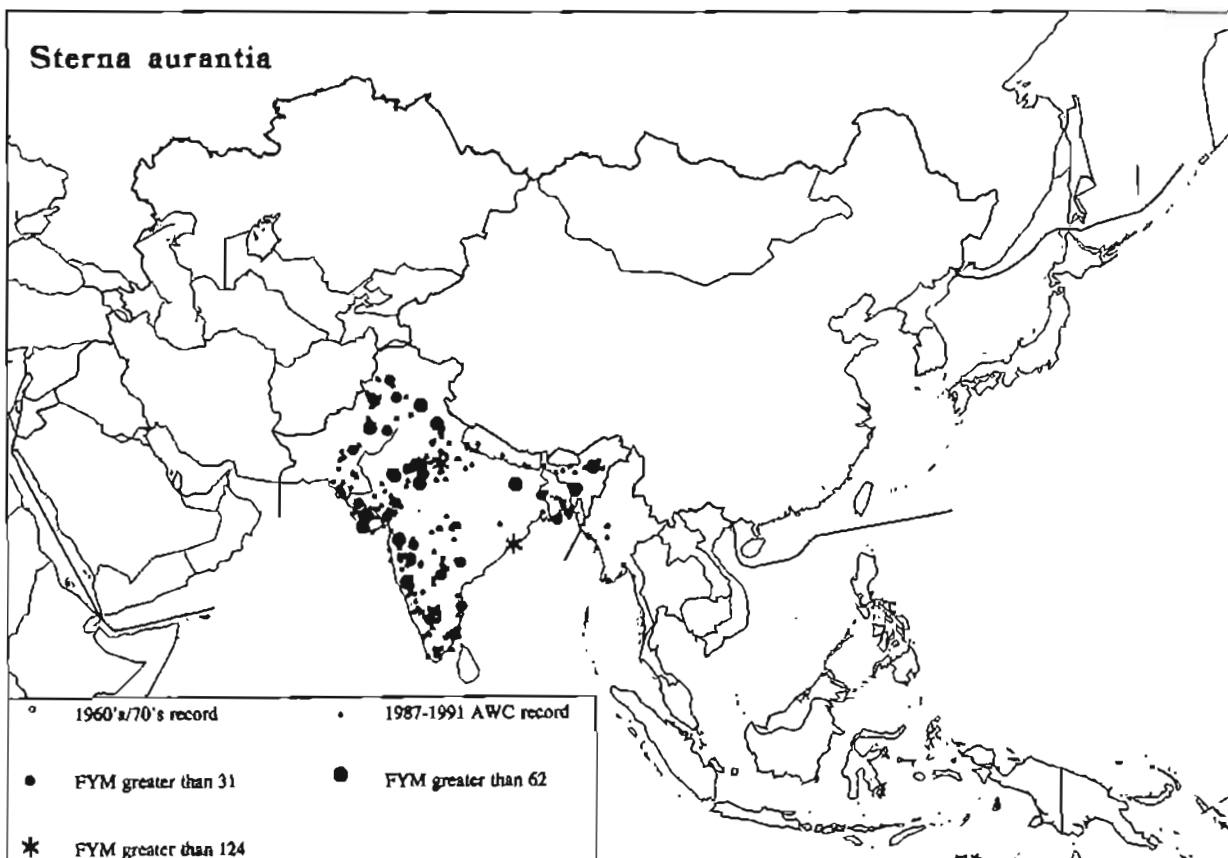


Figure 193: Distribution of *Sterna aurantia* as shown by the AWC 1987-1991

Common Tern

Sterna hirundo

Three subspecies occur: the nominate subspecies breeds mainly in Europe and NW Asia, and winters along the coasts of Africa and the Indian Ocean east to western India; *tibetana* (including the weakly defined *minussensis*) of Central Asia winters mainly from central India east to SE Asia; *longipennis* of NE Asia winters mainly in Indonesia, Papua New Guinea and Australia (Figure 194). Three wintering groups are recognized.

Caspian Tern

Sterna caspia

Only the nominate subspecies occurs. This breeds across SW and Central Asia east to NE China and south to Pakistan and NW India (Ranjitsinh 1991), and winters widely across southern Asia (Figure 192). No discrete populations are identifiable; however, for the present purposes, three wintering groups are recognized.

- SW Asia: B (10,000+) [AWC 2,050; 3,050 with 1970s data]
Trends: Possibly declining.
- S Asia: B or C [AWC 6,200]
Trends: Possibly stable or increasing.
- E/SE Asia: Possibly B; rather scarce and poorly known [AWC 252]
Trends: Probably increasing.

Potential sites of international importance

A population estimate is available only for SW Asia where four sites reach a FYM of 100 (1% level): Khor Tiab (280, 2yr) in Iran, Alawaymiyak/Safwa mangroves in Tarout Bay (180, 1yr) in Saudi Arabia, and Barr Al Hikman (FYM 590, 3yr) and Dawhat Sawqirah (FYM 130, 3yr) in Oman.

Other important sites

In S Asia, there are impressive concentrations of Caspian Terns in two main areas: on the coast of Pakistan and W India, and between India and Sri Lanka. Fourteen sites have a FYM of more than 100 birds: twelve sites in Sri Lanka, two in Pakistan and one in India. The most important site was Dutch Bay in Sri Lanka (850, 1yr).

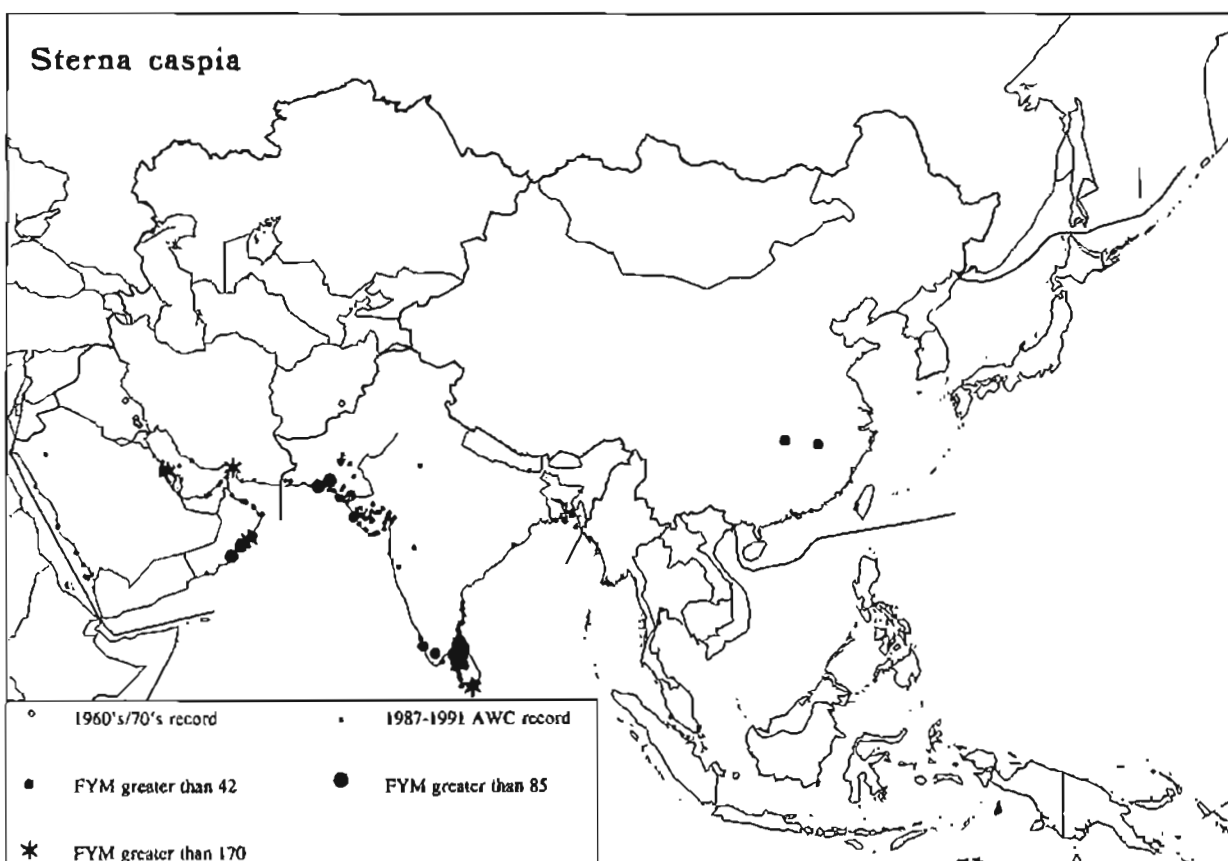


Figure 192: Distribution of *Sterna caspia* as shown by the AWC 1987-1991

Potential sites of international importance

A population estimate is available only for SW Asia where three sites in Saudi Arabia had a FYM of 100 (1% level) or more: the southern Red Sea shore from Jeddah to Jizan (220, 1yr), Jizan Beach (FYM 160, 2yr) and South Tarout Bay (120, 1yr).

Other important sites

In S and SE Asia, the coast of SE India, the E coast of Sri Lanka and the W coast of peninsular Malaysia support sizeable concentrations of Gull-billed Terns. Chilka Lake in India was the most important site with a FYM of 2,300 (4yr). Large numbers have also been recorded on the east coast of Sumatra in Indonesia (M. Silvius, pers. comm.), but these sites were not adequately covered during the AWC.

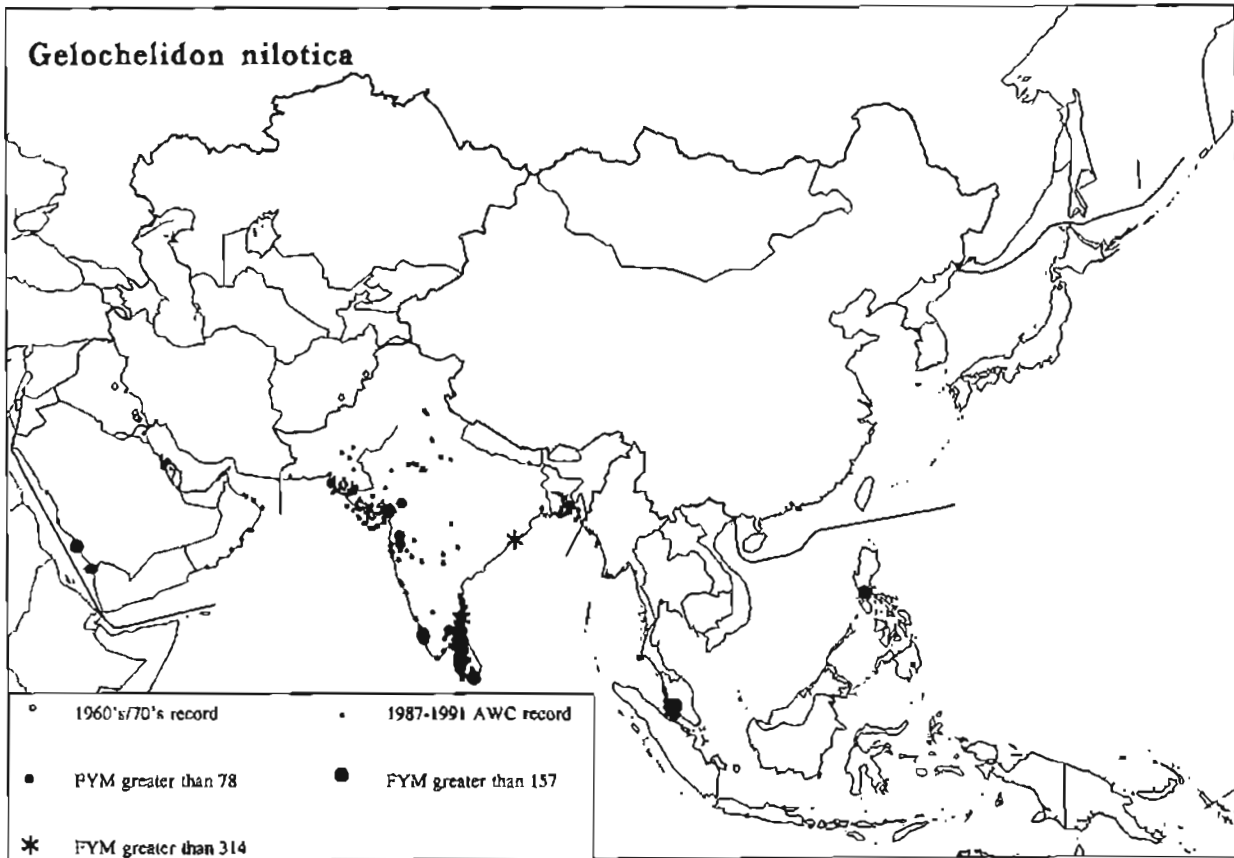


Figure 191: Distribution of *Gelochelidon nilotica* as shown by the AWC 1987-1991

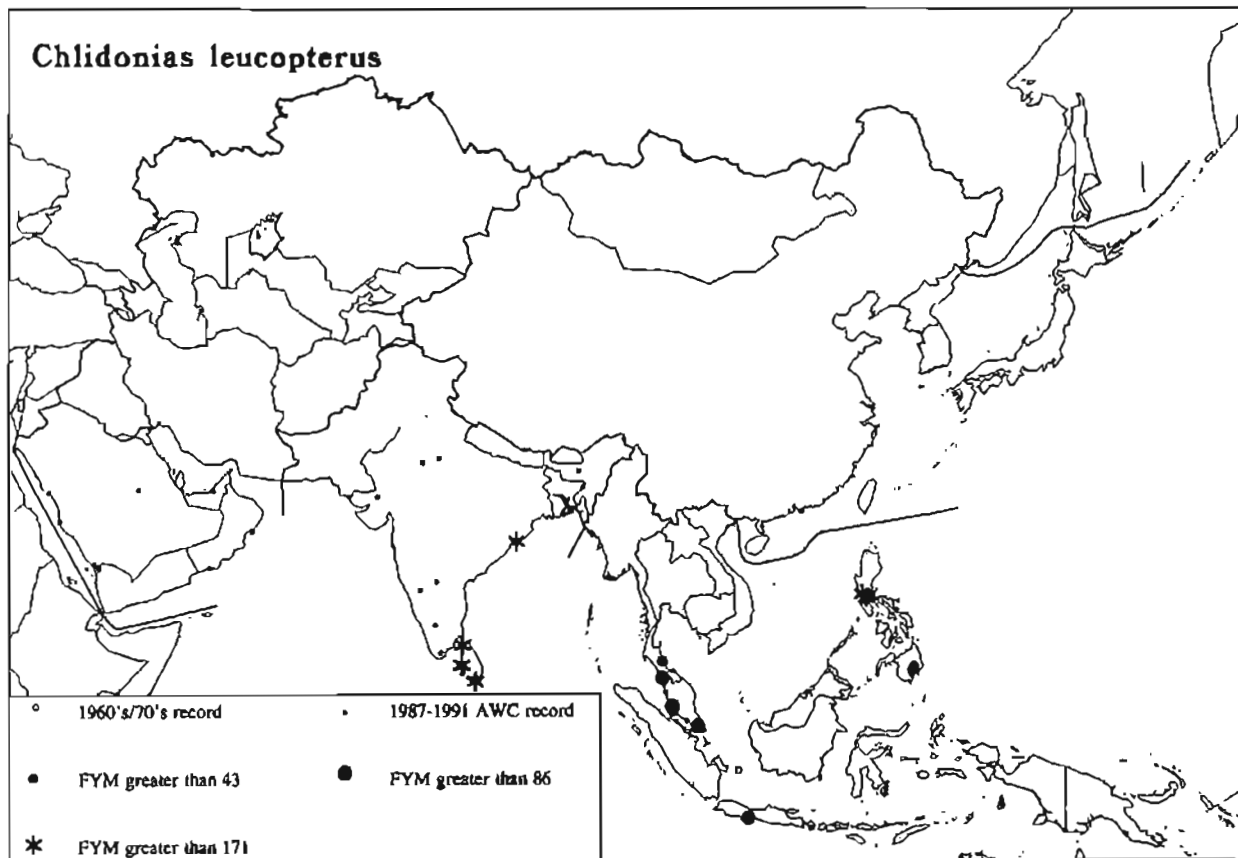


Figure 190: Distribution of *Chlidonias leucopterus* as shown by the AWC 1987-1991

Black Tern

Chlidonias niger

Monotypic. Birds breeding in west-central Asia (east to 85°E) migrate southwest to winter in Africa. The species is regular in small numbers on passage in N and W Iran, but occurs only as a rare vagrant further east in S Asia. No records were obtained as part of the AWC.

Gull-billed Tern

Gelochelidon nilotica

Three subspecies occur: the nominate subspecies breeds across W Asia and northern S Asia east to Mongolia, and winters from Africa east to India and Sri Lanka; *affinis* (*addenda*) breeds in eastern Asia, and winters south to E India and SE Asia (Figure 191). Three wintering populations are recognized.

- SW Asia: B (10,000+) [AWC 1,200; 3,400 with 1970s data]
Trends: Possibly declining.
- S Asia (E to Sri Lanka): Probably C [AWC 9,500]
Trends: Apparently stable.
- E/SE Asia (west to E India; *affinis*): B or C [AWC 4,800].
Trends: Unknown.

An estimated 1,000-3,000 Gull-billed Terns wintered in Iran during the 1970s (Scott 1992). The lack of records in recent years is more likely to be due to the species being overlooked than to any decline in population.

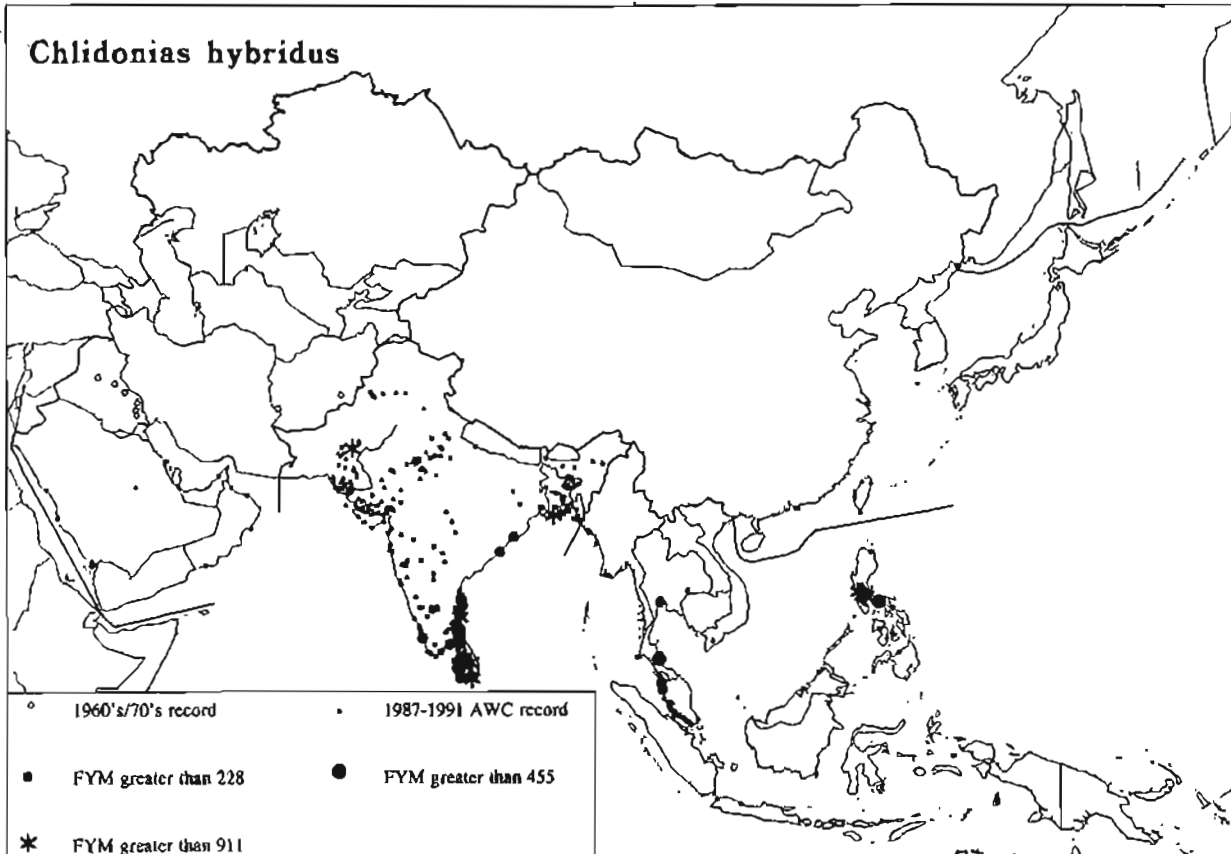


Figure 189: Distribution of *Chlidonias hybridus* as shown by the AWC 1987-1991

White-winged Black Tern

Chlidonias leucopterus

Monotypic. The breeding population of E Asia winters from SE Asia to northern Australia, as well as in S India and Sri Lanka where the apparently large wintering numbers had been overlooked until recently (Perennou & Santharam 1990a). The widely separated breeding population of NW Asia and E Europe migrates southwest to winter almost exclusively in Africa south of the Sahara, with only a few birds remaining throughout the winter in the Arabian Peninsula in SW Asia (Figure 190). Two populations are recognized.

- SW Asia/Africa: D (225,000) [AWC 55]
Trends: Declining.
- S/E/SE Asia: C or D [AWC 8,400]
Trends: Unknown.

It is possible that many White-winged Black Terns are overlooked in S and SE Asia because of the difficulty of differentiating this species from the Whiskered Tern when in non-breeding plumage.

Important sites

In the absence of population estimates, no sites of international importance can be identified. Three sites had a FYM of over 1,000; one each in India, the Philippines and Sri Lanka. The most important site was Mundel Lake (FYM 2,500, 2yr) in Sri Lanka. Large numbers (over 2,300) have been counted along the east coast of Sumatra in Indonesia (M. Silvius, pers. comm.), but these sites were not covered during the AWC.

Red-legged Kittiwake*Rissa brevirostris*

Monotypic. A marine species, confined to the Bering Sea and adjacent waters of the North Pacific. The bulk of the population breeds on islands in the Aleutian Chain in Alaska, U.S.A., but there are also colonies in the Commander Islands, Russia. The species has been recorded as a vagrant in Japan. No records were obtained as part of the AWC.

Sabine's Gull*Xema sabini*

Monotypic. Primarily a marine species, in Asia breeding only on the northern tundra of Russia and migrating southeast, far offshore, to spend the boreal winter at sea in the southeast Pacific. It has been recorded as a vagrant in Japan. No records were obtained as part of the AWC.

Ross's Gull*Rhodostethia rosea*

Monotypic. Primarily a marine species, breeding on the north coast of Russia and wintering at sea in the Arctic Ocean. It has been recorded as a vagrant in Japan. No records were obtained as part of the AWC.

Ivory Gull*Pagophila eburnea*

Monotypic. A marine species, in Asia breeding only on islands off the north coast of Russia and wintering at sea in the Arctic Ocean. It has been recorded as a vagrant in Japan. No records were obtained as part of the AWC.

Whiskered Tern*Chlidonias hybridus*

Three subspecies have been reported from Asia: *hybridus*, *indica* and *swinhoe*, but these are weakly defined and overlap extensively outside the breeding season. The species occurs widely in southern Asia during the boreal winter (Figure 189). In addition, *C. h. javanicus (fluviatilis)* of Australia moves north to New Guinea and the Greater Sundas in Indonesia during the austral winter (Figure 189). Four wintering groups are recognized.

- SW Asia (east to NW India): Probably C [AWC 2,800]
Trends: Unknown.
- S Asia (except Pakistan/NW India): C or D [AWC 28,300]
Trends: Unknown.
- E/SE Asia (to W Indonesia): B or C [AWC 14,400]
Trends: Unknown.
- E Indonesia/Australasia: Probably D [AWC: 0]
Trends: Unknown.

Important sites

In the absence of population estimates, no sites of international importance can be identified. Five sites in the Philippines, three in Sri Lanka and one each in India and Pakistan had a FYM of more than 1,000. The two most important sites were Thenpakkam Backwaters in S India (3,500, 1yr) and the Cavite area of Manila Bay in the Philippines (3,000, 1yr).

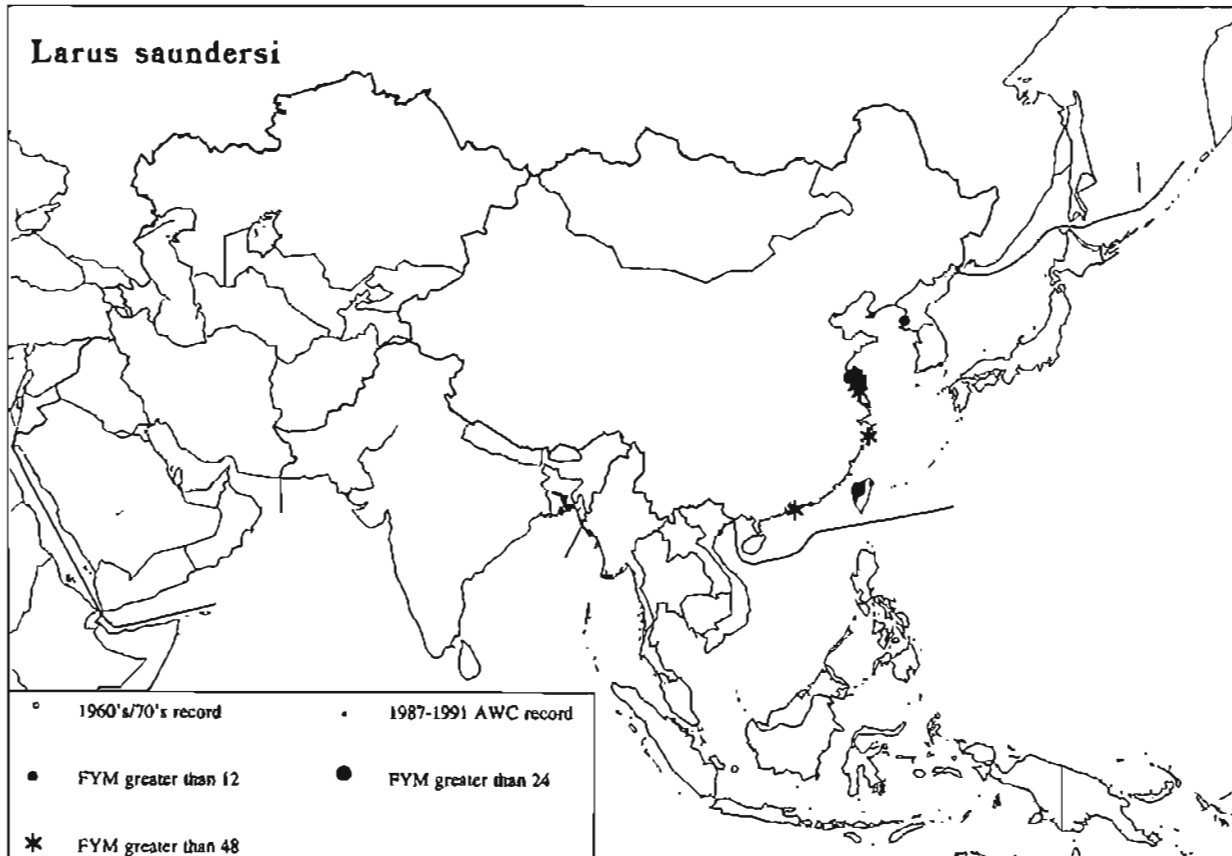


Figure 188: Distribution of *Larus saundersi* as shown by the AWC 1987-1991

Table 71: Potential sites of international importance for *Larus saundersi* in East and Southeast Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
CHINA	JIANGSU	GUANDONG SALT WORKS	241	2
	JIANGSU	HAI FENG FARM	50	1
	JIANGSU	SHEYANG GANG ESTUARY	740	1
	JIANGSU	SHEYANG SALT WORKS	685	2
	JIANGSU	XINTAN SALTWORKS	31	2
	JIANGSU	YANCHENG SHORE (300KM)	209	2
	ZHEJIANG	SANMEN WAN	53	1
HONG KONG		DEEP BAY AREA	59	5
VIETNAM		XAN THUY, RED RIVER DELTA	200	1

Black-legged Kittiwake

Rissa tridactyla

Monotypic. A marine species, in Asia breeding on the coasts of Russia south to Sakhalin and the Kurile Islands, and wintering at sea in the North Pacific south to southern Japan and Korea. The species usually stays well offshore in winter, and is therefore not covered by the AWC.

Relict Gull*Larus relictus*

Monotypic; globally threatened. The species has a restricted breeding range in Mongolia, N China, S Russia and Kazakhstan. The wintering distribution is not well known, although it appears to be on the coast of E Asia south to Vietnam (Kitson 1980). Only one population is recognized.

- E Asia (entire population): B (12,000; Duff *et al.* 1991) [AWC 20]
Trends: Unknown.

The Nakdong Estuary in South Korea (FYM 20, 4yr) was the only site where the bird was recorded during the AWC. The maximum count was 65 individuals in 1991.

Potential sites of international importance

As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance. Thus, the Nakdong Estuary in South Korea is likely to qualify as a site of international importance on this criterion.

Little Gull*Larus minutus*

Monotypic. The species breeds in three main areas across temperate Eurasia. The European and W Asian populations winter in the Western Palearctic (east to the Caspian Sea). The main wintering area of the population breeding in East Siberia from the Lena Basin and Lake Baykal eastward remains unknown, although it may be in the Sea of Okhotsk and Sea of Japan. Two populations are relevant.

- SW Asia: Unknown [AWC 100]
Trends: Unknown.
- E Asia: Possibly A; apparently scarce. [AWC 50]
Trends: Unknown.

The few AWC records for the species are from China and Iran.

Saunders's Gull*Larus saundersi*

Monotypic; globally threatened. Breeds mainly in China and winters in southern Korea and Japan, Taiwan and south along the Chinese coast to Vietnam. Only one population is recognized (Figure 188).

- E/SE Asia (entire population): A (3,000) [AWC 2,400]
Trends: Probably declining.

Potential sites of international importance

Nine sites reach a FYM of 30 (1% level) or more: seven in coastal China, one in Hong Kong (max. of 143 in February 1990; Chalmers *et al.* 1991), and one in Vietnam (Table 71). Brazil and Moores (1993) review the recent status of the species in Japan, where fair numbers are recorded in winter. An estimate of about 500 gulls at a few adjacent sites on Kyushu, indicate that the area is of international importance for the species, although these sites are not adequately covered during the AWC. As for all globally threatened species, all sites regularly used by an appreciable number of individuals are of international importance.

There was a single record of a Slender-billed Gull in Japan during the AWC (in 1990). The species appears to have become more frequent in E and SE Asia in recent years, with records from China and Hong Kong (Kennerly & Hoogendoorn 1991), Japan (Brazil 1991) and Thailand (Legakul and Round 1991). These birds may indicate the presence of a second, smaller wintering population possibly emanating from an isolated breeding population to the east of the known breeding range. The record from S India needs to be confirmed; if accepted, this would also represent a substantial increase in the known range of the species.

Potential sites of international importance

Two sites had a FYM of over 1,500 (1% level): Barr Al Hikman (FYM 25,300, 3yr) in Oman, and the southern Red Sea Shore from Jeddah to Jizan (2,900, 1yr) in Saudi Arabia.

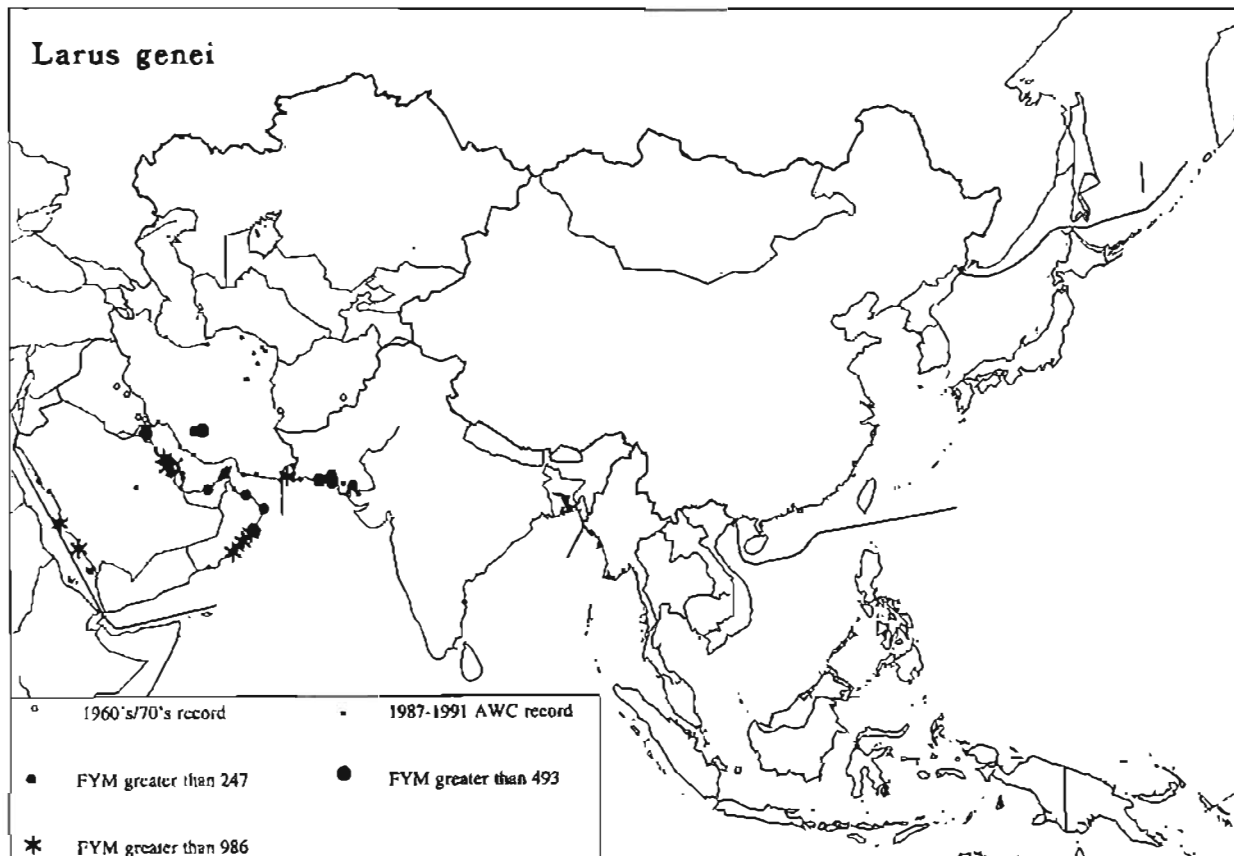


Figure 187: Distribution of *Larus genei* as shown by the AWC 1987-1991

Mediterranean Gull

Larus melanocephalus

A vagrant to the Caspian Sea from the Mediterranean/Black Sea region. No records were obtained as part of the AWC.

Potential sites of international importance

In SW Asia, five sites had a FYM of 2,500 (1% level) or more: Āskar Rubbish Dump, (FYM 16,300, 2yr) in Bahrain; the Batinah Coast at Sohar-Seeb (FYM 2,730, 3yr) and Seeb-Qurm (FYM 23,900, 3yr) in Oman; and Khor Dubai (FYM 7,100, 3yr) and Khor Khan (49,000, 1yr) in the U.A.E.

Although no population estimates are available for S, SE and E Asia, Qing Dao (100,000, 1yr) in China would definitely be of international importance if this count is substantiated.

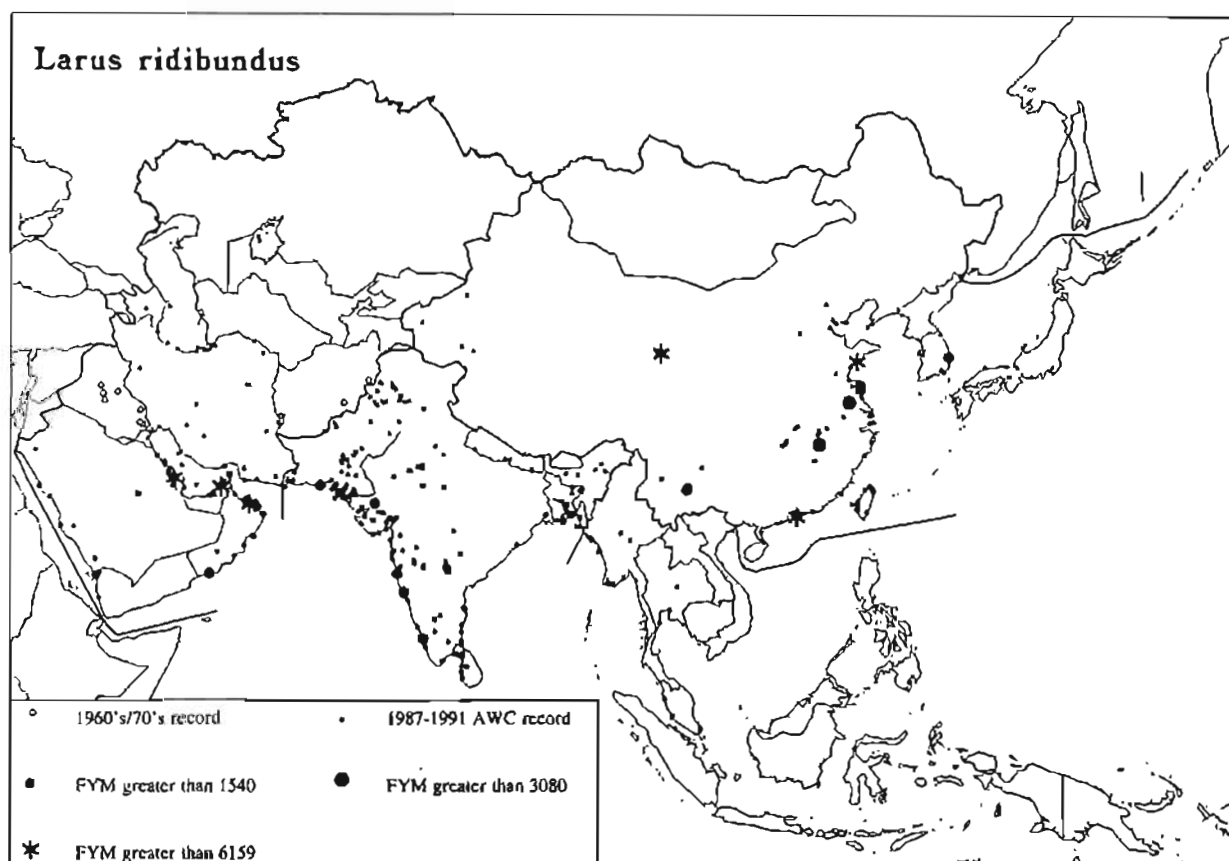


Figure 186: Distribution of *Larus ridibundus* as shown by the AWC 1987-1991

Slender-billed Gull***Larus genei***

Monotypic, with a highly fragmented breeding distribution in S Europe, SW Asia and S Asia (Pakistan). The west Asian population winters east to Pakistan and NW India (Figure 187). Only one population is recognized.

- SW/S Asia: D (150,000) [AWC 49,300; 91,200 with 1970s data]

Trends: Possibly increasing in NW India (Mundkur *et al.* 1987).

The high census figure for SW Asia in the 1970s includes 35,000-55,000 Slender-billed Gulls in Iran, most of which were recorded during aerial surveys of the entire south coast. No aerial surveys have been possible in Iran in recent years, and most of these birds have gone unrecorded.

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	KARNATAKA	AGHANASHINI RIVER	2106	2
	KERALA	BHARATAPUZA ESTUARY	2800	3
	KERALA	PUDUVYPPU MANGROVES	1000	2
	TAMIL NADU	RAMESWARAM AND MANALI ISLANDS	7500	1

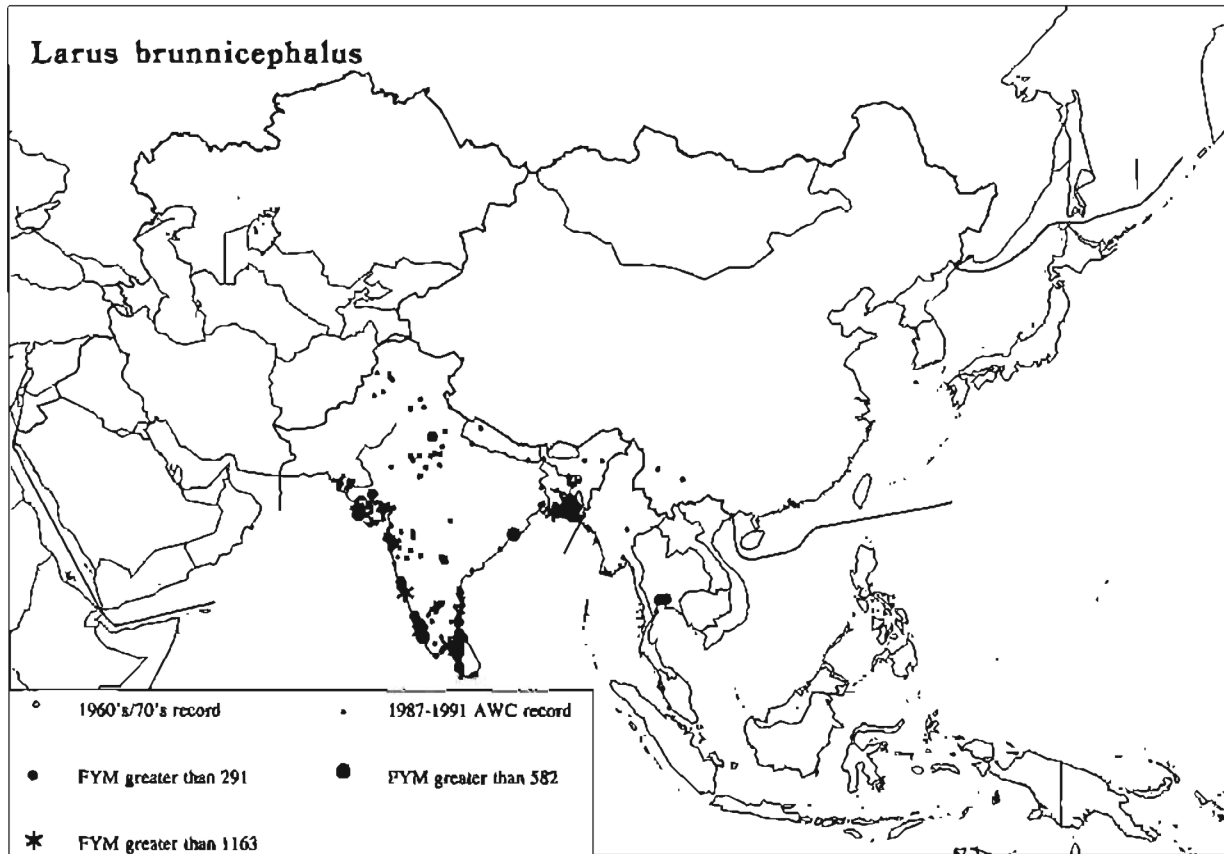


Figure 185: Distribution of *Larus brunnicephalus* as shown by the AWC 1987-1991

Black-headed Gull

Larus ridibundus

Monotypic. The species has a wide breeding distribution across temperate Asia and a wide wintering distribution across southern Asia (Figure 186). Populations in SW Asia and NE Africa probably originate mainly from the Western Palearctic part of the breeding range. No discrete populations are identifiable; however, for the present purposes, three main wintering groups are recognized.

- SW Asia/NE Africa: D (250,000) [AWC 121,000; 176,000 with 1970s data]
Trends: Unknown.
- S Asia: C or D [AWC 28,600]
Trends: Unknown.
- E/SE Asia: D [AWC 159,000]
Trends: Unknown.

This freshwater species has always been less numerous than the Indian River Tern which frequents the same habitats (Ali & Ripley 1983), and there are indications that numbers are declining in some parts of its range. As a consequence, it has been recommended that the Black-bellied Tern be added to the list of globally threatened species (Anonymous 1992b).

Important sites

In the absence of a population estimate, no sites of international importance can be identified. Ten sites held an average of over 10 birds: eight in India and one each in Pakistan and Nepal. The two most important sites were Kaziranga N.P. in India (52, 1yr) and the Karnali River between Rajapur and Chisapani in Nepal (40, 1yr).

Grey-backed Tern

Sterna lunata

Monotypic. Mainly extralimital; a rather sedentary, marine species breeding on islands in the Central Pacific. There are a few records from the N Mollucas in Indonesia (White & Bruce 1986). No records were obtained as part of the AWC.

Bridled Tern

Sterna anaethetus

Polytypic, with three or four subspecies occurring in Asian waters: *anaethetus*, *fuligula*, *antarctica* and possibly also *rogersi*. A tropical, marine species, pelagic outside the breeding season and thus not monitored by the AWC. A single record was obtained from Sri Lanka as part of the AWC.

Sooty Tern

Sterna fuscata

Polytypic, with at least two subspecies occurring in Asian waters: *serrata* and *nubilosa*. A tropical, marine species, pelagic outside the breeding season and thus not monitored by the AWC. No records were obtained as part of the AWC.

Aleutian Tern

Sterna aleutica

Monotypic. A marine species, with a restricted breeding range in NE Russia and Alaska. The main wintering areas are unknown, but it is assumed that the species disperses into the N Pacific. It has been recorded as a vagrant in Japan and the Philippines, and has recently been observed off the coast of Hong Kong (Kennerly *et al.* 1993). No records were obtained as part of the AWC.

Little Tern

Sterna albifrons

Four subspecies occur: the nominate subspecies of Europe and W Asia winters from west Eurasia east to W India, with a small breeding population in W India; *pusilla* occurs mainly in the Indian subcontinent; *sinensis* breeds in Japan, China and SE Asia with northern breeders moving south in winter; *placens* breeds in Australia and apparently spends the austral winter in New Guinea (Figure 197). For the present purposes, four main wintering groups are recognized.

- SW Asia (*albifrons*): Probably B [AWC 1]
Trends: Unknown.
- S Asia (*pusilla* and *albifrons*): B or C [AWC 8,400]
Trends: Unknown.
- E/SE Asia (*sinensis*): B or C [AWC 5,600]
Trends: Declining in Japan (Brazil 1991).
- Australasia (*placens*): Unknown [AWC: few records]
Trends: Unknown, but declining in parts of Australia (Hill *et al.* 1988).

Separation of this species from Saunders's Tern outside the breeding season can be very difficult, and it is possible that some misidentification has occurred.

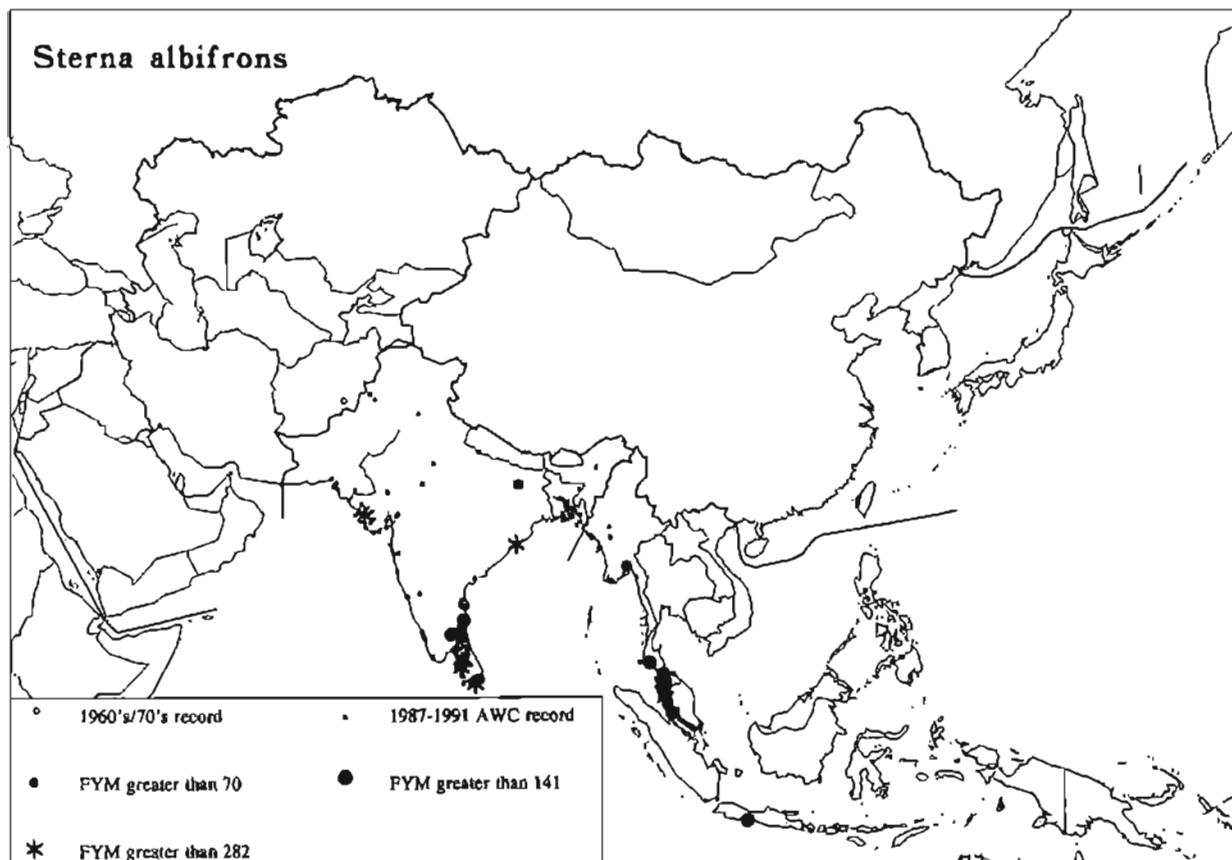


Figure 197: Distribution of *Sterna albifrons* as shown by the AWC 1987-1991

Important sites

In the absence of population estimates, no sites of international importance can be identified. Twelve sites had an average of at least 250 birds: four each in Malaysia and Sri Lanka, two in India, and one each in Myanmar and Thailand. The most important sites were Chilka Lake in E India

(FYM 1,020, 4yr) and two sites in Sri Lanka, Mundel Lake (FYM 1,700, 2yr) and Bundala Sanctuary (FYM 1,000, 3yr).

Saunders's Tern

Sterna saundersi

Monotypic. A marine species, breeding on the coasts of NE Africa, the Red Sea and Arabo-Persian Gulf east to Pakistan, NW India and Sri Lanka, and occurring south to Tanzania and SE Asia outside the breeding season (Figure 198). Only one population is recognized.

- SW/S/SE Asia/NE Africa (entire population): C (40,000; M. Evans, pers. comm.) [AWC 583]

Trends: Unknown.

Almost all records of Saunders's Tern obtained during the AWC were from the coasts of the Arabian peninsula, and there was only one record from Sri Lanka. It seems likely that the species is overlooked in other parts of its range, due to confusion with the Little Tern.

Important sites

No sites counted during the AWC reached the 1% level of 400. The two most important sites were the southern beach of Farazan Island in Saudi Arabia (FYM 360, 2yr) and Barr Al Hikman in Oman (FYM 120, 3yr).

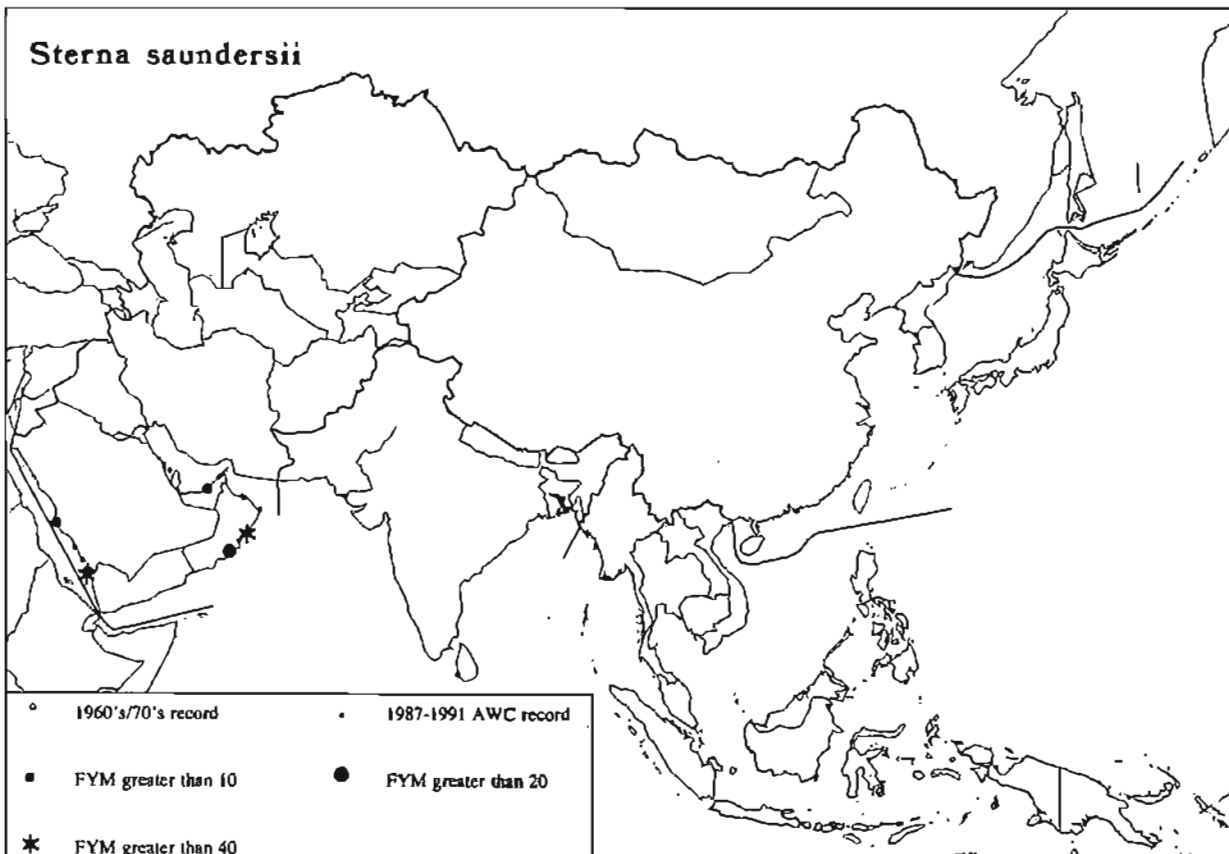


Figure 198: Distribution of *Sterna saundersi* as shown by the AWC 1987-1991

Crested Tern

Sterna bergii

Two subspecies occur: *S.b. velox* breeds from the Red Sea and Arabo-Persian Gulf east to Myanmar and has been recorded further south on the W Malay Peninsula; *S.b. cristata* breeds from E Thailand (Medway & Wells 1976), Indonesia and S China south to New Guinea and Australia (Figure 199). All populations appear to be sedentary or dispersive rather than migratory. Three wintering populations are recognized.

- SW Asia: C (40,000) [AWC 4,600; 12,600 with 1970s data]
Trends: Possibly declining.
- S Asia: Unknown [AWC 6,700]
Trends: Unknown.
- SE Asia: Unknown [AWC 830]
Trends: Unknown.

This marine species is not adequately covered by the AWC.

Potential sites of international importance

Three sites in SW Asia reached the 1% level of 400: Barr Al Hikman (FYM 2,200, 3yr) and Masirah Island (FYM 790, 3yr) in Oman, and the Red Sea coast from Jeddah to Jizan (460, 1yr) in Saudi Arabia. Several islands in the Arabo-Persian Gulf are very important during the breeding period (Symens 1991), although the bulk of the population migrates elsewhere and is not recorded during the census.

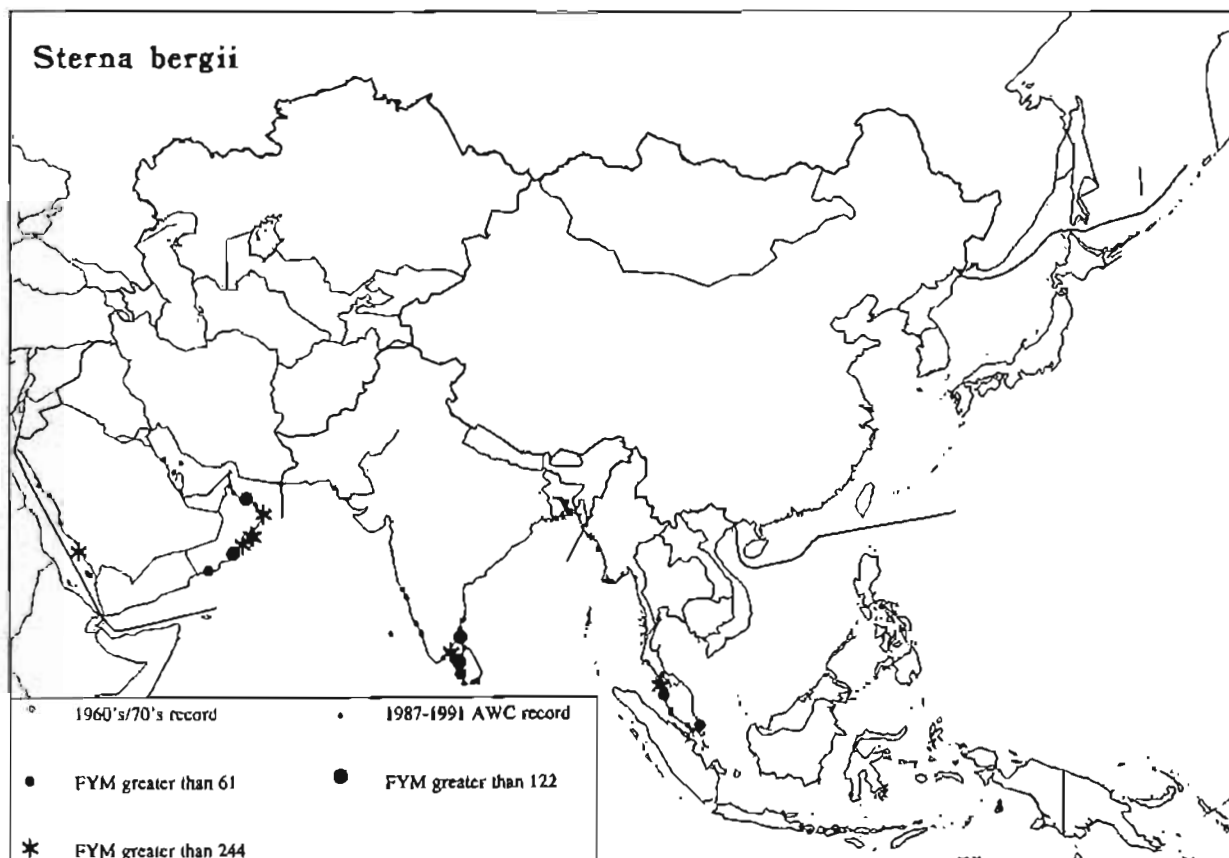


Figure 199: Distribution of *Sterna bergii* as shown by the AWC 1987-1991

Other important sites

Seven sites in S and SE Asia had a FYM of at least 100 birds: four sites in Sri Lanka, two in peninsular Malaysia and one in India. The most important site was the Rameshwaram and Manali Islands (5,300, 1yr) in India.

Lesser Crested Tern*Sterna bengalensis*

Three subspecies occur, but authors differ in the nomenclature and treatment of different populations. *S. b. par* (or *bengalensis*) breeds in the Red Sea and the Gulf of Aden and migrates mostly along the coasts of E and S Africa, although some birds remain in the Red Sea throughout the winter. The nominate subspecies (or *torresii*) breeds in the Arabo-Persian Gulf and occasionally in Pakistan (Roberts 1991) and migrates eastwards to India, Pakistan, Sri Lanka and occasionally the Malay Peninsula. *S. b. torresii* breeds in New Guinea and Australia and is at least partly migratory, being widespread in Indonesia outside the breeding season (Figure 200). Three populations are recognized.

- Red Sea/E Africa (*par*): Unknown [AWC 290]
Trends: Unknown.
- Arabo-Persian Gulf and Oman to S Asia (*bengalensis*): C or D [AWC 5,500]
Trends: Unknown.
- SE Asia/Australasia (*torresii*): Unknown [AWC 1,060]
Trends: Unknown.

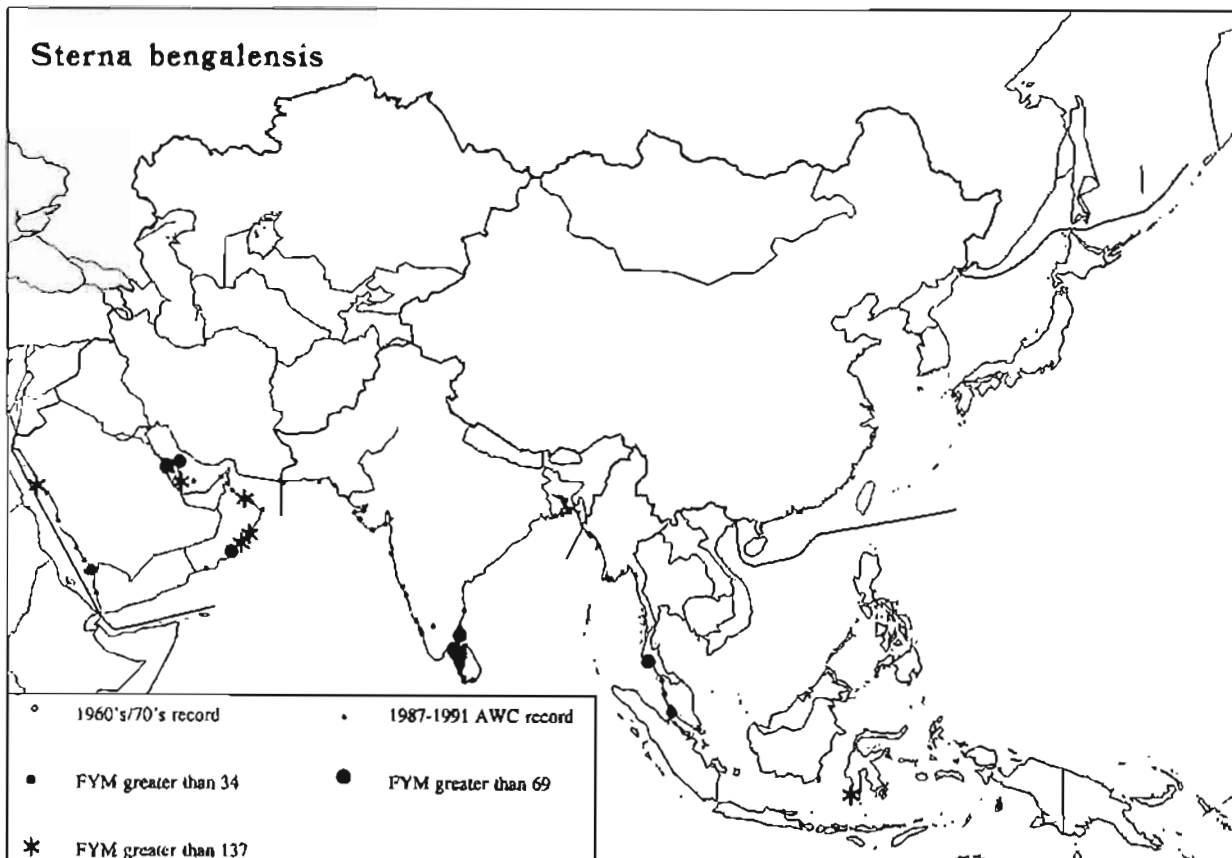


Figure 200: Distribution of *Sterna bengalensis* as shown by the AWC 1987-1991

Important sites

In the absence of population estimates, no sites of international importance can be identified. The main site in SW and S Asia was the Delft Islands in Vedduk Kulam, Sri Lanka (1,450, 1yr). In SE Asia, three sites had a FYM of over 100: two in Thailand and one in Indonesia.

Chinese Crested Tern*Sterna bernsteini*

Monotypic; globally threatened. The species is believed to breed on islands off the Shandong Peninsula in China, and disperses south in winter. It is now very rare, and may be on the verge of extinction, if not already extinct. Recent reports of sightings in China, Thailand and Brunei Darussalam are unconfirmed; the most recent of these sightings was a report of three individuals in the Yellow River Delta in Shandong, China, in September 1991 (Tianhou *et al.* 1991).

- E/SE Asia (entire population): A [AWC 5 - unconfirmed]

Trends: Declining; possibly extinct.

A single, unconfirmed record was obtained as part of the AWC in coastal China. As for all globally threatened species, any sites regularly used by an appreciable number of individuals are of international importance.

Sandwich Tern*Sterna sandvicensis*

Only the nominate subspecies occurs. Most populations breed in Europe and winter in the Western Palearctic and Africa, but the population breeding in the Caspian Sea migrates south to winter in the Arabo-Persian Gulf, in eastern Arabia and along the Indian Ocean coast to Pakistan, India and Sri Lanka (Figure 201). One population is recognized.

- SW Asia/S Asia: C (50,000+) [AWC 30,000; 38,000 in SW Asia with 1970s data]

Trends: Unknown.

Potential sites of international importance

With a FYM of 500 (1% level) or more, six sites are identified as being potentially of international importance in SW and S Asia (Table 72). The coast of Oman is obviously the main wintering area in Asia for Sandwich Terns. The single count of 1,800 terns from Rameshwaram and Manali Islands in S India needs confirmation, although other data (e.g. Lal Mohan 1986) suggest that the area may hold a sizable population in winter.

Table 72: Potential sites of international importance for *Sterna sandvicensis* in Asia

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
INDIA	TAMIL NADU	RAMESWARAM AND MANALI ISLANDS	1800	1
OMAN		BARR AL HIKMAN	22185	3
		DUQM	1166	3
		MASIRAH ISLAND	573	3
		RAS AL HADD	573	4
PAKISTAN	BALUCHISTAN	HINGOL HOR	1400	1

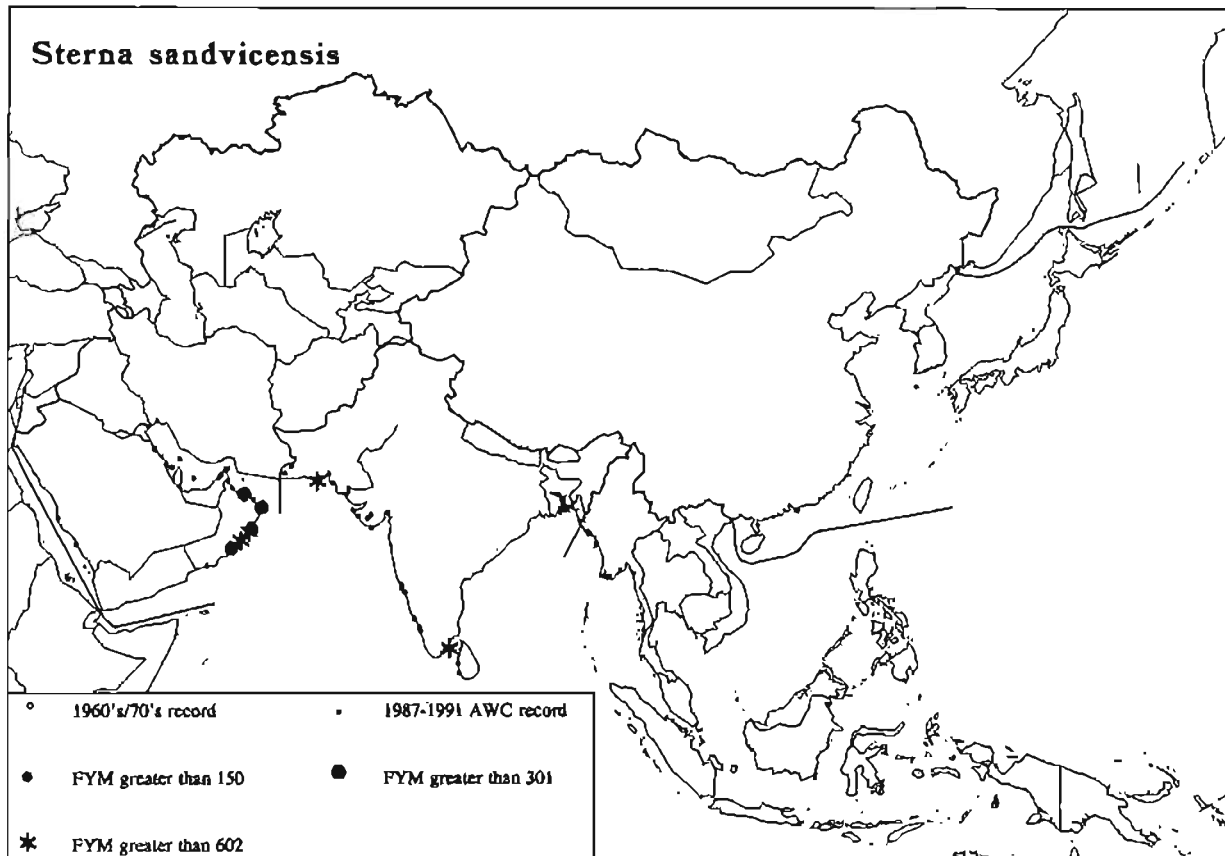


Figure 201: Distribution of *Sterna sandvicensis* as shown by the AWC 1987-1991

White Tern

Gygis alba

Polytypic, with at least two subspecies occurring in Asian waters: *monte* and *candida*. A pan-tropical, marine species that disperses to pelagic waters outside the breeding season. No records were obtained as part of the AWC.

Brown Noddy

Anous stolidus

A pan-tropical, marine species. Only the subspecies *pileatus* occurs in Asian waters. Most populations are either sedentary or dispersive. No records were obtained as part of the AWC.

Black Noddy

Anous minutus

A marine species, with two subspecies occurring in Asian waters: *minutus* and *worcesteri*. Mainly sedentary. No records were obtained as part of the AWC.

Lesser Noddy***Anous tenuirostris***

A marine species; apparently mainly sedentary. Only the nominate subspecies occurs in Asian waters. No records were obtained as part of the AWC.

Indian Skimmer***Rynchops albicollis***

A monotypic species of S and SE Asia which has occurred on the south coast of China (de Schauensee 1984). The species is a partial migrant, with part of the population moving down large rivers to the coastal zone and inland water bodies outside the breeding season (Figure 202). Only one population is recognized.

- S/SE Asia (entire population): Probably B (10,000) [AWC 2,890]

Trends: Declining.

Changes in the patterns of utilization of large rivers in southern Asia have resulted in the loss of much suitable breeding habitat (sandbanks) for the Indian Skimmer, e.g. in Pakistan (Roberts 1991), and this has led to a marked decline in numbers over much of the bird's range in recent decades. As a result, the species may now qualify as globally threatened (Red Data Book species), and has already been recommended as such (Anonymous 1992b). The species is probably under-recorded on the vast sandbanks of some large rivers, e.g. the lower Ganges, and may be commoner in some areas than the AWC figures suggest. However, the almost complete lack of records in S India, where coverage has been good, suggests that the species is now virtually extinct in this region, although it was widespread there in the 19th century (Jerdon 1864).

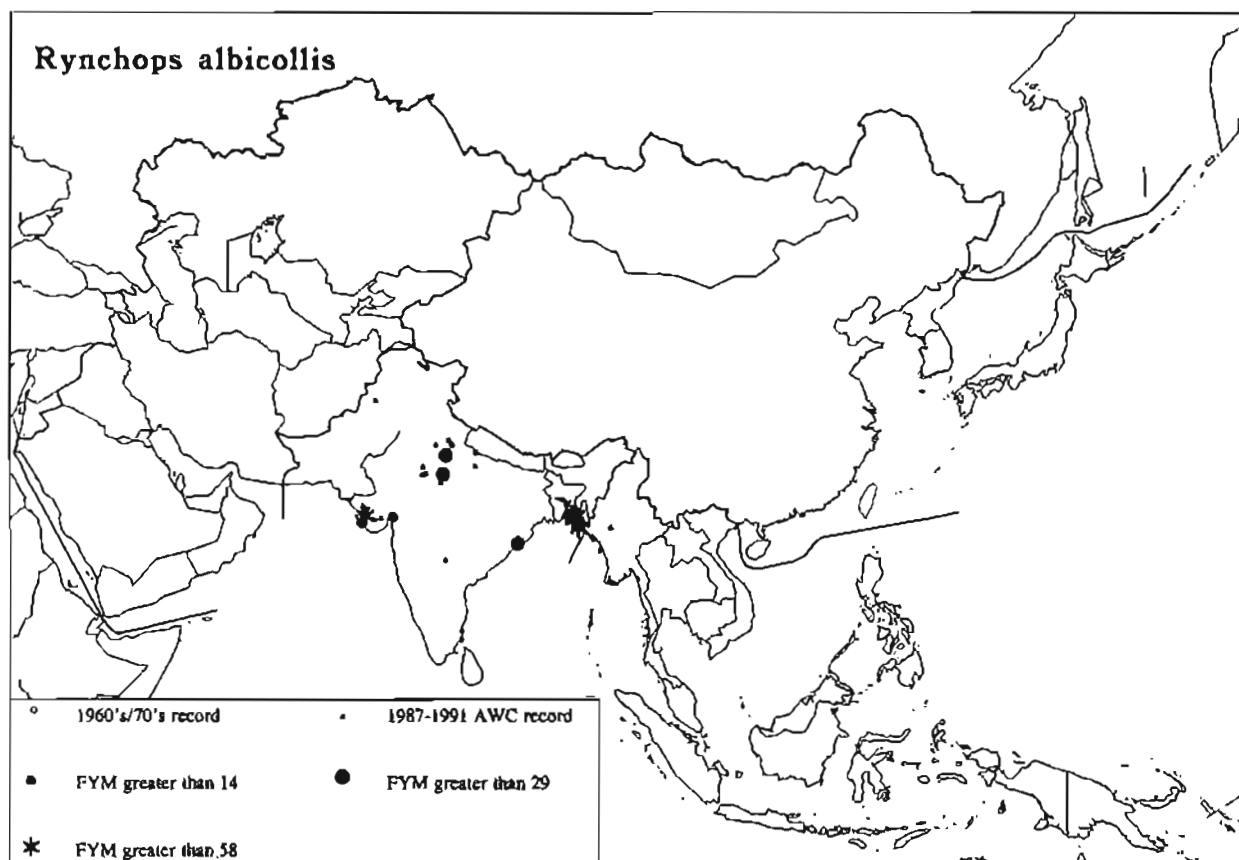


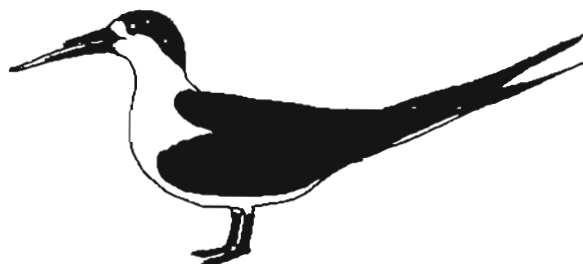
Figure 202: Distribution of *Rynchops albicollis* as shown by the AWC 1987-1991

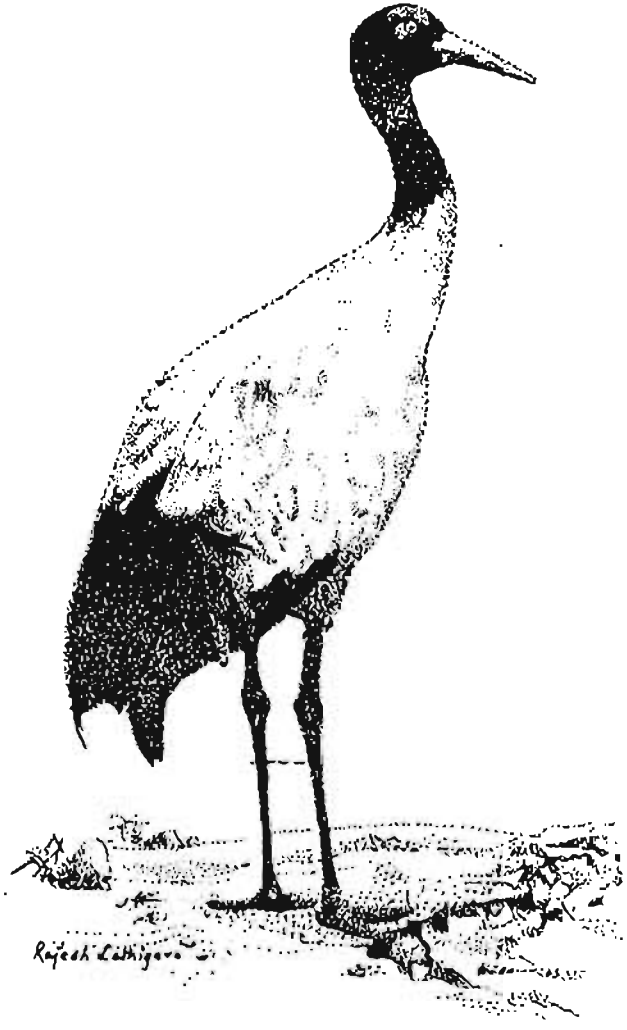
Potential sites of international importance

Nine sites had a FYM of 100 (1% level) or more, and are therefore potentially of international importance (Table 73); almost all are in Bangladesh, plainly now the stronghold for this declining species.

Table 73: Potential sites of international importance for *Rynchops albicollis* in Asia.

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
BANGLADESH		KALADIA & BARADIA	124	1
	CHITTAGONG	MAHESH KHALI ISLAND	135	2
	CHITTAGONG	SONADIA ISLAND	350	2
	CHITTAGONG	URJR CHAR	350	2
	HATIYA	HATIYA ISLAND	172	5
	HATIYA	HATIYA ISLAND: DHAL CHAR	425	4
	HATIYA	MAULAVIR CHAR	300	4
	HATIYA	NDHUM DWEEP (CHAR OSMAN)	666	4
	INDIA	GUJARAT	KHIJADIYA BIRD SANCTUARY	118





VI. DISCUSSION

THREATENED SPECIES

Fifty-three species of waterfowl occurring in Asia are listed as globally threatened by Collar and Andrew (1988) (Table 74). Eight more species appear as strong candidates to join them based on the AWC data:

- The Oriental Darter (*Anhinga melanogaster*), endemic to Asia, appears to have a small population in S Asia, estimated at 4,000 [AWC 2,300], and an unknown, but probably also small population in SE Asia.
- The Swan Goose (*Anser cygnoides*), endemic to E Asia, has declined markedly in recent years (Lu Jianjian, pers. comm.) and now probably numbers only about 50,000 [AWC 48,000].
- The Bar-headed Goose (*Anser indicus*) has an estimated population of only about 50,000, and in winter is confined to a relatively small numbers of sites, many of which are under threat.
- The Mandarin Duck (*Aix galericulata*), endemic to E Asia apart from a feral population in the UK, has declined markedly and now numbers only about 50,000 (Green 1992b) [AWC 10,890]
- The Philippine Duck (*Anas luzonica*), endemic to the Philippines, may number only a few thousands (Green 1992b) [AWC 375].
- The Ferruginous Duck (*Aythya nyroca*) has declined markedly throughout much of its range in Asia, where the population may now number as few as 15,000 [AWC 820 in SW Asia, 5,160 in S/SE/E Asia]. The population elsewhere in the Western Palearctic and in Africa is also declining, and is now estimated at only 49,000 (Green 1992b).
- The Black-bellied Tern (*Sterna melanogaster*), endemic to S Asia, is probably the most seriously threatened of these additions. No population estimate is available, but it is possible that the total population may number only a few thousand birds [AWC 437].
- The Indian Skimmer (*Rhynchops albicollis*), confined to S and SE Asia, has undergone a dramatic decline over much of its range in recent decades, and has disappeared completely from some areas; the total population may now be as low as 10,000 [AWC 2,890].

In addition to these, some isolated Asian populations of non-globally threatened species can also be regarded as regionally threatened:

- African Darter (*Anhinga rufa*) in SW Asia, with a population which now probably numbers less than 50 birds in the Mesopotamian Marshes of southern Iraq.
- Goliath Heron (*Ardea goliath*) in SW Asia, with a small, isolated population of perhaps no more than 50 in Iraq and S Iran [AWC 11; 35 in the 1970s].
- Sacred Ibis (*Threskiornis aethiopicus*) in SW Asia, with a small, isolated population of about 200 in Iraq and SW Iran [AWC 16; 120 in the 1970s].

- Bewick's Swan (*Cygnus columbianus*) in SW Asia, with a small population of about 100 birds in the Caspian region and NW Iran [AWC 75].
- The East Asian subspecies of the Bean Goose *Anser fabalis middendorfi* and *A. f. serrirostris* have declined markedly in recent decades (Green 1992b);
- The Andaman Islands (India) race of the Grey Teal *Anas gibberifrons albogularis* numbers only 3,000-4,000, and appears to have declined substantially in recent decades (Green 1992b).

The above species and populations should be treated as priorities for detailed status reports and species recovery plans, such as those already published for the White-headed Duck (Anstey 1989), the Baikal Teal (Poole 1994), the White-winged Wood Duck (Green 1992a) and the Marbled Teal (Green 1993). However, such plans require follow-up action if the species is to benefit.

Table 74: Globally threatened and potentially threatened Asian waterfowl species (after Collar & Andrew 1988 and present study)

*: species identified as potentially globally threatened

Spot-billed Pelican	<i>Pelecanus philippensis</i>
Dalmatian Pelican	<i>Pelecanus crispus</i>
Pygmy Cormorant	<i>Phalacrocorax pygmaeus</i>
* Oriental Darter	<i>Anhinga melanogaster</i>
White-bellied Heron	<i>Ardea insignis</i>
Chinese Egret	<i>Egretta eulophotes</i>
White-eared Night-Heron	<i>Gorsachius magnificus</i>
Japanese Night-Heron	<i>Gorsachius goisagi</i>
Milky Stork	<i>Mycteria cinerea</i>
Storm's Stork	<i>Ciconia stormii</i>
Oriental Stork	<i>Ciconia boyciana</i>
Greater Adjutant	<i>Leptoptilos dubius</i>
Lesser Adjutant	<i>Leptoptilos javanicus</i>
White-shouldered Ibis	<i>Pseudibis davisoni</i>
Giant Ibis	<i>Thaumatibis gigantea</i>
Northern Bald Ibis	<i>Geronticus eremita</i>
Crested Ibis	<i>Nipponia nippon</i>
Black-faced Spoonbill	<i>Platalea minor</i>
* Swan Goose	<i>Anser cygnoides</i>
Lesser White-fronted Goose	<i>Anser erythropus</i>
* Bar-headed Goose	<i>Anser indicus</i>
Red-breasted Goose	<i>Branta ruficollis</i>
Crested Shelduck	<i>Tadorna cristata</i>
White-winged Wood Duck	<i>Cairina scutulata</i>
* Mandarin Duck	<i>Aix galericulata</i>
Baikal Teal	<i>Anas formosa</i>
* Philippine Duck	<i>Anas luzonica</i>
Marbled Teal	<i>Marmaronetta angustirostris</i>
Pink-headed Duck	<i>Rhodonessa caryophyllacea</i>
Baer's Pochard	<i>Aythya baeri</i>
* Ferruginous Duck	<i>Aythya nyroca</i>

Scaly-sided Merganser	<i>Mergus squamatus</i>
White-headed Duck	<i>Oxyura leucocephala</i>
Black-necked Crane	<i>Grus nigricollis</i>
Hooded Crane	<i>Grus monacha</i>
Red-crowned Crane	<i>Grus japonensis</i>
White-naped Crane	<i>Grus vipio</i>
Siberian Crane	<i>Grus leucogeranus</i>
Bald-faced Rail	<i>Eulabeornis rosenbergii</i>
Snoring Rail	<i>Rallus plateni</i>
Wallace's Rail	<i>Rallus wallacii</i>
Brown-banded Rail	<i>Rallus mirificus</i>
Okinawa Rail	<i>Rallus okinawae</i>
Asian Yellow Rail	<i>Coturnicops exquisitus</i>
Corn Crake	<i>Crex crex</i>
Masked Finfoot	<i>Heliopais personata</i>
Sociable Plover	<i>Vanellus gregarius</i>
Javanese Wattled Lapwing	<i>Vanellus macropterus</i>
Slender-billed Curlew	<i>Numenius tenuirostris</i>
Spotted Greenshank	<i>Tringa guttifer</i>
Sulawesi Woodcock	<i>Scolopax celebensis</i>
Obi Woodcock	<i>Scolopax rochussenii</i>
Wood Snipe	<i>Gallinago nemoricola</i>
Asian Dowitcher	<i>Limnodromus semipalmatus</i>
Spoon-billed Sandpiper	<i>Eurynorhynchus pygmaeus</i>
White-eyed Gull	<i>Larus leucophthalmus</i>
Relict Gull	<i>Larus relictus</i>
Saunders's Gull	<i>Larus saundersi</i>
* Black-bellied Tern	<i>Sterna melanogaster</i>
Chinese Crested Tern	<i>Sterna bernsteini</i>
* Indian Skimmer	<i>Rhynchops albicollis</i>

WETLANDS OF INTERNATIONAL IMPORTANCE

The *Directory of Asian Wetlands* (Scott 1989) was an important milestone in the identification of wetlands of international importance in southern and eastern Asia. The AWC has since gathered much additional information on the waterfowl of Asia in a form that has permitted analysis on a species by species basis. The results of the AWC for individual species and for all species combined have been used to obtain a list of all sites in Asia which potentially qualify as wetlands of international importance on the basis of the numbers of waterfowl present during the northern winter, using the Ramsar criteria relating specifically to numbers of waterfowl present (1% of a population, or over 20,000 waterfowl in total). This list, which is presented in Annex 2, can be regarded as supplementing the *Directory*.

Overview

Altogether, 496 sites met the numerical criteria, either by supporting 1% of a population, or 20,000 waterfowl; this represents 16% of the 3,109 Asian wetlands counted at least once in the period 1987-91. Of these, 113 sites (59 counted at least three times) held an average of over 20,000 waterfowl (Table 75): 40 in SW Asia, 41 in S Asia, four in SE Asia and 28 in E Asia. Fifteen held an average of over 100,000 waterfowl, with Kirov Bay in Azerbaijan (628,000; counted once) and Chilka Lake in India (309,000; counted four times) holding the most.

The countries with the largest number of surveyed wetlands meeting the Ramsar criteria (Table 76) were India (160), Iran (56), China (53) and Pakistan (47); other participating countries had between zero and 31.

It is not possible to assess precisely how many of these 496 sites were already listed in the *Directory*, since count units used for the Asian Waterfowl Census often differed from sites listed in the *Directory*; for example, the Karnataka Tanks in India (India Site 79 in the *Directory*) was split into hundreds of sites (i.e. individual reservoirs) for the AWC, and their international importance has only been assessed individually.

Table 75: Wetlands/sites holding on average over 20,000 waterfowl during the AWC 1987-1991

Country	Province/State/Reg.	Wetland/Site	FYM	Counts	
AZERBAIJAN	AGJABEDI	KIROV BAY	628360	1	
		AGGEL (AH GOL) LAKE	110556	1	
BAHRAIN		ASKAR RUBBISH DUMP	23602	2	
BANGLADESH	SYLHET	HAKALUKI HAOR	30083	5	
		TANGUA HAOR COMPLEX	26133	1	
CHINA	GIOZHOU	CAOHAI RESERVE	39018	2	
		HEBEI	BEIDAIHE, QUINHUANGDAO	20131	1
	HUNAN	EAST DONGTING LAKES	30249	4	
		JIANGSU	GAOYOU AND SHABO LAKES	40506	2
			GUANDONG SALT WORKS	34788	2
			HONGZE HU	48072	2
			SHEYANG SALT WORKS	100631	2
			YANCHENG SHORE (300 KM)	352926	2
		JIANGXI	POYANG LAKE	181127	4
		QINGHAI	QINGHAI HU	20866	3
		SHANDONG	QING DAO	160619	1
	HONG KONG		DEEP BAY AREA	21916	5
INDIA	ANDHRA PRADESH	KOLLERU LAKE	20692	2	
		PULICAT LAKE	73419	4	
		SINGUR UPSTREAM - MANJIRA RIVER	21761	1	
	ASSAM		KAZIRANGA N.P.	20127	1
	GOA	CARAMBOLIM TANK	37725	3	
		MANDOVI ESTUARY	34363	3	
	GUJARAT	AMIPUR TANK	21747	2	
		GREAT RANN OF KUTCH	77387	1	
		KANEWAL	22464	5	
			KHAMBAT MUD FLATS	61784	1
	KARNATAKA		BYRAMANGALA RESERVOIR	21473	1
	MAHARASHTRA		JAYAKWADI B.S.	32662	3
	ORISSA		CHILKA LAKE	309446	4
	TAMIL NADU		KALIVELI	24372	4
			POINT CALIMERE B.S.	39913	5
			PUTHUPALLI ALAM	50144	3
		RAMESWARAM AND MANALI ISLANDS	24918	1	
		VIRANAM ERI	33154	3	
		WIMCO SALT FACTORY	22957	1	
INDONESIA	SOUTH SULAWESI	TEMPE LAKE	25617	1	

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
IRAN	BUSHEHR	HELLEH REGION: RIVER + DELTA	22801	5
	ESFAHAN	GAVEKHONI MARSH	52028	4
	FARS	BAKHTEGAN & TASHK LAKES	139842	5
		KAFTAR LAKE	23095	2
		PARISHAN LAKE	37497	4
		GILAN	CASPIAN COAST LANGARUD-RAMSAR	20595
	KHOZESTAN	HOREH BAMDEJ MARSH	21083	4
		HOREH SOSANGERD	28203	1
		IZEH & SHIEKHON LAKES	44810	4
		SHADEGAN MARSHES	44748	4
		PROTECTED REGION		
	MAZANDARAN	CASPIAN COAST BANDAR TURKMAN		
		-GOMISHAN-CI	40973	3
		DAMGAH AZBARAN	22538	1
		PERDOON KENAR DAMGAH	137097	5
		GOMISHAN MARSH	154928	2
		MIANKALEH PROTECTED REGION	104133	5
TORKMANN SAHRA		60421	1	
W.AZERBAYJAN	SOUTH OF UROMIEH LAKE	49398	2	
JAPAN	ISHIKAWA	KAHOKUGATA	20035	3
	IBARAGI	KASUMIGAURA LAKE	25216	2
	NAGASAKI	ISAHAYA BAY	29867	3
	NIIGATA	HYOKO LAKE	50274	3
	SHIMANE	NAKAUMI LAKE (CHUKAI)	39007	2
	SHIZOUKA	HAMANA LAKE	22674	3
	TOKYO	KANZANJI MINAMI KASAI (INNER TOKYO BAY)	22674 35190	3 3
KAZAKHSTAN		CASPIAN COAST: O-VA-DURNEVA- TURKM. BORDER	66200	1
		KARAKOL LAKE	23100	1
OMAN		BARR AL HIKMAN	214478	3
		DAWHAT SAWOIRAH	21775	3
		DUQM	23173	3
		SEEB-QURM	28968	3
PAKISTAN	AZAD JAMMU & KASHMIR	MANGLA RESERVOIR	27060	4
	PUNJAB	CHASMA BARRAGE RESERVOIR	167934	5
		KHARAL (KHARRAR) LAKE	24778	5
		RASUL BARRAGE	29983	5
	SIND	DRIGH	28007	5
		HADERO LAKE	58972	5
		HALEJI LAKE	93784	5
		HAMAL KATCHRI LAKE	49131	4
		HUB DAM	52095	5
		JABHO/KUR	48509	5
		KALKAN WARI CHAND	35318	2
		KEENJHAR LAKE	131946	5
		LAKHI DHAND	42804	2
	NUR-RI, BADIN	59268	4	
PAGRI	28314	4		
RUP (GHAUSPUR) LAKE	21731	5		
SHAHBUNDER SALT BED	39540	2		
SAUDI ARABIA	EASTERN	SAMMAMIK ISLAND	21056	1
	RED SEA	RED SEA (S): JEDDAH-JIZAN	22934	1

Country	Province/State/Reg.	Wetland/Site	FYM	Counts
SOUTH KOREA	CHING CHUNG NAM	SAPKYO LAKE	62134	2
	CHUNG CHING NAM BUK	KUM RIVER	33793	2
	CHUNG CHONG	ASAN LAKE	21417	1
	CHUNG CHUNG I	CHONSU LAKE	23482	4
	GYONG SANG NAM	NAKDONG ESTUARY	23482	4
		SANNAM, CH'UNSAN, TONGP'AN RESERVOIR	23930	4
SRI LANKA	N.W.P.	SEGUWANTIVU MUDFLATS (MI OYA ESTUARY)	21213	1
	S.P.	BUNDALA SANCTUARY	39120	2
		WIRAWILA TANK	23166	5
THAILAND	NAKHON PATHOM	KASETSART UNIVERSITY (KAMPAENGAEN)	23138	2
	NAKHON SAWAN	BEUNG BORAPHET	23548	5
TURKMENISTAN		KRASNOVODSK & NORTH-CHELEKEN BAYS	298473	1
	BALKANSKAJA - OBLAST	ADZHIYAB FLOODLANDS	34212	3
		CASPIAN COAST, GASANKULI - KUIDZHUK	24633	5
	CHARDZHOU - OBLAST	AMUDARYA VALLEY: DRUZHBA-NUKUS	36859	3
		AMUDARYA VALLEY: KERKY-KARABEKAUL	45786	5
	GYAURS TASCHAUS OBLAST	N OF GYAURS-IRRIGATION AND LAKES LAKE SARAKAMYSH	26731 153091	2 4
UZBEKISTAN		AMUDARYA VALLEY:NUKUS-ARAL SEA	29525	1
	BUKHARA	LAKE DENGIZKUL	30494	2
	BUKHARA OBLAST	TUDAKUL RESERVOIR	20750	1
	KASHKA-DARYA OBLAST	TALIMARDZHAN RESERVOIR	20566	2
U.A.E.	SHARJAH	KHOR KHAN	49665	1
VIETNAM	DONG THAP	TRAM CHIN NATURE RESERVE	20709	3

Limits of the list

The list of these potential sites in Annex 2 has to be put into perspective:

1. Out of the 496 sites, 303 (61%) were counted once (209) or twice (94), and only 114 (23%) were counted at least four times. Further counts are therefore required at most sites to confirm their international importance.
2. The criteria used to assess international importance (see Chapter II) are based upon populations that are imperfectly known (biogeographical limits, population size).

Table 76: Sites of international importance in Asian countries

(Ramsar) denotes that the country/territory is not officially a Ramsar party, but is theoretically covered through its links with an existing party (Hong Kong/UK) or former party (CIS/USSR).

COUNTRY	RAMSAR STATUS	INTERN. IMP. SITES as per AWC 1987-91		Total number Ramsar sites designated
		Total	With Ramsar status	
AZERBAIJAN	(Ramsar)	2	1	1
BAHRAIN		3	0	0
BANGLADESH	Ramsar Party	31	2	1
BHUTAN		2	0	0
CAMBODIA		1	0	0
CHINA	Ramsar Party	54	2	6
HONG KONG	(Ramsar)	2	0	0
INDIA	Ramsar Party	160	2	6
INDONESIA	Ramsar Party	4	0	1
IRAN	Ramsar Party	56	14	18
JAPAN	Ramsar Party	22	3	4
KAZAKHSTAN	(Ramsar)	3	0	2
MYANMAR		5	0	0
NEPAL	Ramsar Party	2	0	1
OMAN		8	0	0
PAKISTAN	Ramsar Party	47	3	9
PHILIPPINES		5	0	0
SAUDI ARABIA		18	0	0
SINGAPORE		1	0	0
SOUTH KOREA		13	0	0
SRI LANKA	Ramsar Party	29	1	1
TAIWAN		1	0	0
THAILAND		3	0	0
TURKMENISTAN	(Ramsar)	11	1	1
UZBEKISTAN	(Ramsar)	5	0	0
U.A.E.		5	0	0
VIETNAM	Ramsar Party	2	1	1
YEMEN		1	0	0

3. The list is biased towards countries where coverage was highest in terms of numbers of wetlands counted (India, Iran, Pakistan), and towards regions where the most population estimates were available. Countries where coverage has so far been limited, and/or where few population estimates are available (especially in E and SE Asia), are poorly represented. This does not mean that they have fewer wetlands of international importance for waterfowl; only that current knowledge is insufficient to assess the importance of most of their wetlands. Especially in Iraq and Afghanistan, the total lack of data precludes the identification of any wetlands of international importance, although data from the 1970's clearly show that there used to be many.

4. The list is based upon counts at a particular time of the year (the northern winter), and cannot therefore take into account wetlands that are very important at other stages of the life cycle of waterfowl. For example, many breeding colonies of colonial waterbirds are not active in December-February and, if counted, would not appear as important in the AWC data, even if they were internationally important breeding sites.

Due to these limitations, the list is far from comprehensive, and should be regarded only as a further step towards identifying wetlands of international importance for waterfowl in Asia.

Ramsar sites

At the time of writing, ten Asian states were Contracting Parties to the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention); a further five have changed status as a result of recent political changes (Table 76).

Of the 496 wetlands included in Annex 2, 30 are already listed as Ramsar sites or are included in one; the majority of the Asian wetlands (94%) identified as meeting Ramsar criteria have yet to be designated under the Convention, even though 82% are located within the territory of a Contracting Party to the Convention.

ANNUAL CHANGES IN WINTERING DISTRIBUTION

The analysis and maps presented in this report relate to the average situation over the period 1987-91(92). However, annual variations in distribution occur depending on rainfall, which affects the condition of wetlands (e.g. text for the Demoiselle Crane), or unusually low temperatures in Central Asia (e.g. text for the swan species).

A detailed analysis for each species has not been possible within the scope of this report; however, the case of the Demoiselle Crane is presented as an example of the type of analysis that could be undertaken at a national or regional level with other species.

Gaining access to the relevant meteorological parameters is essential for such analyses; on a broad scale, statistics are published regularly in the *Weekly Weather and Crop Bulletin* obtainable at the NOAA/USDA Joint Agricultural Weather Facility, USDA South Building, Room 5844, Washington DC 20250, U.S.A.

Cold weather movements

The data available for SW and Central Asia show that there are cold weather movements in this part of the world as there are in Europe (e.g. Ridgill & Fox 1990), the 1971/72 winter being the most obvious example. Not all waterfowl species are involved in such movements: the Mute and Whooper Swans, Smew, Mallard and Red-crested Pochard seem to be the most sensitive species. However, most of the data available in the 1970s came from Iran, and since only limited data were available from further north (former USSR) during the same period, influxes in Iran could not always be linked to decreases elsewhere. This information is necessary if we are to gain a full understanding of such cold weather movements.

It is hoped that with the present good coverage of both Iran and countries further north (e.g. Turkmenistan and Uzbekistan), a better understanding of cold weather movements can be gained in the near future. Moreover, with increasing collaboration with CIS researchers, cold-weather movements in the 1970s could potentially be analyzed retrospectively.

THE FUTURE OF THE AWC

The AWC has helped to gather first-hand information on the distribution and numbers of waterfowl in Asia at an international level. Various countries or regions have also begun to publish annual reports on, or analyses of, their national/regional waterfowl counts undertaken as part of the AWC, notably Sri Lanka (e.g. Hoffmann 1992), Taiwan and India (Hussain 1990; Sridhar 1992).

To achieve the desired goal of monitoring waterfowl and wetlands for their conservation, the AWC will need to develop in the following ways:

Consistent coverage

Conclusions on population sizes and trends are often impossible because of the wide annual variations in coverage, especially in the major contributing country, India. Consistent coverage, encompassing all 496 important wetlands identified through the AWC 1987-91 (Annex 2), would be a very worthwhile goal. This should not, however, prevent the inclusion of additional wetlands on this list, especially if their coverage could be maintained in the long term.

Training

In order to improve the reliability of the data, training courses for participants in the identification and counting of waterfowl are necessary. To assist participants in the identification of waterfowl, a fully illustrated book, entitled *A Field Guide to the Waterbirds of Asia* by Sonobe and Usui (1993) has recently been published by the Wild Bird Society of Japan in collaboration with the Asian Wetland Bureau.

Enhanced, decentralised data checking

In order to minimize the number of errors reaching the central databases, all data should be carefully screened by the Regional/National AWC Coordinator in those regions and countries where this is not already taking place.

Broadening the monitoring programme

Some species are not adequately covered by the AWC due to their behaviour or ecology. Moreover, not all important sites for waterfowl can be identified through a single annual count in January. For example, many species of Ciconiiformes and Pelecaniformes breed at other seasons, and their colonies are deserted in January. These sites are therefore not identified by the AWC as being important for the species, although their importance may be well known and well documented (e.g. Keoladeo Ghana National Park in Bharatpur, India; Ali & Vijayan 1986). Adequate monitoring of all Asian waterfowl requires that the AWC is complemented by other programmes, such as the monitoring of breeding colonies, similar to the scheme which has already been proposed for India (Subramanya 1993).

Wetland monitoring programme

The data collected by participants in the AWC encompass both species and their habitats. This analysis of the first five years focuses on species data; however the habitat data could also form a basis for monitoring ecological changes, variations in human pressure, etc.

Identifying more wetlands of international importance

Population estimates are provided for many species in Asia for the first time. The use of the 1% criterion to identify wetlands of international importance by no means restricted to the northern winter, i.e. to time of the AWC. A site which meets the 1% criterion at any time of the year is equally of international importance. National and Regional Coordinators are therefore encouraged to use the 1% levels provided in this report to identify additional sites which are internationally important for waterfowl at other seasons.

CONSERVATION BENEFITS OF THE AWC

International agreements

The AWC is providing first-hand information on Asian waterfowl populations. Besides its intrinsic interest, this is also a vital requirement for the conservation of all waterfowl and their habitats. Already, the data are being used by international conservation conventions, such as the Ramsar Convention, or the Bonn Convention under which a proposed Agreement on the Conservation of Asian/Australasian Waterfowl is currently being developed.

National legislation

It is hoped that the results of the AWC can contribute to building effective national legislation, for example through the inclusion of species newly identified as threatened among nationally protected species, or through promoting the designation of some of the most important sites identified as nature reserves, bird sanctuaries or national parks. National and Regional Coordinators have a unique opportunity, with this report, to advocate such measures, if necessary with support from IWRB/AWB headquarters.

Species conservation plans

The data also form the basis for species-oriented conservation plans such as those which have already been developed for various species of Anatidae species (see above), since they help to determine population sizes and trends, and identify important sites for the species.

Public awareness and education

The AWC is giving wetland and waterfowl conservation a high profile in the region, with many articles being published in the general press, and official launches for the annual counts receiving wide publicity (e.g. in Bangladesh). It is therefore an excellent example of a programme integrating monitoring with environmental education and awareness.

Research and monitoring

The AWC has helped to identify species that are now threatened in Asia, and which should be considered as priorities for research, especially conservation-oriented research (e.g. ecological requirements, reasons for decline, etc.). National and Regional Coordinators have an opportunity to promote further research on these species by universities and other research institutions.

The AWC has also identified species that cannot be adequately monitored through the AWC because of their wide dispersion, habitat preferences or behaviour. Although some are clearly not conservation priorities (e.g. Cattle Egret, Red-wattled Lapwing), others might be (e.g. Sarus Crane). There is therefore a need to find adequate means to monitor these species, so as to ensure that changes in their populations do not go unnoticed.

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Annex 1: AWC Figures and Population Estimates for Asian Waterfowl Species

AWC: Figures derived from the AWC 1987-91 for Southwest, South, East and Southeast Asia respectively, through summing the FYM for each site counted.

1970s: For SW Asia, as above, with:

- Iran data replaced by 1971-77 data (middle of range given in Scott, 1992)
- 1970s data added for countries that did not participate in the AWC in 1987-91 (Afghanistan, Iraq, Kirghizistan and Tadjikistan).

POP. ESTIMATE: The population estimate which is applicable in each region. Unless stated otherwise, this is the estimate for the region alone (e.g. SW Asia etc.). When biogeographically justified (see species text in Chapter V), this is the estimate for a broader region; the code gives precision. Population estimates which relate to the entire world population of a species are indicated with an asterisk (*). When no population estimate is given, the reason is usually stated in a code referring to one or more of the following notes.

CODES

A. NO POPULATION ESTIMATE PROPOSED BECAUSE:

- (1) The species winters mainly in non-wetland habitats, e.g. the open sea (divers, various grebes and cormorants, phalaropes) or cultivated land (*Bubulcus ibis*, *Vanellus indicus*). Species in the latter group are usually (but not always) of limited conservation interest because of the huge availability of suitable habitat and their wide distribution.
- (2) The species is very widespread in small wetlands (*Ardeola grayii*, *Tachybaptus ruficollis*). Species in this group are generally of limited conservation interest because of their overall abundance and wide dispersion.
- (3) The species is very secretive and/or difficult to count, or occurs in a habitat which is badly covered by the AWC, e.g. reed beds, mountain streams (most Rallidae, night-herons and bitterns, *Butorides striatus*). This group includes both species of limited and high conservation concern.
- (4) The individuals wintering in the region constitute only a small, usually marginal, part of a much larger population (e.g. some shorebirds in SW Asia which probably belong to the East African/Arabian flyway).
- (5) Coverage of the region (or of the species' potential main wintering areas) is much too limited to enable any estimate; e.g. most populations in East Asia and many of those in Southeast Asia.
- (6) The species occurs in the region only as an occasional winter visitor or vagrant.

B. ESTIMATE ENCOMPASSES MORE THAN ONE REGION

In many cases, there is good evidence that a particular biogeographical population is not confined to any one of the four Asian regions during the northern winter, but occurs in two or three neighbouring regions of Asia and/or an extralimital region (East Africa, Australasia etc.). In such cases, the population estimates are annotated as follows:

- (7) S + SE Asia
- (8) SW + S Asia
- (9) E + SE Asia
- (10) E + S Asia
- (11) E + SE + S Asia
- (12) SW Asia + East Mediterranean/Black Sea
- (13) E.Africa + SW + S Asia
- (14) E.Africa + SW Asia
- (15) E + SE Asia + Australasia
- (16) S + SE + E Asia + Australasia
- (17) SE Asia + Australasia

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
GAVIDAE								
Black-throated Diver	3	0 (1)	0	(6)	1	(1)	0	
Pacific Diver	0	0	0		160	(1)	0	
Red-throated Diver	0	0 (6)	0	(6)	240	(1)	0	
PODICIPEDIDAE								
Little Grebe	4401	3473 (2)	27047	(2)	16620	(2/5)	1966	(2/5)
Australian Little Grebe	0	0	0		0		238	(2/5)
Red-necked Grebe	90	25 (1)	150	(4)	910	(1/5)	0	
Great Crested Grebe	861	6714 10000	2480	10000+	3634	(5)	2	
Slavonian Grebe	11	137 (1/4)	0	(6)	200	(1/5)	0	
Black-necked Grebe	651	5723 25000(8)	2255	25000(8)	336	(1/5)	0	
PELECANIDAE								
Great White Pelican	592	5362 10000+	20800	30000	0		0	
Pink-backed Pelican	140	140 1000	0		0		0	
Spot-billed Pelican	0	0	9100	10000	0		202	1500
Dalmatian Pelican	933	1993 1500	1020	10000-13000	74	100	0	
PHALACROCORACIDAE								
Little Black Cormorant	0	0	0		0		1875	(5)
Great Cormorant	27640	53740 100000	12511	25000	3650	(5)	21	(5)
Indian Shag	0	0	13910	30000(7)	0		212	30000(7)
Socotra Cormorant	31400	31440 500000-1000000	0		0		0	
Japanese Cormorant	0	0	0		810	(1)	0	
Pelagic Cormorant	0	0	0		1	(1)	0	
Little Pied Cormorant	0	0	0		0		1139	(4/5)
Little Cormorant	0	0	72950	150000	0		2693	(5)
Pygmy Cormorant	313	1163 5000	1	(6)	0		0	
ANHUNGIDAE								
African Darter	0	0 10-50	0		0		0	
Oriental Darter	0	0	2277	4000	0		360	(5)
Australian Darter	0	0	0		0		250	(5)

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
ARDEIDAE								
Grey Heron	5670	7160	10960	20000+	18080	(5)	1614	(5)
White-bellied Heron	0	0	0	10-100(7)*	0		0	
Great-billed Heron	0	0	0		0		6	(5)
Goliath Heron	11	35	10	20?	0		0	
Purple Heron	49	159	1528	5000	233	(3/5)	2361	(3/5)
Great White Egret	3078	7888	15400	25000	4000	(3/5)	6632	(3/5)
Pied Egret	0	0	0		0		350	(4)
Intermediate Egret	0	0	14920	25000	835	(5)	7850	(5)
Western Reef Egret	3820	4560	1494	17000(8)	0		0	
Little Egret	2416	2007	38860	60000	9840	(5)	13153	(5)
Chinese Egret	0	0	0		220	2500*	1697	2500*
Pacific Reef-Egret	0	0	1	(4)	4	(5)	76	(5)
Cattle Egret	2120	2160	42940	(1)	1120	(1/5)	7487	(1/5)
Squacco Heron	56	96	0		0		0	
Indian Pond Heron	81	91	33440	(1/2)	0		420	(1/2/5)
Chinese Pond Heron	0	0	3	(6)	981	(5)	4241	(5)
Javan Pond Heron	0	0	0		0		9153	(5)
Green-backed Heron	13	63	580	(3)	140	(3)	1312	(3)
Black-crowned Night Heron	204	2399	14020	(3)	4371	(3)	4589	(3)
Rufous Night Heron	0	0	0		0		65	(4/5)
Japanese Night Heron	0	0	0		150	(3)	0	
Malayan Night Heron	0	0	10	(3)	0		36	(3)
Little Bittern	5	3	0	(3/4)	0		0	
Yellow Bittern	0	0	160	(3)	11	(3)	1507	(3)
Schrenck's Bittern	0	0	0		2	(3)	0	(3)
Cinnamon Bittern	0	0	123	(3)	50	(3)	1112	(3)
Black Bittern	0	0	91	(3)	7	(3)	9	(3)
Eurasian Bittern	7	5	53	(3)	2201	(3)	7	(3)
CICONIIDAE								
Milky Stork	0	0	0		0		421	6100*
Painted Stork	0	0	6840	15000	0		135	(5)
Asian Openbill Stork	0	0	21820	50000+(7)	0		3968	50000+(7)
Black Stork	50	70	300	(3,8)	101	1500-2000	0	
Abdim's Stork	34	34	0	(4,14)	0		0	
Woolly-necked Stork	0	0	1071	(1,3)	0		57	(5)

	SOUTHWEST ASIA			SOUTH ASIA			EAST ASIA			SOUTHEAST ASIA			
	AWC	1970's	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
White Stork	820	3160	25000+(14)	621	3000	0	0	0	0	0	0	0	0
Oriental Stork	0	0		0			1045	2500				0	
Black-necked Stork	0	0		234	400?		0				2	(5)	
Greater Adjutant	0	0		50	400(7)*		0				1	400(7)*	
Lesser Adjutant	0	0		1123	4500+*		0				427	4500+*	
THRESKIORNITHIDAE													
Sacred Ibis	16	120	200	0			0				0		
Black-headed Ibis	0	0		5571	10000		7	(5)			590	<1000?	
Australian White Ibis	0	0		0			0				50	80000(17)	
Black Ibis	0	0		3511	10000*		0				0		
Northern Bald Ibis	1	1	27+	0			0				0		
Glossy Ibis	1485	1475	10000+(14)	4018	10000+(7)		5	(4)			3426	10000+(7)	
Eurasian Spoonbill	1459	2369	23000(8)	13160	23000(8)		1604	(5)			0		
Black-faced Spoonbill	0	0		0			169	350*			27	350*	
Royal Spoonbill	0	0		0			0				101	(4)	
SCOPIIDAE													
Hamerkop	21	21	(4)	0			0				0		
PHOENICOPTERIDAE													
Greater Flamingo	116570	85071	500000(8)	126000	500000(8)		0				0		
Lesser Flamingo	0	0		64100	150000		0				0		
ANATIDAE													
Maggie Goose	0	0		0			0				5000	(4/5)	
Spotted Whistling-Duck	0	0		0			0				155	(5)	
Fulvous Whistling-Duck	0	0		14100	20000(7)		0				46	20000(7)	
Wandering Whistling-Duck	0	0		0			0				4203	(5)	
Lesser Whistling-Duck	0	0		66600	100000+		1	(4)			81248	(5)	
Swan Goose	0	0		0			37000	50000*			0		
Bean Goose	300	0		0			32700	30000			0		
White-fronted Goose	2302	4452	5000	12	(4)		50750	50000			0		
Lesser White-fronted Goose	7	5430		2	(4/6)		3424	6000			0		
Greylag Goose	78443	47343	100000	8890	15000		12800	25000+			482		
Bar-headed Goose	0	0		23670	50000(11)		2700	50000(11)			609	50000(11)	
Snow Goose	0	0		1	(6)		0	(4)			0		

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
Brent Goose	0	0	0	0	344	4700-6700	0	0
Red-breasted Goose	48	0	0	0	0	0	0	0
Whooper Swan	3594	3889	0	0	18913	30000	0	0
Tundra Swan	75	36	0	0	20268	30000	0	0
Mute Swan	23370	22443	0	0	131	<10000(5)	0	0
Comb Duck	0	0	4102	6000(7)	0	0	98	6000(7)
Ruddy Shelduck	21933	12733	17304	50000(7)	17134	30000+	13163	50000(7)
Common Shelduck	75435	23605	5421	10000+	32400	60000+	0	0
Radjah Shelduck	0	0	0	0	0	0	24	(4)
White-winged Wood Duck	0	0	0	0	0	0	1	350(3,7)*
Mandarin Duck	0	0	0	0	10893	50000	0	0
Green Pygmy-goose	0	0	0	0	0	0	54	(4)
Cotton Teal	20	20	26100	50000+	0	0	5791	(5)
Eurasian Wigeon	111091	210191	159410	250000	167521	(5)	157	(5)
American Wigeon	0	0	0	0	66	(4)	0	0
Falcated Teal	0	0	12	(4)	34148	50000+	7	(4)
Gadwall	49562	93562	83370	150000	22199	(5)	1	(4)
Baikal Teal	0	0	0	0	25684	75000(9)	1	75000(9)
Common Teal	366570	1330270	247740	400000	186483	(5)	13294	(5)
Grey Teal	0	0	0	0	0	0	193	(5)
Mallard	548346	719246	39770	75000	519314	(5)	10	(4)
Pacific Black Duck	0	0	0	0	0	0	238	(4)
Spot-billed Duck	0	0	15272	50000	208368	(5)	2140	(5)
Philippine Duck	0	0	0	0	0	0	375	(5)
Northern Pintail	83591	461591	426400	750000+	197975	(5)	12822	(5)
Garganey	203	216	195590	250000	15016	(5)	62790	(5)
Northern Shoveler	52607	118607	211520	300000+	50922	(5)	806	(5)
Marbled Teal	6500	20235	1590	5000	0	0	0	0
Red-crested Pochard	150443	181050	24220	40000+(10)	3701	40000+(10)	0	(6)
Canvasback	191494	259594	201690	350000+	137898	(5)	405	(5)
Common Pochard	0	0	0	0	1	(6)	0	0
Ring-necked Duck	0	0	0	0	1	(6)	0	0
Hardhead	0	0	0	0	0	0	1	(6)
Baer's Pochard	0	0	1520	10000+(11)	4730	10000+(11)	894	10000+(11)
Ferruginous Duck	817	5977	3979	10000+(11)	1000	10000+(11)	184	10000+(11)
Tufted Duck	112608	177308	91003	150000+	72871	(5)	655	(5)

	SOUTHWEST ASIA			SOUTH ASIA			EAST ASIA			SOUTHEAST ASIA		
	AWC	1970's	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC
Greater Scaup	31200	31162	35000	7	(4/6)	219077	(5)	0				
Harlequin Duck	0	0		0		1171	(1)	0				
Common Scoter	0	0		0		3311	(1/5)	0				
Velvet Scoter	0	0		0		1472	(1/5)	0				
Long-tailed Duck	30	30	(4)	0		781	(1/5)	0				
Bufflehead	0	0		0		1	(6)	0				
Common Goldeneye	780	3070	(4)	11	(4)	7936	(5)	0				
Smew	2640	3850	30000	3	(4)	7166	(5)	0				
Red-breasted Merganser	280	210	(1/5)	0		3294	(1/5)	0				(6)
Scaly-sided Merganser	0	0		0		63	4000	0				
Goosander	760	730	(1/5)	394	(5)	18528	(5)	0				
White-headed Duck	4129	3950	17000(12)	295	300	0		0				
GRUIDAE												
Common Crane	10511	3045	20000	10630	20000	4519	(5,9)	200				(5,9)
Black-necked Crane	0	0		290	5500(10)	3666	5500(10)	0				
Hooded Crane	0	0		0		5230	10800	0				
Sandhill Crane	0	0		0		1	(6)	0				
Red-crowned Crane	0	0		0		2455	1700	0				
White-naped Crane	0	0		0		3697	5000-5700	0				
Sarus Crane	0	0		606	12000-13000	0		66				800-1100
Brolga	0	0		0		0		30				(4)
Siberian Crane	6	8	10-14	15	5-6	1700	2600	0				
Demoiselle Crane	3	3	100000(4,14)	82560	150000	110	<1000?(5)	0				
RALLIDAE												
Banded Rail	0	0		0		0		30				(3)
Slaty-breasted Rail	0	0		1	(3)	7	(3)	19				(3)
Barred Rail	0	0		0		0		7				
Water Rail	4	11	(3)	60	(3)	192	(3)	198				(3)
Red-legged Crane	0	0		0		0		1				(3)
Banded Crane	0	0		1	(3)	2	(3)	8				
Asian Yellow Rail	0	0		0		1	(3)	0				
White-browed Rail	0	0		0		0		79				(3)
Band-bellied Crane	0	0		0		0		0				
Little Crane	2	2	(3)	1	(3)	1	(3)	0				
Bailon's Crane	1	2	(3)	2	(3)	131	(3)	3				(3)

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
Spotted Crane	2	2 (3)	0		0		0	
Ruddy-breasted Crane	0	0	2	(3)	151	(3)	62	(3)
Rufous-tailed Moorhen	0	0	0		0		2	
Brown Crane	0	0	5	(3)	0		0	
White-breasted Waterhen	0	0	2316	(2/3)	94	(3)	469	(3)
Watercock	0	0	229	(3)	314	(3)	43	(3)
Dusky Moorhen	0	0	0		0		4198	(3)
Moorhen	1784	995 (2)	4580	(2)	3320	(2)	2316	(2)
Purple Swamphen	8041	8817 (3)	12160	(3)	0		5848	(5)
Common Coot	877090	1453090 2000000	733590	1500000	263890	(5)	5078	(5)
HELIORNITHIDAE								
Masked Finfoot	0	0	0	(3/5)	0	(3/5)	2	(3/5)
JACANIDAE								
Comb-crested Jacana	0	0	0		0		129	(3/5)
Pheasant-tailed Jacana	11	11 (4)	8010	(3)	1	(3/5)	1536	(3/5)
Bronze-winged Jacana	0	0	2013	(3)	0		431	(3/5)
ROSTRATULIDAE								
Painted Snipe	0	0	654	(3)	490	(3/5)	33	(3/5)
DROMADIDAE								
Crab Plover	4310	5570 43000(13)	761	43000(13)	0		9	
HAEMATOPODIDAE								
Eurasian Oystercatcher	5235	15295 25000+(13)	1473	25000+(13)	8	(5)	0	
IBIDORHYNCHIDAE								
Ibisbill	0	0	7	(3)	1	(3)	0	
RECURVOSTRIDAE								
Black-winged Stilt	6820	8695 10000+	66008	100000+	450	(5)	2317	(5)
White-headed Stilt	0	0	0		0		39	(5)
Avocet	1540	3900 10000+(14)	12370	20000+	3040	(5)	0	

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
BURHINIDAE								
Stone Curlew	61	71 (1)	32	(1)	0		0	
Spotted Dikkop	1	1 (4)	0		0		0	
Great Thick-knee	5	75 (4)	574	(3)	0		1	
Beach Thick-knee	0	0	0		0		14	(3.17)
GLAREOLIDAE								
Collared Pratincole	1	1 (4)	0	(4/6)	0		0	
Oriental Pratincole	0	0	190	(5)	51	(5)	627	(5)
Little Pratincole	1	1 (6)	4310	(5)	30	(5)	171	(5)
Australian Pratincole	0	0	0		0		0	60000(1.7)
CHARADRIIDAE								
Northern Lapwing	17055	30445 (1/5)	710	(5)	20361	(5)	3	
Spur-winged Plover	93	93 (4)	0		0		0	
River Lapwing	0	0	470	(5)	0		26	
Yellow-wattled Lapwing	0	0	1521	(1)	0		0	
Sociable Plover	1	1 (4)	3	<1000?(5)	0		0	
White-tailed Plover	146	2076 (5)	500	(5)	0		0	
Grey-headed Lapwing	0	0	1835	(5)	246	(5)	282	(5)
Red-wattled Lapwing	246	5146 (1,2)	9130	(1/2)	9	(1/5)	368	(1/5)
Masked Lapwing	0	0	0		0		575	(4/5)
Eurasian Golden Plover	0	750 (4)	0		0		0	
Pacific Golden Plover	161	165 (4)	13511	(5)	1802	100000+(15)	12702	100000+(15)
Grey Plover	6794	8114 50000(14)	14061	30000	2130	(5,15)	2570	(5,15)
Ringed Plover	3570	6940 200000+(13)	3064	200000+(13)	0		0	
Long-billed Plover	0	0	13	(5)	6	(5)	0	(5)
Little Ringed Plover	485	505 (4)	14420	(5)	1200	(5)	3529	(5)
Kemish Plover	8262	23283 (5,14)	17460	(5)	29357	(5)	6520	(5)
Malaysian Plover	0	0	0		0		105	(5)
Mongolian Plover	11191	14992 25000+(14)	74691	100000+	430	(5)	13934	(5)
Greater Sand Plover	2330	9850 65000(14)	1531	(5)	413	(5)	6216	(5)
Caspian Plover	0	30	0		0		0	
Oriental Plover	0	0	0		0		0	44000(15)
Red-kneed Dotterel	0	0	0		0		0	26000(15)
Eurasian Dotterel	20	820 (1)	0		0		0	

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
SCOLOPACIDAE								
Black-tailed Godwit	1255	17065	52500	100000+	540	(5)	5679	(5)
Bar-tailed Godwit	45045	74925	3668	100000+(13)	10	(4/5)	1725	(5)
Little Curlew	0	0	0	0	10	200000+(15)	13	200000+(15)
Whimbrel	1104	1284	10670	25000+(8)	461	(5)	3667	(5)
Slender-billed Curlew	10	7	0	100-400	0		0	
Eurasian Curlew	6781	24702	9268	28000+(14)	3970	(5)	1473	(5)
Far Eastern Curlew	0	0	0		2	(4/6)	481	21000(15)
Spotted Redshank	7	659	981	(5,14)	2370	(5)	758	(5)
Redshank	21450	40450	17370	55000(14)	2370	(5)	12381	(5)
Marsh Sandpiper	616	1077	42180	60000+	1280	(5)	10458	(5)
Greenshank	2585	2970	8610	(5,14)	2591	(5)	5172	(5)
Spotted Greenshank	0	0	105	1000(11)	1	1000(11)	26	1000(11)
Green Sandpiper	269	1349	3250	(2)	2150	(5)	110	(5)
Wood Sandpiper	63	113	9016	(4)	330	(5)	5455	(5)
Terek Sandpiper	1336	3906	1991	44000+(14)	6	(5)	5665	(5)
Common Sandpiper	395	340	13940	(4)	431	(5)	4266	(5)
Grey-tailed Tattler	0	0	0		2	(5)	450	(5)
Ruddy Turnstone	4343	5346	1051	50000+(14)	1011	(5)	281	(5)
Red-necked Phalarope	16	14	71	(1)	0	(1)	0	(1)
Solitary Snipe	0	0	41	(3)	10	(5)	0	
Pintail Snipe	9	9	1231	(3)	2308	(3)	256	(3)
Swinhoe's Snipe	0	0	1	(3)	3	(3)	120	(3)
Great Snipe	6	2	30	(3)	0		0	
Common Snipe	631	10704	10685	(3)	4940	(3)	901	(3)
Jack Snipe	12	1008	12	(3)	0	(3)	0	(3)
Asian Dowitcher	0	0	18	15000-20000(16)	0	15000-20000(16)	1433	15000-20000(16)
Red Knot	0	0	25	(4)	2	255000(15)	306	255000(15)
Great Knot	440	440	125	1500+(8)	2	319000(15)	1284	319000(15)
Sanderling	4048	17028	3722	120000(14)	1	(5)	137	(5)
Red-necked Stint	0	0	7	(4)	1063	(5)	12856	(5)
Little Stint	19840	25570	122003	1000000(14)	0		0	
Temminck's Stint	43	254	3780	(5)	360	(5)	365	(5)
Long-toed Stint	1	1	109	(4/6)	750	(5)	912	(5)
Sharp-tailed Sandpiper	0	0	0		10	166000(15)	107	166000(15)
Dunlin	30580	110030	13025	150000(14)	28480	(5)	25	(4)

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
Curlew Sandpiper	8188	8220	61250	100000+	21	(5)	14728	(5)
Spoon-billed Sandpiper	0	0	141	5000+(11)	0	5000+(11)	0	5000+(11)
Broad-billed Sandpiper	2270	3040	1104	(5)	9	(5)	1140	(5)
Ruff	1080	3575	19420	(1/5)	1	(6)	54	
LARIDAE								
White-eyed Gull	340	340	0		0		0	
Sooty Gull	23239	23310	100	40000(13)	0		0	
Black-tailed Gull	0	0	0		4201	(5)	0	
Common Gull	300	500	10	(4/6)	12101	(1/5)	0	
Herring Gull	0	0	6214	(5)	15124	(5)	0	(5)
Yellow-legged Herring Gull	25685	48985	0		0		0	
Lesser Black-backed Gull	2270	2220	6000	(5)	3	(5)	0	
Slaty-backed Gull	0	0	0		1	(5)	0	
Glaucous Gull	0	0	0		4	(1/5)	0	
Great Black-headed Gull	3642	3922	8585	(5)	4900	(5)	0	
Brown-headed Gull	0	0	50092	100000+(11)	6901	100000+(11)	1177	100000+(11)
Black-headed Gull	120643	175944	28550	(5)	158600	(5)	175	(5)
Slender-billed Gull	46118	91219	3202	150000(8)	0		0	
Relict Gull	0	0	0		20	12000	0	
Little Gull	100	152	0	(4/5)	50	(5)	0	
Saunders's Gull	0	0	0		2396	3000(9)	2	3000(9)
Whiskered Tern	171	1001	30901	(5)	240	(5)	14214	(5)
White-winged Black Tern	55	55	5002	(5)	0	(5)	3361	(5)
Gull-billed Tern	1210	3440	11930	(5)	0	(5)	2414	(5)
Caspian Tern	2055	3045	6192	(5)	236	(5)	16	(5)
Indian River Tern	0	0	6170	(5)	0		11	
Common Tern	167	87	15250	(1/5)	10	(1/5)	4776	(1/5)
Roseate Tern	0	0	9	(1/5)	0		0	
White-cheeked Tern	674	671	0	600000(13)	0		0	
Black-naped Tern	0	0	0		0		257	(1/5)
Black-bellied Tern	0	0	437	(5)	0		0	
Little Tern	1	1	8390	(5)	140	(5)	5456	(5)
Saunders's Tern	583	583	2	40000(13)	0		0	
Crested Tern	4645	12625	6731	(5)	0		831	(5)

	SOUTHWEST ASIA		SOUTH ASIA		EAST ASIA		SOUTHEAST ASIA	
	AWC	1970's Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate	AWC	Pop. estimate
Lesser Crested Tern	2676	10670 (5)	3132	(5)	0		1057	(1/5)
Chinese Crested Tern	0	0	0		5	(5)	0	
Sandwich Tern	26460	34460 50000+(8)	3620	50000+(8)	0		0	
RHYNCHOPIDAE								
Indian Skimmer	0	0	2871	10000(7)	0		2	10000(7)

Annex 2: Wetlands or sites meeting the Ramsar 1% or 20,000 criteria, as identified by the Asian Waterfowl Census 1987-1991

This lists for each site its coordinates (N4005E04740 = 40°05' N, 47°40' E), whether it is a Ramsar site (or part of a Ramsar Site), the number of times it was counted between 1987 and 1991, the average number of waterfowl present when this exceeded 20,000, and the waterfowl species for which the site is of international importance with the average number (FYM) recorded in 1987-91.

Notes:

1. The 1% criterion could only be applied to those species for which population estimates are available or are proposed in this report.
2. Not all sites are true wetlands.
3. All sites listed here are not necessarily found on the relevant maps (only those for which geographical coordinates are available were plotted).
4. In some cases, 1992 data have also been taken into account (see Chapter 2).
5. Names of Ramsar sites are in italics.

AZERBAIJAN

AGGEL (AH GOL) LAKE	N4005E04740
[1] TOTAL WATERFOWL	110556
<i>Phalacrocorax pygmaeus</i>	100
<i>Tadorna ferruginea</i>	300
<i>Aythya fuligula</i>	9000
<i>Oxyura leucocephala</i>	3000
<i>Fulica atra</i>	50000
<i>Himantopus himantopus</i>	300
<i>Recurvirostra avosetta</i>	200
<i>Limosa limosa</i>	300
 KIROV BAY	 N3905E04857
[1] TOTAL WATERFOWL	628360
<i>Phoenicopterus ruber</i>	12970
<i>Anser albifrons</i>	1520
<i>Anser anser</i>	6040
<i>Cygnus olor</i>	8500
<i>Anas penelope</i>	61900
<i>Anas strepera</i>	3460
<i>Anas crecca</i>	66200
<i>Anas platyrhynchos</i>	36730
<i>Anas clypeata</i>	3060
<i>Netta rufina</i>	2600
<i>Aythya ferina</i>	93300
<i>Oxyura leucocephala</i>	520
<i>Fulica atra</i>	243250

BAHRAIN

ASKAR RUBBISH DUMP	N2603E05036
[2] TOTAL WATERFOWL	23602
<i>Larus argentatus/cachinnans</i>	7320
<i>Larus ridibundus</i>	16281
 ASRY CAUSEWAY, MUHARRAQ	
[3]	N2612E05039
<i>Charadrius mongolus</i>	269
 WEST SITRAH AND NORTH AL AKR BAY	
[2]	N2610E05035
<i>Charadrius mongolus</i>	260

BANGLADESH

AKBAR DIA OR ANDDA CHAR	N2150E08952
[1] <i>Larus brunnicephalus</i>	1063
 BURAGAURANGA RIVER	
[1] <i>Charadrius mongolus</i>	1144
 CHAR BHATA	N2250E09115
[4] <i>Charadrius mongolus</i>	1062
<i>Larus brunnicephalus</i>	1013

CHAR PEAL			MAHESH KHALI ISLAND	N2123E09135
[1] <i>Tadorna tadorna</i>		400	[2] <i>Rynchops albicollis</i>	135
CHAR PIYA	N2240E09100		MATIAN HAOR	N2507E09108
[4] <i>Tadorna tadorna</i>		169	[1] <i>Egretta alba</i>	370
<i>Calidris ferruginea</i>		1352	<i>Anas querquedula</i>	3330
CHARAN DWEEP			<i>Aythya nyroca</i>	590
[2] <i>Charadrius mongolus</i>		3970	MAULAVIR CHAR	N2223E09101
DHAL CHAR			[4] <i>Charadrius mongolus</i>	2022
[1] <i>Eurynorhynchus pygmaeus</i>		47	<i>Tringa guttifer</i>	25
GHATIBANGA			<i>Eurynorhynchus pygmaeus</i>	50
[1] <i>Charadrius mongolus</i>		1986	<i>Rynchops albicollis</i>	300
HAIL HAOR	N2425E09141		MAULAVIR CHAR + GHASIAR CHAR	
[4] <i>Egretta alba</i>		288	[1] <i>Tadorna tadorna</i>	335
HAKALUKI HAOR	N2440E09205		MIRPUR ZOOLOGICAL GARDEN	
[5] TOTAL WATERFOWL		30083	[5]	N2345E09030
<i>Dendrocygna javanica</i>		1461	<i>Dendrocygna javanica</i>	2714
HATIYA ISLAND	N2235E09110		NIJHUM DWEEP (CHAR OSMAN)	
[5] <i>Charadrius mongolus</i>		4496	[4]	N2207E09103
<i>Rynchops albicollis</i>		172	<i>Charadrius mongolus</i>	4278
HATIYA ISLAND: DHAL CHAR			<i>Limosa limosa</i>	1205
[4]	N2240E09100		<i>Tringa guttifer</i>	50
<i>Tadorna tadorna</i>		143	<i>Larus brunnicephalus</i>	2000
<i>Larus brunnicephalus</i>		1144	<i>Rynchops albicollis</i>	666
<i>Rynchops albicollis</i>		425	PASUA HAOR	N2502E09105
JAHANGIR NAGAR UNIVERSITY			[1] <i>Egretta alba</i>	600
[1] <i>Dendrocygna javanica</i>		3000	PEELKHANA BIRD PARK	N2342E09025
JONAK CHAR	N2240E09100		[3] <i>Dendrocygna javanica</i>	2634
[4] <i>Egretta intermedia</i>		389	SHONAR CHAR	N2218E09055
<i>Tadorna tadorna</i>		598	[2] <i>Tadorna tadorna</i>	1100
KALADIA & BARADIA			<i>Charadrius mongolus</i>	1207
[1] <i>Pluvialis squatarola</i>		329	SONADIA ISLAND	N2127E09133
<i>Rynchops albicollis</i>		124	[2] <i>Rynchops albicollis</i>	350
KALKINY CHAR			SUNDERBANS	N2200E08930
[1] <i>Tadorna tadorna</i>		610	[2] <i>Leptoptilos javanicus</i>	46
KANAMAIYA HAOR & PAKERTALA BIL			<i>Larus brunnicephalus</i>	4550
[1]	N2504E09106		TANGUA HAOR COMPLEX	N2508E09106
<i>Dendrocygna bicolor</i>		3874	[1] TOTAL WATERFOWL	26133
KAWADIGHI HAOR	N2435E09147		<i>Phalacrocorax niger</i>	2062
[2] <i>Egretta alba</i>		600	<i>Dendrocygna bicolor</i>	5300
			<i>Anas querquedula</i>	6227
			<i>Aythya baeri</i>	661
			<i>Aythya nyroca</i>	1320

URIR CHAR	N2235E09124	<i>Anser anser</i>	4475
[2] <i>Rynchops albicollis</i>	350	<i>Anas formosa</i>	1689
BHUTAN			
BUMDILING	N2745E09130	ERHAI LAKE	N2547E10011
[4] <i>Grus nigricollis</i>	163	[2] <i>Netta rufina</i>	501
PHOBJIKHA VALLEY	N2730E09000	FUCHUN RESE.	N2910E11750
[4] <i>Grus nigricollis</i>	112	[1] <i>Aix galericulata</i>	540
CAMBODIA			
TONLE SAP & MEKONG R.	N1220E10420	FUTIEN RESERVES	N2232E11403
[1] <i>Pelecanus philippensis</i>	200	[5] <i>Pelecanus crispus</i>	10
CHINA			
BAINANG CO., NYANG RIVER	TIBET	<i>Platalea minor</i>	4
[1] <i>Grus nigricollis</i>	109	GAOYOU AND SHABO LAKES	
BEIDAGANG	N3840E11730	[2]	N3235E11920
[1] <i>Pelecanus crispus</i>	5	TOTAL WATERFOWL	40506
<i>Aythya baeri</i>	200	<i>Anser cygnoides</i>	550
CAOHAI RESERVE	N2650E10415	<i>Anser fabalis</i>	650
[2] TOTAL WATERFOWL	39018	<i>Anser anser</i>	440
<i>Anser anser</i>	468	<i>Tadorna ferruginea</i>	645
<i>Anser indicus</i>	1864	<i>Anas falcata</i>	735
<i>Tadorna ferruginea</i>	5837	<i>Anas formosa</i>	2550
<i>Tadorna tadorna</i>	1001	<i>Aythya baeri</i>	265
<i>Anas falcata</i>	1507	GONGGAR & ZHANANG COS: QUXU	
<i>Netta rufina</i>	500	BRIDGE-SAMYE	TIBET
<i>Aythya nyroca</i>	1000	[1] <i>Grus nigricollis</i>	224
<i>Grus nigricollis</i>	240	GUANDONG SALT WORKS	
CHEN HU LAKE	N3031E11405	[2] TOTAL WATERFOWL	N3423E12008
[1] <i>Aythya baeri</i>	100	<i>Tadorna tadorna</i>	34788
CHONGMING ISLAND	N3130E12145	<i>Anas falcata</i>	9193
[2] <i>Cygnus columbianus</i>	1000	<i>Anas formosa</i>	527
DAGZE BRIDGE-MAIZO	TIBET	<i>Grus japonensis</i>	29
[1] <i>Grus nigricollis</i>	768	<i>Larus saundersi</i>	241
DOILUNGDEQEN & QUXU COS. TOBING	TIBET	HANNAN (WUHAN LAKES)	
[1] <i>Grus nigricollis</i>	216	[1] <i>Ciconia boyciana</i>	N3020E11350
EAST DONGTING LAKES	N2915E11255	<i>Anser erythropus</i>	360
[4] TOTAL WATERFOWL	30249	<i>Aythya baeri</i>	140
<i>Ciconia boyciana</i>	134	HONGZE HU	
<i>Anser cygnoides</i>	1262	[2] TOTAL WATERFOWL	N3320E11830
<i>Anser fabalis</i>	4381	<i>Grus japonensis</i>	48072
<i>Anser erythropus</i>	168		39
HUAYAN RESERVOIR	N3910E11320	HUIZE CO/CHANGHAIZI & DAQUIAO LAKES	
[1] <i>Tadorna ferruginea</i>	350	[2] <i>Grus nigricollis</i>	193

JIDING & S TANA VALLEYS	TIBET		
[1] <i>Grus nigricollis</i>		165	
LANZHOU	N3500E10300		
[1] <i>Tadorna ferruginea</i>		524	
LHAZE CO.: LHAZE-PINDZOLING	TIBET		
[1] <i>Grus nigricollis</i>		360	
LHUNZUB CO, W. PENBO RIVER	TIBET		
[1] <i>Grus nigricollis</i>		280	
LIYUAN TUN	N3526E11422		
[1] <i>Pelecanus crispus</i>		2	
LONG GAN HU FARM	N2950E11608		
[1] <i>Ciconia boyciana</i>		32	
<i>Grus monacha</i>		270	
MAOLIN, DAHAIZI, MASHU			
[2] <i>Grus nigricollis</i>		49	
MENGJIN SHIUKU	N4407E08732		
[1] <i>Anser anser</i>		400	
NAMLING CO., S. SHANG RIVER	TIBET		
[1] <i>Grus nigricollis</i>		72	
NAPAHAI RESERVE	N2752E09938		
[2] <i>Grus nigricollis</i>		65	
NORTH JIANGSU COAST			
[1] <i>Tadorna ferruginea</i>		2277	
POYANG LAKE	N2854E11616		
[4] TOTAL WATERFOWL		181127	
<i>Pelecanus crispus</i>		11	
<i>Ciconia boyciana</i>		456	
<i>Anser cygnoides</i>		25660	
<i>Anser fabalis</i>		2337	
<i>Anser albifrons</i>		21719	
<i>Anser erythropus</i>		2447	
<i>Anser anser</i>		508	
<i>Cygnus columbianus</i>		3340	
<i>Tadorna ferruginea</i>		3174	
<i>Anas falcata</i>		7842	
<i>Grus vipio</i>		2578	
<i>Grus leucogeranus</i>		1533	
QING DAO	N3610E12010		
[1] TOTAL WATERFOWL		160619	
<i>Anser fabalis</i>		500	
<i>Tadorna ferruginea</i>		1000	
<i>Aythya baeri</i>		2000	
<i>Larus ridibundus</i>		100000	
QINGHAI HU	N3650E10010		
[3] TOTAL WATERFOWL		20866	
<i>Cygnus cygnus</i>		580	
RIZHAO' SHORE (70KM)	N3535E11930		
[1] <i>Anser anser</i>		265	
SANMEN WAN	N2910E12135		
[1] <i>Larus saundersi</i>		53	
SHENGJIN HU	N3021E11705		
[4] <i>Ciconia boyciana</i>		221	
<i>Grus monacha</i>		283	
SHEYANG GANG ESTUARY	N3340E12030		
[1] <i>Grus japonensis</i>		225	
<i>Larus saundersi</i>		740	
SHEYANG SALT WORKS	N3341E12032		
[2] TOTAL WATERFOWL		100631	
<i>Pelecanus crispus</i>		3	
<i>Anser fabalis</i>		1830	
<i>Anser anser</i>		977	
<i>Tadorna tadorna</i>		3091	
<i>Anas falcata</i>		6800	
<i>Grus japonensis</i>		88	
<i>Larus saundersi</i>		685	
SHIGATSE MUN.: AIRPORT- DAGSHUKA FERRY	TIBET		
[1] <i>Grus nigricollis</i>		102	
SHIGATSE MUN.: QUBUXIONG & JIACUO XIANG	TIBET		
[1] <i>Grus nigricollis</i>		207	
SHIGATSE MUN.: SHIGATSE- NAMLING FERRY	TIBET		
[1] <i>Grus nigricollis</i>		135	
SHIJIU HU	N3123E11847		
[3] <i>Anser erythropus</i>		410	
TANGCUN RESERVOIR	N3500E11820		
[1] <i>Anser fabalis</i>		400	
XAITONGMOIN & TASHIKANG	TIBET		
[1] <i>Grus nigricollis</i>		169	
XIAOCHI	N3500E11030		
[1] <i>Cygnus cygnus</i>		546	
XINTAN SALTWORKS	N3419E12014		
[2] <i>Tadorna tadorna</i>		6060	
<i>Larus saundersi</i>		31	

XUANWU LAKE N3204E11847
[1] *Anas falcata* 560

YAMDROK TSO N2910E09030
[1] *Tadorna ferruginea* 300
Netta rufina 1736

YANCHENG NATURE RESERVE,
CORE AREA N3329E12040
[2] *Anser cygnoides* 939
Anser fabalis 839
Grus japonensis 255

YANCHENG SHORE (300KM)
[2] N3330E12015
TOTAL WATERFOWL 352926
Pelecanus crispus 15
Egretta eulophotes 60
Anser cygnoides 10770
Anser fabalis 5684
Tadorna tadorna 1685
Aix galericulata 1082
Aythya baeri 821
Grus japonensis 552
Fulica atra 89400
Larus saundersi 209

YANGCAOYONGCOU N2900E09040
[1] *Netta rufina* 868

YELLOW RIVER, HEI GANG KUO
[1] N3408E11404
Anser fabalis 2000
Anas falcata 824
Grus leucogeranus 86

ZHAOTONG CITY/ DASHANBAO
[2] *Grus nigricollis* 312

ZHUYIU, WANGWU, YIMU N3730E12230
[1] *Anser anser* 305

HONG KONG

DEEP BAY AREA N2232E11400
[5] TOTAL WATERFOWL 21916
Pelecanus crispus 4
Tadorna tadorna 1614
Larus saundersi 59

DEEP BAY, MAI PO N2232E11400
[5] *Platalea minor* 19

INDIA

ADYAR ESTUARY N1301E08016
[5] *Himantopus himantopus* 1798

AGHANASHINI RIVER N1429E07425
[2] *Larus brunnicephalus* 2106

AMBALAMEDU LAKE N1115E07550
[3] *Dendrocygna javanica* 2166
Anas querquedula 5166

AMBAZARI RESERVOIR N2100E07900
[5] *Netta rufina* 517

AMIPUR TANK N2105E07010
[2] TOTAL WATERFOWL 21747
Sarkidiornis melanotos 127
Grus grus 500
Anthropoides virgo 10575

ANGAI (PARVATI) BUND N2640E07758
[1] *Anser indicus* 953

ATTIVERI BIRD SANCTUARY
[1] N1455E07505
Threskiornis melanocephalus 655

BAGODARA - NAL KANTHA N2205E07235
[1] *Ciconia ciconia* 200
Platalea leucorodia 300
Anthropoides virgo 1500

BAHADUR SAGAR N2037E07337
[1] *Ephippiorhynchus asiaticus* 15
Nettapus coromandelianus 1222

BAHOSI LAKE N2720E07950
[2] *Anser anser* 500

BANKI TAAL, DUDHWA N.P.
[2] N2835E08040
Dendrocygna javanica 1230
Anser anser 768
Sarkidiornis melanotos 168

BARADA SAGAR MARSH N2140E06940
[1] *Grus grus* 204

BETWA RIVER NEAR ZANSI
[1] *Phalacrocorax carbo* 500

BHARATAPUZA ESTUARY N1046E07556
[3] *Larus brunnicephalus* 2800

KEOLADEO GHANA N.P. BHARATPUR	
[1]	N2715E07728
	<i>Mycteria leucocephala</i> 314
	<i>Ephippiorhynchus asiaticus</i> 8
	<i>Anser anser</i> 1597
	<i>Grus leucogeranus</i> 15

BHINDAVAS LAKE BIRD SANCTUARY	
[1]	<i>Threskiornis melanocephalus</i> 169
	<i>Plegadis falcinellus</i> 140
	<i>Anser anser</i> 556
	<i>Anas clypeata</i> 4000

BHUTSAD TANK N2100E07300	
[1]	<i>Sarkidiornis melanotos</i> 200

BISHTAMMA TANK N1320E07540	
[1]	<i>Dendrocygna bicolor</i> 319

BUDHIHAL N1700E07430	
[1]	<i>Anthropoides virgo</i> 1500

BYRAMANGALA RESERVOIR	
[1]	N1222E07730
	TOTAL WATERFOWL 21473
	<i>Anas acuta</i> 9967
	<i>Anas querquedula</i> 7434

CARAMBOLIM TANK N1532E07353	
[3]	TOTAL WATERFOWL 37725
	<i>Anas acuta</i> 30000
	<i>Anas querquedula</i> 5666

CAUVERY RIVER: MUDUKA THORE	
[1]	<i>Threskiornis melanocephalus</i> 146

CHARAKLA SALTWORKS N2220E06905	
[2]	<i>Phoeniconaias minor</i> 2978
	<i>Recurvirostra avosetta</i> 263
	<i>Calidris tenuirostris</i> 38

CHEMBARAMBAKKAM TANK	
[5]	N1300E08008
	<i>Anas penelope</i> 3283
	<i>Anas querquedula</i> 2920

CHHAPARWADA N2653E07524	
[1]	<i>Platalea leucorodia</i> 298

CHHARI - DHANDH N2310E06945	
[1]	<i>Grus grus</i> 300

CHIKKABELAVANGLA TANK	
[1]	N1255E07735
	<i>Himantopus himantopus</i> 2167

CHILKA LAKE N1945E08524	
[4]	TOTAL WATERFOWL 309446
	<i>Phalacrocorax niger</i> 2537
	<i>Ardea cinerea</i> 2528
	<i>Egretta alba</i> 2650
	<i>Egretta intermedia</i> 1172
	<i>Egretta garzetta</i> 900
	<i>Anastomus oscitans</i> 2997
	<i>Tadorna ferruginea</i> 840
	<i>Tadorna tadorna</i> 112
	<i>Nettapus coromandelianus</i> 5707
	<i>Anas penelope</i> 3575
	<i>Anas strepera</i> 34722
	<i>Anas platyrhynchos</i> 1250
	<i>Anas acuta</i> 37672
	<i>Anas querquedula</i> 6000
	<i>Anas clypeata</i> 78690
	<i>Netta rufina</i> 555
	<i>Aythya ferina</i> 7820
	<i>Aythya fuligula</i> 29417
	<i>Fulica atra</i> 26700
	<i>Numenius phaeopus</i> 9900
	<i>Tringa stagnatilis</i> 1185

CHINGLEPET TANK N1242E07958	
[3]	<i>Nettapus coromandelianus</i> 701

CHITRANGUDI TANK N0920E07828	
[4]	<i>Pelecanus philippensis</i> 480
	<i>Threskiornis melanocephalus</i> 360

CHOLAVARAM ERI N1310E08010	
[1]	<i>Nettapus coromandelianus</i> 950

DEEPOR BEEL N2607E09140	
[5]	<i>Leptoptilos dubius</i> 12
	<i>Dendrocygna javanica</i> 1441
	<i>Aythya baeri</i> 654
	<i>Aythya nyroca</i> 137

DELHI ZOO N2838E07710	
[5]	<i>Anhinga melanogaster</i> 154
	<i>Mycteria leucocephala</i> 154

DEV IRRIGATION PROJECT N2230E07325	
[1]	<i>Sarkidiornis melanotos</i> 100

DHIR BEEL N2617E09027	
[3]	<i>Dendrocygna javanica</i> 2201
	<i>Aythya nyroca</i> 166

DIGHOLI BEEL N2630E09430	
[3]	<i>Dendrocygna bicolor</i> 219

DIPLAI	N2617E09017		
[3] <i>Aythya nyroca</i>		188	
DUDHWA NATIONAL PARK	N2820E08040		
[1] <i>Ephippiorhynchus asiaticus</i>		5	
<i>Anser anser</i>		160	
DUMUR JOLA, BANTRA, HOWRAH			
[2]	N2235E08820		
<i>Dendrocygna javanica</i>		2000	
FANSA TALAV	N2035E07300		
[1] <i>Dendrocygna bicolor</i>		558	
FATEH SAGAR LAKE	N2438E07345		
[1] <i>Podiceps nigricollis</i>		1100	
FULJAR RESERVOIR	N2155E07055		
[3] <i>Pelecanus crispus</i>		161	
GANAPUR LAKE			
[1] <i>Pelecanus onocrotalus</i>		1200	
GANGES EAST BANK: KUNOAN BRIDGE			
-CHILA BRIDGE	N3000E07814		
[2] <i>Phalacrocorax carbo</i>		286	
<i>Tadorna ferruginea</i>		586	
GHANPUR TANK	N1800E07935		
[1] <i>Netta rufina</i>		6500	
<i>Aythya fuligula</i>		2957	
GOMA DAM	N2215E07200		
[1] <i>Grus grus</i>		650	
<i>Anthropoides virgo</i>		3000	
GOPALPUR	N2405E08815		
[1] <i>Aythya fuligula</i>		1500	
GREAT RANN OF KACHCHH			
[1]	N2351E06924		
TOTAL WATERFOWL		77387	
<i>Phoenicopeterus ruber</i>		50000	
GUDUR TANK	N1410E07950		
[4] <i>Nettapus coromandelianus</i>		1503	
GULF OF KACHCHH AT JAMNAGAR			
[1]	N2233E07002		
<i>Grus grus</i>		2500	
GUMTI RESERVOIR	N2330E09150		
[3] <i>Dendrocygna bicolor</i>		893	
<i>Dendrocygna javanica</i>		1333	
HAGARI BOMMANALI RESERVOIR			
[1]	N1457E07610		
<i>Anser indicus</i>		800	
HALAR & KAMDAR S.W.	N2230E07005		
[1] <i>Recurvirostra avosetta</i>		211	
HARAI KA TAL			
[1] <i>Anser anser</i>		400	
HEGGERI TANK	N1446E07523		
[3] <i>Aythya nyroca</i>		100	
HERANJ			
[4] <i>Plegadis falcinellus</i>		196	
HIDKAL RESERVOIR	N1553E07435		
[4] <i>Egretta intermedia</i>		250	
<i>Anthropoides virgo</i>		2750	
ISCHARLA LAKE	N1800E07935		
[1] <i>Anas strepera</i>		2125	
JAFRABAD SALT WORKS	N2050E07130		
[3] <i>Anthropoides virgo</i>		3886	
<i>Recurvirostra avosetta</i>		253	
JAYAKWADI B.S.	N1930E07515		
[3] TOTAL WATERFOWL		32662	
<i>Phalacrocorax niger</i>		3473	
<i>Aythya ferina</i>		3967	
<i>Aythya nyroca</i>		449	
<i>Aythya fuligula</i>		10016	
<i>Anthropoides virgo</i>		2695	
JHAUKHALI	N2230E08810		
[3] <i>Ardea cinerea</i>		327	
KABINI RESERVOIR	N1200E07620		
[1] <i>Dendrocygna javanica</i>		4700	
<i>Anas poecilorhyncha</i>		2100	
KALALE TANK	N1204E07639		
[1] <i>Pseudibis papillosa</i>		178	
KALIVELI	N1208E07950		
[4] TOTAL WATERFOWL		24372	
<i>Ciconia ciconia</i>		62	
<i>Anas penelope</i>		6482	
<i>Netta rufina</i>		1604	
<i>Charadrius mongolus</i>		1125	
KALYANI LAKE	N2230E08820		
[2] <i>Dendrocygna javanica</i>		2000	

KANEWAL	N2228E07232		
[5] TOTAL WATERFOWL		22464	
<i>Ciconia ciconia</i>		109	
<i>Plegadis falcinellus</i>		153	
<i>Anthropoides virgo</i>		3072	
<i>Fulica atra</i>		15544	
KATTAMPALLY	N1155E07520		
[4] <i>Anas querquedula</i>		3500	
KAVAR TAAL (KHABARTAL)			
[1]	N2535E08610		
<i>Anastomus oscitans</i>		685	
KAVERIPAKKAM TANK	N1255E07927		
[3] <i>Anas querquedula</i>		5566	
KAZIRANGA NP, AGORATOLI RANGE			
[1]	N2640E09330		
<i>Ephippiorhynchus asiaticus</i>		5	
<i>Anser indicus</i>		1456	
KAZIRANGA NP, BAGURI RANGE			
[1]	N2637E09315		
<i>Ephippiorhynchus asiaticus</i>		9	
<i>Anser indicus</i>		774	
KAZIRANGA N.P.	N2640E09330		
[1] TOTAL WATERFOWL		20127	
<i>Pelecanus onocrotalus</i>		1250	
<i>Pelecanus philippensis</i>		2200	
<i>Phalacrocorax carbo</i>		820	
<i>Anhinga melanogaster</i>		320	
<i>Ephippiorhynchus asiaticus</i>		86	
<i>Leptoptilos dubius</i>		22	
<i>Leptoptilos javanicus</i>		720	
<i>Dendrocygna bicolor</i>		1800	
<i>Anser anser</i>		380	
<i>Anser indicus</i>		1830	
<i>Tadorna tadorna</i>		104	
KHAMBAT MUD FLATS	N2215E07230		
[1] TOTAL WATERFOWL		61784	
<i>Phoeniconaias minor</i>		50000	
KHARDA	N2600E07300		
[1] <i>Threskiornis melanocephalus</i>		115	
<i>Platalea leucorodia</i>		300	
KHIJADIYA BIRD SANCTUARY			
[3]	N2232E07004		
<i>Rynchops albicollis</i>		118	
KOLE WETLANDS	N1025E07605		
[3] <i>Egretta intermedia</i>		455	
KOLLERU LAKE	N1620E08110		
[2] TOTAL WATERFOWL		20692	
<i>Anastomus oscitans</i>		8000	
<i>Anas querquedula</i>		7500	
<i>Anas clypeata</i>		4000	
KOTHAVI VILLAGE POND			
[3] <i>Plegadis falcinellus</i>		123	
KUTCHIDI	N2140E06940		
[2] <i>Recurvirostra avosetta</i>		561	
LAKH LAKE	N2720E07950		
[2] <i>Anser anser</i>		525	
LAKHOTA LAKE	N2230E07005		
[2] <i>Phalacrocorax carbo</i>		269	
LAMBHVEL POND	N2235E07305		
[4] <i>Plegadis falcinellus</i>		140	
LEHALAN			
[3] <i>Mycteria leucocephala</i>		366	
LQDRA SANDHER	N2358E07127		
[1] <i>Grus grus</i>		400	
LUNIVAV DAM			
[1] <i>Egretta intermedia</i>		400	
<i>Ephippiorhynchus asiaticus</i>		8	
<i>Sarkidiornis melanotos</i>		182	
<i>Anthropoides virgo</i>		2836	
MACAZZEN TANK	N1515E07400		
[1] <i>Sarkidiornis melanotos</i>		287	
MADHAV NATIONAL PARK	N2527E07735		
[3] <i>Grus grus</i>		360	
<i>Anthropoides virgo</i>		2537	
MADURANTHAKKAM TANK			
[3]	N1230E07952		
<i>Anas querquedula</i>		3033	
MAHI RIVER ESTUARY	N2210E07250		
[4] <i>Pelecanus onocrotalus</i>		1161	
MANDOVI ESTUARY	N1532E07353		
[3] TOTAL WATERFOWL		34363	
<i>Anas acuta</i>		33333	
MANKAPUR			
[1] <i>Dendrocygna javanica</i>		1000	
MANSAROVAR	N2557E07630		
[3] <i>Anser indicus</i>		626	

MARJIM -'TEMBWADO' COASTLINE		N1830E07800
[2]	N1515E07400	900
	<i>Charadrius mongolus</i>	1000
MISAMARI BEEL	N2630E09430	
[2]	<i>Anser anser</i>	365
MORNA SMALL DAM	N1700E07415	
[1]	<i>Anthropoides virgo</i>	4013
MR.JAVARDHANA RAJ'S IRRIGATED RJCE FIELD	N1615E07715	
[1]	<i>Plegadis falcinellus</i>	103
NAGHRAMA		
[3]	<i>Plegadis falcinellus</i>	146
NAJAFGARH DRAIN	N2845E07710	
[3]	<i>Anas clypeata</i>	3044
NANAKMATA RESERVOIR		
[1]	<i>Podiceps cristatus</i>	1500
	<i>Phalacrocorax carbo</i>	500
	<i>Anas acuta</i>	10000
NANDANKANAN BIOLOGICAL PARK		
[1]	N2015E08555	
	<i>Anhinga melanogaster</i>	40
NANDUR MADHMESHWAR	N2000E07400	
[5]	<i>Plegadis falcinellus</i>	188
	<i>Anthropoides virgo</i>	1543
NARASAMBUDHI TANK	N1205E07643	
[1]	<i>Egretta garzetta</i>	809
NARORA DAM (GANGA RIVER)		
[3]	N2800E07800	
	<i>Phalacrocorax carbo</i>	283
	<i>Anser anser</i>	266
NAVA TALAO (VILLAGE SAVDA)		
[1]	N2205E07235	
	<i>Grus grus</i>	200
NAVEGAON LAKE	N2200E08000	
[2]	<i>Nettapus coromandelianus</i>	517
	<i>Netta rufina</i>	1255
NAWAB KHAN SALTWORKS	N2050E07125	
[1]	<i>Recurvirostra avosetta</i>	300
NELLAPATTU PELICANRY	N1312E07957	
[4]	<i>Pelecanus philippensis</i>	514
	<i>Phalacrocorax fuscicollis</i>	913
	<i>Threskiornis melanocephalus</i>	106
NIZAMSAGAR DAM		
[1]	<i>Netta rufina</i>	900
	<i>Aythya ferina</i>	4500
NYARI-II		
[2]	<i>Pelecanus crispus</i>	20
OUSTERI TANK		
[4]	<i>Egretta intermedia</i>	648
PANIDIHING		
[2]	<i>Leptoptilos dubius</i>	5
	<i>Plegadis falcinellus</i>	456
	<i>Anser anser</i>	214
	<i>Anser indicus</i>	2598
PATADI GAM TALAV SEWAGE POND		
[2]	<i>Mycteria leucocephala</i>	162
	<i>Grus grus</i>	500
PAWAPURI TANK	N2505E08535	
[1]	<i>Anser anser</i>	275
PERUMAL ERI		
[3]	N1135E07940	
	<i>Anas querquedula</i>	5083
PICHAVARAM MANGROVE	N1125E07947	
[5]	<i>Ephippiorhynchus asiaticus</i>	15
PIROTAN ISLAND		
[1]	N2230E07005	
	<i>Dromas ardeola</i>	500
POCHARAM		
[3]	N1810E07812	
	<i>Anthropoides virgo</i>	1866
POINT CALIMERE B.S.		
[5]	N1017E07952	
	TOTAL WATERFOWL	39913
	<i>Mycteria leucocephala</i>	160
	<i>Platalea leucorodia</i>	230
	<i>Recurvirostra avosetta</i>	618
	<i>Charadrius mongolus</i>	1355
	<i>Tringa stagnatilis</i>	3381
	<i>Calidris minuta</i>	9306
	<i>Calidris ferruginea</i>	2959
PONG DAM BIRD SANCTUARY		
[3]	N3200E07600	
	<i>Tadorna ferruginea</i>	1516
	<i>Anas platyrhynchos</i>	1166
PUDUVYPPU MANGROVES		
[2]	N0958E07610	
	<i>Larus brunnicephalus</i>	1000

PULICAT LAKE	N1342E08008		
[4] TOTAL WATERFOWL		73419	
<i>Pelecanus philippensis</i>		141	
<i>Egretta alba</i>		387	
<i>Dendrocygna javanica</i>		1250	
<i>Recurvirostra avosetta</i>		483	
<i>Tringa stagnatilis</i>		1002	
<i>Calidris minuta</i>		3859	
PUTHUPALLI ALAM	N1036E07948		
[3] TOTAL WATERFOWL		50144	
<i>Egretta intermedia</i>		520	
<i>Egretta garzetta</i>		675	
<i>Himantopus himantopus</i>		2171	
<i>Charadrius mongolus</i>		7816	
<i>Tringa stagnatilis</i>		7043	
<i>Calidris minuta</i>		14533	
<i>Calidris ferruginea</i>		4690	
RAIGIRI LAKE	N1730E07900		
[1] <i>Netta rufina</i>		753	
RALAWAY TERIKE			
[1] <i>Anhinga melanogaster</i>		58	
RAMESWARAM AND MANALI ISLANDS			
[1] TOTAL WATERFOWL	N0920E07855	24918	
<i>Pluvialis squatarola</i>		365	
<i>Charadrius mongolus</i>		3450	
<i>Calidris tenuirostris</i>		36	
<i>Calidris ferruginea</i>		2450	
<i>Larus brunnicephalus</i>		7500	
<i>Sterna sandvicensis</i>		1800	
RANGANATHITTU SANCTUARY			
[1] <i>Phalacrocorax carbo</i>	N1225E07645	300	
RANIPORDA			
[3] <i>Anser anser</i>		215	
RAVRIYAL LAKE	N1720E07825		
[1] <i>Anas poecilorhyncha</i>		600	
SABARMATI R.: VASANA BARRAGE			
[1] <i>Himantopus himantopus</i>	N2205E07235	1000	
SADDA DAM	N2230E07005		
[1] <i>Anthropoides virgo</i>		1956	
SAGARAKATTE	N1218E07635		
[2] <i>Phalacrocorax niger</i>		2016	
SAHEB BANDH			
[2] <i>Aythya nyroca</i>		200	
SAMAN JHEEL			
[1] <i>Anastomus oscitans</i>		500	
SAMASPUR BIRD SANCTUARY			
[1] <i>Dendrocygna javanica</i>	N2600E08115	3000	
<i>Sarkidiornis melanotos</i>		200	
SANTALPUR TANK			
[2] <i>Mycteria leucocephala</i>		191	
SANTRAGACHI RAILWAY JHEELS			
[1] <i>Dendrocygna javanica</i>	N2230E08820	1350	
SARERI DAM			
[2] <i>Pelecanus philippensis</i>		112	
SEPAHIJALA RESERVOIR	N2339E09119		
[2] <i>Dendrocygna javanica</i>		1853	
SINGUR UPSTREAM - MANJIRA RIVER			
[1] TOTAL WATERFOWL	N1635E07800	21762	
<i>Anser indicus</i>		1458	
<i>Sarkidiornis melanotos</i>		754	
<i>Tadorna ferruginea</i>		849	
SITADWAR	N2725E08148		
[1] <i>Platalea leucorodia</i>		460	
SITARAMPUR DAM	N2247E08606		
[2] <i>Netta rufina</i>		735	
SOUTH EASTERN RAILWAY CENTENARY			
[1] <i>Dendrocygna javanica</i>	N2235E08820	6000	
SPIC NAGAR (TUTICORIN)	N0844E07808		
[3] <i>Charadrius mongolus</i>		1000	
<i>Calidris minuta</i>		2200	
<i>Calidris ferruginea</i>		1166	
SURESHWARA			
[1] <i>Grus grus</i>		400	
T G HALLI TANK	N1255E07720		
[1] <i>Anser indicus</i>		600	
VACHHAPARI DAM			
[1] <i>Sarkidiornis melanotos</i>		72	
<i>Nettapus coromandelianus</i>		512	
<i>Anthropoides virgo</i>		1631	

VADIP PERENNIAL PONDS/TANKS

[1]	<i>Ardea purpurea</i>	105
	<i>Sarkidiornis melanotos</i>	114

VALINOKKAM, SALT PAN N0920E07855

[1]	<i>Calidris minuta</i>	2300
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VARI TALAB N2155E07055

[2]	<i>Pelecanus crispus</i>	118
	<i>Sarkidiornis melanotos</i>	197
	<i>Grus grus</i>	369

VASHI CREEK INSIDE N1840E07300

[1]	<i>Charadrius mongolus</i>	1200
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VEDANTHANGAL BIRD SANCTUARY

[4]	N1230E07951	
	<i>Phalacrocorax fuscicollis</i>	705
	<i>Ardea cinerea</i>	372
	<i>Threskiornis melanocephalus</i>	112

VEDURAPATTU N1345E08000

[2]	<i>Mycteria leucocephala</i>	229
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VERI DAM N2109E07009

[2]	<i>Pelecanus crispus</i>	28
	<i>Anhinga melanogaster</i>	60
	<i>Ephippiorhynchus asiaticus</i>	10
	<i>Pseudibis papillosa</i>	100
	<i>Sarkidiornis melanotos</i>	205
	<i>Anthropoides virgo</i>	1801

VIRANAM ERI N1120E07932

[3]	TOTAL WATERFOWL	33154
	<i>Anastomus oscitans</i>	1015
	<i>Plegadis falcinellus</i>	114
	<i>Anas querquedula</i>	20043

WADWANA RESERVOIR N2215E07315

[3]	<i>Anser anser</i>	173
	<i>Grus grus</i>	474

WASHISTHI RIVER N1700E07320

[2]	<i>Anhinga melanogaster</i>	309
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WILLINGDON RESERVOIR N1125E07905

[1]	<i>Anas querquedula</i>	4300
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WIMCO SALT FACTORY N1010E07950

[1]	TOTAL WATERFOWL	22957
	<i>Himantopus himantopus</i>	3550
	<i>Charadrius mongolus</i>	2500
	<i>Tringa stagnatilis</i>	3500
	<i>Calidris minuta</i>	6200
	<i>Calidris ferruginea</i>	3600

YAMUNA RIVER: OKHLA BARRAGE

[5]	N2840E07710	
	<i>Aythya nyroca</i>	140

YERALWADI TANK

[1]	<i>Anthropoides virgo</i>	8000
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INDONESIA

BANYUASIN DELTA

[3]	<i>Mycteria cinerea</i>	228
	<i>Leptoptilos javanicus</i>	52
	<i>Numenius madagascariensis</i>	367
	<i>Limnodromus semipalmatus</i>	450

SEGARA ANAKAN + DONAN RIVER

[1]	S0740E10850	
	<i>Mycteria cinerea</i>	110

TEMPE LAKE

[1]	TOTAL WATERFOWL	25617
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UJUNG PANGKAH S0653E11236

[1]	<i>Limnodromus semipalmatus</i>	930
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IRAN

AB-BANDANS RUDBARY AND VASEJ

[1]	N3410E04815	
	<i>Ardea cinerea</i>	400

ANZALI MARSH, CENTRE N3725E04928

[3]	<i>Phalacrocorax pygmaeus</i>	80
	<i>Egretta alba</i>	110

ANZALI MARSH, EAST N3725E04935

[5]	<i>Phalacrocorax pygmaeus</i>	34
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ARAS RUD (BRALAN-ARAS DAM)

[2]	N3950E04420	
	<i>Tadorna ferruginea</i>	1131

ARJAN (DASHT-I-ARJAN) MARSH

[4]	N2932E05158	
	<i>Anser anser</i>	1493
	<i>Tadorna ferruginea</i>	1704
	<i>Anas penelope</i>	3208
	<i>Grus grus</i>	212

BAKHTEGAN & TASHK LAKES

[5]	N2934E05337	
	TOTAL WATERFOWL	139842
	<i>Plegadis falcinellus</i>	130

<i>Phoenicopterus ruber</i>	32404		
<i>Anser anser</i>	2895		
<i>Tadorna ferruginea</i>	7527		
<i>Tadorna tadorna</i>	2872		
<i>Anas penelope</i>	2934		
<i>Anas crecca</i>	16460		
<i>Anas platyrhynchos</i>	54034		
<i>Marmaronetta angustirostris</i>	1680		
<i>Grus grus</i>	2076		
<i>Himantopus himantopus</i>	101		
CASPIAN COAST: BANDAR TURKMAN-CIS BORDER		N3700E05403	
[3]	TOTAL WATERFOWL	40973	
	<i>Phoenicopterus ruber</i>	14583	
	<i>Anser anser</i>	1967	
CASPIAN COAST: FARAHABAD-ASHUR			
[4]		N3655E05335	
	<i>Podiceps cristatus</i>	144	
	<i>Aythya fuligula</i>	2642	
CASPIAN COAST: LANGARUD-RAMSAR			
[1]		N3705E05030	
	TOTAL WATERFOWL	20595	
	<i>Aythya fuligula</i>	2265	
CASPIAN COAST: LANGARUD-BABOLSAR			
[5]		N3655E05055	
	<i>Aythya fuligula</i>	4253	
DAMGAH AZBARAN			
[1]	TOTAL WATERFOWL	22538	
	<i>Anas strepera</i>	1950	
DASHT-E MOGHAN (ARAS RIVER)			
[2]		N3800E04700	
	<i>Egretta alba</i>	129	
	<i>Anser albifrons</i>	165	
DASHT-E SHOEYBI			
[1]		N3600E04600	
	<i>Anser albifrons</i>	1274	
	<i>Anser anser</i>	10076	
	<i>Tadorna ferruginea</i>	643	
	<i>Grus grus</i>	456	
DEZ DAM & RIVER			
[4]		N3231E04823	
	<i>Egretta alba</i>	125	
	<i>Anser anser</i>	1900	
	<i>Grus grus</i>	295	
ESBARAN			
[1]		N3640E05250	
	<i>Limosa limosa</i>	300	
FERIDOON KENAR DAMGAH			
[5]		N3634E05231	
	TOTAL WATERFOWL	137097	
	<i>Anser albifrons</i>	398	
	<i>Anser anser</i>	2282	
	<i>Anas penelope</i>	4304	
	<i>Anas strepera</i>	10443	
	<i>Anas crecca</i>	56659	
	<i>Anas platyrhynchos</i>	30169	
	<i>Anas acuta</i>	18850	
	<i>Anas clypeata</i>	4754	
	<i>Grus leucogeranus</i>	6	
GAREH CHAY RUD			
[4]		N3410E04820	
	<i>Marmaronetta angustirostris</i>	705	
GAREH-GHESHLAGH MARSHES			
[3]		N3710E04545	
	<i>Cygnus columbianus</i>	13	
	<i>Tadorna tadorna</i>	5120	
GAVEKHONI MARSH			
[4]		N3218E05251	
	TOTAL WATERFOWL	52028	
	<i>Tadorna ferruginea</i>	1926	
	<i>Tadorna tadorna</i>	5232	
	<i>Anas strepera</i>	1651	
	<i>Anas crecca</i>	15840	
GOMISHAN MARSH			
[2]		N3653E05406	
	TOTAL WATERFOWL	154928	
	<i>Podiceps cristatus</i>	400	
	<i>Pelecanus crispus</i>	167	
	<i>Phalacrocorax carbo</i>	1767	
	<i>Ardea cinerea</i>	582	
	<i>Egretta alba</i>	560	
	<i>Egretta garzetta</i>	290	
	<i>Phoenicopterus ruber</i>	13000	
	<i>Anas penelope</i>	8000	
	<i>Anas strepera</i>	6500	
	<i>Anas crecca</i>	15000	
	<i>Anas platyrhynchos</i>	26905	
	<i>Anas clypeata</i>	6844	
	<i>Aythya ferina</i>	11470	
	<i>Fulica atra</i>	47600	
	<i>Himantopus himantopus</i>	850	
	<i>Tringa totanus</i>	750	
	<i>Larus ichthyaeus</i>	264	
GOPY LAKE			
[3]		N3657E04551	
	<i>Anser anser</i>	2333	
GORGAN BAY			
[4]		N3652E05353	
	<i>Aythya nyroca</i>	87	

HAMIDIEH GRASSLAND	N3128E04826	<i>Numenius arquata</i>	281
[3] <i>Anser anser</i>	3903	<i>Larus argentatus/cachinnans</i>	1500
		<i>Sterna caspia</i>	281
HAMOUN-I HELMAND	N3045E06113	LAVANDAVIL MARSH	N3818E04852
[4] <i>Ardea cinerea</i>	159	[3] <i>Phalacrocorax pygmaeus</i>	48
HARA PROTECTED REGION	N2650E05540	MAHARLOO LAKE	N2929E05247
[1] <i>Egretta alba</i>	125	[5] <i>Tadorna ferruginea</i>	1780
HARM LAKE	N2812E05342	<i>Grus grus</i>	543
[2] <i>Grus grus</i>	451		
HELLEH REGION: RIVER + DELTA		MIANKALEH PROTECTED REGION	
[5] TOTAL WATERFOWL	N2908E05045	[5] TOTAL WATERFOWL	N3650E05339
<i>Anser anser</i>	22801	<i>Pelecanus crispus</i>	104133
<i>Anas penelope</i>	2736	<i>Phoenicopterus ruber</i>	167
	2614	<i>Anas penelope</i>	11976
		<i>Anas platyrhynchos</i>	5748
HOREH BAMDEJ MARSH	N3118E04839	<i>Anas acuta</i>	24781
[4] TOTAL WATERFOWL	21083	<i>Anas clypeata</i>	10698
<i>Grus grus</i>	855	<i>Aythya ferina</i>	3975
<i>Himantopus himantopus</i>	237	<i>Recurvirostra avosetta</i>	6151
			304
HOREH SOSANGERD	N3131E04813	MOND PROTECTED REGION	N2810E05118
[1] TOTAL WATERFOWL	28203	[4] <i>Larus ichthyetus</i>	250
<i>Anser anser</i>	1995		
<i>Anas strepera</i>	1755	NOWROOZ LOO (NOUREOZLO) DAM	
		[2] TOTAL WATERFOWL	N3650E04550
IZEH & SHIEKHON LAKES	N3152E04954	<i>Cygnus columbianus</i>	25
[4] TOTAL WATERFOWL	44810		
<i>Ardea cinerea</i>	126	OVEIZEH AND SURROUNDS	N3130E04805
<i>Egretta alba</i>	160	[1] <i>Anser anser</i>	1850
<i>Anser anser</i>	1722		
<i>Fulica atra</i>	23118	PARISHAN LAKE	N3029E05152
<i>Recurvirostra avosetta</i>	100	[4] TOTAL WATERFOWL	37497
		<i>Plegadis falcinellus</i>	252
KAFEH UAZD KHASHT AND		<i>Anser anser</i>	3993
SHOHREH PAR	N2949E05225	<i>Tadorna ferruginea</i>	572
[1] <i>Tadorna ferruginea</i>	403	<i>Marmaronetta angustirostris</i>	2203
<i>Grus grus</i>	2519	<i>Grus grus</i>	638
KAFTAR LAKE		PERSIAN GULF, BUSHEHR BAY	
[2] TOTAL WATERFOWL	23095	+ SURRDS.	N2700E05325
<i>Grus grus</i>	1464	[3] <i>Larus argentatus/cachinnans</i>	2508
KALSHOR SABZAVAR AND K.NISHABOR		PERSIAN GULF, BANDAR ABAS-BANDAR	
[1] TOTAL WATERFOWL	N3600E05740	KHAMIR	N2700E05600
<i>Anas strepera</i>	2410	[1] <i>Egretta alba</i>	105
KHOR HEJDAN	N2642E05742	POZAM MAYTAB COAST	N2540E05900
[4] <i>Larus argentatus/cachinnans</i>	1507	[2] <i>Larus argentatus/cachinnans</i>	1279
KHOR TIAB AND KHOR KOLAIIY		RASHT FISHPOND	N3715E04935
[2] TOTAL WATERFOWL	N2700E05650	[1] <i>Phalacrocorax pygmaeus</i>	33
<i>Egretta alba</i>	100		

ROSHANDAN AB-BANDAN N3640E05249
[4] *Marmaronetta angustirostris* 287

SARRAKHS FISHPOOL N3630E06110
[1] *Egretta alba* 130

SHADEGAN MARSHES PROTECTED REGION
[4] N3039E04830
TOTAL WATERFOWL 44748
Ardea cinerea 123
Anser anser 1427
Marmaronetta angustirostris 1575
Aythya ferina 3744

SIAKESHIM P.R. N3725E04921
[5] *Cygnus olor* 609
Aythya ferina 4321

SOUTH OF UROMIEH LAKE N3733E04517
[2] TOTAL WATERFOWL 49398

TORKMAN SAHRA
[1] TOTAL WATERFOWL 60421
Fulica atra 45400

UROMIEH LAKE N3730E04530
[4] *Anser anser* 2542
Cygnus columbianus 15
Tadorna ferruginea 447
Tadorna tadorna 2930

WEST OF UROMIEH LAKE, TABBAT-
HEYDAR-ABAD N3705E04526
[1] *Tadorna tadorna* 6438

YADEGARLO LAKE N3702E04533
[4] *Tadorna ferruginea* 587

ZARGAN PLAIN N3120E04829
[1] *Anser anser* 7500

JAPAN

ABUKUMA RIVER N3752E14038
[3] *Cygnus columbianus* 465

AKKESHI LAKE N4309E14459
[3] *Cygnus cygnus* 931

HACHIROGATA N4006E14005
[2] *Cygnus cygnus* 387

HAMANA LAKE N3446E13744
[3] TOTAL WATERFOWL 22674
Anas falcata 1363

HYOKO LAKE N3756E13923
[3] TOTAL WATERFOWL 50274
Cygnus cygnus 492
Cygnus columbianus 1444

INAWASHIRO LAKE N3735E14017
[3] *Cygnus columbianus* 493

ISAHAYA BAY N3257E13024
[3] TOTAL WATERFOWL 29867
Aythya marila 20676

IZUMI N3212E13025
[1] *Grus monacha* 7460
Grus vipio 1416

IJUNUMA/UCHINUMA LAKE N3848E14113
[2] *Anser albifrons* 2805
Cygnus cygnus 1639

KAHOKUGATA N3644E13647
[3] TOTAL WATERFOWL 20035

KANZANJI
[3] TOTAL WATERFOWL 22674

KASUMIGAURA LAKE N3605E14029
[2] TOTAL WATERFOWL 25216

KUSHIRO MARSH AND SURROUNDING
AREA N4300E14430
[1] *Grus japonensis* 469

LAKE SAGATA-KAMISAGATA-
MITARAIGATA N3754E13901
[3] *Cygnus columbianus* 1835

MINAMI KASAI (INNER TOKYO BAY)
[3] N3544E13959
TOTAL WATERFOWL 35190
Aythya marila 34333

MOGAMI RIVER N3853E13958
[2] *Cygnus cygnus* 725
Cygnus columbianus 415

NAKAUMI LAKE (CHUKAI) N3532E13336
[2] TOTAL WATERFOWL 39007
Cygnus columbianus 1096

OBUCHI-NUMA N4103E14129
[3] *Cygnus cygnus* 383

OGAWARA LAKE N4056E14128
[3] *Cygnus cygnus* 916

SHINTSUTSUMI POND N3920E14110
[3] *Cygnus cygnus* 414

TOYANOGATA & SEIGOROGATA LAKES
[3] N3759E13911
Cygnus columbianus 756

LAKE UTONAI N4247E14151
[3] *Cygnus cygnus* 342

KAZAKHSTAN

CASPIAN COAST: O-VA-DURNEVA-
TURKM. BORDER N4400E05100
[1] TOTAL WATERFOWL 66200
Cygnus olor 4000
Netta rufina 10000
Aythya ferina 20000
Aythya marila 25000

CHARDARA RESERVOIR N4110E06815
[1] *Anser anser* 2500
Tadorna ferruginea 1500

KARAKOL LAKE N4330E05300
[1] TOTAL WATERFOWL 23100
Cygnus olor 8000
Netta rufina 3000
Aythya marila 5000

MYANMAR

IRRAWADDY R.: KYAUKMYAUNG-SINGU
N2234E09558
[1] *Grus grus* 200

IRRAWADDY R.: MAGWE-MYEDE
[1] N1950E09457
Tadorna ferruginea 550

IRRAWADDY R.: SINBYUKYUN - MINBU
[1] N2022E09447
Tadorna ferruginea 850

LETKOK KON
[1] *Tadorna ferruginea* 10000

YEWAI LAKE
[1] *Aythya baeri* 512
Aythya nyroca 125

NEPAL

NARAYANI R. + DEVI, MANNA TALS
[5] N2740E08415
Phalacrocorax carbo 362
Tadorna ferruginea 1237

RARA LAKE, RARA N.P. N2930E08205
[1] *Podiceps cristatus* 137

OMAN

BARR AL HIKMAN N2030E05830
[3] TOTAL WATERFOWL 214478
Phalacrocorax carbo 3843
Ardea cinerea 268
Egretta alba 130
Egretta gularis 765
Dromas ardeola 1862
Haematopus ostralegus 2112
Himantopus himantopus 3569
Pluvialis squatarola 1218
Charadrius mongolus 1718
Limosa lapponica 34630
Numenius phaeopus 427
Numenius arquata 1181
Tringa totanus 9423
Arenaria interpres 1348
Calidris tenuirostris 437
Calidris alba 2326
Calidris minuta 10294
Calidris alpina 9336
Calidris ferruginea 2986
Limicola falcinellus 616
Larus hemprichii 11808
Larus ichthyaetus 376
Larus genei 25345
Sterna caspia 592
Sterna bergii 2233
Sterna sandvicensis 22185

BATINAH COAST, SOHAR-SEEB
[3] N2346E05800
Larus ridibundus 2732

DAWHAT SAWQIRAH	N1840E05641
[3] TOTAL WATERFOWL	21775
<i>Ardea cinerea</i>	125
<i>Egretta gularis</i>	603
<i>Recurvirostra avosetta</i>	139
<i>Charadrius mongolus</i>	472
<i>Calidris alpina</i>	1811
<i>Larus hemprichii</i>	6852
<i>Sterna caspia</i>	133

DHOFAR KHAWRS	N1700E05410
[4] <i>Ardea cinerea</i>	158
<i>Larus hemprichii</i>	997

DUQM	N1940E05740
[3] TOTAL WATERFOWL	23173
<i>Phalacrocorax nigrogularis</i>	8466
<i>Ardea cinerea</i>	177
<i>Recurvirostra avosetta</i>	110
<i>Larus hemprichii</i>	815
<i>Larus ichthyaetus</i>	509
<i>Sterna sandvicensis</i>	1166

MASIRAH ISLAND	N2030E05845
[3] <i>Ardea cinerea</i>	195
<i>Egretta gularis</i>	333
<i>Dromas ardeola</i>	621
<i>Haematopus ostralegus</i>	1187
<i>Charadrius mongolus</i>	2849
<i>Limosa lapponica</i>	2234
<i>Numenius arquata</i>	480
<i>Larus hemprichii</i>	1940
<i>Larus argentatus/cachinnans</i>	3054
<i>Larus ichthyaetus</i>	690
<i>Sterna bergii</i>	792
<i>Sterna sandvicensis</i>	573

RAS AL HADD	N2233E05947
[4] <i>Larus argentatus/cachinnans</i>	763
<i>Larus ichthyaetus</i>	318
<i>Sterna sandvicensis</i>	573

SEEB -QURM	N2340E05812
[3] TOTAL WATERFOWL	28968
<i>Larus ridibundus</i>	23915

PAKISTAN

BAROON KIRTHEER LAKE/CANAL	N2800E06800
[5] <i>Pluvialis squatarola</i>	1200

BUND KHUSHDIL KHAN	N3043E06700
[4] <i>Anas platyrhynchos</i>	2182

CHASHMA BARRAGE RESERVOIR	N3220E07120
[5] TOTAL WATERFOWL	167934
<i>Egretta alba</i>	361
<i>Anas penelope</i>	28929
<i>Anas strepera</i>	1874
<i>Anas clypeata</i>	8603
<i>Netta rufina</i>	1530
<i>Aythya ferina</i>	10057
<i>Fulica atra</i>	93515

CLIFTON BEACH	N2448E06705
[5] <i>Pluvialis squatarola</i>	368
<i>Calidris minuta</i>	4690

DHANIPAT LAKE, SANGHAR	N2602E06858
[2] <i>Aythya ferina</i>	3500

DRIGH	N2734E06754
[5] TOTAL WATERFOWL	28007
<i>Anas strepera</i>	2274
<i>Anas crecca</i>	6154
<i>Anas clypeata</i>	3369
<i>Aythya ferina</i>	3771

GUDDU BARRAGE	N2830E06945
[4] <i>Anas platyrhynchos</i>	1525

HADERO LAKE	N2450E06752
[5] TOTAL WATERFOWL	58972
<i>Pelecanus onocrotalus</i>	529
<i>Pelecanus crispus</i>	126
<i>Ardea cinerea</i>	225
<i>Anas penelope</i>	16609
<i>Aythya ferina</i>	4566
<i>Fulica atra</i>	25923

HAJAMRO COASTAL ZONE	N2407E06722
[1] <i>Pelecanus onocrotalus</i>	300

HALEJI LAKE	N2448E06747
[5] TOTAL WATERFOWL	93784
<i>Pelecanus crispus</i>	35
<i>Phalacrocorax carbo</i>	498
<i>Anas penelope</i>	6322
<i>Anas strepera</i>	1773
<i>Anas crecca</i>	5024
<i>Anas clypeata</i>	3403
<i>Aythya ferina</i>	5107
<i>Aythya fuligula</i>	3340
<i>Fulica atra</i>	61994

HAMAL KATCHRI LAKE	N2724E06738
[4] TOTAL WATERFOWL	49131
<i>Phalacrocorax carbo</i>	947

<i>Plegadis falcinellus</i>	249	<i>Anas crecca</i>	5500
<i>Anas penelope</i>	3625	<i>Recurvirostra avosetta</i>	530
<i>Anas strepera</i>	4375	<i>Limosa limosa</i>	14210
<i>Marmaronetta angustirostris</i>	408		
<i>Aythya ferina</i>	6600		
<i>Fulica atra</i>	23250		
HAWKS BAY-SANDSPIT & MAURI PUR		KEENJHAR LAKE	N2512E06808
[5]	N2450E06651	1987-91: [5]	TOTAL WATERFOWL
<i>Recurvirostra avosetta</i>	413	131946	
<i>Calidris minuta</i>	11770	<i>Anas penelope</i>	8721
HEAD MARALA BARRAGE	N3240E07430	<i>Anas strepera</i>	1656
[5]		<i>Aythya ferina</i>	10672
<i>Anas crecca</i>	11265	<i>Aythya fuligula</i>	5822
<i>Anas platyrhynchos</i>	5094	<i>Fulica atra</i>	94331
HEAD QADIRABAD	N3235E07405	KHANJO (OR KHAWAJA)	N2443E06904
[5]		[4]	<i>Anas strepera</i>
<i>Anas platyrhynchos</i>	1250		2527
HINGOL HOR	N2510E06530	KHARAL (KHARRAR) LAKE	N3052E07332
[1]		[5]	TOTAL WATERFOWL
<i>Platalea leucorodia</i>	325		24778
<i>Pluvialis squatarola</i>	1200	<i>Anas penelope</i>	3316
<i>Sterna sandvicensis</i>	1400	<i>Anas crecca</i>	5998
HUB DAM	N2517E06708	<i>Anas clypeata</i>	3611
[5]		<i>Oxyura leucocephala</i>	25
TOTAL WATERFOWL	52095	KHILAN DHAND, BADIN	N2440E06850
<i>Podiceps nigricollis</i>	545	[3]	<i>Phalacrocorax fuscicollis</i>
<i>Pelecanus onocrotalus</i>	535		5000
<i>Phalacrocorax carbo</i>	330		<i>Phalacrocorax niger</i>
<i>Aythya ferina</i>	5076		5000
<i>Aythya fuligula</i>	2615	KORANGI CREEK	N2446E06710
<i>Fulica atra</i>	34870	[4]	<i>Haematopus ostralegus</i>
ITHPAR	N2556E06908		412
[4]		LAKHI DHAND	
<i>Himantopus himantopus</i>	1316	[2]	TOTAL WATERFOWL
<i>Tringa stagnatilis</i>	957		42804
JABHO/KUR	N2418E06836	<i>Pelecanus onocrotalus</i>	1962
[5]		<i>Phoenicopterus ruber</i>	11250
TOTAL WATERFOWL	48509	<i>Phoeniconaias minor</i>	1600
<i>Pelecanus onocrotalus</i>	5868	<i>Tadorna tadorna</i>	323
<i>Pelecanus crispus</i>	100	<i>Anas penelope</i>	2500
<i>Phoenicopterus ruber</i>	10543	<i>Anas crecca</i>	11250
<i>Tadorna ferruginea</i>	1333	MANCHAR LAKE	N2625E06740
<i>Tadorna tadorna</i>	872	[4]	<i>Aythya ferina</i>
<i>Anas crecca</i>	5374		4682
<i>Recurvirostra avosetta</i>	2497	MANGLA RESERVOIR	N3307E07340
JAM SAR		[4]	TOTAL WATERFOWL
[1]			27060
<i>Platalea leucorodia</i>	260	<i>Anas platyrhynchos</i>	4883
JHALAR LAKE	N3220E07220	<i>Aythya ferina</i>	4919
[5]		<i>Aythya fuligula</i>	8022
<i>Oxyura leucocephala</i>	65	NUR-RI, BADIN	N2420E06840
KALKAN WARI CHAND	N2412E06743	[4]	TOTAL WATERFOWL
[2]			59268
TOTAL WATERFOWL	35318	<i>Pelecanus onocrotalus</i>	3618
<i>Anas strepera</i>	1500	<i>Ciconia ciconia</i>	47
		<i>Phoenicopterus ruber</i>	13505
		<i>Tadorna tadorna</i>	100
		<i>Anas crecca</i>	11950

	<i>Anas acuta</i>	13075			
	<i>Grus grus</i>	338			
	<i>Recurvirostra avosetta</i>	504			
	<i>Limosa limosa</i>	2893			
PAGRI		N2725E06802			
[4]	TOTAL WATERFOWL	28314			
	<i>Platalea leucorodia</i>	670			
	<i>Anas strepera</i>	1640			
	<i>Anas crecca</i>	9825			
	<i>Anas acuta</i>	8450			
	<i>Anas clypeata</i>	4150			
PHOOSNA I		N2451E06853			
[1]	<i>Anas platyrhynchos</i>	800			
	<i>Aythya ferina</i>	4500			
RARR (HATHUNGO LAKES)		N2540E06930			
[1]	<i>Anas penelope</i>	2500			
RAS JUDDI		N2515E06330			
[1]	<i>Haematopus ostralegus</i>	450			
RASUL BARRAGE		N3240E07330			
[5]	TOTAL WATERFOWL	29983			
	<i>Anas crecca</i>	6188			
	<i>Anas platyrhynchos</i>	1901			
	<i>Anas acuta</i>	7713			
RAWAL DAM		N3340E07310			
[3]	<i>Anas platyrhynchos</i>	2026			
RUP (GHAUSPUR) LAKE		N2807E06906			
[5]	TOTAL WATERFOWL	21731			
	<i>Himantopus himantopus</i>	1260			
	<i>Calidris minuta</i>	3565			
SANDHO		N2420E06846			
[2]	<i>Pelecanus onocrotalus</i>	1250			
	<i>Phoenicopterus ruber</i>	11000			
	<i>Recurvirostra avosetta</i>	600			
SHAHBUNDER SALT BED		N2410E06755			
[2]	TOTAL WATERFOWL	39540			
	<i>Tadorna ferruginea</i>	665			
	<i>Anas penelope</i>	4200			
	<i>Anas clypeata</i>	3600			
	<i>Aythya ferina</i>	6750			
SHAIKH KERIO PEER, BADIN		N2418E06846			
[1]	<i>Pelecanus onocrotalus</i>	600			
	<i>Pelecanus crispus</i>	300			
SHAKOOR DHAND, RAHAMKI BAZAR		N2416E06908			
[3]	<i>Phalacrocorax fuscicollis</i>	1252			
SOONAHRI (I+II)		N2604E06908			
[5]	<i>Anas strepera</i>	2593			
	<i>Marmaronetta angustirostris</i>	297			
TARBELA RESERVOIR		N3407E07250			
[5]	<i>Anas platyrhynchos</i>	1804			
TAUNSA BARRAGE		N3050E07040			
[4]	<i>Anas platyrhynchos</i>	1000			
UCCHALI		N3233E07200			
[5]	<i>Anas platyrhynchos</i>	950			
	<i>Oxyura leucocephala</i>	178			
WARHARO, KADHAN		N2419E06849			
[4]	<i>Recurvirostra avosetta</i>	385			
WASO					
[1]	<i>Platalea leucorodia</i>	320			
PHILIPPINES					
CANDABA SWAMP		N1505E12053			
[2]	<i>Anas luzonica</i>	77			
CAVITE AREA, MANILA BAY					
[1]		N1420E12056			
	<i>Pluvialis fulva</i>	2100			
HINAKTAKAN, BITU-ON, LAPAZ-JARO					
[2]		N1044E12235			
	<i>Anas luzonica</i>	285			
OLANGO ISLAND		N1014E12402			
[2]	<i>Egretta eulophotes</i>	36			
ORMOC INTERTIDAL FLAT		N1100E12434			
[1]	<i>Egretta eulophotes</i>	1600			
SAUDI ARABIA					
ABU ALI		N2720E04940			
[1]	<i>Phalacrocorax carbo</i>	2603			
ALAWAYMIYAH & SAFWA MANGROVES,					
TAROUT BAY		N2640E05010			
[1]	<i>Phalacrocorax carbo</i>	1115			
	<i>Ardea cinerea</i>	153			
	<i>Tringa totanus</i>	2500			
	<i>Sterna caspia</i>	177			

ANAK, TAROUT BAY N2630E05000
 [1] *Ardea cinerea* 105

AS-SAYHAT BAY & LAGOONS (TAROUT BAY) N2630E05000
 [1] *Calidris alpina* 3252
Limicola falcinellus 321

EL HAIR WATERCOURSE (RESERVE) N2425E04650
 [1] *Ardea cinerea* 220

FARAZAN ISLAND NW, MANGROVES N1635E04210
 [1] *Pelecanus rufescens* 85

JEDDAH SOUTH CORNICHE N2123E03907
 [1] *Platalea leucorodia* 277

JIZAN BEACH N1653E04232
 [2] *Pelecanus rufescens* 30
Dromas ardeola 430
Pluvialis squatarola 1125
Charadrius mongolus 562
Limosa lapponica 1559
Tringa totanus 939
Calidris alpina 1636
Gelochelidon nilotica 156

JUBAYL LAGOONS (SABKAH AL FASL) N2700E04940
 [1] *Recurvirostra avosetta* 136
Calidris alpina 2383

RED SEA (S): JEDDAH-JIZAN N1900E04100
 [1] TOTAL WATERFOWL 22934
Larus genei 2900
Gelochelidon nilotica 220
Sterna bergii 460

SALT PAN WEST OF AL JUBAYL N2704E04930
 [1] *Charadrius mongolus* 400
Larus argentatus/cachinnans 1100

SAMMAMIK ISLAND N2533E05019
 [1] TOTAL WATERFOWL 21056
Phalacrocorax nigrogularis 20000

TAROUT BAY SOUTH N2630E05000
 [1] *Haematopus ostralegus* 311
Tringa totanus 801
Arenaria interpres 693
Gelochelidon nilotica 118

TAROUT BAY; NORTH EAST N2640E05010
 [1] *Phalacrocorax carbo* 4152

UM LAJJ FISH MARKET N2510E03700
 [1] *Larus leucophthalmus* 155

WADI HANJFAH 50KM N2420E04700
 [1] *Ardea cinerea* 146
Nycticorax nycticorax 130

WADI JIZAN DAM (MALAKI) N1703E04258
 [2] *Ciconia ciconia* 287
Plegadis falcinellus 963
Aythya nyroca 62

ZUR SALT MARSH, TAROUT N2640E05002
 [1] *Ardea cinerea* 120
Himantopus himantopus 305
Pluvialis squatarola 828
Tringa totanus 603

SINGAPORE

SUNGEI SERANGOON ESTUARY+PONDS N0124E10356
 [2] *Pluvialis fulva* 1512

SOUTH KOREA

ASAN LAKE N3651E12654
 [1] TOTAL WATERFOWL 21417
Anser albifrons 600

BUNGAL LAKE (MARSH) N3526E12829
 [1] *Anas falcata* 550

CHONSU LAKE N3640E12625
 [1] TOTAL WATERFOWL 40706

CH'OLWON BASIN N3815E12913
 [4] *Grus japonensis* 98

HWAWON (WEST TAEGU) N3449E12828
 [1] *Grus monacha* 170

KUM RIVER N3604E12649
 [2] TOTAL WATERFOWL 33793
Anser fabalis 1602
Anser albifrons 4835
Cygnus cygnus 516

NAKDONG ESTUARY N3508E12855
 [4] TOTAL WATERFOWL 23482
Anser fabalis 1016
Cygnus cygnus 560
Tadorna tadorna 1362

SANNAM, CH'UNSAN, TONGP'AN RES.
 [4] N3518E12841
 TOTAL WATERFOWL 23930
Anser fabalis 1682
Anser albifrons 919
Anas formosa 17750

SAPKYO LAKE N3653E12651
 [2] TOTAL WATERFOWL 62134

SUNDU-RI MUDFLATS (S. KANGHWA
 ISLAND) N3735E12630
 [3] *Anser fabalis* 370

TAEGU N3550E12830
 [1] *Grus monacha* 210

TAESONG'DONG, PANMUNCH'OM
 MARSH N3959E12642
 [4] *Anser fabalis* 517
Grus vipio 93

UPO MARSH N3533E12825
 [4] *Anser fabalis* 713

SRI LANKA

AMAIPADDUKKAJ N0903E07953
 [1] *Calidris ferruginea* 1200

ANAIWILUNDAWA TANKS N0743E07949
 [3] *Anas querquedula* 2733

ANTANTIDAL - TONDAIMANNAR
 [1] N0947E08010
Limosa limosa 3000

ARALY SOUTH JETTY- PUNALAI
 [1] N0940E07950
Charadrius mongolus 2050
Calidris minuta 3000
Calidris ferruginea 4100

BOPITIYA N0600E08000
 [1] *Egretta garzetta* 600

BUNDALA SANCTUARY N0610E08110
 [2] TOTAL WATERFOWL 39120
Pelecanus philippensis 1637
Phalacrocorax fuscicollis 468
Mycteria leucocephala 210
Anas querquedula 5306
Himantopus himantopus 1179
Tringa stagnatilis 6017
Calidris minuta 4040
Calidris ferruginea 5078

BUTTAWA N0610E08120
 [1] *Anhinga melanogaster* 222
Threskiornis melanocephalus 351

EMBILIKALA LEWAYA N0611E08115
 [3] *Mycteria leucocephala* 190
Himantopus himantopus 1034
Limosa limosa 1036

GIANTS TANK N0851E08002
 [2] *Threskiornis melanocephalus* 125
Anas penelope 3000

KAITAD(Y) N0930E08000
 [2] *Anas penelope* 4800

KAYTS ISLAND EAST + MANDAITIVU
 [1] N0944E07952
Charadrius mongolus 1100
Tringa stagnatilis 600

KEMAGALA N0611E08109
 [2] *Pelecanus philippensis* 132

KOHOLANKALA LEWAYA N0608E08109
 [4] *Tringa stagnatilis* 1100
Calidris ferruginea 1072

KUMBUK WEWA N0800E08026
 [1] *Phalacrocorax fuscicollis* 1000

MADURU OYA RESERVOIR N0745E08100
 [1] *Pelecanus philippensis* 2100
Phalacrocorax niger 10200
Leptoptilos javanicus 200
Anas querquedula 2500

MAHAWELI GANGA AT KANDY
 [1] N0720E08039
Egretta garzetta 756

MALALA LEWAYA / KALAPUWA

[3]		N0610E08111	
	<i>Pelecanus philippensis</i>		385
	<i>Phalacrocorax fuscicollis</i>		408
	<i>Anas querquedula</i>		2721

MAYAWA WEWA		N0741E07948	
[2]	<i>Anas querquedula</i>		2500

MUNDEL LAKE		N0745E07948	
[1]	<i>Anas querquedula</i>		5000
	<i>Tringa stagnatilis</i>		676

MUTHURAJAWELA		N0703E07955	
[1]	<i>Egretta intermedia</i>		250

PERIYAKADAWALA WEWA (NAWADARAKULAM)		N0750E07951	
[1]	<i>Platalea leucorodia</i>		250
	<i>Anas querquedula</i>		3000

PERIYAKALAPUWA MOUTH W. OF KADASIKAU		N0857E07957	
[1]	<i>Calidris ferruginea</i>		1700

PIMBURETTAWA TANK		N0800E08030	
[1]	<i>Pelecanus philippensis</i>		252

PINKATTIYA WEWA		N0743E07948	
[2]	<i>Anas querquedula</i>		2500

SEGUWANTIVU MUDFLATS (MI OYA ESTUARY)		N0804E07948	
[1]	TOTAL WATERFOWL		21213
	<i>Charadrius mongolus</i>		5250
	<i>Tringa stagnatilis</i>		7000
	<i>Calidris minuta</i>		5700
	<i>Calidris ferruginea</i>		2600

UPPU ARU LAGOON WEST (9)		N0940E08000	
[2]	<i>Anas acuta</i>		8615
	<i>Anas querquedula</i>		5975

USGALA SIYAMBALANGAMUWA TANK		N0800E08010	
[2]	<i>Phalacrocorax niger</i>		1538

WALAHANDUWA PADDY FIELDS		N0603E08015	
[3]	<i>Dendrocygna javanica</i>		1010

WIRAWILA TANK		N0616E08115	
[5]	TOTAL WATERFOWL		23166
	<i>Anas querquedula</i>		20029

TAIWAN

TSENG-WEN CHI RIVER		N2305E12005	
[3]	<i>Platalea minor</i>		138

THAILAND

BEUNG BORAPHET		N1542E10015	
[5]	TOTAL WATERFOWL		23548
	<i>Aythya baeri</i>		191

KASETSART UNIVERSITY (KAMPAENGAEN)		N1350E10005	
[2]	TOTAL WATERFOWL		23138

KRABI BAY		N0802E09855	
[1]	<i>Tringa guttifer</i>		20

TURKMENISTAN

ADZHIYAB FLOODLANDS		N3728E05412	
[3]	TOTAL WATERFOWL		34212
	<i>Anas strepera</i>		2986
	<i>Anas crecca</i>		16566
	<i>Anas clypeata</i>		3880

AMUDARYA VALLEY: CHARDZHOU- NEFTEZAVODSK		N3915E06350	
[5]	<i>Anas platyrhynchos</i>		8243

AMUDARYA VALLEY: DRUZHBA-NUKUS		N4145E06030	
[3]	TOTAL WATERFOWL		36859
	<i>Anas platyrhynchos</i>		34949

AMUDARYA VALLEY: KERKY - KARABEKAUL		N3815E06437	
[5]	TOTAL WATERFOWL		45786
	<i>Anas platyrhynchos</i>		18932

CASPIAN COAST: GASANKULI-KUIDZHUK		N3740E05355	
[5]	TOTAL WATERFOWL		24633
	<i>Anas platyrhynchos</i>		17320

KELIFSKIYE LAKES		N3750E06420	
[5]	<i>Anser albifrons</i>		271
	<i>Netta rufina</i>		4538

KRASNOVODSK & NORTH-CHELEKEN

BAYS	N3950E05300	
[1] TOTAL WATERFOWL		298473
<i>Phoenicopterus ruber</i>		16300
<i>Cygnus olor</i>		2530
<i>Netta rufina</i>		67900
<i>Aythya ferina</i>		33700
<i>Aythya fuligula</i>		6820
<i>Oxyura leucocephala</i>		223
<i>Fulica atra</i>		166500

LAKE ROMANKUL	N3900E06300	
[2] <i>Phalacrocorax carbo</i>		1404
<i>Netta rufina</i>		3460

LAKE SARAKAMYSH	N4200E05730	
[4] TOTAL WATERFOWL		153091
<i>Netta rufina</i>		33567
<i>Aythya ferina</i>		8845
<i>Aythya fuligula</i>		8532
<i>Mergellus albellus</i>		379
<i>Fulica atra</i>		87651

N OF GYAURS: IRRIGATION AND LAKES		
[2]	N3758E05900	
TOTAL WATERFOWL		26731

TYUYAMUYUN RESERVOIR	N4110E06140	
[5] <i>Mergellus albellus</i>		404

UZBEKISTAN

AMUDARYA VALLEY: NUKUS-ARAL SEA		
[1]	N4235E05920	
TOTAL WATERFOWL		29525

CHARDARYA RESERVOIR	N4105E06820	
[2] <i>Aythya ferina</i>		4791
<i>Aythya nyroca</i>		325

LAKE DENGIZKUL	N3911E06406	
[2] TOTAL WATERFOWL		30494
<i>Netta rufina</i>		3705
<i>Aythya fuligula</i>		6040
<i>Mergellus albellus</i>		316

TALIMARDZHAN RESERVOIR

[2]	N3825E06535	
TOTAL WATERFOWL		20566
<i>Aythya nyroca</i>		150

TUDAKUL RESERVOIR	N3950E06450	
[1] TOTAL WATERFOWL		20750

U.A.E.

AL GHAR LAKE	N2415E05440	
[1] <i>Himantopus himantopus</i>		490

KHOR AL BEIDAH	N2533E05537	
[2] <i>Charadrius mongolus</i>		250

KHOR DUBAI	N2513E05520	
[3] <i>Charadrius mongolus</i>		1006
<i>Calidris alpina</i>		2026
<i>Limicola falcinellus</i>		351
<i>Larus ridibundus</i>		7066

KHOR KHAN	N2519E05521	
[1] TOTAL WATERFOWL		49665
<i>Larus ridibundus</i>		49000

ZUBBAYA (DUBBAYA, DHABIYA)		
[1]	N2414E05406	
<i>Charadrius mongolus</i>		550

VIETNAM

TRAM CHIN NATURE RESERVE		
[3]	N0940E10540	
TOTAL WATERFOWL		20709
<i>Grus antigone</i>		66

XAN THUY, RED RIVER DELTA		
[1]	N2020E10540	
<i>Platalea minor</i>		27
<i>Larus saundersi</i>		2

YEMEN

TAIZ SEWAGE LAGOON	N1335E04402	
[2] <i>Geronticus eremita</i>		1

Annex 3: Annual species totals counted in Afghanistan, 1969-1976

	1969	1970	1971	1972	1973	1974	1976
<i>Tachybaptus ruficollis</i>	0	7	14	0	10	18	2
<i>Podiceps grisegena</i>	0	1	0	0	0	0	0
<i>Podiceps cristatus</i>	0	6	154	101	99	18	3
<i>Podiceps nigricollis</i>	0	347	3	16	11	2	22
<i>Pelecanus onocrotalus</i>	0	0	1260	0	0	0	250
<i>Pelecanus crispus</i>	0	1	0	0	0	0	351
<i>Phalacrocorax carbo</i>	0	2	207	6	0	0	1400
<i>Ardea cinerea</i>	1	285	290	25	22	1	425
<i>Ardea purpurea</i>	0	0	0	0	0	0	12
<i>Egretta alba</i>	60	81	193	6	0	0	1826
<i>Egretta garzetta</i>	0	0	0	0	0	0	1
<i>Plegadis falcinellus</i>	1	0	0	0	0	0	0
<i>Platalea leucorodia</i>	54	37	0	0	0	0	0
<i>Phoenicopterus ruber</i>	5100	2900	87	0	0	0	1
<i>Anser anser</i>	0	0	1466	0	0	0	3150
<i>Cygnus cygnus</i>	0	0	6	0	0	0	5
<i>Tadorna ferruginea</i>	1	1	0	0	0	0	0
<i>Tadorna tadorna</i>	130	376	211	0	0	0	470
<i>Anas penelope</i>	480	462	172	0	0	0	11050
<i>Anas strepera</i>	40	78	615	90	18	0	12050
<i>Anas crecca</i>	260	1933	1401	424	255	1130	27220
<i>Anas platyrhynchos</i>	36	3184	1685	351	1135	1105	21326
<i>Anas acuta</i>	154	1321	284	20	54	260	15600
<i>Anas querquedula</i>	20	205	0	0	0	0	0
<i>Anas clypeata</i>	1600	1545	236	35	180	495	10100
<i>Marmaronetta angustirostris</i>	0	0	63	0	0	0	55
<i>Netta rufina</i>	0	0	137	0	0	0	2500
<i>Aythya ferina</i>	250	17792	162	153	50	145	50000
<i>Aythya nyroca</i>	0	1	3	0	0	0	100
<i>Aythya fuligula</i>	0	572	139	100	82	2	2500
<i>Melanitta fusca</i>	0	0	0	1	0	0	0
<i>Bucephala clangula</i>	0	0	0	1	1	0	0
<i>Mergellus albellus</i>	0	0	11	27	15	6	43
<i>Mergus merganser</i>	0	0	9	0	19	0	0
<i>Oxyura leucocephala</i>	0	0	0	0	0	0	10
<i>Anatinae spp.</i>	0	1700	2465	90	0	0	30600
<i>Grus grus</i>	0	46	0	0	0	0	5
<i>Grus leucogeranus</i>	0	76	0	0	0	0	0
<i>Anthropoides virgo</i>	0	79	0	0	0	0	0
<i>Gallinula chloropus</i>	0	3	0	0	2	0	1
<i>Porphyrio porphyrio</i>	0	0	0	0	0	0	1
<i>Fulica atra</i>	750	7277	1036	1340	1690	325	175000
<i>Haematopus ostralegus</i>	26	52	0	0	0	0	0
<i>Himantopus himantopus</i>	470	615	15	0	0	0	5
<i>Recurvirostra avosetta</i>	285	128	232	0	0	0	0
<i>Vanellus vanellus</i>	0	0	7	0	130	0	175
<i>Vanellus leucurus</i>	17	92	0	0	0	0	0
<i>Pluvialis squatarola</i>	4	0	0	0	0	0	0
<i>Charadrius dubius</i>	6	9	0	0	0	0	0
<i>Charadrius alexandrinus</i>	310	96	22	0	0	0	1
<i>Limosa limosa</i>	27	236	895	0	0	0	512

	1969	1970	1971	1972	1973	1974	1976
<i>Numenius phaeopus</i>	5	0	0	0	0	0	0
<i>Numenius arquata</i>	124	5	23	0	0	0	1
<i>Tringa erythropus</i>	3	4	2	0	0	0	2
<i>Tringa totanus</i>	0	9	47	0	0	0	70
<i>Tringa stagnatilis</i>	290	22	0	0	0	0	1
<i>Tringa nebularia</i>	4	1	1	0	0	0	5
<i>Tringa ochropus</i>	0	1	0	0	0	0	0
<i>Tringa glareola</i>	104	0	0	0	0	0	0
<i>Arenaria interpres</i>	1	0	0	0	0	0	0
<i>Calidris alba</i>	22	0	0	0	0	0	0
<i>Calidris minuta</i>	6300	530	0	0	0	0	0
<i>Calidris temminckii</i>	0	0	0	0	0	0	1
<i>Calidris alpina</i>	258	1938	780	0	0	0	0
<i>Calidris ferruginea</i>	4	0	0	0	0	0	0
<i>Calidris</i> spp.	0	0	80	0	0	0	0
<i>Limicola falcinellus</i>	0	4	0	0	0	0	0
<i>Philomachus pugnax</i>	1300	578	9	0	0	0	15
<i>Charadrii</i> spp.	0	0	180	0	0	0	1300
<i>Larus argentatus</i>	8	4	3	0	0	0	100
<i>Larus ichthyaetus</i>	0	0	73	0	0	0	100
<i>Larus ridibundus</i>	4	0	227	0	0	0	1
<i>Larus genei</i>	56	0	0	0	0	0	1
<i>Chlidonias hybridus</i>	2	0	0	0	0	0	75
<i>Gelochelidon nilotica</i>	87	592	0	0	0	0	0
<i>Sterna caspia</i>	7	0	0	0	0	0	0
<i>Sterna albifrons</i>	2	0	0	0	0	0	0
<i>Sternae</i> spp.	0	0	22	0	0	0	0
<i>Laridae</i> spp.	0	0	70	0	0	0	0

Annex 4: Total waterfowl counts in Iraq, 1967-1979
 Taken from Scott & Carp (1982) and AWC database

	1967	1968	1973	1975	1979
<i>Tachybaptus ruficollis</i>	0	90	14	66	55
<i>Podiceps cristatus</i>	0	0	8	8	614
<i>Podiceps nigricollis</i>	0	0	58	40	1103
<i>Pelecanus onocrotalus</i>	0	508	873	34	3605
<i>Pelecanus crispus</i>	0	119	53	1	247
<i>Pelecanus spp.</i>	0	0	426	1629	73
<i>Phalacrocorax carbo</i>	0	23	38	1528	3038
<i>Phalacrocorax pygmaeus</i>	0	0	6	102	48
<i>Ardea cinerea</i>	0	181	564	77	505
<i>Ardea purpurea</i>	0	0	6	6	35
<i>Egretta alba</i>	0	40	17	99	107
<i>Egretta gularis</i>	0	78	0	0	0
<i>Egretta garzetta</i>	0	145	32	26	193
<i>Bubulcus ibis</i>	0	0	0	0	50
<i>Ardeola ralloides</i>	0	7	0	10	20
<i>Nycticorax nycticorax</i>	0	201	25	11	1820
<i>Ixobrychus minutus</i>	0	0	0	0	1
<i>Botaurus stellaris</i>	0	1	0	2	1
<i>Ciconia ciconia</i>	0	1289	13	246	348
<i>Threskiornis aethiopicus</i>	0	1	0	0	40
<i>Plegadis falcinellus</i>	0	255	0	19	150
<i>Platalea leucorodia</i>	0	22	175	40	259
<i>Phoenicopterus ruber</i>	0	735	889	3500	3087
<i>Anser albifrons</i>	0	345	12	1	325
<i>Anser erythropus</i>	0	126	70	0	0
<i>Anser anser</i>	0	1712	991	18	1553
<i>Anser spp.</i>	0	0	150	25	516
<i>Cygnus columbianus</i>	0	0	0	0	1
<i>Cygnus olor</i>	0	0	0	0	3
<i>Tadorna ferruginea</i>	0	126	38	12	1757
<i>Tadorna tadorna</i>	100	41	37	5	1718
<i>Anas penelope</i>	7850	4545	4770	6060	3686
<i>Anas strepera</i>	11000	28	116	3	16074
<i>Anas crecca</i>	3860	34597	64772	10605	38847
<i>Anas platyrhynchos</i>	12000	5309	15644	4055	1876
<i>Anas acuta</i>	8000	8111	14070	5201	8026
<i>Anas querquedula</i>	0	0	0	0	3
<i>Anas clypeata</i>	20	23532	3667	350	11474
<i>Marmaronetta angustirostris</i>	50	180	0	0	0
<i>Netta rufina</i>	0	0	7	0	7
<i>Aythya ferina</i>	2070	1590	237	2052	3476
<i>Aythya nyroca</i>	1030	30	0	0	13
<i>Aythya fuligula</i>	0	1	6803	50	40892
<i>Aythya marila</i>	0	0	0	0	2
<i>Mergellus albellus</i>	0	0	68	0	1004
<i>Oxyura leucocephala</i>	0	0	1	0	0
<i>Anatinae spp.</i>	50000	0	25230	37000	63317
<i>Grus grus</i>	0	0	27	12	126
<i>Rallus aquaticus</i>	0	1	0	12	1
<i>Gallinula chloropus</i>	0	6	2	3	157
<i>Porphyrio porphyrio</i>	0	1	0	0	14

	1967	1968	1973	1975	1979
<i>Fulica atra</i>	0	20769	16620	129622	230494
<i>Haematopus ostralegus</i>	0	60	0	0	0
<i>Himantopus himantopus</i>	0	566	130	58	666
<i>Recurvirostra avosetta</i>	0	721	460	35	1126
<i>Vanellus vanellus</i>	0	208	37	1	167
<i>Vanellus leucurus</i>	0	145	14	95	595
<i>Vanellus indicus</i>	0	131	17	2	104
<i>Pluvialis squatarola</i>	0	13	0	0	6
<i>Charadrius hiaticula</i>	0	10	1	0	108
<i>Charadrius dubius</i>	0	0	0	12	0
<i>Charadrius alexandrinus</i>	0	7682	1414	80	7028
<i>Charadrius mongolus</i>	0	0	0	0	1
<i>Charadrius leschenaultii</i>	0	14	0	0	15
<i>Charadrius asiaticus</i>	0	30	0	0	0
<i>Eudromias morinellus</i>	0	0	49	0	0
<i>Limosa limosa</i>	0	484	280	132	3380
<i>Limosa lapponica</i>	0	110	0	0	0
<i>Numenius tenuirostris</i>	0	0	0	0	6
<i>Numenius arquata</i>	0	520	0	0	1
<i>Tringa erythropus</i>	0	272	189	22	115
<i>Tringa totanus</i>	0	182	30	57	530
<i>Tringa stagnatilis</i>	0	211	5	1	144
<i>Tringa nebularia</i>	0	33	10	0	74
<i>Tringa ochropus</i>	0	85	5	1	16
<i>Tringa glareola</i>	0	8	1	1	9
<i>Xenus cinereus</i>	0	100	1	0	0
<i>Actitis hypoleucos</i>	0	5	1	0	2
<i>Arenaria interpres</i>	0	4	0	0	0
<i>Gallinago gallinago</i>	0	57	3	72	122
<i>Lymnocyptes minimus</i>	0	2	0	2	1
<i>Calidris minuta</i>	0	5414	59	50	2617
<i>Calidris temminckii</i>	0	19	2	0	28
<i>Calidris alpina</i>	0	10464	204	1120	2810
<i>Calidris ferruginea</i>	0	0	0	0	10
<i>Calidris spp.</i>	0	0	370	0	0
<i>Limicola falcinellus</i>	0	16	0	0	0
<i>Philomachus pugnax</i>	0	2278	0	1	17
<i>Larus canus</i>	0	0	0	0	3
<i>Larus argentatus</i>	0	1417	585	335	2940
<i>Larus fuscus</i>	0	20	0	1	0
<i>Larus ichthyaetus</i>	0	0	0	0	50
<i>Larus ridibundus</i>	0	795	1560	240	10725
<i>Larus genei</i>	0	1109	5	16	665
<i>Larus minutus</i>	0	2	0	0	0
<i>Chlidonias hybridus</i>	0	108	158	50	500
<i>Gelochelidon nilotica</i>	0	235	95	4	65
<i>Sterna caspia</i>	0	59	22	4	109
<i>Sterninae spp.</i>	0	0	50	0	0
NO.OF SITES COUNTED	4	12	11	8	18

Note: Only ducks were counted in 1967. Only those count data entered into the IWC database have been used to produce FYMs, i.e. the counts of Anatidae and *Fulica atra* from all five years and the counts of other species from 1973 and 1975.

Annex 5: Total waterfowl counts in Iran, 1967-1986

Taken from Scott (1976), Argyle (1978) and AWC database

	1967	1968	1969	1970	1971	1972	1973	1974	1975
<i>Pelecanus onocrotalus</i>	0	0	88	75	264	111	461	2159	782
<i>Pelecanus crispus</i>	0	0	50	171	362	388	882	1045	1107
<i>Pelecanus</i> spp.	0	10	0	70	0	436	146	0	0
<i>Phoenicopterus ruber</i>	4515	23487	7784	45704	7830	60313	34097	40821	48145
<i>Anser fabalis</i>	0	0	0	0	0	0	1	0	0
<i>Anser albifrons</i>	246	301	370	550	1951	1977	75	2721	962
<i>Anser erythropus</i>	26	0	1773	0	1986	3704	3474	2367	5249
<i>Anser anser</i>	916	1125	8578	4784	8685	15079	12630	21235	12602
<i>Anser</i> spp.	0	0	184	200	6024	4441	2056	11022	2226
<i>Branta ruficollis</i>	0	0	0	16	3	0	3	22	0
<i>Cygnus cygnus</i>	0	142	1570	30	25	448	262	38	17
<i>Cygnus columbianus</i>	0	0	843	21	69	33	0	0	14
<i>Cygnus olor</i>	0	0	214	1	282	5207	448	143	81
<i>Cygnus</i> spp.	0	0	99	75	74	3054	29	4	11
<i>Tadorna ferruginea</i>	300	1648	1819	2086	2856	4829	5329	9219	5342
<i>Tadorna tadorna</i>	113	84	310	2063	6112	3257	7130	8025	8368
<i>Nettapus coromandelianus</i>	0	0	0	0	0	0	1	0	0
<i>Anas penelope</i>	1447	10616	11066	9254	55061	80538	78896	86161	99189
<i>Anas strepera</i>	7	24	1843	2675	8656	24345	16134	48872	46310
<i>Anas crecca</i>	12806	61178	40643	80328	205514	295120	1144315	673157	830740
<i>Anas platyrhynchos</i>	7494	35104	30429	108164	129596	341116	206020	138146	147057
<i>Anas acuta</i>	10332	41091	30719	50960	61358	141029	507737	216703	435605
<i>Anas querquedula</i>	0	0	0	0	87	2	3	11	0
<i>Anas clypeata</i>	633	3452	3362	40490	13582	12795	49540	29741	89097
<i>Marmaronetta angustirostris</i>	0	0	174	546	14649	10150	21513	6477	7460
<i>Netta rufina</i>	0	0	4414	2200	3339	10903	3248	333	2297
<i>Aythya ferina</i>	0	8584	15357	55030	35106	39569	72205	52554	45636
<i>Aythya nyroca</i>	350	11	9	316	302	45	152	89	37
<i>Aythya fuligula</i>	300	6954	14335	11789	35248	12173	56789	24672	25492
<i>Aythya marila</i>	0	0	2	0	25	2	3	0	1
<i>Melanitta nigra</i>	0	0	0	0	1	0	0	0	0
<i>Clangula hyemalis</i>	0	0	0	0	1	0	0	0	0
<i>Bucephala clangula</i>	0	5	148	202	1104	1611	1702	933	299
<i>Mergellus albellus</i>	0	4	225	418	101	1900	113	114	62
<i>Mergus serrator</i>	0	30	130	252	779	77	50	17	1
<i>Mergus merganser</i>	0	0	9	57	3	48	2	23	8
<i>Oxyura leucocephala</i>	0	0	62	153	18	380	18	11	31
<i>Anatinae</i> spp.	1308	5400	38653	70510	199667	339881	219581	197550	184327
<i>Grus grus</i>	0	0	298	578	279	2161	1629	1529	2460
<i>Fulica atra</i>	55	6203	50422	397622	61472	216259	393689	299490	259294
NO. OF SITES COUNTED	4	12	7	39	125	308	193	162	186

	1976	1977	1978	1980	1981	1983	1984	1985	1986
<i>Pelecanus onocrotalus</i>	*	*	153	*	*	*	*	*	*
<i>Pelecanus crispus</i>	*	*	76	*	*	*	*	*	*
<i>Phoenicopterus ruber</i>	10916	39886	56067	*	*	*	*	*	*
<i>Anser albifrons</i>	*	*	524	*	*	*	*	*	*
<i>Anser erythropus</i>	*	*	3500	*	*	*	*	*	*
<i>Anser anser</i>	*	*	10965	*	*	*	*	*	*
<i>Cygnus cygnus</i>	0	739	52	13	0	90	61	175	18
<i>Cygnus columbianus</i>	16	16	14	0	0	0	0	3	0
<i>Cygnus olor</i>	11	1737	559	366	5	184	26	3323	26
<i>Cygnus spp.</i>	2	146	21	90	0	0	0	0	0
<i>Tadorna ferruginea</i>	782	2461	11312	531	3673	2230	15182	2744	25496
<i>Tadorna tadorna</i>	20263	24119	23907	840	14749	8497	5895	5447	3289
<i>Anas penelope</i>	18639	86189	33394	647	82639	48112	44290	36873	38967
<i>Anas strepera</i>	8204	55021	26027	753	27993	33754	32670	36529	11952
<i>Anas crecca</i>	213243	323397	288881	14389	151072	227238	77508	169293	293176
<i>Anas platyrhynchos</i>	99908	124536	135413	11584	97095	165200	44445	188354	121681
<i>Anas acuta</i>	106771	154122	109621	51926	66289	142403	62410	40634	81021
<i>Anas querquedula</i>	22	0	725	17	0	0	104	180	237
<i>Anas clypeata</i>	53327	48136	66159	1608	24940	30207	30690	8478	12202
<i>Marmaronetta angustirostris</i>	2040	103	11052	0	0	0	0	0	0
<i>Netta rufina</i>	213	145	1571	12	504	202	133	732	3980
<i>Aythya ferina</i>	47597	27656	50541	842	66278	83201	31388	16856	899
<i>Aythya nyroca</i>	162	100	4665	1171	25050	22	1620	741	375
<i>Aythya fuligula</i>	19396	22780	13520	6842	5351	25441	20458	10861	5525
<i>Aythya marila</i>	1	0	62	0	0	17	0	5	12
<i>Bucephala clangula</i>	534	425	24	9	0	38	7	0	2
<i>Mergellus albellus</i>	278	631	0	11	0	2	0	4	0
<i>Mergus serrator</i>	215	18	0	0	0	0	0	0	0
<i>Mergus merganser</i>	7	25	0	0	35	0	0	0	0
<i>Oxyura leucocephala</i>	86	631	78	0	75	27	0	16	38
<i>Anatinae spp.</i>	86910	206865	87743	70063	219607	261514	230366	182181	152707
<i>Grus grus</i>	*	*	456	*	*	*	*	*	6643
<i>Grus leucogeranus</i>	*	*	8	*	*	*	*	*	*
<i>Fulica atra</i>	129128	218793	137486	15332	340985	298949	159585	17906	29328
NO. OF SITES COUNTED	61	65	59	16	40	25	36	24	38

* : census data not available.

Annex 6: Annual species totals at Lake Issyk Kul in Kirghizistan, 1967-1971

	1967	1968	1969	1970	1971
<i>Cygnus cygnus</i>	500	0	820	845	730
<i>Cygnus olor</i>	400	400	322	264	163
<i>Anas penelope</i>	0	1500	0	0	0
<i>Anas strepera</i>	100	1600	0	0	0
<i>Anas crecca</i>	200	0	0	110	128
<i>Anas platyrhynchos</i>	800	4600	0	0	0
<i>Anas acuta</i>	0	200	0	0	0
<i>Anas clypeata</i>	0	1	0	0	0
<i>Netta rufina</i>	17500	29000	50305	29348	23270
<i>Aythya ferina</i>	1	2900	3783	3475	2620
<i>Aythya fuligula</i>	1	200	2142	1882	1660
<i>Bucephala clangula</i>	1	700	1213	1749	1795
<i>Mergus merganser</i>	0	100	0	0	0
<i>Anatinae spp.</i>	0	0	107	2228	3245
<i>Fulica atra</i>	0	0	1614	1823	1582

Annex 7: Annual species totals counted in Pakistan, 1967-86

Part 1: 1967-1976

	1967	1968	1970	1971	1972	1973	1974	1975	1976
<i>Tachybaptus ruficollis</i>	0	0	0	1135	1028	1617	1804	4357	263
<i>Podiceps grisegena</i>	0	0	0	1	0	0	0	0	0
<i>Podiceps cristatus</i>	0	0	0	37	49	51	88	64	1
<i>Podiceps nigricollis</i>	0	0	0	366	146	104	388	36	0
<i>Pelecanus onocrotalus</i>	0	0	0	0	0	151	48	170	0
<i>Pelecanus crispus</i>	0	0	0	13	33	11	37	202	117
<i>Pelecanus</i> spp.	0	0	0	0	0	2	18	40	0
<i>Phalacrocorax carbo</i>	0	0	0	763	459	359	548	3449	3541
<i>Phalacrocorax fuscicollis</i>	0	0	0	106	1062	1155	339	183	100
<i>Phalacrocorax niger</i>	0	0	0	2245	3460	2596	3928	6882	2909
<i>Phalacrocorax</i> spp.	0	0	0	0	0	0	650	0	0
<i>Anhinga melanogaster</i>	0	0	0	58	32	45	19	17	0
<i>Ardea cinerea</i>	0	0	0	1012	599	999	1182	1735	574
<i>Ardea purpurea</i>	0	0	0	38	40	180	80	78	66
<i>Egretta alba</i>	0	0	0	722	924	545	539	1247	424
<i>Egretta intermedia</i>	0	0	0	200	149	815	1066	672	74
<i>Egretta gularis</i>	0	0	0	5	13	3	358	463	0
<i>Egretta garzetta</i>	0	0	0	1608	1169	1079	1856	2551	1091
<i>Bubulcus ibis</i>	0	0	0	129	42	51	55	153	0
<i>Egretta/Bubulcus</i> spp.	0	0	0	905	100	125	890	1610	525
<i>Ardeola grayii</i>	0	0	0	534	217	865	274	472	86
<i>Butorides striatus</i>	0	0	0	0	2	1	1	1	0
<i>Nycticorax nycticorax</i>	0	0	0	86	60	1366	1367	933	2601
<i>Ixobrychus sinensis</i>	0	0	0	0	0	0	1	0	0
<i>Ixobrychus cinnamomeus</i>	0	0	0	0	1	0	0	0	0
<i>Ixobrychus flavicollis</i>	0	0	0	0	0	0	4	0	2
<i>Mycteria leucocephala</i>	0	0	0	0	5	0	0	16	0
<i>Anastomus oscitans</i>	0	0	0	0	0	0	0	11	0
<i>Ciconia nigra</i>	0	0	0	23	34	27	0	0	0
<i>Ciconia ciconia</i>	0	0	0	4	1	1	16	229	1
<i>Threskiornis melanocephalus</i>	0	0	0	0	21	0	43	0	0
<i>Plegadis falcinellus</i>	0	0	0	57	380	706	310	619	584
<i>Platalea leucorodia</i>	0	0	0	237	312	81	330	969	6
<i>Phoenicopterus ruber</i>	0	0	0	46	709	1607	446	6108	0
<i>Phoenicopteridae</i> spp.	0	5299	5559	0	0	0	0	0	0
<i>Anser anser</i>	0	12	15	585	235	305	267	13	0
<i>Anser indicus</i>	0	1326	1326	11	0	157	430	45	0
<i>Anser</i> spp.	0	7	7	20	0	0	0	0	0
<i>Tadorna ferruginea</i>	480	195	690	242	56	774	284	773	70
<i>Tadorna tadorna</i>	20	30	89	12	60	138	77	3383	0
<i>Nettapus coromandelianus</i>	0	0	8	28	53	95	138	104	20
<i>Anas penelope</i>	2748	1301	4504	13989	12195	17668	10955	59193	5668
<i>Anas strepera</i>	1250	60	1410	1289	2698	4042	6333	10283	702
<i>Anas crecca</i>	6260	10802	17734	16345	37476	69530	79707	96063	31394
<i>Anas platyrhynchos</i>	5030	3399	8923	3342	11824	6972	10772	8711	987
<i>Anas poecilorhynchos</i>	0	0	98	2	49	49	99	80	25
<i>Anas acuta</i>	4421	4915	10686	3761	9277	27611	47752	36793	26542
<i>Anas querquedula</i>	0	60	60	3	12	619	403	165	150

	1967	1968	1970	1971	1972	1973	1974	1975	1976
<i>Anas clypeata</i>	4580	1135	8152	13347	18180	32491	23858	40123	12242
<i>Marmaronetta angustirostris</i>	0	0	0	0	0	52	3	20	0
<i>Netta rufina</i>	138	199	367	581	153	1179	449	53	1
<i>Aythya ferina</i>	9132	7156	22212	12881	11942	27594	25131	47723	3208
<i>Aythya nyroca</i>	70	3	73	110	65	94	265	110	0
<i>Aythya fuligula</i>	268	354	775	4187	3665	5811	2487	5134	2105
<i>Mergellus albellus</i>	255	20	329	47	57	79	0	0	0
<i>Mergus merganser</i>	0	0	0	0	0	0	0	0	0
<i>Oxyura leucocephala</i>	383	1041	1430	740	314	188	918	587	0
<i>Anatinae spp.</i>	0	0	730	5660	17700	21070	5460	23980	0
<i>Grus grus</i>	0	0	0	0	0	1	16	198	0
<i>Rallus aquaticus</i>	0	0	0	0	0	1	1	0	0
<i>Porzana parva</i>	0	0	0	0	0	0	1	0	0
<i>Amaurornis phoenicurus</i>	0	0	0	1	0	1	11	0	0
<i>Gallinula chloropus</i>	0	0	0	3	270	152	344	25	30
<i>Porphyrio porphyrio</i>	0	0	0	296	1327	283	882	1273	1475
<i>Fulica atra</i>	0	13540	18680	104391	162943	181401	175543	292168	38282
<i>Hydrophasianus chirurgus</i>	0	0	0	294	327	166	264	210	160
<i>Rostratula benghalensis</i>	0	0	0	0	5	0	0	2	2
<i>Haematopus ostralegus</i>	0	0	0	0	35	0	0	80	0
<i>Himantopus himantopus</i>	0	0	0	2614	2049	2536	1998	2195	2980
<i>Recurvirostra avosetta</i>	0	0	0	108	39	226	913	622	16
<i>Glareola maldivarum</i>	0	0	0	0	0	2	0	0	0
<i>Glareola lactea</i>	0	0	0	165	0	0	0	85	0
<i>Vanellus vanellus</i>	0	0	0	100	81	321	191	112	250
<i>Vanellus gregarius</i>	0	0	0	6	0	0	0	0	0
<i>Vanellus leucurus</i>	0	0	0	45	24	114	105	52	3
<i>Vanellus indicus</i>	0	0	0	129	77	154	74	80	1
<i>Pluvialis fulva</i>	0	0	0	0	0	0	8	0	0
<i>Pluvialis squatarola</i>	0	0	0	20	30	32	21	172	2
<i>Charadrius hiaticula</i>	0	0	0	0	3	2	0	15	0
<i>Charadrius dubius</i>	0	0	0	26	25	13	8	13	0
<i>Charadrius alexandrinus</i>	0	0	0	42	127	206	199	7232	12
<i>Charadrius mongolus</i>	0	0	0	0	0	0	0	461	0
<i>Charadrius leschenaultii</i>	0	0	0	0	10	0	0	0	0
<i>Limosa limosa</i>	0	0	0	2332	1752	3515	2090	12333	8071
<i>Limosa lapponica</i>	0	0	0	0	0	0	1	910	0
<i>Numenius phaeopus</i>	0	0	0	0	10	0	0	2	0
<i>Numenius arquata</i>	0	0	0	12	128	24	65	213	11
<i>Tringa erythropus</i>	0	0	0	688	40	24	322	812	17
<i>Tringa totanus</i>	0	0	0	156	40	134	69	987	33
<i>Tringa stagnatilis</i>	0	0	0	69	20	98	72	28	13
<i>Tringa nebularia</i>	0	0	0	161	169	259	108	124	3
<i>Tringa ochropus</i>	0	0	0	29	18	127	20	17	1
<i>Tringa glareola</i>	0	0	0	64	28	28	30	67	9
<i>Tringa spp.</i>	0	0	0	0	0	13	0	0	0
<i>Xenus cinereus</i>	0	0	0	0	10	0	0	740	0
<i>Actitis hypoleucos</i>	0	0	0	10	20	19	20	11	2
<i>Gallinago gallinago</i>	0	0	0	22	24	1126	204	36	20
<i>Lymnocyptes minimus</i>	0	0	0	0	0	0	0	1	0
<i>Calidris tenuirostris</i>	0	0	0	0	0	0	12	4	0
<i>Calidris minuta</i>	0	0	0	560	535	1511	1260	10514	133

	1967	1968	1970	1971	1972	1973	1974	1975	1976
<i>Calidris temminckii</i>	0	0	0	0	3	68	24	63	0
<i>Calidris alpina</i>	0	0	0	408	516	220	122	22773	12
<i>Calidris ferruginea</i>	0	0	0	0	0	0	0	4	0
<i>Calidris</i> spp.	0	0	0	700	250	1458	370	90	0
<i>Philomachus pugnax</i>	0	0	0	588	144	332	341	1298	1
<i>Charadrii</i> spp.	0	0	0	0	0	0	70	10440	0
<i>Larus canus</i>	0	0	0	0	0	0	1	0	2
<i>Larus argentatus</i>	0	0	0	412	974	221	442	515	130
<i>Larus ichthyaetus</i>	0	0	0	67	59	67	9	60	15
<i>Larus brunnicephalus</i>	0	0	0	29	58	21	45	14	0
<i>Larus ridibundus</i>	0	0	0	1159	729	907	4843	3445	747
<i>Larus genei</i>	0	0	0	0	20	1	0	4	1
<i>Larus</i> spp.	0	0	0	0	0	150	537	10620	0
<i>Chlidonias hybridus</i>	0	0	0	0	2053	449	45	42	0
<i>Chlidonias leucopterus</i>	0	0	0	119	0	0	226	777	0
<i>Chlidonias</i> spp.	0	0	0	30	0	0	0	0	0
<i>Gelochelidon nilotica</i>	0	0	0	33	28	17	47	260	3
<i>Sterna caspia</i>	0	0	0	55	94	97	83	187	56
<i>Sterna aurantia</i>	0	0	0	551	389	331	326	195	0
<i>Sterna hirundo</i>	0	0	0	0	1	0	0	35	0
<i>Sterna melanogaster</i>	0	0	0	97	166	66	159	43	0
<i>Sterna albifrons</i>	0	0	0	0	10	0	0	0	0
<i>Sterna bergii</i>	0	0	0	0	3	0	0	1	0
<i>Sterna bengalensis</i>	0	0	0	0	6	0	0	0	0
<i>Sterna sandvicensis</i>	0	0	0	0	10	0	0	0	0
<i>Laridae</i> spp.	0	0	0	0	600	0	0	0	0
<i>Rynchops albicollis</i>	0	0	0	0	0	0	0	1	0
NO. OF SITES COUNTED	13	13	5	16	15	28	40	43	7

Annex 7: Part 2: 1977-1986 Counts of Anatidae and *Fulica atra* only

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
<i>Anser anser</i>	0	0	0	0	0	0	0	1	0	0
<i>Anser indicus</i>	0	0	0	0	0	0	0	0	0	0
<i>Anser spp.</i>	0	0	0	0	0	0	0	0	0	0
<i>Tadorna ferruginea</i>	0	12	0	0	2852	354	181	5	655	50
<i>Tadorna tadorna</i>	0	0	0	0	8	102	33	2	102	37
<i>Nettapus coromandelianus</i>	0	0	0	0	0	22	0	0	0	227
<i>Anas penelope</i>	4370	6375	0	4145	3986	3146	22047	8365	8096	57630
<i>Anas strepera</i>	445	2306	0	1004	1326	440	385	578	1485	2457
<i>Anas crecca</i>	18675	14318	0	21684	50103	24582	47641	16317	24037	75218
<i>Anas platyrhynchos</i>	751	425	1030	1186	2862	2735	13891	5133	17892	22821
<i>Anas poecilorhyncha</i>	0	0	0	0	0	59	0	0	0	208
<i>Anas acuta</i>	17560	15383	320	20882	28915	15071	24941	5618	15237	31633
<i>Anas querquedula</i>	1440	1572	0	271	1225	105	153	15	307	1004
<i>Anas clypeata</i>	11580	8400	0	10606	20920	9596	23642	13548	10356	39926
<i>Marmaronetta angustirostris</i>	40	0	0	0	20	60	33	300	0	5
<i>Netta rufina</i>	0	0	0	0	205	1000	393	69	987	1567
<i>Aythya ferina</i>	1270	563	200	9880	30441	9980	27586	10015	50621	74965
<i>Aythya nyroca</i>	0	0	0	2	27	0	0	247	72	457
<i>Aythya fuligula</i>	4380	1510	0	12574	12140	4816	6736	4543	15204	23626
<i>Mergellus albellus</i>	0	0	0	0	0	0	0	0	0	0
<i>Mergus merganser</i>	0	0	0	0	0	16	0	0	0	0
<i>Oxyura leucocephala</i>	0	0	0	0	0	11	734	209	120	325
<i>Anatinae spp.</i>	13300	0	0	12	14	1103	642	252	0	7874
<i>Fulica atra</i>	46140	17278	180	87099	113324	81780	138588	115681	191427	290333
NO. OF SITES COUNTED	4	4	3	11	17	16	21	21	28	38

Annex 8: Annual species totals counted in Tadjikistan, 1969-1971

	1969	1970	1971
<i>Anser anser</i>	13	0	403
<i>Cygnus</i> spp.	2	3	7
<i>Tadorna ferruginea</i>	0	15	0
<i>Anas penelope</i>	0	4	43
<i>Anas strepera</i>	1790	20	11
<i>Anas crecca</i>	191	86	578
<i>Anas platyrhynchos</i>	1131	625	325
<i>Anas acuta</i>	0	62	0
<i>Anas clypeata</i>	6	30	27
<i>Netta rufina</i>	2441	2357	447
<i>Aythya ferina</i>	934	1354	459
<i>Aythya nyroca</i>	0	52	0
<i>Aythya fuligula</i>	145	789	305
<i>Mergus merganser</i>	0	15	65
<i>Anatinae</i> spp.	1166	829	208
<i>Fulica atra</i>	7051	5014	4719
NO. OF SITES COUNTED	2	2	2

Annex 9: Annual species totals in Turkmenistan, 1968-1989

Part 1: 1968-1979

	1968	1970	1972	1973	1974	1975	1976	1977	1978	1979
<i>Tachybaptus ruficollis</i>	0	0	0	0	0	0	104	90	10	15
<i>Podiceps grisegena</i>	0	0	0	0	0	0	0	0	0	0
<i>Podiceps cristatus</i>	0	0	0	0	0	0	12	80	10	21
<i>Podiceps auritus</i>	0	0	0	0	0	0	0	0	0	0
<i>Podiceps nigricollis</i>	0	0	0	0	0	0	0	20	0	2
<i>Pelecanus onocrotalus</i>	0	0	0	0	0	14	34	0	29	1
<i>Pelecanus crispus</i>	0	0	0	0	0	0	0	0	11	12
<i>Phalacrocorax carbo</i>	0	0	0	0	0	200	0	4	10	1
<i>Phalacrocorax pygmaeus</i>	0	0	0	0	0	0	0	0	0	0
<i>Phoenicopterus ruber</i>	0	0	0	0	0	0	0	700	350	7471
<i>Anser albifrons</i>	0	0	590	0	220	0	170	0	0	0
<i>Anser anser</i>	170	154	826	1086	386	430	720	64	241	3988
<i>Anser spp.</i>	0	0	0	0	0	0	0	0	0	31
<i>Cygnus cygnus</i>	0	0	0	0	0	0	0	657	188	527
<i>Cygnus olor</i>	9	0	0	31	0	6	6	1181	211	877
<i>Tadorna ferruginea</i>	400	0	0	4	2500	0	500	0	40	0
<i>Tadorna tadorna</i>	470	30	0	20	1030	110	820	47	122	88
<i>Anas penelope</i>	0	380	1000	90	34000	500	9938	740	576	1861
<i>Anas strepera</i>	880	380	4400	740	23750	750	16820	223	630	954
<i>Anas crecca</i>	1000	2090	3350	2360	40940	14675	29950	34045	20293	101836
<i>Anas platyrhynchos</i>	2980	17605	21555	8970	156120	11960	73855	1636	10666	8858
<i>Anas acuta</i>	0	33	0	23	10650	250	5467	1055	4590	4499
<i>Anas querquedula</i>	0	0	550	111	9875	25	1980	0	0	0
<i>Anas chypeata</i>	420	70	2295	184	11210	0	7095	68	644	566
<i>Netta rufina</i>	950	11060	8390	4998	42900	30625	40949	3439	1485	1019
<i>Aythya ferina</i>	1050	2270	2010	1112	33440	8284	21115	4295	3582	9143
<i>Aythya nyroca</i>	0	295	198	204	5150	75	1530	50	180	0
<i>Aythya fuligula</i>	0	205	5720	1880	6115	50	6458	80	394	45
<i>Aythya marila</i>	0	0	0	97	10540	20	5772	15	70	0
<i>Bucephala clangula</i>	0	0	185	360	0	0	10	42	8	20
<i>Mergellus albellus</i>	0	95	0	0	1005	5	676	150	17	0
<i>Mergus serrator</i>	500	10	0	0	1100	0	340	96	491	25
<i>Mergus merganser</i>	810	0	175	316	2488	20	760	44	110	13
<i>Oxyura leucocephala</i>	0	0	0	490	850	0	375	6	22	21
<i>Anatinae spp.</i>	0	0	1600	1500	7930	1570	1603	7566	24850	0
<i>Fulica atra</i>	9500	18318	17075	2316	128525	24730	51218	20570	33291	30794
NO. OF SITES COUNTED	1	9	9	10	13	15	14	13	15	16



Part 2: 1980-1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<i>Tachybaptus ruficollis</i>	0	50	100	17	91	34	1160	614	70	72
<i>Podiceps grisegena</i>	0	0	99	0	241	9	9	12	33	3
<i>Podiceps cristatus</i>	1	26	138	3	33	328	987	70	22	41
<i>Podiceps auritus</i>	0	0	0	0	0	1	0	1	2	31
<i>Podiceps nigricollis</i>	2	38	120	13	2	17	3	6	10	41
<i>Pelecanus onocrotalus</i>	0	0	0	8	4	71	73	73	168	17
<i>Pelecanus crispus</i>	12	83	0	46	0	245	553	134	123	432
<i>Phalacrocorax carbo</i>	2	199	592	2	766	1760	19249	3949	3732	6704
<i>Phalacrocorax pygmaeus</i>	0	0	0	0	0	0	0	0	0	12
<i>Phoenicopterus ruber</i>	4882	2	970	563	0	10135	1500	4619	4200	2200
<i>Anser albifrons</i>	0	0	0	0	0	0	176	904	560	0
<i>Anser anser</i>	2550	270	3142	2067	540	1999	7745	1866	1084	4407
<i>Anser spp.</i>	0	39	0	0	0	0	0	0	0	0
<i>Cygnus cygnus</i>	199	8	109	6	0	3	78	99	251	1807
<i>Cygnus olor</i>	673	5	93	169	124	521	7	70	669	280
<i>Tadorna ferruginea</i>	0	2	0	2	0	0	0	9	5	31
<i>Tadorna tadorna</i>	2	0	0	444	84	177	904	853	387	243
<i>Anas penelope</i>	10432	1134	6361	4684	483	1304	26	33	5752	12353
<i>Anas strepera</i>	16554	2804	9940	3356	362	9924	3510	362	42732	12093
<i>Anas crecca</i>	22333	19765	13980	24623	6979	18293	3714	6527	41761	147184
<i>Anas platyrhynchos</i>	8378	6486	15772	2648	8382	14382	59097	87862	67197	108180
<i>Anas acuta</i>	7880	90	7514	1528	67	938	1021	1408	2752	14802
<i>Anas querquedula</i>	0	0	0	0	0	0	0	5	18	0
<i>Anas clypeata</i>	3820	147	2000	1189	253	8660	1110	187	5460	16909
<i>Netta rufina</i>	40	146	3940	485	493	6496	107606	16615	65447	23978
<i>Aythya ferina</i>	2165	518	7847	1751	9111	11454	13985	10096	6883	5914
<i>Aythya nyroca</i>	0	0	0	0	0	0	10	0	0	0
<i>Aythya fuligula</i>	0	13	6	4	0	503	34014	10708	1380	13401
<i>Aythya marila</i>	0	0	0	0	45	0	0	0	1180	1860
<i>Bucephala clangula</i>	2	51	4	1	40	6	16	7	11	2801
<i>Mergellus albellus</i>	0	10	184	0	25	560	26253	419	717	2390
<i>Mergus serrator</i>	0	0	0	0	0	19	0	399	27	20
<i>Mergus merganser</i>	0	88	0	0	0	6	3257	24	4	31
<i>Oxyura leucocephala</i>	0	0	0	1	0	17	636	103	358	0
<i>Anatinae spp.</i>	0	0	0	0	0	682	64487	94120	47270	10269
<i>Fulica atra</i>	65096	21187	62829	6535	7490	21216	415900	37501	60428	62891
NO. OF SITES COUNTED	7	18	18	7	22	27	28	34	36	20




Annex 10: Annual species totals counted in Uzbekistan, 1986-1988

	1986	1987	1988
<i>Anser anser</i>	306	1425	382
<i>Tadorna ferruginea</i>	0	30	0
<i>Tadorna tadorna</i>	51	0	0
<i>Anas strepera</i>	0	30	0
<i>Anas crecca</i>	1233	32090	4320
<i>Anas platyrhynchos</i>	57736	29899	5916
<i>Anas acuta</i>	0	3354	0
<i>Anas clypeata</i>	0	20	0
<i>Netta rufina</i>	425	610	1004
<i>Aythya ferina</i>	487	9277	3317
<i>Aythya nyroca</i>	0	965	0
<i>Aythya fuligula</i>	728	1450	0
<i>Bucephala clangula</i>	140	0	0
<i>Mergellus albellus</i>	1872	104	155
<i>Mergus merganser</i>	67	2	0
<i>Anatinae spp.</i>	3557	15	0
<i>Fulica atra</i>	6261	5725	230
NO. OF SITES COUNTED	12	6	2

Annex 11a: An example of a site form used in Asia

INTERNATIONAL WATERFOWL AND WETLANDS RESEARCH BUREAU (IWRB)		ASIAN WATERFOWL CENSUS COUNT UNIT FORM		ASIAN WETLAND BUREAU												
Please return this form to your National Coordinator or IWRB, Slimbridge, Gloucester GL2 7BX, U.K. before the end of March.			COUNTRY:													
NAME OF SITE:																
PROVINCE / STATE / PREFECTURE: NEAREST LARGE TOWN:			AREA:													
COORDINATES:		N	E	SITE CODE:												
<p>WETLAND TYPE: (please circle the relevant figures)</p> <table border="0"> <tr> <td>0 Open seas, bays, straits</td> <td>6 Reservoirs, barrages, tanks</td> </tr> <tr> <td>1 Estuaries, tidal mudflats, salt marshes</td> <td>7 Gravel pits, mineral workings</td> </tr> <tr> <td>2 Brackish or saline lakes, lagoons, salt pans</td> <td>8 Fish ponds, shrimp ponds</td> </tr> <tr> <td>3 Rivers, streams, canals</td> <td>9 Grassland, arable land</td> </tr> <tr> <td>4 Freshwater marshes, flooded areas</td> <td>10 Mangrove, nipah</td> </tr> <tr> <td>5 Freshwater lakes, ponds</td> <td>11 Freshwater swamp forest, peat swamp forest</td> </tr> </table>					0 Open seas, bays, straits	6 Reservoirs, barrages, tanks	1 Estuaries, tidal mudflats, salt marshes	7 Gravel pits, mineral workings	2 Brackish or saline lakes, lagoons, salt pans	8 Fish ponds, shrimp ponds	3 Rivers, streams, canals	9 Grassland, arable land	4 Freshwater marshes, flooded areas	10 Mangrove, nipah	5 Freshwater lakes, ponds	11 Freshwater swamp forest, peat swamp forest
0 Open seas, bays, straits	6 Reservoirs, barrages, tanks															
1 Estuaries, tidal mudflats, salt marshes	7 Gravel pits, mineral workings															
2 Brackish or saline lakes, lagoons, salt pans	8 Fish ponds, shrimp ponds															
3 Rivers, streams, canals	9 Grassland, arable land															
4 Freshwater marshes, flooded areas	10 Mangrove, nipah															
5 Freshwater lakes, ponds	11 Freshwater swamp forest, peat swamp forest															
<p>DESCRIPTION OF SITE:</p> <p>a. season of maximum flooding: b. maximum depth of water: c. salinity/acidity: d. fluctuations/permanence: e. tidal variations</p>			<p>COMMENTS:</p>													
<p>Outline map of count unit (limit of the area covered by the count) with important geographical features (cities, roads, rivers, hills). A copy of a map would be appreciated.</p>																
<p>COMPILER'S name and address:</p>																

Annex 11b: An example of a count form used in Asia

INTERNATIONAL WATERFOWL AND WETLANDS RESEARCH BUREAU (IWRB) 国际水禽及湿地研究中心 		ASIAN WATERFOWL CENSUS EAST ASIA 东亚水禽普查 		ASIAN WETLAND BUREAU 
Please return this form to your National Coordinator or IWRB, Slimbridge, Gloucester, GL2 7BX, U.K. before the end of March. 请于三月月底前将表寄回国家协调员或国际水禽普查中心。			COUNTRY: 国家	
NAME OF SITE: 地点名称			DATE OF COUNT: 统计日期 day month year 199...	
PROVINCE/STATE/PREFECTURE: 省/州/县 NEAREST LARGE TOWN: 最近之大城市			SITE CODE: 地点编号	
TYPE: A Aerial, F On foot, B By boat, M Mixed COVERAGE: V Upto 25%, W 25-50%, X 50-75%, Y 75-99% Z 100%			HAS THE SITE BEEN COUNTED BEFORE? 此地点是否作过统计? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Waterfowl Counts			SWANS, GEESE & DUCKS	
DIVERS Red-throated Diver <i>Gavia stellata</i> 红喉潜鸟 Black-throated Diver <i>G. gyrcica</i> 黑喉潜鸟 Pacific Diver <i>G. pacifica</i> 太平洋潜鸟 White-billed Diver <i>G. adamsii</i> 白嘴潜鸟 Unidentified divers 未识别的潜鸟			Lesser Whistling Duck <i>Dendrocygna javanica</i> 斑鸭 Mute Swan <i>Cygnus olor</i> 疣鼻天鹅 Whooper Swan <i>C. cygnus</i> 大天鹅 Bewick's Swan <i>C. columbianus</i> 小天鹅 Unidentified swans 未识别的天鹅 Swan Goose <i>Anser cygnoides</i> 白雁 Bean Goose <i>A. fabalis</i> 豆雁 White-fronted Goose <i>A. albitrons</i> 白额雁 Lesser White-fronted Goose <i>A. erythropus</i> 小斑雁 Greylag Goose <i>A. anser</i> 灰雁 Bar-headed Goose <i>A. indicus</i> 斑头雁 Brent Goose <i>Branta bernicla</i> 黑雁 Unidentified geese 未识别的雁 Ruddy Shelduck <i>Tadorna ferruginea</i> 赤颈鸭 Common Shelduck <i>T. tadorna</i> 绿翅鸭 Indian Cotton Teal <i>Nettion coromandelianus</i> 棉鸭 Mandarin Duck <i>Aix galericulata</i> 鸳鸯 Eurasian Wigeon <i>Anas penelope</i> 青头鸭 Falced teal <i>A. falcata</i> 绿翅鸭 Gadwall <i>A. strepera</i> 青头鸭 Baikal Teal <i>A. formosa</i> 绿翅鸭 Common (Green-winged) Teal <i>A. crecca</i> 绿翅鸭 Mallard <i>A. platyrhynchos</i> 绿翅鸭 Spot-billed Duck <i>A. poecilorhyncha</i> 斑嘴鸭 Northern Pintail <i>A. acuta</i> 红头鸭 Garganey <i>A. querquedula</i> 白嘴鸭 Northern Shoveler <i>A. clypeata</i> 斑嘴鸭 Red-crested Pochard <i>Nettion rufina</i> 赤嘴潜鸭 Common Pochard <i>Aythya ferina</i> 红头潜鸭 Baer's Pochard <i>A. baeri</i> 赤嘴潜鸭 Ferruginous Duck <i>A. nyroca</i> 白嘴潜鸭 Tufted Duck <i>A. fuligula</i> 凤头潜鸭 Greater Scaup <i>A. marila</i> 红头潜鸭 Harlequin Duck <i>Histrioncus histrioncus</i> 王鸭 Long-tailed Duck <i>Clangula hyperborea</i> 长尾鸭 Black Scoter <i>Melanitta nigra</i> 黑潜鸭 Velvet Scoter <i>M. fusca</i> 绒背潜鸭 Common Goldeneye <i>Bucephala clangula</i> 金眼鸭 Snow Merganser <i>Mergus albellus</i> 白额鸭 Red-breasted Merganser <i>M. serrator</i> 小胸刺河鸭 Scaly-sided (Chinese) Merganser <i>M. squamatus</i> 中华刺河鸭 Goosander <i>M. merganser</i> 普通刺河鸭 Unidentified ducks 未识别的鸭	
GREBES Little Grebe <i>Tachybaptus ruficollis</i> 小水栖鸭 Red-necked Grebe <i>Podiceps grisegena</i> 红颈潜鸭 Great Crested Grebe <i>P. cristatus</i> 凤头潜鸭 Slavonian Grebe <i>P. auritus</i> 凤头潜鸭 Black-necked Grebe <i>P. nigricollis</i> 黑颈潜鸭 Unidentified grebes 未识别的潜鸭			CRANES Common Crane <i>Grus grus</i> 丹顶鹤 Black-necked Crane <i>G. nigricollis</i> 黑颈鹤 Hooded Crane <i>G. monacha</i> 白枕鹤 Red-crowned Crane <i>G. japonensis</i> 丹顶鹤 White-naped Crane <i>G. vipio</i> 白枕鹤 Siberian Crane <i>G. leucogeranus</i> 白枕鹤 Demisella Crane <i>Anthropoides virgo</i> 白枕鹤 Unidentified cranes 未识别的鹤	
PELICANS Spot-billed Pelican <i>Pelecanus philippensis</i> 斑嘴鹈鹕 Dalmatian Pelican <i>P. crispus</i> 地栖鹈鹕			HERONS & EGRETS Great Bittern <i>Botaurus stellaris</i> 大田鸡 Yellow Bittern <i>Ixobrychus sinensis</i> 黄田鸡 Schrenck's Bittern <i>I. eurhythmus</i> 黄田鸡 Cinnamon Bittern <i>I. chinamomeus</i> 黄田鸡 Black Bittern <i>I. flavicollis</i> 黑田鸡 Japanese Night Heron <i>Gorsachius gossagi</i> 黑田鸡 Black-crowned Night Heron <i>Nycticorax nycticorax</i> 黑田鸡 Chinese Pond Heron <i>Ardeola bacchus</i> 黑田鸡 Cattle Egret <i>Bubulcus ibis</i> 牛鹭 Striated (Little Green) Heron <i>Bulorides striatus</i> 绿鹭 Pacific Reef Egret <i>Egretta sacra</i> 白鹭 Chinese (Swinhoe's) Egret <i>E. eulophotes</i> 白鹭 Little Egret <i>E. garzetta</i> 白鹭 Intermediate Egret <i>E. intermedia</i> 中白鹭 Great Egret <i>E. alba</i> 大白鹭 Purple Heron <i>Ardea purpurea</i> 紫鹭 Grey Heron <i>A. cinerea</i> 苍鹭 Unidentified herons and egrets 未识别的鹭	
CORMORANTS Great Cormorant <i>Phalacrocorax carbo</i> 鸬鹚 Temminck's Cormorant <i>P. capillatus (filamentosus)</i> 黑嘴鸬鹚 Unidentified cormorants 未识别的鸬鹚			STORKS Painted Stork <i>Mycteria leucocapala</i> 彩鹳 Black Stork <i>Ciconia nigra</i> 黑鹳 Oriental White Stork <i>C. (ciconia) boycollana</i> 白鹳	
IBISES & SPOONBILLS Black-headed (White) Ibis <i>Threskiornis (aethiopiensis) melanocapala</i> 黑头白鹮 Crested Ibis <i>Nipponia nippon</i> 白鹮 Glossy Ibis <i>Plegadis falcinellus</i> 白鹮 White Spoonbill <i>Platalea leucorodia</i> 白鹮 Black-faced Spoonbill <i>P. minor</i> 黑脸白鹮			COMPILER'S name and address:	

RAILS, GALLINULES & COOTS

- Water Rail Rallus aquaticus
Slaty-broasted Rail R. striatus
Slaty-legged Crane Rallina eurizonoides
Ballon's Crane Porzana pusilla
Ruddy Crane P. lusca
Band-bellied Crane P. paykullii
Asian Yellow Rail Coturnicops exilis
Brown Crane Amaurornis akooli
White-breasted Waterhen A. phoenicurus
Watercock Gallinula cinerea
Moorhen Gallinula chloropus
Purple Swampphen Porphyrio porphyrio
Common Coot Fulica atra

JACANAS

- Pheasant-tailed Jacana Hydrophasianus chirurgus

SHOREBIRDS - WADERS

- Painted Snipe Rostratula benghalensis
Oystercatcher Haematopus ostralegus
Ibisbill Ibidorhyncha striuthersii
Black-winged Stilt Himantopus himantopus
Avocet Recurvirostra avosetta
Oriental Pratincole Glareola maldivarum
Northern Lapwing Vanellus vanellus
Gray-headed Lapwing V. cinereus
Asiatic (Pacific) Golden Plover Pluvialis dominica
Grey Plover P. squatarola
Long-billed Plover Charadrius placidus
Little Ringed Plover C. dubius
Kentish Plover C. alexandrinus
Mongolian Plover C. mongolus
Greater Sand Plover C. leschenaultii
Oriental Plover C. veredus
Black-tailed Godwit Limosa limosa
Bar-tailed Godwit L. lapponica
Little Curlew Numenius minutus
Whimbrel N. phaeopus
Eurasian Curlew N. arquata
Far Eastern Curlew N. madagascariensis
Spotted Redshank Tringa erythropus
Redshank T. totanus
Marsh Sandpiper T. stagnellii
Greenshank T. nebularia
Nordmann's Greenshank T. guttata
Green Sandpiper T. ochropus
Wood Sandpiper T. glareola
Terek Sandpiper Xenus cinereus
Common Sandpiper Actitis hypoleucos
Grey-tailed (Grey-rumped) Tattler Heteroscolus brevipes
Ruddy Turnstone Arenaria interpres
Red-necked Phalarope Phalaropus lobatus
Eurasian Woodcock Scolopax rusticola
Solitary Snipe Gallinago solitaria
Japanese (Latham's) Snipe G. hardwickii

- Pintail Snipe G. stenura
Swinhoe's Snipe G. megala
Common Snipe G. gallinago
Jack Snipe Lymnocypris minimus
Asiatic Dowitcher Limnodromus semipalmatus
Red Knot Calidris canutus
Great Knot C. tenuirostris
Sanderling C. alba
Red-necked (Rufous-necked) Stint C. ruficollis
Temminck's Stint C. temminckii
Long-toed Stint S. subminuta
Sharp-tailed Sandpiper C. acuminata
Dunlin C. alpina
Curlew Sandpiper C. ferruginea
Spoon-billed Sandpiper Eurynothynchus pygmaeus
Broad-billed Sandpiper Limicola latirostris
Unidentified shorebirds

GULLS & TERNS

- Black-tailed Gull Larus crassirostris
Common (Mew) Gull L. canus
Herring Gull L. argentatus
Slaty-backed Gull L. schistisagus
Glaucous-winged Gull L. glaucescens
Glaucous Gull L. hyperboreus
Great Black-headed Gull L. ichthyophaga
Brown-headed Gull L. brunicephalus
Relict Gull L. relictus
Black-headed Gull L. ridibundus
Saunders' Gull L. saundersi
Unidentified gulls
Whiskered Tern Chlidonias hybrida
White-winged Black Tern C. leucophaea
Gull-billed Tern Gelochelidon nitouca
Caspien Tern Hydroprogne caspia
Common Tern Sterna hirundo
Little Tern S. sibilans
Great Crested Tern S. bergii
Unidentified terns

ADDITIONAL SPECIES

- (Empty lines for additional species)

COMMENTS: (condition of wetland, disturbances, notes on unusual species etc.)

意见: (湿地状况、干扰情况、特别物种的注释等)

USEFUL SITE INFORMATION: (please circle the relevant figures)

CONDITION OF WETLAND: 1 Wet (water present), 2 Totally dry, 3 Totally frozen

PROTECTION: 1 By Government, 2 By Tradition, 3 Private ownership, 4 Unprotected, 0 Unknown

THREATS AND USES: 0 Unknown, 1 Noise, 2 Sedimentation, 3 Excessive overgrowth of vegetation, 4 Cutting/clearance of vegetation, 5 Eutrophication, 6 Agriculture along drying margins, 7 Excessive cattle grazing, Pollution by: 8 domestic sewage, 9 solid waste, A industrial waste, B oil, C pesticides, D fertilizers, E Mining, F Hunting/trapping/poaching of birds, G Little fishing, H Large scale fishing, I Partial reclamation, J Complete reclamation, K Dam/barrage construction, L Tourism/recreation

Annex 12: Errata for the 1987 to 1991 AWC Annual Reports

The following numbers/records are erroneous and should read as follows:

		<u>1988</u>	
p.66	1000 <i>Anser albifrons</i> in India		Delete
p.67	339 <i>Marmaronetta angustirostris</i> in India		Delete
p.67	134774 <i>Anas acuta</i> in India		Replace with 124774
p.67	1210 <i>Aythya nyroca</i> in India		Replace with 710
p.67	775 <i>Mergus merganser</i> in India		Replace with 200
p.67	24 <i>Oxyura leucocephala</i> in India		Delete
		<u>1989</u>	
p.55	3569 <i>Tachybaptus ruficollis</i> in Pakistan		Replace with 3572
p.55	257 <i>Podiceps cristatus</i> in India		Replace with 272
p.55	25838 <i>Pelecanus onocrotalus</i> in Pakistan		Replace with 23338
p.55	1404 <i>Pelecanus philippensis</i> in India		Replace with 1977
p.55	529 <i>Pelecanus crispus</i> in Pakistan		Replace with 2556
p.55	3249 <i>Phalacrocorax carbo</i> in Pakistan		Replace with 3549
p.55	24053 <i>Phalacrocorax niger</i> in Pakistan		Replace with 24415
p.55	3696 <i>Ardeola grayii</i> in Sri Lanka		Replace with 3666
p.55	17194 <i>Egretta garzetta</i> in India		Replace with 17052
p.55	3760 <i>Egretta garzetta</i> in Pakistan		Replace with 3773
p.55	7807 <i>Egretta intermedia</i> in India		Replace with 7795
p.55	1517 <i>Egretta alba</i> in Pakistan		Replace with 1519
p.56	462 <i>Ciconia episcopus</i> in India		Replace with 456
p.56	105118 <i>Anas acuta</i> in Pakistan		Replace with 106127
p.57	50298 <i>Anas clypeata</i> in Pakistan		Replace with 49704
p.57	3090 <i>Netta rufina</i> in Pakistan		Replace with 3565
p.57	66038 <i>Aythya ferina</i> in Pakistan		Replace with 66728
p.57	7345 <i>Aythya fuligula</i> in Pakistan		Replace with 8050
p.57	554677 <i>Fulica atra</i> in Pakistan		Replace with 554767
p.58	321 <i>Numenius arquata</i> in Pakistan		Replace with 623
p.58	61 <i>Gallinago gallinago</i> in Pakistan		Replace with 60
p.59	35 <i>Calidris temminckii</i> in Pakistan		Replace with 15
p.59	8583 <i>Larus ridibundus</i> in Pakistan		Replace with 8872
p.59	590 <i>Gelochelidon nilotica</i> in Pakistan		Replace with 375
p.59	537 <i>Hydroprogne caspia</i> in Pakistan		Replace with 486
p.59	189 <i>Sterna aurantia</i> in Pakistan		Replace with 455
p.59	0 unidentified gulls & terns in Bangladesh		Replace with 1
p.59	12859 unidentified gulls & terns in Pakistan		Replace with 2939
p.59	71303 total in Bangladesh		Replace with 71304
p.59	1292042 total in Pakistan		Replace with 1295510
p.59	299906 total in Sri Lanka		Replace with 299876
p.67	722 <i>Egretta garzetta</i> in Myanmar		Replace with 5
p.67	1 <i>Egretta intermedia</i> in Myanmar		Replace with 718
p.68	34 <i>Anas poecilorhyncha</i> in Vietnam		Replace with 14
p.70	0 <i>Limicola falcinellus</i> in Myanmar		Replace with 2
p.70	32266 total in Myanmar		Replace with 32268
p.80	255 <i>Egretta alba</i> in Hong Kong		Replace with 249
p.81	877 <i>Anser fabalis</i> in China		Replace with 752
p.81	10 <i>Aythya nyroca</i> in China		Replace with 11
p.82	4 <i>Vanellus cinereus</i> in Hong Kong		Replace with 2
p.82	1 <i>Limosa lapponica</i> in Hong Kong		Delete
p.83	3 <i>Calidris tenuirostris</i> in Hong Kong		Delete
p.83	259 unidentified shorebirds in Hong Kong		Replace with 250
p.83	400968 total in Hong Kong		Replace with 400823

1990

p.13	392 <i>Limosa limosa</i> in Bahrain	Replace with 2
p.13	434 <i>Limosa</i> spp. in Bahrain	Replace with 824
p.14	4 <i>Haliaeetus leucoryphus</i> in Iran	Delete
p.14	5 <i>Haliaeetus leucoryphus</i> in Oman	Delete
p.14	0 <i>Circus aeruginosus</i> in Iran	Replace with 4
p.14	0 <i>Circus aeruginosus</i> in Oman	Replace with 5
p.43	15 <i>Anser albifrons</i> in India	Delete
p.43	8 <i>Anser erythropus</i> in India	Delete
p.45	23 <i>Tringa guttifer</i> in India	Replace with 3
p.45	0 <i>Calidris alba</i> in Sri Lanka	Replace with 260
p.45	260 <i>Calidris alpina</i> in Sri Lanka	Delete
p.45	1 <i>Eurynorhynchus pygmaeus</i> in India	Delete

1991

p.17	23 <i>Phalacrocorax niger</i> in Iran	Delete
p.47	8036 <i>Ardeola grayii</i> in Sri Lanka	Replace with 8041
p.47	5 <i>Ardeola bacchus</i> in Sri Lanka	Delete
p.49	350 <i>Charadrius hiaticula</i> in India	Delete
p.49	18 <i>Tringa guttifer</i> in Nepal	Delete
p.49	28059 <i>Calidris subminua</i> in India	Replace with 142
p.58	14 <i>Anhinga melanogaster</i> in Papua New Guinea	Replace with 14 <i>Anhinga novaehollandiae</i>
p.58	4 <i>Threskiornis melanocephalus</i> in Papua New G	Replace with 4 <i>Threskiornis molucca</i>
p.60	75 <i>Sterna aurantia</i> in Philippines	Delete
p.66	1 <i>Pelecanus philippensis</i> in China	Delete
p.66	0 <i>Pelecanus crispus</i> in China	Replace with 1

The following numbers/records have not been substantiated by detailed descriptions and should be treated cautiously.

1988 p.70 3 *Larus minutus* in India

1991

p.19	38 <i>Numenius tenuirostris</i> in Iran
p.19	6 <i>Gallinago media</i> in Iran
p.19	15267 <i>Larus canus</i> in Iran
p.19	299 <i>Sterna hirundo</i> in Iran
p.19	64 <i>Sterna albifrons</i> in Iran
p.47	120 <i>Podiceps grisegena</i> in India
p.47	96 <i>Podiceps grisegena</i> in Pakistan
p.48	1161 <i>Marmaronetta angustirostris</i> in India
p.49	715 <i>Calidris minuta</i> in Bangladesh
p.49	1577 <i>Larus fuscus</i> in India
p.49	857 <i>Larus fuscus</i> in Pakistan
p.49	442 <i>Larus fuscus</i> in Sri Lanka
p.59	8 <i>Esacus magnirostris</i> in Myanmar
p.60	17 <i>Numenius minutus</i> in Philippines
p.69	1245 <i>Calidris ferruginea</i> in China
p.69	2 <i>Larus fuscus</i> in China
p.69	47 <i>Larus minutus</i> in China
p.69	6 <i>Chlidonias leucopterus</i> in China
p.69	83 <i>Sterna saundersii</i> in China

Moreover, every year some data reached IWRB and AWB too late to be included in the annual reports. Totals for some countries in some years are therefore higher than published in these.



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