

Managing a Ramsar
Wetland and an
Education Centre
*Challenges and lessons
learnt from an
operational perspective*

Bena Smith
Mai Po Centre Manager
08 September 2014

Solutions for a living planet



Wetland Sites

Challenges / Lessons

- Resources
- Ecological value
- Communication / Information sharing
- Education / Public awareness



MAI PO
NATURE RESERVE
30TH ANNIVERSARY

a living heritage connecting humans and nature





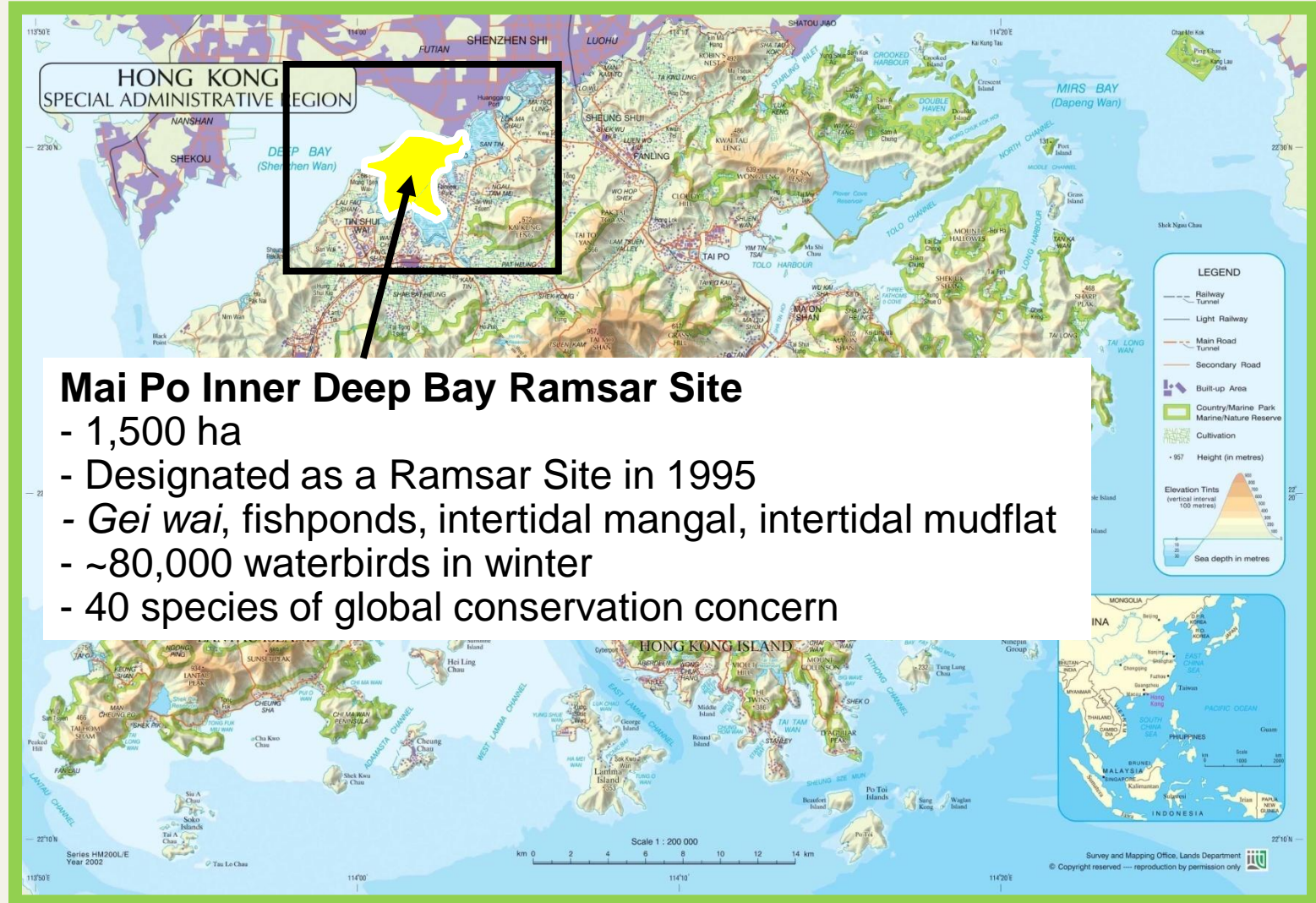
WWF-Hong Kong Wetland sites



Training Chinese wetland managers



WWF-Hong Kong Mai Po Nature Reserve





Challenges

Resources – Operating costs

Operating costs

- Staffing to deliver core programmes
 - Habitat management
 - Education and public awareness
 - Ecological research
 - Community outreach
- Centre costs
- Visitor facilities (fsc)
- Site management costs
- Administration, etc.

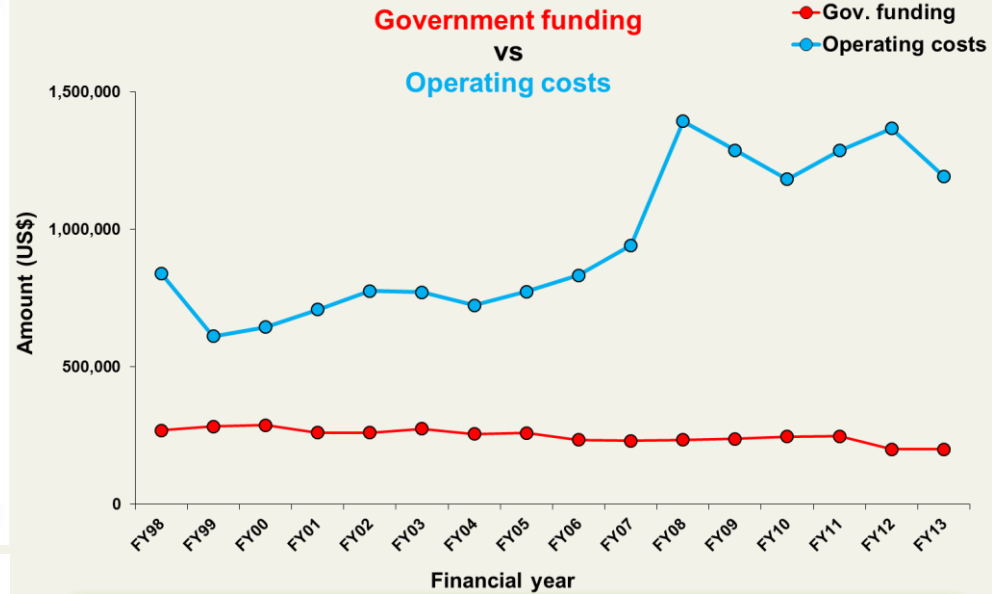
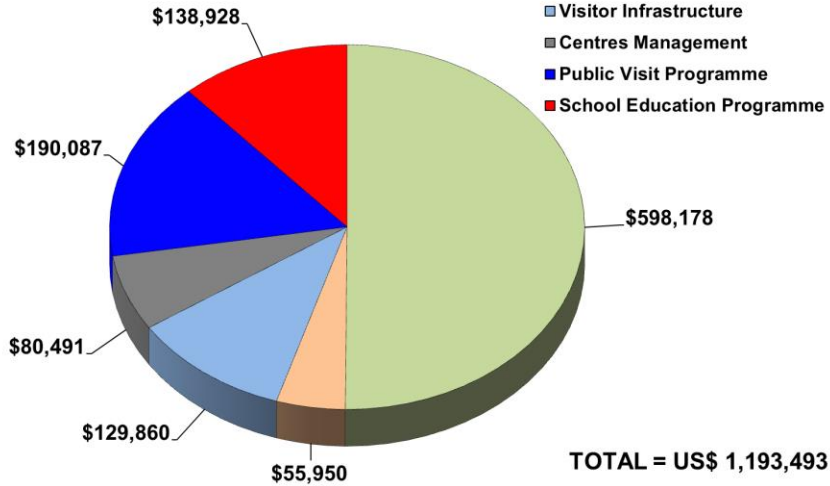




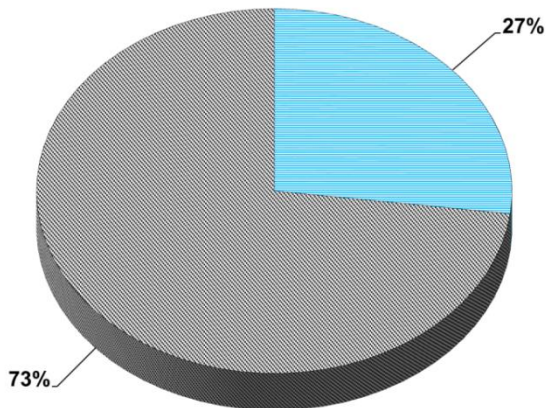
Challenges

Resources – Operating costs

- Habitat / Species Management
- Research & Monitoring
- Visitor Infrastructure
- Centres Management
- Public Visit Programme
- School Education Programme



- GAA Income
- WWF Raised Income





Challenges

Resources – Operating costs

Reduce operating costs

- Utilize volunteers
- Undertake high cost works in-house
- New methods / techniques
- Low maintenance infrastructure





Challenges

Resources – Fundraising

Fundraising activities

- W4N (annual charity walk)
- Big Bird Race
- Membership
- Public Visit Programme
- Private donors
- Trusts & Foundations

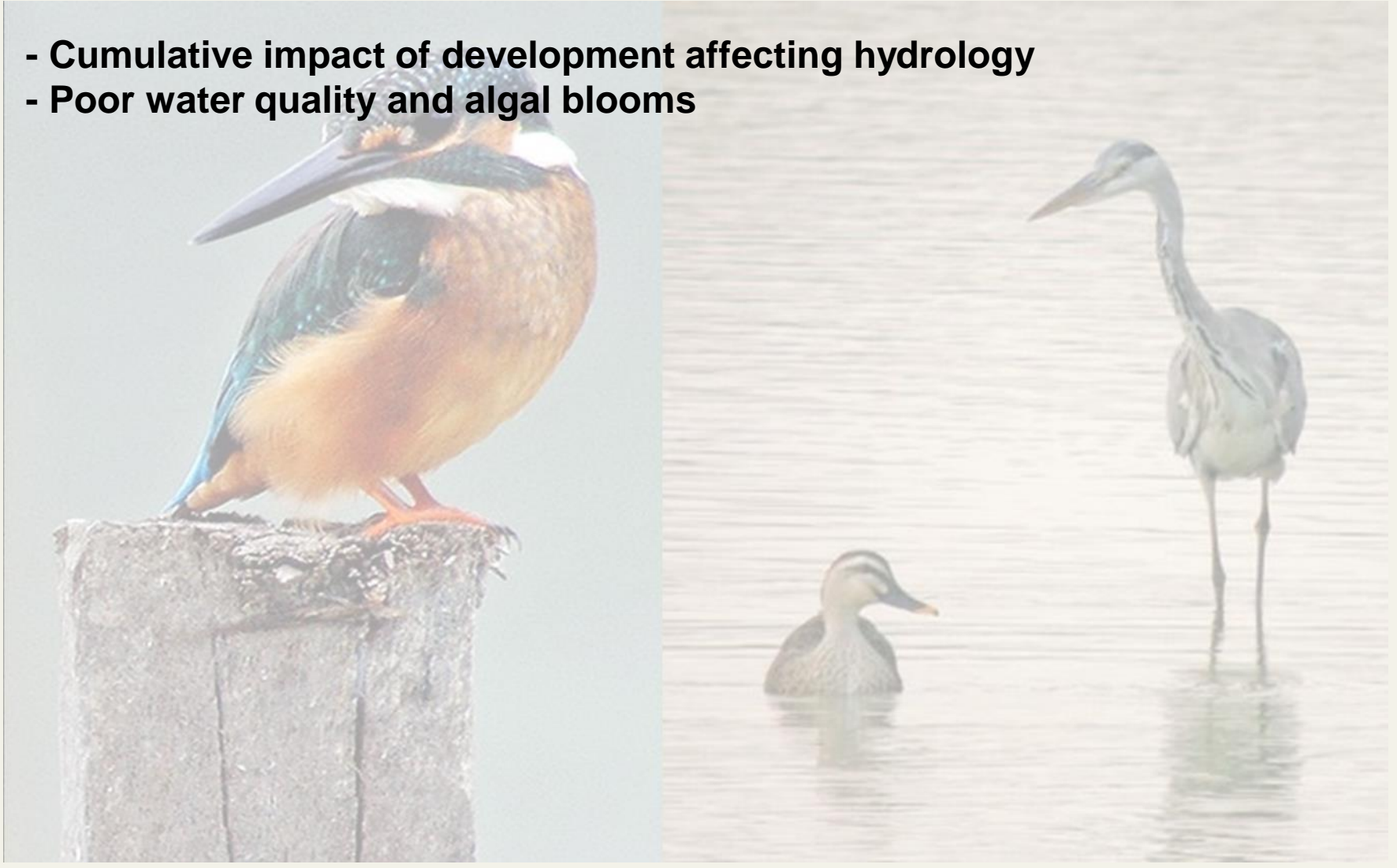


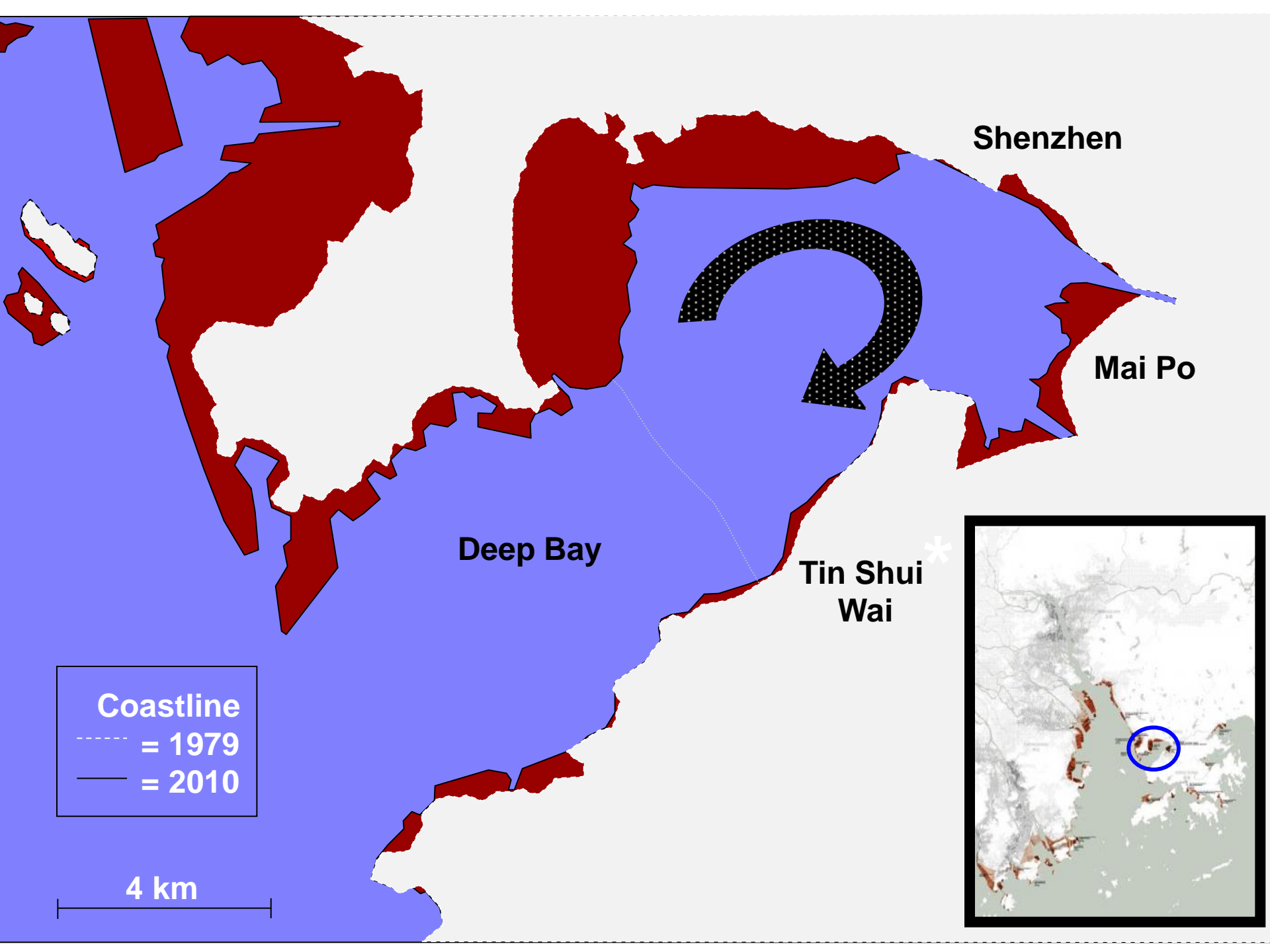


Challenges

Maintaining ecological value

- **Cumulative impact of development affecting hydrology**
- **Poor water quality and algal blooms**







Challenges

Maintaining ecological value

2002年 貴族盤 國內藍籌代理誠意推薦

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深圳 · 皇崗口岸 · 濱河路

開盤當日熱銷80套 三度加推全米埔靚景單位

2001年 匯港名苑第一期勁銷815伙 榮登全年銷售冠軍口岸樓皇
2002年 815伙業主信心保證 二期皇府灣將再掀起新世紀“口岸樓皇”搶購熱潮....

26樓實景拍攝米埔景財旺地

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大公管理，讓空間更加寬闊。
南北定向，空氣流通。
空間獨立的大客廳。
經典的大廚房。
有雙的衛生間設計。

3房2廳：955平方呎
大公管理，讓空間更加寬闊。
南北定向，空氣流通。
獨立獨立的大客廳。
有雙的衛生間設計。

2房2廳：674平方呎
3房2廳：605平方呎

送豪華裝修及高檔電器

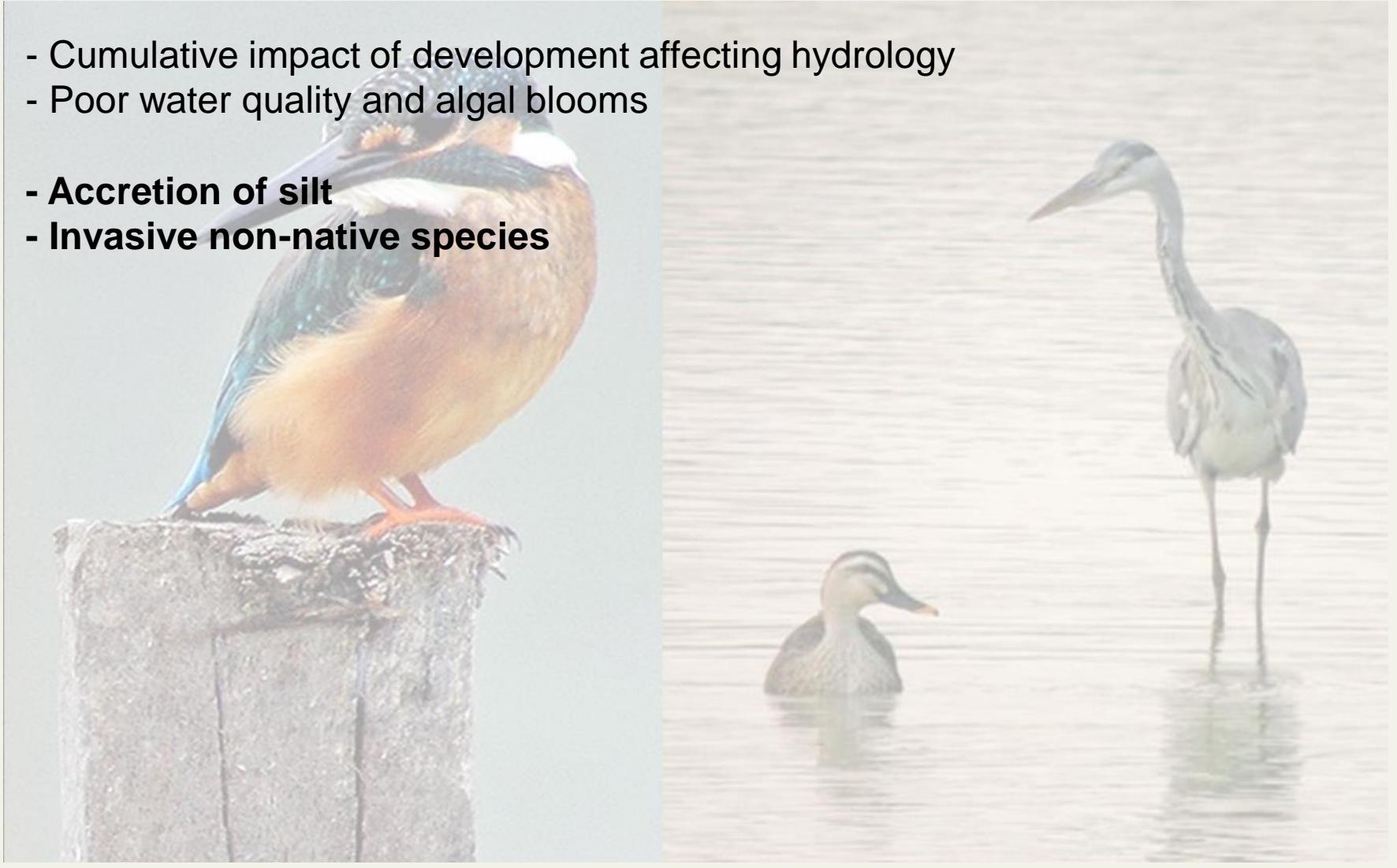
- ◆ 巴西進口木地板
- ◆ 美國豪華桃木大門
- ◆ 廳房三菱分體式空調
- ◆ 西門子雪櫃
- ◆ 樂聲牌熱水器
- ◆ 名牌企浴



Challenges

Maintaining ecological value

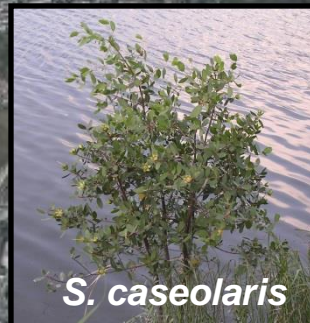
- Cumulative impact of development affecting hydrology
- Poor water quality and algal blooms
- **Accretion of silt**
- **Invasive non-native species**



1990

2010

- Accretion rate
~ 3 cm yr⁻¹
~ 2002-09 (x2.5 cf last 50yrs)
- Mangal extension
~ 15-20 m yr⁻¹
~ 52% loss of mudflat
in last 10 years (Ramsar)



S. caseolaris



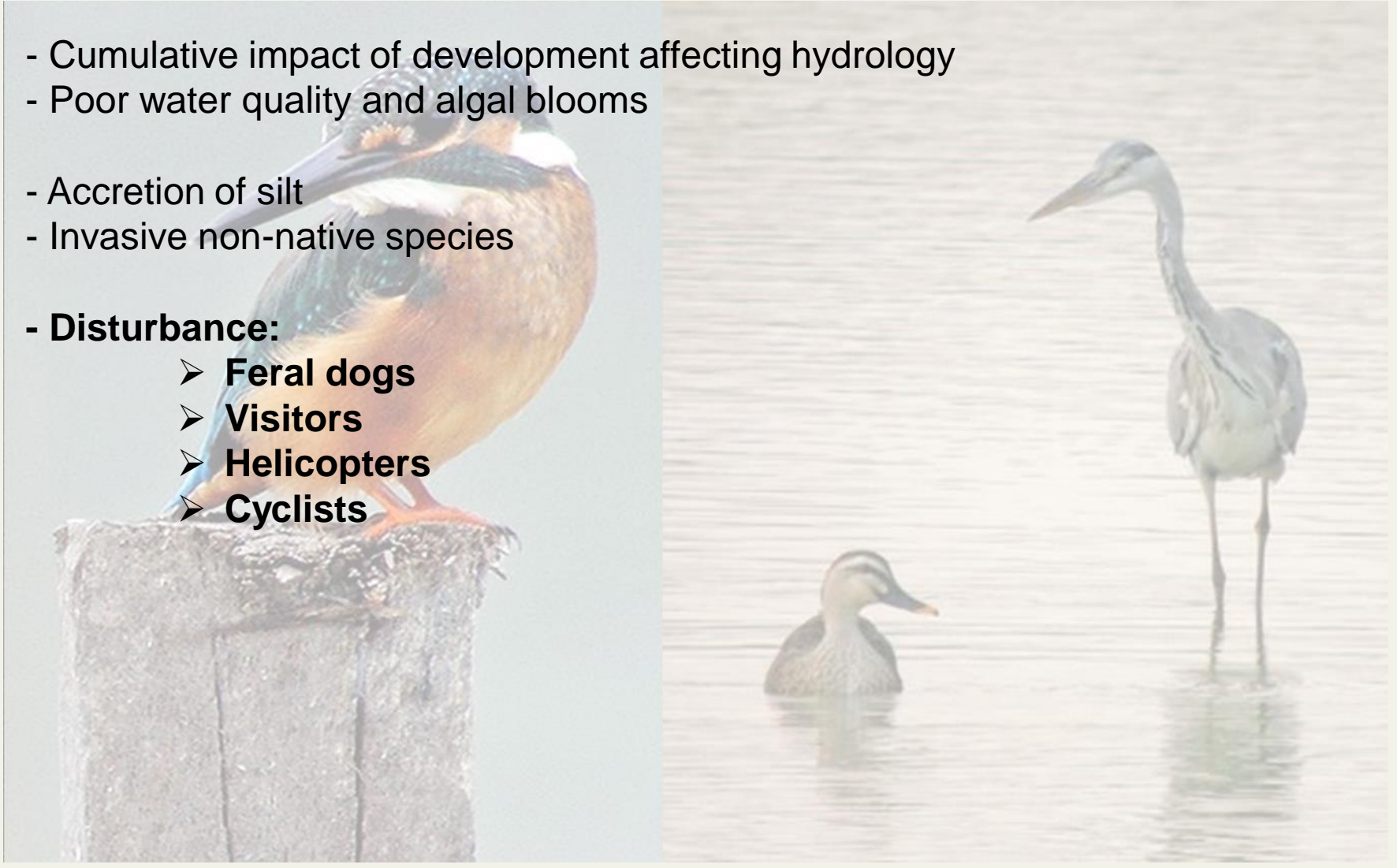
S. apetala



Challenges

Maintaining ecological value

- Cumulative impact of development affecting hydrology
- Poor water quality and algal blooms
- Accretion of silt
- Invasive non-native species
- **Disturbance:**
 - **Feral dogs**
 - **Visitors**
 - **Helicopters**
 - **Cyclists**





Challenges

Maintaining ecological value

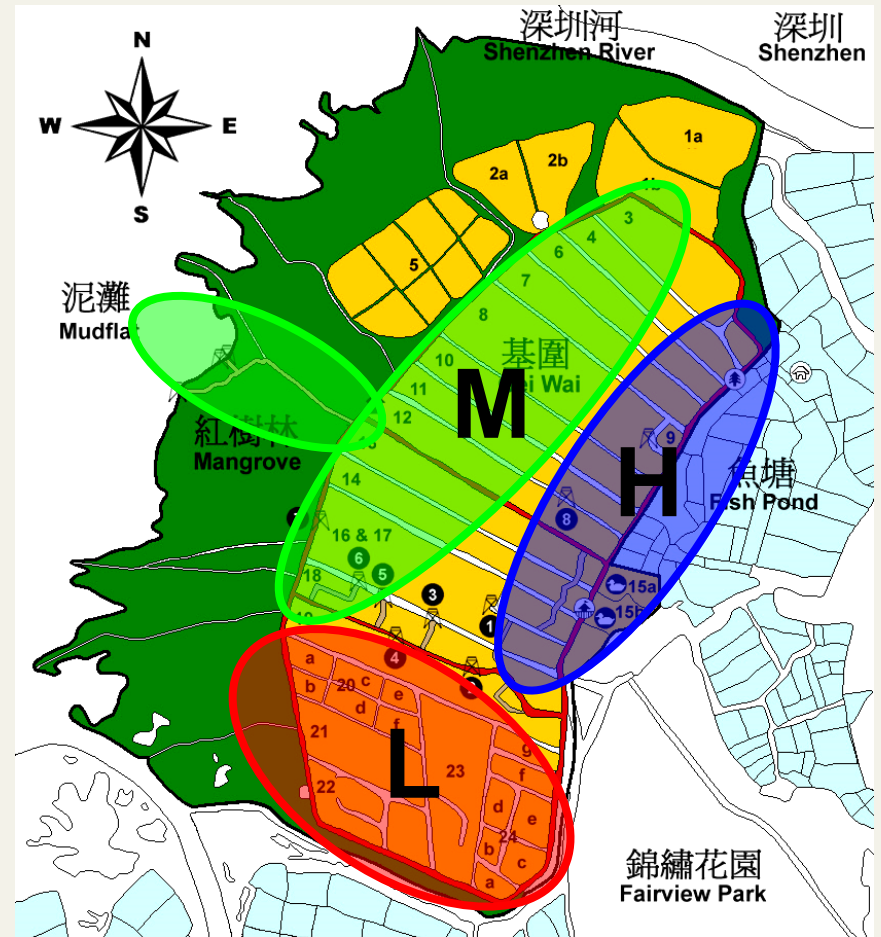




Challenges

Maintaining ecological value

Balance between maximizing visitor access whilst minimizing impacts on the ecological value of the site.

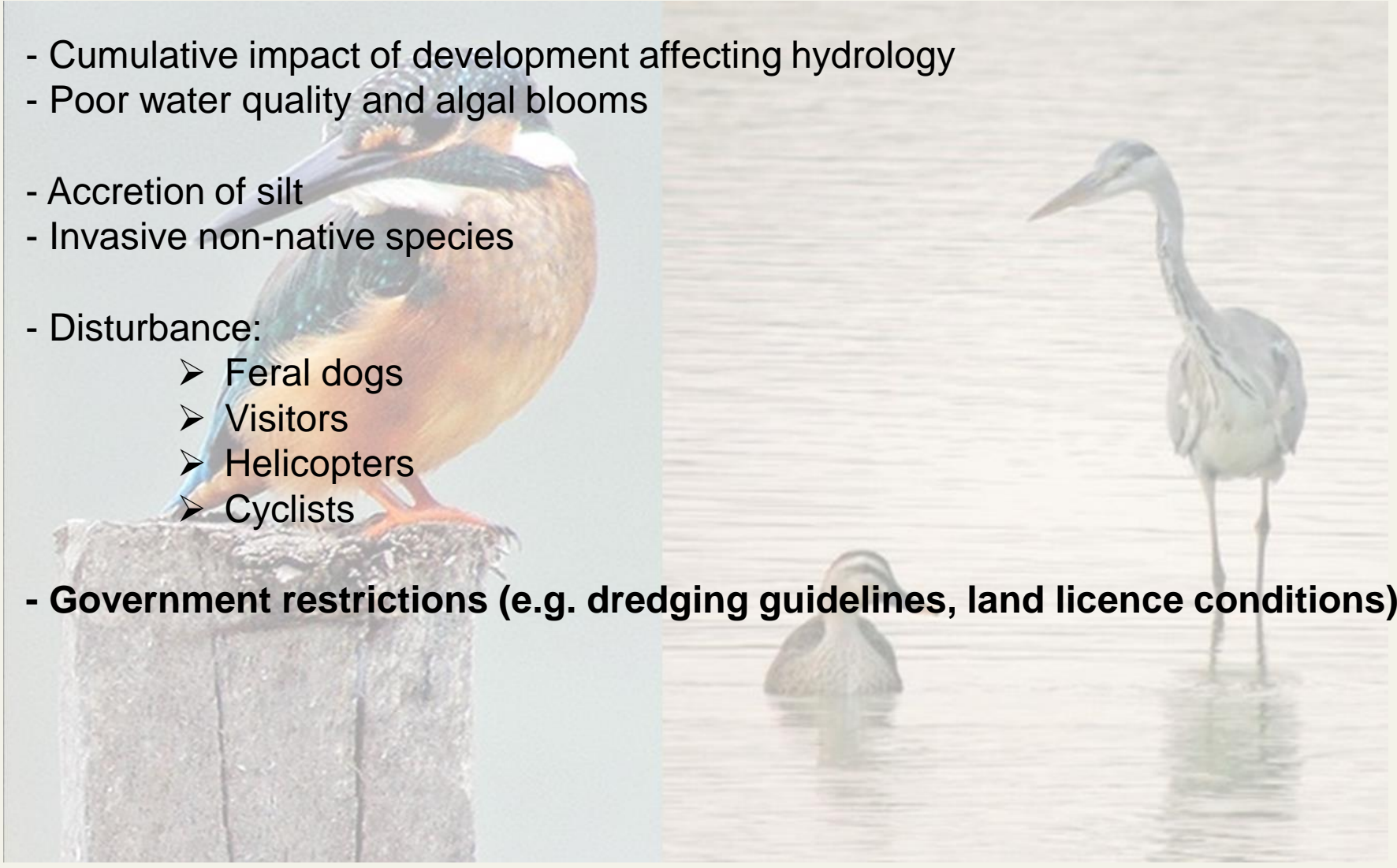




Challenges

Maintaining ecological value

- Cumulative impact of development affecting hydrology
- Poor water quality and algal blooms
- Accretion of silt
- Invasive non-native species
- Disturbance:
 - Feral dogs
 - Visitors
 - Helicopters
 - Cyclists
- **Government restrictions (e.g. dredging guidelines, land licence conditions)**





Challenges

Maintaining ecological value

- Cumulative impact of development affecting hydrology
- Poor water quality and algal blooms
- Accretion of silt
- Invasive non-native species
- Disturbance:
 - Feral dogs
 - Visitors
 - Helicopters
 - Cyclists
- Government restrictions (e.g. dredging guidelines, land licence conditions)
- **Lack of scientific knowledge**
- **Uncertainty about impacts from a changing change**

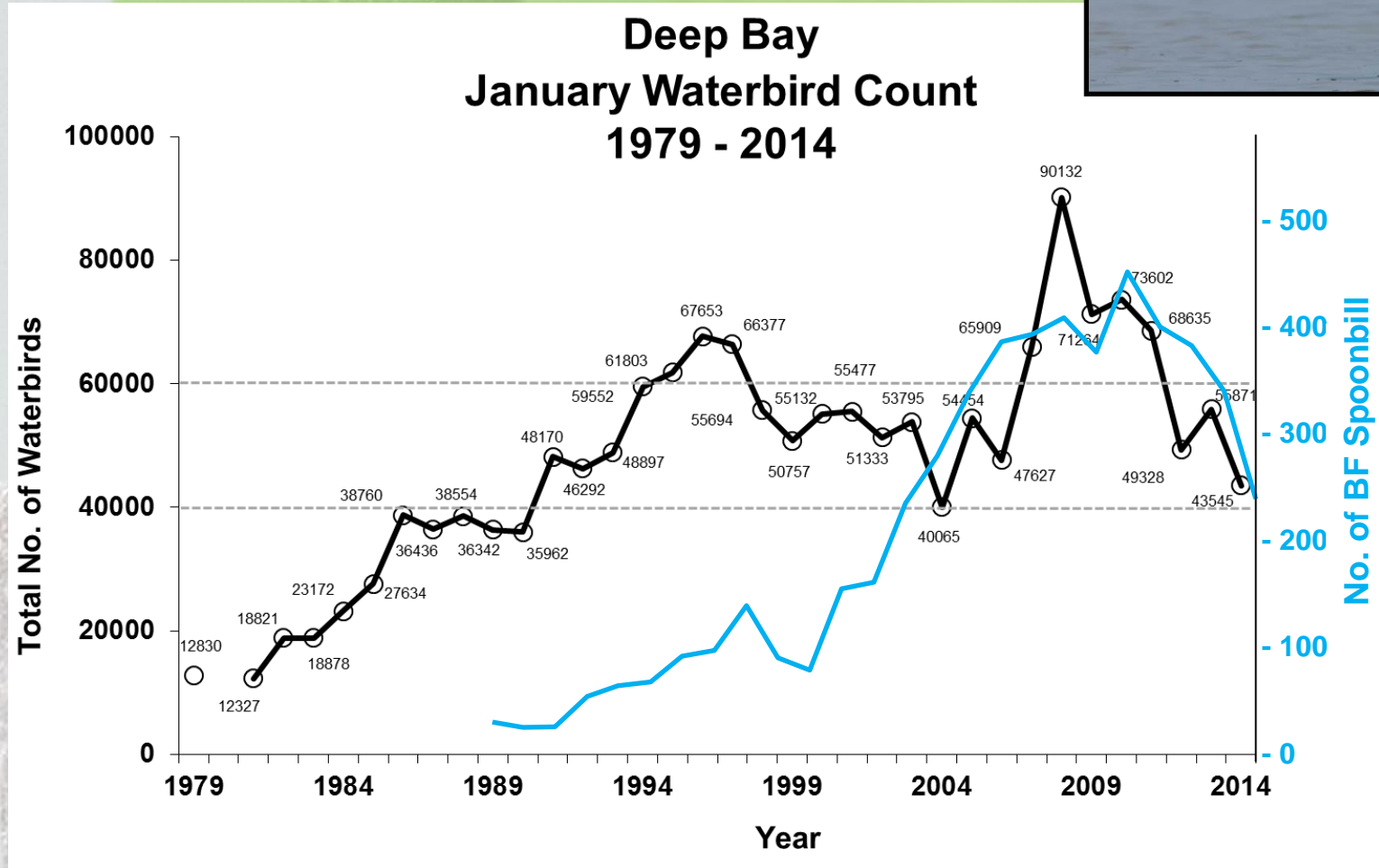


Challenges

Maintaining ecological value



- Climate change
- Changes in migratory waterbird populations





Challenges

Maintaining ecological value

Lessons learnt

- Management Plan (that has buy-in from all the stakeholders)
 - Rationalize and defend your management decisions
 - Increase government confidence in issuing permits (e.g. tree felling)
 - Government support and trust is critical
- Strong Management Committee (incl. government representative)
- Work with site users (e.g. HK birdwatching Society)

Mainland China

- No herbicide use inside Ramsar Site core zones
- Spartina colonization
- Bird trapping / hunting



MAI PO NATURE RESERVE
HABITAT MANAGEMENT, MONITORING
AND RESEARCH PLAN 2013-2018

VOLUME I
HABITAT MANAGEMENT



October 2013

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e-mail: ppaco@wwf.org.hk
website: www.wwf.org.hk



Challenges

Communication / Information sharing

Flyway scale

- International symposiums
- EAAF Partnership

Regional scale

- WLI Asia
- Regional workshops
- Ramsar regional meetings
- Parks Congress

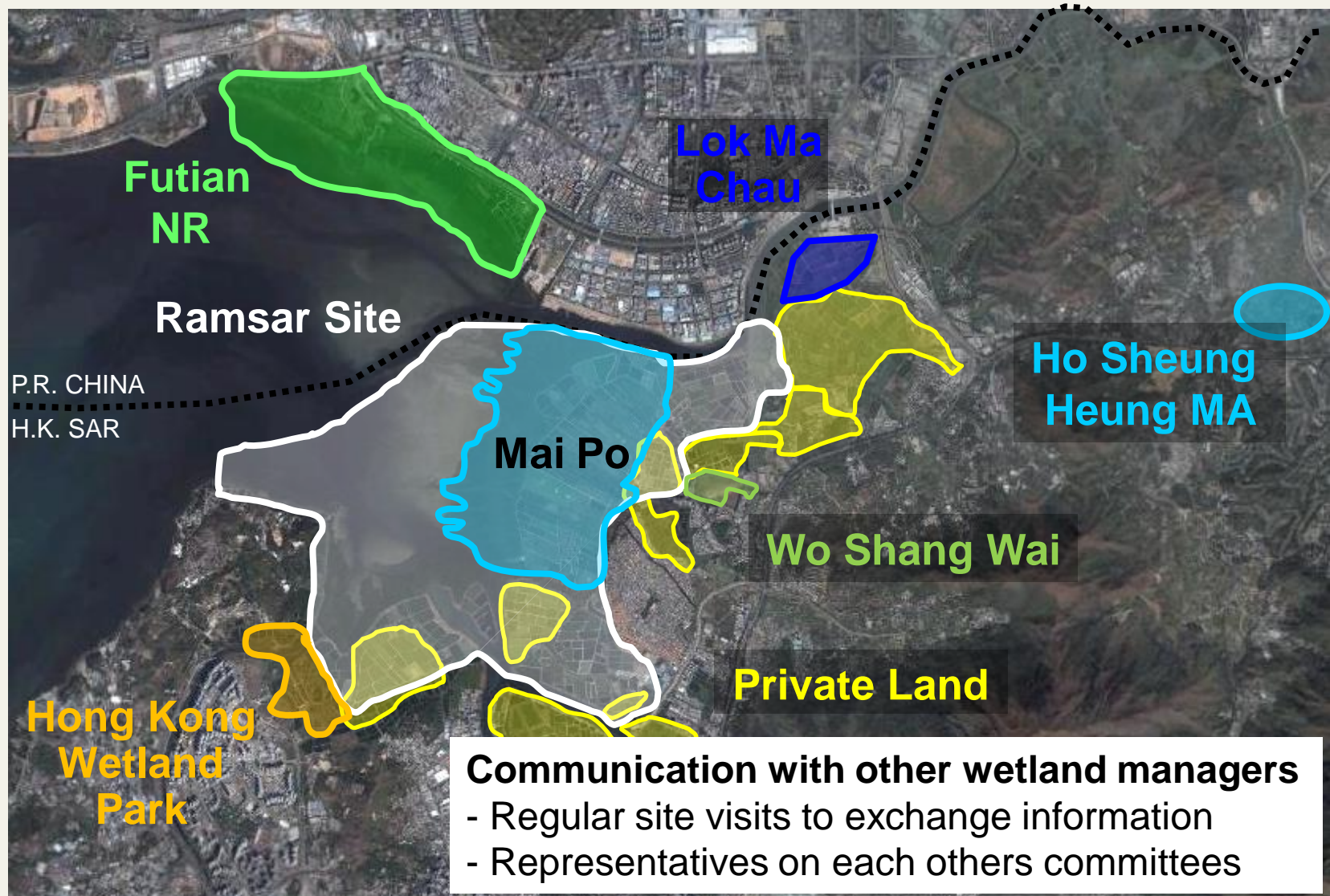
Local Scale.....





Challenges

Communication / Information sharing





Challenges

Communication / Information sharing

Communication with other wetland managers

- Public seminar (site management and research)



THIS SEMINAR IS CO-ORGANIZED BY  

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淡水及濕地公眾講座

Public Seminar on Freshwater and Wetlands



日期: 2013年4月20日 (星期六)
 Event Date: 20 April 2013 (Saturday)
 時間: 上午九時半至下午一時
 Time: 9:30 - 13:00
 地點: 香港大學黃麗松講堂
 Venue: Rayson Huang Theatre, The University of Hong Kong
 主題及講者: 亞洲河流的生物多樣性保育: 變化萬千的世界正面臨的重大挑戰
 香港大學生態學及生物多樣性學講座教授 杜德俊
 廣東省林業廳代表

Themes and speakers: **Biodiversity Conservation in the Rivers of Asia: a Grand Challenge in a Changing World**
 Professor David Dudgeon, Chair of Ecology & Biodiversity, The University of Hong Kong
Freshwater and Wetland Conservation at Dongjiang
 Official from Guangdong Provincial Forestry Department

歡迎各大專生及公眾人士登入以下網址: www.scifac.hku.hk/community/projects/wetland 登記參加講座。截止日期為2013年4月5日，額滿即止。
 Students and general public are most welcome to attend. Please register online www.scifac.hku.hk/community/projects/wetland by 5 April 2013. First come first served.







Challenges

Communication / Information sharing

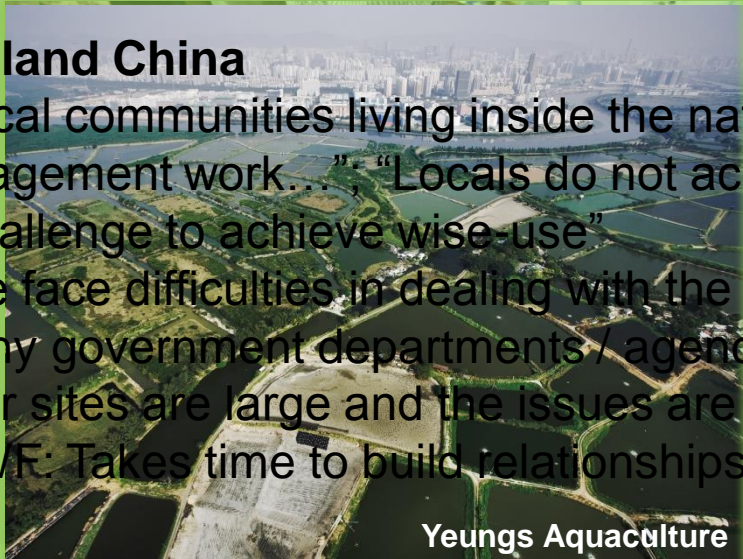
Local community

- Sense of exclusion from the site
- Need to build support for the Reserve
- Join forces on common issues
- Resolve conflicts
- Events involving local community
- Fishpond management schemes

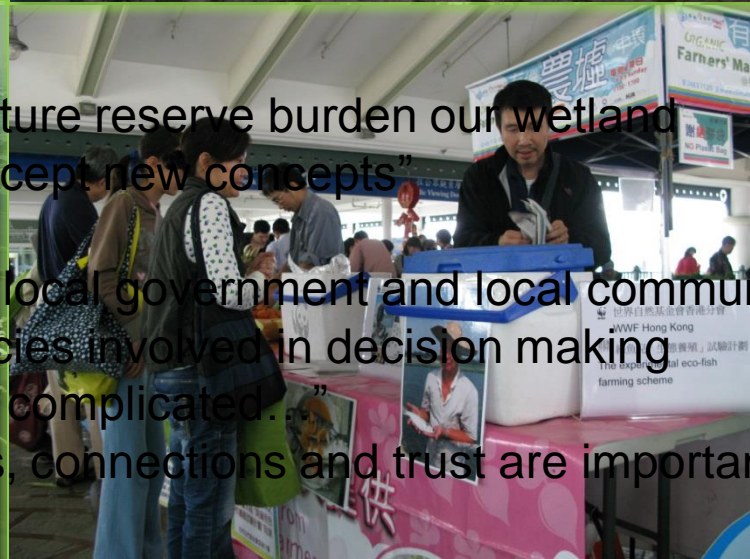


Mainland China

- “Local communities living inside the nature reserve burden our wetland management work...”; “Locals do not accept new concepts”
- “Challenge to achieve wise-use”
- “We face difficulties in dealing with the local government and local communities...”
- Many government departments / agencies involved in decision making
- “Our sites are large and the issues are complicated.”
- WWF: Takes time to build relationships, connections and trust are important



Yeungs Aquaculture





Challenges

Education and Public Awareness Programmes

Education programme (schools)

- Target: 400 school visits annually
- Wetland education is not a compulsory topic, therefore WWF has to promote its programme to schools
- There are other service providers e.g. HKWP, green groups. Therefore becoming a challenge to fill up the quota
- Schools prefer larger groups (~100 pupils) but WWF policy is for groups max 40 pax. HK Wetland Park has no restriction
- WWF tours are longer and in-depth. Majority of schools want short trips (1-2 hours ('leisure') rather than education
- General lack of enthusiasm for outdoor activities, students prefer air con/comfort
- China : Env. education is a low priority in China; Safety





Challenges

Education and Public Awareness Programmes

Lessons learnt

- The content needs to be contemporary, use IT on the reserve (e.g QR codes)
- Practical hands-on activities can help bridge the disconnect
- Good relationship with teachers is important (share experiences) and Edu. Bureau
- Need for feedback loop (evaluate outcome of each programme)
- Students are listening despite their blank faces!

Education Programmes (2014)

E-learning platform for collecting & analyzing data





Challenges

Education and Public Awareness Programmes

Public awareness programme

- Target: 15,000 visitors annually
- Competition from other service providers
- 'Remoteness' of the Reserve
- China: Difficult to attract visitors due to long distance from urban areas

Lessons learnt

- Continuous need to create new tour themes
- University students are a good source of labour!





Challenges

Education and Public Awareness Programmes

Infections point to rising risk of outbreak, says academic

Mai Po reserve steps up measures against bird flu



A cyclist finds the Mai Po reserve closed to visitors yesterday after tests on the carcass of a grey heron (similar to the one below) confirmed it had the H5 virus. Photo: Dickson Lee

Cheung Chi-fai
Mai Po Nature Reserve has stepped up measures to monitor and prevent bird flu after a dead wild bird infected with the virus was found inside the reserve, forcing it to close for 21 days.
WWF Hong Kong, which manages the reserve, said the rest of its wintering wild birds remained "normal" since a dead grey heron tested positive for H5 virus on Thursday.
But a professor of microbiology said the number of dead and infected birds found in recent days, along with recent human deaths from bird flu on the mainland, indicates that the risk of an outbreak was rising.
Officers from the Agriculture, Fisheries and Conservation Department reported no new bird or poultry carcasses on Lantau yesterday and no new confirmed or suspected cases of the bird flu virus.
Since January 31, three ducks and a goose found dead have been confirmed with H5N1, and three chick-

ens and two ducks have tested positive for the H5 virus, one of the 15 types of bird flu.
The department also said it would prosecute two men for illegally keeping one chicken and five pigeons at their Yuen Kong and Tam Mun homes. The backyard poultry were found during an inspection.
The Guangdong authorities said yesterday they had found neither unusual poultry deaths nor bird flu outbreaks in the province, amid speculation that the carcasses found in Lantau drifted from the province.
Berna Smith, Mai Po reserve's conservation manager, said it had stepped up prevention and monitoring since the closure started yesterday. All scheduled visits to the reserve have been cancelled during the closure period, affecting 700 visitors.
He said routine measures such as sterilisation of hands, setting up of foot baths, and increased cleaning of hand rails and areas popular with birdwatchers had been enhanced.



The carcass of the grey heron was picked up by Mi Smith on Monday at the centre of a pond on the southern part of the reserve, where the public is denied access. Mi Smith said the discovery, though the first time for the reserve, was a "single isolated case" and it did not suggest wild birds were spreading the virus.
More than 30,000 samples of bird faeces collected in the reserve since 2003 have tested negative for the bird flu virus, he added.
Leo Poon Jit-man, assistant professor in the microbiology department at the University of Hong Kong, said it was not known where the dead grey heron had become infected. But he said the risk of an outbreak was now higher after the recent dead poultry and birds, and human-bird flu fatalities on the mainland.
"It is not a good sign that dead poultry and birds were found in so many places, taking into account the human deaths on the mainland, the bird flu outbreak risks seem to have increased," he said.
Dr Poon said a good surveillance system, proper hygiene measures and public education could help to minimise the risks.

內地返港女子 接觸死禽發燒求醫

一名剛從內地返港的女子，自稱接觸已死禽後感到不適，送院求診。接收該病人的雅麗氏何妙齡那打素醫院回應時表示，該名57歲的女子昨午因發燒到醫院急症室，院方已安排病人到發燒隔離病房作進一步觀察，病人現時情況穩定，院方會為她進行高流感快速測試。

兩男子散養活雞活鴨被控

另外，因應本港近日發現家禽屍體，漁農自然護理署昨日巡查了全港73條鄉村，分別於元朗及屯門發現兩名男子散養活雞及活鴨，已控告他們非法飼養家畜。漁護署另於錦田及十八鄉發現無人看管活雞，已全部銷毀。

漁護署巡查時，在新田麒麟村發現一名男子散養1隻活雞，又在屯門福亨村發現一名男子散養3隻活鴨。署方將根據《公眾衛生（動物及禽鳥）條例》控告他們非法飼養家畜。該署另在錦田長莆村發現5隻活雞，以及在十八鄉水蕉新村發現2隻活雞，全部無人看管。在抽取樣本化驗後，已將檢獲的所有禽鳥銷毀。

另外，米埔自然保護區內日前檢獲一隻蒼鷺屍體，



米埔關閉

因米埔自然保護區內檢獲一隻蒼鷺屍體，並對H5N1測試呈陽性反應，世界自然基金會宣布由昨日起關閉米埔自然保護區21天。

並對H5N1測試呈陽性反應，世界自然基金會宣布昨日起關閉米埔自然保護區21天。護理區經理施伯鈞表示，今次首次發現護理區內死鳥懷疑感染高流感，而受事件影響，有37間學校、33個旅行團及700名遊客需取消行程。

另外，漁護署人員巡查期間，亦在新田長莆村發現五隻活雞，又在十八鄉水蕉新村，發現兩隻活鴨，該七隻活雞全部無人看管，漁護署發言人強調，政府已在06年起禁止散養家畜，任何人士如未經許可散養雞、鴨、鵝、鵪或鸚鵡等活家畜，均屬違法，最高可被罰款5萬元，重者可最高罰款10萬元。

兩新界村民被控散養家畜



陳伯鈞指，今次首次發現護理區內死鳥懷疑感染高流感。(港台圖片)

【記者陳輝輝報導】本港在高流感肆虐下發現有人私養家畜，漁農自然護理署昨日巡查全港73條鄉村，結果在新田及屯門兩地分別發現兩名男子私自散養活雞及活鴨，故將提出起訴，控告兩人非法飼養家畜。而漁護署又在錦田及十八鄉發現七隻無人看管的活雞，而當兩抽取樣本化驗後，昨已將檢獲的所有禽鳥銷毀。

錦田發現無人看管活雞

當局處於昨日在新田發現多宗禽鳥屍體檢出有H5高流感病毒，遂加強巡查工作，而漁護署昨日巡查全港73條鄉村，結果在新田麒麟村，發現一名男子散養活雞，另外在屯門福亨村，又發現另一男子散養五隻活鴨。漁護署表示，將會根據《公眾衛生（動物及禽鳥）條例》，控告他們非法飼養活家畜的罪名。
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封閉米埔保護區影響學生

另一方面，發現懷疑感染H5高流感病毒蒼鷺屍體的米埔自然保護區，昨日起關閉21日。管理保護區的世自然基金會表示，蒼鷺屍體是在一個基岩內發現，位置偏僻，會加強監察其他鳥類情況。現階段不太擔心有大規模爆發，護理區經理施伯鈞又指出，今次是首次及在保護區內發現死鳥懷疑感染高流感，以往只有間接間發生相關事件，而受事件影響，有37間學校和33個旅行團，以及700名已登記的遊人需要取消行程。

香港大學感染及傳染病中心地亞何栢表示，米埔自然保護區禽鳥感染高流感病毒，相信病毒是來自已污染的水源，有機會與其他禽鳥造成交叉感染，但由於禽鳥與人類接觸很少，人從此途徑傳染病機會不大。觀鳥會主席馮浩輝則懷疑，染病的蒼鷺近日接觸過海邊的家禽屍體而受感染。



米埔自然保護區的工作人員噴灑消毒。(港台圖片)

Avian influenza (poultry flu!)



Bena Smith
bsmith@wwf.org.hk





Contents



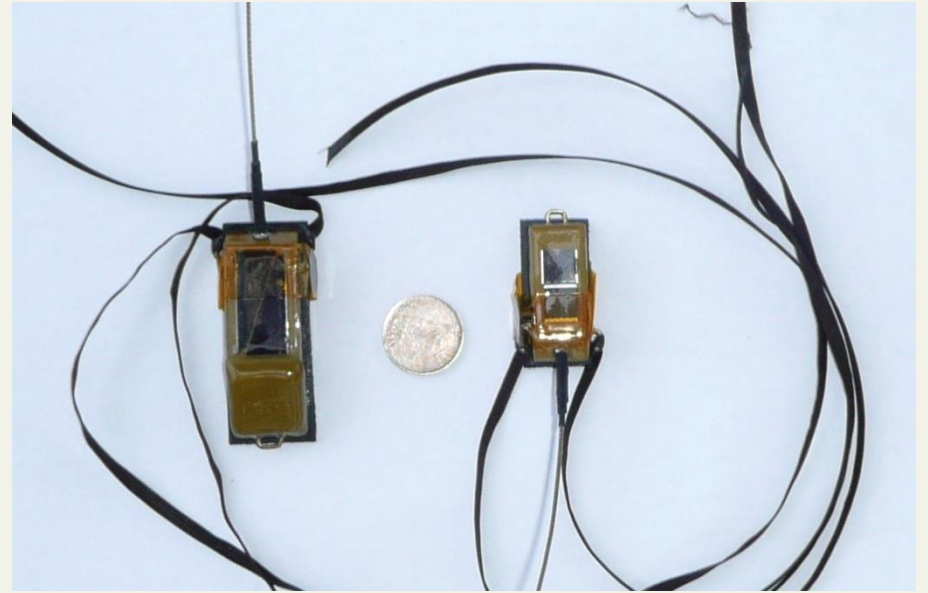
Education and Public Awareness Program





Mai Po Nature Reserve

Research & monitoring programme



Credit : Cthomas