

獨特的東涌河

Uniqueness of Tung Chung River

呂德恒
Henry Lui



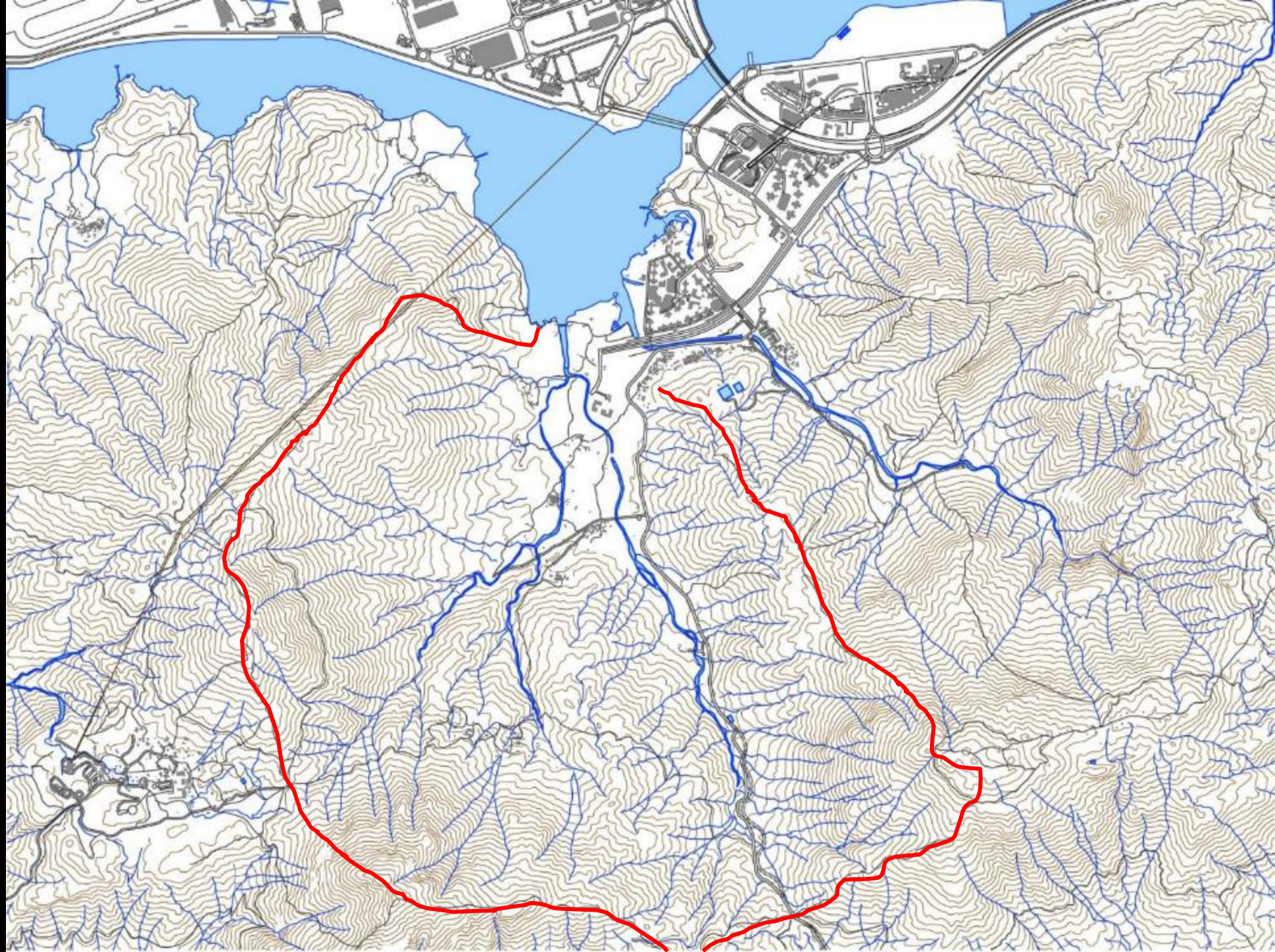
綠色力量
GREEN POWER

內容 Contents

- 東涌河環境特色
Characteristics of Tung Chung River environment
- 東涌河生態
Ecology of Tung Chung River
- 東涌河受到的威脅
Threats to Tung Chung River
- 挖石事件
Rock digging incident
- 東涌新市鎮擴展與東涌河盆規劃
Tung Chung New Town extension and planning of Tung Chung River basin

東涌河環境特色

Characteristics of Tung Chung River environment



本地河源第三高河流 The third highest origin of local rivers



河源至河口大致完整且天然 Intact and natural river from origin to estuary



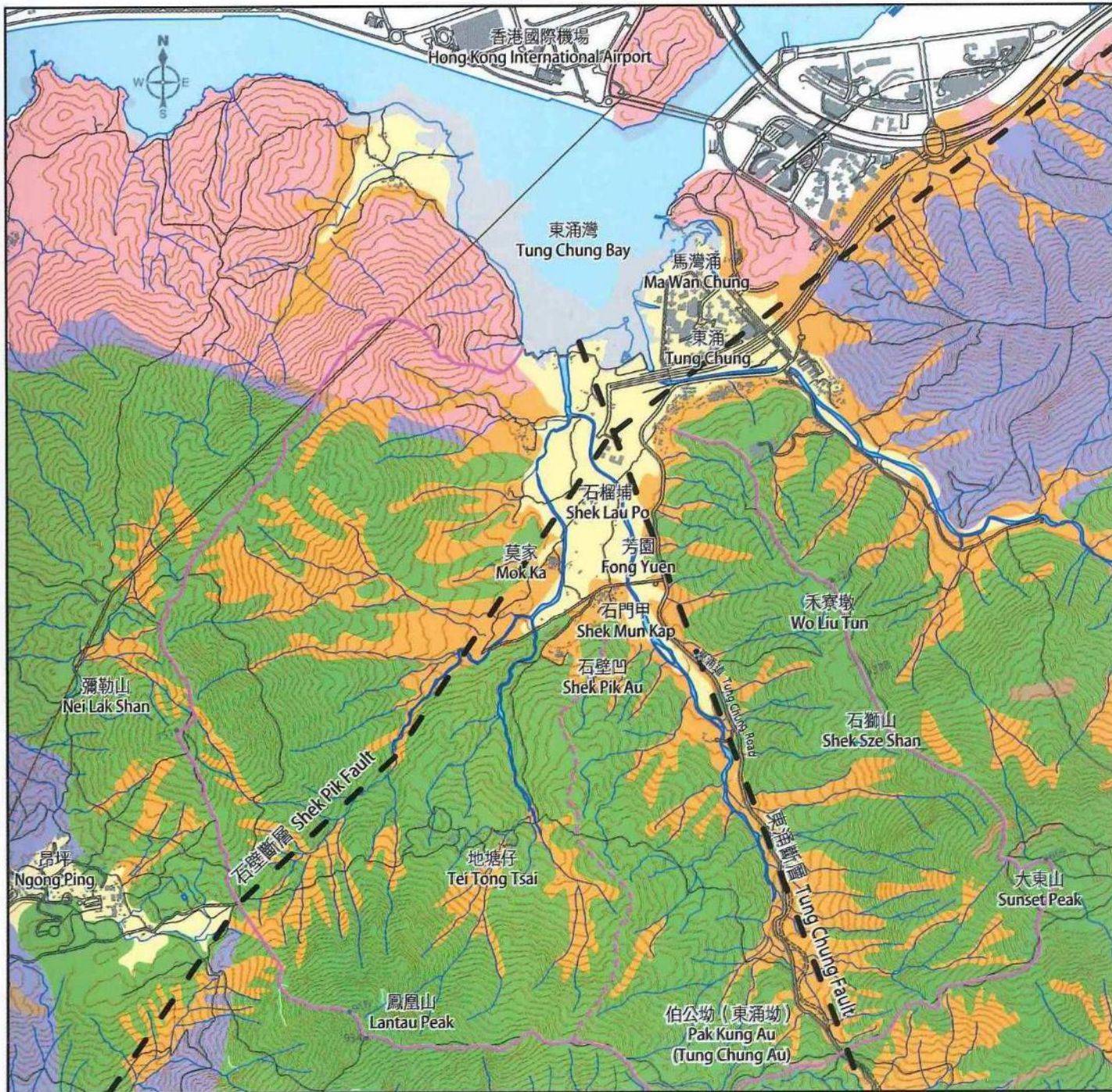
「具重要生態價值河溪」 “Ecologically Important Streams” (EIS)



魚類物種豐富 Rich in fish diversity







東涌河流域地質圖

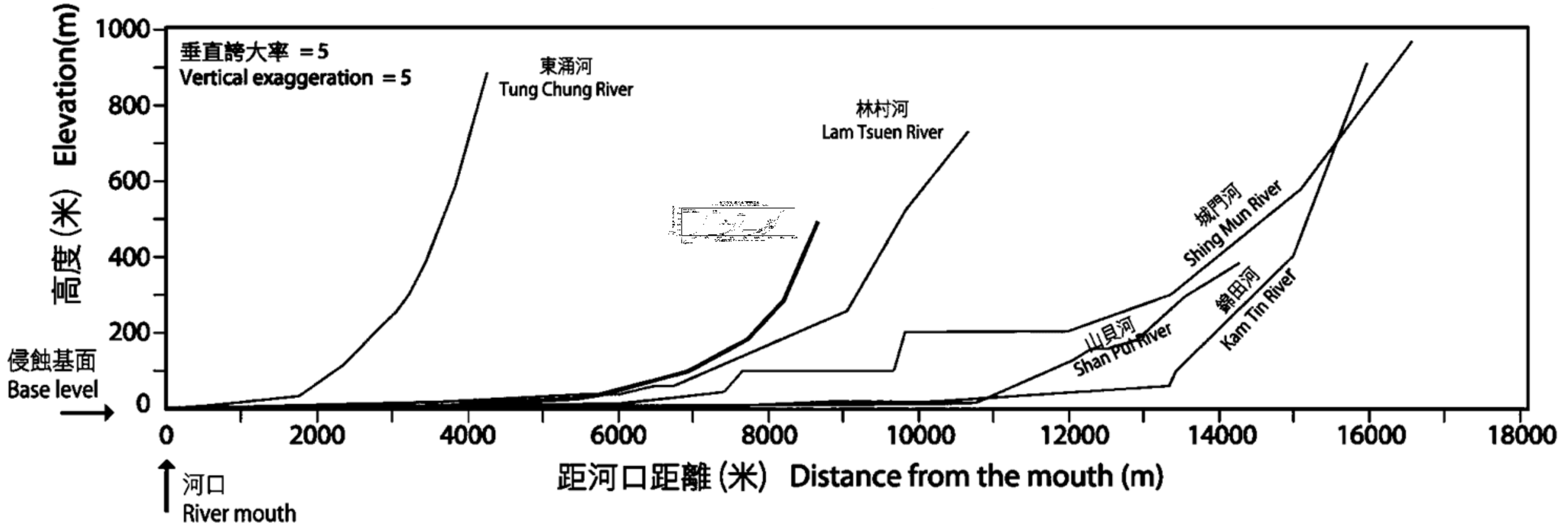
Geological Map of Tung Chung River Basin

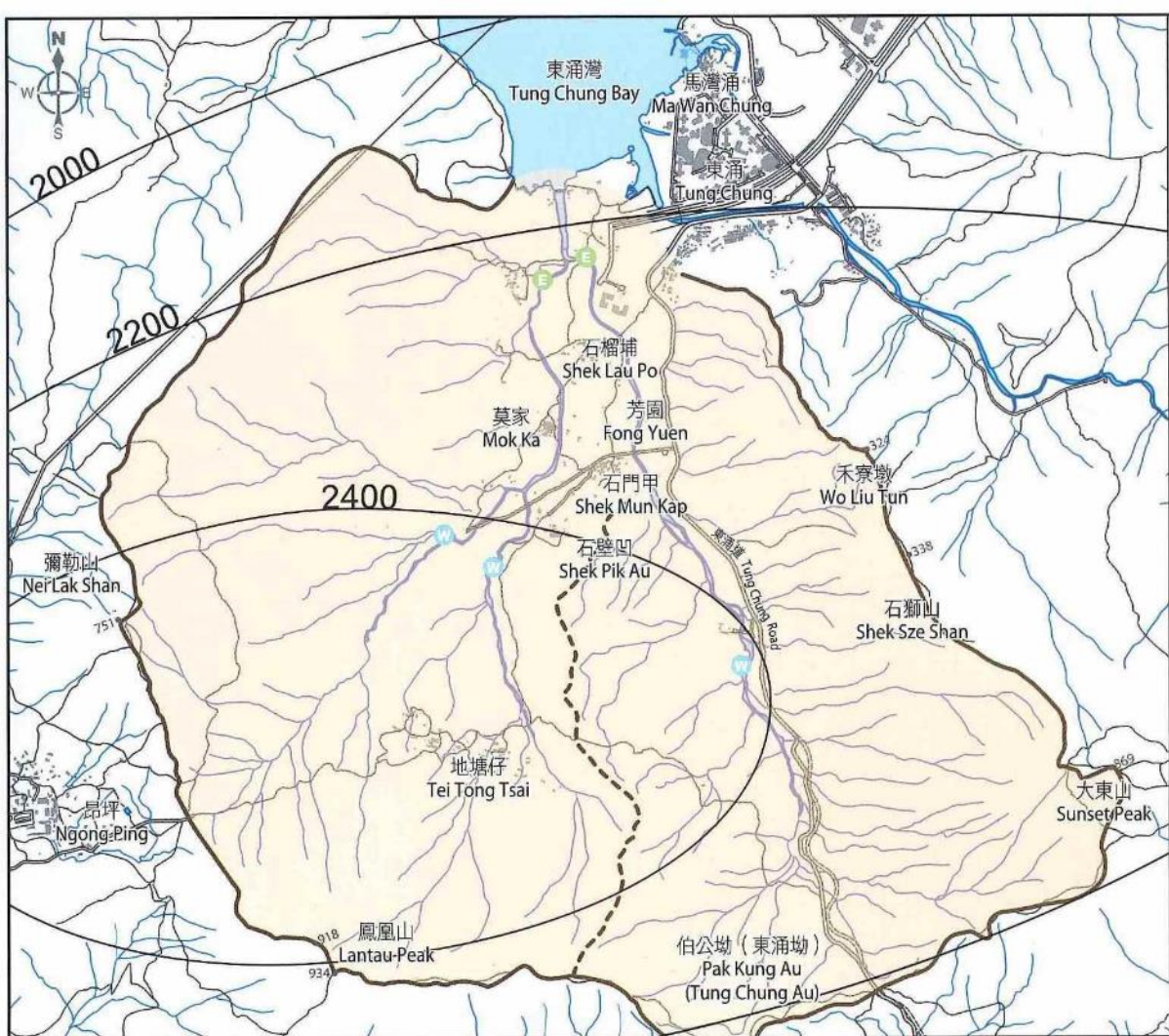
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圖例 Legend

- 火山岩
Volcanic rocks
- 入侵火成岩
Intrusive igneous rocks
- 沉積岩
Sedimentary Rocks
- 變質岩
Metamorphic rocks
- 坡積物
Colluvium
- 沖積物
Alluvium
- 河口灣沉積
Estuarine deposits
- 填海土地
Reclaimed land
- 斷層
Fault
- == 道路
Road
- 河流
River
- 分水嶺
Watershed
- 高程點(米)
Spot height (m)
- ~ 小徑
Footpath

河流縱剖面圖 River Profiles





東涌河河盆等雨量線圖 Isohyetal map of Tung Chung River Basin

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圖例 Legend

- 河流
River
- 分水嶺
Watershed
- 等雨量線 (毫米)
Isohyet (mm)
- 水務署集水口
WSD intake
- 環保署河水監測站
EPD river water monitoring station
- 東涌河河盆
Tung Chung River Basin

1 km



東涌河生態

Ecology of Tung Chung River

東涌河的動物

Animals in Tung Chung River



蜻蜓 Dragonfly



鳥類 Bird



兩棲類 Amphibian



爬行類 Reptile



魚類 Fish

特別物種 Special Species



盧氏小樹蛙
Liuixalus romeri

瀕危
EN¹

© Elaine Yuen



香港纖春蜓
Leptogomphus hongkongensis

特有
Endemic



弓背青鱗
Oryzias curvinotus

缺乏
數據
DD¹

© Elaine Yuen



近危
NT¹

香港瘰螈
Paramesotriton hongkongensis

全球
關注
GC²



北江光唇魚
Acrossocheilus beijiangensis

© Matthew Sin

1 : 世界自然保護聯盟紅皮書 The IUCN Red List of Threatened Species ;
2 : Fellowes *et al.* (2002)

具重要生態價值河溪

Ecologically Important Stream (EIS)

- **東涌河**（#27）是漁農自然護理署列為香港淡水魚物種第二豐富的河溪，共錄得23個物種。

Tung Chung River (No. 27) is the second richest in freshwater species of any in Hong Kong, with a total of 23 species recorded, and listed as an AFCD.



東涌紅樹林的動物

Animals in Tung Chung Mangrove

無脊椎動物 Invertebrate



軟體動物
Mollusc



甲殼類
Crustacean



鱗
Horseshoe Crab

脊椎動物 Vertebrate



魚類
Fish



鳥類
Bird



東涌河、河谷及東涌灣 TUNG CHUNG RIVER, VALLEY & BAY

從山區到河口的河流系統有高度連通性和連續性，使其水生和海岸生物多樣性特別豐富，包括許多珍稀和瀕危物種。

The high connectivity and continuity of the river system from the montane area to the estuary make it exceptionally rich in its aquatic and coastal biodiversity, including many rare and endangered species



e.g.

Beijiang Thick-lipped Barb (*Acrossocheilus beijiangensis*) 北江光唇魚

Philippine Neon Goby (*Stiphodon atropurpureum*) 紫身枝牙鰕虎魚

Romer's tree frog (*Liuixalus romeri*) 盧氏小樹蛙

Chinese Horseshoe Crab (*Tachypleus tridentatus*) 中國鱟

Seaweed Pipefish (*Syngnathus schlegelii*) 舒氏海龍

Swinhoe's Egret (*Egretta eulophotes*) 黃嘴白鷺

Common Birdwing (*Troides helena*) 裳鳳蝶

Eurasian Eagle Owl (*Bubo bubo*) 鵞鴞

東涌河提供的「生態系統服務」：

Tung Chung River provide "Ecosystem services" that:

- 淨化空氣：植物吸收二氧化碳及空氣污染物，放出氧氣
purify the air: plants absorb CO₂, air pollutants and release O₂
- 淨化水質：土壤過濾雨水；生物吸收養分並降解污染物
purify the water: soil filters stormwater; organisms take up nutrients and degrade pollutants
- 土壤微生物分解毒素和分解廢物 detoxify and **decompose wastes** by soil micro-organisms
- 移動及循環養分 move and **cycle nutrients**
- 緩和微氣候及其影響 **moderate microclimate** and their impacts
- 維持生物多樣性 maintain **biodiversity**
- 調節攜帶疾病的生物 regulate disease carrying organisms
- 緩和乾旱和洪水 mitigate drought and floods
- 保護河流和河道以及沿岸海岸免受侵蝕
protect stream and river channels and coastal shores from erosion
- 生成和保護土壤，恢復肥沃 generate and preserve soils and renew their fertility
- 和許多其他服務..... and many others...

東涌河受到的威脅

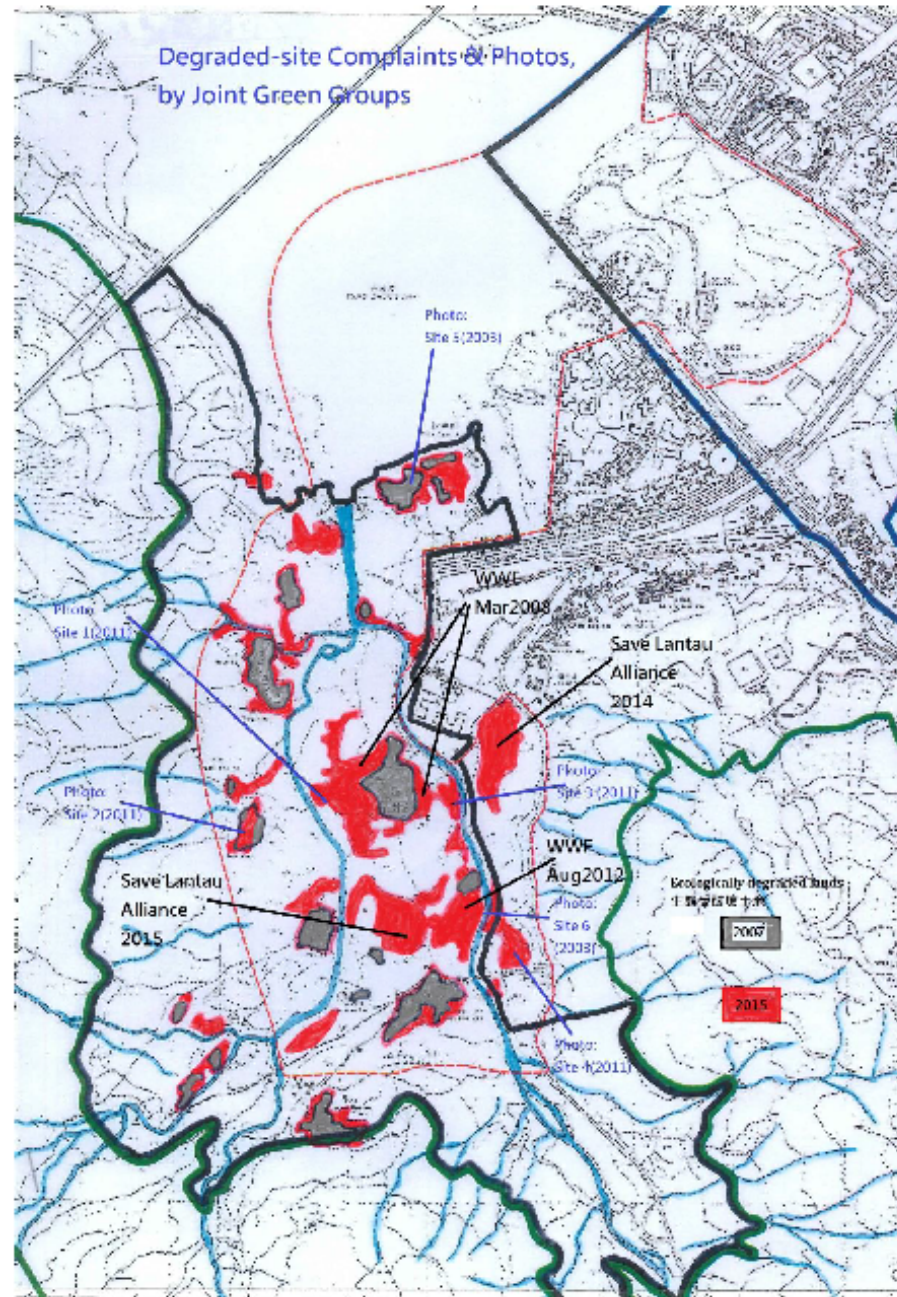
Threats to Tung Chung River







Appendix 3 (Oct 2015)



A photograph of a stream in a valley. On the left, there is a gravel path. The stream flows through the center, bordered by rocks and debris. The right bank is covered in dense green vegetation, including bamboo and other plants. The background shows a steep, forested hillside.

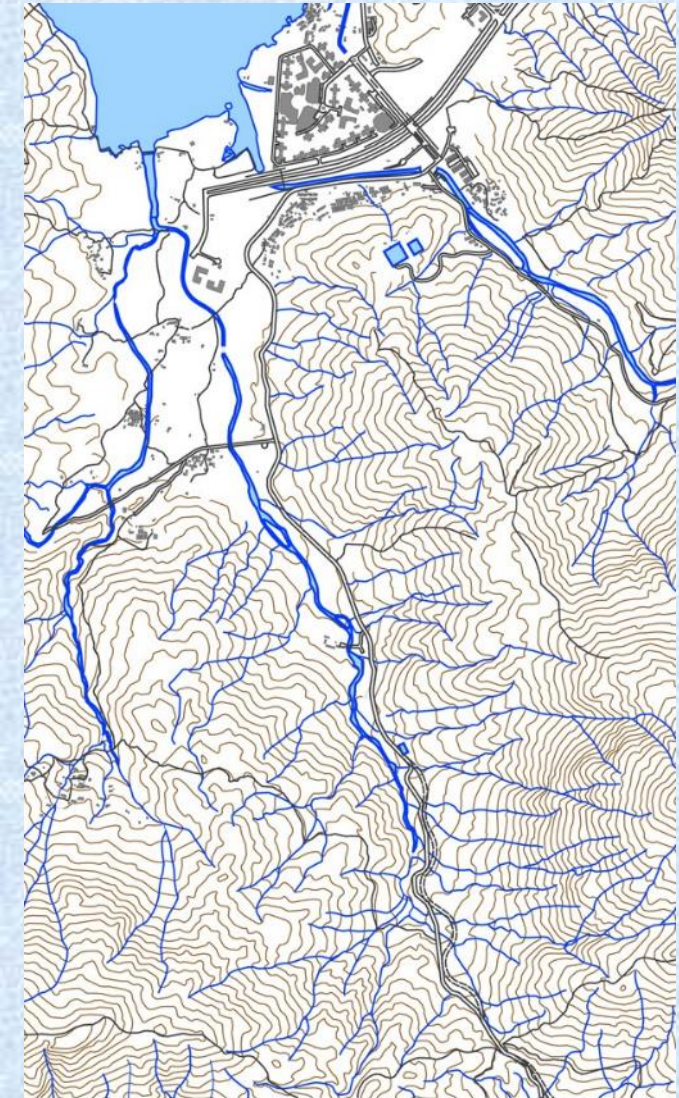
東涌谷生態退化的土地面積由2007年的4.8%
增加至2015年的約13%

In Tung Chung Valley, the ecologically
degraded land areas increased from 4.8% in
2007 to approximately 13% in 2015

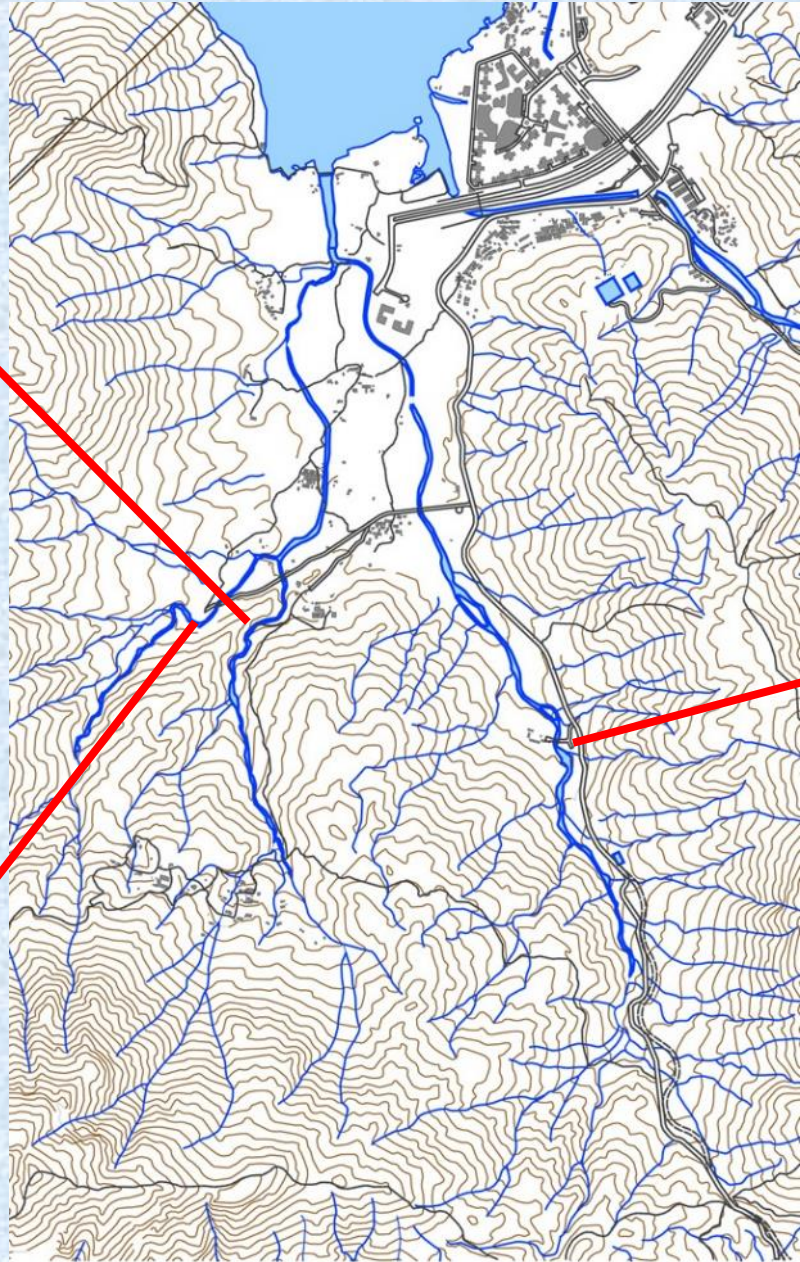












挖石事件

Rock digging incident



河段原貌 Original appearance (9/2000)



受破壞後的河段 Destroyed river section (12/2003)



修復後的河段 Restored river section (10/2004)



河段面貌 River appearance (4/2008)

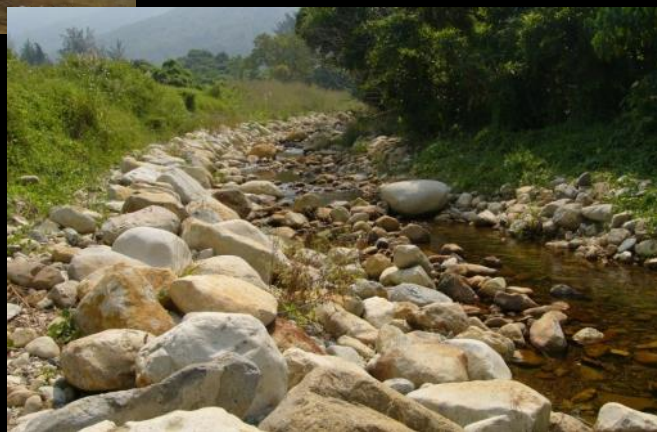


暴雨後河段面貌 After the storm (1/2009)



河段近貌 Recent appearance (9/2018)





為確保在河溪一帶進行的工程項目會顧及環境問題，政府已發出下列指引：

The government has issued the following guidelines to ensure that environmental concerns are taken into account in works projects in stream and rivers

- 環境運輸及工務局工程技術通告第5/2005號：*保護天然河溪免受建造工程影響*
Environment, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 5/2005: *Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works*
- 屋宇署認可人士及註冊結構工程師作業備考第295號：*保護天然河溪免受建造工程影響*
Building Department (BD) Practice Note for Authorized Persons and Registered Structural Engineers 295: *Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works*
- 渠務署實務備考第1/2015號：*河道設計的環境和生態考慮指引*
Drainage Services Department (DSD) Practice Note No. 1/2015: *Guidelines on Environmental and Ecological Considerations for River Channel Design*

東涌新市鎮擴展 與東涌河盆規劃

Tung Chung New Town extension
and planning of Tung Chung River basin



5

東涌西的初步土地用途方案 Initial Land Use Option in Tung Chung West



建議把高生態價值地區包括東涌灣及東涌河沿岸一帶劃為保育相關用途，以保護生態。

Areas of high ecological importance including coastal areas of Tung Chung Bay and along the Tung Chung River are proposed as conservation related uses to preserve the ecology.

利用建議的東涌西鐵路站所帶來的流動性，接近東涌路一帶的住宅用地會採用較高的發展密度至5及6倍的地積比率，該範圍有優美的山景作為樓宇背景。

於東涌河口附近採用0.75倍住用地積比率，於村落群採用1.5倍地積比率，而遠東郊毗鄰的住宅用地則採用3倍地積比率，使東涌灣至內陸之間的建築物構成梯級式建築設計。

To capitalize on the improved accessibility due to the proposed Tung Chung West Station, higher density developments up to domestic Plot Ratios 5 and 6 are proposed close to the existing Tung Chung Road where the mountainous backdrop is visually dominant.

Adopt domestic Plot Ratio 0.75 near the Tung Chung River estuary and domestic Plot Ratio 1.5 near the villages clusters. Domestic Plot Ratio 3 will be applicable to the areas adjoining Yat Tung Estate to provide a stepped height profile towards Tung Chung Bay.



建議於馬灣涌附近填海14公頃用作3及5倍的住用地積比率，同時用作商業、政府、機構或公共用途，海濱長廊和公園。

建議進行改善工程並保留入水口以強化馬灣涌村的沿海風貌。

Propose a reclamation of 14 hectares of Ma Wan Chung for residential and commercial use with Plot Ratios 3 and 5, to provide waterfront promenade, Government, Institution or Community use.

Propose improvement works to preserve the inlet as a permanent feature.



利用現有的景觀去建造市鎮公園休憩用地給公眾享用，並把東涌與西涌連接起來。

Make use of the existing landscape to provide more open space for public enjoyment and to provide a link between Tung Chung East and West.



建議延長鐵路線至東涌西，方便居民參與經濟活動。

Propose extending the rail line to Tung Chung West to benefit the residents and stimulate economic activity.



Hon Emily LAU Wai-hing, JP
Chairperson, and members,
 Finance Committee, Legislative Council, HKSAR
 (E-mail: elau@dphk.org; Fax: 2332 1893)

Mrs. Lam Cheng Yuet Ngor, Carrie, JP
Secretary for Development,
 Development Bureau, HKSAR
 (E-mail: sdev@devb.gov.hk; Fax: 2151 5303)

7 July 2011

Dear Ms Lau/Mrs Lam,

By email & by fax

**Joint Green Group Position on
 Planning and Engineering Study on the Remaining Development in Tung Chung**

We, the undersigned groups, are writing to express our deep concern regarding the *planning and engineering study on the remaining development in Tung Chung* and the consequent impacts to the entire Tung Chung river valley and estuary, which mostly remains intact and natural with high ecological, landscape, hydrological and cultural values.

In order to conserve Tung Chung river course, valley and estuary, and avoid adverse impacts of development, we strongly urge the government to:

1. prohibit civil engineering development, channelization and reclamation in Tung Chung river valley and estuary, i.e. to the west of the Hau Wong Temple.
2. provide promptly a statutory landuse framework to guide the planning and engineering study on the remaining development in Tung Chung. Tung Chung river valley and estuary should be covered by a Development Permission Area (DPA) plan.
3. follow a logical, cautionary and well-consulted process. Any development feasibility study for Tung Chung river valley and estuary should base on a statutory approved landuse plan, e.g. DPA plan.

Statutory environmental impact assessment (EIA) should be conducted only when any developments are suitable for further study after feasibility study. We urge the Administration not to fast-track these three processes, namely landuse planning, engineering feasibility and EIA study. We consider that the present proposed study, with new town development as the decided objective, pre-empt the landuse planning and EIA process.

Should you have any inquiries or need further information, please do not hesitate to contact me (T: 3961 0223, F: 2314 2661, Email: lkcheng@greenpower.org.hk).

Yours faithfully,

Dr. CHENG Luk-ki
 Division Head, Scientific Research & Conservation
 Green Power

On behalf of:
The Conservancy Association
Designing Hong Kong
Green Lantau Association
Green Power
Hong Kong Bird Watching Society
WWF Hong Kong

Distribution to:

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 Development Bureau
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Hon Emily LAU Wai-hing, JP
Chairman & members of Finance Committee
 Finance Committee, Legislative Council
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Director of Planning
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Director of Civil Engineering & Development
 Civil Engineering & Development Department
 (E-mail: ckhon@cedd.gov.hk; 2246 8708)



19 June 2012

Joint Green Groups' Statement on Protection and Conservation of Tung Chung River, Estuary, Coastal Areas and Associated Habitats

- The undersigned groups are deeply concerned about the Government's plan to reclaim the Tung Chung River Valley and coastal areas for development under the "Planning and Engineering Study on the Remaining Development in Tung Chung", which will destroy Tung Chung River Valley's intact and integrated stream, riparian, estuarine and coastal ecosystems. These habitats support outstanding biodiversity. Tung Chung River is one of the few remaining major streams in Hong Kong which has not been overly affected by channelization or water pollution, and largely retains its natural state throughout the whole river course from headwater to estuary. The Tung Chung River system is unique in the local context. Its headwaters flow down from Hong Kong's second and third highest peaks, and run uninterrupted all the way to the shallow Tung Chung Bay. The high connectivity and continuity along its whole length from the montane area to estuary make it exceptionally rich in its aquatic and coastal biodiversity, including many rare and endangered species. The surrounding land area also contains diverse habitat types, supporting many ecologically important animal and plant species in Hong Kong.
- We urge the Government to protect the Tung Chung River (both channelized and natural sections, and its tributaries), its estuary, the entire Tung Chung Bay and other remaining natural habitats within Tung Chung Valley, which are of high ecological, landscape, hydrological and cultural values, so as to preserve natural resources for nature conservation, community use and enjoyment, and fisheries. In addition, we have prepared a recommended Development Permission Area (DPA) plan incorporating our vision for a sustainable future for Tung Chung's remaining natural areas for Government's consideration.

and crustacean species, reefal fisheries resources, wetland bird species like *rara*).

Tung Shui Woodlands are of good in quality and are plant species like Inceuse our butterfly species of including Oriental Striped ing (*Troilus aeneus*) and lighted key ecologically nd bay.) Part of Tung n severely damaged by appropriate planning and

ng River Valley, estuary r public use and tourist in these areas must be

Chung River courses and

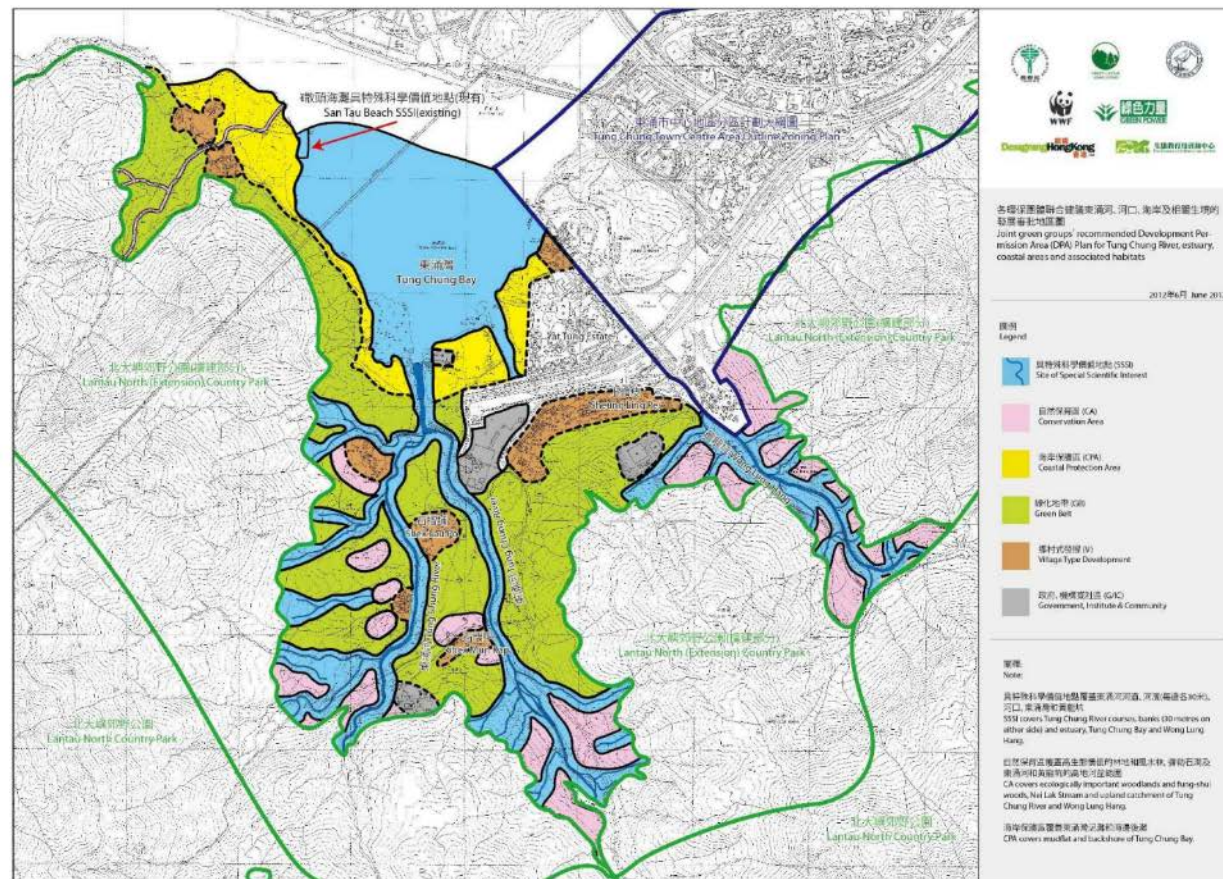
banks, estuary and the entire Tung Chung Bay.

- Prohibit any discharge of effluents and connection of outfalls to Tung Chung River channels and estuary. Any landuse and activity that brings about water pollution must be removed from Tung Chung River banks and the shores of Tung Chung Bay.
- Rehabilitate the channelized/ damaged artificial river sections.
- Adopt our recommended DPA plan to guide a sustainable planning and development in Tung Chung.
- Terminate the present planning and engineering study on the remaining development in Tung Chung and not to fast-track the landuse planning, engineering feasibility and EIA study processes. We consider that the present proposed plan to reclaim Tung Chung Bay, with new town development as the decided objective, pre-empts the landuse planning and EIA process.

Co-signed Groups

Designing Hong Kong Hong Kong Bird Watching Society
 Eco-Education & Resources Centre The Conservancy Association
 Green Lantau Association WWF-Hong Kong
 Green Power

Appendix 1: Green Groups' recommended DPA plan for a sustainable planning for Tung Chung River, estuary, coastal areas and associated habitats.





The Honourable Mr. Leung Chun-ying, GBM, GBS, JP
 Chief Executive
 Chief Executive's Office
 Tamar, Hong Kong
 (E-mail: ceo@cco.gov.hk)

8 January 2013

By post & e-mail

Dear Mr. Leung,

Preservation of Tung Chung River and Tung Chung Bay

Green Power is writing to express our deep concern regarding the Tung Chung New Town Extension Study (*Planning and Engineering Study on the Remaining Development in Tung Chung*) and the consequent impacts to the entire Tung Chung river valley and estuary, which mostly remains intact and natural with high ecological, landscape, hydrological and cultural values.

By copy of this letter, we would like to present you our latest publication about the precious wildlife found in Tung Chung River valley and Tung Chung Bay. In fact, Tung Chung River is one of the few rivers in Hong Kong that still retains its natural setting continuously from its headwater to river mouth. The Tung Chung River and associated natural habitats is rich in its aquatic and coastal biodiversity, including many rare and endangered species, e.g., Beijiang Thick-lipped Barb (*Acrossocheilus beijiangensis*), Romer's Tree Frog (*Philautus romeri*), Hong Kong Newt (*Paramesotriton hongkongensis*), Tri-spine Horsehoe Crab (*Tachypleus tridentatus*) and Pipefish. Being one of the local rivers with the richest freshwater fish species, Tung Chung River yields at least 23 fish species and is designated as an "Ecologically Important Stream" by the Administration.

Any further development over the Tung Chung River basin and Tung Chung Bay may greatly degrade its environmental and ecological conditions. Plants and wildlife of high ecological values will be severely interrupted as their habitats will be fragmented or destroyed.

In order to preserve the valuable and distinctive condition of Tung Chung River, a holistic approach should be adopted to maintain rivers' hydrology which in brief context includes:

- (a) natural physical geometry and substratum of river courses, i.e. river beds, river banks, its alignment and estuary;
- (b) the permeability of river basin;
- (c) the vegetation cover of river basin; and
- (d) the river water quality.



Regarding the preservation of Tung Chung river and Tung Chung Bay, Green Power would advise that:

- (a) river works should be avoided as far as possible, the natural river courses and estuary should not be altered in any scale;
- (b) landuse planning for Tung Chung River basin and estuary should take into account of its permeability, natural landscape and ecology;
- (c) sufficient vegetation cover should be maintained in the basin; and
- (d) no sewage or stormwater of developed areas should be drained into Tung Chung River channel and Tung Chung Bay.

We strongly recommend the Administration to adopt the green groups's recommended DPA plan to guide a sustainable planning and development in Tung Chung.

Should you have any inquiries or need further information, please do not hesitate to contact me (T: 3961 0223, F: 2314 2661, Email: lkcheng@greenpower.org.hk).

Thank you for your attention.

Yours sincerely,

Dr. Cheng Luk-ki
 Division Head, Conservation and Scientific Research
 Green Power

Attachment (hard copy only):
 "Preserving Tung Chung River – Photo Album of Wild Tung Chung River" (Dec 2012)
 published by Green Power.

c.c.
Mrs. LAM CHENG Yuet Ngor, Carrie, GBS, JP
 Chief Secretary for Administration
 Chief Secretary for Administration's Private Office
 25/F, Central Government Offices, 2 Tim Mei Avenue, Tamar, Hong Kong.
 (E-mail: csa@csa.gov.hk)

Mr. CHAN Mo Po, Paul, MH, JP
 Secretary for Development
 Development Bureau
 18/F, West Wing, Central Government Offices, 2 Tim Mei Avenue, Tamar, Hong Kong
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Offices, 2 Tim Mei Avenue, Tamar, Hong Kong

Office

Content

Conservation Department
 Environment Department
 13 Cheung Sha Wan Road, Kowloon

Offices, 2 Tim Mei Avenue, Tamar, Hong Kong

Regarding the preservation of Tung Chung river and Tung Chung Bay, Green Power would advise that:

- (a) river works should be avoided as far as possible, the natural river courses and estuary should not be altered in any scale;
(儘量避免河道工程；維持天然河道及河口原貌)
- (b) landuse planning for Tung Chung River basin and estuary should take into account of its permeability, natural landscape and ecology;
(東涌河河盆及河口的土地利用應考慮其滲透性、自然景觀和生態)
- (c) sufficient vegetation cover should be maintained in the basin; and
(河盆應保留足夠植被)
- (d) no sewage or stormwater of developed areas should be drained into Tung Chung River channel and Tung Chung Bay.
(發展區的污水及雨水不要流入東涌河河道及東涌灣)

