

Annex A

Photographs

Adverse impacts of exploitation of marine resources
(habitats, fish and invertebrates)

Hong Kong
Biodiversity Strategy and Action Plan
Marine Impacts Assessment Focus Group.
7 September 2014

Introduction

This Annex contains photographic evidence supporting some of the main findings and recommendations of the Marine Impacts Assessment Focus Group.

This photographs focus on the following **High Ecological Value Habitats** identified by SUSDev21 in coastal areas in Hong Kong, although the issues identified are widely relevant and applicable:

- (a) Natural watercourse,
- (b) Mangrove,
- (c) Seagrass bed, and
- (d) Intertidal mudflat.

The photographs document the following activities and issues:

- (a) Marine species are not protected under current legislation
- (b) Mangroves are not protected under current legislation
- (c) Seagrass beds are not protected under current legislation
- (d) Conservation areas are not adequately protected under current legislation
- (e) Clam digging at Ha Pak Nai
- (f) Clam digging on worm colonies at Ha Pak Nai
- (g) Clam digging at Tung Chung
- (h) Clam digging on subtidal mudflat at Tung Chung
- (i) Clam digging at Lung Kwu Tan
- (j) Blog post promoting clam digging at Shui Hau
- (k) Oriental Daily article promoting clam digging at Shui Hau
- (l) Razor shell digging using salt at Ha Pak Nai
- (m) Fishing non-target species
- (n) Ghost nets
- (o) Fishing in stream mouths
- (p) Eco-tourism and visitors

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Marine species are not protected under current legislation

Between 1980 and 2001, a Japanese pharmaceutical company set up a clandestine horseshoe crab bleeding facility in Hong Kong, to extract Tachypleus Amoebocyte Lysate (TAL) from local populations of the Chinese horseshoe crab, *T. tridentatus*. Photographs of this clandestine bleeding facility in operation in Hong Kong in the early 2000's are posted below:



Bleeding Chinese horseshoe crabs in a shark fin warehouse in Sheung Wan (1980 – 2001).



Bleeding Chinese horseshoe crabs in a shark fin warehouse in Sheung Wan (1980 – 2001).



Female Chinese horseshoe crabs in a shark fin warehouse in Sheung Wan (1980 – 2001).



Chinese horseshoe crabs waiting to be bled in a shark fin warehouse in Sheung Wan (1980 – 2001).

Conservation areas are not protected under current legislation

Events have superseded the mangrove destruction at the Tai Ho Stream SSSI in 2012. Unhappy with the SSSI designation, villagers started to destroy the SSSI at Tai Ho Wan in August 2014 (SCMP, 25 August 2014). See article below:



A villager crushes trees as part of a protest against a potential zoning designation for part of north Lantau Island. Photo: David Wong

VILLAGERS IN ZONING ROW RAZE MANGROVE

Demonstrators in northern Lantau fear their rights to farm and build small houses will be restricted if area nearby gets protected status

Ernest Kao
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Dozens of villagers in northern Lantau chopped down a mangrove near an ecologically sensitive bay yesterday to protest against a government move to zone areas on the fringes of their villages as protected land.

Excavators were brought in to raze trees, while machete- and hoe-wielding villagers chopped down shrubs on the coast of Tai Ho Wan, which is known for its oyster-rich mudflats and horseshoe crabs.

Together with the three rivers that feed it, Tai Ho Wan is now designated as a Site of Special Scientific Interest (SSSI), but not yet zoned as such. Statutory plan-

ning rules would ensure government departments give due consideration to conservation if the proposal was approved later this year.

But indigenous villagers of the San Heung community, which includes Pak Mong, Ngau Kwu Long and Tai Ho villages, fear their rights to farm and build small houses will be restricted if the restrictive development plans are agreed to.

"Step by step, the government has been depriving us land owners of our rightful use of land, which was originally designated for agricultural use," the community said in a declaration in which they also demanded to meet the development and environment ministers.

They blamed construction of

the North Lantau Highway in the 1990s for blocking discharge from the river and flooding coastal farmland. The indigenous villagers said in their declaration that the government had "bullied" them again in 1999 with the SSSI designation.

"All we want is to return our farmland to agricultural use without any prior conditions," said Ngau Kwu Long village spokesman Lam Chu. "You can't just take away our land without our consent or compensation."

Heung Yee Kuk vice-chairman Daniel Lam Wai-keung showed up to support the villagers' protest yesterday.

Green groups were outraged at the destruction of the mangrove. "I'm furious. This is disrespectful," said Eddie Tse Sai-kit of

the Save Lantau Alliance. "If they really cared for the land and wanted to farm it, then they would not do such as thing."

Tse said most of the private land in the enclave had been sold to developers in the 1990s.

"It is worth questioning whether they're really doing this for the right to build small houses," he said.

Under an interim development plan covering 230 hectares, gazetted in March, the villages' development zones are limited to 1.27 hectares, which the villagers say constrains their right to build small houses.

"It's a lie ... Most villagers just want to transfer their small-house rights for a profit," said Green Sense president Roy Tam Hoi-pong. "If they wanted to farm they would have done so long ago."

► HARRY'S VIEW AND

Mangroves are not protected under current legislation

The Tai Ho Stream, Lantau, Hong Kong was designated a Site of Special Scientific Interest (SSSI 63) in 1999. Unfortunately the protections offered by the SSSI designation in Hong Kong are limited, as the following photographs (taken on 7 June 2012) show:



Stream at Tai Ho leading to a mangrove stand with mating pairs of *C. rotundicauda* (7 June 2012). This is one of the best locations in Hong Kong to view this activity.



In 2012, a mangrove stand at Tai Ho where the *C. rotundicauda* spawn was cut down (7 June 2012).



Cut mangroves at Tai Ho Wan (7 June 2012).



Cut mangroves at Tai Ho Wan (7 June 2012).

Seagrass beds are not protected under current legislation



Oyster farmer planting mangroves on the *H. beccari* seagrass beds at Pak Nai (23 April 2010).



Oyster farmer planting mangroves on the *H. beccari* seagrass beds at Pak Nai (23 April 2010).



Mangroves planted directly into a *H. beccari* seagrass bed at Pak Nai (14 May 2010).



Mangroves planted directly into a *H. beccari* seagrass bed at Pak Nai (14 May 2010).

Clam digging at Ha Pak Nai

The intertidal mudflat at Ha Pak Nai provides critical foraging grounds for juvenile Chinese horseshoe crabs (*T. tridentatus*) and Mangrove horseshoe crabs (*C. rotundicauda*). The juvenile horseshoe crabs forage in the intertidal pools that form between the *H. beccarii* seagrass beds.

These foraging grounds are being destroyed by visitors. The following photographs show damage being done to the intertidal pools and *H. beccarii* seagrass beds at Ha Pak Nai by clam diggers.



Digging for clams in intertidal pool at Ha Pak Nai (25 August 2013).



Digging for clams in intertidal pool at Ha Pak Nai (25 August 2013).



Digging for clams on *H.beccari* seagrass beds at Ha Pak Nai (2010).



Holes and footprints left by clam diggers on a *H.beccari* seagrass bed at Ha Pak Nai (2010).



Holes and footprints left by clam diggers on a *H.beccari* seagrass bed at Ha Pak Nai (2010).



Holes and footprints left by clam diggers on a *H.beccari* seagrass bed at Ha Pak Nai (2013).

Clam digging on worm colonies at Ha Pak Nai

A worm colony at Ha Pak Nai. The following photographs show the effect of clam diggers on this colony.



Undisturbed worm colony at Ha Pak Nai (2010).



Clam diggers digging for clams on the worm colony at Ha Pak Nai (2010).



Clam diggers walking across the worm colony at Ha Pak Nai (2010).



Damage caused by clam diggers to the worm colony at Ha Pak Nai (2010).



Damage to the worm colony at Ha Pak Nai caused by clam diggers (2010).

Clam digging at Tung Chung

The intertidal mudflats at Tung Chung provide critical foraging grounds for juvenile Chinese horseshoe crabs (*T.tridentatus*) and Mangrove horseshoe crabs (*C. rotundicauda*). These foraging grounds are being systematically destroyed by clam diggers and other visitors.



Accessing the clam digging grounds with a bicycle at Tung Chung (24 May 2013).



Footprints and cycle tracks through juvenile horseshoe crab foraging ground at Tung Chung (3 July 2012).



Footprints and cycle tracks through juvenile horseshoe crab foraging ground at Tung Chung (24 July 2013).



Family party digging for clams on juvenile horseshoe crab foraging ground at Tung Chung (24 September 2010).



Digging for clams in a stream on the juvenile horseshoe crab foraging ground at Tung Chung (24 September 2010).



Clam digging on the juvenile horseshoe crab foraging ground at Tung Chung (3 July 2012).



Clam digging on the juvenile horseshoe crab foraging ground at Tung Chung (23 May 2013).



Clam digging on the juvenile horseshoe crab foraging area at Tung Chung on 23 May 2013.



Holes left by clam diggers in juvenile horseshoe crab foraging ground at Tung Chung (2010).



Holes left by clam diggers in juvenile horseshoe crab foraging ground at Tung Chung (2010).



Craters left by clam diggers on the juvenile horseshoe crab foraging ground at Tung Chung (6 May 2011).



Craters left by clam diggers on the juvenile horseshoe crab foraging ground at Tung Chung (3 July 2012)

Clam digging on subtidal mudflat at Tung Chung



Clam digger approaching the subtidal mudflat at Tung Chung (23 May 2013).



Clam digging equipment for use at the subtidal mudflat at Tung Chung (23 May 2013).



Clam diggers approaching the subtidal mudflat at Tung Chung (23 May 2013).



Clam diggers on the subtidal mudflat at Tung Chung (23 May 2013).

Clam digging at Lung Kwu Tan



Continuous damage to the intertidal mudflat at Lung Kwu Sheung Tan by clam diggers has rendered it non-viable as a juvenile horseshoe crab foraging ground (17 June 2011).



Continuous damage to the intertidal mudflat by clam diggers at Lung Kwu Sheung Tan has rendered it non-viable as a juvenile horseshoe crab foraging ground (17 June 2011).

Blog post promoting clam digging at Shui Hau

The following photographs and comments promoting clam digging at Shui Hau are from: (水口) *Shui Hau, A heaven for clam lovers* (8 May 2010). Available online at: <http://lantatraveller.blogspot.hk/2010/05/shui-hau-heaven-for-clam-lovers.html>



“Time to show your creativity! Some diggers even set up makeshift stand for their belongings”.



“A basket full of clam rakes - a must-have for digging clams”



“The tide has pulled out several hundred metres. Clam diggers could be seen all over the beach”.



“ ... are they going to set up a camp fire here? noop... just digging happily with family!”



“See, another two diggers concentrating on finding the next big juicy clam”.

Oriental Daily article promoting clam digging at Shui Hau

The following photographs and comments promoting clam digging at Shui Hau are from: 濫挖摸蜆沙灘大災難. Oriental Daily. (28 August 2010). Available online at: http://orientaldaily.on.cc/cnt/news/20100828/00196_001.html

濫挖摸蜆沙灘大災難

假日摸蜆之旅竟暗藏危機！每逢入夏後的周末或假期，不少市民會趁潮退往大嶼山水口灣「摸蜆」，灘上大量夾雜玻璃、鐵罐等垃圾不但為遊人帶來危機，就連生態亦受破壞。保育團體指水口為罕見的不受污染沙灘，蘊藏大量具保育價值的物種，建議政府加強保育宣傳及管理工作，避免「濫掘」影響生態環境。

香港雖然地少人多，但不乏天然資源。大嶼山水口、東涌東涌灣、烏溪沙白石、坪洲東灣、屯門蝴蝶灣及黃金泳灘，均曾是「摸蜆」熱點。不過，早前在水口「摸蜆」的陳小姐卻發現，灘上有大量垃圾堆積，擔心會為遊人帶來危險，「個灘有兩個出入口可以行番出去搵巴士搭，呢啲位就最多垃圾，鐵罐又有、玻璃樽又有！」

離島區議員黃福根稱，潮水漲退無可避免會將海中垃圾帶到灘，促當局因應實際情況，加強清潔次數，避免遊人誤踏受傷，「部分垃圾可能係西面珠江口水域浮過嚟，未必係境內垃圾，好難杜絕。暑假呢啲時間就最多一家大細嚟玩，呢啲時段應該清密啲。」

不過，全民健康動力主席勞永樂醫生則提醒市民，「摸蜆」後謹記洗手、沖身，蜆隻亦須徹底洗淨及煮熟後才可食用，「細菌可以喺水自由生存，啲泥就有機會留有浮游生物嘅糞便，洗乾淨好重要！」勞表示蜆隻是否適宜食用，需視乎有關地點附近一帶的排污設備、是否有被農業、工業廢水、人類或禽畜糞便污染等情況而釐定，一旦食用受污染海產，有機會感染諾沃克病毒、甲型肝炎、戊型肝炎、大腸桿菌等。

本報轉介即安排清理

食物環境衛生署發言人指出，大嶼山水口灣沙灘屬非憲報公布泳灘，該署會定期安排潔淨服務承辦商提供潔淨服務。接獲本報轉介後曾派員調查，發現有小量垃圾，已安排潔淨服務承辦商清理。

世界自然基金會（陸地保育）環境保護經理梁士倫博士表示，水口為罕見的不受污染沙灘，具有獨特性及保育價值，如有史前生物馬蹄蟹、稀有軟體動物等，「佢哋唔係好多地方搵得到」。梁指一般市民未必意識到「摸蜆」行為會影響生態，故在未有規劃保護情況下，並不鼓勵市民「摸蜆」。

「喺冇限制嘅情況下容易拎得太多，或者攞走咗其他生物。太多人喺灘上面摸掘，仲可能無意中踩死佢哋。」梁士倫促政府於上址執行管理及規劃工作。至於垃圾問題，則建議加強清理天然海岸線上垃圾，保護生態環境。

記者 莫麗珊



不少市民會趁初一、十五潮退時段往水口「摸蜆」。



市民會帶備不同工具「摸蜆」，蜆獲往往以斤計。



蜆隻需洗淨及熟透後才可進食，避免病從口入

Razor shell digging using salt at Ha Pak Nai

The following photographs show the new phenomena of using salt to fish for razor shells



Sprinkling salt in intertidal pools between *H. beccari* seagrass bed at Ha Pak Nai (26 July 2014).



Pulling razor shell out of intertidal pool at Ha Pak Nai (26 July 2014).



Bucket of razor shells collected using salt at Ha Pak Nai (26 July 2014).



Standing on a *H. beccari* seagrass bed mound at Ha Pak Nai (26 July 2014).



Juvenile horseshoe crabs forage in the intertidal pools between the seagrass beds. All marine life risks trampling and the adverse effects of salt poisoning. Ha Pak Nai (26 July 2014).



Salt left in other burrows and on the surface after being sprinkled to collect razor shells at Ha Pak Nai (26 July 2014).

Fishing non-target species



Mangrove horseshoe crabs in abandoned monofilament net at Ha Pak Nai on 9 July 2009.
It's cheaper to throw away the net than release the horseshoe crabs.



Mangrove horseshoe crab in abandoned monofilament net at San Tau on 19 September 2010.



Mangrove horseshoe crab in abandoned crab box net at Ha Pak Nai on 10 August 2013.



A villager crushes trees as part of a protest against a potential zoning designation for part of north Lantau Island. Photo: David Wong

VILLAGERS IN ZONING ROW RAZE MANGROVE

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ning rules would ensure government departments give due consideration to conservation if the proposal was approved later this year.

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They blamed construction of

the North Lantau Highway in the 1990s for blocking discharge from the river and flooding coastal farmland. The indigenous villagers said in their declaration that the government had "bulldozed" them again in 1999 with the SSSI designation.

"All we want is to return our farmland to agricultural use without any prior conditions," said Ngau Kwu Long village spokesman Lam Chi. "You can't just take away our land without our consent or compensation."

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Green groups were outraged at the destruction of the mangrove. "I'm furious. This is disrespectful," said Eddie Tse Sai-kin of

the Save Lantau Alliance. "If they really cared for the land and wanted to farm it, then they would not do such as this."

Tse said most of the private land in the enclave had been sold to developers in the 1990s.

"It is worth questioning whether they're really doing this for the right to build small houses," he said.

Under an interim development plan covering 230 hectares, gazetted in March, the villages' development zones are limited to 1.27 hectares, which the villagers say constrains their right to build small houses.

"It's a lie... Most villagers just want to transfer their small-house rights for a profit," said Green Sense president Roy Tam Hoi-ping. "If they wanted to farm they would have done so long ago."

HARRY'S VIEW AD

Mangrove horseshoe crabs abandoned crab by fishermen at Ha Pak Nai on 14 April 2009.



Mangrove horseshoe crabs killed by fishermen at Tung Chung (24 April 2013).

Other non-target species



Crab box net laid across intertidal mudflat at Ha Pak Nai (21 June 2009).



Some of these nets are over 1 kilometre in length (23 July 2009).



Many small and juvenile fish are caught as they come in to forage on the incoming tide (21 June 2009).



Bycatch in crab box net at Ha Pak Nai (23 July 2009).



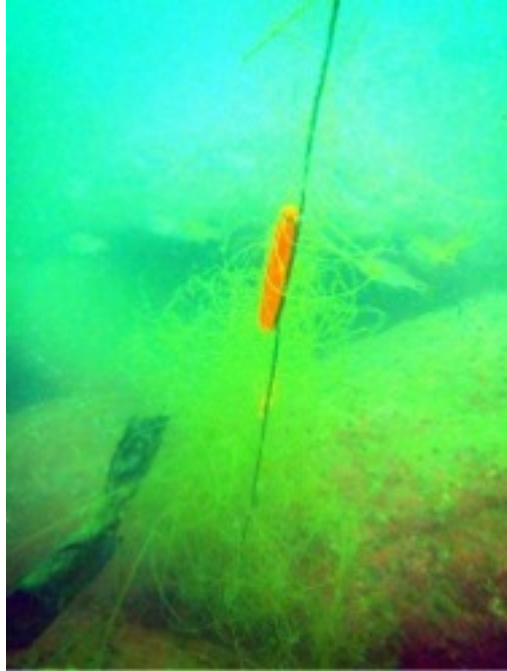
Bycatch in crab box net at Ha Pak Nai (23 July 2009).

Ghost nets

The following photographs are a small selection of ghost nets in the same area in the waters off High Island East Dam taken on 23 August 2014 (Courtesy: Harry Chan).







Fishing in stream mouths

Stream mouths situated in intertidal areas are highly productive fishing locations, so many local fishermen exploit the tidal passage of fish and invertebrates to forage, spawn or hatch by placing nets across the entire width of the stream, as shown in the following photographs:



Net across entire width of stream at Pak Nai (7 October 2010).



A mono-filament fishing net stretched across the entire Tung Chung stream (6 May 2011).

Eco-tourism and visitors

A 2006 study on the “Soft Shore in Hoi Ha Wan Marine Park” identified the soft shore of HHWMP as an ecologically important habitat and the highest ranking soft shore in Hong Kong in terms of biodiversity (Leung KMY, Lui KKY, Wai TC, Cheung YT, Chan BKK, Yau C (2006). *Study on the Soft Shore in Hoi Ha Wan Marine Park*. Final Report to the Agriculture, Fisheries and Conservation Department (AFCD/SQ/2/05), the Government of the HKSAR, P.R. China). Despite the fact this was the highest ranking soft shore in Hong Kong in terms of biodiversity and even though the marine park was a protected and patrolled area, there was no control on the way visitors abused the wildlife, as the photograph below shows:



Fig. 33. Mishandling of starfish (see red circle) by tourist in Section D of HHWMP.

Tourists mishandling starfish at Hoi Ha Wan Marine Park (2005).



When Lung Mei was publicized as an ecotourism hotspot in 2012, unparalleled destruction of the native fauna took place. This is an SCMP photograph of damage done to starfish at Lung Mei (*Lung Mei beach activists to volunteer as guards after dead wildlife found*. SCMP. 9 November 2012).



School party visiting the intertidal mudflat at Ha Pak Nai (4 August 2013).



Ecotourists standing on the *H. beccari* seagrass beds at Ha Pak Nai (2010).



Sunset viewing on the intertidal mudflat at Ha Pak Nai (10 August 2013).



Cycling on the intertidal mudflat at Ha Pak Nai (11 April 2009).



Cycling on the intertidal mudflat at Ha Pak Nai (24 April 2009).



Tyre tracks on the *H. beccari* seagrass beds at Ha Pak Nai (5 January 2014), to test the feasibility of promoting beach driving as an activity on the intertidal mudflats.



Tyre tracks across *H. beccari* seagrass beds at Ha Pak Nai (5 January 2014).



Children's footprints on a *H. beccari* seagrass bed at Ha Pak Nai (2010).