THE ASIAN WATERFOWL CENSUS 2002

COUNTRY REPORT (MALAYSIA)

Compiled by

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EXECUTIVE SUMMARY

"The restlessness of shorebirds, their kinship with the distance and swift seasons, the wistful signal of their voices down the long coastlines of the world make them, for me, the most affecting of wild creatures, I think of them as birds of wind, as 'wind birds'".

- Peter Matthiessen, *The Wind Birds*

Peter Matthiessen captured beautifully the image of shorebirds when he described them in his book *The Wind Birds*. Indeed shorebirds and many other waterbirds have long inspired people with their characteristics and beauty, evident in their art works and literature. As the science of ornithology and conservation biology progressed, scientists have begun to understand that the health of many wetland ecosystems are intricately linked to the presence of waterbirds. Therefore, the role of waterbirds as indicators of wetlands were established.

Malaysia, without doubt, is an important country for waterbird conservation in this region. Its landscape is composed by various types of natural wetland habitat ranging from nutrient-rich mudflats to man-made former tin-mining pools in the interior. These habitats play a crucial role in providing a safe refuge to breed, roost and refuel. Furthermore, Malaysia is also on the migratory flyway of many shorebird species. The destruction of these habitats will spell doom for the waterbirds.

With this realisation in mind, the Asian Waterfowl Census was designed to be a monitoring tool for waterbirds and their respective wetland habitats. The programme can be used to assist Malaysia in fulfiling its obligation in international agreements such as the Ramsar Convention where monitoring instruments must be put in place at nominated Ramsar sites. The Malaysian Nature Society has been actively involved in the AWC since 1999, providing much information on various wetland sites as a result of many dedicated volunteers who faithfully surveyed sites yearly.

The year 2002 proved to be a fruitful one for the AWC. As many as 18,949 individuals from 72 species were counted at 25 sites in 10 States. Thirty-nine volunteers took part throughout the country. Other interesting information gleaned from the surveys was;

- seven out of ten nationally important sites were surveyed throughout Malaysia.
- seven Important Bird Areas (IBA) for wetlands were surveyed including a new area; the Kinabatangan Floodplain.
- five globally threatened waterbirds; the Nordmann's Greenshank, Spoon-billed Sandpiper, Chinese Egret, Storm's Stork and Lesser Adjutant; were recorded at four IBA sites.
- high numbers of the Oriental Darters, a nationally important bird, at the Kinabatangan region.
- unusually large congregations of Brown-headed Gulls along the coastlines of Matang.
- first record of Little Egrets breeding in the country at Malim Nawar pools.
- largest congregation of Lesser Adjutants in a single area at Parit Jawa, Johor.

The results also saw a slight growth from last year's figures in terms of the number of individuals and species. It is hoped that AWC (Malaysia) will continue its expansion next year in order to cover more areas with the participation of more volunteers and involvement of wildlife departments to address its limitations.

1. INTRODUCTION

1.1. Background

Waterbirds are useful tools as indicators of the conservation status and health of wetland habitats. They are also an important part of our natural heritage and a renewable resource utilized for research, education, and recreation as well as food resource.

The Asian Waterfowl Census (AWC) is a coordinated international scheme for the collection and dissemination of information on waterbirds and wetlands. It forms a part of the International Waterfowl Census, a global effort coordibated by Wetlands International and conducted once a year, during the 2nd and 3rd week of January. Information is gathered on standardised forms by network of national/regional coordinators and volunteer participations.

The **major objectives** of the Asian Waterfowl Census are (Lopez & Mundkur 1997):

1. **To obtain information on an annual basis of waterbird population at wetlands in the region during the non-breeding period of most species (January), as a basis for evaluation of sites and monitoring of populations;**
2. **To monitor on an annual basis the status and conditions of wetlands; and**
3. **To encourage greater popular interest in waterbirds and wetlands, and thereby promote their conservation.**

The results of the census and associated information are widely used to promote regional and national waterbird and wetland conservation initiatives. These include the identification of internationally important wetlands under the Ramsar Convention and as support for the development of draft agreement on the conservation of migratory waterbirds.

The involvement of the Malaysian Nature Society (MNS) in this programme as one of the National Coordinator (the other is the Department of Wildlife and National Parks, Peninsular Malaysia) can be traced back to 1999, working in collaboration with Wetlands International – Asia Pacific (based in Kelana Jaya). Through its participation over the period of four years, the census has seen a moderate growth in terms of volunteers involvement and locations surveyed. It is hoped that the AWC will be able to generate concern for waterbird and habitat conservation in Malaysia amongst Malaysians and government agencies leading to the achievements of the AWC objectives.

This report is a collation of AWC information received from volunteers throughout the country for the year 2002.

2. METHODOLOGY

Standardised survey forms were sent out to volunteers via electronically or snail mail from MNS headquarters in Kuala Lumpur. Volunteers were encouraged to cover as many sites as possible and also to survey previous sites. Completed forms were then returned to MNS for collation and preparation of a country report.

3. RESULTS

3.1. Locations

3.1.1. Survey Locations

Over 25 locations throughout the country were surveyed by 39 volunteers. Details of the locations surveyed and dates are stated in Table 1.

Table 1. Locations Surveyed During the AWC 2002.

LOCATION	STATE	SURVEY DATE
Timah-Tasoh Dam	Perlis	13-15 January
Kedah Coast (Kuala Sala-Kuala Kedah)	Kedah	20 January
Mak Mandin	Pulau Pinang	21 January
Penaga-Bagan Belat	Pulau Pinang	14 January
Pinji Pond	Perak	12 January
Malim Nawar	Perak	6 January
Matang	Perak	10-11 January
Chikus	Perak	13 January
Kota Bahru	Perak	10 February*
Kinta Nature Park	Perak	10 February*
Kapar Powerstation	Selangor	17 January
Tanjung Tombok	Selangor	17 January
Kuala Selangor Nature Park	Selangor	20 January
Taman Desa Oxidation Pond	Kuala Lumpur#	5 January
Batang Tiga	Melaka	13 & 20 January
Sungai Chondan	Johor	20 January
Yong Peng	Johor	19 January
Sungai Balang	Johor	14-15 January
Parit Jawa	Johor	14-15 January
Bako-Buntal Bay	Sarawak	19 January
Sri Aman Ricefields	Sarawak	26 January
Semenggoh Fisheries Station	Sarawak	17 January
Kampung Chupak	Sarawak	17 January
Lower Kinabatangan Floodplain	Sabah	5-7 January
Terusan Kinabatangan	Sabah	12-14 January

1. #Federal Territory ; 2. *Late inclusion

Figure 1 shows the locations that were surveyed according to respective States. Most of the sites surveyed were in Perak (6), followed by Sarawak and Johor (4 each) and Selangor (3). Two internationally important wetland sites were covered in Sabah. The remaining States such as Kedah, Kuala Lumpur, Melaka and Perlis had one each.

The locations surveyed also included seven wetland Important Bird Areas namely Kapar Powerstation (Selangor), Penaga-Bagan Belat (Pulau Pinang), Matang (Perak), Parit Jawa (Johor), Bako-Buntal Bay (Sarawak), Lower Kinabatangan Floodplain (including Terusan Kinabatangan) (Sabah) and Timah-Tasoh Dam (Perlis). Nationally important sites such as Kinta Nature Park (Perak), Malim Nawar (Perak) and Batang Tiga (Melaka) were also covered.

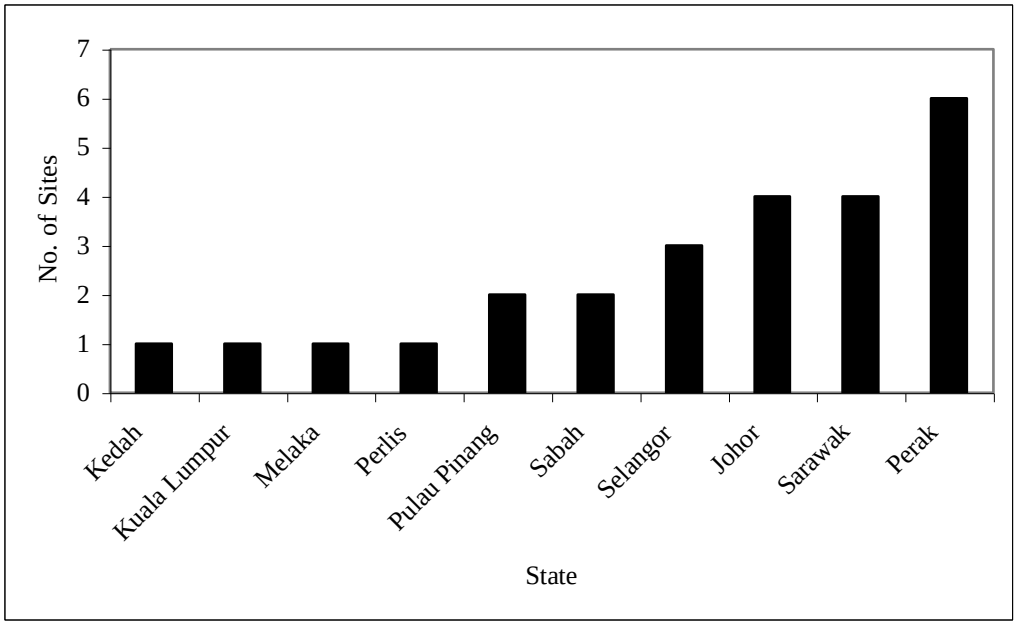


Figure 1. AWC Locations According to Respective Malaysian States.

Sixty-eight percent of sites that have been surveyed in the past were re-surveyed and 38% were new sites (Figure 2). The new sites were Sri Aman Ricefields (Sarawak), Kampung Chupak (Sarawak), Chikus (Perak), Sungai Chondan (Johor), Tanjung Tombok (Selangor), Parit Jawa (Johor), Terusan Kinabatangan (Sabah) and Lower Kinabatangan Floodplain (Sabah).

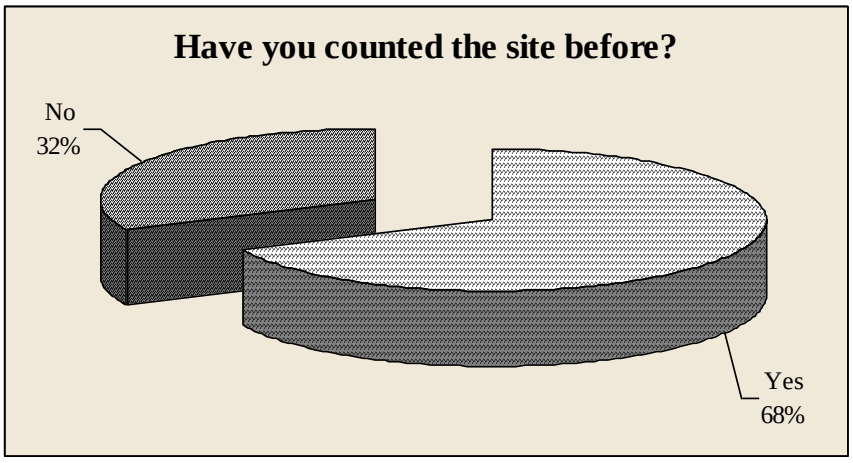
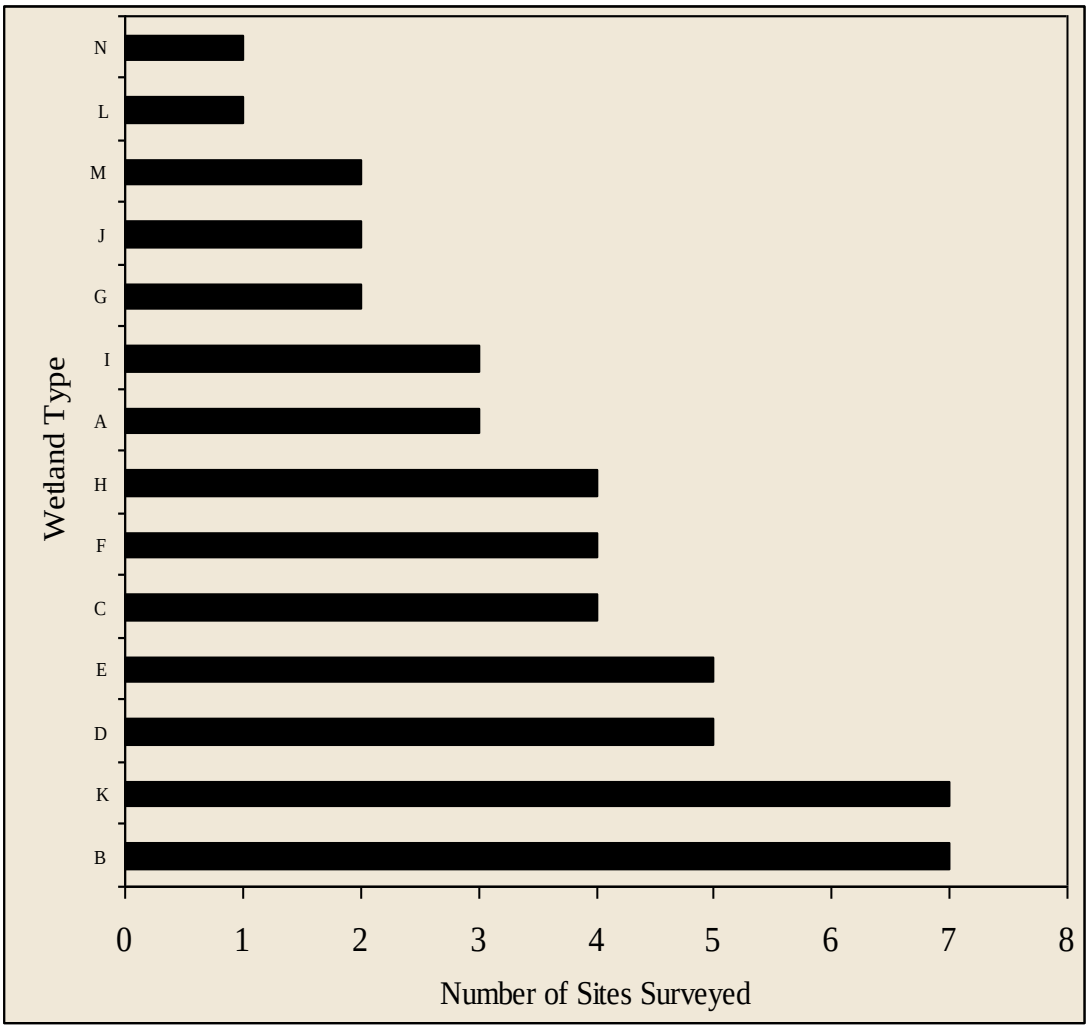


Figure 2. Percentage of Site Coverage in the AWC 2002 (Malaysia).

3.1.2. Habitat Types of Location Surveyed

The classification for wetland type is based on the standard AWC survey forms with a slight modification. Based on Figure 3, tidal estuaries, mudflats, mangrove habitats were the most surveyed areas.



Keys: A - Open seas, bays, straits; B - Estuaries, tidal mudflats, salt pans; C - Brackish or saline lakes, lagoons, salt pans; D - Rivers, streams, canals, drains; E - Freshwater marshes, flooded areas; F - Freshwater lakes, ponds; G - Reservoirs, barrages, tanks; H - Gravel pits, mineral workings, mining pools; I - Fish ponds, shrimp ponds; J - Grassland, arable land; K - Mangrove, nipah; M - Agricultural land (eg. ricefields); N - Artificial ash ponds.

Figure 3. Classification of Surveyed Sites Based on Wetland Types.

Based on Figure 4, more than 50% of the wetlands surveyed were man-made, consisting mainly of former tin-mining lands. Natural wetlands, especially important sites, may still be unvisited considering that it constituted only 44% of the total number of sites surveyed.

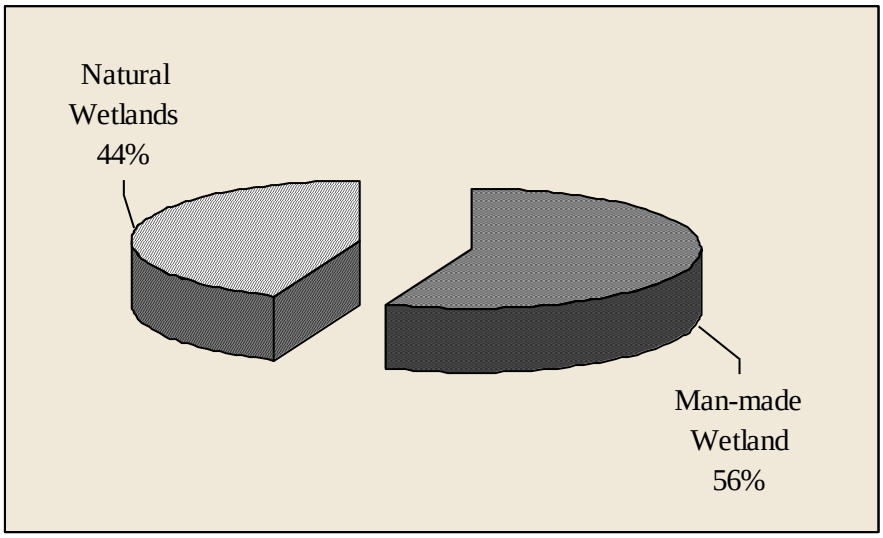


Figure 4. Percentage of Natural and Man-made Wetlands Covered by the AWC Surveys.

3.2. Waterbirds

3.2.1. Major Waterbird Group

The waterbird species that were counted were divided into eight major waterbird group; darters, grebes, herons and egrets, storks, geese and ducks, rails and gallinules, shorebirds (waders) and gulls and terns. A total of 18,949 individuals from 72 species were counted at 25 sites. Fifty-five percent of the waterbirds counted were shorebirds followed by herons and egrets (24%) and gulls and terns (18%) repectively. Darters, grebes, storks, geese and ducks, and rails and gallinules make up the remaining three percent (Figure 5).

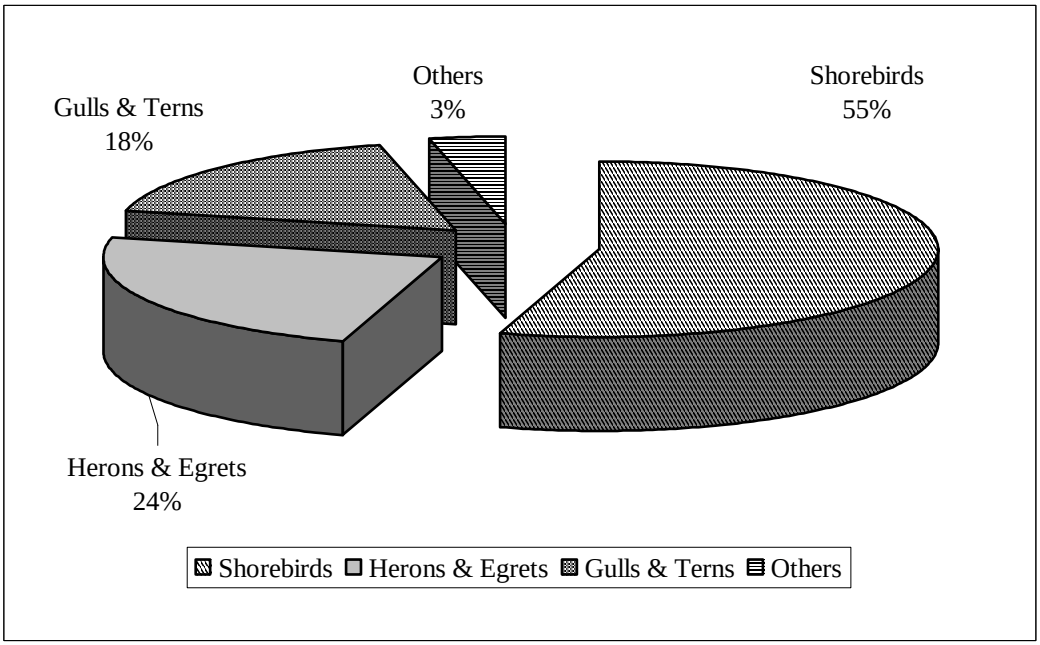


Figure 5. Percentage of Counted Individual Waterbirds During the AWC 2002 (Malaysia) According to Major Groups.

A more detailed account on the number of species and individuals surveyed are given under the respective waterbird groups below.

3.2.1.1. Darters

Oriental Darters (*Anhinga melanogaster*) were only recorded in the Kinabatangan region (2 sites) where 54 individuals were counted. The species, which used to be common along parts of the coast in Borneo and inland waterways, is now facing a decline in population numbers (Smythies 1999).

3.2.1.2. Grebes

The Little Grebe (*Tachybaptus ruficollis*) is the sole representative of this group. The grebe takes well to man-made habitats especially former tin-mining pools in Perak State, where it has also been recorded breeding. Fifty-two individuals were counted with the highest population count at Malim Nawar (32).

3.2.1.3. Herons and Egrets

A total of 4,570 individuals from 14 species were noted under this group. Cattle Egrets (*Bubulcus ibis*) were the dominant species with 1,256 individuals, followed by Little Egrets (*Egretta garzetta*) with 859 individuals. The surveys also noted breeding populations of Black-crowned Night-Herons (*Nycticorax nycticorax*), Grey Herons (*Ardea cinerea*) and Purple Herons (*A. purpurea*) in several man-made locations; the Kinta Nature Park (Perak) and Yong Peng (Johor). A breeding colony of Little Egrets was also recorded for the first time in Malaysia at Malim Nawar (Perak).

3.2.1.4. Storks

Two globally threatened species, the Storm's Stork and Lesser Adjutant, were counted in restricted sites. Eleven Storm's Stork were recorded in the Kinabatangan region through the efforts of Zainal Abidin Ja'afar and Asnih Etin, who has studied the species previously. A total of 79 Lesser Adjutants were counted in three States, usually along the coastlines. Amongst the sites, Parit Jawa probably holds the largest concentration of this species in one area.

3.2.1.5. Geese and Ducks

Large concentrations of Lesser Treeducks (*Dendrocygna javanica*) and Cotton Pygmy Goose (*Nettapus coromandelianus*) were counted at Pinji Pond, which boast a total of 169 individuals. Apart from this site, few geese were also counted at Kota Bahru (Perak) and Kampung Chupak (Sarawak).

3.2.1.6. Rails and Gallinules

Not surprisingly, the White-breasted Waterhen (*Amaurornis phoenicurus*) is the commonest species amongst the seven counted in the surveys with 120 individuals. A total of 257 rails and gallinules were recorded.

3.2.1.7. Shorebirds-Waders

Thirty-four species and 10,343 individual shorebirds were recorded in 19 sites. The count was dominated by Common Redshanks (*Tringa totanus*), Greater Sand-Plovers (*Charadrius leschenaultii*) and Bar-tailed Godwits (*Limosa lapponica*) and Mongolian Plovers (*C. mongolus*). Dominant genera were the *Charadrius, Tringa, Calidris* and *Numenius* with more than 1,000 individuals surveyed (Table 2).

Important shorebird sites based on survey results are Kapar Powerstation, Penaga-Bagan Belat, Matang, Parit Jawa and Bako-Buntal Bay, all Malaysian IBAs.

Table 2. The Distribution of Waterbirds According to Respective Genera.

Genera	No. of Individuals	No. of Species
Charadrius	2,079	5
Tringa	1,977	5
Calidris	1,330	4
Numenius	1,151	3
Limosa	976	2
Pluvialis	739	2
Xenus	660	1
Actitis	136	1
Arenaria	37	1
Vanellus	21	2
Himantopus	19	1
Heteroscelus	10	1
Gallinago	9	2
Limicola	3	1
Rostratula	2	1
Glareola	1	1
Eurynorhynchus	1	1

3.2.1.8. Gulls and Terns

A total of 3,376 individuals of terns and gulls from 10 species were counted which were dominated by the Whiskered Tern (*Chlidonias hybridus*) (750) and White-winged Tern (*C. leucopterus*) (394). Interestingly, a two day survey at Matang, a mangrove-lined coast with mudflats, recorded over 150 individuals of the Brown-headed Gull (*Larus brunnicephalus*).

3.2.2. Additional Wetland-Related Species

3.2.2.1. Wetland Raptors

No special effort was made to count the raptors but were recorded as seen opportunistically. Only three species were recorded utilizing wetlands namely the Brahminy Kite (*Haliastur indus*), White-bellied Sea-Eagle (*Haliaeetus leucogaster*) and Eastern Marsh Harrier (*Circus spilonotus*). The first two species are common residents of our waterbodies whilst the latter frequents rice fields.

3.2.2.2. Kingfishers

Six species of kingfishers were encountered during surveys; the Stork-billed (*Halcyon capensis*), Blue-eared (*Alcedo meninting*), Collared (*H. chloris*), White-throated (*H. smyrnensis*), Common (*A. atthis*) and Black-capped Kingfisher (*H. pileata*).

3.2.3. Globally Threatened Waterbirds

The number of globally threatened waterbird species encountered during the surveys increased from previous years. The Nordmann's Greenshank and Storm's Stork are classified as

'Endangered' whereas the Spoon-billed Sandpiper, Chinese Egret and Lesser Adjutant are 'Vulnerable' (BirdLife International 2001). Details of their sightings are provided under Table 3.

Interestingly, two Nordmann's Greenshanks and a single Spoon-billed Sandpiper that were recorded at Bako-Buntal Bay and Kapar Powerstation respectively were a first for the sites. All of the sightings were made at Important Bird Areas, further consolidating the need and urgency for better site protection for these areas in order for these species to survive.

Table 3. Abundance of Globally Threatened Waterbirds in Six Surveyed Locations During the AWC 2002 (Malaysia).

Species	Global Status	Location	No. of Individuals
Storm's Stork *Ciconia stormi*	Endangered	1. Terusan Kinabatangan (Sabah)	3
		2. Lower Kinabatangan Floodplain (Sabah)	8
Nordmann's Greenshank *Tringa guttifer*	Endangered	1. Bako-Buntal Bay (Sarawak)	2
Spoon-billed Sandpiper *Eurynorhynchus pygmeus*	Vulnerable	1. Kapar Powerstation (Selangor)	1
Chinese Egret *Egretta eulophotes*	Vulnerable	1. Kapar Powerstation (Selangor)	1
		2. Bako-Buntal Bay (Sarawak)	1
Lesser Adjutant *Leptoptilos javanicus*	Vulnerable	1. Parit Jawa (Johor)	19
		2. Matang (Perak)	26
		3. Kapar Powerstation (Selangor)	1
		4. Terusan Kinabatangan (Sabah)	16
		5. Lower Kinabatangan Floodplain (Sabah)	12

4. DISCUSSION

4.1. Limitations of the AWC data and recommendations

The limitations for the AWC (Malaysia) include;

1) the number of survey sites is still generally low. Survey sites concentrate mostly on the west coast of Peninsular Malaysia, corresponding with the concentration of the majority of birdwatchers. The situation in east coast of the peninsula and East Malaysia needs to be improved,
2) the economic cost involved in visiting some key but remote sites, which is an important factor affecting the selection of the sites to survey by volunteers,
3) the availability of motivated and trained people in the country, and
4) the entry of data in the AWC (Malaysia) database is slower than expected.

In order to overcome the limitations, the following is planned for the enhancement of AWC (Malaysia):

- To stress the importance of visiting the same sites every year amongst volunteers, as the information value from a site will increase with the amount of data from it.
- To work closely with volunteers to solve problems as local level and to standardise information gathering and avoid duplicity. Closer cooperation with Wetlands International-Asia Pacific (WIAP) especially between the Regional and National Coordinator.
- To accelerate census data entry in the database.
- Priority monitoring based on two-tier system; IBA wetland sites and non-IBA wetland sites. Currently, less than 20% of the IBA sites are surveyed regularly. The AWC (Malaysia) should be utilised as a monitoring tool for the IBA sites thus providing much needed up-to-date information on the condition of the sites annually. Thus, the integration between IBA and AWC (Malaysia) is possible and will benefit both programmes.
- Better cooperation between NGO (eg. MNS, WIAP) and DWNP and other wildlife departments in the country to ensure better coverage of the census.

5. ACKNOWLEDGEMENTS

The Bird Conservation Council (BCC)-MNS and Wetlands International –Asia Pacific would like to extend its welcome to all the new survey volunteers and thank the following people for their faithful participation and effort in the AWC 2002 (Malaysia) survey. The BCC-MNS would also like to extend its gratitude to En Jasmi Abdul and his Kuala Gula Bird Sanctuary (Perak) staff members for their permission and assistance during the surveys at Matang Mangrove Forest Reserves. The Society looks forward to a closer working cooperation with PERHILITAN to better bird conservation in this country. Finally, we also look forward in your participation and commitment towards next year's count.

Zainal Abidin Ja'afar, **Asnih Etin**, Yeo Yee Ling, **Anthony Sebastian**, Daniel Kong, **Zora Chan**, Surin Suksuwan, **Frederik Noack**, Yang Chong, **Yunus Bin Ishak**, Yeap Chin Aik, **Mah Teck Oon**, Andrew J. Sebastian, **Maha Lechimi A**., Koay Ee Ling, **Chiu Sein Chiong**, Laurence Poh**, David Li**, Cheang Kum Seng, **Sim Cheng Hua**, Lim Aun Tiah, **Lim Chee Keong**, Liew Siaw Lai, **Ooi Beng Yean**, Lim Swee Yian, **Lim Kim Chye**, Hamzah (PERHILITAN Kuala Gula), **Tahir (PERHILITAN Kuala Gula)**, Kanda Kumar, **Alvin Lopez**, Khoo Swee Seng, **Caroline Ho**, Wong Ming Sun, **Linda Wong**, Wong Soon Ying, **Ang Teck Hin**, Goh Kam Chan, **Wilbur Goh** and Chew.

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APPENDIX 1. Important Bird Area wetland-related sites in Malaysia.

SITES	HABITAT TYPE
PENINSULAR MALAYSIA	
1. Timah-Tasoh	Reservoir / Freshwater lake
2. Penaga-Kuala Muda	Mangroves & mudflats
3. Pondok Tanjung	Freshwater peatswamp forest
4. Matang	Mangroves & mudflats
5. Kland Islands	Mangroves & mudflats
6. North-Central Selangor Coast	Mangroves & mudflats
7. Stesen Janaelektrik Sultan Salahuddin Abdul Aziz	Artificial ash ponds
8. Benut	Mangroves & mudflats
9. Pulau Kukup	Mangroves & mudflats
10. Parit Jawa	Mangroves & mudflats
11. South-east Pahang Swamp Forest	Freshwater peatswamp forest
12. Pulau Layang-layang (Under Federal Government)	Reef atoll
SARAWAK	
13. Pulau Bruit	Mangroves & mudflats
14. Bako-Buntal Bay	Mangroves & mudflats
15. Limbang Estuary	Mangroves, mudflats & sandflats
16. Loagan Bunut	Peatswamp forest, freshwater lake
17. Maludam	Peatswamp forest
18. Talang-Satang	Offshore islands & rocks
19. Trusan-Sundar	Mangroves, mudflats & sandflats
SABAH	
20. Lower Kinabatangan	Riverine forest, freshwater swamp forest, peatswamp forest, open reed swamp
21. Klias Peninsula	Mangrove forest, Nipa swamp, freshwater swamp forest, peatswamp forest
22. Kulamba	Mixed swamp forest
23. Pulau Sipadan	Coral reef, beach vegetation
24. Pulau Mantanani	Coral reef, beach vegetation
25. Pulau Tiga	Coral reef, beach vegetation
26. Tempasuk Plains	Freshwater swamp forest

APPENDIX 2. Important Bird Area Programme (Malaysia)

What is an IBA?

The function of the IBA programme is to identify and protect a network of sites, at a biogeographic scale, critical for the long-term viability of naturally occurring bird populations, across the range of those species for which a site-based approach is appropriate.

Important Bird Areas or IBAs;

- are places of international significance for the conservation of birds at the global, regional or sub-regional level,
- are practical tools for conservation,
- are chosen using standardised, agreed criteria applied with common sense,
- must, wherever, possible, be large enough to support self-sustaining populations of those species for which they are important,
- must be amenable to conservation and, as far as possible, be delimitable from surrounding areas,
- will, preferably include, where appropriate, existing protected areas,
- should form part of a wider, integrated approach to conservation that embraces sites, species and habitats.

Criteria for the selection of IBAs have been set in a hierarchy to identify sites of global and regional importance. At a global level, criteria embrace:

Category A1: Globally Threatened Species: sites which regularly hold significant numbers of globally threatened species, or other species of global conservation concern.

Category A2: Restricted-Range Species: sites which hold a significant component of the restricted-range species whose breeding distributions define an Endemic Bird Area (EBA) or a Secondary Area (SA). Sites also have to form one of a set selected to ensure that, as far as possible, all restricted-range species of an EBA or Secondary Area are present in significant numbers in at least one site and, preferably, more.

Category A3: Biome-Restricted Assemblages: sites which hold a significant component of the group of species whose distributions are largely or wholly confined to one biome. Sites also have to form one of a set selected to ensure that, as far as possible, all species restricted to a biome are adequately represented e.g. Indo-Malayan tropical dry zone, Sundaic lowland forest and Sundaic montane forest.

Category A4: Congregations: A site may qualify on any one of the four criteria listed below:

i. Site known or thought to hold, on a regular basis, ≥ 1% of a biogeographic population of a congregatory waterbird species;
ii. Site known or thought to hold, on a regular basis, ≥ 1% of the global population of a congregatory seabird or terrestrial species;
iii. Site known or thought to hold, on a regular basis, ≥ 20,000 waterbirds or ≥ 10,000 pairs of seabirds of one or more species;
iv. Site known or thought to exceed thresholds set for migratory species at bottleneck sites.

*For more information on the Malaysian IBAs, please contact Yeap Chin Aik at the address above.