Committee Paper NCSC 10/06

Advisory Council on the Environment
Nature Conservation Subcommittee

Conservation of Black-faced Spoonbill (*Platalea minor*) in Hong Kong

Purpose

This paper briefs Member on the work carried out by the Agriculture, Fisheries and Conservation Department (AFCD) to conserve Black-faced Spoonbill, *Platalea minor*.

Introduction

2. Black-faced Spoonbill (BFS) is a migratory waterbird endemic to the East Asia, and is classified as a globally endangered species in 2001 by BirdLife International. BFSs breed in April and May and their known breeding sites are limited to a few uninhabited islands at the boundaries of the North Korea, South Korea, and Changshan Qundao of Liaoning Province, China.

3. According to the coordinated international BFS census conducted in January 2006, there were 1,679 BFSs in the world. The numbers of BFSs from 1993 to 2006 are shown in **Annex**. There has been a steady increase in the global population of BFSs since the 1990s.

4. Surveys of migratory routes indicate that BFSs migrate from their breeding ground to wetlands and coastal areas in North-eastern China, Japan, Taiwan, Hong Kong and Vietnam every winter. Among BFSs' stops along the migratory routes, the Tsengwen Estuary (曾文溪口) in Taiwan and Mai Po Inner Deep Bay Ramsar Site (Ramsar Site) in Hong Kong are their major wintering sites. Generally, BFSs start migration in September from their breeding ground to their wintering sites. They leave the wintering sites in March/April to return northward to their breeding ground for a new breeding cycle.

Population in Hong Kong

5. The wintering number of BFS in Hong Kong remained below 20 individuals until 1982, after which the population size gradually increased to over 340 individuals as reported in the global census in January 2006. The latest figure was based on peak counts from both sides of Deep Bay, i.e. Hong Kong and Shenzhen. The number of wintering birds in Deep Bay area currently accounts for about 21% of the global BFS population. Every year, BFSs utilize the Ramsar Site in Hong Kong as a wintering or stopover site in their migration. Being one of the major wintering sites of BFS, Hong Kong holds the second largest wintering population of the species in the world and plays an important role in global conservation of BFS.

Conservation of BFS in Hong Kong

6. Based on a consultancy study completed in October 2001, a conservation plan of BFS was developed and subsequently implemented by AFCD. The plan proposed actions to maintain the Ramsar Site in a favourable condition for wintering BFS. Actions for the conservation of BFS include law enforcement and site protection, species and habitat management, monitoring and research programme, education and training, and regional co-operation.

a) *Law enforcement and site protection*

7. BFS is protected under the Wild Animals Protection Ordinance, Cap. 170. Hunting, willfully disturbing, possession, sale or export of BFS is strictly prohibited in Hong Kong.

8. The Ramsar Site is managed by AFCD to maintain and enhance species richness, particular for birds, and wise use of the wetland resources. The Mai Po Marshes Nature Reserve (MPMNR) within the Ramsar Site is a Restricted Area under the Wild Animals Protection Ordinance. While AFCD is responsible for law enforcement and protection of the Restricted Area, the habitat management work of MPMNR is currently being carried out by the World Wide Fund for Nature Hong Kong (WWFHK) through

AFCD's subvention.

b) *Species and habitat management*

9. The MPMNR is the most important habitat for wintering BFS in Hong Kong. According to the management plan of the Ramsar Site, the gei wais 3,4,6 and 7 in MPMNR are zoned as Biodiversity Management Zone 4 (BMZ 4), which is specifically managed to provide roosting and foraging habitats for BFS. Other habitat management measures for BFS include maintaining suitable bund areas for roosting of BFS, controlling reeds encroachment into the BFS habitats created, and regularly draining down the water level of gei wais in MPNR during winter period to provide shallow water feeding ground for BFS.

c) *Monitoring and research programme*

10. There were a few research studies on the ecology and wintering behaviour of BFS in Hong Kong. AFCD has initiated a series of conservation studies on ecology of BFS since 1998, including baseline ecological monitoring of Ramsar Site, age structure assessment of BFS, coordinated counting of BFS in Pearl River Delta, satellite tracking of migratory route and radio tracking of habitat utilization in Hong Kong.

Ecological monitoring of Ramsar Site

11. The baseline ecological monitoring programme, started in 2002, is a long-term programme aims at collecting habitat information including water quality, biodiversity of Inner Deep Bay Mudflat and other physical and biotic parameters. The data collected will facilitate the formulation and reviewing of the BFS conservation plan.

Age structure assessment of BFS

12. The age structure assessment of BFS wintering in Hong Kong started in the winter of 1998/99. As shown in Table 1, the percentage of adult BFS ranged from 47% to 68% in the past eight years of the study period. The data indicated that the proportion of adult and non-adult of BFS varied within a limited range. In view of the steadily increase in

global population of BFS, the result of age structure assessment indicated a positive breeding success of BFS in recent years. The study of age structure is a long term monitoring programme and AFCD will continue the age structure assessment as one of the BFS conservation measures.

Table 1: Result of Age Structure Assessment for Wintering BFS in Hong Kong

Winter	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Mean adult %	56	53	61	68	62	47	49	53
SD ±	12	22	7	4	6	11	9	16

Coordinated counting of BFS in Pearl River Delta

13. In view of the proximity of wetland habitats in Hong Kong, Futian (in Shenzhen) and Macau, and BFSs have been recorded in these neighbouring sites, a coordinated BFS counting has been conducted since the winter of 2000/01 as a measure to monitor the number of wintering BFS in Pearl River Estuary area. The coordinated count for the species was carried out bi-weekly in the above areas in a synchronous manner from November to April. The peak counts in the coordinated counts in the past six years are shown in Table 2 below:

Table 2: Result of Coordinated Counts of Wintering BFS in Hong Kong, Futian and Macau

Area	**Coordinated peak counts in winter**					
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Ramsar Site, Hong Kong	192	140	204	183	324	273
Futian, Shenzhen	24	62	14	57	0	22
Taipa, Macau	23	46	44	50	30	51
Total number	**239**	**248**	**262**	**290**	**354**	**346**

Satellite tracking of migratory route

14. A satellite tracking study on the migratory route of BFS was successfully conducted in the spring of 1999, which was jointly conducted

with researchers from Japan, Taiwan and Hong Kong. A total of 11 BFSs were trapped from their wintering sites in Taiwan (3) and Hong Kong (8) respectively. All trapped birds were then fitted with satellite transmitters and released to the wild. Six adults were tracked to their breeding site at the De-militarized Zone at western coast of the Korean peninsula and four additional stop-over sites in China, including the Quanzhou in Fujian, Yueqing in Zhejiang, Chongmingdao in Shanghai and Yenchang in Jiangsu, were also identified. The study also revealed that immature BFS might not reach the breeding site at Korean peninsula, although they followed the general northward migratory route.

Radio-tracking of BFS in Hong Kong

15. The radio-tracking programme of BFS conducted in the winter of 2002 was part of a focal study aimed at providing supplementary information on the availability of feeding habitats and food supply for wintering BFS and their loafing/roosting site in Hong Kong. This study revealed that most of the detections came from the protected areas, including the Ramsar Site (82%), MPMNR (72%), Wetland Conservation Area (WCA) (13%), and only 5% of the detections were outside these areas. This study showed that the management plan of the Ramsar Site is an effective measure for the conservation of BFS in Hong Kong.

d) *Co-operation with NGOs for public awareness and education*

16. The conservation of BFS in Hong Kong could not be successful without the support of the public and the involvement of non-government organizations (NGO). The Department has been involving local NGOs to implement a conservation plan for BFS since 2001. The conservation plan included species and habitat management works by WWFHK to enhance the wintering habitats in the MPMNR. Studies conducted by the Hong Kong Bird Watching Society (HKBWS) and WWFHK on the age structure and monitoring of the wintering population provided important information on the population structure and dynamics of the species. Educational materials (including books, videos, pamphlets, teaching kits and website) were produced and activities were organized to arouse the public awareness of the BFS conservation in Hong Kong.

e) *Regional Co-operation*

17. The international co-operation on BFS conservation started in 1994 at the 21st World Conference of BirdLife International. An Action Plan for the BFS was prepared in the following year to provide general and country-specific recommendations. At present, the Action Plan is being reviewed by the relevant parties including AFCD and other experts. The revised Action Plan will be launched in the first half of 2007.

18. Apart from the international Action Plan, a number of symposia and conferences were held in the East Asia to share and update information on the conservation of BFS. For example, breeding site surveys at the De-militarized Zone at western coast of the Korean peninsula have been organized by Korean NGOs since 2004. Many interested parties, including AFCD and NGOs in the region, have participated in the surveys and associated symposia. Recently, an international symposium for the conservation of BFS, organized by the HKBWS and co-organized by AFCD and WWFHK, was held in Hong Kong in January 2006.

Way forward

19. The steady increase in number of wintering BFS in the area and the stable age structure of the species is a clear indication on the effectiveness of conservation measures for protection of the wintering BFS and its habitats in Hong Kong. All the measures beneficial to BFS will be continued. A review of the international Action Plan is now in progress. Upon completion, the conservation plan for BFS in Hong Kong will also be reviewed and updated accordingly.

Advice sought

20. Members are invited to comment on the measures for the conservation of BFS in Hong Kong.

Agriculture, Fisheries and Conservation Department
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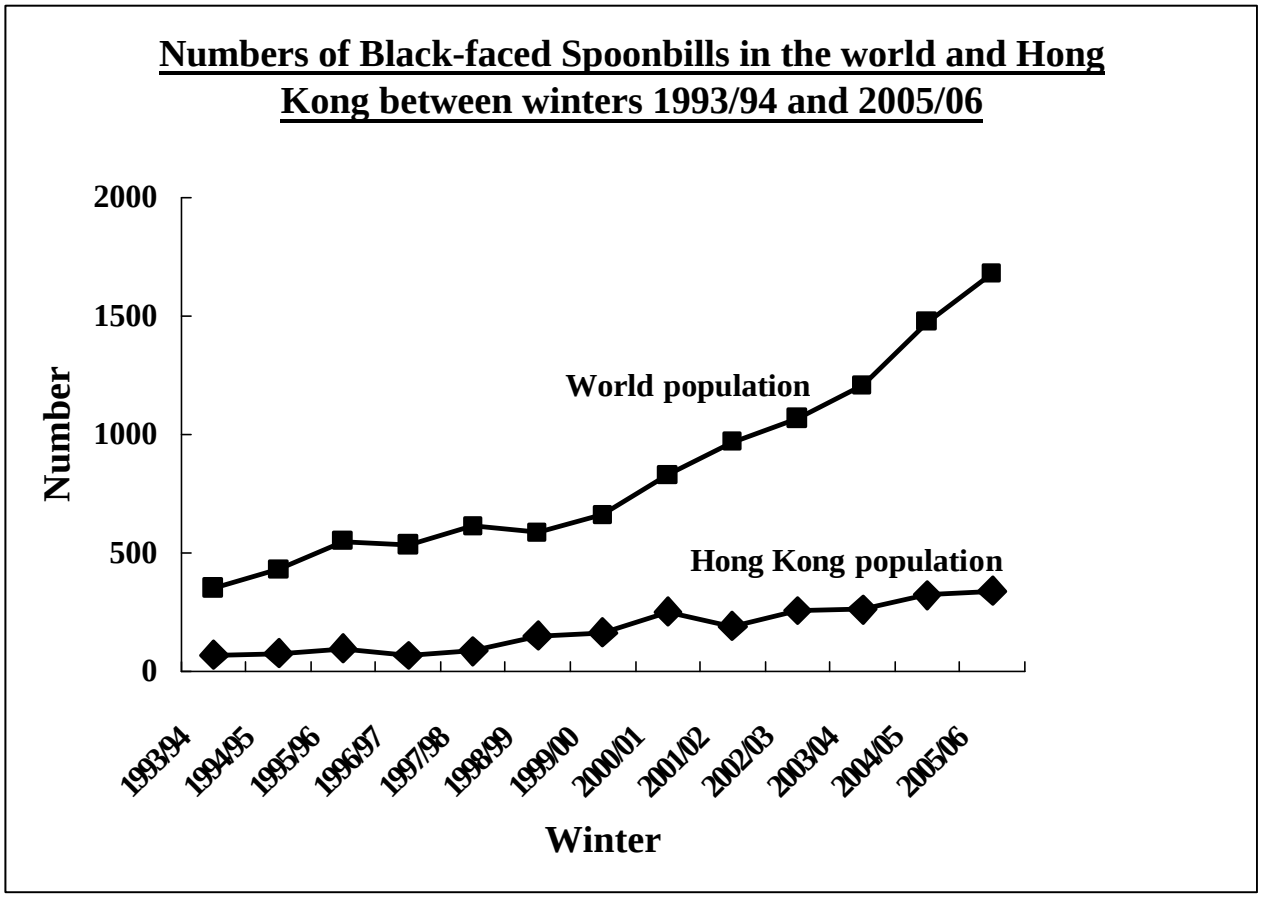
Annex


Numbers of Black-faced Spoonbills in the world and Hong Kong between winters 1993/94 and 2005/06
2000
1500
1000
500
0
Number
World population
Hong Kong population
1993/94
1994/95
1995/96
1996/97
1997/98
1998/99
1999/00
2000/01
2001/02
2002/03
2003/04
2004/05
2005/06
Winter