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By email only

17 March 2016

香港觀鳥會
THE HONG KONG BIRD WATCHING SOCIETY
Since 1957 成立

Dear Sir/Madam,

Public consultation on Biodiversity Strategy and Acton Plan for Hong Kong

The Hong Kong Bird Watching Society (HKBWS) has been using a consistent set of headline indicators to monitor the state and progress of biodiversity conservation in Hong Kong for five consecutive years. From our latest report (please refer to Attachment 1), various headline indicators reflect a worrying trend for Hong Kong's biodiversity. Terrestrial habitats with conservation zonings continued to be trashed mostly to facilitate small house or residential development; little change in the long-running lack of a clear policy, effective mechanisms and adequate resources, thus leading to further ecological destruction of important habitats; extensive areas of marine habitats are threatened by reclamation plans; further declines in the number of waterbirds wintering in Deep Bay and Chinese White Dolphins are recorded.

The HKBWS considers that the formulation of Hong Kong's first Biodiversity Strategy and Action Plan (the Action Plan, BSAP) is a golden opportunity for Hong Kong to tackle the on-going environmental problems that we have been facing and to create a world-class framework for biodiversity conservation in the city. However, we consider that the current BSAP consultation document is not comprehensive and would like to highlight a few the key issues and recommended actions that should be included in the Action Plan.

Lack of active participation from other Government departments

Since the commencement of the BSAP engagement exercise with various environmental NGOs and academic sectors in 2013, the conservation team of Agriculture, Fisheries and Conservation Department has been taking the leading role. Yet, in order to successfully mainstream the concept of biodiversity conservation across various Government departments, a high level inter-departmental committee should be set up to steer and co-ordinate the biodiversity conservation actions of different departments, to monitor the implementation of the Action Plan, and to ensure adequate resources is earmarked for the Action Plan. We urge the Government to implement the BSAP with strong determination and ensure all policies and developments are in line with the mission and

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vision of Hong Kong's BSAP.

Failure protect habitats of high ecological value and species of conservation concern

Currently, sites and habitats of high ecological value (such as lowland rivers, freshwater wetlands and fung shui woodlands) and species of conservation concern are continuously threatened by various development projects or eco-vandalism activities. The Government should at least provide a clear policy direction, robust strategies and sufficient resources to enable effective enforcement of existing legislation. Below are several recommended actions to be taken:

1. Set up an inter-departmental nature conservation enforcement task force (including key implementing departments such as Agriculture, Fisheries and Conservation Department, Environmental Protection Department, Lands Department and Planning Department) to co-ordinate and oversees all enforcement cases and ensure all damaged sites are properly restored.

2. Protect sites and habitats of high ecological value through:
    i. designation of Country Parks
    ii. establishment of Management Agreement with landowners/tenants, or
    iii. establishment of a Nature Conservation Trust,

    which all of these may be facilitated by agreeing a method for non-in-situ exchange of recognised development rights where they exist.

3. Revising loopholes in the existing regulatory framework that hinder effective enforcement, specifically:
    i. absence of DPAs from existing OZPs under the Town Planning Ordinance,
    ii. conflicts of interest in administration of the EIA Ordinance,
    iii. approval of waste dumping in private land under the Waste Disposal Ordinance disregarding the ecological value of the site, and
    iv. sentencing guidelines which do not reflect the cost of ecological restoration of habitats or the market value and enforcement costs for species.

Other specific recommendations include:

4. Ban the trade in all wild-caught birds and strengthen licensing requirements of species raised in captivity for trade to minimise the adverse impacts on bird populations and public health caused by this trade.
5. Establish stringent chain of custody requirements for trade in all species for which Hong Kong plays a significant role, so as to minimise its impact on biodiversity in other jurisdictions that are consumed or traded through the city.

6. Promote local sustainable agriculture and fisheries, protect farmland and fishponds, and preserve traditional knowledge of cultivation and fish farming, in order to maintain a balance between local food production and habitat management for the benefit of birds and other wildlife.
7. Encourage and support researches related to nature conservation/management to fill in existing information gaps (e.g. study of globally threatened wetland-associated passerines species for which the Deep Bay area may be of significant stop-over or wintering site, long-term territory-wide standardized monitoring of breeding and non-breeding landbirds in Hong Kong).
8. Mainstream biodiversity conservation through admiring the nature (e.g. birdwatching) and incorporate it into the education curriculum.
9. Actively participate in regional and global conservation initiatives or collaborations to increase the conservation effectiveness (e.g. in respect of migratory birds) in Hong Kong.

Apart from the recommendations above, the HKBWS considers that the 400 and more specific actions recommended by experts and academics in different focus/working group during 2013 and 2014 should also be incorporated into the Action Plan. We urge the Government to take the leading role in conserving the natural treasure of Hong Kong such that the community as a whole can work towards an ecologically sustainable future.

Yours faithfully,

Woo Ming Chuan
Conservation Officer
The Hong Kong Bird Watching Society

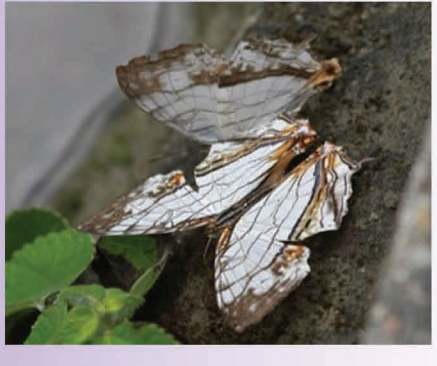
Attachment 1

Hong Kong Headline Indicators for Biodiversity & Conservation 2013 & 2014 Report (English and Chinese versions)

Hong Kong Headline Indicators for Biodiversity & Conservation

2013 & 2014 Report





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The Hong Kong Bird Watching Society

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RECOMMENDED CITATION

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Hong Kong Bird Watching Society was established in 1957 and is the only local civil society aiming at appreciation and conservation of Hong Kong birds and natural environment. It was recognized as an approved charitable institution of a public character in 2002. In 2013, the Society was recognized as a Partner of BirdLife International.

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Photos on cover page (from left to right, top to bottom)
1. Brown Tree Frog (*Polypedates megacephalus*) © Ivan Tse
2. Black-naped Monarch (*Hypothymis azurea*) © Allen Chan
3. Common Mapwing (*Cyrestis thyodamas chinensis*) © Chan Ka-ho
4. Small Asian Mongoose (*Herpestes javanicus rubrifrons*) © Chan Ka-ho
5. Asian Widow (*Palpopleura sexmaculata*) © Chan Ka-ho
6. Coral communities at Tung Ping Chau © Chiu Ming-ho
7. Pak Lap Wan © HKBWS
8. Vegetation clearance at Po Toi © HKBWS

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Environmental NGOs:

- Conservancy Association
- Designing Hong Kong
- Hong Kong Dolphin Conservation Society
- School of Biological Sciences, the University of Hong Kong
- Environmental Association Ltd
- WWF-Hong Kong

Hong Kong SAR Government Departments

- Agriculture, Fisheries and Conservation Department
- Drainage Services Department
- Environmental Protection Department
- Lands Department
- Planning Department

A special thanks goes to our wonderful volunteer, Ms. WONG Hok Sze, for translating this document to Chinese so that the information presented can reach other to a wider range of audience.

Contents

Introduction

In May 2011 the Convention on Biological Diversity (CBD) was formally extended to Hong Kong[1], opening a new page for nature conservation in the Special Administrative Region. Under the CBD the community is encouraged to formulate a Biodiversity Strategy and Action Plan (BSAP), which should be published, implemented, monitored, and reviewed. The Conference of the Parties of the CBD recognize the regular publication of headline indicators as an effective means to monitor and share information about the state and progress of biodiversity conservation and thus reflect the progress of a BSAP[2].

Selection of headline indicators

A draft set of indicators were suggested by Civic Exchange in its report *Nature Conservation: A new policy framework for Hong Kong*[3] ("*The Framework*") which was published in January 2011. These indicators were drafted based on discussions with environmental non-government organisations (EnvNGOs), academics, consultants, officials and other stakeholders. The indicators in this publication were based on the following criteria:

1. Are they consistent with the strategic objectives of the CBD and the Framework?
2. Are they scientifically robust?
3. Are they clearly defined, logical and easy to understand?
4. Could the information be readily obtained?
5. Are they easily comprehensible by the public?
6. Will they drive positive changes in biodiversity conservation?

Protecting our biodiversity also plays a critical role in retaining Hong Kong's position as the most liveable city in China. These indicators will provide a broad picture of the state of both biodiversity and conservation in Hong Kong. The Hong Kong Bird Watching Society (HKBWS) publishes these indicators every year so that the community can measure its progress in protecting, managing and enhancing our biodiversity in line with international best practice as expressed through the CBD.

Recommendations for actions that would improve Hong Kong's performance are added after each of the indicators. These are derived according to the current situation and are considered to be reasonably achievable.

Lack of data

The indicators also highlight areas where data should be collected in order for Hong Kong to have an accurate picture of its biodiversity and conservation initiatives. Most of the data gaps identified in the previous report remain unfilled. This year HKBWS continues to look for alternative data to provide partial information for these indicators.

A consistent set of indicators

The chosen indicators should be consistent so that results and trends can be tracked from year to year. Revision of the indicators may be required if improvements can be made, and they may be reviewed following thorough discussions when a formal BSAP for Hong Kong is prepared.

Biodiversity Conservation in Hong Kong in 2013 and 2014

The most significant event for conservation in Hong Kong during the two years covered by this report was the commencement by the Environment Bureau and the Department of Agriculture, Fisheries and Conservation of the development of a BSAP for Hong Kong[4]. This is an important milestone under Indicator 5.1, which measures the time before Hong Kong has an approved, resourced and actively managed BSAP. The HKBWS along with various NGOs actively participated in providing recommendations to be put forward in into the action plan. The voluntary involvement the community, including NGOs in various focus groups is critical in order to formulate a comprehensive plan with recommended actions. For example, assessment results from the Status and Trends and Red List Focus Group would not have been possible without experts from various NGOs with historical databases in their specialized fauna groups i.e. HKBWS, KFBG, etc. While the enthusiastic participation of the NGO and academic sectors has been encouraging, the lack of time and resources provided by Government to support the development of the BSAP has, with the exception of AFCD's conservation staff, been disappointing and does not augur well for the future rollout of the plan.

At the same time, a range of mostly development-related pressures continue to threaten Hong Kong's biodiversity. Terrestrial habitats that are either protected or due to be protected by appropriate landuse zonings continue to be trashed – mostly to facilitate small house development. There has been little change in the long-running lack of adequate plans, mechanisms and resources to prevent such destruction and to actively manage ecologically important habitats. At the same time, the reinterpretation of Green Belt as a zoning that facilitates rather than prevents

development has created a new and serious cause for concern (see page 18). Extensive areas of marine habitats are now threatened by new plans for reclamation. While the reasons remain unclear, and may well lie outside Hong Kong, further declines in the number of waterbirds wintering in Deep Bay and Chinese White Dolphins continue a worrying trend. Major gaps remain in the collection of data for all indicator species except birds and Chinese White Dolphins.

On a more positive note the Government's rejection of yet another proposal for a residential development at Nam Sang Wai has safeguarded this large area of fishponds in the Deep Bay Wetlands for now. Even more encouraging were the decisions of both the Legislative Council and the courts to include Tai Long Sai Wan within Sai Kung Country Park. These outcomes highlight the growing value the wider community attaches to conserving Hong Kong's natural heritage.

Looking forward

At the strategic level the completion of the BSAP development process will remain the most important opportunity to create a world-class framework for biodiversity conservation in Hong Kong. Key issues to watch:

1. the willingness of Government to participate in and provide resources to support the development of the BSAP,
2. the decisions regarding the degree of protection afforded to the Country Park Enclaves and other sites and habitats of high ecological value,
3. Government's solutions in mainstreaming conservation into wider government policy in the face of conflicting development needs, and
4. the development of a Red Data list for Hong Kong.

The Headline Biodiversity Conservation indicators – 2013 & 2014 update

Focus Areas and Indictors	Data year	Status in 2011	Status in 2012	Status in 2013	Progress in 2014
Focus Area 1: Community-based conservation					
1.1. Percentage of instances of illegal/unauthorized activity (trashing, trapping, collection, etc.) reported per year by environmental NGOs and verified sources (e.g. media and websites) where enforcement action led to a) successful prosecution, and b) restoration of ecological function	2009-2013	↓	↑	↓	↓
Focus Area 2: Establish (and strive to improve upon) accepted global best practices for the conservation and sustainable use of biological diversity in Hong Kong					
2.1 Percentage of taxa on a published Red Data List protected by law and covered by species action plans	2009-2013	↓	↔	↔	↔
Focus Area 3: Reversing the decline in native biodiversity					
3.1 Percentage of (terrestrial and marine) protected areas covered by published, resourced and active biodiversity management plans	2009-2013	↓	↑	↔	↔
3.2 Total area impacted by planning proposals that involves conservation zonings (SSSI, CA, CPA, GB, AGR)	2009-2013	↓	↔	↓	↓
3.3 Percentage of lowland rivers (below 200m) that (a) remain in natural state and (b) are impacted by channelization	2006-2013 (partly)	?	↓	↓	↓

Focus Areas and Indictors		Data year	Status in 2011	Status in 2012	Status in 2013	Progress in 2014
3.4 Trends in number and populations of known alien invasive species	a) House Crow	2007-2013	↔	↔	↔	↑ *
	b) Apple Snail	...	?	?	?	?
	c) Mikania	...	?	?	?	?
3.5 Trends in populations of flagship and umbrella species	a) Waterbirds	2006-2013	↔	↓	↔	↓ *
	b) Chinese White Dolphin	2006-2013	↓	↔	↔	↔
	c) Breeding egrets and herons	2006-2013	↓	↔	↔	↔ *
	d) Dragonfly diversity and abundance	...	?	?	?	?
	e) Big-headed Turtle	...	↓	?	?	?
	f) Buddha Pine	...	?	?	?	?
	g) Grassland Orchid	...	?	?	?	?
Focus Area 4: Reversing impacts on global biodiversity						
4.1 Hong Kong's ecological footprint		2005, 2007-2008	↓	?	?	↓
4.2 Change in greenhouse gas emissions attributable to Hong Kong		2005-2010	?	↔	↔	↔

Focus Areas and Indictors	Data year	Status in 2011	Status in 2012	Progress in 2013	Progress in 2014
Focus Area 5: Plans & resources for biodiversity conservation					
5.1 In how many months' time will an approved, resourced, and active BSAP that meets the principles and standards of the CBD be in place?	N/A	↓	↑	↑	↑

**Natural fluctuations occur for some indicators. The figures are compared to the mean value and standard deviations of previous years. A difference is larger than 2 standard deviations is considered to represent a significant change.*

*** The report is structured in that the reporting year is one year proceeding the year of which the data is obtained*

Legend and Summary		
Deterioration since previous year	↓	5
Same situation as previous year	↔	5
Improvement since previous year	↑	2
Insufficient Information	?	6

Results and Discussion

1. Community-based conservation

1.1. Percentage of instances of illegal/unauthorized activity (trashing, trapping, collection, etc.) reported per year by environmental NGOs and verified sources (e.g. media and websites) where enforcement action led to a) successful prosecution, and b) restoration of ecological function.

Table 1.1a Information from EnvNGOs and other verified sources

	2009	2010	2011	2012	2013
Involved sites (cases)	37	35	27	26	33
Successful prosecution	2 (5.4%)	3 (8.5%)	0 (0%)	0 (0%)	1 (3%)
Restoration of ecological function	none confirmed	none confirmed	none confirmed	none confirmed	none confirmed

Table 1.1b Information from Planning Department and Lands Department regarding unauthorized developments (UD) in rural areas[5]

	2009	2010	2011	2012	2013
No. of complaints received	644	604	778	870	944
Confirmed cases of UD*	115	100	148	138	113
Enforcement not possible under Town Planning Ordinance due to absence of DPA plans	37	23	46	41	22
Successful prosecutions	6 (5.2%)	3 (3%)	1 (0.6%)	2 (1.5%)	0 (0%)

** The Planning Department has issued enforcement notices for all of the cases.*

Table 1.1c Information from AFCD on illegal activities in Country Parks[6]

	2009	2010	2011	2012	2013
No. of reports	12	26	64*	67	96
Successful prosecutions	1 (8.3%)	7 (27%)	29 (45.3%)	22 (32.8%)	9 (9.4%)**

** 39 cases are reported by public and 25 cases detected by AFCD staff*

*** Some cases are still open for investigation as of January 2014*

Discussion

2013 saw an increase in reported unauthorized activities both inside and outside the Country Parks. Overall, successful prosecutions continue to remain low. In 2013, there was a decrease in the number of cases that could not be pursued under the Town Planning Ordinance due to the absence of Development Permission Areas Plans. This may be a positive outcome of the Government's action to extend planning protection to formerly unprotected sites.

Illegal activities in Country Parks increased substantially while successful prosecutions remain low. Illegal harvesting of Incense Trees (*Aquilara sinensis*) has become increasingly common[7].

There continue to be no confirmed cases of restoration of ecological function. While in some cases there is no authority to require or carry out reinstatement of any kind, in other cases dumped material was removed, but this cannot be classified as restoration of ecological function. It is suggested that the EnvNGOs should re-visit affected sites after some time in order to observe habitat conditions. Without restoration, enforcement serves only as a deterrent and provides no reversal of the harm that has been done. A mechanism that can truly deliver a restoration of ecological function is urgently needed.

The Planning Department should continue to designate Development Permission Areas Plans where plans are absent. Restoration opportunities at damaged sites should be explored by AFCD.

2. Establish (and strive to improve upon) accepted global best practices for the conservation and sustainable use of biological diversity in Hong Kong

2.1 Percentage of taxa on a published Red Data List protected by law and covered by species action plans

Table 2.1a Threatened Species and their conservation in Hong Kong

	2009	2010	2011	2012	2013
Threatened species listed in IUCN Red List (CR, EN, VU)	73*	75*	75*	76**	76
Covered by action plans (incl. global action plans)[8]	3 (4.2%)	3 (4.0%)	3 (4.0%)	3 (3.9%)	3 (3.9%)
Species-specific conservation actions[9]	2 (2.9%)	2 (2.8%)	3 (4.2%)	3 (4.2%)	3 (4.2%)
Species protected by law (Cap. 96, 170***, 586)	45* (60%)	45* (60%)	45 (60%)	46 (60.5%)	46 (60.5%)

* *Figures have been revised and differ slightly from previous reports*

** *The change of IUCN status for Burmese Python is reflected in the 2012 figure, whilst the change in status of Yellow-breasted Bunting does not affect these figures*

***All birds are protected by law (Cap. 170)*

Discussion

The key reference for the conservation status of fauna in Hong Kong is *Fauna of Conservation Concern* by Fellowes *et al*. This paper is over ten years old and covers only terrestrial species[10]. Fortunately, a Hong Kong Red List that will cover both terrestrial and marine species is being prepared as part of the BSAP process. However, information gaps still exist for all fauna groups due to the lack of available information. As for marine fishes and fauna groups of lower trophic levels (i.e. algae, lower plants, lichens and many invertebrate groups) little to no information is currently available that would allow a Red List assessment to be conducted.

There was a slight increase in the number of threatened species listed by the Hong Kong SAR Government since 2012. Despite their existing local protection, Yellow-breasted Bunting (*Emberiza aureola*) and Burmese Python (*Python bivittatus*) were both uplisted by IUCN due to over-exploitation outside of Hong Kong. In 2012, Burmese Phython was uplisted to Vulnerable (VU). In 2013, Yellow-breasted Bunting was uplisted from VU to Endangered (EN).

An important information gap exists for the marine environment, where only the distribution of hard corals in Hong Kong have been studied and published, while the status of soft corals and gorgonians remain unknown. There are currently eleven species of hard corals in Hong Kong that are listed as VU under IUCN. Local legislation provides protection to all corals within the boundaries of Marine Parks from collection under the Marine Parks Ordinance (Cap. 476), but none to those located outside the Marine Parks.

No new species have been covered by published action plans in the last year. Legislative protection in Hong Kong of threatened species continues to remain low - only 46 species (60.5%) are protected. This is because relevant ordinances are in need of update. Marine fish (including some globally Critically Endangered species) continue to be excluded from these ordinances.

Under the CBD, Hong Kong has a duty to strengthen its legislative protection of threatened species. Recently, “A Review of Hong Kong’s Wild Animal and Plant Protection Laws” has been published. The proposals from this document will feed into the BSAP process.

There is a need to update existing legislation and develop species action plans to protect threatened species based on the findings from the Hong Kong Red List being developed under the BSAP process.

Yellow-breasted Bunting was uplisted in 2013 to “Endangered” by IUCN. © A. Chan

Burmese Python was uplisted in 2012 to “Vulnerable” by IUCN. © A. Chan

The status of Gorgonian corals in Hong Kong has not been studied. © K. Kei

3. Reversing the decline in native biodiversity

3.1 Percentage of (terrestrial and marine) protected areas covered by published, resourced and active biodiversity management plans

Table 3.1a Terrestrial Protected Areas in Hong Kong

	2009 (ha)	2010 (ha)	2011 (ha)	2012 (ha)	2013 (ha)
Total land area of Hong Kong[11]	110,439.00	110,439.00	110,441.00	110,443.00	110,443.00
Protected area network: Country Parks and Special Areas[12]	44,004.34 (39.8%)	44,004.34 (39.8%)	44,239.00 (40.1%)	44,239.00 (40.1%)	44,300.00 (40.1%)
Area of Country Parks and Special Area covered by biodiversity management plans[13]	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)
Area not in Country Parks and Special Areas, but covered by published, resourced and active biodiversity management plans[14]	1,656.35 (1.5%)	1,656.35 (1.5%)	1700.80 (1.5%)	2,082.5 (1.9%)	2,057.5 (1.9%)

Table 3.1b Marine Protected Areas in Hong Kong

	2009 (ha)	2010 (ha)	2011 (ha)	2012 (ha)	2013 (ha)
Total marine area of Hong Kong[11]	165,064.00	165,064.00	165,062.00	165,060.00	165,060.00
Area of Marine Parks and Reserves[15]	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)
Area of Marine Parks and Reserves covered by published, resourced and active biodiversity management plans	None	None	None	None	None

Discussion

Hong Kong has yet to meet the CBD's Aichi Biodiversity Targets[16,17] requirement for 17% of our land and 10% of our marine territory be "effectively and equitably managed, ecologically representative and well connected".

In 2013 the Government began to designate various country park "enclaves" in accordance with the Chief Executive's commitment in the 2010 Policy Address[18]. Fifty-four enclaves will either be incorporated into their surrounding Country Parks or covered by statutory plans. Decisions have been made for Yuen Tuen, Kam Shan and Tai Long Sai Wan to be incorporated into their surrounding Country Parks. Pressure from small house development in enclaves with private land is believed to be the driver for the decision for other enclaves to be excluded from Country Parks and instead covered by OZPs. Despite their ecological value, Hoi Ha, Pak Lap and So Lo Pun will be covered by OZPs where village type development may be permitted in existing undeveloped and natural habitats under the Green Belt and Agriculture zonings. In 2013, the area of Country Park increased by 61 hectares. The designation of Country Parks and incorporation of enclaves into surrounding Country Parks should continue in the upcoming years.

Improvements in the area covered by active biodiversity management plans is noted in recent years. The Management Agreement Programme covering 664.5 hectares of fishponds in North West New Territories, supported by funding from the Environment and Conservation Fund provides resources to HKBWS to actively manage fishponds in the Deep Bay area. This is the largest documented increase in area of active biodiversity management in recent years.

Progress in marine habitat protection is questionable. There was no change in the area of marine protected areas in 2012 and 2013. A marine park at the Brothers Islands will be designated in 2016 as part of the compensation for reclamation works of the Hong Kong Link Road and the Hong Kong-Zhuhai-Macao Bridge projects[19]. Unfortunately, more reclamation works in Hong Kong waters are on the drawing board. In late 2012, the Civil Engineering and Development Department commissioned a study on "Enhancing Land Supply Strategy – Reclamation outside Victoria Harbour and Rock Cavern Development"[20], together with the proposed Third Runway for the Hong Kong International Airport, the marine waters of Hong Kong (especially North Lantau), are still highly threatened. Moreover, about two hectares of marine habitat were lost to reclamation during this reporting period in Victoria Harbour from the Central - Wan Chai Bypass project.

Under the Aichi Biodiversity Targets, a lot more work needs to be done in order to achieve the target of 10% marine areas to be protected and managed by 2020[17].

To protect the integrity of Country Parks, designation of enclaves as part of their surrounding Country Parks should continue. Marine habitats should be protected based on ecosystem function and ecological value rather than a compensation measure for reclamation works.

HKBWS currently manages over 600 hectares of fishponds in Deep Bay under a Management Agreement. Funding is provided by the Environment and Conservation Fund. © HKBWS

3.2 Total area impacted by planning proposals that involves conservation zonings (SSSI, CA, CPA, GB, AGR)

A range of mostly development-related pressures continue to threaten Hong Kong's biodiversity. Terrestrial habitats that are either protected or due to be protected by appropriate landuse zonings continue to be trashed – mostly to facilitate small house development. There has been little change in the long-running lack of adequate plans, mechanisms and resources to prevent such destruction and to actively manage ecologically important habitats. At the same time, the Government is rezoning Green Belts for housing, which further facilitates development, creating a new and serious cause for concern.

Table 3.2a Area (ha) of planning applications received by Town Planning Board*[21]

Zoning	2009	2010	2011**	2012**	2013**
Site of Special Scientific Interest (SSSI)	0.000	0.000	0.069	315.601	315.600
Coastal Protection Area (CPA)	0.367	0.614	7.825	5.149	3.966
Conservation Area (CA)	5.674	0.216	22.572	1.690	1.133
Green Belt (GB)	20.053	12.081	8.460	16.215	21.232
Agriculture (AGR)	16.391	38.505	36.320	33.127	33.385
Total	42.486	51.417	75.246	371.782	375.316

Table 3.2b Area (ha) of Planning Applications Approved by Town Planning Board*[22]

Zoning	2009	2010	2011**	2012**	2013**
Site of Special Scientific Interest (SSSI)	0.000	0.000	0.069	0.00063	0.000
Coastal Protection Area (CPA)	0.688	0.550	1.206	2.936	1.735
Conservation Area (CA)	1.401	0.216	0.511	0.824	0.187
Green Belt (GB)	11.183	10.800	3.681	5.959	12.288
Agriculture (AGR)	13.230	11.086	13.584	22.044	16.985
Total	26.503	22.652	19.051	31.763	31.195

** Applications and approvals are separately tabulated on a calendar year basis and do not mutually correspond.*

***This data is obtained from the Hong Kong SAR Government's Statutory Planning Portal and also information from Town Planning Board Minutes.*

Discussion

The land area in conservation zones subject to planning applications substantially increased in 2012 and 2013. The application for a residential development at Nam Sang Wai is reflected in substantially increased area of applications in SSSIs in both years.

To tackle housing demand, the Policy Addresses in recent years proposed to rezone Green Belt areas which "are devegetated, deserted or formed"[22] for residential use and the Town Planning Board has been approving increasing numbers of development applications on land that is zoned as Green Belt (GB). Both of these approaches are contradictory to the "presumption against development" in GB zonings and ignore the planning intention of GB, which is to prevent urban sprawl, protect the existing natural environment, and provide passive recreational outlets. These approaches facilitate development rather than conservation and set undesirable precedents for similar development cases within GB zones, thus leading to a permanent loss of well-vegetated and functioning Green Belt areas across the rural areas of Hong Kong.

In villages where the demand of New Territories Exempted Houses (NTEHs) has exceeded the capacity of the existing Village Type Development (V) zones, there has been an increase in encroachment into the surrounding areas zoned GB and Agriculture (AGR). It is roughly estimated that NTEHs applications account for more than 90% and 65% of the approved applications in AGR and GB zonings respectively[23]. The pressing demand for land for NTEHs under the Small House Policy will continue to threaten surrounding areas, particularly AGR and GB zones.

The loss in area of conservation zoning is a territory-wide issue. The Planning Department should not just continuously review and rezone GB in every district to meet the demand in land supply, but should revise the current land supply policy together with relevant Departments/Bureaux in order to prevent further loss or depletion of lands with conservation zonings (particular GB) in Hong Kong.

There is a need for a comprehensive study on the planning and landuse of conservation zones, especially Green Belt and Agriculture zones, which are commonly under-valued.

Vegetation clearance is common on Green Belt land close to Tai Po where potential residential developments are proposed. © HKBWS.

Green Belt Land at Tung Tsz Road, Tai Po, to be rezoned as residential use. © HKBWS.

3.3 Percentage of lowland rivers (below 200m above sea level) that a) remain in natural state and b) are impacted by channelization

The information on length of natural streams is not available. However, the length of engineered river channels is presented below:

Table 3.3 Length (km) of engineered river channels in Hong Kong

	2006	2007	2008	2009	2010	2011	2012	2013
Length of engineered channels[24]	184	199	243	258	278	N/A	338	341

Discussion

River channelization works continue to be the principal threat to riverine biodiversity in 2012 and 2013 as the length of channelized rivers increases. Although the increase between this reporting period and the previous was large, the trend after 2012 has slowed down.

In recent years, the Drainage Services Department (DSD) has begun to take into consideration the ecological damage done by channelization. New and improved eco-friendly designs have been developed with active participation from experts and EnvNGOs. The information gathered is being put together in a Practice Note intended to provide guidance on ecological enhancement opportunities for new and existing channels. DSD will use these guidelines to rehabilitate some existing concrete drainage channels with eco-friendly designs. Even with the implementation of eco-designs, there is still an urgent need to protect those rivers that remain in their natural state.

DSD should continue their efforts in engaging experts and NGOs to explore opportunities for eco-designs and rehabilitation opportunities in channelized rivers especially in the proposed new development areas of the New Territories.

Lowland natural streams are becoming increasingly rare.

© HKBWS

Channelized rivers commonly found in New Territories.

© HKBWS.

Kau Lung Hang stream where revitalization by DSD has taken place. © HKBWS.

3.4 Trends in number and populations of known alien invasive species

At least 29 exotic species on the Global Invasive Species Database are present in Hong Kong. However, not all are confirmed invasive in Hong Kong. Nevertheless, some of the known invasive species have caused substantial harm to local biodiversity. Three species, covering terrestrial and freshwater environments, are listed below.

Table 3.4 Trends of selected invasive species

	2007	2008	2009	2010	2011	2012	2013
House Crow *Corvus splendens*[25,26]	210	220	250	190	230	182	130
Apple Snail *Pomacea canaliculata*	No systematic monitoring in Hong Kong						
Mikania *Mikania micrantha*	Controlled by AFCD in Country Parks, Special Areas and SSSIs[27] but there is no comprehensive survey of the coverage of Mikania in Hong Kong. WWF and the Tai Po Environmental Association conduct removal of Mikania at Mai Po Nature Reserve and Fung Yuen Butterfly Reserve respectively.						
Area of Mikania removed (ha)	N/A	N/A	N/A	N/A	8.5[28]	4.3	N/A

Discussion

There has been a decreasing trend in the population of House Crow since 2012. The proactive efforts by AFCD to control this species has been successful, and the population in 2013 is the lowest in the last six years. The government should continue its efforts in controlling this species in order to limit adverse impacts of House Crows on native birdlife.

Monitoring data is still not available for the other two selected species, Apple Snail and Mikania. Both are known to have negative impacts on the biodiversity of the habitats they colonise[27,29] and continue to be widely found in Hong Kong. Government departments have conducted removal of Mikania sporadically and WWF continues to conduct Mikania removal in Mai Po Nature Reserve. In 2013, the Tai Po Environmental Association also carried out Mikania removal both at Fung Yuen and in neighbouring areas with Mikania problems[30].

Systematic invasive species monitoring and removal programmes supported by AFCD in collaboration with other Government departments and other relevant organizations could effectively reduce the colonisation rate and impacts of alien invasive species on local biodiversity.

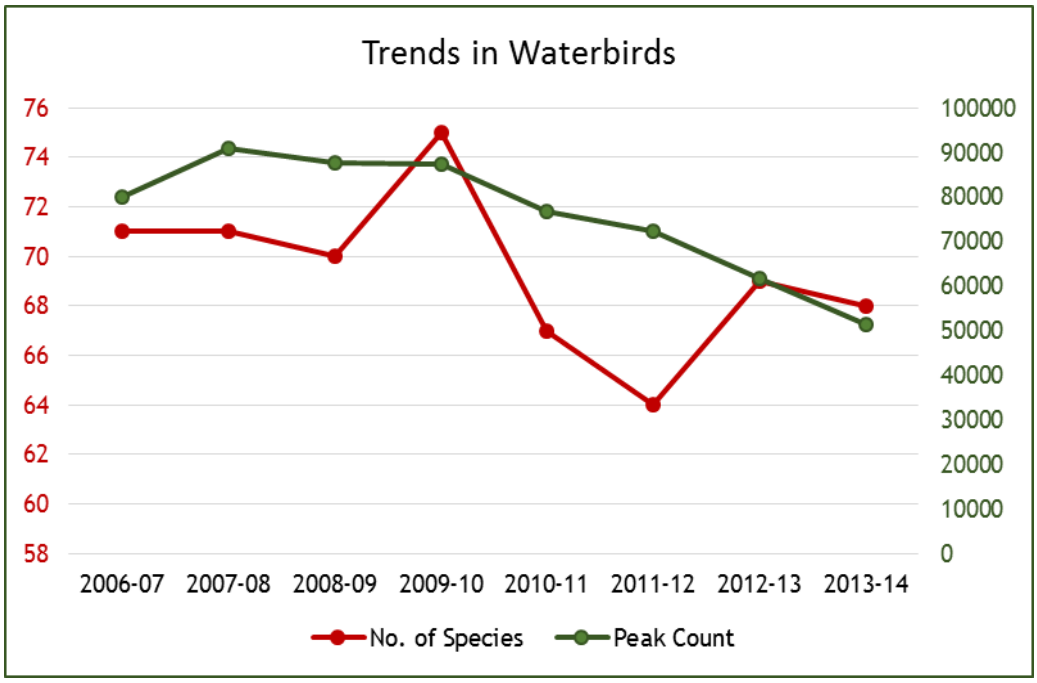
Apple snail is a predator of native freshwater snails and lotus plants in Hong Kong and is commonly seen in freshwater wetlands. © HKBWS.

Mikania climbs up other plants and eventually covers them, blocking light for photosynthesis and smothering them. © YW Yip

3.5 Trends in abundance and diversity of water birds

Table 3.5 Trends in Waterbirds[31,32]

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Peak count	80,108	90,986	87,633	87,379	76,679	72,492	61,674	51,313
No. of species	71	71	70	75	67	64	69	68



Discussion

The peak annual count of waterbirds and the number of species recorded has been decreasing since 2008 and continued to do so in 2013-14. Although the reason for this trend has not been fully investigated, it is that believed activities occurring outside Hong Kong, particularly loss of wetlands on the East Asian Australasian Flyway are contributing to this phenomenon.

At the local level, the colonization of invasive mangrove species *Sonneratia* spp. at unmanaged mudflats has led to a loss of foraging grounds for waterbirds. Disturbances caused by the presence of mudskipper collectors and other fishermen in the Deep Bay and the adjoining Futian National Nature Reserve have decreased in recent years, but still constitute an avoidable source of disturbance.

A communication platform is needed for relevant stakeholders to further investigate the causes of the decreasing trend across the region. On a local level, active management for the removal of invasive *Sonneratia* mangroves should be carried out at areas outside of Mai Po Nature Reserve and Hong Kong Wetland Park.

Pied Avocet is one of the most numerous wintering waterbird species in Deep Bay. However, Common Shelduck has an average annual decrease rate of 22%. © YT Chung.

3.6 Trends in populations of flagship and umbrella species:

Table 3.6 Trends in flagship and umbrella species

		2006	2007	2008	2009	2010	2011	2012	2013
a) Chinese White Dolphin *Sousa chinensis*	(Encounter rate per 100km)[33]	6.9	9.9	7.2	6.3	6.8	7.6	7.3	7.2
	Abundance estimate in Lantau[35]	107	124	96	88	75	78	61	62
b) Breeding egrets and herons (no. of nests)[34,35]		1,017	822	664	809	734	803	852	758
c) Dragonflies diversity and abundance		AFCD conducts regular monitoring but data is not published							
d) Big-headed Turtle *Platysternon megacephalum*		HKU research completed. Findings from surveys by KFBG and AFCD have not been published[36].							
e) Grassland Orchid *Spathoglottis pubescens*		Currently no systematic monitoring programme.							
f) Buddha Pines *Podocarpus macrophyllus*		- - -	2000 ~3000 mature trees[37]	- - -	- - -	- - -	- - -	- - -	- - -

Discussion

Chinese While Dolphins and breeding egrets both experienced a downward trend in 2012 and 2013. For Chinese White Dolphins, the reclamation works for the Hong Kong-Zhuhai-Macao Bridge Boundary Crossing Facilities and the Hong Kong Link Road in North Lantau may have increased the severity of existing threats in terms of poor water quality, lower prey abundance, underwater noise disturbance and increased vessel traffic. Dolphins were infrequently sighted near the construction site and the encounter rate in North Lantau was the lowest since 2002. The number of breeding egrets and herons continues to decline. Rural development and associated habitat destruction in and near wetlands are the most likely causes.

There are data gaps for other flagship species and a pressing need for resources to be made available to enable systematic monitoring and reporting of the status of key indicator species.

The trends in flagship and umbrella species should continue to be monitored. Potential resources to monitor species where data gaps exist should be explored, especially for taxa where no data is available.

Penfold Park Egretry. © HKBWS.

4 Reversing impacts on global biodiversity

4.1 Hong Kong's Ecological Footprint

Table 4.1 Hong Kong's ecological footprint and global capacity per capita[38,39,40]

	2005	2006	2007	2008
Ecological Footprint per capita* (global hectares)	4.4 gha	- - -	4.0 gha	4.7 gha
Global Bio-capacity per capita** (global hectares)	2.1 gha	- - -	1.8 gha	0.03 gha

* *Ecological footprint is defined as the extent of human demand for the regenerative capacity of the biosphere*

** *Bio-capacity is defined as the availability of regenerative capacity of the biosphere*

Hong Kong's trade in and consumption of imported goods – especially live and dried seafood - affects the biodiversity and ecosystems of other parts in the world. WWF's *Hong Kong Ecological Footprint Report 2013,* which provides ecological footprint data for 2008, suggests that Hong Kong's ecological footprint per capita is more than twice that of China and nearly triple the average footprint of the Asia-Pacific region. There has also been a substantial drop in global bio-capacity between 2007 and 2008, the new figure of 0.03 gha means that the per capita ecological footprint (demand for resources) exceeds Hong Kong's biocapacity (supply of resources available) by more than 150 times. Hong Kong has the second largest per capita deficit within Asia. It is substantially dependent on imports from mainland China and overseas, and some of the city's most important trade partners are already running bio-capacity deficits.

In recent years, public awareness of the problems caused by consumption of unsustainably harvested seafood products such as shark fin has increased as a result of continued campaigns and education programmes by a number of EnvNGOs. At the time of publication, 25 other airlines have now followed Cathay Pacific's lead by banning shark fin from cargo flights[41].

Continue to track Hong Kong's ecological footprint trend and formulate long-term strategies to stabilise and eventually reduce its Ecological Footprint, especially for marine products.

4.2 Change in greenhouse gas emissions attributable to Hong Kong

Table 4.2 Hong Kong's greenhouse gas emission estimates

	2005	2006	2007	2008	2009	2010	2011
Emission estimate by EPD (million tonnes)[42]	42.0	42.3	43.6	42.3	42.7*	40.8	42.7**
Per capita emission estimate by EPD (tonnes)[42]	6.2	6.2	6.3	6.1	6.1	5.8	6.0**
Per capita emission estimate by WWFHK (tonnes)	- - -	- - -	8.1[38]	13.44[43]	- - -	- - -	- - -

**Since the last report, this figure has been updated from 42.9 to 42.7.*

***Provisional figures subject to revision*

EPD reported a slight decrease in greenhouse gas emissions per capita in 2010, but in 2011 emission levels reverted back to the 2009 levels. Since 2009, no third party information regarding the source of greenhouse gas emission are available for comparison.

Substantial reduction in carbon emissions can be achieved through optimising energy use in Hong Kong's 50,000 existing buildings.

5. Plans & resources for biodiversity conservation

5.1 In how many months' time will an approved, resourced, and active BSAP that meets the principles and standards of the CBD be in place?

The best news of 2013 was the commencement of the formulation of a BSAP for Hong Kong. The Environmental Bureau and AFCD are leading the process to compile the plan under an approach that aims to actively involve experts from all sectors of the community in the formulation by 2015 of a plan to enable Hong Kong to comply with the Aichi Targets. However, limited resources have been made available to support the process, and the formulation of the BSAP currently relies heavily on the input of volunteer experts from the NGO and academic sectors and existing resources within AFCD.

As active participation from other branches of Government has been limited in the BSAP formulation process, there are concerns on how the identified conservation actions which will require cross-departmental co-operation will be developed, approved and implemented, as required under article 6 of the CBD[44].

It is the Government's duty to provide resources to the BSAP process so that the standards of the CBD and in particular the Aichi Targets can be met.

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香港生物多樣性及保育

重點指標報告

2013 & 2014








香港觀鳥會

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建議引用

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香港觀鳥會是一個成立於 1957 年的本地民間組織，宗旨是推動欣賞及保育香港鳥類及其自然生態，2002 年被認可為公共性質慈善機構，2013 年成為國際鳥盟的正式成員。

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封面相片 (從左至右，上到下)

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2. 黑枕王鶲 (*Hypothymis azurea*) © 陳志雄
3. 網絲蛺蝶 (*Cyrestis thyodamas chinensis*) © 陳嘉豪
4. 紅頰獴 (*Herpestes javanicus rubrifrons*) © 陳嘉豪
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鳴謝

第三期重點指標報告能夠順利完成，實有賴多個組織的協助，並提供了寶貴的意見，本會謹此向相關的環保團體及政府部門致意。

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特別鳴謝王學思女士義務把報告翻譯成中文，讓更多讀者認識香港保育工作的現況。

目錄

引言

《生物多樣性公約》(《公約》) 於 2011 年 5 月正式延伸至香港[1]，為香港的自然保育揭開新一頁。《公約》鼓勵社會各界參與制定一個「生物多樣性策略及行動計劃」(「行動計劃」)。「行動計劃」的內容應該要按時公佈、實施、定期監察及檢討。在《公約》締約方大會上，各方都認為制訂一套重點指標可以有效反映生物多樣性保育工作的成效，藉此反映「行動計劃」的成果[2]。

選擇重點指標

思匯政策研究所於 2011 年 1 月發表的《自然保育-香港的新政策框架》[3] (《框架》) 內草擬了一套重點指標。這些重點指標根據多個環保團體、學者、環境顧問、政府官員及其他持份者的廣泛討論後草擬。這套重點指標乃根據以下各項標準選取：

1. 指標能否反映《公約》及「行動計劃」的策略性目標？
2. 指標是否有充分的科學根據？
3. 指標是否定義清晰、合乎邏輯及容易理解？
4. 指標相關的資料能否容易獲取？
5. 指標能否讓公眾容易理解？
6. 指標能否推動保育生物多樣性的工作？

香港若要維持中國最適宜居住城市的地位，保護生物多樣性是重要一環。重點指標會為香港的生物多樣性及其保育工作提供一個概覽。香港觀鳥會將會每年發表重點指標報告，讓公眾可以監察生物多樣性的保護、管理及改善工作的進度，以及是否符合《公約》要求的國際最佳做法。我們會根據現況，在每項指標後面加入相應可行的行動建議，以改善香港於保育生物多樣性的表現。

資料缺乏

本報告會指出每項指標所需的資料，為香港的生物多樣性及其保育行動提供一個更準確及清晰的概況。今年報告中缺乏資料的情況與往年相若，但本會仍會繼續嘗試尋找其他相關數據去反映這些重點指標的現況。

一套一致的指標

為了可持續追蹤每年的調查結果及趨勢變化，所挑選的重點指標必須要保持一致。若果情況得以改善，這套指標有機會需要調整，亦可在本港的「行動計劃」制訂後再全面檢討這套指標。

2013 年及 2014 年香港生物多樣性的保育工作

2013 及 2014 年期間最重要及觸目的自然保育工作，是由環境局與漁農自然護理署（漁護署）著手制訂香港的「行動計劃」[4]。根據重要指標 5.1，即監察香港需要多少時間才能制訂一個經核准、獲配資源及積極管理的「行動計劃」，這無疑是一個里程碑。香港觀鳥會與多個環保團體積極為「行動計劃」提供建議。事實上，社會團體或人士的義務參與，對於制訂一套全面的「行動計劃」非常重要。若果沒有環保團體(例如香港觀鳥會、嘉道理農場暨植物園等)的專家歷年來所累積的數據，「狀況和趨勢與紅色名錄專題小組」便無法完成多項物種評估的工作。可是，儘管多個環保團體、學術機構及漁護署生物多樣性護理科同事的積極參與，政府對「行動計劃」並沒有給予足夠的時間及資源，因此我們對於將來能否順利推行這計劃仍然感到不太樂觀。

此外，一系列的發展壓力繼續威脅香港的生物多樣性。即使受法例或相關土地用途規劃所保護的陸地生境均持續受到破壞，其中大部分與小型屋宇的發展有關。長期缺乏洽當的規劃、機制及資源令這類破壞持續發生，而具生態價值的生境亦未有得到積極的管理。與此同時，綠化地帶的功能由防止發展漸漸演變成促進發展，形成一個令人非常憂慮的新問題（參閱第 16 頁）。大面積的海洋生境亦正受到新的填海計劃所威脅。后海灣越冬水鳥及中華白海豚的數目持續下跌，雖然確實原因未明，或其起因根本不在本港境內，但情況令人擔憂。除了鳥類和中華白海豚之外，其他指標物種的數據仍然缺乏。

幸好，仍然有令人欣喜的保育個案出現，例如南生圍的住宅項目申請遭受政府否決，讓這片位於后海灣的魚塘濕地得以保存。更令人鼓舞的是立法會及法院決定把大浪西灣的郊野公園「不包括土地」納入西貢東郊野公園範圍內。這兩項成果均突顯了廣大市民越來越重視保育香港的自然遺產。

展望

從策略性的層面來看，制訂「行動計劃」正是一個黃金機會，為香港締造一個世界級生物多樣性的保育框架。以下是一些需注意的重要事項：

1. 政府在「行動計劃」的開展上，其積極參與程度及能夠提供多少資源；
2. 政府決定為郊野公園「不包括土地」及其他高生態價值的地點和生境提供多大程度的保護；
3. 在面對不同的發展需要時，政府如何把自然保育政策推廣至其他部門；及
4. 香港瀕危物種紅色名錄的制訂。

重點指標與最新狀況

重點主題及指標		資料年份	2011 狀況	2012 狀況	2013 狀況	2014 進展
重點主題 1：社區為本的保育						
1.1. 根據環保團體或其他經證實的消息來源(如傳媒或互聯網)，有多少百分比的非法或違例活動（如棄置廢物、捕捉或採集動植物等等）能夠 a)成功檢控；及 b)恢復生態功能		2009-2013	↓	↑	↓	↓
重點主題 2：建立(及不斷改善)一套已獲認可的全球最佳做法，以保育及可持續利用香港的生物多樣性						
2.1 列入紅色名錄的物種當中，得到法例或行動計劃保護的物種的百分比		2009-2013	↓	↔	↔	↔
重點主題 3：扭轉正在減少的本地生物多樣性						
3.1 受法例保護的陸地及海洋當中，有多少面積(%)已經獲公佈、資源分配及納入積極的生物多樣性管理計劃之下		2009-2013	↓	↑	↔	↔
3.2 受規劃申請影響的保育地帶（包括具特殊科學價值地點、自然保育區、海岸保護區、綠化地帶、農業）的面積		2009-2013	↓	↔	↓	↓
3.3 低地河流(海拔低於 200 米) (a)仍然維持天然狀態及(b)已被渠道化的百分比		2006-2013 (部分)	?	↓	↓	↓
3.4 已知外來入侵物種的數量及種群大小的趨勢	a) 家鴉	2007-2013	↔	↔	↔	↑*
	b) 福壽螺	…	?	?	?	?
	c) 薇甘菊	…	?	?	?	?

重點主題及指標		資料年份	2011 狀況	2012 狀況	2013 狀況	2014 進展
	b) 水鳥	2006-2013	↔	↓	↔	↓*
3.5 旗艦物種及保護傘物種的趨勢	a) 中華白海豚	2006-2013	↓	↔	↔	↔
	b) 繁殖鷺鳥	2006-2013	↓	↔	↔	↔*
	c) 蜻蜓數量及物種數目	...	?	?	?	?
	d) 大頭龜	...	↓	?	?	?
	e) 苞舌蘭	...	?	?	?	?
	f) 羅漢松	...	?	?	?	?
重點主題 4：扭轉對全球生物多樣性的影響						
4.1 香港生態足印		2005, 2007-2008	↓	?	?	↓
4.2 香港的溫室氣體排放量變化		2005-2010	?	↔	↔	↔
重點主題 5：保育生物多樣性的計劃及資源						
5.1 經核准、獲配資源及符合《公約》的「行動計劃」需要多少個月才能落實?		不適用	↓	↑	↑	↑

***** *一些指標會有自然波動。表中數字是與去年的平均值及標準差作比較。若相差兩個標準差或以上，代表有明顯改變。*

圖例及總結		
較去年差	↓	5
與去年一樣	↔	5
較去年好	↑	2
資訊不足	?	6

結果及討論

1. 社區為本的保育

1.1. 根據環保團體或其他經證實的消息來源(如傳媒或互聯網)，有多少百分比的非法或違例活動（如棄置廢物、捕捉或採集生物等等）能 a)成功被檢控; 及 b)恢復生態功能

表 1.1a 環保團體或其他經證實的消息來源

	2009	2010	2011	2012	2013
受影響地點(個案數量)	37	35	27	26	33
成功檢控	2 (5.4%)	3 (8.5%)	0 (0%)	0 (0%)	1 (3%)
恢復生態功能	未有確認案例	未有確認案例	未有確認案例	未有確認案例	未有確認案例

表 1.1b 規劃署及地政總署所提供的鄉郊違例發展的數字[5]

	2009	2010	2011	2012	2013
接獲投訴數量	644	604	778	870	944
證實違例發展的個案*	115	100	148	138	113
因未有發展審批地區圖而未能根據城市規劃條例執法的個案數量	37	23	46	41	22
成功檢控	6 (5.2%)	3 (3%)	1 (0.6%)	2 (1.5%)	0 (0%)

**規劃署已就所有個案發出強制執行通知書。*

表 1.1c 漁農自然護理署所提供的郊野公園內違法活動的數字[6]

	2009	2010	2011	2012	2013
接獲投訴數量	12	26	64*	67	96
成功檢控	1 (8.3%)	7 (27%)	29 (45.3%)	22 (32.8%)	9 (9.4%)**

** 39 宗個案由公眾舉報，25 宗個案由漁護署發現。*

*** 截至 2014 年 1 月，仍有一些個案在調查當中。*

討論

2013 年在郊野公園範圍內外發生的違例活動有增加的趨勢，但能成功檢控的個案數量仍然偏低。另一方面，因沒有發展審批地區圖而無法根據城市規劃條例作出檢控的個案數目卻在減少，或許是因為政府正透過土地規劃把過去未受保護的地區納入保護的範圍。

郊野公園內的非法活動大幅增加，但只有少數個案能成功被檢控。而非法砍伐土沉香（*Aquilara sinensis*）的情況變得越來越普遍[7]。

在生態修復方面仍然沒有確認案例，部分個案是因為當局沒有權力就案件發出修復通知書，另一些個案則只是把非法堆填的物料移走，並不能視為生態修復。有建議認為環保團體應重複考察受破壞的地點以便得知生境恢復的最新狀況。沒有生態修復，執法只能作為阻嚇的工具，並不能逆轉已被破壞的生境，因此我們急需要一個建立一套能真正促使生態修復的機制。

規劃署應繼續為未有土地規劃的地區制訂發展審批地區圖，

漁護署應積極探討修復受破壞地區的可行性。

2. 建立(及不斷改善)一套已獲認可的全球最佳做法，以保育及可持續利用香港的生物多樣性

2.1 列入紅色名錄的物種當中，得到法例或行動計劃保護的物種的百分比

表 2.1 受威脅的物種及其在香港的保育狀況

	2009	2010	2011	2012	2013
IUCN 紅色名錄上受威脅(極危、瀕危、易危)的物種數量	73*	75*	75*	76**	76
有行動計劃保護的物種數量 (包括全球行動計劃)[8]	3 (4.2%)	3 (4.0%)	3 (4.0%)	3 (3.9%)	3 (3.9%)
在本港有個別保育行動的物種數量[9]	2 (2.9%)	2 (2.8%)	3 (4.2%)	3 (4.2%)	3 (4.2%)
受法例保護的物種數量 (香港法例第 96, 170***, 586 章)	45* (60%)	45* (60%)	45 (60%)	46 (60.5%)	46 (60.5%)

**數字經過修訂，與以往的報告有輕微差別*

***蟒蛇在 IUCN 受脅狀況的改變已反映在 2012 年的數據裏，黃胸鵐狀況的改變沒有影響這些數字*

****所有野生雀鳥都受香港法例第 170 章所保護*

討論

有關香港物種的保育狀況，我們主要參考由 Fellowes 等人著作的 ***Fauna of Conservation Concern***。這篇文獻已有超過十年歷史，而且內容只包括陸地物種[10]。興幸地，在制訂「生物多樣性策略及行動計劃」的過程中，我們已編制出一份包括陸地及海洋物種的香港瀕危物種紅色名錄。但由於資料有限，我們對於所有動物物種的認知仍不是全面的。至於海洋魚類及食物鏈低層的種群（如：藻類、低等植物、地衣和多個無脊椎動物種群等），因資料不足而無法制訂任何相關的瀕危物種紅色名錄。

自 2012 年起，香港特區政府列明受脅物種的數量只有輕微增幅。雖然黃胸鵐（*Emberiza aureola*）和蟒蛇（*Python bivittatus*）受本港法例保護，但由於在香港境外被過度捕獵，世界自然保護聯盟（IUCN）已提升牠們的瀕危級別。蟒蛇於 2012 年提升至易危級別，而黃胸鵐更於 2013 年由易危提升至瀕危級別。

海洋環境的資料仍然缺乏。香港一直只有研究及發表硬珊瑚的分佈，但軟珊瑚和柳珊瑚的狀況依然不明。目前香港有 11 種硬珊瑚被 IUCN 列為易危級別。根據《海岸公

園條例》(香港法例第 476 章),所有在海岸公園範圍內的硬珊瑚均受香港法例保護,嚴禁採集,但海岸公園範圍以外的則不受保護。

去年政府公佈的保育行動計劃中並沒有加入新的受脅物種。受本港法例保護的受脅物種只有 46 種(60.5%),比例依然偏低。海洋魚類,當中包括一些全球瀕危物種,仍然不受法例保護,可見相關條例實在需要更新。

根據《生物多樣性公約》,香港有責任加強立法以保護受脅物種。最近發表的一份文獻 A Review of Hong Kong's Wild Animal and Plant Protection Laws,其中的建議亦可加入「生物多樣性策略及行動計劃」之內。

香港有需要於「生物多樣性策略及行動計劃」之下編制本港的瀕危物種紅色名錄,並根據此名錄更新現存的法例,並制訂相關的保育行動計劃以保護個別受脅物種。

黃胸鵐於 2013 年被 IUCN 提升為瀕危級別 © Allen Chan

蟒蛇於 2012 年被 IUCN 提升為易危級別 © Allen Chan

香港仍沒有關於柳珊瑚狀況的研究 © 紀力偉

3. 扭轉正在減少的本地生物多樣性

3.1 受法例保護的陸地及海洋當中，有多少地方(%)已經被公佈、獲資源分配及被納入積極的生物多樣性管理計劃之下

表 3.1a 香港的陸地保護區

	2009 (公頃)	2010 (公頃)	2011 (公頃)	2012 (公頃)	2013 (公頃)
香港陸地總面積[11]	110,439.00	110,439.00	110,441.00	110,443.00	110,443.00
保護區總面積(郊野公園及特別地區)[12]	44,004.34 (39.8%)	44,004.34 (39.8%)	44,239.00 (40.1%)	44,239.00 (40.1%)	44,300.00 (40.1%)
有生物多樣性管理計劃的郊野公園及特別地區面積[13]	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)	60.00 (0.05%)
位於郊野公園及特別地區以外，但已獲配資源及有生物多樣性管理計劃的地區面積[14]	1,656.35 (1.5%)	1,656.35 (1.5%)	1700.80 (1.5%)	2,082.5 (1.9%)	2,057.5 (1.9%)

表 3.1b 海洋保護區

	2009 (公頃)	2010 (公頃)	2011 (公頃)	2012 (公頃)	2013 (公頃)
香港水域總面積[11]	165,064.00	165,064.00	165,062.00	165,060.00	165,060.00
海岸公園及海岸保護區面積[15]	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)	2430.00 (1.5%)
有生物多樣性管理計劃的海岸公園及保護區面積	沒有	沒有	沒有	沒有	沒有

討論

《公約》中的《愛知生物多樣性目標》要求 17%的陸地及 10%的海域需「有效及公平地管理，並在生態上有代表性及良好的連接性」[16,17]，可是香港仍未達標。

因應行政長官於施政報告的承諾，政府於 2013 年開始將 54 片郊野公園「不包括土地」逐漸納入郊野公園，或為其制訂法定規劃圖則[18]。估計因為涉及「不包括土地」及私人土地內有小型屋宇發展需求的壓力，導致當中只有大浪西灣、金山及圓墩的「不包括土地」被納入郊野公園範圍，而其他的「不包括土地」則只以「分區計劃大綱圖」提供土地規劃，當中包括：海下、白腊和鎖羅盆。這三片「不包括土地」仍然具有一定的生態價值，但鄉村式發展有可能獲批准在現時的綠化及農業地帶內進行，這些土地現時仍然保留一定的自然生態，未受發展破壞。2013 年郊野公園面積增加了 61 公頃。政府於未來數年應繼續將更多「不包括土地」納入周邊的郊野公園範圍。

近年因「管理協議計劃」而獲進行保育工作的地區面積有明顯增加。香港觀鳥會在環境及自然保育基金資助下，在新界西北共 664.5 公頃的魚塘開展了一項新的管理協議計劃，與漁民合作積極管理后海灣的魚塘。這是近年在有管理協議計劃的地區裏，面積上錄得最大的增幅。

海洋生境保育的工作進度令人存疑。2012 及 2013 年間，受保護的海洋面積沒有任何改變。預計於 2016 年設立的大小磨刀洲海岸公園，是「港珠澳大橋香港接線」填海工程的生境補償措施[19]。不幸地，香港海域內還有多項填海工程正在計劃中。2012 年底土木工程拓展署已就「優化土地供應策略－在維港以外填海及發展岩洞」[20]及擬建的機場第三跑道展開研究工作，本港水域特別是北大嶼山範圍正受到嚴重威脅。另外，「中環及灣仔繞道」的填海工程亦令維多利亞港損失了兩公頃的海洋生境。

香港仍需努力，在 2020 年之前有效保地護及管理 10%的水域，以達到《愛知生物多樣性目標》的要求。

政府應繼續將「不包括土地」納入周邊的郊野公園範圍，以保護郊野公園的完整性。海洋生境的保護，應建基於其生態系統功能及生態價值，而不是為補償填海工程所帶來的損失。

在環境及自然保育基金資助下，香港觀鳥會現正實施一項生態魚塘管理協議計劃，參與計劃的魚塘面積超過 600 公頃。 © 香港觀鳥會

3.2 受規劃申請影響的保育地帶（包括具特殊科學價值地點、自然保育區、海岸保護區、綠化地帶、農業）的面積

一系列的發展壓力持續威脅香港的生物多樣性。香港不但對高生態價值的生境沒有進行積極管理，更由於缺乏適當的規劃、機制及資源投放，導致無論有沒有受土地規劃管制保護的陸地生境，都持續受到以小型屋宇為主的發展侵害，而問題多年來沒有明顯改善。與此同時，政府為迎合日後發展需要，將綠化地帶改劃為住宅用途，實在是前所未有及需要公眾高度關注。

表 3.2a 城市規劃委員會收到的規劃申請總面積*[21]

區域劃分	2009 (公頃)	2010 (公頃)	2011 (公頃)**	2012 (公頃) **	2013 (公頃) **
具特殊科學價值地點 (SSSI)	0.000	0.000	0.069	315.601	315.600
海岸保護區 (CPA)	0.367	0.614	7.825	5.149	3.966
自然保育區(CA)	5.674	0.216	22.572	1.690	1.133
綠化地帶（GB)	20.053	12.081	8.460	16.215	21.232
農業（AGR)	16.391	38.505	36.320	33.127	33.385
總面積	42.486	51.417	75.246	371.782	375.316

表 3.2b 城市規劃委員會批准的規劃申請總面積*[22]

區域劃分	2009 (公頃)	2010 (公頃)	2011 (公頃)**	2012 (公頃) **	2013 (公頃) **
具特殊科學價值地點 (SSSI)	0.000	0.000	0.069	0.00063	0.000
海岸保護區 (CPA)	0.688	0.550	1.206	2.936	1.735
自然保育區(CA)	1.401	0.216	0.511	0.824	0.187
綠化地帶（GB)	11.183	10.800	3.681	5.959	12.288
農業（AGR)	13.230	11.086	13.584	22.044	16.985
總面積	26.503	22.652	19.051	31.763	31.195

* *申請與批准的數據因為分別按歷年列出，所以未必能互相對應。*

** *規劃署未能就土地用途面積改變提供官方數字。以上數字是根據香港特區政府的法定規劃綜合網站及城市規劃委員會會議紀錄所提供的資料進行非正式計算。*

討論

2012 及 2013 年受規劃申請影響的保育地帶面積大幅增加。主要原因是南生圍的住宅發展項目申請導致這兩年來「具特殊科學價值地點」受影響的面積增加。

為解決住屋需求，政府近年建議檢討將「沒有植被、荒廢或已平整」[22]的綠化地帶改劃為住宅用途。而獲城規會批准在綠化地帶上進行發展的申請數量亦有所增加。以上兩項措施完全違背綠化地帶「不應作任何發展」的原則及「抑制市區範圍的擴展、保育現有天然環境，及提供土地作靜態康樂場地」的規劃原意。這些措施促進了土地的發展而非保育，更為日後類似的發展立下不良的先例，令鄉郊地區有更多「有植被茂密及具生態功能」的綠化地帶永久消失。

由於「新界豁免管制屋宇」(簡稱「丁屋」) 的需求遠大於現存的「鄉村式發展」地帶的可承載量，有些鄉村的丁屋發展不斷滲入周邊的農業及綠化地帶。粗略估計丁屋發展佔農業及綠化地帶獲批的規劃申請總數中分別超過 90%及 65%[23]。因此，丁屋政策帶來的土地需求將持續威脅「鄉村式發展」地帶的周邊土地，尤其是農業及綠化地帶。

保育地帶面積的減少是一個全港性的問題。規劃署不可以只單獨持續檢討及更改各區綠化地帶的土地規劃用途，以滿足土地供應不足的問題。署方有需要與相關部門／政策局一起修訂現行的土地供應政策以防止香港的保育地帶，尤其是綠化地帶，進一步減少或甚至完全消失。

保育用地的價值，尤其是農業及綠化地帶，普遍被低估。
因此有需要針對保育地帶的規劃及使用進行全面的研究。

位於大埔的綠化地帶有住宅發展計劃，清除植被的情況十分常見。

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位於大埔桐梓路的綠化地帶，將會重新規劃成住宅用途

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3.3 低地河流(海拔低於 200 米) (a)仍然維持天然狀態 及 (b)已被渠道化的百份比

現時沒有天然河流長度的資料，但渠道化河道的長度如下：

表 3.3 香港人工河道的長度

	2006	2007	2008	2009	2010	2011	2012	2013
香港人工河道的長度(公里)[24]	184	199	243	258	278	N/A	338	341

討論

由於 2012 及 2013 年被渠道化的河流長度增加，所以河流渠道化仍是河流生態多樣性的主要威脅。雖然相比於前報告，本報告中被渠道化的河流長度有大幅增加，但其增幅在 2012 年後已有減慢的趨勢。

近年渠務署已開始關注渠道化對河流生態所造成的破壞，故聯同專家及環保團體合作研究嶄新及改良的河道環保設計，並將資料撰寫成一份新的工作指引，為新建及現存渠道的改善生態措施提供指引。渠務署亦利用這份工作指引協助修復一些以混凝土建造的渠道。縱使渠道可採用環保設計，天然河道仍然急切需要保護。

渠務署應繼續致力邀請專家和非政府組織探討引進環保設計及修復渠道的可行性，尤其在新界擬建的新發展區。

低地的天然河流變得越來越罕見 © 香港觀鳥會

新界常見的渠道化河流 © 香港觀鳥會

經渠務署重新修復的九龍坑河道 © 香港觀鳥會

3.4 已知外來入侵物種的數量及種群大小的趨勢

至少 29 種在「全球入侵物種資料庫」裏有紀錄的外來物種在香港出現。但是，並非全部物種在香港都具有入侵性。儘管如此，一些已知的入侵物種已對本地生物多樣性造成損害。本報告列舉其中三個物種：

表 3.4a 個別入侵物種的趨勢

	2007	2008	2009	2010	2011	2012	2013
家鴉 *Corvus splendens*[25,26]	210	220	250	190	230	182	130
福壽螺 *Pomacea canaliculata*	香港並沒有系統性的監測						
薇甘菊 *Mikania micrantha*	漁護署於郊野公園、特別地區及具特殊科學價值地點有定期進行管理[27]，但本港尚未有廣泛調查薇甘菊的覆蓋面積。世界自然基金會香港分會和環保協進會分別在米埔自然護理區及鳳園蝴蝶保育區進行薇甘菊清除工作。						
薇甘菊清除面積(公頃)	未有資料	未有資料	未有資料	未有資料	8.5[28]	4.3	未有資料

討論

自 2012 年起，家鴉的數量有下降趨勢，可見漁護署積極控制這個物種的成效，而且 2013 年的數量更是近六年來的新低。政府應該繼續控制這種鳥類以免牠們對本港原生鳥類造成不良影響。

另外兩種指標物種（福壽螺和薇甘菊）的監測資料仍然缺乏。這兩個在香港廣泛分佈的物種，都是已知會對所在地的生物多樣性造成負面影響[27,29]。政府部門有零星進行清除薇甘菊的工作，而世界自然基金會香港分會也持續清除在米埔自然護理區的薇甘菊。環保協進會也於 2013 年在鳳園和鄰近地區進行清除薇甘菊的工作[30]。

漁護署應聯同其他政府部門和相關團體對外來入侵物種進行有系統的監測及清除，減低牠們的入侵速度以及對本港生物多樣性的影響。

福壽螺常見於淡水濕地，會捕食香港原生淡水螺和荷花。

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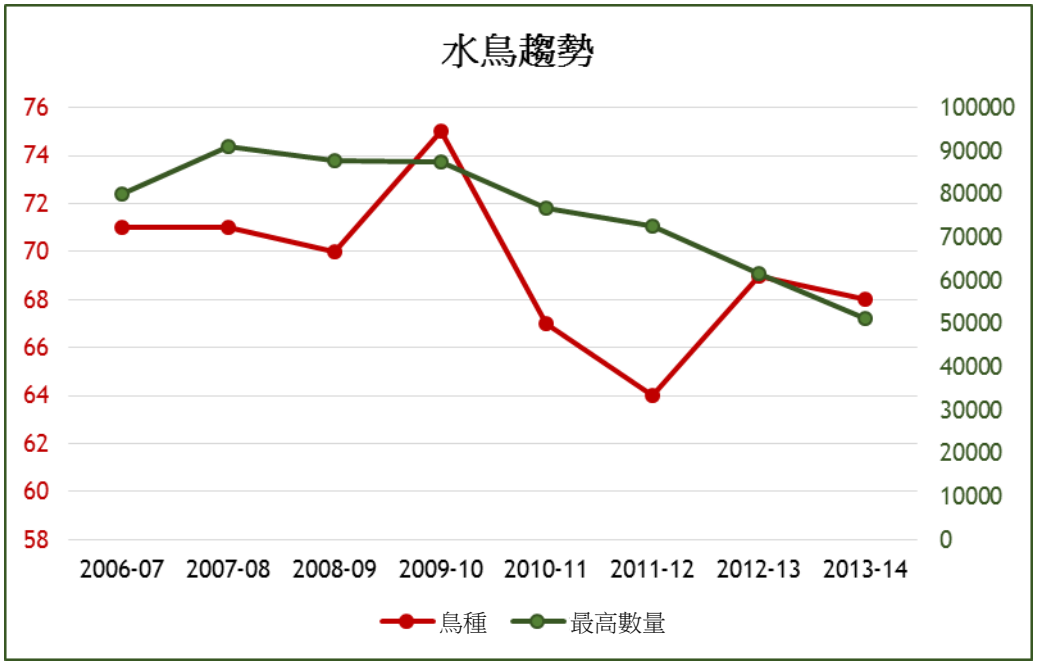
薇甘菊會爬上其他植物之上，以至完全覆蓋它們，使該植物因無法進行光合作而死亡　　© 葉大維

3.5 陸鳥及水鳥的數量及品鳥種數量趨勢

表 3.5a 水鳥趨勢[31,32]

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
最高數量	80,108	90,986	87,633	87,379	76,679	72,492	61,674	51,313
鳥種數目	71	71	70	75	67	64	69	68



討論

水鳥的最高數量及鳥種數目，自 2008 年開始直至 2013-14 年度持續下跌。雖然未能確定原因，但相信與香港境外，尤其是東亞－澳大利西亞遷飛區內的濕地減少有關。

在本地層面，外來入侵紅樹海桑屬在缺乏人為管理的泥灘上生長，已損害及減少水鳥的覓食地。雖然非法闖入后海灣及毗鄰的福田國家級自然保護區泥灘捕捉彈塗魚的漁民（又稱「花魚佬」）今年已經減少，但這仍是一個可避免的干擾來源。

水鳥數目於區域層面有持續減少的趨勢，就此需要建立一個溝通平台，讓相關持份者進一步研究有關原因。在本地層面，則需要積極管理米埔保護區及香港濕地公園外圍地區，以清除外來入侵的海桑屬紅樹。

反嘴鷸是后海灣越冬水鳥中數量最多的鳥種之一，但翹鼻麻鴨的數量平均每年遞減 22%。

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3.6 旗艦物種及保護傘物種的趨勢

表 3.6a 旗艦物種及保護傘物種趨勢

		2006	2007	2008	2009	2010	2011	2012	2013
a) 中華白海豚 *Sousa chinensis*	(每 100 公里的遇見率)[33]	6.9	9.9	7.2	6.3	6.8	7.6	7.3	7.2
	大嶼山的數量估算 [35]	107	124	96	88	75	78	61	62
b) 繁殖鷺鳥 (鳥巢總數)[34,35]		1017	822	664	809	734	803	852	758
c) 蜻蜓數量及物種數目		漁農自然護理署有定期監測，但沒有公佈數據。							
d) 大頭龜 *Platysternon megacephalum*		香港大學已完成研究調查。嘉道理農場及漁護署的調查結果尚未發表[36]。							
e) 苞舌蘭 *Spathoglottis pubescens*		現時沒有有系統的監測。							
f) 羅漢松 *Podocarpus macrophyllus*		- - -	2000-3000 棵成年樹[37]	- - -	- - -	- - -	- - -	- - -	- - -

討論

2012 及 2013 年間，中華白海豚和繁殖鷺鳥的數量都呈下滑的趨勢。就中華白海豚而言，「港珠澳大橋香港口岸及北大嶼山香港接線」的填海工程均加劇現存的威脅，當中包括水質變差、食物減少、水底噪音增加及海上交通繁忙。中華白海豚已很少在工程範圍附近出沒，而在北大嶼山遇見中華白海豚的比率是自 2002 年來新低。另外，鄉郊發展、濕地及鄰近相關生境遭受破壞都可能是導致繁殖鷺鳥數量持續下跌的原因。

其他建議的旗艦物種尚未有足夠資料，因此有迫切需要增加資源及公開現有資料，以便有系統地監察這些重點指標物種。

應繼續監測旗艦物種和傘護物種的趨勢。尋求資源以便監察未有足夠資料的物種，特別是目前沒有數據資料的分類群。

彭福公園鷺鳥林　　© 香港觀鳥會

4 扭轉對全球生物多樣性的影響

4.1 香港生態足印

表 4.1 香港生態足印和人均地球的承載力[38,39,40]

	2005	2006	2007	2008
人均生態足印* （地球資源公頃 gha）	4.4 gha	- - -	4.0 gha	4.7 gha
人均地球實際的 生物承載力** （地球資源公頃 gha）	2.1 gha	- - -	1.8 gha	0.03 gha

**生態足印被定義為人類對地球再生能力的需求*

***地球實際的生物承載力被定義為地球實際的再生能力*

香港對進口貨品的輸入及消耗，特別是活海鮮及其乾品，正影響著世界各地的生物多樣性及生態系統。世界自然基金會香港分會發表的《香港生態足印報告 2013》中提供了 2008 年的生態足印數據，當中顯示香港的人均生態足印是中國的兩倍，亦比亞太地區的平均值高出接近三倍。與此同時在 2007 至 2008 年間，地球實際生物承載力跌幅嚴重，最新數字為 0.03gha，即現時香港的人均生態足印（對資源的需求）較香港實際可接受的生物承載力（實際可用的資源量）超過 150 倍，造成生態赤字，並在生態赤字排名全亞洲第二。香港主要依賴中國大陸及海外地方的進口，而部分主要貿易伙伴的城市已出現生物承載力的逆差。

有賴個別綠色團體近年持續舉辦教育及宣傳活動，使公眾漸漸關注以不符合可持續方式採購的海鮮產品（例如魚翅）所產生的問題。現時由國泰航空牽頭共 26 間航空公司已不再接受魚翅託運[41]。

繼續追蹤香港的生態足印趨勢，並制訂長遠策略，
以穩定並最終減少生態足印為目標，尤其在水產方面。

4.2 香港的溫室氣體排放量變化

表 4.2　香港的溫室氣體排放量

	2005	2006	2007	2008	2009	2010	2011
環境保護署估計 (百萬公噸)[42]	42.0	42.3	43.6	42.3	42.7*	40.8	42.7**
環境保護署估計人均排放(公噸)[42]	6.2	6.2	6.3	6.1	6.1	5.8	6.0**
世界自然基金會香港分會估計人均排放(公噸)	- - -	- - -	8.1[38]	13.44[43]	- - -	- - -	- - -

**自上一份報告起，此數據已由 42.9 更新為 42.7。*

***經修訂的臨時數字*

討論

環境保護署報告顯示在 2010 年溫室氣體人均排放量有輕微下降，但在 2011 年卻回升至 2009 年水平。自 2009 年起沒有第三者提供的人均排放量資料可供比較。

香港應可透過改善本港現存五萬座建築物的能源使用效益，
以達至持續減少碳排放的目標。

5. 生物多樣性保育的計劃及資源

5.1 經核准、獲配資源及同時符合《公約》原則及標準的積極《行動計劃》需要多少個月才能落實?

2013 年的最大喜訊莫過於是香港開展《生物多樣性策略及行動計劃》的制訂工作。在環境局與漁護署的帶領下，預計於 2015 年之前制訂一個能讓社會各界專家參與的「行動計劃」，使香港能符合《愛知目標》。可惜制訂過程中政府提供的資源有限，故此「行動計劃」主要靠各非政府團體及學術機構專家們的義務參與，及以漁護署的現有資源執行。

在「行動計劃」的制訂過程中，其他政府部門只是有限度地參與。情況令人關注到日後如何就「公約」第 6 條的要求，設計、批核及推行一些跨部門[44]的自然保育行動。

政府有責任為制訂《生物多樣性策略及行動計劃》提供資源，
使其能符合《生物多樣性公約》的標準及《愛知目標》。

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[5] 包括具特殊科學價值地點、自然保育區、海岸保護區、綠化地帶、農業及鄉村式發展地帶。資料是透過公開資料守則向規劃署查詢取得。

[6] 資料是透過公開資料守則向漁農自然護理處查詢取得。

[7] 2013 年漁護署檢舉了 96 宗非法砍伐土沉香的個案。

[8] 黑臉琵鷺(*Platalea minor*)和勺嘴鷸(*Eurynorhynchus pygmeus*) 有世界性行動計劃覆蓋，亦適用於香港。雖然澳洲有就白腹軍艦鳥(*Fregata andrewsi*)制訂行動計劃，計劃並不適用於香港，因為白腹軍艦鳥在香港是非常罕見的迷鳥。嘉道理農場暨植物園有三線閉殼龜的保育計劃(*Cuora trifasciata*).

[9] 漁農自然護理署為綠海龜(*Chelonia mydas*)進行人工繁殖及衛星追蹤計劃。該署亦為盧氏小樹蛙(*Liuixalus romeri*)進行保育行動。不過，就此未有正式發表的行動計劃。

[10] Fellowes, J.R., Lau, M.W.N., Dudgeon, D., Reels, G.T., Ades, G.W.J., Wilson, K.D.P. & Yu, Y.T., 2002, Fauna of Conservation Concern. Memoirs of the Hong Kong Natural History Society, 25:123 – 159.

[11] 地政總署，2013，香港地理資料，取自 http://www.landsd.gov.hk/mapping/tc/publications/map.htm，摘錄於 2013 年 12 月 2 日。

[12] 漁農自然護理署，2013，郊野公園及特別地區，取自 http://www.afcd.gov.hk/tc_chi/country/cou_lea/cp_sa.html，摘錄於 2013 年 12 月 2 日。

[13] 香港濕地公園有生物多樣性管理，但我們未能取得一個正式發展的管理計劃，而實際有生物多樣性管理的面積可能少於 60 公頃。

[14] 后海灣拉姆薩爾濕地 (1540 ha)、觀音山(即嘉道理農場暨植物園 148 ha)、塱原(12.5ha) 及鳳園蝴蝶保育區 (2 ha)有管理計劃。

[15] 漁農自然護理署，2013，指定的海岸公園及海岸保護區，取自 http://www.afcd.gov.hk/tc_chi/country/cou_vis/cou_vis_mar/cou_vis_mar_des/cou_vis_mar_des.html，摘錄於 2013 年 12 月 2 日。

[16] CBD, 2011, Strategic Plan 2011-2020: Aichi-Targets. Available from: http://www.cbd.int/sp/targets Accessed on 2 Dec 2013.

[17] 思匯政策研究所，2011，香港郊野公園網絡的適應性治理，取自 http://www.civic-exchange.org/tc/publications/164987570，摘錄於 2015 年 8 月 14 日。

[18] 香港特別行政區行政長官 2010 年施政報告。

[19] 香港特別行政區，新聞公報：立法會九題：海岸公園，取自 http://www.info.gov.hk/gia/general/201312/04/P201312040326.htm，摘錄於 2014 年 1 月 5 日。

[20] 土木工程拓展署，優化土地供應策略 – 維港以外填海及發展岩洞，取自 http://www.cedd.gov.hk/tc/landsupply/index.html，摘錄於 2015 年 8 月 14 日。

[21] 資料根據規劃署透過法定規劃綜合網站所收到的規劃申請地點的面積所計算，取自 http://www1.ozp.tpb.gov.hk/gos/default.aspx，摘錄於 2015 年 8 月 14 日。

[22] 2011-2012 年施政報告(第 43 段(iv))；2013 年施政報告(第 73 段(ii))；2014 年施政報告(第 125 段)。

[23] 小型屋宇申請於「農業」地帶批給許可的申請之中的百分比：2011 年的 92%；2012 年的 92%；及 2013 年的 96%。小型屋宇申請於「綠化地帶」批給許可的申請之中的百分比：2011 年的 65%；2012 年的 72%；及 2013 年的 66%。(資料根據規劃署透過法定規劃綜合網站所提供的數據計算而成，取自 http://www1.ozp.tpb.gov.hk/gos/default.aspx)。

[24] 資料是透過公開資料守則向渠務署查詢取得。

[25] 漁農自然護理署，2007，香港物種探索：漁農自然護理署期刊，第 15 期(2007 年的數據)。
[26] 資料是透過公開資料守則向漁農自然護理署查詢取得。.
[27] 漁農自然護理署，2011，〈關於薇甘菊〉，取自 http://www.afcd.gov.hk/tc_chi/conservation/con_flo/About_Mikania/about_mikania.html ，摘錄於 2013 年 12 月 5 日。
[28] 立法會，2012，會議過程正式紀錄：2012 年 2 月 1 日星期三，取自 http://www.legco.gov.hk/yr11-12/chinese/counmtg/floor/cm0201-confirm-ec.pdf，摘錄於 2013 年 12 月 5 日。
[29] Fang et al., 2010. Impact of invasive apple snails in Hong Kong on wetland macrophytes, nutrients, phytoplankton and filamentous algae. Freshwater Biology. Volume 55, Issue 6, pages 1191–1204
[30] 新報，〈逾 200 村民義工響應大埔鳳園薇甘菊大清除〉，摘錄於 2013 年 11 月 11 日。
[31] Anon, 2013. Winter 2012-13 Report on Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department.
[32] Anon, 2014. Winter 2013-14 Report on Waterbird Monitoring at the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department.
[33] Hung, 2013, Monitoring of Marine Mammals in Hong Kong Waters (2012-13). Final report (1 April 2012 to 31 March 2013). Report submitted to the Agriculture, Fisheries and Conservation Department of the Hong Kong SAR Government.
[34] Anon, 2012. Summer 2012 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department.
[35] Anon, 2013. Summer 2013 Report: Egretry Counts in Hong Kong with particular reference to the Mai Po Inner Deep Bay Ramsar Site. Report by The Hong Kong Bird Watching Society to the Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region Government.
[36] 劉惠寧博士，世界自然基金會香港分會，個人通訊。
[37] 長春社，無日期，〈惜樹靈人- 樹木保育計劃〉，取自 http://www.treelovers.org.hk/index.php?tn=tree_buddhist%20pine&lang=tw〉，摘錄於 2013 年 12 月 9 日。
[38] 世界自然基金會香港分會，2008，香港生態足印報告：資源透支的世代。
[39] WWF, 2010, Hong Kong Ecological Footprint Report 2010: Paths to a Sustainable Future.
[40] WWF, 2013, Hong Kong Ecological Footprint Report 2013.
[41] 吳敏，香港機場管理局，個人通訊。
[42] 環境保護署，2013，香港的溫室氣體排放量及碳強度，取自 http://www.epd.gov.hk/epd/english/climate_change/files/HKGHG_CarbonIntensity_201304.pdf〉，摘錄於 2013 年 12 月 3 日。
[43] 世界自然基金會香港分會，2010 年 8 月 7 日，新聞稿：世界自然基金會最新公布個人年均碳排放 13 噸碳足印主要源自航空，取自 http://www.wwf.org.hk/news/press_release/2010_press_release.cfm?2560/WWF-Reveals-the-Latest-Carbon-Footprint-Data
[44] CBD, 2013. Article 6. General Measure for Conservation and Sustainable Use. Available from: http://www.cbd.int/convention/articles/?a=cbd-06 Accessed on 2 Dec 2013