Proposal for a Site of Special Scientific Interest and

Support for Country Park Designation on Po Toi Islands

The Hong Kong Bird Watching Society

Third Edition April 2015

Executive Summary

Proposal for Country Park Designation on Po Toi Islands

1. The Hong Kong Bird Watching Society (HKBWS), founded in 1957, is an approved Charitable Institution of Public Character. It is the leading authority on bird research and conservation in Hong Kong. HKBWS has collected, reviewed and published records on birds for more than half a century, providing essential information for conservation of habitats and scientific research.

2. This document affirms the high ecological value and special scientific interest outlined in the Explanatory Statement of the Po Toi Islands Outline Zoning Plan (OZP), and requests the Town Planning Board, the Chief Executive of the Hong Kong Special Administrative Region, the Country and Marine Parks Board (CMPB) and Agriculture, Fisheries and Conservation Department (AFCD to designate Po Toi Islands as Country Park (or Special Area) according to the suggestion of the South West New Territories Development Strategy Review (SWNT DSR) in 2001.

3. Po Toi Islands are the southern-most outlying islands in Hong Kong. Owing to its special geographical location, the lack of disturbance and quality of habitats on the island, Po Toi is a crucial refuelling stop for migratory birds that is of international importance and of special scientific value for the study of bird migration in Hong Kong and the East Asian-Australasian Flyway.

4. Three hundred and twenty-eight species of birds have been recorded on Po Toi and its nearby waters, which is over 60% of the total number of Hong Kong. This includes many rare and globally threatened species. This number of species is comparable to Mai Po and well in excess of Long Valley or Tai Po Kau.

5. Research data shows that Tai Wan, Wan Tsai (near the pier) and Ngong Chong of Po Toi are of high ecological value as they provide essential habitats for migratory birds and many of them are of conservation importance. Special attention should be paid to these areas as they are in proximity to the existing inhabited areas.

6. This area also supports a natural population of the endemic and endangered Romer's Tree Frog (*Liuixalus romeri*), Burmese Python (*Python bivittatus*), Tree Gecko (*Hemiphyllodactylus* sp.) and a variety of butterfly species.

7. The waters around Po Toi are of conservation importance. Finless Porpoises (*Neophocaena phocaenoides*) frequent waters in the area. Waglan Island has a breeding colony of terns. The unspoilt natural setting contributes to the landscape and ecological value of the area.

8. Po Toi is a popular location for holiday visitors. Recreational activities such as hiking, fishing, bird-watching and wildlife photography are attracting large and growing numbers of visitors to the island. There are also special cultural activities on Po Toi, which include Chinese Opera and dragon-boat racing during Festival (太平清醮) and sea-weed collecting. The designation of Country Park would benefit local residents as well as visitors, by provision of infrastructure and utilities for the island.

9. Unauthorized activities in the past have damaged the landscape and ecological value of the area. Full protection of Po Toi is needed to protect its scientific and conservation value from incompatible developments. The designation of a Site of Special Scientific Interest (SSSI) would provide essential protection as developments as designated projects would require an environmental permit.

10. The introduction of planning control alone would not be able to fully protect the environment of Po Toi and other islands. The designation of Country Park is the best method in order to manage the activities on the island. Members and the Country and Marine Parks Board and Agriculture, Fisheries and Conservation Department are therefore request to designate Po Toi Islands as Country Park.

11. The conservation of the landscape and ecological value of Po Toi Islands is supported by Green Groups, visitors and also many residents.

12. The above proposal is an important step towards the targets of the Convention on Biological Diversity and is in line with the Chief Executive’s Policy Platform for environment protection and conservation.

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1. Ecological Baseline Information of Po Toi (Terrestrial Ecology)

1.1. Description of the study area

On 2 March 2012, The Town Planning Board gazetted the Draft Po Toi Islands Development Permission Area (DPA) Plan No. DPA/I-PTI/1. According to the explanatory statement, the general planning intention of the plan is "*to protect the rural and natural landscape of the area with **scientific importance and high conservation value** from encroachment by unauthorised development and from undesirable change of use. Due consideration should be given to the conservation of the ecologically and environmentally sensitive areas, such as Po Toi, when development in or near the Area is proposed*"[1].

On 27 February 2015, the Po Toi Islands DPA Plan was replaced by the Draft Po Toi Islands Outline Zoning Plan (OZP) No. S/I-PTI/1. Conservation zonings, including "Conservation Area" (CA), "Coastal Protection Area" (CPA) and "Green Belt" (GB), were designated in the OZP; however, "Site of Special Scientific Interest" (SSSI) was not considered. The research findings of this paper from HKBWS is to provide evidence supporting the scientific importance and high conservation value of the area, and to justify the need of a more stringent zoning (i.e., SSSI, ultimately Country Park) in order to adequately protect the ecologically sensitive habitats on Po Toi Islands.

The South West New Territories Development Strategy Review (SWNT DSR) in 2001[2] has recommended the designation of Country Park (**Figure 1.1**) on the Po Toi Islands which Agriculture, Fisheries and Conservation Department (AFCD) has "*initially confirmed the potential*"[3]. Findings of this proposal suggest that the recommendation of Country Park designation should be put forward.

[1] 7.2 of the Explanatory Statement of Draft Po Toi Islands Development Permission Area Plan (DPA/I-PTI/1)
[2] http://www.pland.gov.hk/pland_en/p_study/comp_s/swnt/final-report/final-report.htm
[3] 4.4.3.1 of the final report of South West New Territories Development Strategy Review.

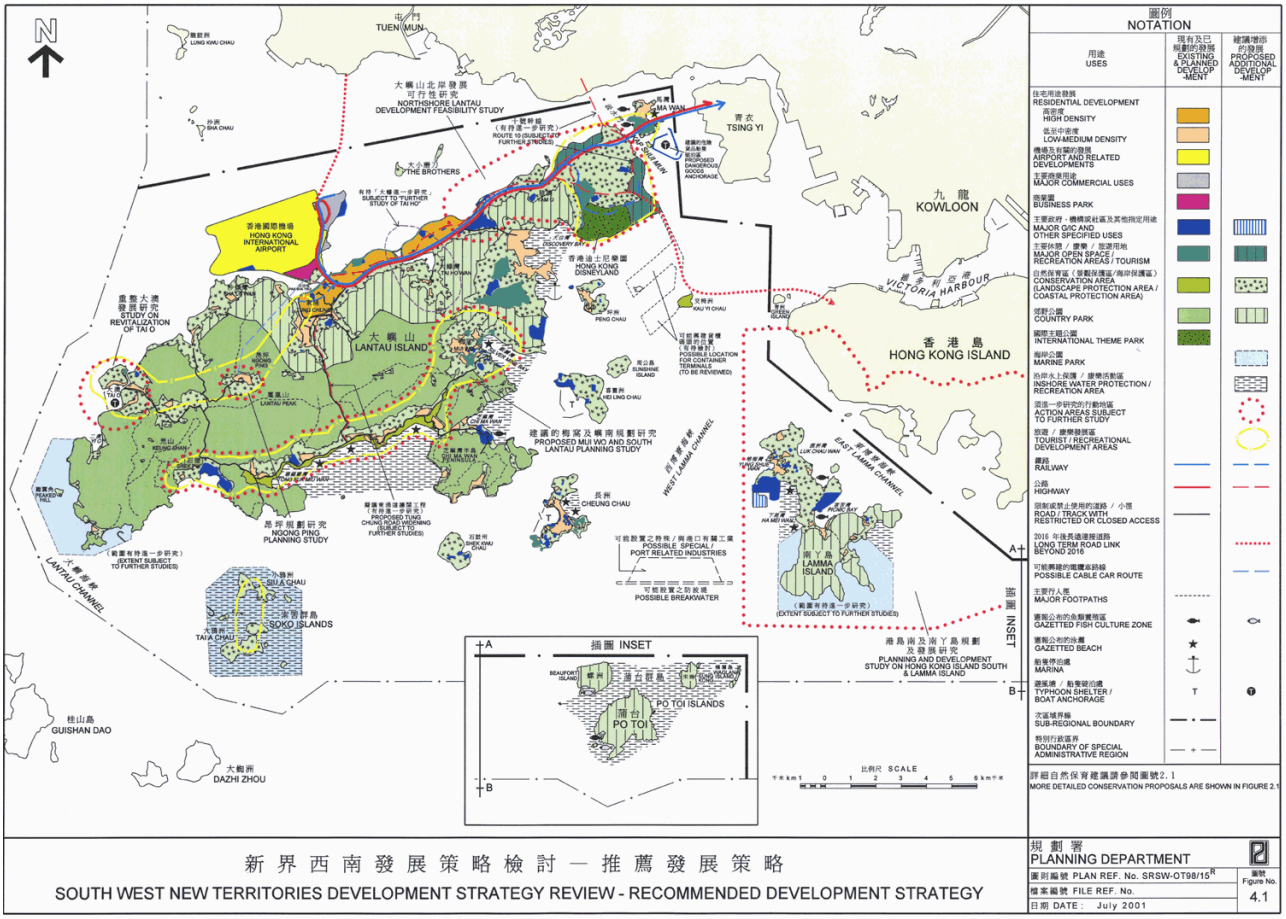


Figure 1.1 Po Toi has been recommended as Country Park in the 2001 SWNT DSR

1.2 Literature review

AFCD commissioned HKBWS to produce a 'Preliminary Study of Bird Migration on Po Toi Island – Spring 2007'[4] and this report has been published. The study has continued every year in spring and autumn up to date and provides a wealth of data on migrant birds on Po Toi.

HKBWS has also commenced a study of bird migration on Po Toi which started in January 2006 and is still continuing. In the period 2006-2013, the researcher has spent a total of 803 days on Po Toi, 65% of which were in the key migration seasons of March to May and September to November.

Other publications such as the following have been reviewed:
- The Hong Kong Bird Reports by the Hong Kong Bird Watching Society;
- The Avifauna of Hong Kong by Carey *et al*. (2001)[5]

1.3 Results

1.3.1 Habitat Diversity on Po Toi

Habitats on Po Toi were recorded by on-site observation and aerial photographs. They are listed in **Table 1.1**

Table 1.1 Habitats on Po Toi

Habitat	Location	Description
Grassland/Shrubland Mosaic	Covering most of the island	Largely natural Grassland and Shrubland. Succession maybe limited by climate (windy), water availability and hillfires.
Secondary Forest	Southwest proportion of the island, found behind Tai Wan, Wan Tsai, around Po Toi School and Mo's Old House.	Largely natural Secondary Forest with large *Fung Shui* Trees such as *Ficus microcarpa* and fruit trees such as *Dimocarpus longan*.

[4] Anon, 2007, Preliminary Study on Bird Migration on Po Toi Island (Spring 2007). Report by the Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.
[5] G.J. Carey, M.L. Chalmers, D.A. Diskin, P.R. Kennerley, P.J. Leader, M.R. Leven, R.W. Lewthwaite, M.S. Melville, M. Turnbull, L. Young, 2001, The Avifauna of Hong Kong, Hong Kong Bird Watching Society.

Abandoned Farmland	Patches are found at the south of Wan Tsai.	Seasonally wet abandoned farmland, which may have been used for rice cultivation in the past. Affected by recent vegetation clearance and construction of concrete slabs.
Orchard/Active Farmland	Small patches are found at Wan Tsai.	Small sized farmland and orchard comprising of mostly banana trees.
Permanent Stream	One is identified behind Tai Wan.	Natural, permanent stream connecting to the sea.
Seasonal Streams	Scattered over valleys of the island such as at Wan Tsai and Lau Shui Hang.	Seasonal streams surrounded by secondary forest/shrubland.
Rocky shores	Along most coastlines of the island.	Natural and exposed Rocky shore with limited vegetation.
Sandy Shore	One is found at Tai Wan.	Sheltered sandy shore nearby developed areas.
Coastal Lagoon / intertidal wetland	One is found at Tai Wan.	Shallow (<0.5m) lagoon Served by permanent stream and affected by tidal water. Mangroves are found on the southward side.
Developed area	A recognized village at Tai Wan. Houses are found along the coast from Tai Wan up to the Tin Hau Temple. Scattered houses are found near the pier at Wan Tsai.	Developed area with houses, mostly 1-2 storeys. Some demolished houses are overgrown with vegetation, including large trees of particular ecological significance.

1.3.2 Avifauna

328 species of avifauna has been recorded on Po Toi. Evaluation of their conservation importance has been carried out according to the following lists which are adopted in Environmental Impact Assessment Ordinance (EIAO):

- International Union for Conservation of Nature (IUCN) Red Data List;
- The China Red Data Book;
- List of Protected Animals in People's Republic of China;
- Fellowes *et al.* (2002). Wild animals to watch: terrestrial and freshwater fauna of conservation concern in Hong Kong.

The following lists have also been included as additional assessments of their conservation importance:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) appendices I and II
- The Convention on Migratory Species (CMS) appendices I and II

At least 140 species are considered as having conservation importance according to the assessment methods adopted under EIAO. If the CITES appendices and CMS appendices are also considered, at least 172 species of birds species recorded on Po Toi are of conservation importance. The list of birds recorded on Po Toi and their conservation statuses can be found in **APPENDIX 1**.

Detailed information on avifauna is highlighted in Section 3 of this paper.

1.3.3 Amphibians and Reptiles

The diversity of amphibians and reptiles are subject to detailed surveys and literature reviews.

At least three species of conservation importance, the Globally Endangered[6] Romer's Tree Frog (*Liuixalus romeri*), the Globally Vulnerable and Nationally Critically Endangered[7] Burmese Python (*Python bivittatus*) and the Tree Gecko (*Hemiphyllodactylus* sp.) of Regional Concern[8] are observed regularly on the island. The locations of these species observed are indicated in **Figure 1.2**. Habitat improvement measures have been carried out by the AFCD to improve the breeding success of Romer's Tree Frog. More information of the distribution of this species on the island may be provided by AFCD and other non-government organisations.

Po Toi is especially important for Romer's Tree Frog as this species is endemic to Hong Kong and occurs naturally on Po Toi, Lamma, and formerly on Chek Lap Kok (before its habitat was destroyed to make way for Hong Kong International Airport. While this species has been successfully translocated into a number of sites in Hong Kong it is essential to main the health of the population where it naturally occurs.

[6] IUCN (2013). IUCN Red List of Threatened Species. Version 2013.1
[7] Zheng, G. M. and Wang, Q. S. (1998).
[8] Fellowes *et al*. (2002)

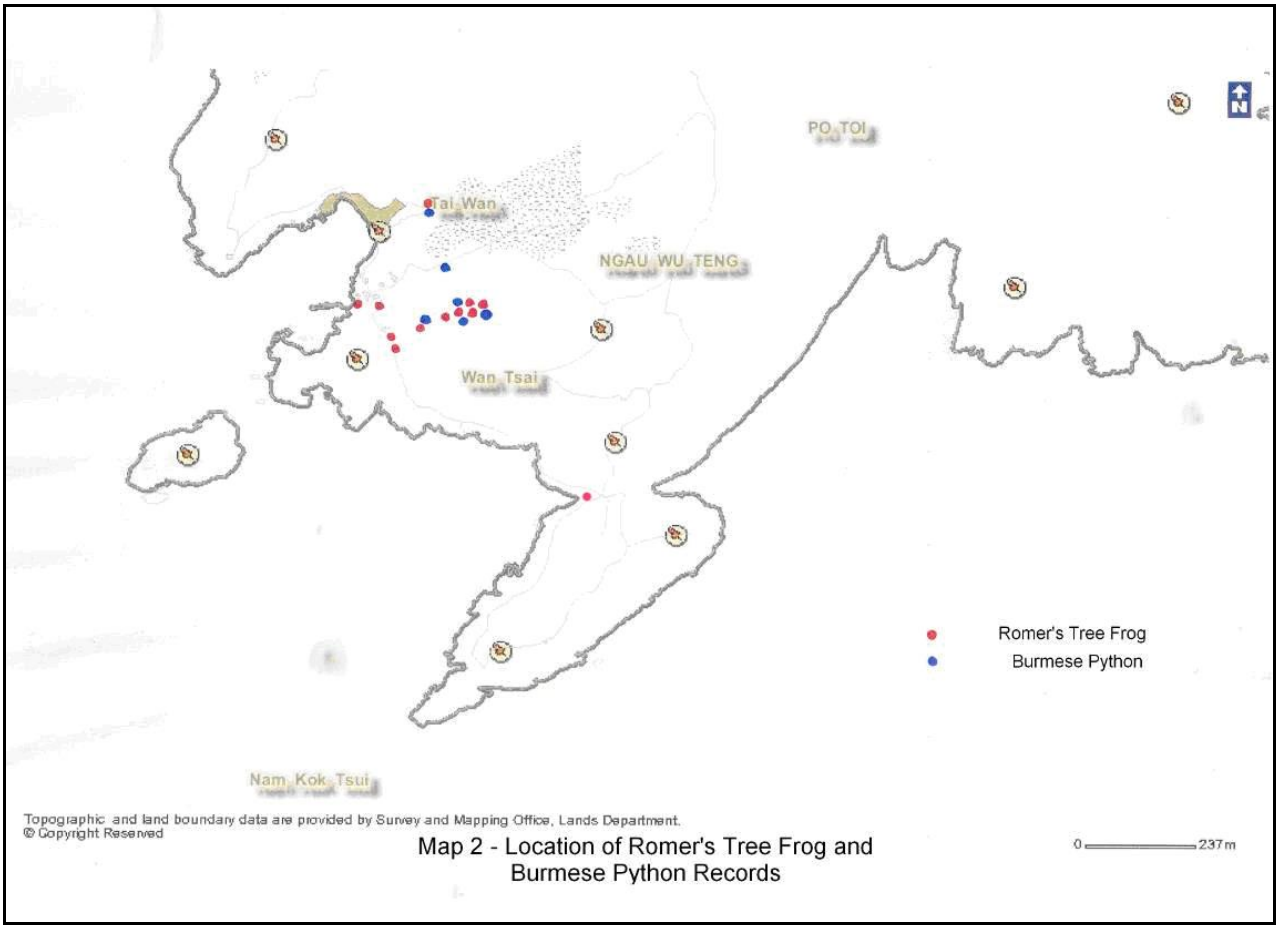


Figure 1.2 Location of Romer's Tree Frog (*Liuixalus romeri*) and Burmese Python (*Python bivittatus*) observed by HKBWS.

1.3.4 Mammals

The diversity of mammals is subject to detailed surveys and literature reviews. Three mammal species are noted by the HKBWS, namely Wild boar (*Sus scrofa*), Musk Shrew (*Suncus murinus*) and bat species Japanese Pipistrelle (*Pipistrellus abramus*)[9].

1.3.5 Insects

The diversity of insects is subject to detailed surveys and literature reviews. Red Lacewing (*Cethosia biblis*), a rare[10] butterfly species in Hong Kong, is regularly observed on Po Toi. So far, 89 species of butterflies have been recorded at Po Toi[11](see Appendix 2).

[9] Gary Ades, pers com.
[10] Chan, A., Cheung, J., Sze, P., Wong, A., Wong, E. and Yau, E. 2011. A Review of the Local Restrictedness of Hong Kong Butterflies. *Hong Kong Biodiversity* 21: 1-12.
[11] Casual records made by Green Power and other individual experienced butterfly surveyors during 2012 – 2014.

1.4 Conclusion

Assessments using different criteria conclude that Po Toi has a high ecological value. This is due to the diversity of habitats found on the island together with its special geographical location. Many species of conservation interest including the globally endangered Romer's Tree Frog which is endemic to Hong Kong and threatened avifauna such as the globally vulnerable Swinhoe's Egret and Japanese Yellow Bunting are regular visitors to Po Toi. Po Toi is therefore a globally important site for biodiversity conservation.

Landscape changes, unfavourable change of land use and loss of habitats would impose significant impact on the island. These should be strictly controlled and planned with regard to maintaining the conservation value of Po Toi.

Management of important habitats would be beneficial in terms of maintaining and improving habitat quality, as well as preventing unfavourable activities (e.g. illegal collection and vegetation removal).

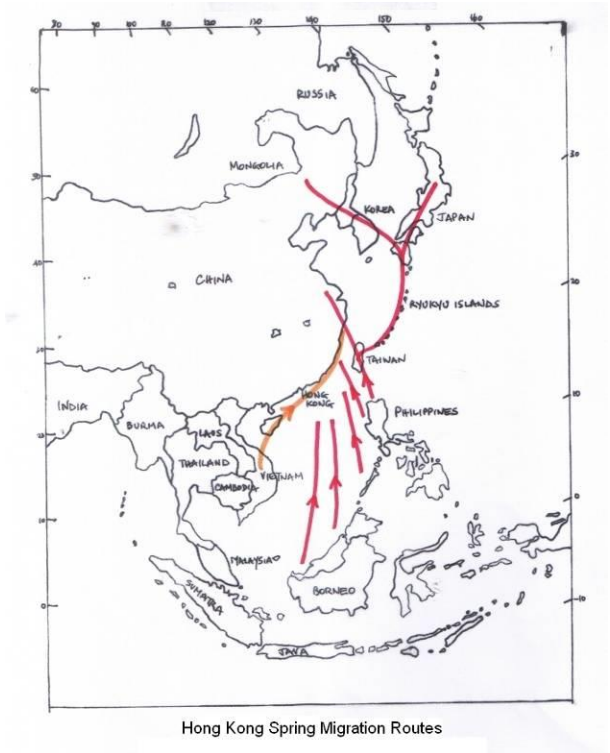
2. Po Toi's scientific value and conservation with special regard to migratory birds

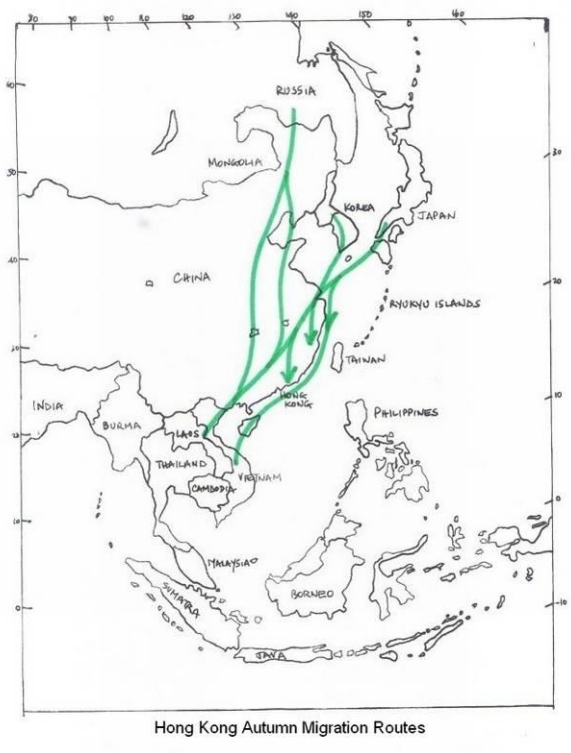
Po Toi Island is the prime site in Hong Kong for observing migratory land birds and seabirds – the equivalent of what Mai Po is for water birds and shore birds and Tai Po Kau for forest birds. However, this has only become known since easier access started in 2005. Po Toi Island had no statutory protection in the Hong Kong planning system until the Town Planning Board gazetted the Draft Po Toi Islands Development Permission Area Plan on 2 March 2012.

The reason why Po Toi is a magnet for migratory birds lies in its location as an island in the far south-east corner of Hong Kong out into the South China Sea, together with the favourable habitat for migrant birds to rest and refuel created around the old centres of population on the island.

2.1 Migratory Land Birds

Twice each year many millions of land birds migrate between the tropical areas of east Asia below latitude 20°N (Thailand, Laos, Vietnam, Cambodia, Malaysia, Borneo and the Philippines) where they winter, and the northern areas above latitude 35°N (Japan, Korea, north and northeast China and Far East Russia) where they breed; in spring moving north and in autumn moving south. Their main migration routes in spring and autumn are shown in **Figures 2.1 and 2.2** respectively.





Figures 2.1 (Right) & 2.2 (Left) Landbirds Migration in spring and autumn in south China coastal areas.

Land birds migrate in spring from the south either around the coast or across the South China Sea and in autumn from the north around the coast. Po Toi lies directly on their migration routes as shown in **Figures 2.3 and 2.4**.

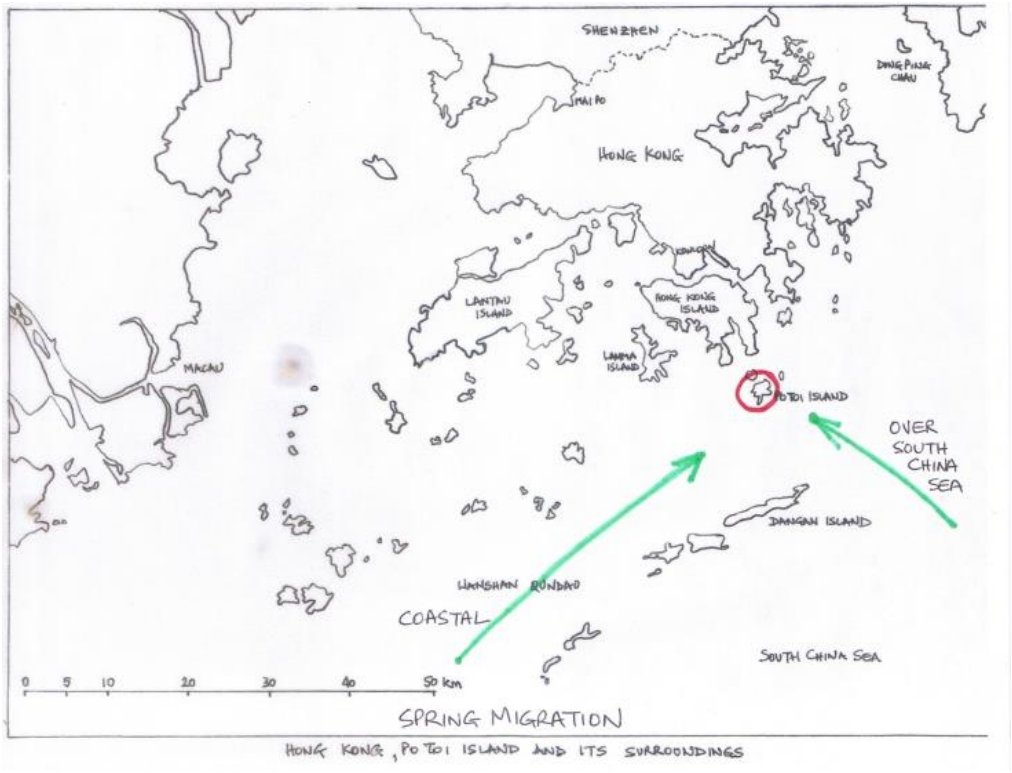


Figure 2.3 Spring migration route through the area of Po Toi

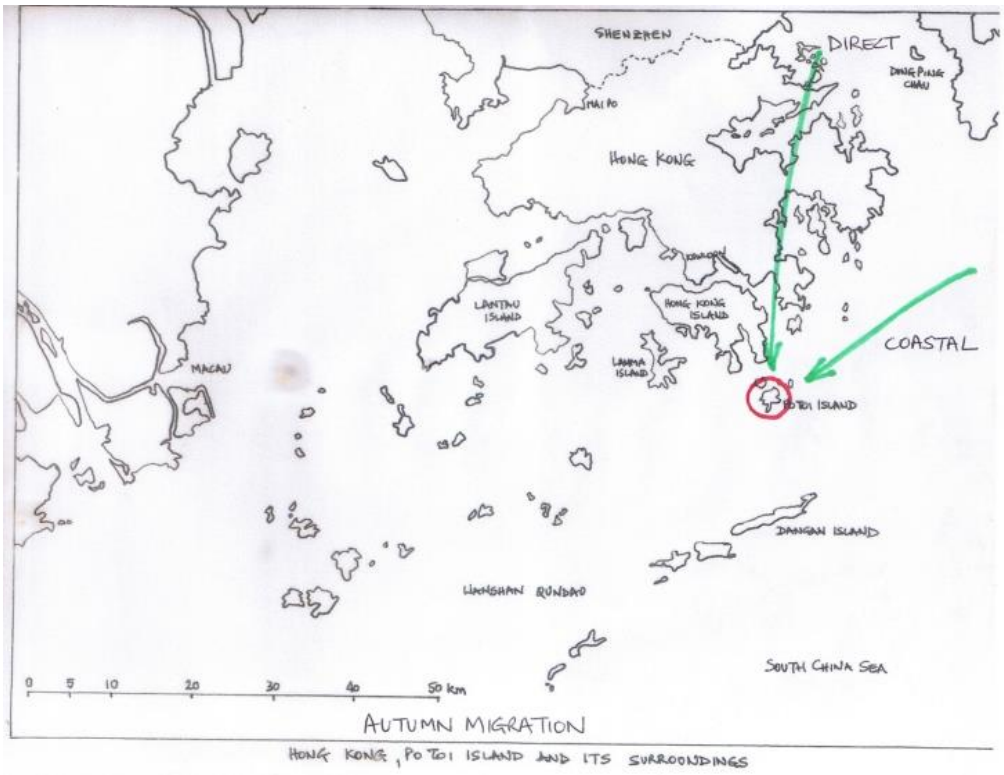


Figure 2.4 Autumn migration routes through the area of Po Toi

2.2 Migratory Seabirds

The southern-most point of Po Toi, Nam Kok Tsui, is the best location in Hong Kong to see migrating seabirds.

Tens of thousands of seabirds migrate through the South China Sea from wintering grounds in the tropics to breeding grounds off East China, Korea and Japan, in spring moving north and in autumn returning south. Their migration routes in the South China Sea and the Pearl River Delta region are shown in **Figures 2.5 and 2.6**.

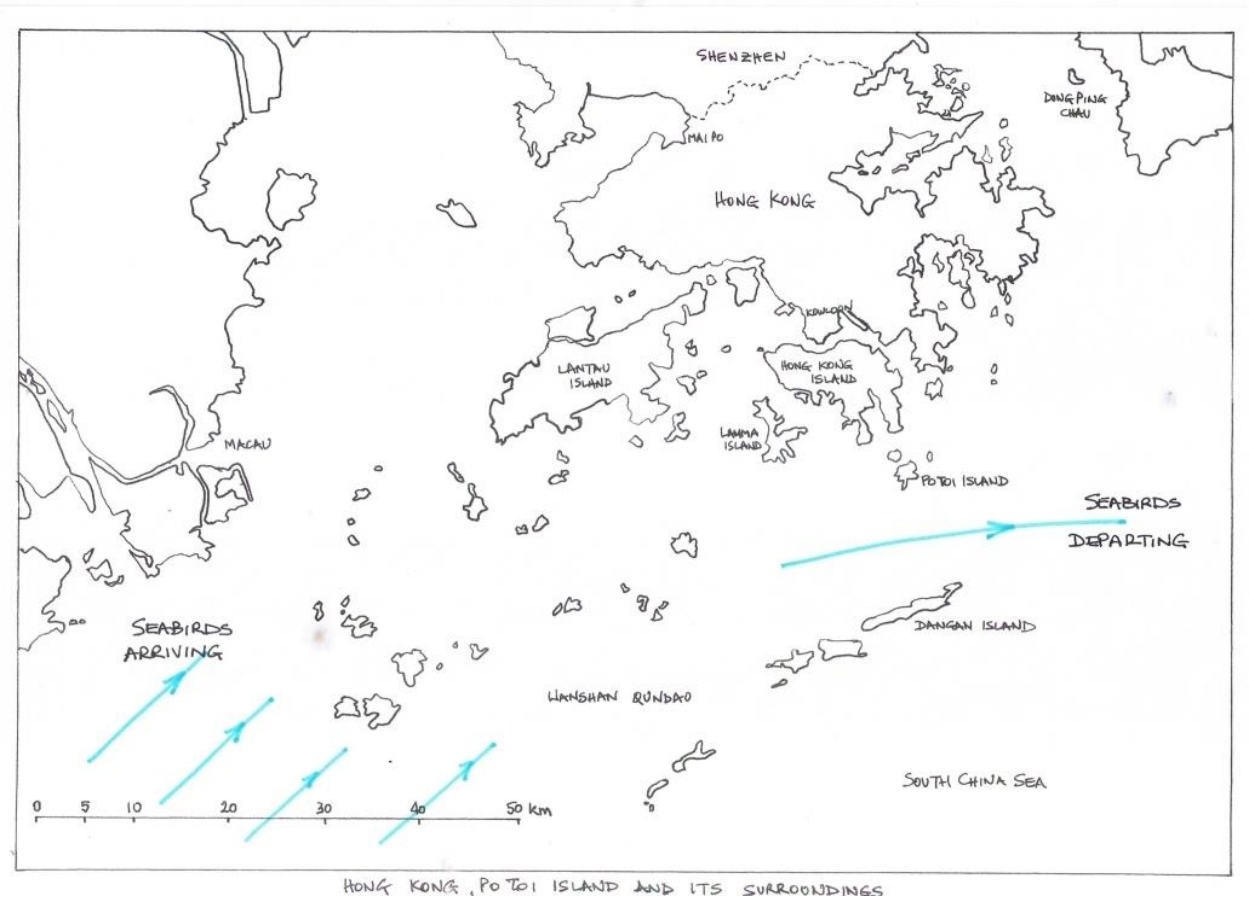


Figure 2.5 Seabird Migration in the South China Sea and Pearl River Delta

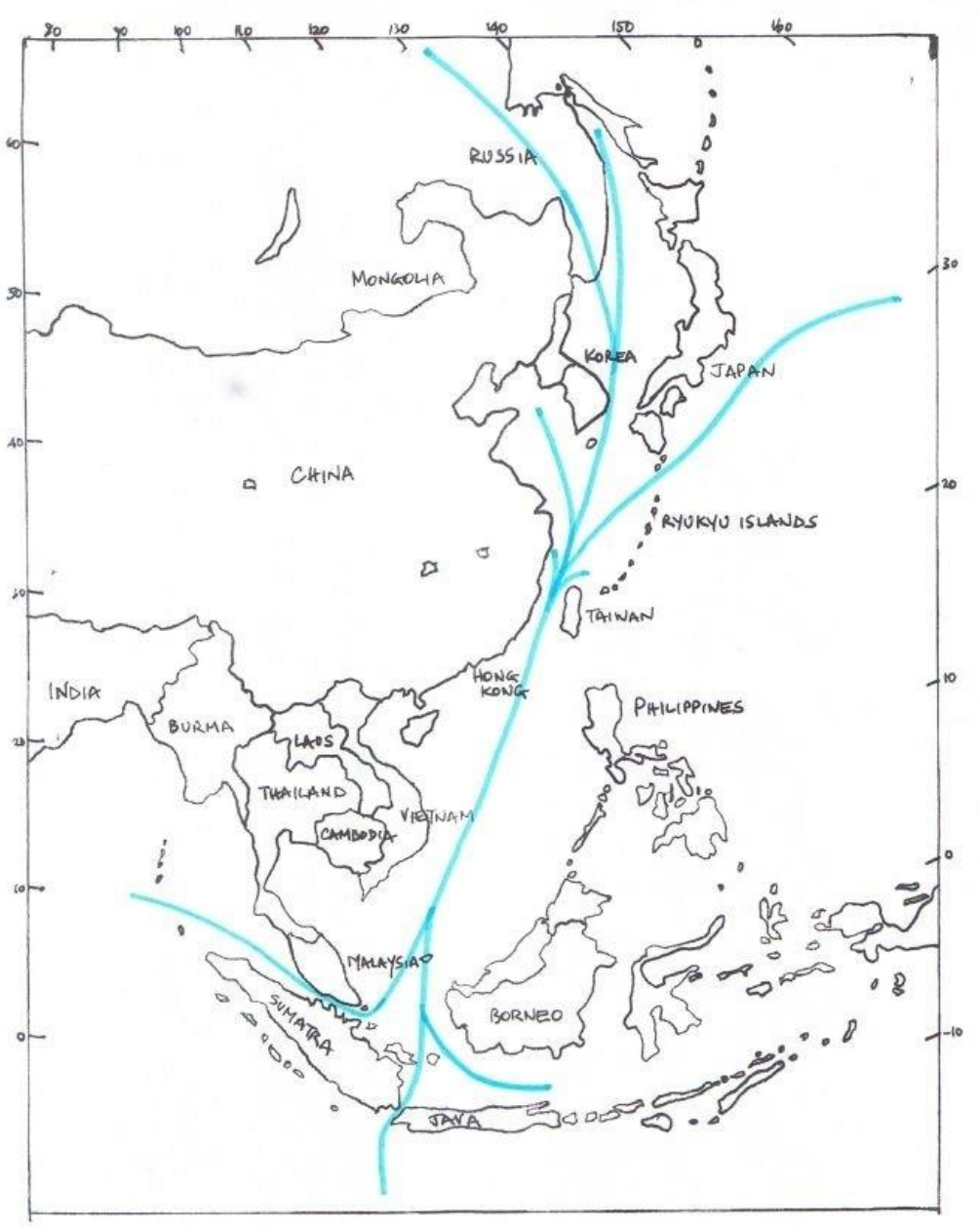


Figure 2.6 Seabird Migration in the South China Sea and Pearl River Delta

Seabird migration in the Hong Kong area occurs mainly in spring from March to May and in autumn in September. Three species of terns breed on off-shore islands of Hong Kong including the nearby Waglan Island.

2.3 Bird species diversity on Po Toi

As at 20 April 2015, 328 species have been observed on Po Toi, which is about 62% of the current Hong Kong List total of 530. This is a remarkable total for such a small location. Since the first submission made back in 2012, 17 more species have been added to the Po Toi list (311 species of bird were reported back in the 2012 submission) (please refer to **APPENDIX 1**).

2.3.1 Rare species in Hong Kong recorded at Po Toi

20 Hong Kong First Records of bird species (**Tables 2.1 and 2.2**) have been recorded on Po Toi and surrounding waters since 2005, in which 12 species are only seen on Po Toi but not elsewhere in Hong Kong. This count is the same as the number of Hong Kong First Record discovered in Mai Po since 1998. In addition, many more Hong Kong rarities (**Tables 2.3 and 2.4**) have been recorded at Po Toi.

Table 2.1 Hong Kong First Records and potential first records recorded from or near Po Toi since 2005

Date	Species	Remarks	Photo (Table 2.2)
17 April 2005	Japanese Cormorant (*Phalacrocorax capillatus*)	The second Hong Kong record was subsequently seen on Po Toi on 4 January 2007.	1
10 March 2006	Orange-breasted Green Pigeon (*Treron bicinctus*)	Hainan endemic subspecies *domvilii*, the first authenticated record of this Class II protected species in China for 30 years. Recorded only on Po Toi.	2
17 May 2006	Brown Noddy (*Anous stolidus*)	Recorded off-shore from Po Toi and only on Po Toi.	3
18 May 2006	Ruddy Kingfisher (*Halcyon coromanda*)	Recorded only on Po Toi.	- - -
4 April 2007	Common Cuckoo (*Cuculus canorus*)	Recorded only on Po Toi.	4
4 April 2007	Red-breasted Flycatcher (*Ficedula parva*)		5
5 May 2007	Japanese Murrelet (*Synthliboramphus wumizusume*)	Recorded off-shore from Po Toi	6

Date	Species	Remarks	Photo (Table 2.2)
11 December 2007	Hodgson's Redstart (*Phoenicurus hodgsoni*)	Recorded only on Po Toi.	7
19 March 2008	Masked Booby (*Sula dactylatra*)	Recorded only on Po Toi.	8
4 May 2008	White-tailed Tropicbird (*Phaethon lepturus*)	Recorded offshore from Po Toi	9
19 October 2008	Zappey's Flycatcher (*Cyanoptila cumatilis*)	New Species recently split from Blue-and-while Flycatcher (*Cyanoptila cyanomelana*)[12]	10
19 November 2009	Red-throated Thrush (*Turdus ruficollis*)	The 500th species on the Hong Kong List. Recorded only on Po Toi.	11
24 March 2012	Brown-backed Needletail (*Hirundapus giganteus*)	First record of Hong Kong and probably first for China. Recorded only on Po Toi.	12
16 September 2012	Varied Tit (*Sittiparus varius*)		13
1 November 2012	Hawfinch (*Coccothraustes coccothraustes*)		14
24 November 2012	Hill Blue Flycatcher (*Cyornis banyumas*)		15
27 November 2012	Whistling Green Pigeon (*Treron formosae*)	Recorded only on Po Toi.	16
27 April 2014	Rosy Minivet (*Pericrocotus roseus*)	Recorded only on Po Toi.	17
10 September 2014	Crow-billed Drongo (*Dicrurus annectans*)	Recorded only on Po Toi.	18
29 March 2015	Ijima's Leaf Warbler (*Phylloscopus ijimae*)	First record for mainland China and for Hong Kong. Recorded only on Po Toi.	19

[12] Leader, P.J. & Carey, G.J. 2012. Zappey's Flycatcher *Cyanoptila cumatilis*, a forgotten Chinese breeding endemic. Forktail 28 (2012), pp. 121-128

Table 2.2 Photos of Hong Kong First Records recorded from or near Po Toi since 2005

 1. Japanese Cormorant (*Phalacrocorax capillatus*)	 2. Orange-breasted Green Pigeon (*Treron bicinctus*)	 3. Brown Noddy (*Anous stolidus*)
 4. Common Cuckoo (*Cuculus canorus*)	 5. Red-breasted Flycatcher (*Ficedula parva*)	 6. Japanese Murrelet (*Synthliboramphus wumizusume*)
 7. Hodgson's Redstart (*Phoenicurus hodgsoni*)	 8. Masked Booby (*Sula dactylatra*)	 9. White-tailed Tropicbird (*Phaethon lepturus*)

 10. Zappey's Flycatcher (*Cyanoptila cumatilis*)	 11. Red-throated Thrush (*Turdus ruficollis*)	 12. Brown-backed Needletail (*Hirundapus giganteus*)
 13. Varied Tit (*Sittiparus varius*)	 14. Hawfinch (*Coccothraustes coccothraustes*)	 15. Hill Blue Flycatcher (*Cyornis banyumas*)
 16. Whistling Green Pigeon (*Treron formosae*)	 17. Rosy Minivet (*Pericrocotus roseus*)	 18. Crow-billed Drongo (*Dicrurus annectans*)
 19. Ijima's Leaf Warbler (*Phylloscopus ijimae*)		

Table 2.3 Rare species and subspecies in Hong Kong recorded on Po Toi

Species	**Remarks**	**Photo (Table 2.4)**
Red-throated Loon (*Gavia stellata*)	Third Hong Kong record in 2008	1
Short-tailed Sheawater (*Puffinus tenuirostris*)	Recorded annually in spring in small numbers following the discovery of its passage through Hong Kong waters off Po Toi in 2006.	2
Brown Booby (*Sula leucogaster*)	Four records since 2006	3
Japanese Cormorant (*Phalacrocorax capillatus*)	Second Hong Kong record in 2007 following the first also on Po Toi in 1999	4
Malayan Night Heron (*Gorsachius melanolophus*)	Four records since 2007	5
Button-quail sp. (*Turnix* sp.)	Four records since 2006	- - -
Black-legged Kittiwake (*Rissa tridactyla*)	Three records since 2006	6
Asian Lesser Cuckoo (*Cuculus poliocephalus*)	Third and fourth Hong Kong records, the first since 1997	7
Drongo Cuckoo (*Surniculus lugubris*)	Two further records in 2007 and 2011 after the first on Po Toi in 1999	8
Blue-throated Bee-eater *(Merops viridis*)	A Hong Kong fourth record in 2006	9
Fairy Pitta (*Pitta nympha*)	Four records, one in each year since 2008	10
Blue-winged Pitta (*Pitta moluccensis*)	Second and third Hong Kong records in May 2008 and 2009	11
Rosy Pipit (*Anthus roseatus*)	Second Hong Kong record in 2011	12
Tiger Shrike (*Lanius tigrinus*)	First Hong Kong record since 1996 in 2006, another in 2009	13
Black Redstart (*Phoenicurus ochruros*)	Second Hong Kong record in 2011, the first for 16 years	14
White-throated Rock Thrush (*Monticola gularis*)	One record in 2010	15
Chinese Thrush (*Turdus mupinensis*)	Second Hong Kong record in 2006	16

Species	**Remarks**	**Photo (Table 2.4)**
Hume's Leaf Warbler (*Phylloscopus humei*)	One record in 2009	- - -
Sulphur-breasted Warbler (*Phylloscopus ricketti*)	Second Hong Kong record in 2006	- - -
Bianchi's Warbler (*Seicercus valentini*)	Third and fourth Hong Kong records in 2007 (over-wintering into 2008) and 2009	17
White-spectacled Warbler (*Seicercus affinis*)	One record in 2009 and 2010	18
Brown-chested Jungle Flycatcher (*Rhinomyias brunneatus*)	Sixth Hong Kong record in 2009	19
Narcissus Flycatcher *owstoni* (*Ficedula narcissina owstoni*)	Second Hong Kong record in 2006	20
Green-backed Flycatcher (*Ficedula elisae*)	Third and fifth Hong Kong records in 2005 and 2009	21
Red-breasted Flycatcher (*Ficedula parva*)	Annual records since the first Hong Kong record on Po Toi in 2007	22
Zappey's Flycatcher (*Cyanoptila cumatilis*)	First Hong Kong record in 2008	23
Small Niltava (*Niltava macgrigoriae*)	Seventh Hong Kong record in 2009	24
Yellow-browed Bunting (*Emberiza chrysophrys*)	Annual records since 2006	25
Rustic Bunting (*Emberiza rustica*)	Seventh and ninth Hong Kong records in 2010	26
Yellow-throated Bunting (*Emberiza elegans*)	Third Hong Kong record in 2009, up to eight birds together in autumn with four the following spring 2010	27
Black-headed Bunting (*Emberiza melanocephala*)	Three records since 2005	28
Brambling (*Fringilla montifringilla*)	Annual records since 2006	29
Eurasian Siskin (*Carduelis spinus*)	Annual records since 2006	30
Chestnut-cheeked Starling (*Sturnus philippensis*)	Annual records since 2006	31

Species	**Remarks**	**Photo (Table 2.4)**
White-bellied Green Pigeon (*Treron sieboldii*)	Seventh record for Hong Kong	32
Ijima's Leaf Warbler (*Phylloscopus ijimae*)	First record for mainland China and for Hong Kong	33

Table 2.4 Photos of Rare species in Hong Kong recorded on Po Toi

 1. Red-throated Loon (*Gavia stellata*)	 2. Short-tailed Sheawater (*Puffinus tenuirostris*)	 3. Brown Booby (*Sula leucogaster*)
 4. Japanese Cormorant (*Phalacrocorax capillatus*)	 5. Malayan Night Heron (*Gorsachius melanolophus*)	 6. Black-legged Kittiwake (*Rissa tridactyla*)

 7. Asian Lesser Cuckoo (*Cuculus poliocephalus*)	 8. Drongo Cuckoo (*Surniculus lugubris*)	 9. Blue-throated Bee-eater *(Merops viridis*)
 10. Fairy Pitta (*Pitta nympha*)	 11. Blue-winged Pitta (*Pitta moluccensis*)	 12. Rosy Pipit (*Anthus roseatus*)
 13. Tiger Shrike (*Lanius tigrinus*)	 14. Black Redstart (*Phoenicurus ochruros*)	 15. White-throated Rock Thrush (*Monticola gularis*)

 16. Chinese Thrush (*Turdus mupinensis*)	 17. Bianchi's Warbler (*Seicercus valentini*)	 18. White-spectacled Warbler (*Seicercus affinis*)
 19. Brown-chested Jungle Flycatcher (*Rhinomyias brunneatus*)	 20. Narcissus Flycatcher *owstoni* (*Ficedula narcissina owstoni*)	 21. Green-backed Flycatcher (*Ficedula elisae*)
 22. Red-breasted Flycatcher (*Ficedula parva*)	 23. Zappey's Flycatcher (*Cyanoptila cumatilis*)	 24. Small Niltava (*Niltava macgrigoriae*)

 25. Yellow-browed Bunting (*Emberiza chrysophrys*)	 26. Rustic Bunting (*Emberiza rustica*)	 27. Yellow-throated Bunting (*Emberiza elegans*)
 28. Black-headed Bunting (*Emberiza melanocephala*)	 29. Brambling (*Fringilla montifringilla*)	 30. Eurasian Siskin (*Carduelis spinus*)
 31. Chestnut-cheeked Starling (*Sturnus philippensis*)	 32. White-bellied Green Pigeon (*Treron sieboldii*)	 33. Ijima's Leaf Warbler (*Phylloscopus ijimae*)

2.3.2 Species of Conservation Importance

At least 140 species recorded on Po Toi are considered to have conservation importance (Section 1.2). Some species listed in IUCN Red List as Vulnerable (Swinhoe's Egret, Fairy Pitta, Brown-chested Jungle-flycatcher, Yellow-breasted Bunting and Japanese Yellow Bunting) and Near-threatened (Japanese Quail, Japanese Paradise Flycatcher) are regularly recorded on Po Toi (**Tables 2.5 and 2.6**), indicating that Po Toi is an internationally important habitat for threatened migratory birds.

The locations of Hong Kong first records, rare species and threatened species are marked on **Figure 2.7**.

Table 2.5 Globally threatened species recorded at Po Toi

Species	**IUCN Red List Status**	**Remarks**	**Photo (Table 2.6)**
Swinhoe's Egret (*Egretta eulophotes*)	VU	Almost annual spring passage migrant, records in 2007, 2008, 2009 and 2011	1
Greater Spotted Eagle (*Aquila clanga*)	VU	Records of birds on migration in 2007 and 2009	- - -
Eastern Curlew (*Numenius madagascariensis*)	VU	Records of birds on migration in 2007 and 2008	- - -
Great Knot (*Calidris tenuirostris*)	VU	Records of birds on migration annually from 2007 to 2011	- - -
Fairy Pitta (*Pitta nympha*)	VU	Almost annual spring and autumn passage migrant, records in 2008, 2009, 2010, 2011 and 2012	2
Brown-chested Jungle Flycatcher (*Rhinomyias brunneatus*)	VU	Four records since 2006	3
Japanese Yellow Bunting (*Emberiza sulphurata*)	VU	Annual spring passage migrant. The first ever autumn records for Hong Kong occurred in 2007 with up to four birds, one of which had been ringed in Honshu, Japan, 34 days previously	4
Yellow-breasted Bunting (*Gorsachius melanolophus*)	EN	Almost annual passage migrant, records in 2006, 2007, 2008, 2010, 2011 and 2012	5

Species	**IUCN Red List Status**	**Remarks**	**Photo (Table 2.6)**
Japanese Quail (*Coturnix japonica*)	NT	Annual autumn passage migrant with one pair wintering on the south peninsular in winter 2009 to 2010	- - -
Eurasian Curlew (*Numenius arquata*)	NT	Records of birds on migration annually from 2007 to 2011	- - -
Japanese Paradise Flycatcher (*Terpsiphone atrocaudata*)	NT	Annual spring and autumn passage migrant	6
Swinhoe's Storm-petrel (*Oceanodroma monorhis*)	NT		- - -
Collared Crow (*Corvus torquatus*)	NT	Resident in Hong Kong, mostly recorded in New Territories	7
Ijima's Leaf Warbler (*Phylloscopus ijimae*)	VU	First record for mainland China and for Hong Kong	8

Table 2.6 Photos of globally threatened species recorded on Po Toi

		
1. Swinhoe's Egret (*Egretta eulophotes*)	2. Fairy Pitta (*Pitta nympha*)	3. Brown-chested Jungle Flycatcher (*Rhinomyias brunneatus*)

4. Japanese Yellow Bunting
(*Emberiza sulphurata*)

5. Yellow-breasted Bunting
(*Gorsachius melanolophus*)

6. Japanese Paradise Flycatcher
(*Terpsiphone atrocaudata*)

7. Collared Crow (*Corvus torquatus*)

8. Ijima's Leaf Warbler
(*Phylloscopus ijimae*)

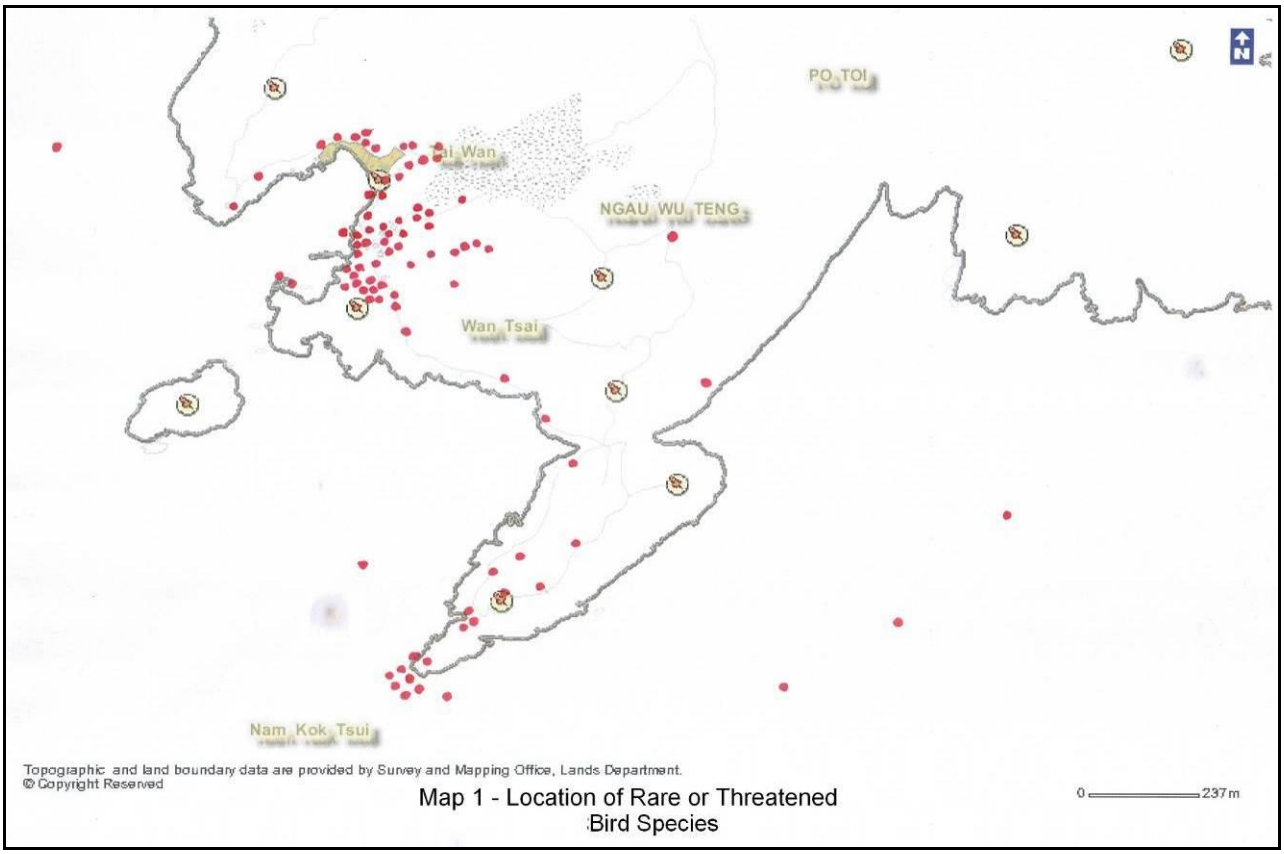


Figure 2.7 Location of rare or threatened bird species.

2.3.3 Seasonality of Species Diversity

The number of land bird and seabird species seen in each week of the year over the period 2006 to 2013 is shown in **Figures 2.8 and 2.9**. This shows that high diversity of up to 100 species could be observed in a single week, and this may have some implications for management on the island.

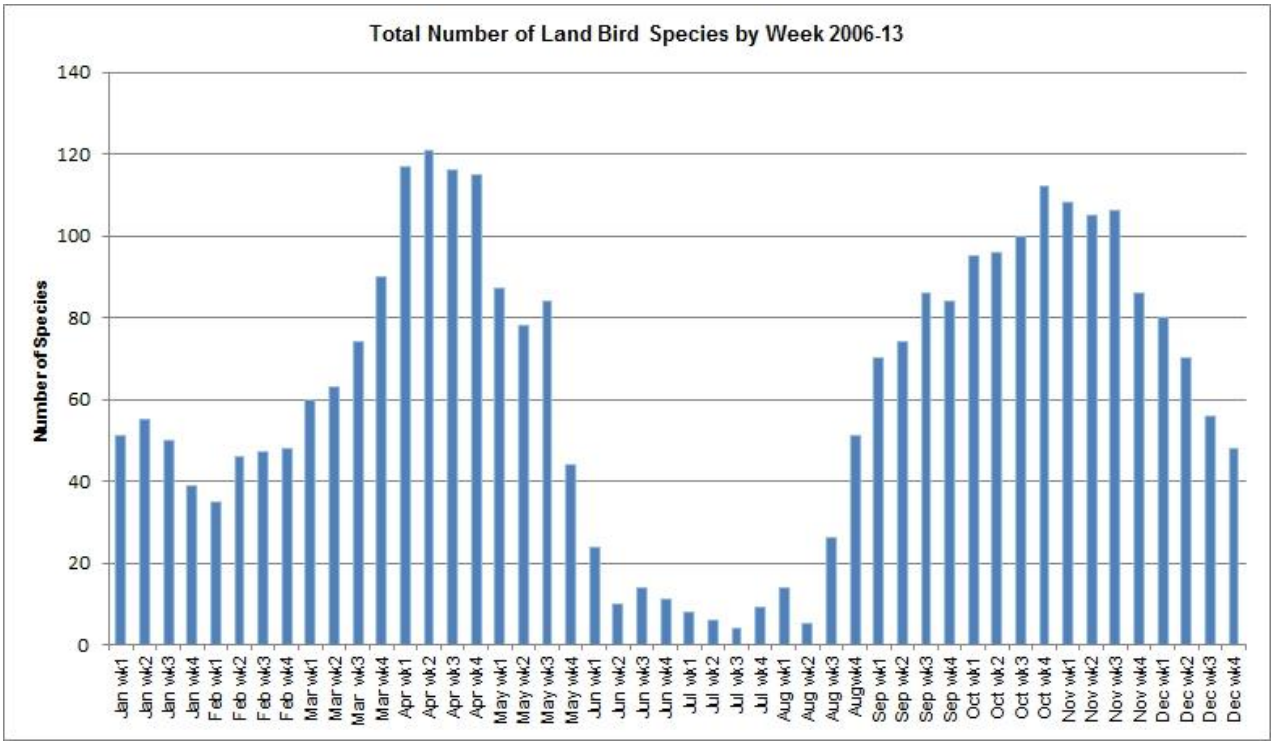


Figure 2.8. The Number of Species of Land Bird seen in each week over the period 2006 to 2013

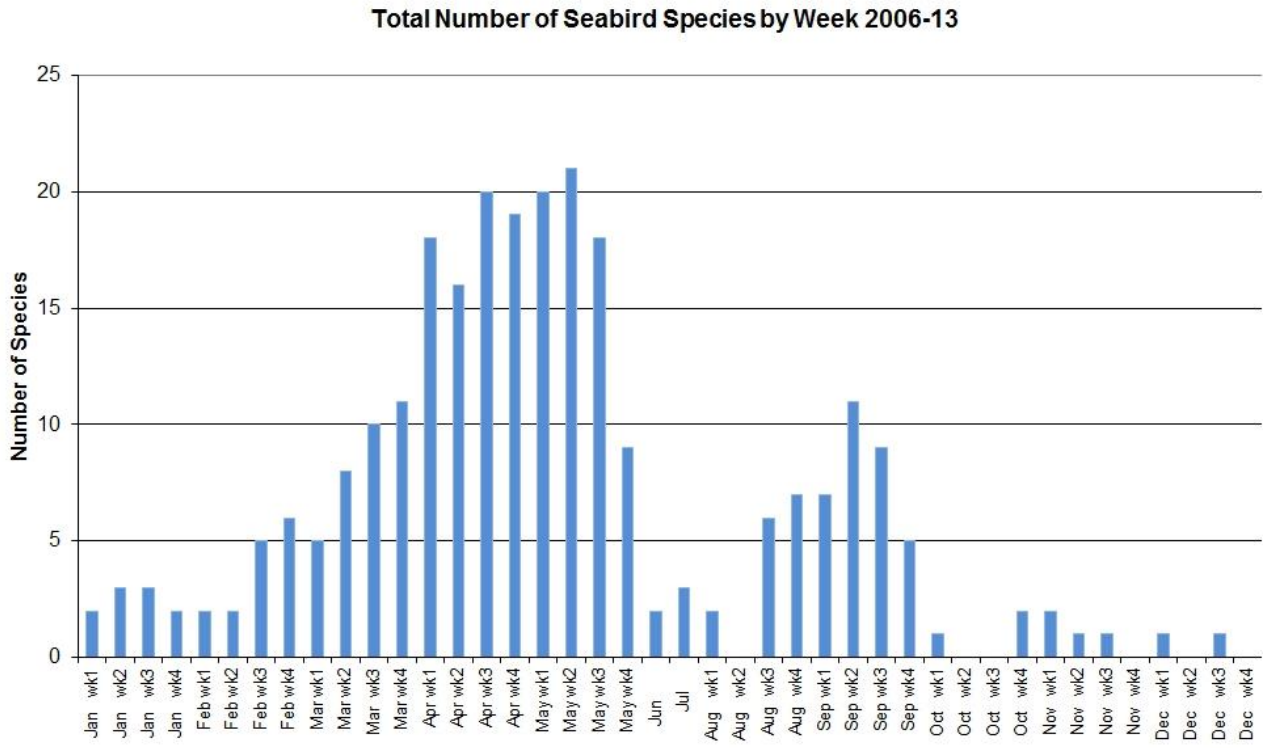


Figure 2.9. The Number of species of Seabird seen in each week over the period 2006 to 2013

2.4 Migrant 'Falls'

Weather has a serious effect on migrating birds, particularly when land birds flying over the sea encounter adverse winds and rain. This happens every year in spring when cold fronts or depressions pass through Hong Kong from the northeast and meet land birds migrating over the South China Sea from The Philippines and North Borneo (see **Figure 2.1**). These birds are nearing the end of a 36 hour overseas flight and many are desperate to find land. This results in very large numbers of birds suddenly appearing on the coast, in particular Po Toi because of its location. These are called 'falls' in ornithology. Typhoons can have a similar effect in both spring and autumn.

In these circumstances, migrants are desperate to reach land and Po Toi is a haven. Many do not reach land and fall into the sea. These occur every year and sometimes create Hong Kong record numbers of individual species. Po Toi is a spectacular haven for migrant birds on these occasions, and record numbers of many migrant species have been recorded there over the last few years.

The records of Migrant "Falls" are listed in **Tables 2.7 and 2.8**.

Table 2.7 Records of migrant "falls" on Po Toi

Date	Descriptions	Photo (Table 2.8)
15 & 16 April 2006	A total of over 1,000 Chinese Sparrowhawks (*Accipiter soloensis*) were seen over Po Toi, including 780 on 16th, a Hong Kong record day total	1
24 April 2006	A single flock of over 50 Common Sandpipers (*Actitis hypoleucos*) was in the harbour, a Hong Kong record day total	2
25 April 2006	83 Brown Shrikes (*Lanius cristatus*), a Hong Kong record, with individual birds all over the southern area and some recovered from the sea in a HKBWS boat trip.	3,4
17 May 2006	During the passage of Typhoon Chanchu, over 80 Streaked Shearwaters (*Calonectris leucomelas*), easily a Hong Kong record total, were amongst many seabirds feeding in waters around Po Toi.	5
27 March 2007	939 Red-necked Phalaropes (*Phalaropus lobatus*) passed the south point in a continuous two-hour movement	---
1 & 2 April 2008	142 Grey-faced Buzzards (*Butastur indicus*) passed through Po Toi including 98 on 2 April 2008	6,7

Date	Descriptions	Photo (Table 2.8)
1 & 2 April 2008 – 21 May 2008	In a major fall of small bitterns, 44 Yellow Bitterns (*Ixobrychus sinensis*), 29 Schrenck's Bitterns (*Ixobrychus eurhythmus*) including a unprecedented flock of 22, 2 Cinnamon Bittern (*Ixobrychus cinnamomeus*), 8 Black Bitterns (*Ixobrychus flavicollis*), 7 Striated Herons (*Butorides striata*) and a Malayan Night Heron (*Gorsachius melanolophus*) and a record count of 89 Brown Shrikes (*Lanius cristatus*) were all present on the island in a single day	8,9
15 April 2010	1,440 Chinese Sparrowhawks were seen over Po Toi in two hours, exceeding the Hong Kong record day total for this species set on 16 April 2006 above	5
9 September 2010	430 Aleutian Terns (*Sterna aleutica*) passed the south point following TS Lion Rock, around 5% of the world population of this species	10
10 November 2011	At least 16 Blue-and-white Flycatchers (*Cyanoptila cyanomelana*) were on the Island following the Tropical Depression Banyan.	11
10 May 2014	95 Brown Shrikes, a new Hong Kong record exceeding the number seen on 25 April 2006 above	3,4

Table 2.8 Photos of records of migrant "falls" on Po Toi

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2.5 Scientific value and international importance of Po Toi in migratory birds

Owing to the diversity of habitats together with its geographical location, Po Toi is therefore a crucial refuelling stop for a remarkable diversity of migratory birds. This consists of rare species in Hong Kong as well as internationally threatened species. There is no other offshore island in Hong Kong that attracts such a diversity of migratory birds.

For example, Po Toi is the location of the Hong Kong first record of the newly recognized species Zappey's Flycatcher (*Cyanoptila cumatilis*) which is formerly a subspecies of the Blue-and-white Flycatcher (*Cyanoptila cyanomelana*). The record on Po Toi sparked the interest of ornithologists to study the species in depth, and contributed to the discovery of the species[13].

2.5.1 Migration of Internationally threatened species

Po Toi is a prime and unique location for studying bird migration. Study of migratory birds provides information on aspects including migratory route, timing, habitat preference, etc. For example, a ringed Japanese Yellow Bunting (*Emberiza aureola*) photographed on Po Toi Island (**Figure 2.10**) revealed that it has flown over 3000 km from Japan to Hong Kong over a period of 34 days (**Figure 2.11**). This provides crucial information for this internationally threatened species, which is listed in the IUCN as “Vulnerable”.

Figure 2.10 A ringed Japanese Yellow Bunting (*Emberiza aureola*) photographed on Po Toi

[13] Paul Leader pers. comm..

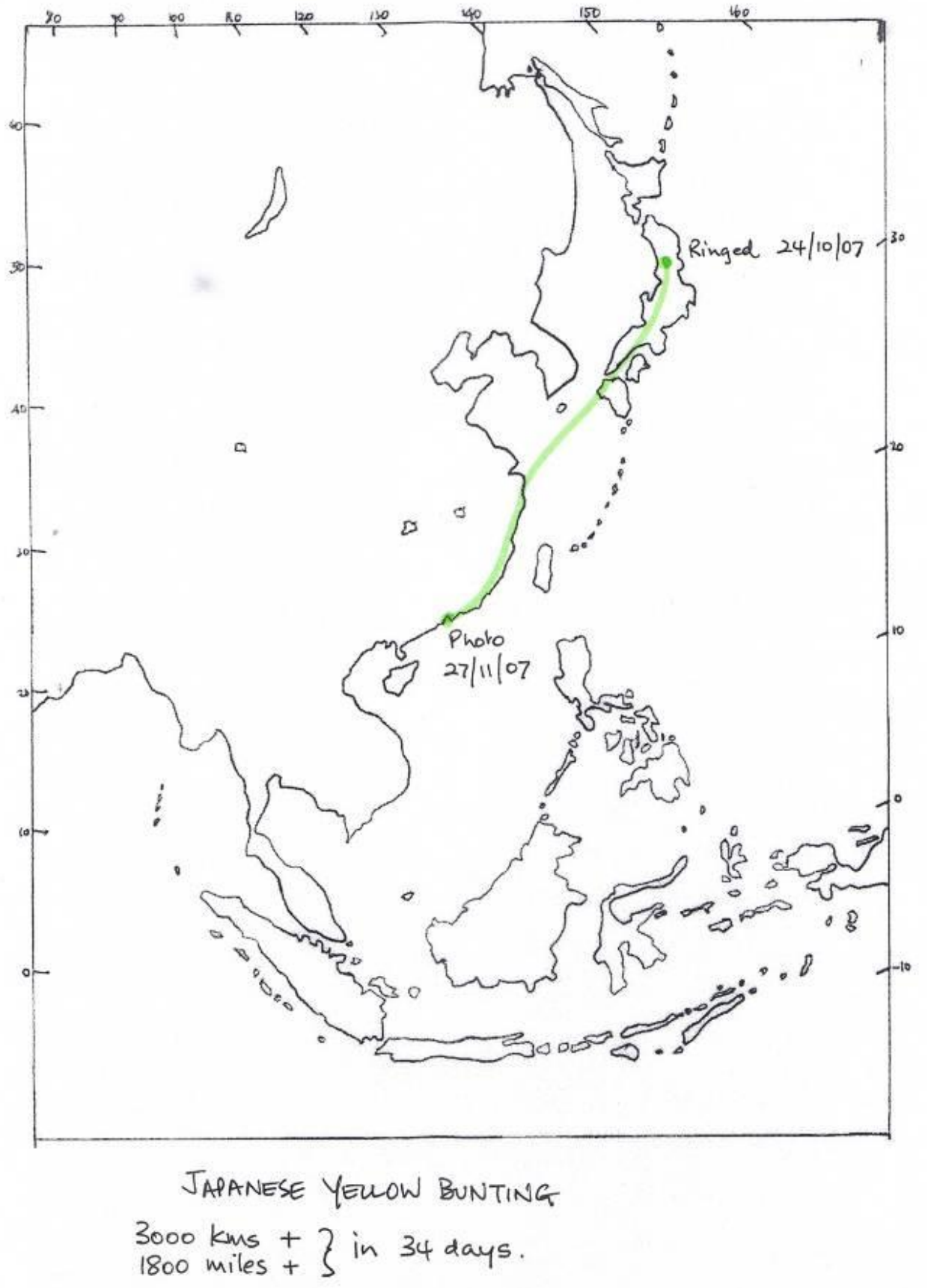

Figure 2.11 Possible migration route of the ringed Japanese Yellow Bunting

The proposed SSSI area on Po Toi has continued to be a major resting, recovery and feeding location for avian migrants of common and rare species in both seasons over the last two years. One indication of this comes from the fact that Fairy Pitta *Pitta nympha*, a Globally Vulnerable species in the IUCN Red List and a rarity in Hong Kong, has been recorded on Po Toi in every year between 2008 to 2014, all in a specific location within the proposed SSSI. Many other species could also be chosen to support this.

2.5.2 International importance in migratory bird study

In countries such as United Kingdom, Canada, Australia and USA, bird observatories would be set up at sites (e.g. Portland Bill, Fair Isle, Isle of May, Lundy Island, Calf of Man, and Spurn Point) which are important for migratory birds or at prime migration points[14]. A bird observatory is a centre for studying bird migration and bird populations. Bird Ringing and long-term monitoring would be carried out to provide important scientific information. Some of these sites in the UK such as Sanda Island, Bardsey Island and Lundy Island are designated as Sites of Special Scientific Interest.

Po Toi is an important site for migratory birds similar to the above examples, and it would have permanent bird observatories providing equipments and facilities for bird ringing and research.

The Convention of Migratory Species (CMS) Secretariat suggested that consideration on migratory species should be incorporated into the Biodiversity Strategies and Action Plans under the Convention on Biological Diversity[15]. Enhanced monitoring and research and establishment of Protected Areas have been suggested as useful measures[16]. Many of the species recorded on Po Toi has been listed as Appendix I or II under CMS (refer to **APPENDIX 1**), meaning that they are in danger of extinction or having unfavourable conservation status, and that enhanced conservation of the species and their habitats are needed[17]. Po Toi also holds a number of IUCN threatened species on their migration (refer to **Table 2.5**). Therefore, Po Toi is of international importance in conservation on migratory birds.

[14] http://www.birdobscouncil.org.uk/
[15] http://www.cbd.int/doc/nbsap/NBSAP-guidelines-CMS.pdf
[16] CMS Secretariat, 2011, Guidelines on the Integration of Migratory Species into National Biodiversity Strategies and Action Plans (NBSAPS).
http://www.cms.int/bodies/COP/cop10/docs_and_inf_docs/doc_27_guidelines_nbsap_e.pdf
[17] http://www.cms.int/documents/appendix/cms_app1_2.htm

2.6 Habitats for migratory birds on Po Toi and need of protection

Birds on migration require places where they can rest and feed to recover and prepare for their onward flight. Po Toi provides a variety of habitats for different species of birds.

The main areas for land bird migrants are the *Fung Shui* and old fruiting trees around Tai Wan village (**Figure 2.12**), the old school, the pier (**Figure 2.13**) and out towards the south peninsular and Mo's Old House which provide excellent feeding habitat with insects and fruit for small land birds. It should be noted that the important foraging habitats including several large trees are in proximity to the village and Tai Wan, and is overlapping with scattered houses and old building plots in Wan Tsai. (**Figures 2.14 and 2.15**). The lagoon behind the restaurant (**Figure 2.16**) is the primary location for small bitterns and other water birds.

Figure 2.12 Tai Wan Village

Figure 2.13 The pier

Figures 2.14 and 2.15 Abandoned Houses overgrown with vegetation and with mature trees in proximity to houses

Figure 2.16 Lagoon providing habitats for bitterns and water birds, fed by a permanent stream

However, most birds arrive on the south peninsular (Ngong Chong) (**Figure 2.17**) where they often make their first stop, subsequently moving through the scrubland between there and the central area (**Figure 2.18**) where they find the best feeding areas. These are needs to be protected to preserve the ecological linkage between the landing point and the feeding area near Tai Wan and Wan Tsai. Besides, scrubland is an important habitat for migratory land birds as they provide food source to them according to a research by Leven (2000)[18]. It may provide feeding habitats for a high diversity of migrant passerines such as flycatchers and warblers which may not be detected by direct observation.

Figure 2.17 Ngong Chong

Figure 2.18 Scrubland between Ngong Chong and Wan Tsai

The scrubland area between the south peninsular and the central area has been very badly affected by the recent clearance activity, as these before and after photos of the valley bottom (**Table 2.9**).

[18] Leven, M.R., 2000, Shrubland birds in Hong Kong: community structure, seasonality and diet. PhD Thesis, The University of Hong Kong.

Table 2.9 Before and after comparison of the affected area

Before	After
	
	
	

Seabird migration is best viewed from the south point of Nam Kok Tsui (**Figure 2.19**), overlooking the channel between there and the Dangan Islands.

Figure 2.19 Nam Kok Tsui is the best location for the observation of migrating seabirds

Habitats on Po Toi therefore require high level of protection. Habitat fragmentation and vegetation removal would lead to undesirable impacts to the ecological value of the island. The introduction of statutory planning control is therefore necessary. More importantly, the designation of Country Park empowers the Agriculture, Fisheries and Conservation Department to carry out management of habitats and control unfavourable activities (e.g. illegal collection of animals and vegetation removal).

3. Proposed Site of Special Scientific Interest and Country Park Designation

3.1 Assessment Criteria of conservation value

The following assessment criteria, including those recognized locally and internationally, have been considered in assessment of the ecological value of Po Toi:

- The Ratcliffe (1997) Criteria for assessing nature conservation value (Ratcliffe Criteria)[19], which is the most widely adopted criteria internationally;
- Technical Memorandum for the Environmental Impact Assessment Ordinance (Cap 499) (EIAO Criteria)[20];
- Hong Kong Countryside Foundation Project Assessment Criteria and Form (HKCF Criteria)[21] which is an update of the Ratcliffe Criteria and EIAO TM carried out by the Hong Kong Countryside Foundation in 2011.

3.2 Results

The assessments demonstrate that the conservation value of Po Toi is very high and is unique in Hong Kong. The assessment is shown in **Table 3.1**.

Table 3.1 Assessment of the conservation value of Po Toi using different criteria

Ratcliffe Criteria	**EIAO Criteria**	**HKCF Criteria**		**Po Toi Island**
Size	Size	Size		369 hectares
Diversity	Diversity Abundance/ Richness of Wildlife	Diversity	Abundance/Richness of species	Very high diversity (>300 species) and population of avifauna especially during migration season.
			Assemblages	Consists of migrants of forest, wetland and open area species
			Compared to regional data	High diversity compared to regional data

[19] Ratcliffe, D.A., 1977, *A Nature Conservation Review*, Cambridge University Press

[20] EIAO-TM, ANNEX 8.

[21] Barretto and Lau (unpublished), 2011, Hong Kong Countryside Foundation Project Assessment Criteria and Form

Ratcliffe Criteria	**EIAO Criteria**	**HKCF Criteria**		**Po Toi Island**
			Habitat diversity	High in habitat diversity (Section 2.6 of this document)
Naturalness	Naturalness	Naturalness		Largely natural except for small area of developed area.
Rarity	Rarity	Rarity of habitats and species, endemics		Many rare and internationally threatened bird species are found on the island. Natural breeding sites for the endemic and globally Endangered Romer's Tree Frog. Very rare species of butterfly (*Catochrysops strabo strabo*) are regularly observed.
Recorded History	Age	Recorded History	Age	From about 5 years to more than 30 years depends on habitat.
Fragility	Re-creatability	Fragility	Re-creatability	It is nearly impossible to re-create the whole island.
	Nursery/ Breeding Ground		Nursery/Breeding Ground	Breeding ground for Romer's Tree Frog and the very rare species of butterfly (*Catochrysops strabo strabo*).
Typicalness	- - -	Typicalness (any special combinations)		The habitat diversity and geographical location is unique in Hong Kong.
Position in an ecological / geographical unit	Fragmentation Ecological Linkage	Position in Ecological Unit and Function	Fragmentation	Fragmentation is negligible on island.
			Ecological Linkage	Act as an important ecological linkage of international importance for migratory avifauna, but some taxa groups are isolated from the mainland due to the island geography.

Ratcliffe Criteria	**EIAO Criteria**	**HKCF Criteria**	**Po Toi Island**
Intrinsic Appeal	- - -	Intrinsic Appeal (landscape, wilderness, heritage)	High as the island and its surrounding is largely natural. Attractive landscape and rock formations are found on the island, and heritages such as rock carvings are found.
Potential Value	Potential Value	Potential Value	High given adequate protection to allow natural succession of forest, and habitat management might be beneficial to migrant birds and Romer's Tree Frog.
	Overall Ecological Value	Overall Ecological Importance	**Very High and is unique in Hong Kong**

3.3 Justification of the proposed Site of Special Scientific Interest (SSSI)

This paper has confirmed that Po Toi has a special scientific interest and is of high conservation value.

According to Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 10[22], "*SSSIs may be land based or marine sites, which are of special interest because of their flora, fauna, geographical or geological features…Departments concerned with planning and development should be aware of the scientific importance of "SSSIs" and should ensure that due consideration is given to conservation when development at or near these sites is proposed. The AFCD should be consulted for any proposed development at or in the proximity of any SSSI*". Such arrangements in planning would be essential to maintain the "*high ecological and scientific values worthy of conservation*" on Po Toi, which is "*unique in Hong Kong*" as suggested by the Planning Department[23] and confirmed by this paper. There designation of a SSSI is therefore in line with the descriptions of Po Toi stated in the Notes of the Draft Po Toi Islands OZP.

Under the Environmental Impact Ordinance, some developments may constitute as designated projects and Environmental Permit is required. This would provide essential protection of the

[22] Hong Kong Planning Standards and guidelines (HKPSG) Chapter 10, available from: http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/full/ch10/ch10_text.htm
[23] Section 7.1.1 of the Explanatory Statement of the Draft Po Toi Islands OZP No. S/I-PTI/1

sensitive habitats in minimizing environmental impacts of works on or near ecologically sensitive habitats.

AFCD advised that the fundamental principles for SSSI selection were the uniqueness and scientific value of the site in a territory-wide context and its representativeness[24]. According to the previous assessment and information obtained by the HKBWS, Po Toi is qualified as a SSSI because it has high scientific and conservation value, is internationally important and is unique in Hong Kong.

3.4 The proposed SSSI

The planning intention of SSSI is "*to conserve and protect the features of special scientific interest such as rare or particular species of fauna and flora and their habitats, corals, woodlands, marshes or area of geological, ecological or botanical/biological interest which are designated as Site of Special Scientific Interest (SSSI). It intends to deter human activities or developments within the SSSI. There is a general presumption against development in this zone. No developments are permitted unless they are needed to support the conservation of the features of special scientific interest in the SSSI, to maintain and protect the existing character of the SSSI, or for educational and research purposes*"[25].

The proposed SSSI (**Figures 3.1 and 3.2**) covers areas where:

- Rare or threatened migrant bird species utilises and forages;
- Landing locations for migrant birds and ecological corridors on the island;
- Breeding sites and sites with high occurrence of the Global Endangered Romer's Tree Frog and the Globally Vulnerable Burmese Python;

[24] Minutes of 912th Meeting of the Town Planning Board held at 9.00 am on 30.5.2008
[25] Master Schedule of Notes - Site of Special Scientific Interest, available from: http://www.info.gov.hk/tpb/en/forms/Schedule_Notes/msn_sssi_e.pdf

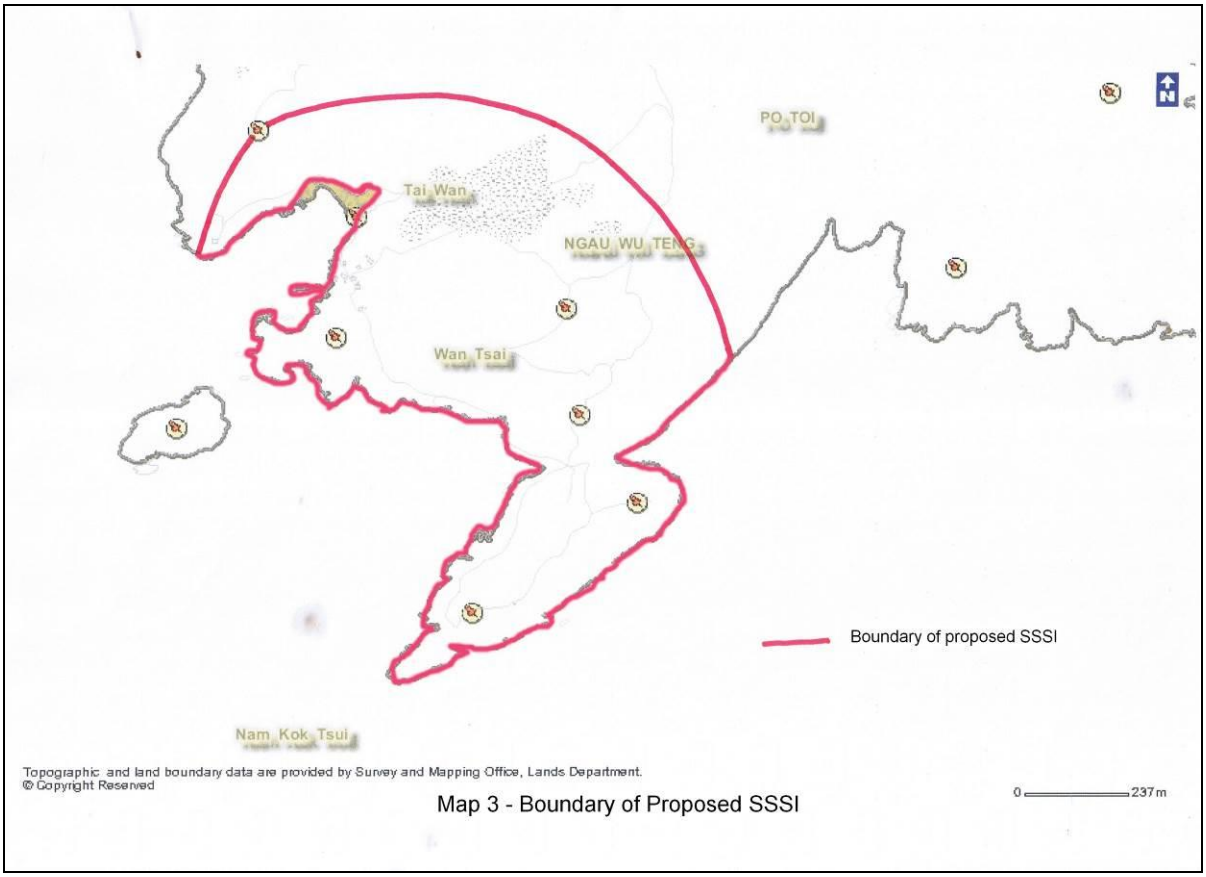

Figure 3.1 Boundary of the proposed SSSI

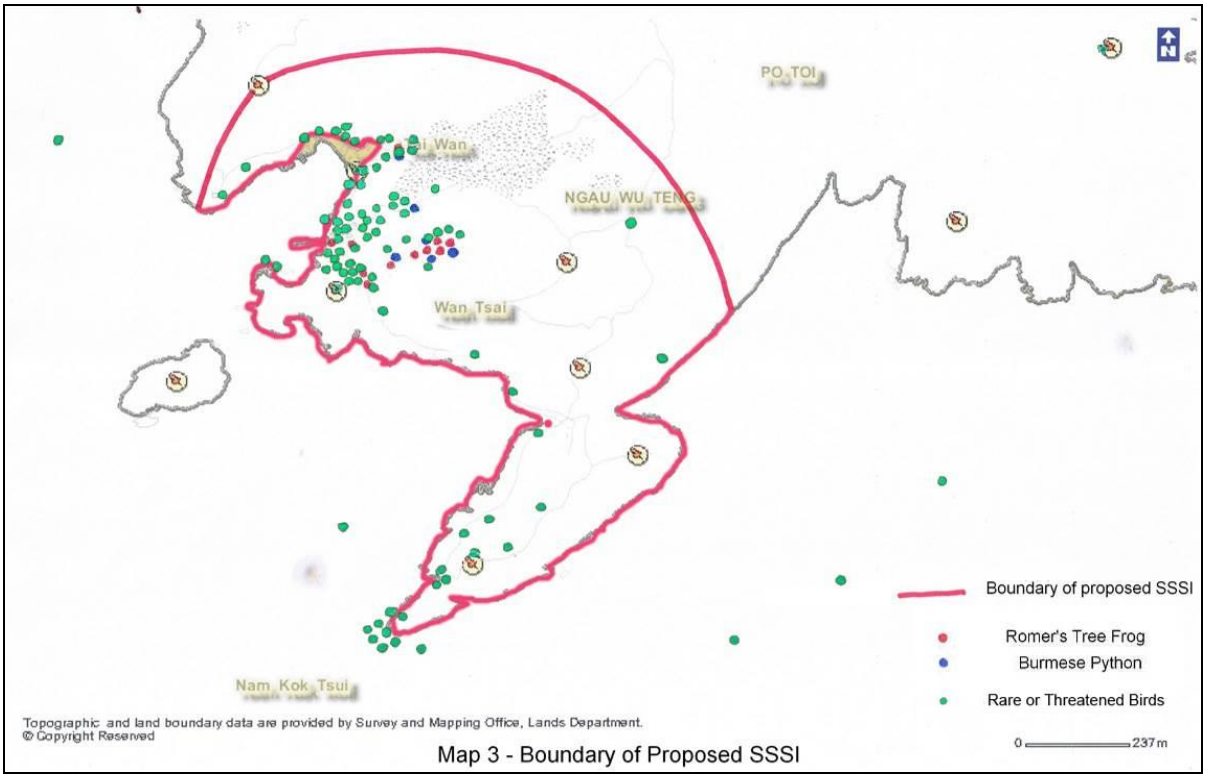

Figure 3.2 Boundary of the proposed SSSI and the location of the species of conservation interest recorded

Fewer rare or threatened birds are recorded at the southern proportion which is dominated by shrubland. This is probably due to limitations of survey methods, as some migrant passerines could be cryptic and difficult to be detected unless by mist net trapping. Leven (2000) proved that direct observation (point count) is "*inadequate to detect the full complement of bird species present in shrubland*"[26]. More study using (e.g. using mist-netting) might be required to assess the utilisation and diversity of migratory birds on the shrubland on Po Toi. Nevertheless, it is proved that the shrubland on Po Toi is providing important linkages for migratory birds and is an indispensable component of the ecosystem. It is also a prime site for studying bird migration. Therefore, it should also be zoned as SSSI.

However, it should be noted that the proposed SSSI may cover some designated burial grounds. Special considerations should be given to accompany the traditional needs of indigenous residents and fishermen based on Po Toi.

[26] P.140 of Leven, M.R., 2000, Shrubland birds in Hong Kong : community structure, seasonality and diet. PhD Thesis, The University of Hong Kong.

4. Importance of Po Toi Islands and surrounding waters

4.1 Importance of Po Toi Waters and Marine Ecology

The waters around Po Toi are still relatively unpolluted and support good populations of fish and other wildlife which provide a livelihood and recreational activity for many individuals.

Large shoals of fish can regularly be seen off the south-east coast. Finless Porpoise are common in these waters, particularly in spring when they migrate through the area, often in family parties with calves. The harbour at Tai Wan holds fish farms run by the few remaining Po Toi residents. Professional fishermen use the immediate off-shore with boats coming from Po Toi and Aberdeen to catch fish and dive for sea urchins. Po Toi residents continue to collect seaweed to dry and sell to weekend visitors. Recreational fishermen are regular visitors to Po Toi at all seasons and can always be seen around the harbour, on the shoreline down to Nam Kok Tsui or in small boats off the south and east coast.

Finless Porpoise (*Neophocaena phocaenoides*) (**Figure 4.1**) is regularly seen from the south point feeding in small parties off the south east coast of Po Toi in spring. These parties often include calves. According to the Hong Kong Dolphin Conservation Society, the waters in Po Toi Islands are regularly visited by finless porpoises[27]. The Humpback Whale (*Megaptera novaeangliae*) recorded in March 2009 (**Figure 4.2**) could be regularly seen from the west coast of Po Toi during its stay in HK waters.

Figure 4.1 Finless Porposie

Figure 4.2 Humpback Whale

[27] http://www.hkdcs.org/assets/files/whales_dolphins/section2_dandw_cihk_finless_poropoises.pdf

The SWNT DSR in 2001 also identifies the coastal waters of Po Toi Islands as Inshore Water Protection/Recreation Areas. The values of the area in terms of their natural coastal features, coral communities and marine organisms have been recognized. The study also suggests that low-density recreational developments that are properly managed could be considered for the area. The Po Toi Islands are suggested to be "significant areas" in both land and marine conservation as suggested by the Planning Department in 1998[28] (**Figure 4.3**). Based on information collected in recent years, in particular that of migratory birds, Po Toi should be considered as a "unique" area for conservation.

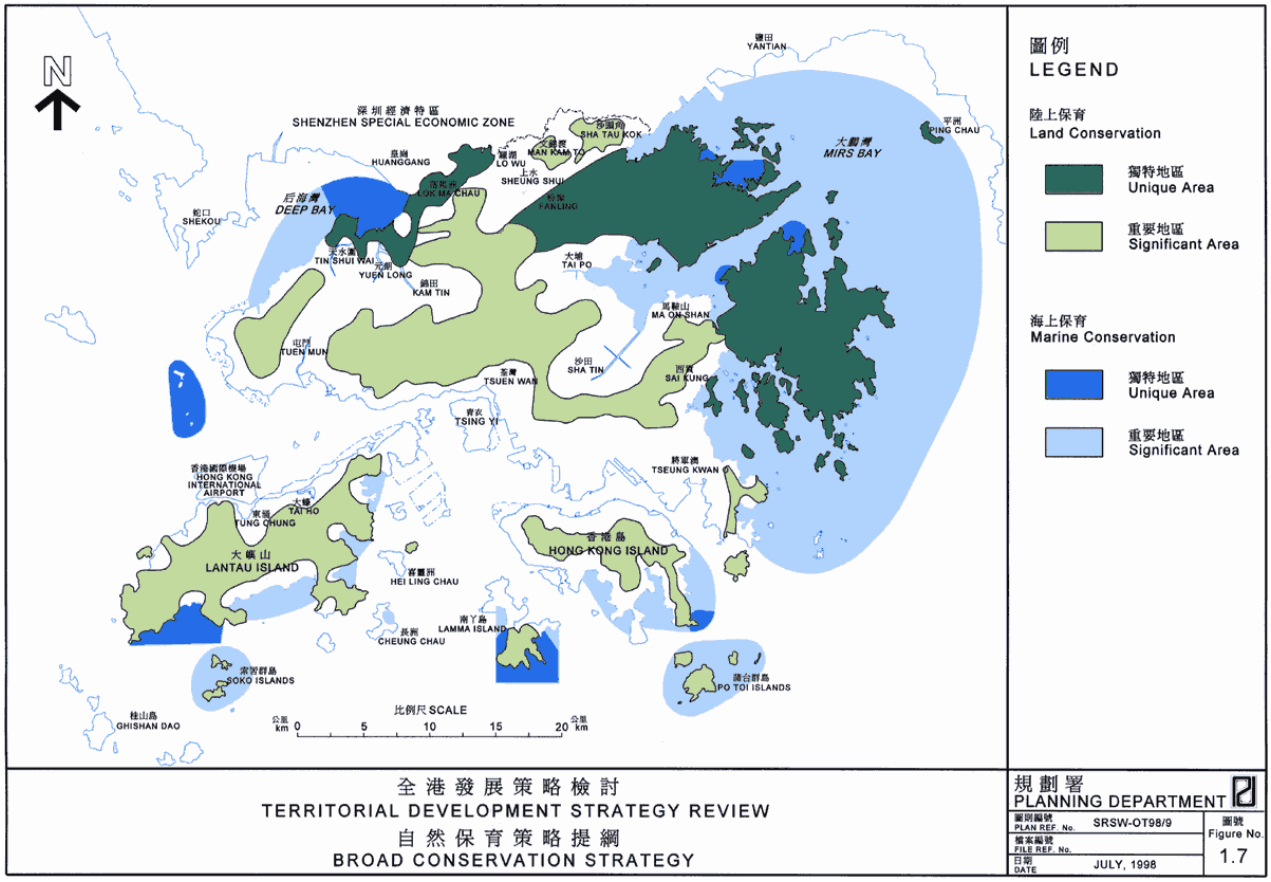

Figure 4.3 Territorial Development Strategy Review – Broad Conservation Strategy, taken from the SWNT DSR. The Po Toi Islands are suggested to be "significant areas" in marine conservation as suggested by the Planning Landscape Unit in 1993.

[28] Section 1.3 of the SWNT DSR, available from http://www.pland.gov.hk/pland_en/p_study/comp_s/swnt/final-report/1introduction.htm

4.2 Importance of the Po Toi Islands to breeding terns

Breeding colonies of terns are found on Waglan Island and Lo Chau Pak Pai. The healthiness of the surrounding marine ecosystem is crucial to their breeding success, as they largely depend on the surrounding waters for foraging. Breeding terns have foraging range from within 2 km of their colonies[29] to up to 15 km[30]. Therefore, the waters surrounding the Po Toi islands are important foraging areas for breeding terns. They should be protected and managed using an eco-system approach under the Convention on Biological Diversity[31].

4.3 Landscape value of the Po Toi Islands

The Po Toi Islands (Po Toi, Mat Chau, Beaufort Island, Sung Kong and Waglan Island) are of high landscape value as confirmed by the Planning Department (Landscape Value Mapping of Hong Kong) in its study completed in 2005. The overall landscape value of these islands as a whole is an important element of Po Toi's recreational value.

[29] http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=800
[30] http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=82845
[31] http://www.cbd.int/ecosystem/

5. Recreation, landscape and heritage value of Po Toi

5.1 Island History and population

Po Toi is a prehistoric site and has a fascinating history over the last 100 years reflecting that of Hong Kong, both pre WWII, during WWII when a Japanese outpost was stationed on the island and post WWII as a fishing village with over 1000 inhabitants declining through the last decades into a largely derelict village with a resident population of about 20[32]-100 persons[33].

5.2 Landscape and Geology

The total area of Po Toi is about 369 hectares. Existing settlements are concentrated in Tai Wan where there a recognized village and scattered houses are found near the Pier at Wan Chai. Secondary Forests with large *Fung Shui* trees are found in Tai Wan and Wan Chai in proximity to existing settlements and around the old Po Toi School. The rest of the island is covered by rocky outcrops, shrubs and grass.

The highest accessible peak on Po Toi is 188 metres and a relatively easy walk from Tai Wan Pier. Spectacular views can be obtained from here on clear days, reaching up to Ma On Shan and Pat Sing Leng in the north, the Lantau Island peaks in the west, the islands of Wanshan Qundao to the south and the South China Sea to the east.

Po Toi is largely granite, and the weathering of the rock has produced several remarkable rock formations which are of great interest to visitors. These include Buddha's Palm Cliff (**Figure 5.1**), Monk Rock and Tortoise Rock on the south peninsular and Coffin Rock near Ma's Old House, which could be accessed via a concrete trail.

5.3 Cultural heritage

A Spring Festival (太平清醮) including Chinese Opera and dragon-boat racing in the harbour is held every year in April. This attracts thousands of visitors (**Figure 5.2**).

Seaweed is also a famous product from Po Toi. Seaweed is being collected along the shore and is dried under the sun.

[32] HKBWS observation
[33] 7.3 of the Explanatory Statement of Draft Po Toi Islands Development Permission Area Plan (DPA/I-PTI/1)

The rock carvings on Po Toi are declared monuments which are believed to be more than 3000 years old.

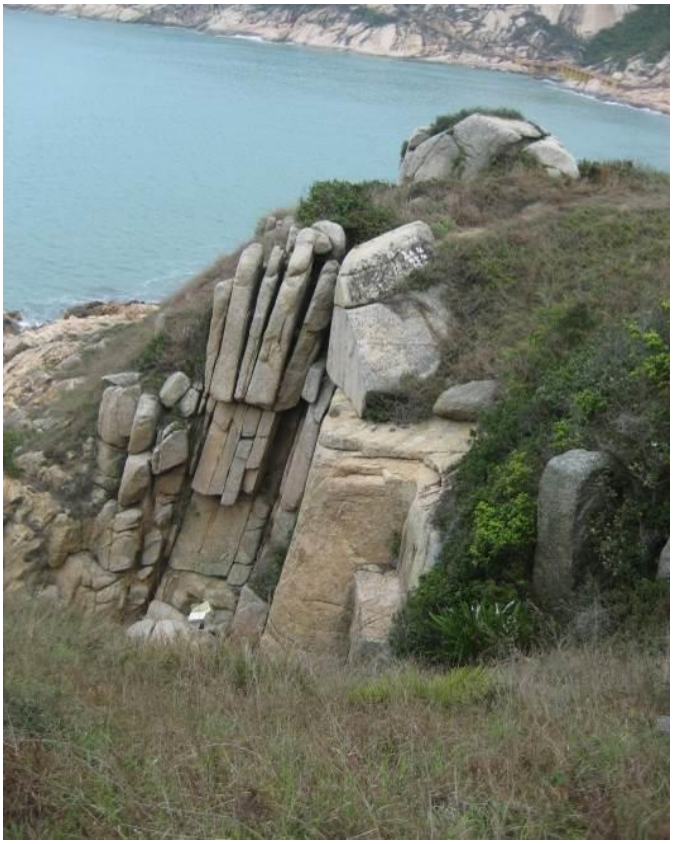

Figure 5.1 Buddha's Palm Cliff, one of several spectacular rock formations on Po Toi

Figure 5.2 The harbour on Festival Day

5.4 Recreational and educational activities

Wildlife photographers and bird watchers are very regular visitors to Po Toi, especially during the peak season for bird migration in spring and autumn. The HKBWS organises outing activities to Po Toi and nearby waters during spring and autumn (**Figure 5.3**).

Figure 5.3 HKBWS organises bird-watching outings to Po Toi Islands

Professional and recreational fishermen use the waters around Po Toi in large numbers.

Po Toi has largely unpolluted air and is far from bright lights at night, making it ideal for star-watchers and amateur astronomers.

Hiking and eco-tour groups, individual or organized, are regular, sometimes in large numbers particularly at weekends from spring to autumn. The Tsui Wah and Yau Ma Tei Ferry Companies operate weekly guided tours through the accessible southern part Po Toi between spring and autumn. Many casual visitors come to Po Toi from spring to autumn and the island can often be quite crowded, particularly at weekends and on festival days such as Ching Ming.

School groups are often seen on organized day trips.

5.5 Transport and utilities

Regular Ferry services are operated by the Tsui Wah Ferry Service on Tuesdays, Thrusdays, Saturdays, Sundays and Public Holidays. Addition boat services may be provided by the company such as during Spring Festival.

The Ming Kee Restaurant and other smaller cafes around the harbour are all popular and local residents sell snacks, drinks, local dried seaweed and other products to the visitors.

A public toilet is available at Tai Wan and portable toilets are provided near the pier at Wan Tsai as well as at Ngong Chong.

Water and electricity supply is limited and not stable in the island. If Country Park is designated, the AFCD would be responsible for provision of recreation and education facilities[34]. The designation would thus benefit both local residents and visitors, by provision of necessary infrastructures as well as increasing the number of tourists and visitors.

[34] http://www.afcd.gov.hk/english/country/cou_lea/the_facts.htm

6. Justification for Country Park Designation

6.1 The need of designating Po Toi Islands as Country Park

The introduction of planning control under the Town Planning Ordinance (Cap. 131) alone would not be adequate to fully protect the conservation value of Po Toi Islands. Activities that do not constitute a change in land use, such as clearance of vegetation, would not require planning approval from the Town Planning board. The designation of Country Park allows the Agriculture, Fisheries and Conservation Department to manage the site and control such activities under the Country Parks Ordinance (Cap. 208). This is essential in order to maintain the ecological value of the islands.

The department is also responsible for deploying resources to improve and manage the facilities on Po Toi Islands if they are designated as Country Park. This would benefit both residents and visitors and the environmental impact of provision or maintenance of facilities would be minimized under the supervision of the department. At present, rural small projects are approved by the District Council and co-ordinated by the Home Affairs Department under the District Minor Works (DMW) programme. The department and district councils often have limited knowledge on the protection of the sensitive environment, and concerns have been raised by Green Groups about the damage on environment by these works. For example, a work on Po Toi could be more environmental friendly if the work has avoided wet season which is unfavourable for work (**Figure 6.1**). These small projects would be more environmentally friendly and carefully planned if they are under the direct supervision of AFCD and the Country and Marine Parks Board.

Figure 6.1 A work carried out by the Home Affairs Department in 2012 on Po Toi Island, which introduced disturbances to the environment and migratory birds.

6.2 Justification of designating Po Toi Islands as Country Park

The South West New Territories Development Strategy Review (SWNT DSR) in 2001 has recommended the designation of Country Park. Po Toi is suitable for the designation of Country Park based on the Principles and Criteria for the Designation of New Country Parks, AFCD (2011)[35] (**Table 6.1**):

Table 6.1 Table showing that Po Toi Islands meet the criteria for designation of country parks

Principles and Criteria for the Designation of New Country Parks (AFCD 2011)	**Po Toi Islands**
I. Intrinsic Criteria	
A. Conservation value "*Areas with features of special biological, geological or historical interest or the presence of representative species or habitats of the territory have high conservation value, thus deserving special care and protection by designating them as country parks*".	As listed in Table 3.1 of this document, Po Toi Islands supports a high diversity of species of conservation interest which are special and unique in Hong Kong, including internationally threatened species such as Romer's Tree Frog and migratory birds. **The area is therefore high in conservation value and unique in Hong Kong, thus deserve special care and protection.**
B. Landscape and aesthetic value (a) degree of naturalness (b) scenic quality (c) the integrity, completeness, uniqueness of the topography (d) presence of distinctive, representative features of visual interest (e) effect or urban development and presence of eyesores	 (a) Po Toi Islands are largely natural with limited village development on Tai Wan, Po Toi. (b) The scenic quality has been recognized by the Planning Department in a territory-wide landscape mapping study. (c) The Po Toi Islands constitute a complete island landscape. (d) There are many geological features found on Po Toi, including many famous rock formations such as Turtle Rock and Buddha's Palm. (e) Po Toi Islands is a group of remote islands away from urbanised areas. Apart from the areas affected by recent suspected unauthorized developments, significant eyesores is absent. The Po Toi Islands therefore have **high landscape and aesthetic value.**

[35] http://www.afcd.gov.hk/english/aboutus/abt_adv/files/common/WP_CMPB_6_2011eng.pdf

Principles and Criteria for the Designation of New Country Parks (AFCD 2011)	**Po Toi Islands**
C. Recreational Potential *"..Usually, areas with potential to provide an optimal range of informal outdoor recreation for the general public are considered suitable as country parks…"*	Po Toi Island is served by ferry service and is a famous holiday destination for outdoor recreational activities such as hiking, wildlife watching and photography. These existing activities are compatible with the conservation of the biodiversity on the island. **The recreational potential of the Po Toi Island is considered high.**
II. Demarcation Criteria	
A. Size A country park usually comprises an extensive area of land of a continuous nature. Small or fragmented pockets of land not contiguous to existing country parks may not be suitable to be developed as country parks.	The Po Toi Islands covers a total area of 550ha and the Po Toi Island is about 370ha. It is smaller than the average size of a country park (1800ha) but larger than the average of a special area (100ha).
B. Proximity to existing Country Parks	Po Toi Islands is located in the South-east of Hong Kong. The closest country park is the Shek O Country Park which is about 2km from Beaufort Island and 3km from Po Toi.
C. Land status	**Most of the land on Po Toi Islands are government land**. Patches of private land are found in Tai Wan and Wan Tsai of Po Toi.
D. Land use compatibility	Apart from a small rural village and settlements on Tai Wan and Wan Tsai of Po Toi, the remaining of Po Toi Islands are largely natural and undeveloped. It is considered the **land uses are compatible with the Country Park setting.**
III. Protection Measures	
A. Country Park or Special area under the Country Parks Ordinance	Although the Po Toi Islands are largely government land, there are also small areas of private land on Po Toi which are of high ecological value. They form an integral part of the natural environment. Unfavourable developments would cause habitat loss and off-site disturbances, which would adversely affect the biodiversity and landscape value. In order to protect the integrity of

Principles and Criteria for the Designation of New Country Parks (AFCD 2011)	Po Toi Islands
	the environment, and that Po Toi serves the purposes of nature conservation, countryside recreation and nature education, it is suggested that the Po Toi Islands should be designated as Country Park.
B. Statutory plans under the Town Planning Ordinance	The Po Toi Islands Development Permission Area Plan serves as an interim measure to control incompatible developments. It is considered that Po Toi Islands meets the criteria of Country Parks and thus should be designated as a Country Park.
Conclusion	**The Po Toi Islands meet all of the Intrinsic Criteria and most of the Demarcation Criteria for country park designation.**

6.3 Our responsibilities under international conventions

The Convention of Biological Diversity (CBD) has been extended to Hong Kong in May 2011. Under the convention, the designation of Po Toi Islands as Country Park is in line with the targets of the convention (**Table 6.2**):

Table 6.2 Table showing that designation of Country Park and relevant CBD articles and targets

Article Text / Aichi Biodiversity Targets	*Designating Po Toi Islands as Country Park would:*
Article 8. In situ Conservation[36]	
(a) Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity;	Designate natural habitats which supports a rich biodiversity as a protected area and enrich Hong Kong's Country Park Network;
(b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity;	Allow active and resourced management measures as a protected area for conservation of biodiversity;

[36] http://www.cbd.int/convention/articles/?a=cbd-08

Article Text / Aichi Biodiversity Targets	***Designating Po Toi Islands as Country Park would:***
(c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;	Allow active and resourced management measures as a protected area for conservation of biodiversity;
(d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;	Allow active and resourced management measures carried out by the authority to conserve internationally important species;
(e) Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas;	Regulate developments under the supervision of the Country and Marine Parks Board, and protect the islands from urban developments; Promote sustainable developments such as eco-tourism
(h) Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species;	Allow management measures to control activities which may introduce exotic species to Po Toi Islands;
(i) Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components;	Provide necessary infrastructure or facilities for the sustainable use (recreational use) and regulate compatible activities/land uses on Po Toi;
(k) Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations;	Protect the sensitive habitats supporting threatened species in terms of statutory protection under Country Park Ordinance;
Article 11. Incentive Measures[37]	
Each Contracting Party shall, as far as possible and as appropriate, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity.	Promote sustainable use of biodiversity resources (e.g. eco-tourism) on the islands which would be beneficial for local residents;

[37] http://www.cbd.int/convention/articles/?a=cbd-11

Article 13. Public Education and Awareness[38]	
(a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes;	Promote the conservation of biodiversity, in particular Romer's Tree Frog, migratory birds and butterflies using educational means, e.g. information boards, nature education walks, guided tours, etc;
Aichi Biodiversity Targets[39]	
Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	Control activities such as vegetation clearance under Country Parks Ordinance and offer statutory protection for the islands in order to prevent habitat loss;
Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	Prevent and control exotic species which may adversely impact native biodiversity on the islands through management plans;
Target 11 By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	Enhance Hong Kong's protected area network by protecting the Po Toi Islands which is of unique conservation (biodiversity and landscape) value and is internationally important;
Target 12 By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	Adequately protect the habitats of threatened species (e.g. Romer's Tree Frog) and allow active management measures to protect these species from extinction.

[38] http://www.cbd.int/convention/articles/?a=cbd-13
[39] http://www.cbd.int/sp/targets/

6.4 The Chief Executive's election manifesto

The designation of Po Toi Islands as Country Park is in line with Policy Platform of Environment Protection and Conservation of the Chief Executive's election manifesto[40]:

Table 6.3 Table showing the designation of Po Toi Islands as Country Park is in line with the Chief Executive's election manifesto on Environment Protection and Conservation

The Chief Executive's election manifesto on Environment Protection and Conservation	***Designating Po Toi Islands as Country Park would:***
(a) re-examine our environmental protection policy from the perspective of sustainable development, take effective measures to provide a high quality living environment for the community and build Hong Kong into a modern livable city; (P.67)	Promote sustainable use of our natural resources, improve our living quality through conserving the important habitats and landscape for the enjoyment of Hong Kong People in the future, and is an important step for Hong Kong to become the top city in Asia in terms of Environmental Protection by fulfilling the requirements of the Convention on Biological Diversity.
11. Examine the 2004 Nature Conservation Policy in accordance with the Convention on Biological Diversity and formulate a comprehensive package of nature conservation policies in line with new circumstances. We will also compile an endangered species register and draw up corresponding protective measures; (P. 69)	Be a responsibility of Hong Kong under international conventions such as the Convention on Biological Diversity, and would also help to conserve locally or internationally endangered species;
12. We will refine the conservation and development of our country parks, extend coastal parks by phases, and develop other kinds of reserves to expand the ecological capacity of Hong Kong; (P.69)	Further develop our Country Park network, promote sustainable development and expand the ecological capacity of Hong Kong;
13. We will take steps to protect outstanding natural scenery as one of our nature conservation objectives, identify places of high scenic value in the territory and adopt appropriate protective measures; (P.69)	Protect the remote islands with is of outstanding natural landscape with the designation of CP is most appropriate and comprehensive protection measure;

[40] Leung, C.Y., 2012, Manifesto for the Chief Executive Election 2012: One Heart, One Vision

7. Public and local support

7.1 Public support in statutory consultation progress

During the exhibition period of the Draft Po Toi Islands Development Permission Area Plan, 82 representations and 619 comments supporting the plan were received by the Town Planning Board[41], including 12 Green Groups and Concern Groups. Most of these comments are supporting the conservation of biodiversity and landscape of the Po Toi Islands and raised concerns about the suspected unauthorized developments in the area.

7.2 Public support in internet campaigns

As of 27 April 2015, there are more than 1300 "likes" on the "支持蒲台郊野公園 Support Po Toi Country Park" Facebook Page[42]. Many members of the public showed their concern on Po Toi and shared their views and findings on the Facebook page. Moreover, more than 7,000 people participated in the online petition initiated by the HKBWS, mainly showing their concerns on the zonings proposed in the Draft Po Toi Islands OZP and their support in designation of Po Toi Islands as Country Park.

7.3 Local Support

A number of Po Toi residents and villagers also supported the conservation of Po Toi's environment and expressed deep concern on the suspected columbarium development. They have presented their views during the Town Planning Board hearing for the Draft Po Toi Islands Development Permission Area Plan on 28 September 2012, and prepared banners (**Figures 7.1 and 7.2**) expressing their concern.

[41] Minutes of 1020th Meeting of the Town Planning Board held on 28.9.2012
[42] http://www.facebook.com/SupportPoToi

Figure 7.1 One of the banners prepared by villagers being put on Po Toi

Figure 7.2 Banner prepared by villagers to oppose ecological destruction at Po Toi

8. Conclusion

Po Toi has high conservation value and scientific value which is unique in Hong Kong. Therefore, important habitats for migratory birds, Romer's Tree Frog and rare butterflies should be zoned as "Site of Special Scientific Interest" to reflect their conservation value.

Other areas such as hillside grassland and shrub land on Ngong Chong and the North-eastern part of the island should be protected because they are also important stop-over points for many migratory birds. These also include areas where special rock formations are found, where changes to landscape may have impacts on them.

The proposed SSSI is in line with the general planning intention of the Draft OZP and is essential for the conservation of Po Toi which is internationally important in biodiversity conservation.

Given the recreational, ecological, cultural and landscape value of the Po Toi Islands, designation of Country Park or Special Area are favourable options for the islands. The designation has been suggested by the Planning Department in 2001 and supported by AFCD. This would protect the conservation value of Po Toi Islands and allow biodiversity management in order to conserve and improve Po Toi's ecological value. The designation would benefit residents by the provision of necessary infrastructures as well as attracting more tourists and visitors.

The above proposal is supported by the Government, the general public and many local villagers. It is an important step towards the targets of the Convention on Biological Diversity and is in line with the Chief Executive's Policy Platform for environment protection and conservation.

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Disclaimer

APPENDIX I

List of bird species recorded on Po Toi and their conservation statuses

No.	English Name	Scientific Name	Chinese Name	IUCN Red List Status	China Red Data Book	CITES	PRC Protected Animal	Convention on Migratory Species	Fellowes *et al.* (2002)*
1	Japanese Quail	*Coturnix japonica*	鵪鶉	Near Threatened					LC
2	Garganey	*Anas querquedula*	白眉鴨					Appendix II	
3	Eurasian Teal	*Anas crecca*	綠翅鴨					Appendix II	RC
4	Red-breasted Merganser	*Mergus serrator*	紅胸秋沙鴨					Appendix II	LC
5	Red-throated Loon	*Gavia stellata*	紅喉潛鳥						
6	Streaked Shearwater	*Calonectris leucomelas*	白額鰹						
7	Short-tailed Shearwater	*Puffinus tenuirostris*	短尾鰹						
8	Little Grebe	*Tachybaptus ruficollis*	小鸊鷉						LC
9	Great Crested Grebe	*Podiceps cristatus*	鳳頭鸊鷉						RC
10	White-tailed Tropicbird	*Phaethon lepturus*	白尾鸉						
11	Black Stork	*Ciconia nigra*	黑鸛		Endangered	Appendix II	I	Appendix II	RC
12	Yellow Bittern	*Ixobrychus sinensis*	黃葦鳽						LC
13	Von Schrenck's Bittern	*Ixobrychus eurhythmus*	紫背葦鳽						RC
14	Cinnamon Bittern	*Ixobrychus cinnamomeus*	栗葦鳽						LC
15	Black Bittern	*Dupetor flavicollis*	黑鳽						LC
16	Malayan Night Heron	*Gorsachius melanolophus*	黑冠鳽		Endangered				
17	Black-crowned Night Heron	*Nycticorax nycticorax*	夜鷺						LC
18	Striated Heron	*Butorides striata*	綠鷺						LC
19	Chinese Pond Heron	*Ardeola bacchus*	池鷺						RC
20	Eastern Cattle Egret	*Bubulcus coromandus*	牛背鷺						LC
21	Grey Heron	*Ardea cinerea*	蒼鷺						PRC
22	Purple Heron	*Ardea purpurea*	草鷺						RC
23	Eastern Great Egret	*Ardea modesta*	大白鷺						RC
24	Intermediate Egret	*Egretta intermedia*	中白鷺						RC
25	Little Egret	*Egretta garzetta*	小白鷺						RC
26	Pacific Reef Heron	*Egretta sacra*	岩鷺		Rare		II		LC
27	Swinhoe's Egret	*Egretta eulophotes*	黃嘴白鷺	Vulnerable	Endangered		II	Appendix I	GC
28	Lesser Frigatebird	*Fregata ariel*	白斑軍艦鳥						
29	Masked Booby	*Sula dactylatra*	藍臉鰹鳥				II		
30	Brown Booby	*Sula leucogaster*	褐鰹鳥		Vulnerable		II		
31	Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀						PRC
32	Japanese Cormorant	*Phalacrocorax capillatus*	暗綠背鸕鷀		Rare				
33	Western Osprey	*Pandion haliaetus*	鶚		Rare	Appendix II	II	Appendix II	RC
34	Black Baza	*Aviceda leuphotes*	黑冠鵑隼			Appendix II	II	Appendix II	
35	Crested Honey Buzzard	*Pernis ptilorhynchus*	鳳頭蜂鷹		Vulnerable	Appendix II	II	Appendix II	LC
36	Black-winged Kite	*Elanus caeruleus*	黑翅鳶		Vulnerable	Appendix II	II	Appendix II	LC
37	Black Kite	*Milvus migrans*	黑鳶			Appendix II	II	Appendix II	RC
38	White-bellied Sea Eagle	*Haliaeetus leucogaster*	白腹海鵰		Indeterminate	Appendix II	II	Appendix II	RC
39	Crested Serpent Eagle	*Spilornis cheela*	蛇鵰		Vulnerable	Appendix II	II	Appendix II	LC
40	Eastern Marsh Harrier	*Circus spilonotus*	白腹鷐			Appendix II	II	Appendix II	LC
41	Crested Goshawk	*Accipiter trivirgatus*	鳳頭鷹		Rare	Appendix II	II	Appendix II	
42	Chinese Sparrowhawk	*Accipiter soloensis*	赤腹鷹			Appendix II	II	Appendix II	
43	Japanese Sparrowhawk	*Accipiter gularis*	日本松雀鷹			Appendix II	II	Appendix II	
44	Besra	*Accipiter virgatus*	松雀鷹			Appendix II	II	Appendix II	
45	Eurasian Sparrowhawk	*Accipiter nisus*	雀鷹			Appendix II	II	Appendix II	
46	Grey-faced Buzzard	*Butastur indicus*	灰臉鵟鷹		Rare	Appendix II	II	Appendix II	
47	Eastern Buzzard	*Buteo japonicus*	普通鵟			Appendix II	II	Appendix II	
48	Greater Spotted Eagle	*Aquila clanga*	烏鵰	Vulnerable	Rare	Appendix II	II	Appendix I	GC

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List of bird species recorded on Po Toi and their conservation statuses

No.	English Name	Scientific Name	Chinese Name	IUCN Red List Status	China Red Data Book	CITES	PRC Protected Animal	Convention on Migratory Species	Fellowes *et al.* (2002)*
49	Bonelli's Eagle	*Aquila fasciata*	白腹隼鵰		Rare	Appendix II	II	Appendix II	RC
50	Common Kestrel	*Falco tinnunculus*	紅隼			Appendix II	II	Appendix II	
51	Amur Falcon	*Falco amurensis*	阿穆爾隼			Appendix II	II	Appendix II	
52	Eurasian Hobby	*Falco subbuteo*	燕隼			Appendix II	II	Appendix II	LC
53	Peregrine Falcon	*Falco peregrinus*	遊隼			Appendix I	II	Appendix II	LC
54	Slaty-breasted Rail	*Gallirallus striatus*	灰胸秧雞						RC
55	Brown Crake	*Amaurornis akool*	紅腳苦惡鳥						LC
56	White-breasted Waterhen	*Amaurornis phoenicurus*	白胸苦惡鳥						
57	Baillon's Crake	*Porzana pusilla*	小田雞						
58	Ruddy-breasted Crake	*Porzana fusca*	紅胸田雞						LC
59	Watercock	*Gallicrex cinerea*	董雞						RC
60	Common Moorhen	*Gallinula chloropus*	黑水雞						
61	Yellow-legged Buttonquail	*Turnix tanki*	黃腳三趾鶉						
62	Barred Buttonquail	*Turnix suscitator*	棕三趾鶉		Indeterminate				
63	Black-winged Stilt	*Himantopus himantopus*	黑翅長腳鷸					Appendix II	RC
64	Grey-headed Lapwing	*Vanellus cinereus*	灰頭麥雞					Appendix II	LC
65	Pacific Golden Plover	*Pluvialis fulva*	太平洋金斑鴴					Appendix II	LC
66	Grey Plover	*Pluvialis squatarola*	灰斑鴴					Appendix II	RC
67	Little Ringed Plover	*Charadrius dubius*	金眶鴴					Appendix II	LC
68	Kentish Plover	*Charadrius alexandrinus*	環頸鴴					Appendix II	RC
69	Lesser Sand Plover	*Charadrius mongolus*	蒙古沙鴴					Appendix II	LC
70	Greater Sand Plover	*Charadrius leschenaultii*	鐵嘴沙鴴					Appendix II	RC
71	Pheasant-tailed Jacana	*Hydrophasianus chirurgus*	水雉						LC
72	Eurasian Woodcock	*Scolopax rusticola*	丘鷸					Appendix II	
73	Pintail Snipe	*Gallinago stenura*	針尾沙錐					Appendix II	
74	Common Snipe	*Gallinago gallinago*	扇尾沙錐					Appendix II	
75	Bar-tailed Godwit	*Limosa lapponica*	斑尾塍鷸					Appendix II	LC
76	Whimbrel	*Numenius phaeopus*	中杓鷸					Appendix II	LC
77	Eurasian Curlew	*Numenius arquata*	白腰杓鷸	Near Threatened				Appendix II	RC
78	Eastern Curlew	*Numenius madagascariensis*	紅腰杓鷸	Vulnerable				Appendix II	LC
79	Common Redshank	*Tringa totanus*	紅腳鷸					Appendix II	RC
80	Marsh Sandpiper	*Tringa stagnatilis*	澤鷸					Appendix II	RC
81	Common Greenshank	*Tringa nebularia*	青腳鷸					Appendix II	RC
82	Green Sandpiper	*Tringa ochropus*	白腰草鷸					Appendix II	
83	Wood Sandpiper	*Tringa glareola*	林鷸					Appendix II	LC
84	Grey-tailed Tattler	*Tringa brevipes*	灰尾漂鷸					Appendix II	LC
85	Terek Sandpiper	*Xenus cinereus*	翹嘴鷸					Appendix II	RC
86	Common Sandpiper	*Actitis hypoleucos*	磯鷸					Appendix II	
87	Ruddy Turnstone	*Arenaria interpres*	翻石鷸					Appendix II	LC
88	Great Knot	*Calidris tenuirostris*	大濱鷸	Vulnerable				Appendix II	LC
89	Red Knot	*Calidris canutus*	紅腹濱鷸					Appendix II	LC
90	Sanderling	*Calidris alba*	三趾濱鷸					Appendix II	LC
91	Red-necked Stint	*Calidris ruficollis*	紅頸濱鷸					Appendix II	LC
92	Sharp-tailed Sandpiper	*Calidris acuminata*	尖尾濱鷸					Appendix II	LC
93	Curlew Sandpiper	*Calidris ferruginea*	彎嘴濱鷸					Appendix II	RC
94	Red-necked Phalarope	*Phalaropus lobatus*	紅頸瓣蹼鷸					Appendix II	
95	Oriental Pratincole	*Glareola maldivarum*	普通燕鴴						LC
96	Black-legged Kittiwake	*Rissa tridactyla*	三趾鷗						

APPENDIX I

List of bird species recorded on Po Toi and their conservation statuses

No.	English Name	Scientific Name	Chinese Name	IUCN Red List Status	China Red Data Book	CITES	PRC Protected Animal	Convention on Migratory Species	Fellowes *et al.* (2002)*
97	Black-tailed Gull	*Larus crassirostris*	黑尾鷗						LC
98	Vega Gull	*Larus vegae*	織女銀鷗						
99	Caspian Gull	*Larus cachinnans*	黃腳銀鷗						LC
100	Slaty-backed Gull	*Larus schistisagus*	灰背鷗						
101	Heuglin's Gull	*Larus fuscus*	灰氏銀鷗						LC
102	Gull-billed Tern	*Gelochelidon nilotica*	鷗嘴噪鷗						
103	Caspian Tern	*Hydroprogne caspia*	紅嘴巨鷗						RC
104	Greater Crested Tern	*Thalasseus bergii*	大鳳頭燕鷗						
105	Little Tern	*Sternula albifrons*	白額燕鷗					Appendix II	LC
106	Aleutian Tern	*Onychoprion aleuticus*	白腰燕鷗						
107	Bridled Tern	*Onychoprion anaethetus*	褐翅燕鷗						LC
108	Sooty Tern	*Onychoprion fuscatus*	烏燕鷗						
109	Roseate Tern	*Sterna dougallii*	粉紅燕鷗						LC
110	Black-naped Tern	*Sterna sumatrana*	黑枕燕鷗						LC
111	Common Tern	*Sterna hirundo*	普通燕鷗						
112	Whiskered Tern	*Chlidonias hybrida*	鬚浮鷗						
113	White-winged Tern	*Chlidonias leucopterus*	白翅浮鷗						
114	Pomarine Skua	*Stercorarius pomarinus*	中賊鷗						
115	Parasitic Jaeger	*Stercorarius parasiticus*	短尾賊鷗						
116	Long-tailed Jaeger	*Stercorarius longicaudus*	長尾賊鷗						
117	Ancient Murrelet	*Synthliboramphus antiquus*	扁嘴海雀		Vulnerable				
118	Oriental Turtle Dove	*Streptopelia orientalis*	山斑鳩						
119	Red Turtle Dove	*Streptopelia tranquebarica*	火斑鳩						
120	Spotted Dove	*Spilopelia chinensis*	珠頸斑鳩						
121	Common Emerald Dove	*Chalcophaps indica*	綠翅金鳩		Vulnerable				
122	Orange-breasted Green Pigeon	*Treron bicinctus*	橙胸綠鳩		Rare		II		
123	Greater Coucal	*Centropus sinensis*	褐翅鴉鵑		Vulnerable		II		
124	Lesser Coucal	*Centropus bengalensis*	小鴉鵑		Vulnerable		II		
125	Chestnut-winged Cuckoo	*Clamator coromandus*	紅翅鳳頭鵑						
126	Asian Koel	*Eudynamys scolopaceus*	噪鵑						
127	Plaintive Cuckoo	*Cacomantis merulinus*	八聲杜鵑						
128	Square-tailed Drongo Cuckoo	*Surniculus lugubris*	烏鵑						
129	Large Hawk Cuckoo	*Hierococcyx sparverioides*	大鷹鵑						
130	Northern Hawk Cuckoo	*Hierococcyx hyperythrus*	北方鷹鵑						
131	Hodgson's Hawk Cuckoo	*Hierococcyx nisicolor*	霍氏鷹鵑						
132	Lesser Cuckoo	*Cuculus poliocephalus*	小杜鵑						
133	Indian Cuckoo	*Cuculus micropterus*	四聲杜鵑						
134	Oriental (Horsfield's) Cuckoo	*Cuculus optatus*	霍氏[中]杜鵑						
135	Common Cuckoo	*Cuculus canorus*	大杜鵑						
136	Collared Scops Owl	*Otus lettia*	領角鴞			Appendix II	II		
137	Oriental Scops Owl	*Otus sunia*	紅角鴞			Appendix II	II		
138	Eurasian Eagle Owl	*Bubo bubo*	雕鴞		Rare	Appendix II	II		RC
139	Northern Boobook	*Ninox scutulata*	鷹鴞			Appendix II	II		
140	Grey Nightjar	*Caprimulgus jotaka*	普通夜鷹						LC
141	Savanna Nightjar	*Caprimulgus affinis*	林夜鷹						
142	Himalayan Swiftlet	*Aerodramus brevirostris*	短嘴金絲燕						
143	White-throated Needletail	*Hirundapus caudacutus*	白喉針尾雨燕						
144	Silver-backed Needletail	*Hirundapus cochinchinensis*	灰喉針尾雨燕				II		

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No.	English Name	Scientific Name	Chinese Name	IUCN Red List Status	China Red Data Book	CITES	PRC Protected Animal	Convention on Migratory Species	Fellowes *et al.* (2002)*
145	Brown-backed Needletail	*Hirundapus giganteus*	褐背針尾雨燕						
146	Pacific Swift	*Apus pacificus*	白腰雨燕						LC
147	House Swift	*Apus nipalensis*	小白腰雨燕						
148	Oriental Dollarbird	*Eurystomus orientalis*	三寶鳥						
149	Ruddy Kingfisher	*Halcyon coromanda*	赤翡翠						
150	White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠						LC
151	Black-capped Kingfisher	*Halcyon pileata*	藍翡翠						LC
152	Common Kingfisher	*Alcedo atthis*	普通翠鳥						
153	Blue-tailed Bee-eater	*Merops philippinus*	栗喉蜂虎						
154	Blue-throated Bee-eater	*Merops viridis*	藍喉蜂虎						
155	Eurasian Hoopoe	*Upupa epops*	戴勝						
156	Eurasian Wryneck	*Jynx torquilla*	蟻鴷						
157	Fairy Pitta	*Pitta nympha*	仙八色鶇	Vulnerable	Rare	Appendix II	II		
158	Blue-winged Pitta	*Pitta moluccensis*	藍翅八色鶇				II		
159	Black-winged Cuckooshrike	*Coracina melaschistos*	暗灰鵙鷯						
160	Swinhoe's Minivet	*Pericrocotus cantonensis*	小灰山椒鳥						LC
161	Ashy Minivet	*Pericrocotus divaricatus*	灰山椒鳥						
162	Grey-chinned Minivet	*Pericrocotus solaris*	灰喉山椒鳥						LC
163	Scarlet Minivet	*Pericrocotus speciosus*	赤紅山椒鳥						
164	Tiger Shrike	*Lanius tigrinus*	虎紋伯勞						
165	Bull-headed Shrike	*Lanius bucephalus*	牛頭伯勞						
166	Brown Shrike	*Lanius cristatus*	紅尾伯勞						
167	Long-tailed Shrike	*Lanius schach*	棕背伯勞						
168	Black-naped Oriole	*Oriolus chinensis*	黑枕黃鸝						LC
169	Black Drongo	*Dicrurus macrocercus*	黑卷尾						
170	Ashy Drongo	*Dicrurus leucophaeus*	灰卷尾						LC
171	Hair-crested Drongo	*Dicrurus hottentottus*	髮冠卷尾						
172	Black-naped Monarch	*Hypothymis azurea*	黑枕王鶲						
173	Asian Paradise-Flycatcher	*Terpsiphone paradisi*	壽帶						LC
174	Japanese Paradise-Flycatcher	*Terpsiphone atrocaudata*	紫壽帶	Near Threatened					LC
175	Red-billed Blue Magpie	*Urocissa erythrorhyncha*	紅嘴藍鵲						
176	Eurasian Magpie	*Pica pica*	喜鵲						
177	Large-billed Crow	*Corvus macrorhynchos*	大嘴烏鴉						
178	Great Tit	*Parus major*	大山雀						
179	Eurasian Skylark	*Alauda arvensis*	雲雀						
180	Oriental Skylark	*Alauda gulgula*	小雲雀						LC
181	Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵯						
182	Chinese Bulbul	*Pycnonotus sinensis*	白頭鵯						
183	Sooty-headed Bulbul	*Pycnonotus aurigaster*	白喉紅臀鵯						
184	Chestnut Bulbul	*Hemixos castanonotus*	栗背短腳鵯						
185	Black Bulbul	*Hypsipetes leucocephalus*	黑短腳鵯						
186	Pale Martin	*Riparia diluta*	淡色沙燕						
187	Barn Swallow	*Hirundo rustica*	家燕						
188	Asian House Martin	*Delichon dasypus*	煙腹毛腳燕						
189	Red-rumped Swallow	*Cecropis daurica*	金腰燕						
190	Asian Stubtail	*Urosphena squameiceps*	鱗頭樹鶯						
191	Manchurian Bush Warbler	*Cettia canturians*	日本樹鶯						
192	Brown-flanked Bush Warbler	*Cettia fortipes*	強腳樹鶯						

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193	Mountain Tailorbird	*Phyllergates cucullatus*	金頭縫葉鶯						
194	Dusky Warbler	*Phylloscopus fuscatus*	褐柳鶯						
195	Radde's Warbler	*Phylloscopus schwarzi*	巨嘴柳鶯						
196	Pallas's Leaf Warbler	*Phylloscopus proregulus*	黃腰柳鶯						
197	Yellow-browed Warbler	*Phylloscopus inornatus*	黃眉柳鶯						
198	Hume's Leaf Warbler	*Phylloscopus humei*	淡眉柳鶯						
199	Arctic Warbler	*Phylloscopus borealis*	極北柳鶯						
200	Japanese Warbler	*Phylloscopus xanthodryas*	日本柳鶯						
201	Two-barred Warbler	*Phylloscopus plumbeitarsus*	暗綠柳鶯						
202	Pale-legged Leaf Warbler	*Phylloscopus tenellipes*	淡腳柳鶯						
203	Eastern Crowned Warbler	*Phylloscopus coronatus*	冕柳鶯						
204	Goodson's Leaf Warbler	*Phylloscopus goodsoni*	古氏[冠紋]柳鶯						LC
205	Sulphur-breasted Warbler	*Phylloscopus ricketti*	黑眉柳鶯						
206	White-spectacled Warbler	*Seicercus affinis*	白眶鵙鶯						
207	Bianchi's Warbler	*Seicercus valentini*	比氏鵙鶯						
208	Alstom's Warbler	*Seicercus soror*	純色尾鵙鶯						
209	Chestnut-crowned Warbler	*Seicercus castaniceps*	栗頭鵙鶯						
210	Oriental Reed Warbler	*Acrocephalus orientalis*	東方大葦鶯						
211	Black-browed Reed Warbler	*Acrocephalus bistrigiceps*	黑眉葦鶯						
212	Russet Bush Warbler	*Bradypterus mandelli*	高山短翅鶯						
213	Lanceolated Warbler	*Locustella lanceolata*	矛紋蝗鶯						
214	Pallas's Grasshopper Warbler	*Locustella certhiola*	小蝗鶯						LC
215	Zitting Cisticola	*Cisticola juncidis*	棕扇尾鶯						LC
216	Golden-headed Cisticola	*Cisticola exilis*	金頭扇尾鶯						LC
217	Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯						
218	Plain Prinia	*Prinia inornata*	純色鷦鶯						
219	Common Tailorbird	*Orthotomus sutorius*	長尾縫葉鶯						
220	Pygmy Wren-Babbler	*Pnoepyga pusilla*	小鱗胸鷦鸝						LC
221	Masked Laughingthrush	*Garrulax perspicillatus*	黑臉噪鸝						
222	Chestnut-flanked White-eye	*Zosterops erythropleurus*	紅脇繡眼鳥						
223	Japanese White-eye	*Zosterops japonicus*	暗綠繡眼鳥						
224	Crested Myna	*Acridotheres cristatellus*	八哥						
225	Common Myna	*Acridotheres tristis*	家八哥						
226	Red-billed Starling	*Spodiopsar sericeus*	絲光椋鳥						GC
227	White-cheeked Starling	*Spodiopsar cineraceus*	灰椋鳥						PRC
228	Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥						
229	Daurian Starling	*Agropsar sturninus*	北椋鳥						LC
230	Chestnut-cheeked Starling	*Agropsar philippensis*	紫背椋鳥						
231	White-shouldered Starling	*Sturnia sinensis*	灰背椋鳥						LC
232	Rosy Starling	*Pastor roseus*	粉紅椋鳥						
233	Common Starling	*Sturnus vulgaris*	紫翅椋鳥						LC
234	Blue Whistling Thrush	*Myophonus caeruleus*	紫嘯鶇						
235	Orange-headed Thrush	*Zoothera citrina*	橙頭地鶇						LC
236	White's Thrush	*Zoothera aurea*	虎斑地鶇						
237	Grey-backed Thrush	*Turdus hortulorum*	灰背鶇						
238	Japanese Thrush	*Turdus cardis*	烏灰鶇						
239	Common Blackbird	*Turdus merula*	烏鶇						
240	Eyebrowed Thrush	*Turdus obscurus*	白眉鶇						

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241	Pale Thrush	*Turdus pallidus*	白腹鶇						
242	Red-throated Thrush	*Turdus ruficollis*	赤頸鶇						
243	Dusky Thrush	*Turdus eunomus*	斑鶇						LC
244	Chinese Thrush	*Turdus mupinensis*	寶興歌鶇						
245	Lesser Shortwing	*Brachypteryx leucophrys*	白喉短翅鶇					Appendix II	LC
246	Japanese Robin	*Erithacus akahige*	日本歌鴝					Appendix II	
247	Bluethroat	*Luscinia svecica*	藍喉歌鴝					Appendix II	LC
248	Siberian Rubythroat	*Luscinia calliope*	紅喉歌鴝					Appendix II	
249	Siberian Blue Robin	*Luscinia cyane*	藍歌鴝					Appendix II	LC
250	Rufous-tailed Robin	*Luscinia sibilans*	紅尾歌鴝					Appendix II	
251	Red-flanked Bluetail	*Tarsiger cyanurus*	红脇藍尾鴝					Appendix II	
252	Oriental Magpie Robin	*Copsychus saularis*	鵲鴝					Appendix II	
253	Black Redstart	*Phoenicurus ochruros*	赭紅尾鴝					Appendix II	
254	Hodgson's Redstart	*Phoenicurus hodgsoni*	黑喉紅尾鴝					Appendix II	
255	Daurian Redstart	*Phoenicurus auroreus*	北紅尾鴝					Appendix II	
256	Plumbeous Water Redstart	*Rhyacornis fuliginosa*	紅尾水鴝					Appendix II	LC
257	Siberian Stonechat	*Saxicola maurus*	黑喉石(即鳥)					Appendix II	
258	Grey Bush Chat	*Saxicola ferreus*	灰林(即鳥)					Appendix II	LC
259	Blue Rock Thrush	*Monticola solitarius*	藍磯鶇					Appendix II	
260	White-throated Rock Thrush	*Monticola gularis*	白喉磯鶇					Appendix II	
261	Brown-chested Jungle Flycatcher	*Rhinomyias brunneatus*	白喉林鶲	Vulnerable				Appendix II	
262	Grey-streaked Flycatcher	*Muscicapa griseisticta*	灰紋鶲					Appendix II	
263	Dark-sided Flycatcher	*Muscicapa sibirica*	烏鶲					Appendix II	
264	Asian Brown Flycatcher	*Muscicapa dauurica*	北灰鶲					Appendix II	
265	Brown-breasted Flycatcher	*Muscicapa muttui*	褐胸鶲					Appendix II	
266	Ferruginous Flycatcher	*Muscicapa ferruginea*	棕尾褐鶲					Appendix II	PRC
267	Yellow-rumped Flycatcher	*Ficedula zanthopygia*	白眉姬鶲					Appendix II	
268	Narcissus Flycatcher	*Ficedula narcissina*	黃眉姬鶲					Appendix II	
269	Green-backed Flycatcher	*Ficedula elisae*	綠背姬鶲					Appendix II	
270	Mugimaki Flycatcher	*Ficedula mugimaki*	鴝姬鶲					Appendix II	
271	Rufous-gorgeted Flycatcher	*Ficedula strophiata*	橙胸姬鶲					Appendix II	
272	Red-breasted Flycatcher	*Ficedula parva*	紅胸姬鶲					Appendix II	
273	Red-throated Flycatcher	*Ficedula albicilla*	紅喉姬鶲					Appendix II	
274	Blue-and-white Flycatcher	*Cyanoptila cyanomelana*	白腹姬鶲					Appendix II	
275	Zappey's Flycatcher	*Cyanoptila cumatilis*	琉璃藍鶲						
276	Verditer Flycatcher	*Eumyias thalassinus*	銅藍鶲					Appendix II	
277	Hainan Blue Flycatcher	*Cyornis hainanus*	海南藍仙鶲					Appendix II	
278	Small Niltava	*Niltava macgrigoriae*	小仙鶲					Appendix II	
279	Grey-headed Canary-Flycatcher	*Culicicapa ceylonensis*	方尾鶲					Appendix II	LC
280	Fire-breasted Flowerpecker	*Dicaeum ignipectus*	紅胸啄花鳥						
281	Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	朱背啄花鳥						
282	Fork-tailed Sunbird	*Aethopyga christinae*	叉尾太陽鳥						
283	Eurasian Tree Sparrow	*Passer montanus*	樹麻雀						
284	White-rumped Munia	*Lonchura striata*	白腰文鳥						
285	Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥						
286	Forest Wagtail	*Dendronanthus indicus*	山鶺鴒						
287	Eastern Yellow Wagtail	*Motacilla tschutschensis*	黃鶺鴒						
288	Grey Wagtail	*Motacilla cinerea*	灰鶺鴒						

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289	White Wagtail	*Motacilla alba*	白鶺鴒						
290	Richard's Pipit	*Anthus richardi*	理氏鷚						
291	Olive-backed Pipit	*Anthus hodgsoni*	樹鷚						
292	Pechora Pipit	*Anthus gustavi*	北鷚						LC
293	Rosy Pipit	*Anthus roseatus*	粉紅胸鷚						
294	Red-throated Pipit	*Anthus cervinus*	紅喉鷚						LC
295	Buff-bellied Pipit	*Anthus rubescens*	黃腹鷚						LC
296	Brambling	*Fringilla montifringilla*	燕雀						
297	Grey-capped Greenfinch	*Carduelis sinica*	金翅雀						LC
298	Eurasian Siskin	*Carduelis spinus*	黃雀						
299	Common Rosefinch	*Carpodacus erythrinus*	普通朱雀						LC
300	Chinese Grosbeak	*Eophona migratoria*	黑尾蠟嘴雀						LC
301	Tristram's Bunting	*Emberiza tristrami*	白眉鵐						
302	Chestnut-eared Bunting	*Emberiza fucata*	栗耳鵐						LC
303	Little Bunting	*Emberiza pusilla*	小鵐						
304	Yellow-browed Bunting	*Emberiza chrysophrys*	黃眉鵐						
305	Rustic Bunting	*Emberiza rustica*	田鵐						
306	Yellow-throated Bunting	*Emberiza elegans*	黃喉鵐						
307	Yellow-breasted Bunting	*Emberiza aureola*	黃胸鵐	Endangered				Appendix I	RC
308	Chestnut Bunting	*Emberiza rutila*	栗鵐						
309	Black-headed Bunting	*Emberiza melanocephala*	黑頭鵐						
310	Japanese Yellow Bunting	*Emberiza sulphurata*	硫磺鵐	Vulnerable					GC
311	Black-faced Bunting	*Emberiza spodocephala*	灰頭鵐						
312	Bulwer's Petrel	*Bulweria bulwerii*	褐燕鷗						
313	Varied Tit	*Poecile varius*	雜色山雀						
314	Hawfinch	*Coccothraustes coccothraustes*	锡嘴雀						
315	Hill Blue Flycatcher	*Cyornis banyumas*	山藍仙鶲						
316	Whistling Green Pigeon	*Treron formosae*	紅頂綠鳩	Near Threatened					
317	Rosy Minivet	*Pericrocotus roseus*	粉紅山椒鳥						
318	Crow-billed Drongo	*Dicrurus annectans*	鴉嘴卷尾						
319	Collared Crow	*Corvus torquatus*	白頸鴉	Near Threatened					LC
320	Swinhoe's Storm-petrel	*Oceanodroma monorhis*		Near Threatened					
321	Brown Noddy	*Anous stolidus*							
322	White-bellied Green Pigeon	*Treron sieboldii*	紅翅綠鳩						
323	Ijima's Leaf Warbler	*Phylloscopus ijimae*	飯島柳鶯	Vulnerable					
324	Greater Painted-snipe	*Rostratula benghalensis*	彩鷸						LC
325	Black-headed Gull	*Larus ridibundus*	紅嘴鷗						PRC
326	Thick-billed Warbler	*Acrocephalus aedon*	厚嘴葦鶯						
327	Black-throated Tit	*Aegithalos concinnus*	紅頭長尾山雀						
328	Grey Treepie	*Dendrocitta formosae*	灰樹鵲						LC

* Fellow, J. R. et al. (2002). Wild animals to watch: terrestrial and freshwater fauna of conservation concern in Hong Kong. In Hodgkiss, I.J. (ed.). Memoirs of the Hong Kong Natural History Society, No. 19, Hong Kong. pp.123-159.

LC = Local Concern

RC = Regional Concern

PRC = Potential Regional Concern

PGC = Potential Global Concern

GC = Global Concern

APPENDIX 2 - List of butterfly species recorded on Po Toi by Green Power and other individual experienced butterfly surveyors during 2012-2014

*** Follows Lo and Hui (2010) *Hong Kong Butterflies***
 # Follows AFCD (2011) A Review of the Local Restrictedness of Hong Kong Butterflies. *Hong Kong Biodiversity - AFCD Newsletter* (21): 1-12

No.	Common Name*	Species Name#	Chinese Name	Fellowes et al 2002	Commonness#
1	**Brown Awl**	*Badamia exclamationis*	**尖翅弄蝶**	LC	VR
2	**Common Awl**	*Hasora badra*	**三斑趾弄蝶**	LC	VR
3	Formosan Swift	*Borbo cinnara*	秈弄蝶	-	C
4	Banana Skipper	*Erionota torus*	黃斑蕉弄蝶	-	UC
5	Tree Flitter	*Hyarotis adrastus*	希弄蝶	-	UC
6	Chestnut Bob	*Iambrix salsala*	雅弄蝶	-	UC
7	Restricted Demon	*Notocrypta curvifascia*	曲紋袖弄蝶	-	UC
8	Rare Swift	*Parnara ganga*	曲紋稻弄蝶	-	UC
9	Common Straight Swift	*Parnara guttata*	直紋稻弄蝶	-	C
10	Little Branded Swift	*Pelopidas agna*	南亞穀弄蝶	-	UC
11	Small Branded Swift	*Pelopidas mathias*	隱紋穀弄蝶	-	UC
12	Chinese Dart	*Potanthus confucius*	孔子黃室弄蝶	-	UC
13	Yellow Band Dart	*Potanthus pava*	寬紋黃室弄蝶	-	VR
14	**Common Dart**	*Potanthus pseudomaesa*	**木黃室弄蝶**	LC	R
15	Indian Palm Bob	*Suastus gremius*	素弄蝶	-	UC
16	Greenish Palm Dart	*Telicota ancilla*	紅翅長標弄蝶	-	UC
17	**Pale Palm Dart**	*Telicota colon*	**長標弄蝶**	LC	R
18	Chestnut Angle	*Odontoptilum angulatum*	角翅弄蝶	-	C
19	Silver Forget-me-not	*Catochrysops panormus*	藍咖灰蝶	-	VR
20	Forget-me-not	*Catochrysops strabo*	咖灰蝶	-	VR
21	Lime Blue	*Chilades lajus*	紫灰蝶	-	C
22	Gram Blue	*Euchrysops cnejus*	棕灰蝶	-	UC
23	Tailed Cupid	*Everes lacturnus*	長尾藍灰蝶	-	C
24	Dark Cerulean	*Jamides bochus*	雅灰蝶	-	C
25	Long-tailed Blue	*Lampides boeticus*	亮灰蝶	-	C
26	**Oriental Striped Blue**	*Leptotes plinius*	**細灰蝶**	LC	VR
27	Transparent 6-line Blue	*Nacaduba kurava*	古樓娜灰蝶	-	C
28	Pale Grass Blue	*Pseudozizeeria maha*	酢漿灰蝶	-	VC
29	**Pale Hedge Blue**	*Udara dilecta*	**珍貴嫵灰蝶**	LC	VR
30	Dark Grass Blue	*Zizeeria karsandra*	吉灰蝶	-	UC
31	Lesser Grass Blue	*Zizina otis*	毛眼灰蝶	-	C
32	Powdered Oak Blue	*Arhopala bazalus*	百媱灰蝶	-	R
33	**Burmese Bush Blue**	*Arhopala birmana*	**緬甸燒灰蝶**	LC	VR
34	Green Flash	*Artipe eryx*	綠灰蝶	-	UC
35	Silver Streak Blue	*Iraota timoleon*	鐵木萊異灰蝶	-	UC
36	Slate Flash	*Rapala manea*	燕灰蝶	-	C
37	Plum Judy	*Abisara echerius*	蛇目褐蜆蝶	-	VC
38	Large Faun	*Faunis eumeus*	串珠環蝶	-	C
39	Common Nawab	*Polyura athamas*	窄斑鳳尾蛱蝶	-	UC
40	Common Tiger	*Danaus genutia*	虎斑蝶	-	C
41	Common Indian Crow	*Euploea core*	幻紫斑蝶	-	C
42	Blue-spotted Crow	*Euploea midamus*	藍點紫斑蝶	-	VC
43	Striped Blue Crow	*Euploea mulciber*	異型紫斑蝶	-	UC
44	Ceylon Blue Glassy Tiger	*Ideopsis similis*	擬旖斑蝶	-	VC
45	Glassy Tiger	*Parantica aglea*	絹斑蝶	-	C
46	Chestnut Tiger	*Parantica sita*	大絹斑蝶	-	R
47	**Swinhoe's Chocolate Tiger**	*Parantica swinhoei*	**史氏絹斑蝶**	LC	VR
48	Blue Tiger	*Tirumala limniace*	青斑蝶	-	C
49	**Dark Blue Tiger**	*Tirumala septentrionis*	**黯青斑蝶**	LC	VR
50	Indian Fritillary	*Argyreus hyperbius*	斐豹蛱蝶	-	C
51	Red Lacewing	*Cethosia biblis*	紅鋸蛱蝶	-	UC
52	Rustic	*Cupha erymanthis*	黃襟蛱蝶	-	VC
53	Common Mapwing	*Cyrestis thyodamas*	網絲蛱蝶	-	C
54	Great Egg-fly	*Hypolimnas bolina*	幻紫斑蛱蝶	-	C
55	Chocolate Pansy	*Junonia iphita*	鉤翅眼蛱蝶	-	C
56	Lemon Pansy	*Junonia lemonias*	蛇眼蛱蝶	-	C
57	Blue Pansy	*Junonia orithya*	翠藍眼蛱蝶	-	UC
58	Blue Admiral	*Kaniska canace*	琉璃蛱蝶	-	C
59	Common Sailer	*Neptis hylas*	中環蛱蝶	-	VC
60	Short-banded Sailer	*Phaedyma columella*	柱菲蛱蝶	-	C
61	Common Leopard	*Phalanta phalantha*	珐蛱蝶	-	VR
62	Indian Red Admiral	*Vanessa indica*	大紅蛱蝶	-	UC
63	Common Palmfly	*Elymnias hypermnestra*	翠袖鋸眼蝶	-	C
64	Common Evening Brown	*Melanitis leda*	暮眼蝶	-	C
65	Dark-brand Bush Brown	*Mycalesis mineus*	小眉眼蝶	-	VC
66	South China Bush Brown	*Mycalesis zonata*	平頂眉眼蝶	-	C
67	Common Five-ring	*Ypthima baldus*	矍眼蝶	-	VC
68	Straight Five-ring	*Ypthima lisandra*	黎桑矍眼蝶	-	C
69	Common Mime	*Chilasa clytia*	斑鳳蝶	-	C
70	Tailed Jay	*Graphium agamemnon*	統帥青鳳蝶	-	C
71	Common Jay	*Graphium doson*	木蘭青鳳蝶	-	C
72	Common Bluebottle	*Graphium sarpedon*	青鳳蝶	-	VC
73	Chinese Peacock	*Papilio bianor*	碧鳳蝶	-	C
74	Lime Butterfly	*Papilio demoleus*	達摩鳳蝶	-	C
75	Red Helen	*Papilio helenus*	玉斑鳳蝶	-	VC
76	Great Mormon	*Papilio memnon*	美鳳蝶	-	VC
77	Paris Peacock	*Papilio paris*	巴黎翠鳳蝶	-	VC
78	Common Mormon	*Papilio polytes*	玉帶鳳蝶	-	VC
79	Spangle	*Papilio protenor*	藍鳳蝶	-	VC
80	Five-bar Swordtail	*Pathysa antiphates*	綠鳳蝶	-	C
81	Lemon Emigrant	*Catopsilia pomona*	遷粉蝶	-	C
82	Mottled Emigrant	*Catopsilia pyranthe*	梨花遷粉蝶	-	VC
83	Three-spot Grass Yellow	*Eurema blanda*	檗黃粉蝶	-	C
84	Common Grass Yellow	*Eurema hecabe*	寬邊黃粉蝶	-	VC
85	Common Gull	*Cepora nerissa*	黑脈園粉蝶	-	C
86	Red-base Jezebel	*Delias pasithoe*	報喜斑粉蝶	-	VC
87	Great Orange Tip	*Hebomoia glaucippe*	鶴頂粉蝶	-	C
88	Yellow Orange Tip	*Ixias pyrene*	橙粉蝶	-	UC
89	Indian Cabbage White	*Pieris canidia*	東方菜粉蝶	-	VC