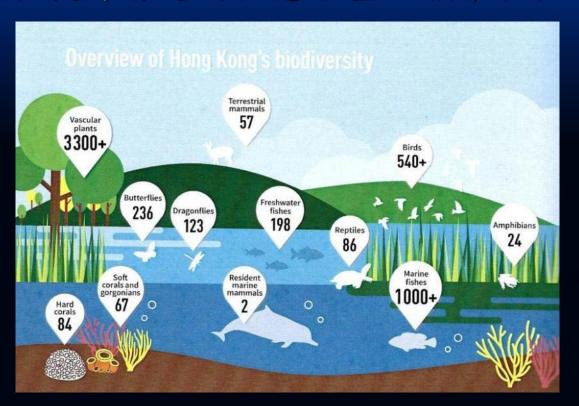
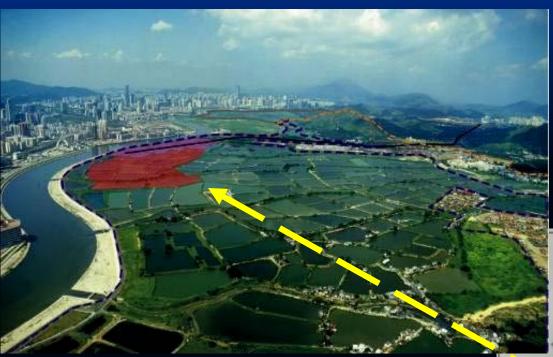
Creating and Enhancing Hong Kong's Eco-capacity: Prospect and Challenges

創造和提升香港的生態容量: 願景和挑戰



Ng Cho Nam 吳祖南
Department of Geography, HKU香港大學 地理系

The Sheung Shui - Lok Ma Chau Spurline project (2002) 九鐵 上水 - 落馬洲支線 (2002)



wetland enhancement off-site/at adjacent site at Lok Ma Chau 落馬洲濕地生態補償計劃



Habitat Enhancement: To be Completed in 2006 Pond 21 planting · Ponds 16,18 & 20 recontoured and planted 7 · Bamboo planting on Pond 22 island planting (completed April 2006) · 'PTT' Ponds reeds replanted •Pond 15 planting (completed May 2006)











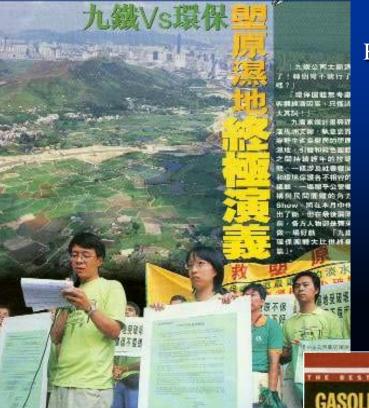
Enhanced? Compensated? Regenerated?

KCRC wins full marks for new wetland, but greens fear flaw

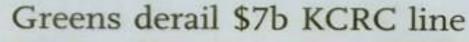


KCRC Lok Ma Chau wetland compensation





KCRC Sheung Shui to Lok Ma Chau Spurline Project (2000) 九鐵 上水 - 落馬洲支線 (2000)



Sydney deserves some credit

for shining the Olympic toech

ENVIRONMENT

that no roads would be but to

feest and setting up the lagrat

^{塱原線} 膺《時代》最佳新聞

一次支持生態多於經濟



申請原備媒的高度課格。上期的で助代酬は3円

定提出上訴。因與一旦上訴得查、就變成一定全球最高的

香州報将一次支持生货多处经济」。 提動今次反對運動其中一名中堅分子,香港觀島會自然 育主任吳高南形容、有關報道問職員、他稱以往聽順的



接並馬房住房所,然而「試滅聲音合養滑官員將許可證歷」於費,又導放有關項目延養、他認為、抵然治理原用所工程 這條路線 第三期會影響選擇火車站。袁紹應考慮給此機會福建建國訊 院次集白九八年四日《臺灣影響評估報酬》午到公安,是6

以野媛附地递输人士的魅力,而不要以降结构。

要保管署長羅樂果於十月中宣布,九歲的推翻會破壞壓單 白九八年生效以前,首宗務認的上訴信案。

署署共音次引用范疑例賦予的權力。否決基建工程項目領域訴

noved 500 km to safety were

Three were fitted with global-

that would not right through a aviet species. But protests perunided Hong Kong officials to



What if the Bogedek's Legless Lizard was not critically endangered?



監獄塡海惹爭議

署長:急切需要也須慢慢諮詢



新上任的土木工程著兵曹德江表示: 超透層行及中國的填海工程新設。 他已來兩個聲遊戲用事: 若計劃可能涉及填海, 要先患者(是否有必要 (需來維隆)





□ 人物特寫 明報記書

有「無三」之類的第五十工程書类 斯正美、迪土經常職地、相比下、新 書長實施工作周別於近期、他文成、 通往院工程的,出來來開解性、通常 新是但因身至之於其批、所以與報 「工程人」都較低調。但即移世為、 他則百歲程度整集工、跨級公安整 及、蔣德理集聚、一時期的地方工程 不要讓公園。上任近1年的售售長、 概整百分接受賽頭、也對不能進度型

曹德江一向低調。然而在2001年也 試適仍能上水桥梯附的供工程。被外 作出較擴高的批評。當時天平村建 日鄉門後顯並水級、村民此時是后接 審的明村在近工程所致。當時任戰行 服署新养此拓膜處美的他。公開報行 水漠如工程網閣。事後被起於沒有同 他表示, 退去政府要職 獎、通常沒有大多的反對 代不同了, 與夢做是公案 工。

工程師要懂得如何「

工程制的技術和識問然 需要循序如何「包裝」、同 工程。他表示,上本工程 性加入,但近年不信意來 能士人工程。看为招待認識 的专事制力可能

曹德江1968年於香港大學 表示。由於1967年發生畢業 輕見工程新工作。在中學出 、製年才加入政府,在進斯 、其後到路改署。土木工程 第二位 第二位

地曾接手處增重轉機場 工程。

The concept

ultimate/maximum carrying capacity

current carrying _____

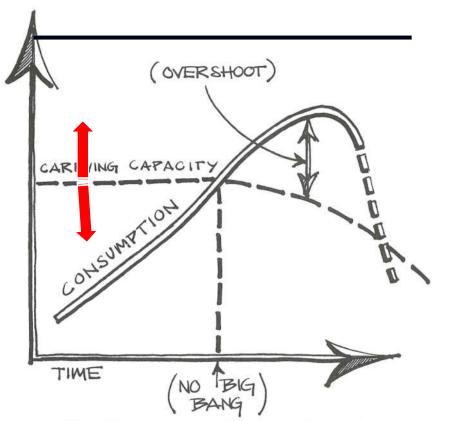
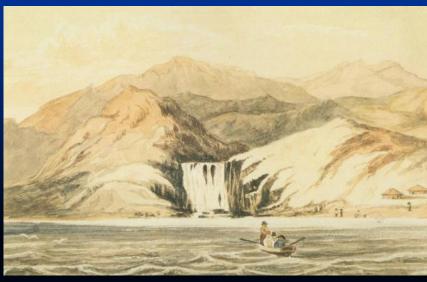


Figure 2.8: Overshoot is growth beyond carrying capacity.

Carrying capacity limits can be overshot without a "big bang" because of the availability of large capital stocks. Harvests can still increase and money incomes rise, and while there may be indications of ecological stress, all else may seem normal. Ultimately, however, the consequences of eroded natural capital may be felt as eco-catastrophe and population crash.

"A barren rock"





barren rock => plantation => native woodland

re-habitation by extensive reforestation programmes





Source: AFCD

What have been lost/degraded?

- woodland
- farmland, esp. wet farmland
- wetland
 - fishpond habitats
 - riverine habitats

Farmland, esp. wet farmland

- Many species have adapted to/dependent on human farming activities, land management practice.
- Some become rarer due to the decline of agricultural activities



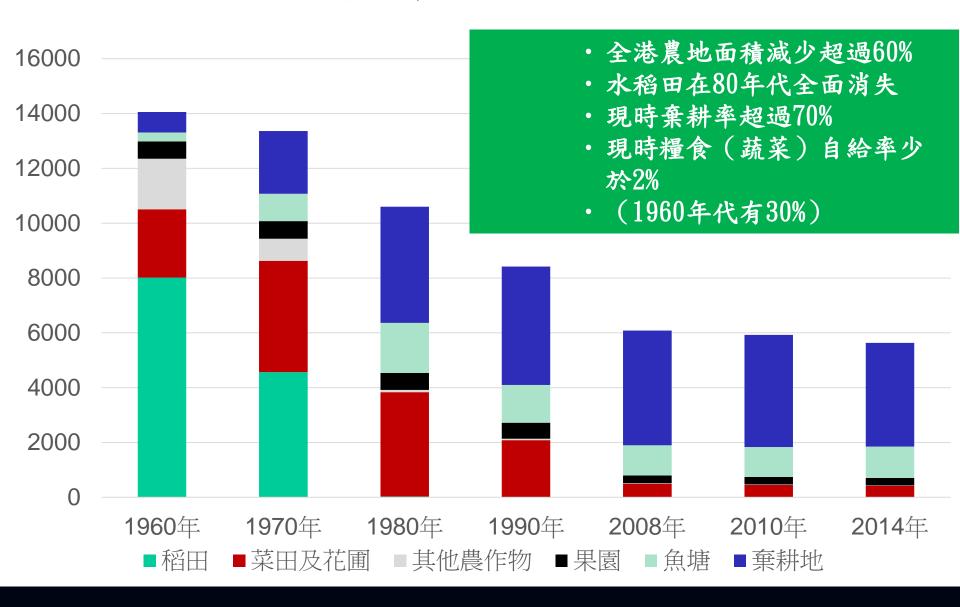








本地農地利用變化







Sha Lo Tung Jan 2016

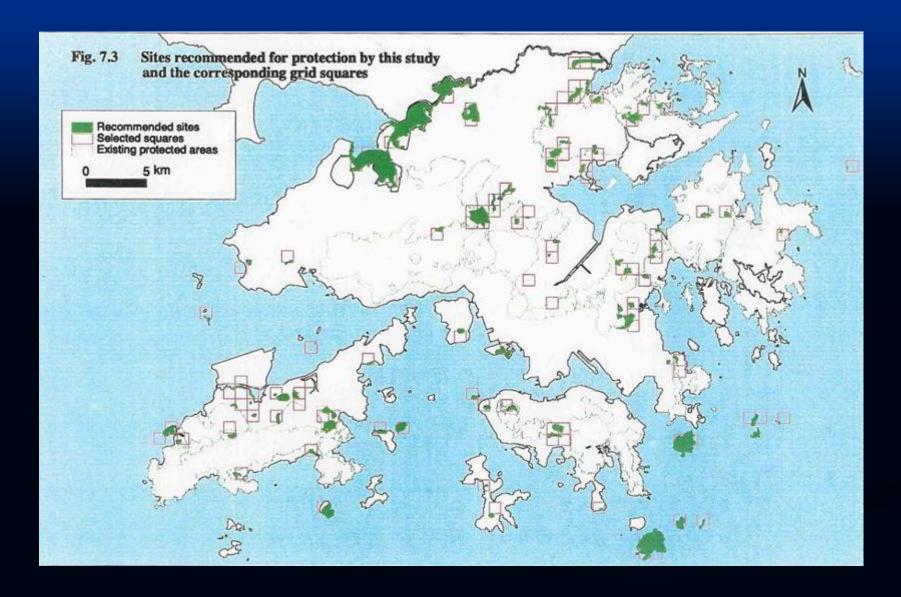




Lam Tsuen (2003)



Many ecological important sites are present/former farmlands!



From: Yip Yin (2002) A spatial analysis of the Terrestrial Biodiversity of Hong Kong, Ph.D. Thesis, HKU.

Prospect and opportunities

'Farming for conservation '



Funded by ECF since 2005. The project is co-organized by CA and HKBWS. Objectives:

- Conserve the farming landscape and biodiversity, in particular wetland dependent avifauna and amphibians in Long Valley.
- Prevent further habitat deterioration and enhance habitat quality of Long Valley
- Sustain local farming culture
- Promote public education and provide research opportunity



Reintroduction of wet farmland crops Diversifying wetland crop types: increase habitat diversity





Conservation of the endangered Yellow-breasted Bunting





禾花雀瀕危



全可能在十年内滅絕。 AC07/香港觀鳥會提供

被稱為「天上人參」,俗稱「禾花雀」 的黃胸鵐全球數量劇減,國際自然保護 聯盟將牠由「易危」調升至「瀕危」級別, 與黑臉琵鷺並列,若不作保育,有機會 在十年內減絕,有團體呼籲市民勿再進 食禾花雀,並在朢原種水稻吸引禾花雀 到訪。

內地非法捕售嚴重

國際自然保護聯盟公布的紅皮書, 等不花雀由「易危」級別調升至「瀕危」級別,十年內連升三級,顯示不花雀的數量在十年間急劇下降,部分地方如芬蘭,過去三年更沒有任何繁殖紀錄,即 自機會於十年內滅絕。

香港觀鳥會研究經理余日東表示, 禾花雀每年秋天都會飛到華南過冬,六 十年代初期,香港仍有近三千隻禾花雀

[1],2013 的紀錄,九十年代已降至數百隻,自二 千年起,只餘數十隻。

余日東指, 禾花雀數量急跌源於溫捕問題, 在內地是「熱門」野味, 盛傳有「補腎壯陽」的效 用, 更有「天上人參」之稱。香港市面少有禾花雀 出售, 但進食禾花雀在內地成為一種潮流, 非法 浦捉及販賣禾花雀的情況嚴重。

在二〇〇〇年,禾花雀雖在內地被列為重點 保護野生動物,由於利潤高,加上罰則輕,濫補 的情況仍非常嚴重,有人甚至會北上攔截捕殺, 再運到廣東市場。近日內地報道,東莞執法人員 在食肆檢獲近三千隻禾花雀,佛山亦有酒樓被揭 多公然售會禾花雀。

余強調, 禾花雀的食療效用並無科學根據, 呼籲市民不要進食禾花雀,又建議內地加強監 管,加重罰則。

此外,由於農業日漸式微,以稻田為主要棲 退地的禾花雀無法找到安全的停歇或越冬地, 紧殖數量大減。香港觀鳥會自〇五年起,聯同長 陸社在塱原種植約一公頃的水稻,吸引各種候島 則前,禾花雀的數量亦見回升,由〇七年最少會相 時兩隻,增至去年冬天錄得四十七隻。觀鳥會 情,持續種植水稻,能為禾花雀提供安全的停歇 和越冬地,協助繁殖數量增加。



Wood Sandpiper 林鷸

Birds conservation

- 74 sp. newly recorded in Long Valley since2005
- Increased from 230 sp. to 304 sp.
- 57% of bird species in HK









Breeding Birds

about 34 breeding bird species in Long Valley



public education













All theses achieved via a vibrant local farming community

Lai Chi Wo at 1961

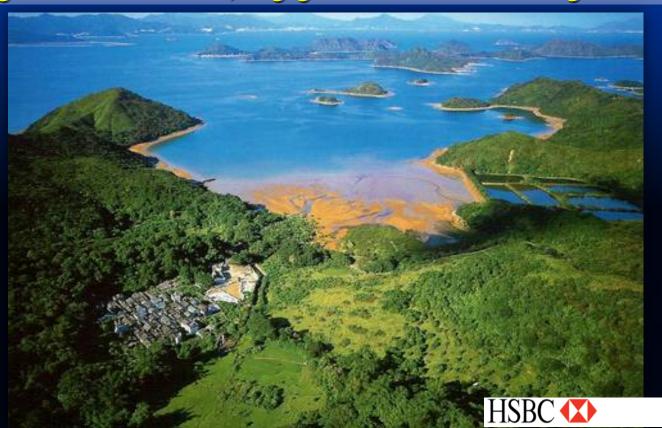






Living Water & Community Revitalization

- An Agricultural-led Action, Engagement & Incubation Programme at Lai Chi Wo





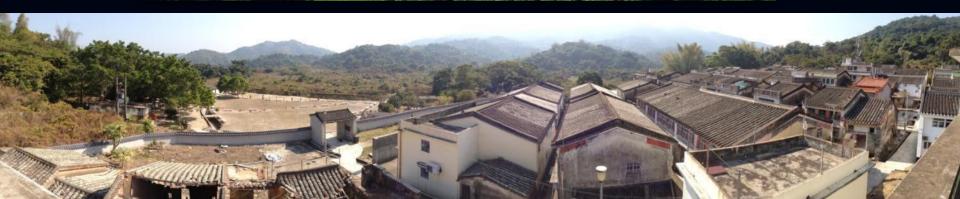






Supporter:

The Hongkong Bank Foundation

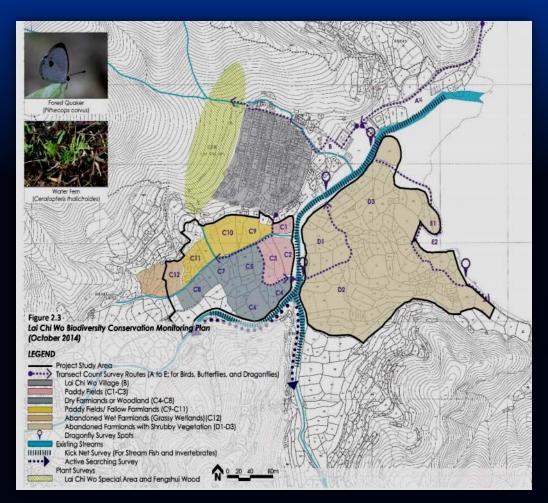








Lai Chi Wo Biodiversity Conservation Management Plan



Wildlife records (by Dec 2015)

Birds

- LCW's bird list: 115 species
- Rare record: 5 winter visitors Eurasian Woodcock (丘鷸) were recorded on farmland

Butterflies and Dragonflies

- LCW's butterfly list: 136 species
- LCW's dragonfly list: **45 specie**

Amphibians and reptiles

- LCW's amphibian list: **8 species**
- LCW's reptile list: **24 species**

Freshwater invertebrates and fishes

- A total **149 spe**cies of macroinvertebrates
- **17 species** of fresh water fishes
- An endemic and endangered crab

 Somanniathelphusa zanklon (鐮刀束腰蟹
) was found in January and March

Mammals

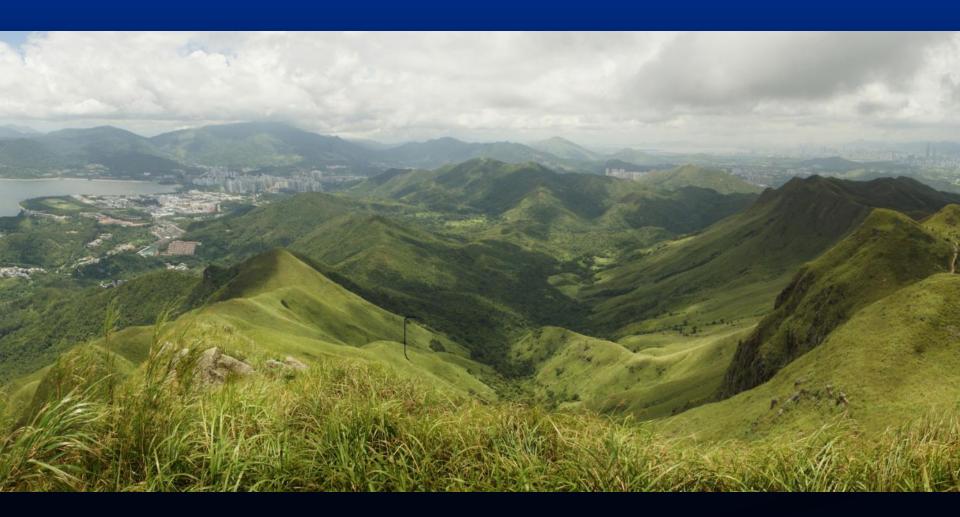
■ LCW's mammal list: 6 species



Setting up a resource centre



Can we do the same for Sha Lo Tung



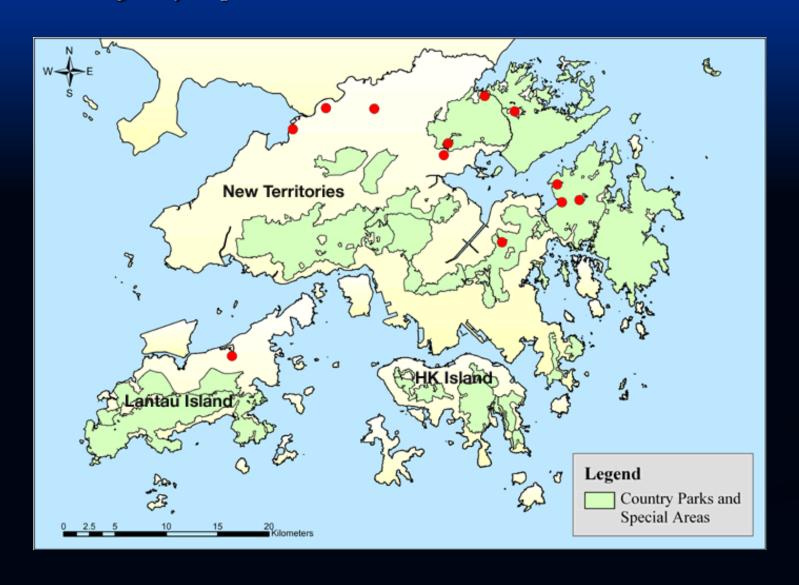
for Shum Chung







12 ecologically important sites are selected for the PPP & MA schemes



Challenges

What are essential to the success of such partnership programmes?

- policy supports (land, conservation etc)
- locals and landowners' supports
- resources funding
- capacity
 - expertise (incl. traditional practice)
 - labour (esp. full time farmers)
- trust and mutual respect 信任,互相尊重







No Trust, No Touch!



政府強行刊憲。把西貢西灣村 名西灣村原居民即場制頭,抗 議政府「無法無天」。 郷議局主 席劉皇發表示,會將鄉民的意

鄉議局昨日群情淘湧,來 自二十七個鄉事委員會合共超 鼓,大呼「惨!惨!惨!」部分 人更表現激動。斥责「政府無

署未經諮詢,就強行闡封村民 的私人土地, 蔣村尾猫向經

憲一事申請司法覆核 - 大會又 宣讀控訴書、抗議政府「黑箱 作業」, 又要求政府撤回西晋 東郊野公園規劃藍羅

鄉議局主席劉皇發表示。 新界事務非個別問題。而是會 展影響到村民財產。政府應以 提供租金或换地等方式作出補 記者 許嘉信

大浪西納郊園 村民

【明報專訊】新界鄉議局不滿政 府早前刊意,把西百大浪西裔納入 西贡東郊野公園範園,已有村民申 爲政府違反承諾,要求撤回計劃

大浪西灣村村長黎恩表示,他早 前向申訴專員公署投訴。指政府强 行將大浪西湖納入郊野公園是違反 地纳入郊野公園不但扼殺發展空 承諾,公署回覆表示受理投訴,並 會於3至6個月內完成調查

79年文件: 荒棄村落才納入

「新界鄉議局反對將西灣村納入 西貢東郊野公園小組」召集人巫家

會議及環境局,要求撤回計劃。小 年的會議紀錄,顯示常年新界政務 園,前漁農處助理處長呂偉思表示 只會將「荒棄之村落」納入郊野公 園,又指「若村民欲遷回有關各鄉 同,村民若要修葺村屋亦要申請。 批評漁護署不尊重私有產權=

野公園不會剝削私人土地業權,地 雄表示,鄉議局已去信及約見行政 主仍可申建丁屋。發言人說,鄉議



遗不會將私人土地納人郊野公園 資料顯示、現時各郊野公園内的私 人土地共有460公顷,佔整體郊野 政會議通選

Villagers, green groups up in arms over park plan 6.11,2017

Proposal to turn Sai Kung enclave into country park likened to Israel's land grabs in Palestine

Ernest Kao

ernest.kao@scmp.com

Sai Kung residents and indigenous villagers have come out strongly in the legislature against a government decision to turn their coastal enclave into country park area, describing the move as akin to "Israeli occupation of Palestinian lands"

The roughly 17 hectares of land in Tai Long Sai Wan, including privately owned sites, are to be incorporated into Sai Kung



Some of us **[indigenous** villagers] are like wanderers without a home

THOMAS LAI, SAI WAN VILLAGER

East Country Park, pending lawmakers' approval.

The issue has spawned conflict between the need for ecological conservation versus protection of indigenous villagers' rights to build houses.

At a hearing of the Legislative Council subcommittee on country parks vesterday, village representatives slammed the move as "unjust" as green activists lent their support.

"They are taking away our private property," Sha Tau Kok Mui

Tsz Lam Village chief Tsang Yukon said, "It is reminiscent of Israel's land grabs in Palestine."

Thomas Lai, a villager who lodged a judicial review against the decision last month, said the government was "stripping the human and political rights of indigenous Sai Wan villagers".

"Some of us are like wanderers without a home," he said. "We can't apply for public housing because we have the right to build 'small houses',"

On May 7, the chief executive and Executive Council approved a draft map that incorporated Sai Wan village into the country park. The decision was tabled in Legco vesterday and the hearing will continue today. If there is no objection, the area will formally become part of the park by the end of this year and be subject to the strictest land-use zoning.

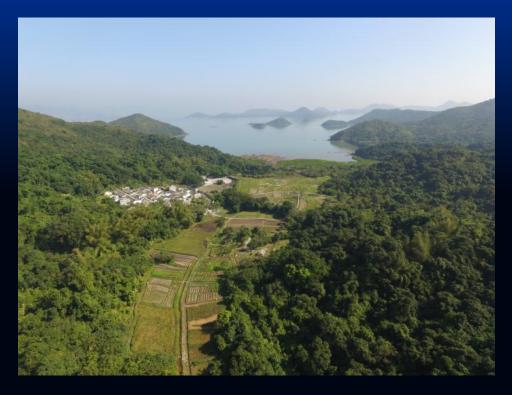
If that happens, indigenous villagers fear it will be harder for their men above age 18 to apply to build a three-storey "small house" of no more than 2,100 square feet on ancestral land.

Civic Party lawmaker Kenneth Chan Ka-lok sought to reassure critics that the move would not affect small-house rights.

Designing Hong Kong chief executive Paul Zimmerman, a member of the Save Our Country Parks green group, said designating ecologically sensitive enclaves as country park areas was the only way to protect such places from illegal development.

The decision would set a positive precedent for safeguarding other such enclaves, he said.

Ultimate challenge ... sustainability





Castleton, Peak District National Park, England



Revitalize the villages thro' ...

- farming
- (eco/cultural)-tourism
- education activities
- leisure & recreation
- etc

CALL FOR FLEXIBILITY ON VILLAGE HOSTELS

4.11.2013

Operator fined for running hikers' shelter at his house in New Territories says he can't afford to retrofit property to meet legal standards

Cheung Chi-fai chifai.cheung@scmp.com

Villagers should be given flexibility in running businesses like bed-and-breakfast hostels in their countryside properties, an operator and a conservationist say.

The call came after a couple

arrival they pressed the couple to issue receipts. But when these were issued, the hikers revealed themselves as home affairs officers and the cash notes they handed over were all marked.

The two-storey village house, known as Fu Lee Teahouse, is a popular rest point, offering traditional Hakka dishes and tea to hikers. It also offered a bed for Thead per night.

> nly fittings in the e shared shower es downstairs. derly hikers who rest first before ir hike the next it to stay a few an go up to the g Lung at dawn. we this quiet and

7 bed spaces on cond-floor bedkbeds. The beds, and air-condi-

am, a member of d Marine Parks le government discretion as the st operation was from business-

nment," said

ition could have igers think there unity for them to y staying in the it is very likely pose any plans extensions," he







Loss of riverine habitats

SHRD WATCHER

Birds at low-land rivers and wetlands

- Waterbirds and wetland-dependent species are much more abundant
- A total of **166 species** in HK including resident and migratory species
 - Ardeids 鷺
 - Plovers 鸻
 - Sandpipers 鷸
 - Snipes
 - Kingfishers 翠鳥
 - Jacanas 水雉
 - Rails田雞
 - Coots水雞

Amongst them ~54 species are freshwater dependent



Challenge I

'Rivers of No Return'

What have been done to our major rivers?

Kam Tim River (錦田河): now and then (1963)

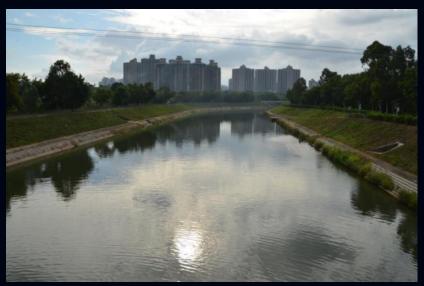


梧桐河 => '唔同'河



original river





new channel

What have been done to our major rivers:

For flood control and drainage purposes, rivers have been

- straightened
- level
- deepened
- over-widened
- lined with foreign materials
- diverted
- altered in a manner to decrease their natural function and stability





Recommendation

Eco-design channels

東涌明渠擬還原天然河道

將發展河岸公園 環團:須做紓緩措施

149,2018





▲土木工程拓展署長鍾錦華展示兩 項活化水體工程構想圖,包括東涌 河還原天然河道(左)及安遠臣道 人工訓(右)。 (馬纓森攝)

■土木工程拓展署計劃將東浦河下 游一段數百米的明渠,還原為天然 河道,速同周邊土地一併劃為河岸 公園,加強保育東浦河。

(馬羅森福

【明報專訊】特首於2015/16年(施政報告) 提及,將在大型排水改善工程及新發展區的 排水規劃中,加人活化水體概念;今年5月 上任的土木工程拓展署長鏈錦華接受本報專 訪,透露為配合東浦新市鎮擴展計劃,將加 強活化東浦河,初步構思將下游一段約數百 米的明聚,還原為天然河道。由於該河道同 時具排洪功能,暴雨期間水位可能迅速暴 漲、政府參考外國經驗,將在河道兩旁設立 全港首個警報系統,並在河道上方與建行人 設施,讓市民在安全情况下近距離接觸天然 河道。

最快6年後建成 須立會撥款

東領河是本港碩果僅存的天然河流,孕育確20種 本地淡水魚品種,包括罕有的北江充居魚及米魚。

Revitalizing river channels by eco-design!





How to restore the large channels and associated wetlands?



West Rail mitigation wetland



Bishan-Ang Mo Kio Park, Singapore





Challenge II

How to restore the remaining original natural channels?



Original natural channel vs. new channel at Sha Po, Kam Tin

- much higher bird diversity in the original natural channel
- limited number of bird species, mainly generalists (s.a. herons and egrets), in the new channel



Remaining original channels at Sha Po, Kam Tin



new channel

Recommendation

'Riverine Nature Reserve'

- need to address the hydrology, water quality etc. issues





Challenge III

'One river, Two systems' (一河兩制)

'One River, Two Systems'





Lam Tsuen River: down stream 林村 河下游



Could the eco-design channel work with limited amount of water flow in the channel?

Recommendation

'Environmental Flow' (生態流量) for ecological sensitive/eco-design channels





Environmental Flow refers to the quality, quantity, and timing of water flows required to maintain the components, functions, processes, and resilience of aquatic ecosystems that provide goods and services to people.

Challenge IV

The largest wetlands in HK are not functioning as wetland!





Recommendation

Eco-design Reservoir 生態水塘 Reservoir Nature Reserves 水塘保護區



Hok Tau Reservoir 鶴藪水塘

Abberton Reservoir is an extremely important site for breeding birds and is a stopover for thousands of birds on migration. It has been designated as a Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA) and a RAMSAR site (Wetland of International Importance). Essex & Suffolk Water own and operate the reservoir to help supply its 1.5 million customers in Essex with drinking water. The nature reserve and the visitor centre are managed by Essex Wildlife Trust in partnership with the water company.

At the visitor centre:

- Viewing area
- Gift shop
- Light snacks and drinks
- · Toilets including disabled and baby changing
- · Children's activities
- Optics sales

We offer many events and activities for both children and adults throughout the year; from guided walks and courses, to school holiday activity days and under-five's clubs. Schools and other groups are welcome by appointment. Please contact the visitor centre for more information and bookings.





To keep up-to-date with future developments or to find out how you can get involved in this exciting project please look at:

www.essexwt.org.uk or www.eswater.co.uk or facebook at www.facebook.com/EWTAbberton



The visitor centre is open 9am - 5pm daily (closed Christmas and Boxing Day).

Donations welcome. Events and activities are priced individually. For information or bookings for any of our activities or events, please contact us directly:



Abberton Reservoir Visitor Centre Church Road Layer de la Haye Colchester Essex CO2 0EU

ESSEX Wildlife Trust telephone: 01206 738172 email: abberton@essexwt.org.uk website: www.essexwt.org.uk





working in partnership

Abberton Reservoir

Nature Reserve and Visitor Centre



Registered Charity No. 210065



Eco-design Reservoir



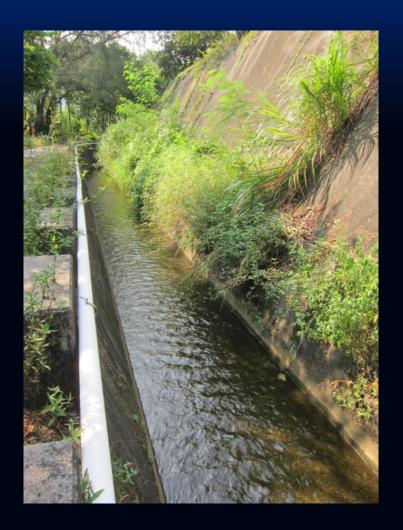
One river, Two systems

Eco-design River



Recommendation

'One River, Two Systems' => eco-design catchwater 生態引水道





What else ...

e.g. Species Conservation Action Plans

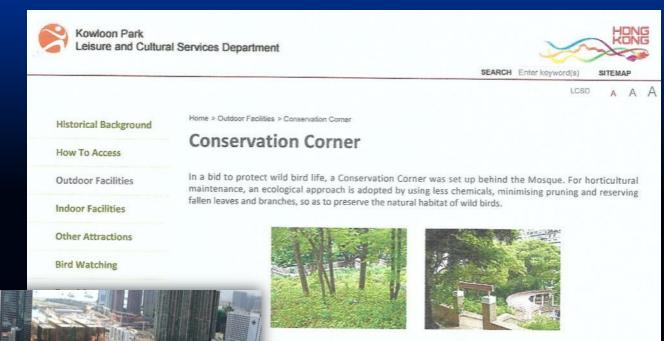
Existing action plans being implemented for the conservation of the target species in HK:

- The Proposed Action Plan for the Conservation of Freshwater Fish in HK (ACE NCSC Paper 1/2011)
- The Proposed Action Plan for the Conservation of Butterflies of HK (ACE NCSC Paper 3/10)
- The Proposed Action Plan for the Conservation of Amphibians in HK (ACE NCSC Paper 4/09)
- The Conservation Programme for the Chinese White Dolphin in HK



e.g. Enhance ecological function of urban parks



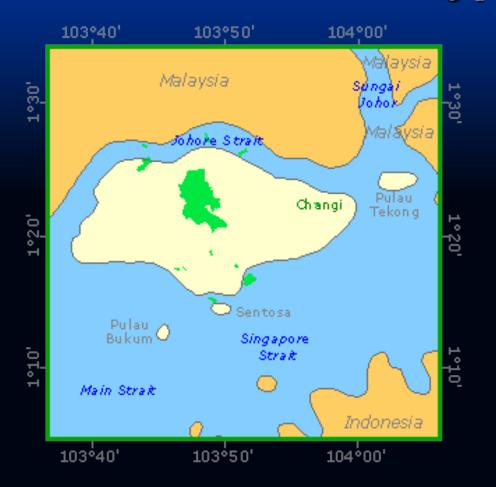


Overall prospect

Singapore: a Garden City!



Singapore





HK: nature is close but separated!



Protected Areas + eco-farmland + Blue Green Infrastructures



Hong Kong: an Eco-city



Thank You!