# Convention on the Conservation of Migratory Species of Wild Animals

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## 1st Meeting of the Sessional Committee of the CMS Scientific Council (ScC-SC1)

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**ACTION PLAN FOR BAER'S POCHARD (*Aythya baeri*)**

*(Prepared by the Wildfowl and Wetlands Trust)*


Summary

Baer's Pochard is a critically endangered duck species which is included in Appendix I and II of CMS. Resolution 11.14 on a Programme of Work on Migratory Birds and Flyways recommends the development, adoption and implementation of an action plan for this species. The document attached contains an action plan that identifies the key actions required to improve the conservation status of Baer's Pochard. The action plan has been prepared by the Wildfowl and Wetlands Trust (WWT), an organization which specializes in the conservation and recovery of endangered waterbirds. The plan has been already approved by the East Asian-Australasian Flyway Partnership (EAAFP) at its meeting of partners held in Japan in January 2015.

## Action Plan for Baer's Pochard (*Aythya baeri*)

1. Resolution 11.14 on a Programme of Work on Migratory Birds and Flyways recommends the development, adoption and implementation of a Species Action Plan (SAP) for Baer's Pochard in Asia, in cooperation with the East Asian-Australasian Flyway Partnership (EAAFP). This species is considered as Critically Endangered by IUCN.

2. The Action Plan has been prepared by the Wildfowl and Wetlands Trust (WWT) and was approved by the Meeting of Partners to the EAAFP held in Japan in January 2015. A written consultation with CMS scientific councillors was undertaken in June 2015 and the document was posted at the Scientific Council workspace. No substantive comments have been received.

3. The Action Plan is being submitted to the Sessional Committee of the Scientific Council for provisional endorsement, with a view to promoting immediate implementation. Given that there may now be fewer than 200 individuals surviving in the wild, this is an emergency Action Plan that identifies the key actions required to improve the conservation status of Baer's Pochard. The Action Plan is expected to be submitted to COP12 for adoption.

4. The Action Plan is appended to this cover note as Annex 1. Consistently with CMS policy concerning language versions of Species Action Plans, the document is produced only in English as its geographic scope does not include any French or Spanish-speaking country.

***Action requested:***

The Sessional Committee of the Scientific Council is invited to endorse the Action Plan.

**Annex 1**

This Single Species Action Plan has been prepared to assist fulfilment of obligations under:

The Convention on the Conservation of
Migratory Species of Wild Animals (CMS)

The East Asian – Australasian Flyway Partnership

# International Single Species Action Plan for the Conservation of the Baer's Pochard (*Aythya baeri*)

**CMS Technical Series No. #**

**EAAFP Technical Series No. #**

**Compiled by**: Richard Hearn (Wildfowl & Wetlands Trust).

**Contributors**
Phil Round (Kingdom of Thailand), Sayam U. Chowdhury (People's Republic of Bangladesh), Lei Cao, Jinyu Lei and Xudong Tao (People's Republic of China), Asad Rahmani (Republic of India), Martin Gilbert and Sundev Gombobaatar (Mongolia), Nial Moores (Republic of Korea), Thiri Dae We Aung (Republic of the Union of Myanmar), Aleksey Antonov, Yuri Gluschenko, Oleg Goroshko, Wieland Heim, Jonathan Slaght and Diana Solovyeva (Russian Federation), Nguyen Duc Tu (Socialist Republic of Vietnam), Simba Chan, Mike Crosby and Andy Symes (BirdLife International), Peter Smallbones (Paignton Zoo), Tina Bouttle, Graham Clarkson and Nigel Jarrett (Wildfowl & Wetlands Trust).

Terry Townshend and Lin Zhang have helpfully forwarded the details of many recent observations of Baer's Pochard to the Baer's Pochard Task Force. Further support also provided by Spike Millington (EAAFP), Colette Hall and Baz Hughes (Wildfowl & Wetlands Trust).

**Milestones in the Production of the Plan**
First draft: November 2014, presented to the Range States
Second draft: December 2014
Final draft: January 2015, approved by EAAFP MoP 8

**Geographical scope**
This plan should be implemented in the following Principal Range States[1]: Democratic People's Republic of Korea, Kingdom of Thailand, People's Republic of Bangladesh, People's Republic of China, Republic of India, Republic of Korea, Republic of the Union of Myanmar, Russian Federation, Socialist Republic of Vietnam and Taiwan, Province of China.

Other Range States: Kingdom of Bhutan, Hong Kong, Japan, Lao People's Democratic Republic, Mongolia, Federal Democratic Republic of Nepal, Islamic Republic of Pakistan and Republic of the Philippines.

Baer's Pochard occurs in small numbers or as a vagrant in many other countries within the EAAFP region. There is no obligation to implement this plan in those countries.

**Reviews**
Given the critical status of the Baer's Pochard, this International Single Species Action Plan should be reviewed annually.

**Recommended citation**
Hearn, R.D. 2014. International Single Species Action Plan for the Conservation of the Baer's Pochard *Aythya baeri*. CMS Technical Series No. #, EAAFP Technical Series No. #

**Cover photograph**: Zhang Ming

[1] Hereafter referred to as: Bangladesh, China, DPRK, India, Mongolia, Myanmar, ROK, Russia, Taiwan, Thailand and Vietnam.

**TABLE OF CONTENTS**

**LIST OF ACRONYMS**

| | |
|---|---|
| ASEAN | Association for Southeast Asian Nations |
| AZA | Association of Zoos and Aquariums (North America) |
| BPTF | Baer's Pochard Task Force |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CMS | Convention on the Conservation of Migratory Species of Wild Animals |
| CR | Critically Endangered |
| EAAFP | East Asian – Australasian Flyway Partnership |
| EAZA | European Association of Zoos and Aquaria |
| IBA | Important Bird and Biodiversity Area |
| ISIS | International Species Information System |
| IUCN | International Union for Conservation of Nature |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| WAZA | World Association of Zoos and Aquariums |
| WPE | Waterbird Population Estimates (http://wpe.wetlands.org/) |
| WWT | Wildfowl & Wetlands Trust |
| ZAA | Zoo and Aquarium Association (Australasia) |

## EXECUTIVE SUMMARY

The Baer's Pochard is a Critically Endangered species on the edge of extinction in the wild. It has undergone a decline that has accelerated rapidly in recent years, and there may now be fewer than 200 individuals surviving in the wild. Urgent and effective action is needed if extinction in the wild is to be avoided.

Nowadays, the species apparently occurs predominantly within China, during both the breeding season and winter. Historically, however, the species had a much wider distribution, breeding in southeast Russia and with important wintering concentrations in southern Asia, particularly Bangladesh, Myanmar and northern Thailand. Available data suggest that these wintering concentrations no longer occur, but more extensive surveys are needed in order to confirm this. Therefore, immediate actions in China that address the critical threats are the most essential and should be implemented at the earliest opportunity in order to minimise the risk of extinction in the wild. Actions in other parts of the flyway are dependent on breeding or wintering locations being identified.

Little is known about ecology, threats or conservation requirements of Baer's Pochard. Nevertheless, it seems that the most critical threats it faces are probably the loss and degradation of habitat in both its breeding and wintering ranges, and the unsustainable harvesting of birds and eggs. Other threats, including disturbance, may also have become more significant, particularly now that the majority of individuals are apparently confined to a small number of sites.

Given the perilous state of the wild population, captive populations could play a significant part in the conservation of this species in the short-medium term. A captive stock exists, but the origin of many of these birds is unknown and there may be genetic impurity among them. Effective management of the global captive population is a high priority.

This Plan identifies the key actions required to improve the conservation status of Baer's Pochard. A preliminary consultation with experts from all range states has identified the most important threats to the species, and determined a series of actions to help remove these threats or mitigate their effects.

The aim of the Plan is to downlist Baer's Pochard from the IUCN list of Critically Endangered species. The objective is therefore to understand the causes of decline and address the most critical of these threats so that the Red List status of Baer's Pochard moves to Endangered by 2024. To help meet this objective, the Plan sets out a series of results to be achieved by 2019:

Result 1. The impact of habitat loss or inappropriate management is understood and significantly reduced.
Result 2. The impact of harvesting of birds and eggs from the wild is understood and significantly reduced.
Result 3. Knowledge of the ecological requirements of Baer's Pochard is significantly improved.
Result 4. The understanding of population status, distribution, key sites and demography is significantly improved.
Result 5. A network of protected and well managed sites is established and maintained throughout the range of the species.
Result 6. A global management strategy for the captive population is developed and implemented.
Result 7. Awareness of Baer's Pochard and its conservation needs is significantly enhanced, particularly among decision-makers.
Result 8. Appropriate policy for the international conservation of Baer's Pochard is in place.

This is an emergency action plan, essentially a collation of existing knowledge that facilitates the implementation of initial conservation actions. No workshop has been undertaken, but it is expected

that the EAAFP Baer's Pochard Task Force will convene experts to discuss the implementation of this Plan at the earliest opportunity in 2015. Given the status of Baer's Pochard, it is recommended that this Plan is reviewed annually until at least 2019.

## 1. PLAN PURPOSE AND TERM

### 1.1 Purpose of this Action plan

This plan specifies a series of actions to improve the conservation status of the Baer's Pochard. Experts from all Range States, through a series of consultations, have identified the most important known or suspected threats to the species and determined a series of actions to remove these threats or mitigate their effects. This approach enables unpublished data and expert opinion to be included in the development of the plan while retaining high scientific rigour.

Relevant actions should be implemented in each range state. Countries are encouraged to develop national work plans for the Baer's Pochard, or to transpose these actions into existing plans and legislation.

Implementation will require the collaborative efforts of national and regional authorities and competent statutory bodies, and a range of key stakeholders. Principal among these are national and international nongovernmental conservation organisations, site management committees, and academics.

International cooperation and coordination will be essential for implementation. This should be facilitated, in the most part, through the East Asian – Australasian Flyway Partnership Anatidae Working Group's Baer's Pochard Task Force.

It is expected that the actions identified in this plan will receive priority consideration for funding through relevant international and national instruments.

The conservation of the Baer's Pochard is dependent on the successful implementation of this Plan. Progress towards both delivery of the actions and achievement of the results should be reviewed on a regular basis. Barriers to implementation should be identified and overcome to ensure the objective of the Plan is met.

### 1.2 Plan term

This Plan covers the period 2015-2019.

## 2. POLICIES AND LEGISLATION

### 2.1 Global status

The Baer's Pochard is a globally threatened species, classified as Critically Endangered (A2cd+3cd+4cd) on the IUCN Red List since 2012.

### 2.2 International conservation and legal status of the species

Baer's Pochard is listed on Appendix I of CMS, added as part of the revision that became effective in February 2012. CMS Appendix I lists migratory species that have been recognized as being in danger of extinction throughout all or a significant proportion of their range.

Parties that are Range States to species listed in Appendix I shall endeavour to:

a) conserve and, where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction;
b) prevent, remove, compensate for or minimize, as appropriate, the adverse effects of activities or obstacles that seriously impede or prevent the migration of the species; and
c) prevent, reduce or control factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species.

Parties that are Range States to a species listed in Appendix I shall also prohibit the taking of animals belonging to such species. Exceptions may be made to this prohibition only if:

a) the taking is for scientific purposes;
b) the taking is for the purpose of enhancing the propagation or survival of the affected species;
c) the taking is to accommodate the needs of traditional subsistence users of such species; or
d) extraordinary circumstances so require; provided that such exceptions are precise as to content and limited in space and time. Such taking should not operate to the disadvantage of the species.

CMS Resolution 11.14 on Migratory Birds and Flyways, adopted in Quito in November 2014, includes a Flyways Programme of Work which requests the development, adoption and implementation of a species action plan for Baer's Pochard, in line with CMS priorities for concerted and cooperative action.

However, among Principle Range States for Baer's Pochard, only Bangladesh and India are Party to CMS. The status of Baer's Pochard under most other relevant Conventions, Directives and Agreements does not, however, yet reflect its current global status. It is not listed by CITES.

In addition to legally binding conventions, the EAAFP provides essential facilitation and coordination of waterbird conservation activities throughout the flyway of Baer's Pochard. For ducks, these are carried out by the Anatidae Working Group (AWG). In addition, a Baer's Pochard Task Force, working with the AWG, will provide essential close coordination and implementation of this Action Plan. The EAAFP also coordinates a Flyway Site Network in order to support the appropriate management of important waterbird sites (Jaensch 2013).

### 2.3 National policies, legislation and site protection

**Bangladesh**

Baer's Pochard is protected by the *Bangladesh Wildlife (Preservation & Security) Act (2012).* It is now being assessed for the national IUCN Red List and is likely to be classified as Critically Endangered.

There are no sites protected specifically for Baer's Pochard but both Hakaluki Haor and Tanguar Haor are recognized as IBAs and are both considered national Ecologically Critical Areas (ECAs). Tanguar Haor is also a Ramsar site. Aila Beel and Hail Haor are also recognised as IBAs for Baer's Pochard, but they are less important for the species than Hakaluki Haor and Tanguar Haor.

**China**

Under the *Law of the People's Republic of China on the Protection of Wildlife*, Baer's Pochard is not included on the List of National Special Protected Animals (1st or 2nd level), but it is included on the List of Terrestrial Wildlife which are Beneficial or of Important Economic or Scientific Value. As a result, whilst hunting of Baer's Pochard is still illegal, the low legal status means that the cost of breaking the law is minimal, providing little disincentive to ignore the law. At a provincial level, it is a protected animal in Heilongjiang, Beijing (2nd level), Jiangsu, Hunan and Anhui (2nd level).

A total of 80 IBAs are listed for Baer's Pochard, but for many of these there is no longer any evidence of the species occurring there. Five Ramsar sites are designated with Baer's Pochard listed as an interest feature (see Annex 3), but none of these include the most important sites. Some of the currently important sites do not, however, have any formal protection or recognition.

**India**

Baer's Pochard is protected in India under the *Indian Wildlife (Protection) Act, 1972*, and is listed on Schedule IV. It is strictly protected as all types of hunting are banned in India. There is no national Red List, or equivalent, in India.

There are 23 IBAs listed for Baer's Pochard in India (see Annex 3).

**Myanmar**

There is no national Red Data Book in Myanmar, but Baer's Pochard has been completely protected at the national level since 1994. Responsibility for the enforcement of this legislation rests with the Ministry of Forestry.

There are no sites protected specifically for Baer's Pochard, but there are seven IBAs listed for the species in Myanmar (see Annex 3). Indawgyi Lake Wildlife Sanctuary, Inlay Lake Wildlife Sanctuary and Moeyungyi Wetland Wildlife Sanctuary are particularly important for migratory waterbirds. Moeyungyi is also the only Ramsar site in Myanmar and Indawgyi Lake and Inlay Lake Wildlife Sanctuaries are both recognised as ASEAN Heritage Parks.

**Democratic People's Republic of Korea (DPRK)**

Baer's Pochard is listed as a rare species in the 2002 Red Data Book of DPRK, published by the UNESCO Man and the Biosphere Programme National Committee of DPR Korea. Under 'Conservation Action' the report states "As it is a rare species, the wintering area should be well protected".

There is one IBA listed for Baer's Pochard in DPRK (see Annex 3).

**Russian Federation**

Baer's Pochard is listed in the Russian Federation Red Data Book (currently category 3 – rare, but proposed for uplisting to category 1 – critically endangered), which affords it full protection. There are high penalties for killing the species or destroying its nest. Enforcement of this legal protection is, however, poor.

Lake Khanka, a former (and possibly current) breeding site, is protected as a State Nature Reserve (Zapovednik) for its large aggregations of breeding and migrating ducks. Daursky Nature Reserve, where Baer's Pochard bred in the 1980s (Goroshko 2012), was also established for the protection of waterbirds. Muraviovka Park includes wetland habitats in the middle reaches of the River Amur floodplain, including the location of a possible breeding attempt in 2013 (Heim *et al*. 2013).

Khingansky State Nature Reserve is another protected area within the species' known range in Amur Oblast' and from where there is a recent unconfirmed observation.

There are seven IBAs listed for Baer's Pochard in Russia (see Annex 3).

**Republic of Korea (ROK)**
Baer's Pochard is listed in the Korean Red List of Threatened Species, published by the National Institute of Biological Resources (within the Ministry of Environment) in 2012. It is assigned to the category "Endangered (D1)". The principal statute with enforceable provisions on the protection of endangered species is the *Protection of Wild Fauna and Flora Act*. This states that "No one shall capture, collect, set loose, naturalize, process, distribute, keep, export, import, take out, bring in (including dead ones in cases of processing, distribution, keeping, exporting, importing, taking out or bringing in), damage or wither (hereinafter referred to as "capture, collect, etc.") endangered wild fauna and flora". Hunting of other species of waterbird is legal, however, and the correct identification of Baer's Pochard by hunters is unlikely, making Baer's Pochard vulnerable to accidental hunting.

There are no protected areas designated for Baer's Pochard in ROK. It was one of several species used to identify the Han River estuary as an IBA but there has only been one record of the species there. Junam Reservoir is also listed as an IBA by BirdLife International, but IBA's do not yet feature in government conservation planning.

**Taiwan, Province of China**
There is one IBA listed for Baer's Pochard in Taiwan (see Annex 3).

**Thailand**
Baer's Pochard in Thailand is fully protected in law. Hunting is permissible with a permit, but hunting permits are virtually never granted so *de facto* protection operates. Baer's Pochard is also listed in the National Thai Red List. This list is currently in the process of being updated by the Office of Natural Resources, Environmental Policy and Planning (ONEP), with input also from the Wildlife Research Division, Department of National Parks, Wildlife and Plants Conservation (DNP) and from Bird Conservation Society of Thailand (BCST). Threat status categories in the Thai Red List at least mirror those in the global list, so Baer's Pochard will be considered CR once the update is complete.

Most key wetlands for Baer's Pochard receive a degree of protection. The two most important sites (Nong Bong Khai Non-Hunting Area and Bung Boraphet Non-Hunting Area) are designated for waterbird protection, with wildlife officials posted there to suppress hunting. Habitat protection is less complete since management also involves other government departments and most adjoining land is privately owned.

There are a number of other waterbodies in north, northeast and central Thailand that are protected as non-Hunting Areas, some of which used to (and may still) hold small numbers of wintering Baer's Pochard.

There are three IBAs listed for Baer's Pochard in Thailand (see Annex 3).

**Vietnam**
Baer's Pochard is listed as data deficient in the Vietnamese Red Data Book (Ministry of Science and Technology and Vietnam's Academy of Science and Technology 2007). It is not listed as a protected species in Vietnamese Law (Decree 32/2006/ND-TTg on protected wild animals and plants).

There are no IBAs listed for Baer's Pochard in Vietnam (see Annex 3).

## 3. BIOLOGICAL ASSESSMENT

Baer's Pochard is one of the formerly most abundant and widespread waterbirds to become Critically Endangered. It has been in suspected decline since at least the 1980s, and was listed as Threatened in 1988 and Vulnerable in 1994. It remained Vulnerable until 2008, although during this period it was recognized as being in rapid decline (BirdLife International 2001). However, only since *c*. 2005 did it become apparent that the species had declined significantly and it was uplisted to Endangered in 2008. Accurate assessments of its status continued to be difficult due to a paucity of data, but following surveys in much of the Yangtze floodplain, Wang *et al*. (2012) were able to make a more thorough assessment of its status and consequently it was uplisted to Critically Endangered in 2012. In the years since, Baer's Pochard appears to have declined further and become extremely scarce to the point that it may now be on the brink of extinction in the wild.

However, the wild population remains poorly known and an accurate assessment of population size is currently not possible. Based on current knowledge, it appears that there could be fewer than 200 individuals surviving in the wild (see Annex 4 for recent observations). Comprehensive surveys have not been undertaken, however, because of a lack of resources available to visit the sites it occupies, which are often large and difficult to survey. Recent searches have included a large number of wintering sites, particularly in January 2013. Searches during the breeding season have been more limited, as the core range is in remote parts of northeast China and southeast Russia; these wetlands are also often large and with extensive emergent vegetation, making surveys difficult, though many in China are now much reduced in extent due to wetland drainage. Currently just four sites are known to regularly support Baer's Pochard during the breeding season; one in Russia and three in China.

### 3.1 Taxonomy and biogeographic populations

Phylum: Chordata
Class: Aves
Order: Anseriformes
Family: Anatidae
Species: *Aythya baeri* (Radde, 1863)

Common names
Bangladeshi: Baerer Bhutihash
Burmese: Pochard Gaung Sein
Chinese: Qing-tou-qian-ya
English: Baer's Pochard
Indian: to be confirmed
Korean: 붉은가슴흰죽지 (Bulgeun Gasum Heenjukji)
Mongolian: Ухаа шумбуур (Ukhaa shumbuur)
Russian: Нырок (чернеть) Бэра (Nyrok Berah)
Thai: เป็ดดำหัวดำ (Ped Dam Hua Dam)
Vietnamese: to be confirmed

Baer's Pochard is monotypic, and there is just one biogeographic population. This Action Plan covers the entire world population.

### 3.2 Distribution throughout the annual cycle

Baer's Pochard is a long-distance migrant that breeds in southeast Russia, northeast China, and possibly in Mongolia and DPRK, and it has occurred on passage or in winter (or as a vagrant) in Mongolia, Japan, DPRK, ROK, mainland China, Hong Kong, Taiwan, Province of China, Pakistan, India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Vietnam and the Philippines. The main wintering areas appear to be in eastern and southern China, Bangladesh, Thailand and Myanmar, and possibly northeast India.

Breeding in southeast Russia and northeast China occurs predominantly in the Amur-Heilongjiang region (encompassing Heilongjiang, Jilin, Liaoning and Inner Mongolia in China, and Buryatia, Zabaykalsky Krai (Transbaikalia), Amur, Khabarovsk, Jewish Autonomous Oblast' and Primorye in Russia). Breeding (nest and eggs) has also been reported as far south as Jixian, Hebei (Cheng 1979) and Beijing Municipality (Cai 1988). However, records of Baer's Pochard from this region have been scarce in recent years; the only known site regularly supporting them is at Khasan, in southern most Primorye, approximately 150 km southwest of Vladivostok, close to the border with DPRK (see Annex 3). However, a potentially significant but currently unconfirmed record of 52 birds at Xingkai Hu (the Chinese part of Lake Khanka) in spring 2014 suggests more birds still breed within Amur-Heilongjiang. Other recent observations support this assertion: a single female in Muraviovka Park in 2013 (Heim *et al*. 2013) and two birds probably of this species at Khingansky State Nature Reserve in 2014. There are no other recent records suggesting breeding from Chinese Amur-Heilongjiang region, or elsewhere in northeast China.

In Mongolia it is considered to be a scarce passage migrant, occurring singly or in pairs in the east of the country during late April-early May and late August-early September (Gombobaatar & Monks 2011).

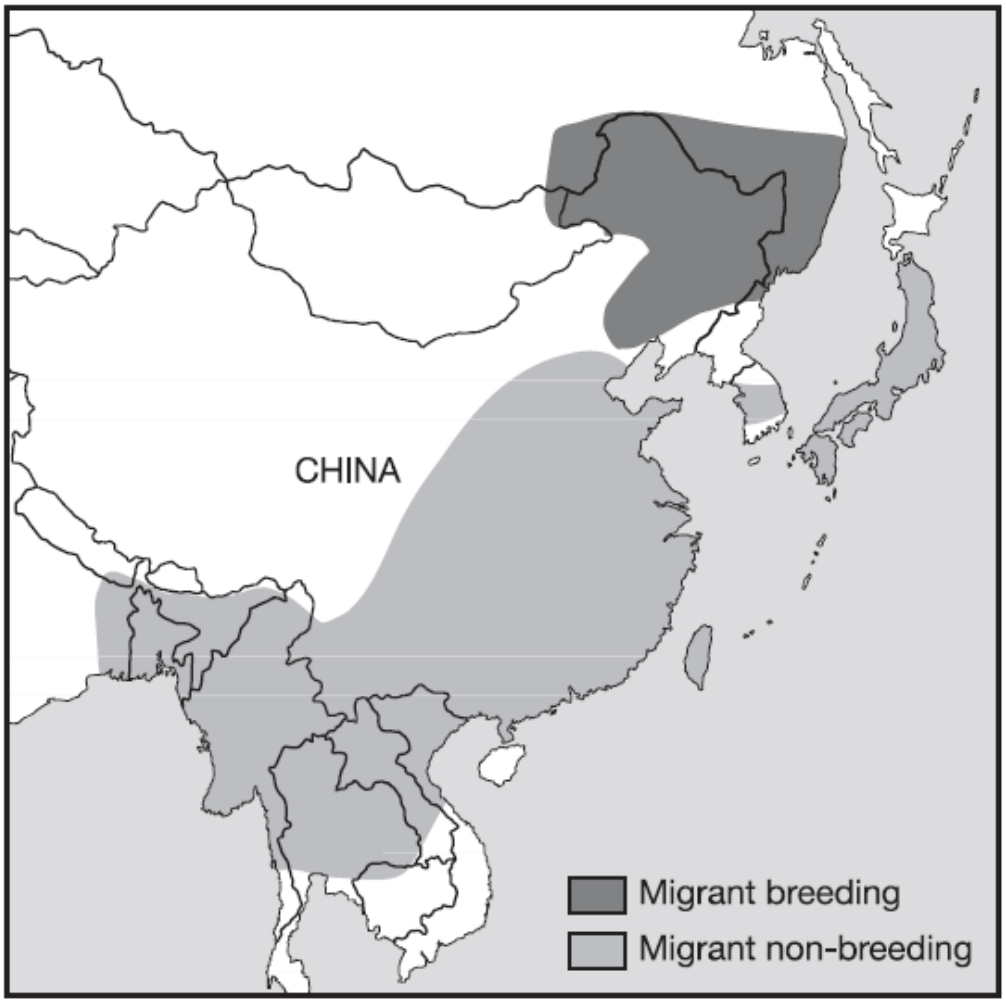


**Figure 1.** Range of Baer's Pochard (from Callaghan 2005).

More recently, however, small numbers of pairs have also been located during the breeding season at sites south of the traditionally described breeding range, in the Chinese provinces Hebei, Shandong and Henan. Among these is the current most important known breeding location: Hengshui Hu, Hebei. In 2014 this site held *c*. 10-12 pairs during the spring, and a late summer flock of 65 birds

(including 45 males) was observed in August. Although breeding has not been proven there it is suspected.

Furthermore, summering birds were present at two sites in the Yangtze floodplain during summer 2014, though there is no evidence that these birds attempted to breed. Thus, the current known breeding distribution of Baer's Pochard is centred on an area 250-500 km south of Beijing. Whether this is a response to factors contributing to the decline in population size, such as habitat loss in breeding areas further north, or whether the breeding range always extended this far south and has only just been discovered, is unknown.

Baer's Pochard formerly migrated to winter over much of southeast Asia, from east central China to northeast India and Bangladesh, through Myanmar to Thailand, Laos and northern Vietnam (see BirdLife International (2001) for a detailed review of distribution and key sites up until *c.*2000). However, few observations of Baer's Pochard have been made in most of this region since *c.* 2002, and it is possible that the majority now overwinter in central China, predominantly in the Yangtze floodplain and provinces/municipalities to the west and southwest (Chongqinq, Sichuan and Yunnan). In 2006, Baer's Pochard was recorded at Inle Lake Wildlife Sanctuary, Myanmar. However, none were recorded during wintering waterbird surveys conducted at Indawgyi Lake, Inle Lake and Moeyungyi Wetland in 2012 – 2014. In Vietnam, the most recent (and only) record was a single bird seen in Thai Thuy IBA in March 2006 (Nguyen *et al*. 2006).

Current winter distribution and numbers are poorly known; the largest count since 2012 being 45 at Poyang Hu NNR in January 2014. However, as recently as January 2008 there were 1,916 counted at Poyang Hu, and in the Yangtze floodplain in winter 2010/11 there were 760 at Wuchang Hu (Anhui) in November, 90 birds at Hong Hu (Hubei) in November, 131 at Liangzi Hu (Hubei) in January, and 230 at Feng Sha Hu (Anhui) in February.

### 3.3 Population size and trend

The population size is hard to determine precisely because of the lack of surveys, but all available evidence points towards this species now having a critically low population size following a catastrophic decline in the past 5-10 years, although it has been in decline for much longer (since at least the 1980s).

The most recent population estimates are 250-1,000 birds (Wetlands International 2012) and 150-700 mature individuals (BirdLife International 2014), following the analysis by Wang *et al*. (2012). It is likely that the actual number is towards the low end of these ranges; since winter 2010/11 the maximum number of birds that can be accounted for within a single season is *c*. 80 in late summer 2014 (Annex 4, Hearn *et al*. 2013). However, as recently as winter 2010/11 there were still some significant flocks in the central Yangtze floodplain and it is therefore possible, given the vast open wetlands these birds are using there during winter, that larger flocks remain undetected. However, searches for Baer's Pochard have gradually become more extensive in this area and the likelihood of this seems to be getting smaller. Baer's Pochard could also still be wintering in greater than currently known numbers in southwest China (Yunnan and Sichuan, perhaps Guizhou) and countries further south (primarily Bangladesh, Myanmar and Thailand); waterbird surveys are infrequent and there are potentially suitable wetlands that have not been surveyed in recent years.

### 3.4 Population dynamics

Little is known of the breeding success, survival rates or longevity of Baer's Pochard as only a few small studies have been carried out.

Average clutch size was reported as 10.2 (9–13; n=5) by Dementiev and Gladkov (1952) and Nechaev and Gluschenko (1993), and as 12 in Heilongjiang (with one egg laid daily, largest clutch size was 15) (Heilongjiang Wildlife Research Institute 1992). Hatching success was reported by Gao *et al*. (1992)

as 32% from a sample of 125 eggs (from an unknown number of clutches). Broods have been seen as late as 19 August at Lake Khanka, Russia (Dementiev and Gladkov 1952).

Brood parasitism has been reported with Common Pochard *Aythya ferina* and Gadwall *Anas strepera* (Gao *et al*. 1992).

### 3.5 Habitat requirements

Baer's Pochard breeds around lakes and in marshes with ample emergent vegetation, favouring open habitat. Nests have been reported as built on the ground near sheltered ponds with dense reed beds, in areas with little human activities and where the water depth is less than one metre, in Heilong (Heilongjiang Wildlife Research Institute 1992) and Hebei (Cheng 1979). Rice fields are used commonly in autumn prior to migration (Y. Gluschenko pers. comm.). In winter it occurs in similarly open freshwater wetland habitats, but also occasionally on brackish lagoons, estuaries and reservoirs. Further, more detailed, knowledge of its habitat requirements is unknown.

### 3.6 Captive population

Given the precarious status of the wild population of Baer's Pochard, careful management of extant captive populations may play an important role in the conservation of the species.

Baer's Pochard have been held in zoo collections in Europe since before 1900 (Delacour 1959). WWT imported birds from China in 1956 (Anon 1956) with breeding recorded at Slimbridge in 1964 following success by a private breeder in the Netherlands (Johnstone, 1965). Birds were imported to North America from Japan and Thailand in the 1950s (Delacour 1959) and although breeding occurred in several American institutions (Todd 1979), the population dwindled to two pairs by 2004 (IWWA 2014). Birds were imported to two American bird collections, partly in response to the changing global status, from Europe in 2007 and 2010 (Anon 2013) and the population has started to increase (International Species Information System 2014). Captive management and propagation is considered to be straightforward (N. Jarrett pers. comm.).

As of November 2014, the International Species Information System (ISIS) reported that 19 zoological institutions around the world held 203 Baer's Pochard (98 males, 90 females, and 15 of unknown gender). Most birds are in European zoo collections with *c*. 40% with WWT in the UK (78 birds; see Table 1). In addition, an unknown but small number of birds were held in private institutions/collections at this time.

**Table 1.** Regional holdings of Baer's Pochard in zoo collections (ISIS 2014).

| Region | No. institutions | No. birds (M:F:U) | No. raised in 2014 (no. institutions) |
|---|---|---|---|
| Asia | 1[2] | Unknown | Unknown |
| Europe | 14 | 151 (72:69:10) | 59 (6) |
| North America | 5 | 52 (26:21:5) | 33 (3) |

Due to the lack of close management of captive Baer's Pochard until recently, it is unknown how many birds are genetically pure. WWT is currently conducting an analysis of DNA microsatellites of *Aythya* ducks in order to establish species identification through location of fixed differences, or very large differences in allele frequencies between *Aythya* species. This will enable zoo collection managers to assign individuals as pure *A. baeri* or potential hybrids and fully estimate the degree of inbreeding and genetic diversity within and among captive collections. The results of this analysis will guide future management in Europe and North America.

[2] No information was available for Asian zoological institutions, but Baer's Pochard is known to be in the collection of Beijing Zoo.

## 4. THREAT ANALYSIS

### 4.1 General overview

Few quantified data exist on the causes of decline of Baer's Pochard. However, the principal threats are thought to be habitat loss and degradation, particularly from drainage and rice cultivation, and unsustainable exploitation for food, both of fledged birds and eggs. Disturbance is likely to be a significant threat as well; many wetlands in China and countries further south have high human populations living in close proximity, and many of these communities make direct use of these wetlands, particularly for harvesting food or for transport.

It is likely that habitat loss and degradation was the main cause of decline during earlier decades (up to 1990s), but more recently the harvesting of birds and eggs for food may have become a more significant factor in the apparently increasingly rapid decline in population size. However, little quantitative or causal information exists for these factors, so their relative importance in the decline of Baer's Pochard cannot currently be fully determined.

There is also little information with which to determine whether the major threats are operating predominantly on the breeding or wintering areas, or at stop-over or moulting sites. Most likely however they are having impacts throughout the flyway, particularly within China. In recent decades, mostly since the 1960s, habitat loss and degradation has occurred on a massive scale in northeast China and within the Yangtze floodplain, and harvesting of birds and eggs is thought to be widespread in these regions, particularly in the last 10-15 years. Thus, it would seem likely that the long-term decline has been caused by habitat loss, and the recent apparent increase in the rate of decline may be due to over-harvesting of what is now a small and localised population.

It is notable that compared to most other migratory ducks in East Asia, it has a more southerly distribution, with a high proportion of its breeding range within China rather than Russia. Given the extent of habitat loss and harvesting in China, this may explain why Baer's Pochard seems to have experienced such a catastrophic decline in numbers compared to other migratory ducks in East Asia. It is important to note, however, that count data for most East Asian ducks are insufficient to quantify population trends, but some other duck species, most notably the East Asian population of Garganey *Anas querquedula*, are also believed to be declining precipitously (P. Round pers. comm.).

Other threats, and threats in countries to the south of China where the species winters, or formerly wintered, are poorly known. However, it is believed that the two critical threats mentioned above are the most important. In order to avert the extinction of Baer's Pochard in the wild action is urgently needed to address both of these factors, as well as determine more precisely the nature of all threats faced by the species.

### 4.2 Critical and important threats

***Habitat loss and degradation***

In the past 50 years, but particularly the past 20-30 years, many wetlands in both the core breeding and winter ranges have been lost altogether or severely degraded. The problem is particularly acute in China where the wetland area continually and significantly decreased between 1978 and 2008 by *c*. 33% (Niu *et al*. 2012). This was in sharp contrast to the 122% increase in artificial wetlands. Inland marshes accounted for the main loss of total wetlands during the period 1978 to 2000. Of particular relevance is the fact that the greatest loss of natural wetlands in China during 1990-2000 occurred in Heilongjiang, Inner Mongolia and Jilin (the three provinces encompassing the majority of the Baer's Pochard breeding range in China), with a total loss of over 57,000 $km^2$ (Gong *et al*. 2010).

In northeast China, wetland loss since the 1950s has occurred primarily as a result of agricultural development, and since the mid-1970s agriculture has become the principal land use, replacing natural wetlands. In Heilongjiang, wetland loss for farming (predominantly rice production) has been

particularly significant and has exceeded 70% in some areas. In the Small Sanjiang Plain, formerly the largest wetland complex in China, almost 70% of wetland habitat was converted to farmland between 1976 and 2005, and between 1950 and 2000 wetland conversion to farmland of 87% and 75% were recorded in the Naoli river basin and the Bielahong river basin, respectively (Zhang *et al*. 2009b, Liu *et al*. 2005). These two river basins are within the Jiansanjiang Farming District, a predominantly rural area of *c*. 11,000 km$^2$ that has seen a huge growth in agricultural activities (Zhang *et al*. 2009a). Elsewhere in northeast China, similar patterns of wetland loss have occurred. At the Songnen Plain, northwest Jilin, the extent of marshland decreased by 74% between 1954 and 2008, an area of approximately 4,760 km$^2$ (Wang *et al*. 2011). Marsh shrinkage there has been caused by human activities, aided by climatic warming and desertification. The main new land uses in drained marshland were croplands and salinized wastelands.

Other causes of wetland loss include irrigation and other water projects, oil exploration, aquaculture and urbanisation (Su & Zou 2012). Even where wetlands remain, these factors result in drying out, vegetation changes and fragmentation. Fragmentation reduces the quality as well as the size of suitable habitat, making it more vulnerable and sensitive to other human impacts such as pollution, fires and any form of human disturbance such as fishing and livestock grazing.

Wintering sites are also under threat from habitat loss and degradation. Large-scale habitat alteration has taken place in the Yangtze floodplain due to conversion of wetlands for agriculture, mainly during the 1950s to 1970s, resulting in a large area of natural wetland being lost, estimated to be 62% between the 1950s and the 1980s. More than 1,100 lakes have been totally drained, notably in Hubei province where various estimates state that the total number has decreased from 1,066 to 83 lakes, or that the number of lakes in the Jianghan floodplain, Hubei, greater than 3 km$^2$ decreased from 1,330 in the 1950s to 320 by 2003, with a decrease in total water surface from 5,973 km$^2$ to 3,492 km$^2$. Elsewhere in the Yangtze floodplain, the surface area of Poyang Lake has been reduced from 5,200 km$^2$ to 2,933 km$^2$ during 1949-2010 (Yang *et al*. 2011). Dongting Lake, Hunan, decreased from 4,905 km$^2$ in the 1930s to 3,962 km$^2$ in the 1950s, then to 2,960 km$^2$ in the 1970s, and to 2,472 km$^2$ by 2000. The size of Honghu Lake, Hubei, which was formerly one of the most important wintering sites for waterbirds in the region, decreased from 1,064 km$^2$ in the 1930s, to 760 km$^2$ in the 1950s and to 348 km$^2$ in the 1990s.

Furthermore, around 7,000 sluice gates have been built between the floodplain lakes and the main channel of the Yangtze River to facilitate agricultural expansion and flood control, causing the natural hydrological connectivity between most lakes and the river to be lost. Only two lakes still have a natural connection with the Yangtze River. These changes have significantly impacted the ecological health of the Yangtze River and surrounding lakes. The water level of the lakes has become stable, which impacts the water quality and has facilitated the growth of intensive aquaculture activities and latterly caused the rapid reduction in submerged vegetation. According to Zhao (1995), Baer's Pochard feed mainly on aquatic plants, whereas Tufted Duck *Aythya fuligula* feed mainly on invertebrates, and that this may partly explain the rapid decline of Baer's Pochard. The loss of wetland habitat in the Yangtze floodplain still occurs. At Liangzi Hu, Hubei, the area of the lake where >100 Baer's Pochard were located in 2010/11 was lost to lotus production by late 2012. Even worse, water control infrastructure construction has recently been proposed for Poyang Lake and Dongting lake by provincial government.

In Russia, habitat loss is not thought to be as severe. At Lake Khanka, particularly at the Khankaiskii Nature Reserve, the habitat where most Baer's Pochard have been observed during the breeding season remains largely intact, so the decline there at least is not due to habitat loss (J. Slaght pers. comm.). However, spring grass burning, a critical time for nesting ducks, was found to be a key cause of wetland degradation by Solovyeva *et al*. (2013). Three reasons for spring burning were identified in the study area, with three target groups responsible for them: i) ungulate poaching - grass burned by poachers to develop areas with newly growing grass earlier in spring; ii) occasional or accidental burning by local villagers, mainly children and teenagers; iii) fire prevention by the Forest Fire Service to protect valuable forests from fire caused by the above sources. Extensive spring reed and

grass burning was also observed in the Rason Bird Protected Area, DPRK (part of the Tumen Estuary) in March 2014 (N. Moores pers. comm.), an area of suitable habitat that is presumed to be within the potential breeding range of Baer's Pochard; the Khasan wetlands, where the species is known to persist (Solovyeva *et al*. 2013), are immediately adjacent to this area over the Russian border.

Furthermore, a significant drought occurred in the Dauria region of Russia during 2000-2009, during which time conditions for breeding ducks were very unfavourable, and during 1991-2009 Baer's Pochard was not recorded in this region. A wet period began in 2010 and the availability of suitable breeding habitat for Baer's Pochard is now increasing. Since 2010, Baer's Pochard has been recorded twice in the region (Goroshko 2012), and it is hoped that it will breed again on the River Argun and the Torey Lakes in the near future.

In Myanmar, the extent of natural wetlands is gradually decreasing due to the expansion of farmland. In addition, the widespread use of chemical fertilizers and pesticides contaminates water and threatens the existing biodiversity. Illegal electro-fishing further increases the depletion of aquatic fauna.

***Unsustainable harvesting***

Unsustainable harvesting is a major threat faced by many Asian waterbirds. The traditional harvesting of wild animals, including birds, has increased dramatically in the past decade, and is now a major cause of decline for some wild fauna, probably including some waterbird species. Although the scale of this is currently hard to quantify for Baer's Pochard (as no wide-ranging quantitative assessments have been undertaken for waterbirds), it could be significant, particularly in China where illegal poisoning and trapping of waterbirds is widespread, indiscriminate (Ma *et al*. 2012) and continuing to worsen (M. Ma pers. comm.).

In some parts of China the centuries-old custom of eating exotic wildlife as a delicacy has gained new and wider appeal – individual disposable incomes have increased creating considerably greater demand for wild food and fashion has begun to have greater cultural influence. In addition, the opening of an increasingly free market in China has increased the opportunity for people to profit from this trade, even though in most cases it is illegal. Coupled with poor law enforcement and corruption, an environment now exists for a thriving illegal wildlife trade – high demand, high opportunity and profit, and low risk. It is unclear, however, how much these factors have affected the demand for waterbirds.

The harvesting is thought to take two forms – trapping and poisoning of birds, and the collection of eggs. In China gun ownership was legal until 1996 and shooting of wild birds, including Baer's Pochard, was a significant problem (BirdLife International 2001); now private gun ownership is illegal and shooting of birds is less commonplace (though it still occurs), so bird hunters use a variety of other methods. Ma *et al*. (2012), writing about present day China, state "Various methods and tools were used for hunting such as guns, nets, steel traps, electric traps, poison bait, dazzling lamps etc. These methods are used illegally and frequently along the Yellow and Yangtze Rivers". Many trapped birds, particularly ducks and geese, that are alive after capture are housed at so-called 'farms' prior to delivery to markets. Evidence from these farms suggests the scale of this harvesting is vast and highly organized; many hundreds or even thousands of birds have been observed at individual farms and Baer's Pochard has been among them.

However, it seems probable that the majority of the birds in these farms originate from collected eggs that are hatched and the ducklings reared in captivity. This allows the birds to be legally passed off at market as captive-bred individuals. The scale of egg collection is unknown, but reports suggest it is also widespread and highly organised. It is also thought to be concentrated in northeast China, within the breeding range of Baer's Pochard (M. Ming pers. comm.). As a result, the breeding success of some species may be significantly impacted and localised species such as Baer's Pochard are at particular risk if egg collection efforts occur at their remaining breeding locations.

In Russia, spring hunting is considered a serious threat for many species of waterbird, including Baer's Pochard. The main issue is not direct harvesting (because not many birds are harvested), but huge levels of disturbance to birds during the beginning of their breeding period, which may cause a significant reduction in breeding success. This is especially serious in Zabaykalsky Krai, eastern Khabarovsk and Primorye because illegal hunting is common there. In some areas people continue to shoot birds after the end of the legal hunting period (*i.e.* shooting of breeding waterbirds). Furthermore, most Russian hunters have limited experience with the identification of duck species, and Baer's Pochard can be difficult to identify from some other *Aythya* species.

In Primorye, Lake Khanka and the wetlands of Khasan district are traditional areas for spring and autumn waterfowl hunting, and although there are no confirmed records of Baer's Pochard having been hunted there recently it could still occur. A male Baer's Pochard was documented as taken during spring 2010 near the city of Okhotsk, Khabarovsk region (V. Pronkevich pers. comm.). In Amur region, spring duck hunting has been increasingly restricted in recent years but remains legal and disturbance arising from hunting is a permanent problem, including during the breeding season. Poaching during the breeding season was noted near to the observation at Muraviovka Park (Heim *et al*. 2013).

Autumn hunting at some key breeding areas in Russia is also considered a serious threat, though there are regional differences - in Amur region autumn it is insignificant with usually less than 400-600 ducks taken each autumn in the Arhara district (where it is suspected that Baer's Pochard still occurs; A. Antonov pers. comm.). Furthermore, Baer's Pochard should have left the Amur region well before the autumn hunting is opened as it is presumed to nest near the border of Russia and China.

### 4.3 Additional threats

***Inadequate site protection and management***

There are currently just a handful of sites known to consistently support Baer's Pochard (Annex 4), and these are therefore critical to the survival of the wild population. However, the majority of these sites are not yet recognized as Important Bird Areas and, more importantly, lack formal designations to safeguard their wetland habitats. Furthermore, because of this lack of recognition and designation, there are no management plans in place that further ensure that activities at these sites will be carried out in a sustainable manner that does not threaten Baer's Pochard. This lack of protection and tailored management is a significant potential threat to Baer's Pochard at the majority of its remaining sites.

Ducks are quite amenable to close-order management and action at these sites could help to ensure that breeding birds are protected and breed successfully. This could include strict zonation and minimization of disturbance, habitat protection at all times of the year (not just when the birds are present), control of water levels to provide optimum conditions for nesting, nest protection, and potentially the translocation and boosting of reproductive output by direct intervention.

Key sites are shown in Annex 3 and all available recent observations of Baer's Pochard are listed in Annex 4.

***Disturbance and recreation***

Many wetlands in China, in both the breeding and wintering ranges, as well as wintering sites further south in Asia are surrounded by large human populations and experience high levels of disturbance, from activities that utilise directly the wetland and its resources, such as fishing, or from activities that indirectly disturb, such as water-borne and bankside transportation. High levels of human activity may mean such sites are essentially lost to Baer's Pochard, even if suitable habitat remains, because the levels of disturbance mean the birds cannot meet their energetic requirements due to an imbalance between time available for foraging and time and energy spent avoiding disturbance.

Recreation is also an increasing pressure at many wetlands in China. Hengshui Hu, the most important known site for breeding Baer's Pochard, is currently under threat from the proposed development of water-based recreation, including the creation of sun-bathing beaches.

***Bycatch in fishing nets***
The scale of bycatch in fishing nets is unknown but is at least locally significant. In Zabaykalsky Krai, other *Aythya* ducks (Tufted Duck and Common Pochard) and other diving waterbirds are often caught in fishing nets and the level of threat posed by this is exacerbated because the nets are also used for illegal fishing during the breeding period. In China, it could be a much more serious threat because fishing nets are widely used, often in huge numbers. One moulting female Baer's Pochard was caught in China on the small plains lake near the Khailar River (Khailar-Argun' River drainage) in September 2010 (O. Goroshko pers. comm.).

***Lack of awareness***
Despite Baer's Pochard being listed by BirdLife International/IUCN as Critically Endangered, there is relatively little awareness among decision-makers within its Principal Range States of its status and conservation needs. This makes the implementation of this Plan and other conservation actions less likely, despite the urgent nature of many.

A programme of awareness raising activities among decision-makers is needed in order to ensure effective implementation of this Plan.

***Policy obstacles***
The majority of Principal Range States, including China and Russia, are not Party to CMS, and thus not obliged to adopt and implement this Plan. Furthermore, concerning the importance of unsustainable harvesting, Baer's Pochard is not listed by CITES, though as most consumption is within China CITES may not be an effective instrument for addressing this threat.

### 4.4 Potential threats

***Hybridization***
Genetic introgression, the introduction of new genetic variation from a different species, can lead to the ultimate extinction of a species by genetic assimilation (Chan *et al*. 2006). Now that the population of Baer's Pochard has reached a critically low number, hybridisation with conspecifics may have become a threat to the remaining population, particularly as hybrids produced with other species of *Aythya* are likely to be fertile. In particular, hybridization with Ferruginous Duck *Aythya nyroca*, a widespread Eurasian species that has expanded its range and population size in China in recent decades (Zhao & MaMing 2014) has been suggested.

At Hengshui Hu, the most important known breeding location for Baer's Pochard, Ferruginous Duck is now numerous and mixed flocks of both species have been observed, as well as individual birds that appear to show plumage characteristics of both species. In addition, in spring 2014 there were reports of mixed pairs between male Ferruginous Ducks and female Baer's Pochards[3]. However, no firmer evidence has been reported to date, *e.g.* display, copulation or hybrid young. However, displaying birds that are apparently paired up have been observed in ROK (N. Moores pers. comm.).

In Russia, an increase in Ferruginous Ducks at Lake Khanka has also been recently noted (Y. Gluschenko pers. comm.), although there is an apparent lack of Baer's Pochard there now (Solovyeva *et al*. 2013). Whether this increase in Ferruginous Duck is related to the decrease in Baer's Pochard, either as a cause or a consequence, is unknown. Elsewhere in Russia, a possible male hybrid with Common Pochard *Aythya ferina* was observed at the Khasan wetlands, Primorye, in June 2013

[3] Further details at http://www.birdskoreablog.org/?p=12375

(Solovyeva *et al*. 2013), though Tufted Duck *Aythya fuligula* and Greater Scaup *Aythya marila* were also observed at this site.

***Pesticides and fertilizers***

Excessive use of pesticides and fertilizers is widespread in the Chinese agricultural landscape, resulting in eutrophication and algal blooms. The effects of this on Baer's Pochard and its habitat is unknown, but it is possible it could have a negative impact, particularly at those small remaining natural wetlands in northeast China that are surrounded by rice fields. Pesticides and eutrophication resulting from fertiliser run-off can have a significant negative effect on aquatic biodiversity. Baer's Pochard, and especially ducklings, have a predominantly insectivorous diet during the breeding season. Widespread use of pesticides in China is likely to be reducing the abundance of invertebrate prey, and consequently affecting the breeding success of the remaining pairs.

In Myanmar, the use of chemical fertilizers and pesticides in agricultural areas is commonplace, with run-off causing the contamination of wetlands and impacting on their biodiversity. It also causes excessive growth of algae and aquatic submerged plants which can reduce dissolved oxygen levels and further harm aquatic life.

In Russia this is not considered to be a problem; agriculture has been in decline everywhere since the 1990s and pesticide use is fully prohibited since 1990.

## 5. FRAMEWORK FOR ACTION

**Aim**
To downlist Baer's Pochard from the IUCN list of Critically Endangered species to a lower category of threat.

**Objective**
To understand causes of decline and address the most critical of these threats so that the population trend is stable and a foundation is provided for more targeted conservation action.

**Results**
1. The impact of habitat loss and degradation is understood and significantly reduced.
2. The impact of harvesting of birds and eggs from the wild is understood and significantly reduced.
3. Knowledge of the ecological requirements of Baer's Pochard is significantly improved.
4. The understanding of population status, distribution, key sites and demography is significantly improved.
5. A flyway-wide network of protected and well managed sites is established and maintained.
6. A global management strategy for the captive population is developed and implemented.
7. Awareness of Baer's Pochard and its conservation needs is significantly enhanced, particularly among decision-makers.
8. Appropriate policy for the international conservation of Baer's Pochard is in place.

**Result 1: The impact of habitat loss and degradation is understood and significantly reduced.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 1. Assess the scale and causes of habitat loss and degradation in core parts of the range | High | Completed by end 2016 | |
| 2. Assess importance of spring grass burning in breeding range and implement appropriate management to minimise impact on Baer's Pochard | Medium | Completed by end 2016 | |
| 3. Develop and implement integrated landscape management strategies that minimise and mitigate for future loss of Baer's Pochard habitat | High | Completed by end 2016 | EAAFP, national and provincial governments, representatives of major land users |
| 4. Identify sites throughout the flyway, but particularly in the breeding range, where habitat restoration and enhancement can be undertaken | High | Completed by end 2016 | EAAFP |

**Result 2. The impact of harvesting of birds and eggs from the wild is understood and significantly reduced.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 5. Assess the scale, methods and drivers of current harvesting, particularly in China | High | Completed by end 2015 | EAAFP |
| 6. Implement measures to significantly improve the enforcement of existing bird protection legislation, particularly in China | High | Completed by end 2015 | |
| 7. Establish an EAAFP Task Force on Harvesting of Wild Birds | High | Completed by end 2015 | EAAFP |

**Result 3. Knowledge of the ecological requirements of Baer's Pochard is significantly improved.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 8. Undertake detailed study of ecology at Hengshui Hu | High | Initiate by summer 2016 | EAAFP, Chinese universities and bird watching societies |
| 9. If a suitable site can be located, undertake research to determine the ecological needs of non-breeding Baer's Pochard | High | Initiate by winter 2016/17 | EAAFP, Chinese universities and bird watching societies |

**Result 4. The understanding of population status, distribution, key sites and demography is significantly improved.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 10. Undertake surveys of potential breeding locations in N and NE China, particularly Xingkai Hu (Lake Khanka) | High | Completed by end of 2016 | EAAFP, Chinese bird watching societies |
| 11. Undertake surveys of potential breeding locations in Russia, particularly Lake Khanka and the Khasan wetlands | High | Completed by end of 2016 | EAAFP, Russian technical experts |
| 12. Undertake surveys of potential breeding locations in the Rason region of DPRK | Medium | Completed by end of 2017 | EAAFP, DPRK technical experts |
| 13. Develop and implement an annual monitoring programme in the breeding range | High | Initiate by summer 2017 | EAAFP, Chinese bird watching societies, Russian technical experts, WWT |
| 14. Undertake, ideally annually, comprehensive counts at all known and former wintering locations | High | Ongoing from January 2015 | EAAFP, WWF China, BirdLife partners, WWT |
| 15. Maintain a database of all records of Baer's Pochard (including sites with nil counts) | Medium | Ongoing | WWT, WWF China |

**Result 5. A flyway-wide network of protected and well managed sites is established and maintained.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 16. Designate Hengshui Hu as a Ramsar site and develop and implement a site management plan focused on the needs of Baer's Pochard | High | Completed by end 2015 | State Forestry Administration, Ramsar secretariat |
| 17. Ensure that the Khasan wetlands are protected and managed for Baer's Pochard | High | Completed by end 2015 | EAAFP, Russian government and technical experts |
| 18. Assess the current protection of and management at all sites supporting Baer's Pochard, and enhance where necessary | Medium | Completed by end 2016 | EAAFP, BirdLife, Ramsar secretariat |

**Result 6. A global management strategy for the captive population is developed and implemented.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 19. Determine the genetic status of all captive Baer's Pochard | High | Ongoing, to be completed by end 2015 | WWT, WAZA and member associations |
| 20. Develop a strategy for the management and conservation breeding of the global captive population, including the possibility of reintroduction | High | Completed and ongoing by end 2015 | WWT, WAZA and member associations |

**Result 7. Awareness of Baer's Pochard and its conservation needs is significantly enhanced, particularly among decision-makers.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 21. Create an EAAFP Baer's Pochard Task Force | High | Completed by end 2014 | EAAFP |
| 22. Promote status and conservation needs of Baer's Pochard among relevant governments and other decision-makers | High | Ongoing | EAAFP |
| 23. Promote the status and conservation needs of Baer's Pochard among the general public, particularly with respect to the prevention of hunting and consumption of wild ducks | High | Ongoing | EAAFP |

**Result 8. Appropriate policy for the international conservation of Baer's Pochard is in place.**

| Action | Priority | Timescale | Organisations |
|---|---|---|---|
| 24. Include Baer's Pochard on the List of National Special Protected Animals of China (1st level) | High | Completed by end 2015 | State Forestry Administration |
| 25. Hold a Baer's Pochard SAP implementation workshop | High | Completed by end of May 2015 | EAAFP |
| 26. Hold annual Baer's Pochard SAP action planning workshops to review and update this Plan | Medium | Annual from 2016 to 2019 | EAAFP |
| 27. Add Baer's Pochard to CITES Appendix I | Low | Completed by end 2016[4] | CITES |

[4] The next CITES Conference of the Parties is expected to take place in 2016

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## 7. ANNEXES

**Annex 1:** The importance of threats at the country level.

| | **Breeding range** | | **Wintering range** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CH** | **RU** | **BA** | **CH** | **DPRK** | **IN** | **MY** | **ROK** | **TA** | **TH** | **VI** |
| **Critical threats** | | | | | | | | | | | |
| Habitat loss and degradation | H | M | M | H | M | M | M | M | M | M | M |
| Unsustainable harvesting | H | L | L | H | U | L | M | L | L | L | U |
| **Additional threats** | | | | | | | | | | | |
| Inadequate site protection and management | H | M | M | H | M | M | M | M | M | M | M |
| Disturbance and recreation | M | L | M | H | M | M | M | M | M | M | M |
| Lack of awareness | H | H | H | H | H | H | H | H | H | H | H |
| Policy obstacles | H | M | M | H | M | M | M | M | M | M | M |
| **Potential threats** | | | | | | | | | | | |
| Hybridization | U | L | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Pesticides and fertilizers | H | L | U | H | U | U | M | U | U | U | U |

BA: Bangladesh, CH: China, DPRK: Democratic People's Republic of Korea, IN: India, MY: Myanmar, ROK: Republic of Korea, RU: Russia, TA: Taiwan, Province of China, TH: Thailand, VI: Vietnam.

H: High, M: Medium, L: Low, U: Unknown.

**Annex 2.** Historical estimates of population size of Baer's Pochard.

| Year | Source | Estimate |
|---|---|---|
| 1910s | La Touche | "extremely abundant on migration on the coast of Hebei" |
| 1910s | George Lanning "Wild life in China, or Chats on Chinese birds and beasts" (published in Shanghai, 1911) | "said to be numerous at times, though scarce as a rule" |
| 1938 | Wilder & Hubbard | "a common migrant in northeast Hopei [Hebei]" |
| 1993 | Callaghan & Green (1993) | >10,000 |
| 1994 | WPE1[5] / Rose & Scott (1994) | 1-25,000 |
| 1997 | WPE2 / Rose & Scott (1997) | <25,000 and possibly <10,000 |
| 1999 | Miyabayashi & Mundkur (1999) | 10,000–20,000 |
| 2002 | WPE3 | 10,000-20,000 |
| 2005 | Callaghan (2005) | 10,000-20,000 |
| 2006 | WPE4 | 10,000-20,000 |
| 2012 | WPE5 / Wang *et al*. (2012) | 250-1,000 |

[5] Waterbird Population Estimates – now available at: http://wpe.wetlands.org/

**Annex 3:** Key sites for Baer's Pochard.

This list of key sites is based on the current IBA list for Baer's Pochard[6], supplemented with information from other sites not currently recognised as IBAs for the species. The 1% threshold for Baer's Pochard, a means of identifying sites of international importance, is five birds (Wetlands International 2012).

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| **Bangladesh** | | | | | | |
| Aila Beel | No | Yes | | | W | 0 |
| Hail Haor | Yes | Yes | | | W | 0 |
| Hakaluki Haor | Yes | Yes | | | W | 8 birds (2010/11) |
| Pashua Beel | No | No | | | W | 4 birds (2010/11) |
| Tanguar Haor and Panabeel | Yes | Yes | Yes; site no. # | | W | 0 (2012/13) |
| **China** | | | | | | |
| Altay forest and steppe | No | Yes | | | | Unknown |
| Bacha Dao Nature Reserve | No | Yes | | | | Unknown |
| Baihe-Wanbao | No | Yes | | | | Unknown |
| Beilun Estuary, Guangxi | No | No | Yes; site no. 1728 | National Nature Reserve | | Unknown |
| Burgen River Valley | No | Yes | | | | Unknown |
| Cao Hai Nature Reserve | Yes | Yes | | | | Unknown |
| Chagan Hu Nature Reserve | No | Yes | | | | Unknown |
| Changshou Hu | No | Yes | | | | Unknown |
| Chen Hu Wetland Nature Reserve | No | Yes | Yes; site no. 2184 | | W | Unknown |
| Chenyao Hu, Anhui | No | No | No | | W | 40 in February 2014 |
| Chi Hu Nature Reserve | No | Yes | | | | Unknown |
| Chongming Dongtan Nature Reserve | Yes | Yes | Yes; site no. 1144 | National Nature Reserve | | Unknown |
| Dashanzuizi | No | Yes | | | | Unknown |
| Dongfanghong Wetland, Heilongjiang | No | No | Yes; site no. 2185 | | | Unknown |
| Dongping Hu, Tai'an, Shandong | No | No | No | Dongpinghu National Water Park; Daotunwa National Urban Wetland Park; Dongpinghu National Aquatic | B | 2-4 birds |

[6] Available at http://www.birdlife.org/datazone/species/factsheet/22680384/additional
[7] East Asian – Australasian Flyway Partnership Flyway Network Site
[8] W = wintering site, B = breeding site, P = passage site
[9] Current population size refers to the peak count in the most recent year of survey, with the year in parentheses; sites that have not been surveyed within the past five years (2010-14), or for which no data are available, are shown as unknown.

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| | | | | Germplasm Resources Conservation Area | | |
| Dongting Hu wetlands | No | Yes | Yes; East Dongting, site no. 551; South Dongting site no. 1151; West Dongting, site no. 1154 | East Dongting and West Dongting National Nature Reserve | W | 0 |
| Dunhuang Nature Reserve and Western Qilian Shan mountains | No | Yes | | | | Unknown |
| Fang Hu Nature Reserve | No | Yes | | | | Unknown |
| Fenglin Nature Reserve | No | Yes | | | | Unknown |
| Feng Sha Hu, Anhui | No | No | | | W | Unknown |
| Gaoyou Hu | No | Yes | | | | Unknown |
| Hala Hai | No | Yes | | | | Unknown |
| Hangzhou Wan | No | Yes | | | | Unknown |
| Hasuhai Nature Reserve | No | Yes | | | | Unknown |
| Heiyupao Nature Reserve | No | Yes | | | | Unknown |
| Hengshui Hu, Hebei | Yes | No | No | National Nature Reserve; Hengshuihu Scenic Area; Hengshuihu National Aquatic Germplasm Resources Conservation Area | B | c.10-15 pairs; *c*.60 birds late summer |
| Honghe Nature Reserve, Heilongjiang | No | Yes | Yes; site no. 1149 | National Nature Reserve | | Unknown |
| Honghu Wetlands, Hubei | No | No | Yes; site no. 1729 | | W | 0 |
| Huairou Reservoir, Beijing | No | No | | | P | 2-5 birds |
| Hukou Wetland Nature Reserve | No | Yes | | | | Unknown |
| Huma He Nature Reserve | No | Yes | | | | Unknown |
| Huzhong Nature Reserve | No | Yes | | | | Unknown |
| Ili River basin | No | Yes | | | | Unknown |
| Jingpo Hu Nature Reserve | No | Yes | | | | Unknown |
| Kaifeng Liuyuankou Nature Reserve | No | Yes | | | | Unknown |
| Karze Reservoir | No | Yes | | | | Unknown |
| Keluo He Nature Reserve | No | Yes | | | | Unknown |
| Laodengshan Nature Reserve | No | Yes | | | | Unknown |
| Laotieshan | No | Yes | | | | Unknown |

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| Lashihai Wetland, Yunnan | No | No | Yes; site No. 1437 | Provincial Nature Reserve | W | Unknown |
| Liangzi Hu, Hubei | No | No | No | | W | 131 in January 2011; 3 in April to July 2014 |
| Lianhuanhu Waterbird Nature Reserve | No | Yes | | | | Unknown |
| Liupan Shan Nature Reserve | No | Yes | | | | Unknown |
| Loess Plateau in western Gansu | No | Yes | | | | Unknown |
| Longgan Hu Wetland Nature Reserve | No | Yes | | National Nature Reserve | W | 34 in October 2014 |
| Longtan Reservoir | No | Yes | | | | Unknown |
| Maoshan Nature Reserve | No | Yes | | | | Unknown |
| Melmeg (Momege) Nature Reserve | No | Yes | | | | Unknown |
| Mengjin Huanghe Nature Reserve | No | Yes | | | | Unknown |
| Miyun Reservoir, Beijing | No | No | | | P | 2-6 birds |
| Nansihu Nature Reserve | No | Yes | | | | Unknown |
| Nanweng He Nature Reserve | No | Yes | | | | Unknown |
| Naoli He Nature Reserve | No | Yes | | | | Unknown |
| Nuomin-Bila He-Dayangshu | No | Yes | | | | Unknown |
| Poyang Hu wetlands | Yes (NNR and Nanjishan) | Yes | Yes; site no. 550 | National Nature Reserve | W | 25-50 birds |
| Qapqal grassland and wetland | No | Yes | | | | Unknown |
| Qihulin He Nature Reserve | No | Yes | | | | Unknown |
| Qindeli Sturgeon Reserve | No | Yes | | | | Unknown |
| Qingtongxia reservoir and Yellow River wetlands in Zhongning and Zhongwei | No | Yes | | | | Unknown |
| Qixing He Wetland Nature Reserve, Heilongjiang | No | Yes | Yes; site no. 1977 | National Nature Reserve | B | Unknown |
| Qixing Lazi Siberian Tiger Nature Reserve | No | Yes | | | | Unknown |
| Rong Jiang Estuary | No | Yes | | | | Unknown |
| Sanjiang Nature Reserve | Yes | Yes | | | | Unknown |
| Sanmenxia Dam Nature Reserve | No | Yes | | | | Unknown |
| Shaobo Hu Lake Area | No | Yes | | | | Unknown |
| Shengjin Hu Nature Reserve | Yes | Yes | | National Nature Reserve | W | 0 |

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| Shishankou Reservoir | No | Yes | | | | Unknown |
| Shuangtai (Shuangtaizi) Estuary and Inner Gulf of Liaodong | No | Yes | | | | Unknown |
| Shuifeng Reservoir and middle reaches of Yalu Jiang | No | Yes | | | | Unknown |
| Songhua Hu, Baishan Hu and Hongshi Hu | No | Yes | | | | Unknown |
| Taihang Shan Macaque Nature Reserve | No | Yes | | | | Unknown |
| Tai Hu, Jiangsu | No | No | No | | W | 2-3 Jan-Feb 2014; was regular wintering site until at least 1970s |
| Tailai Dongfanghong | No | Yes | | | | Unknown |
| Taipo Hu Nature Reserve | No | Yes | | | | Unknown |
| Taizhou Wan | No | Yes | | | | Unknown |
| Tuanbowa Nature Reserve | No | Yes | | | | Unknown |
| Tumen River at Jingxin-Fangchuan | No | Yes | | | | Unknown |
| Tumuji Nature Reserve | No | Yes | | National Nature Reserve | | Unknown |
| Ulansuhai Nur Nature Reserve | No | Yes | | | | Unknown |
| Ulungur Hu and Jili Hu (Fu Hai) | No | Yes | | | | Unknown |
| Wang Hu, Hubei | No | No | | | W | *c*.5 birds |
| Wolong Hu (Xi Paozi) | No | Yes | | | | Unknown |
| Wuchang Hu, Anhui | No | No | | | W | Unknown |
| Wuda Lianchi Nature Reserve | No | Yes | | | | Unknown |
| Xianghai Nature Reserve | Yes | Yes | Yes; site no. 548 | | P/B | *c*.5 birds |
| Xingkai Hu Nature Reserve | Yes | Yes | | | B | *c*.50 birds |
| Xinxiang Yellow River Wetland Birds Reserve, Henan | No | No | Yes (BP not listed as feature) | National Nature Reserve | B | *c*.5 birds |
| Xunbiela He Nature Reserve | No | Yes | | | | Unknown |
| Yancheng Nature Reserve | Yes | Yes | Yes; site no. 1156 | National Nature Reserve | P/W | 2-5 birds |
| Yangdali Nature Reserve | No | Yes | | | | Unknown |
| Yanming Wetland | No | No | No | | W | 3 in Jan 2014 |
| Yinchuan plain | No | Yes | | | | Unknown |
| Yubei Huanghe Gudao Nature Reserve | No | Yes | | | | Unknown |
| Yeya Hu Nature Reserve | No | Yes | | | P | 5-10 birds |
| Yunfeng Reservoir | No | Yes | | | | Unknown |

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| Zhalong Nature Reserve | Yes | Yes | Yes; site no. 549 | National Nature Reserve | | Unknown |
| **DPRK** | | | | | | |
| Mount Chilbo | No | Yes | | | | Unknown |
| **India** | | | | | | |
| Asan Barrage | n/a | Yes | | | W | Unknown |
| Bhindawas Wildlife Sanctuary | n/a | Yes | | | W | Unknown |
| Bhitarkanika Wildlife Sanctuary and National Park | n/a | Yes | | | W | Unknown |
| Chakrashila Complex | n/a | Yes | | | W | Unknown |
| Deepor Beel Bird Sanctuary | n/a | Yes | | | W | Unknown |
| Dibru - Saikhowa Complex | n/a | Yes | | | W | Unknown |
| Farakka Barrage and adjoining area | n/a | Yes | | | W | Unknown |
| Gir National Park and Wildlife Sanctuary | n/a | Yes | | | W | Unknown |
| Jhanjimukh - Kokilamukh | n/a | Yes | | | W | Unknown |
| Kaziranga National Park | n/a | Yes | | | W | Unknown |
| Keoladeo National Park and Ajan Bande | n/a | Yes | | | W | Unknown |
| Khangchendzonga National Park and Biosphere Reserve | n/a | Yes | | | W | Unknown |
| Khijadiya Lake and Bird Sanctuary | n/a | Yes | | | W | Unknown |
| Laokhowa and Burhachapori Sanctuaries | n/a | Yes | | | W | Unknown |
| Majuli | n/a | Yes | | | W | Unknown |
| Nalabana Bird Sanctuary (Chilika Lake) | n/a | Yes | | | W | Unknown |
| Naya Bandh Wetland Complex | n/a | Yes | | | W | Unknown |
| Okhla Bird Sanctuary | n/a | Yes | | | W | Unknown |
| Orang National Park | n/a | Yes | | | W | Unknown |
| Pani-Dihing Bird Sanctuary | n/a | Yes | | | W | Unknown |
| Sibsagar Tanks | n/a | Yes | | | W | Unknown |
| Sundarbans Biosphere Reserve (National Park) | n/a | Yes | | | W | Unknown |
| Tamaranga - Dalani - Bhairab Complex | n/a | Yes | | | W | Unknown |
| **Mongolia** | | | | | | |
| Tashgain Tavan Lakes | No | Yes | | | B/P? | Unknown |
| **Myanmar** | | | | | | |
| Indawgyi Lake Wildlife Sanctuary and surroundings | Yes | Yes | | ASEAN Heritage Park | W | 1 bird |
| Inle (Inlay) Lake Wildlife Sanctuary | Yes | Yes | | ASEAN Heritage Park | W | 1 bird |

| Country / site name | EAAFP FNS[7] | IBA | Ramsar | National designations | Season[8] | Current population[9] |
|---|---|---|---|---|---|---|
| Kaladan River | No | Yes | | | W | Unknown |
| Kyee-ni Inn | No | Yes | | | W | Unknown |
| Moeyungyi (Moyingyi) Wetland Wildlife Sanctuary | Yes | Yes | Yes; site no. 1431 | | W | Unknown |
| Myittha Lakes | No | Yes | | | W | Unknown |
| Taung Kan at Sedawgyi | No | Yes | | | W | Unknown |
| **Nepal** | | | | | | |
| Koshi Tappu Wildlife Reserve and Koshi Barrage | No | Yes | | | W | Unknown |
| **Philippines** | | | | | | |
| Candaba swamp | No | Yes | | | W | Unknown |
| **ROK** | | | | | | |
| Han-gang river | No | Yes | | | P | 0 |
| Junam Reservoir | Yes | Yes | | | P | 0 |
| **Russia** | | | | | | |
| Arakhleyskie Lakes | No | No | No | None | B | 1-2 pairs |
| Argun' river | No | Yes | | | | Unknown (bred in 1950s) |
| Arkhara lowlands (including Khinganskiy Nature Reserve) | Yes | Yes | | | | Possible record of 2 birds in Aug14 |
| Bolon' lake | No | Yes | | | | Unknown |
| Daursky Nature Reserve | No | No | | | B | Unknown (bred in 1980s) |
| Khanka plain | No | Yes | | | | Unknown |
| Khasan wetlands | No | No | No | None | B | 3-5 birds |
| Kievka and Chernaya river basins | No | Yes | | | | Unknown |
| Lower Tumen river | No | Yes | | | | Unknown |
| Muraviovka Park | No | No | Yes | Zakaznik | B | 1-2 birds |
| Torey lakes | Yes | Yes | | | | 0 |
| **Taiwan** | | | | | | |
| Chu'an | No | Yes | | | | Unknown |
| **Thailand** | | | | | | |
| Bung Boraphet, Nakhon Sawan | No | Yes | | | W | 1-2 birds |
| Bung Khong Long | No | Yes | | | W | Unknown |
| Nong Bong Kai, Chiang Rai | No | Yes | Yes | | W | 1-2 birds |

**Annex 4.** Peak site counts of Baer's Pochard since winter 2010/11.

| Site | Province | Date | Number | Season |
|---|---|---|---|---|
| **Bangladesh 2010/11** | | | | |
| Hakaluki Haor | Moulvibazar | 20/02/2011 | 8 | W |
| Pashua Beel | Sunamganj | January 2011 | 4 | W |
| Tanguar Haor | Sunamganj | 20/02/2011 | 5 | W |
| **China 2010/11** | | | | |
| Feng Sha Hu | Anhui | 10/02/2011 | 230 | W |
| Huangda Hu | Anhui | 25/11/2010 | 2 | W |
| Wuchang Hu | Anhui | 28/11/2010 | 760 | W |
| Miyun Reservoir | Beijing | 06/11/2010 | 2 | P |
| Yeya Hu | Beijing | 23/10/2011 | 1 | P |
| Hengshui Hu | Hebei | 05/06/2011 | 9 | B |
| Sanmenxia | Henan | 17/01/2011 | 2 | W |
| Dongxi Hu, Wuhan | Hubei | 16/01/2011 | 3 | W |
| Hong Hu | Hubei | 01/11/2010 | 90 | W |
| Liangzi Hu | Hubei | 19/01/2011 | 131 | W |
| Qianjiang | Hubei | 23/03/2011 | 1 | W |
| Wang Hu | Hubei | 10/01/2011 | 16 | W |
| Poyang Hu | Jiangxi | 10/11/2010 | 2 | W |
| Lalian | Liaoning | 12/03/2011 | 1 | P |
| Gucheng | Shaanxi | 17/01/2011 | 2 | W |
| Dongping Hu | Shandong | June 2011 | 3 | B |
| Heizhugou, Ebian | Sichuan | 31/10/2010 | 5 | W |
| Hangzhou Bay | Zhejiang | 08/11/2010 | 1 | W |
| **China 2011/12** | | | | |
| Shahe Reservoir | Beijing | 25/03/2012 | 1 | P |
| Hengshui Hu | Hebei | 07/07/2012 | 4 | B |
| Poyang Hu | Jiangxi | 04/12/2011 | 92 | W |
| Dongping Hu | Shandong | April 2012 | 1 | B |
| **China 2012/13** | | | | |
| Yi'an Chao | Anhui | 25/02/2013 | 2 | W |
| Shanyang | Beijing | 06/04/2013 | 1 | P |
| Yeya Hu | Beijing | 17/10/2012 | 4 | P |
| Yeya Hu | Beijing | 12/04/2013 | 2 | P |
| Hengshui Hu | Hebei | 16/05/2013 | 14 | B |
| Xinxiang Yellow River Wetland Reserve | Henan | 16/06/2013 | 8 | B |
| Yanming Hu, Zhongmu | Henan | 02/02/2013 | 1 | W |
| Mai Po | Hong Kong | 11/12/2012 | 2 | W |
| Liangzi Hu | Hubei | 01/12/2012 | 2 | W |
| Wang Hu | Hubei | 19/01/2013 | 6 | W |
| Yancheng NNR | Jiangsu | 09/11/2012 | 2 | P |
| Poyang Hu | Jiangxi | 27/11/2012 | 26 | W |
| Benxi | Liaoning | 04/04/2013 | 1 | P |
| Jinshitan | Liaoning | 27/11/2012 | 1 | P |
| Dong Hu, Chengdu | Sichuan | 06/02/2013 | 1 | W |
| Jin Hu, Deyang | Sichuan | 25/01/2013 | 1 | W |
| Qinglong Hu, Chengdu | Sichuan | 28/01/2013 | 2 | W |
| **China 2013/14** | | | | |
| Chenyaohu | Anhui | 12/02/2014 | 40 | W |
| Zhubei pond, Liuan | Anhui | 15/07/2014 | 2 | B |
| Huairou Reservoir | Beijing | 15/10/2013 | 2 | P |
| Miyun Reservoir | Beijing | 18/10/2013 | 4 | P |
| Miyun Reservoir | Beijing | 05/01/2014 | 1 | W |
| Yeya Hu | Beijing | 12/10/2013 | 2 | P |
| Hengshui Hu | Hebei | 02/08/2014 | 65 | B |

| Site | Province | Date | Number | Season |
|---|---|---|---|---|
| Xingkai Hu (Lake Khanka) | Heilongjiang | 29/03/2014 | 52 | P/B |
| Yangming Hu | Henan | 04/01/2014 | 3 | W |
| Mai Po | Hong Kong | 19/12/2013 | 1 | W |
| San Tin fishponds | Hong Kong | 20/01/2014 | 1 | W |
| Chang Hu | Hubei | 18/03/2014 | 4 | W |
| Jie River | Hubei | 13/07/2014 | 7 | B |
| Qianjiang | Hubei | 12/12/2013 | 1 | W |
| Wang Hu | Hubei | 12/01/2014 | 6 | W |
| Tai Hu | Jiangsu | 01/02/2014 | 3 | W |
| Yancheng NNR | Jiangsu | 08/11/2013 | 3 | P |
| Poyang Hu | Jiangxi | 15/01/2014 | 45 | W |
| Xianghai NNR | Jilin | 17/10/2013 | 6 | P |
| Weihe River | Shanxi | 04/02/2014 | 1 | P |
| Yazihe River | Sichuan | 12/12/2013 | 1 | W |
| Changqiaohai | Yunnan | 18/01/2014 | 1 | W |
| Heqing | Yunnan | 15/01/2014 | 1 | W |
| **India 2010/11** | | | | |
| Deobali Jalah | | 22/01/2011 | 1 | W |
| **India 2012/13** | | | | |
| Badjore waterbody, Similipal | Odisha | 25/12/2012 | 2 | W |
| **Japan 2010/11** | | | | |
| Yonago waterbird sanctuary | Tottori | 16/10/2010 | 1 | W |
| **Japan 2011/12** | | | | |
| Yonago waterbird sanctuary | Tottori | 03/08/2011 | 1 | W |
| **Japan 2013/14** | | | | |
| Osaka | Osaka | 23/11/2013 | 1 | W |
| Kasai Rinkai Koen | Tokyo | 16/02/2014 | 1 | W |
| **Myanmar 2010/11** | | | | |
| Indawgyi Lake | Kachin | 20/02/2011 | 1 | W |
| **Myanmar 2012/13** | | | | |
| Inle Lake | Shan | 01/03/2013 | 1 | W |
| **Pakistan 2011/12** | | | | |
| Chasma Berrage, Sindh River | Mianwali | 09/02/2012 | 1 | W |
| **ROK 2012/13** | | | | |
| Namdong Reservoir | Incheon | 13/11/2012 | 1 | W |
| **Russia 2010/11** | | | | |
| Muraviovka Park | Amur | 12/10/2011 | 1 | P |
| Near Okhotsk | Khabarovsk | 21/05/2010 | 1 | P |
| Kit Bay | Primorye | 30/04/2011 | 1 | P |
| Zarya Bay | Primorye | 21/09/2010 | 2 | P |
| Khukhu-nur Lake | Zabaykalsky Krai | 02/09/2010 | 1 | P |
| Torey Lakes | Zabaykalsky Krai | 13/06/2011 | 2 | B |
| **Russia 2012/13** | | | | |
| River Avvakumovka floodplain | Primorye | 08/10/2012 | 2 | P |
| **Russia 2013/14** | | | | |
| Muraviovka Park | Amur | 18/06/2013 | 1 | B |
| Khasan wetlands | Primorye | 14/06/2013 | 3 | B |
| **Thailand 2010/11** | | | | |
| Nong Bong Khai | Chiang Rai | 04/01/2011 | 1 | W |
| **Thailand 2011/12** | | | | |
| Nong Bong Khai | Chiang Rai | 21/01/2012 | 1 | W |
| **Thailand 2013/14** | | | | |
| Nong Bong Khai | Chiang Rai | 25/02/2014 | 2 | W |
| Huai Bong, Mae Taeng | Chiang Rai | 14/01/2014 | 1 | W |