River, Wetland and Wild Birds in Hong Kong

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Birds and Rivers

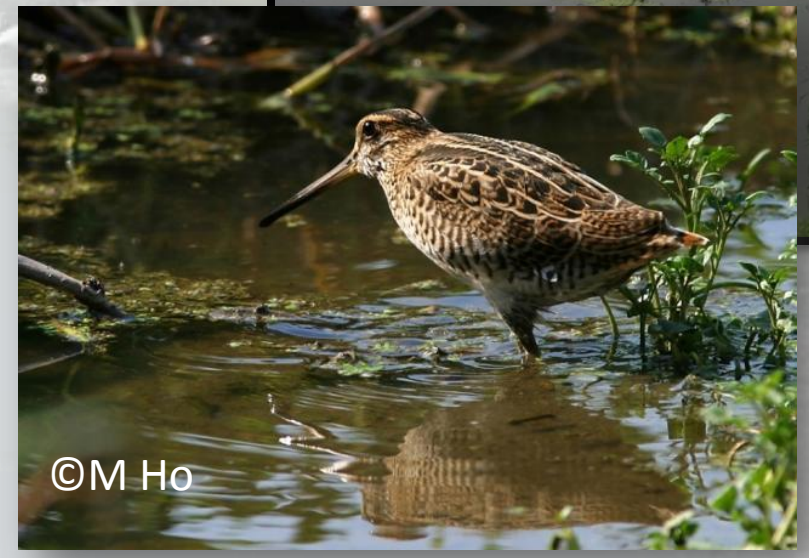
- Composition of birds at upland rivers differ from low-land rivers
  - Upland: Freshwater streams with boulders and rocks, fast-flowing water
  - Low-land: Freshwater marsh and estuary, slow-flowing water, can be tidally influenced

Birds at Upland Rivers

- Only a few riverine species in Hong Kong
  - Crested Kingfisher 冠魚狗
  - Slaty-backed Forktail 灰背燕尾
  - Plumbeous Redstart 紅尾水鴝
  - Solitary Snipe

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 鴴
  - Sandpipers 鷸
  - Snipes
  - Kingfishers 翠鳥
  - Jacanas水雉
  - Rails田雞
  - Coots水雞
- Amongst them **~54 species** are **freshwater** dependent



Birds and Rivers – Bathing, Drinking and Roosting

Birds and Rivers – Foraging Ground

- Piscivores (fish-eating species)
  - Kingfishers
  - Ardeids

- Insectivores (Insect-eating species)
  - Wagtails 鶺鴒
  - Plovers
  - Starlings
  - Mynas

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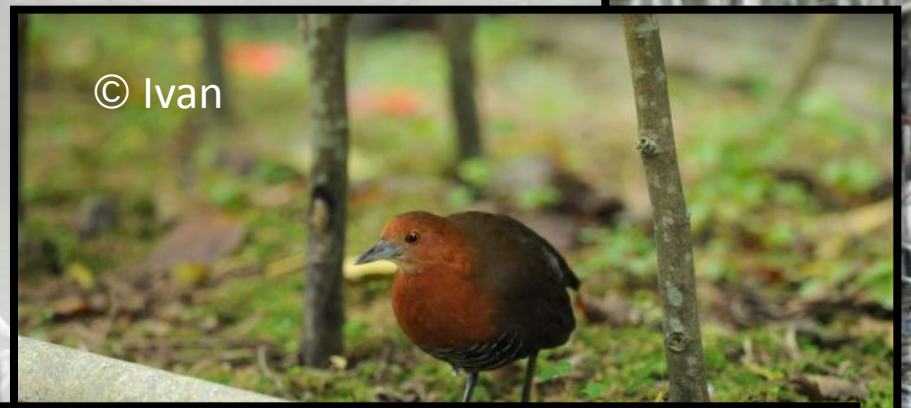
Characteristics of Natural Rivers

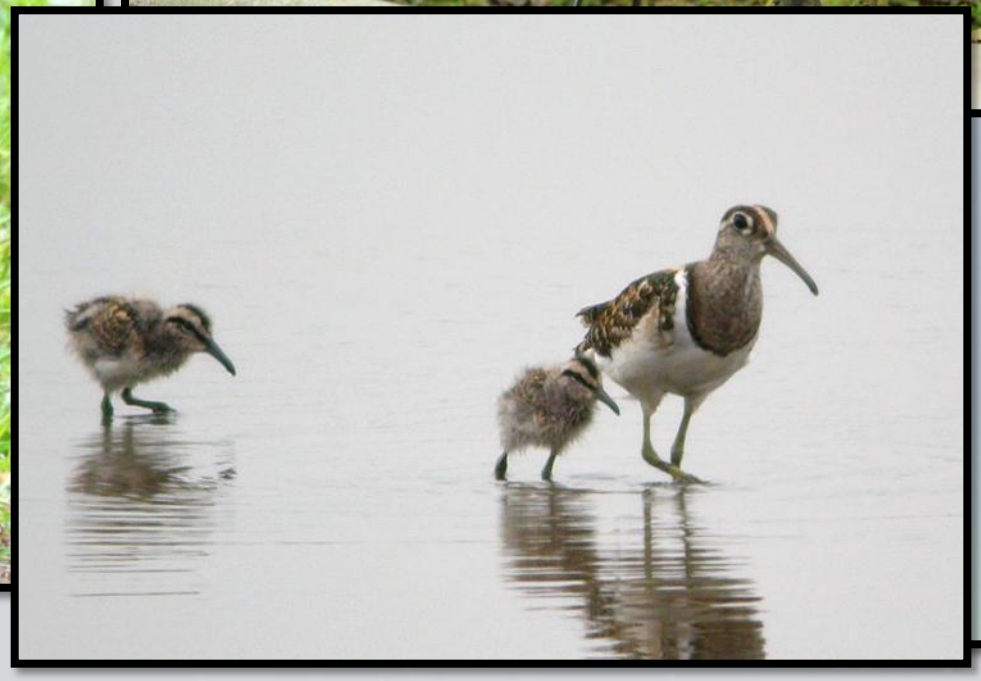
- Riparian and in-stream vegetation
  - Roosting
  - Protection from exposure to predators
- Natural bottom
  - Foraging for benthic invertebrates

Many riverine species are sensitive to disturbances/easily frightened

- Bitterns
- Crakes
- Snipes
- Rails

(many are rare or uncommon)





natural river => drainage channel

Before river training works

After river training works

Kam Tim River: now and then (1963)

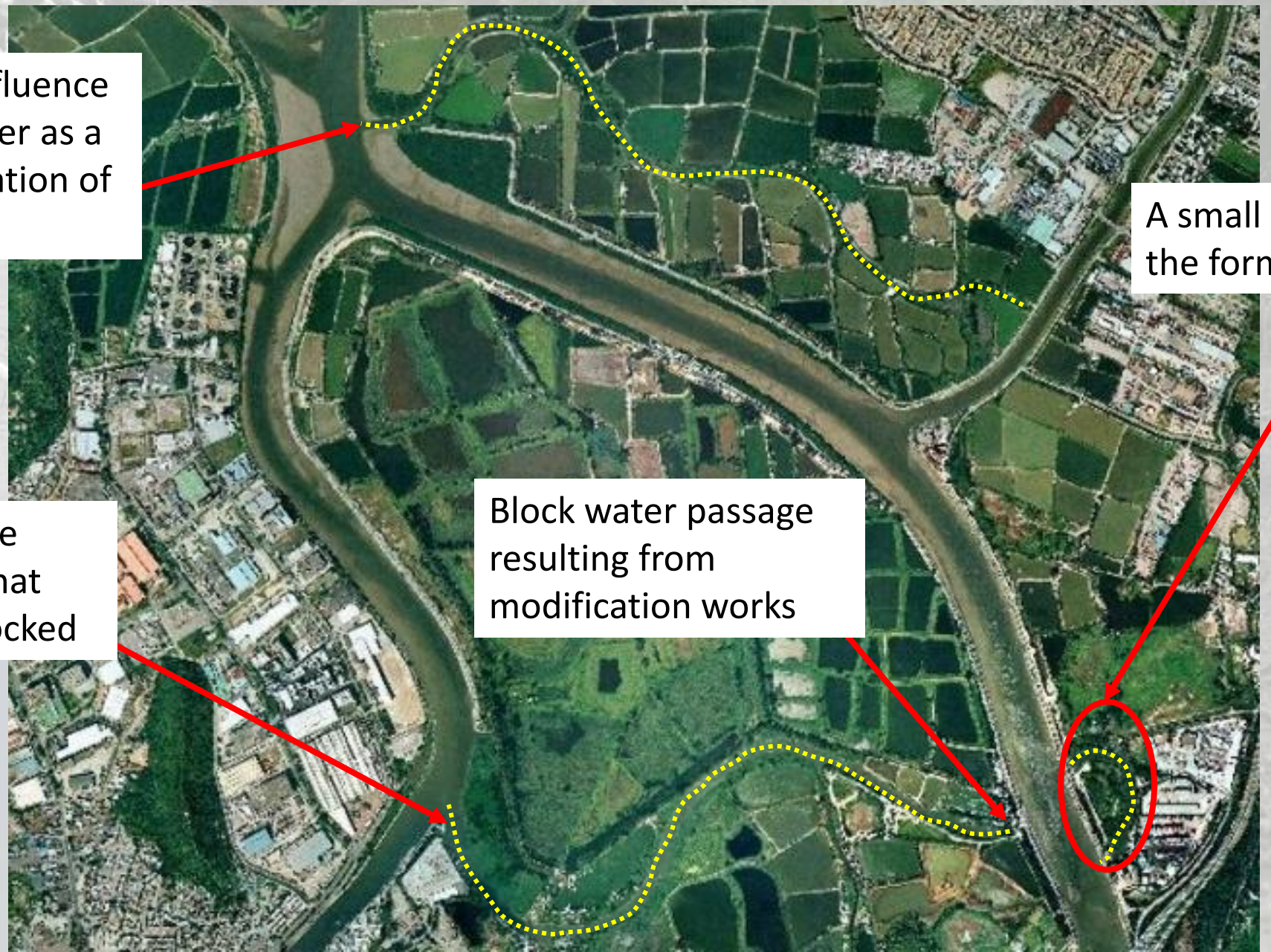
Cumulative impacts – Sha Po Marsh, Kam Tin

Change in Landscape – Kam Tin River

1954

2012

Change in Landscape – Kam Tin River



Reduced tidal influence to the former river as a result of the creation of Kam Tin River

A small remaining part of the former natural river

One side of the former river that remains unblocked

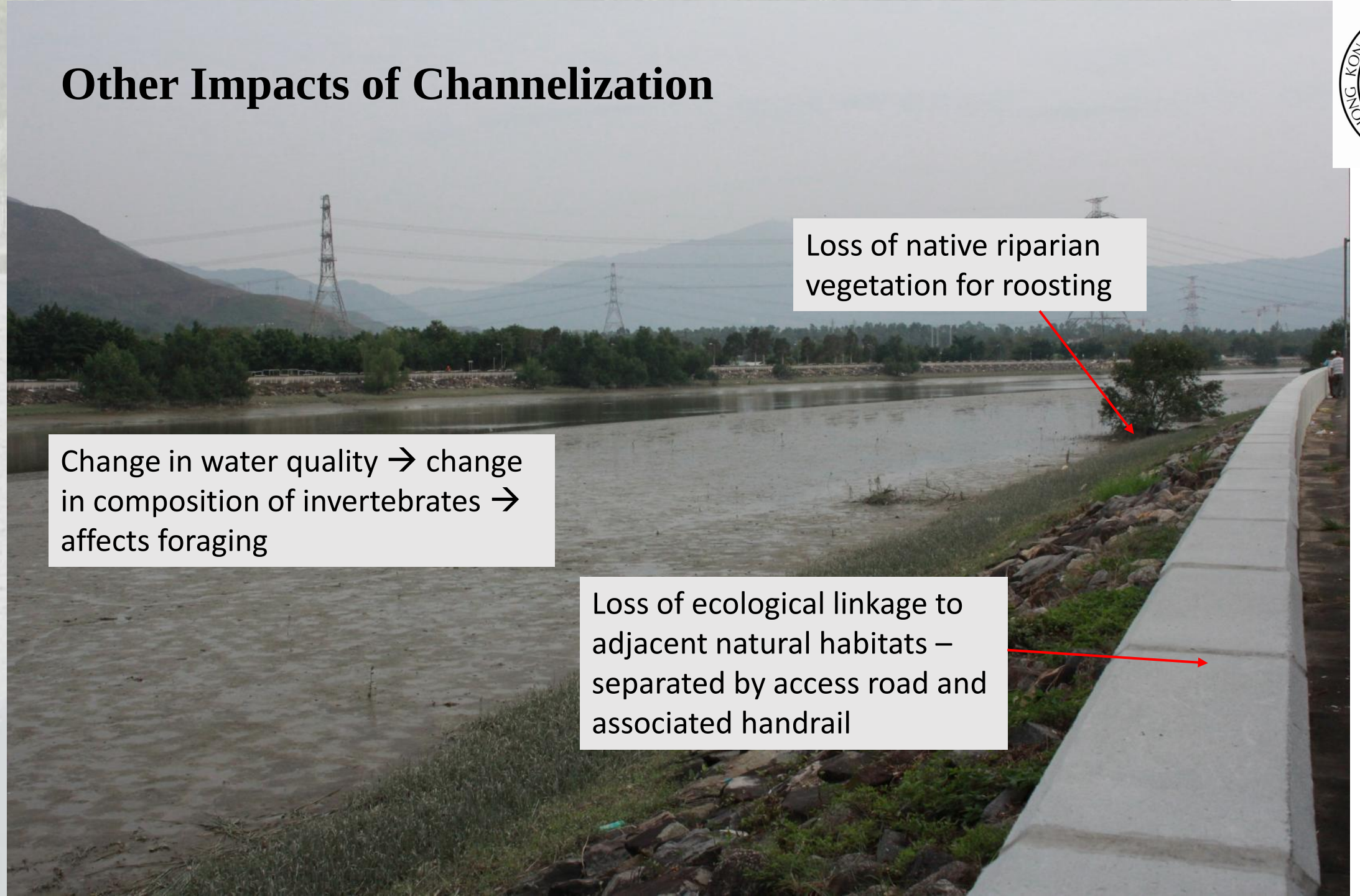
Block water passage resulting from modification works

Impacts of River Modification

- Change of hydrology
- Loss of habitat complexity
- Elimination of aquatic plants
- Reduction of fish abundance and diversity
- Change of landscape

** Change of ecology → change in bird species composition**

Other Impacts of Channelization

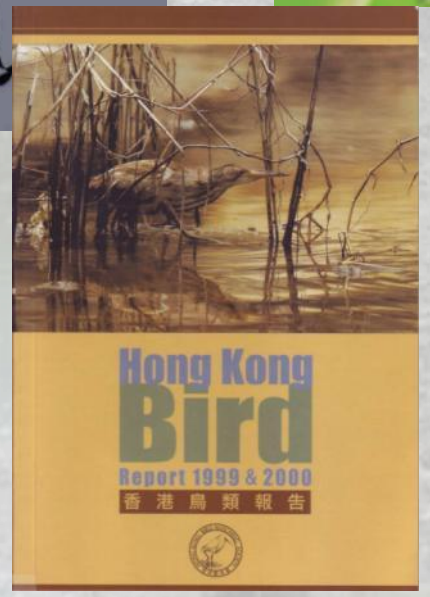


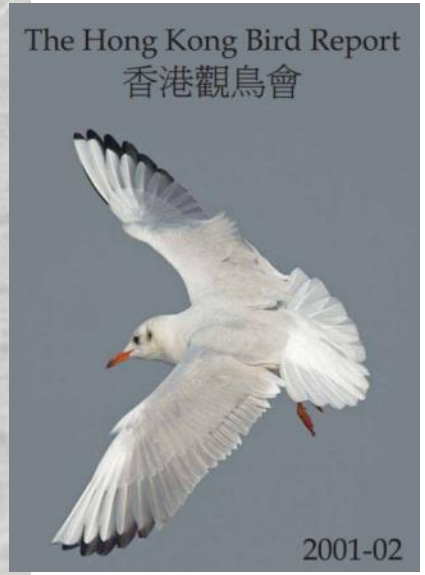
Other Impacts of Channelization

Siting Records of Riverine Species – HKBWS Data in the Last Ten Years

- Selected 3 riverine species
  1. Crested Kingfisher
  2. Slaty-backed Forktail
  3. Plumbeous Restart
- All 3 species have been recorded in Hong Kong in the past

- Determine:
  - Date of the most recent siting record
  - Location of the siting record
  - Ecological characteristics of the located

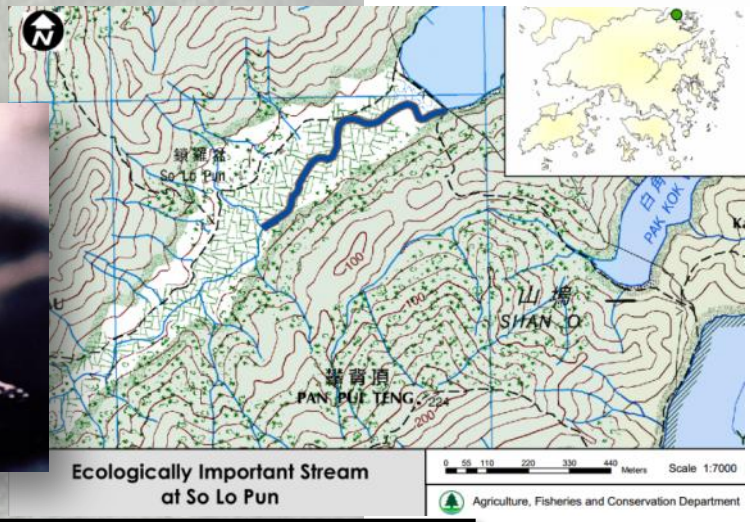




Siting Records of Riverine Species – HKBWS Data

Crested Kingfisher – 2 records

- Mostly found along fast flowing streams and rivers with wooded banks, resides in riverine habitats.
- Probably a local resident until 1960's.
- HKBWS records – found at So Lo Pun where Ecologically Important Stream locates.



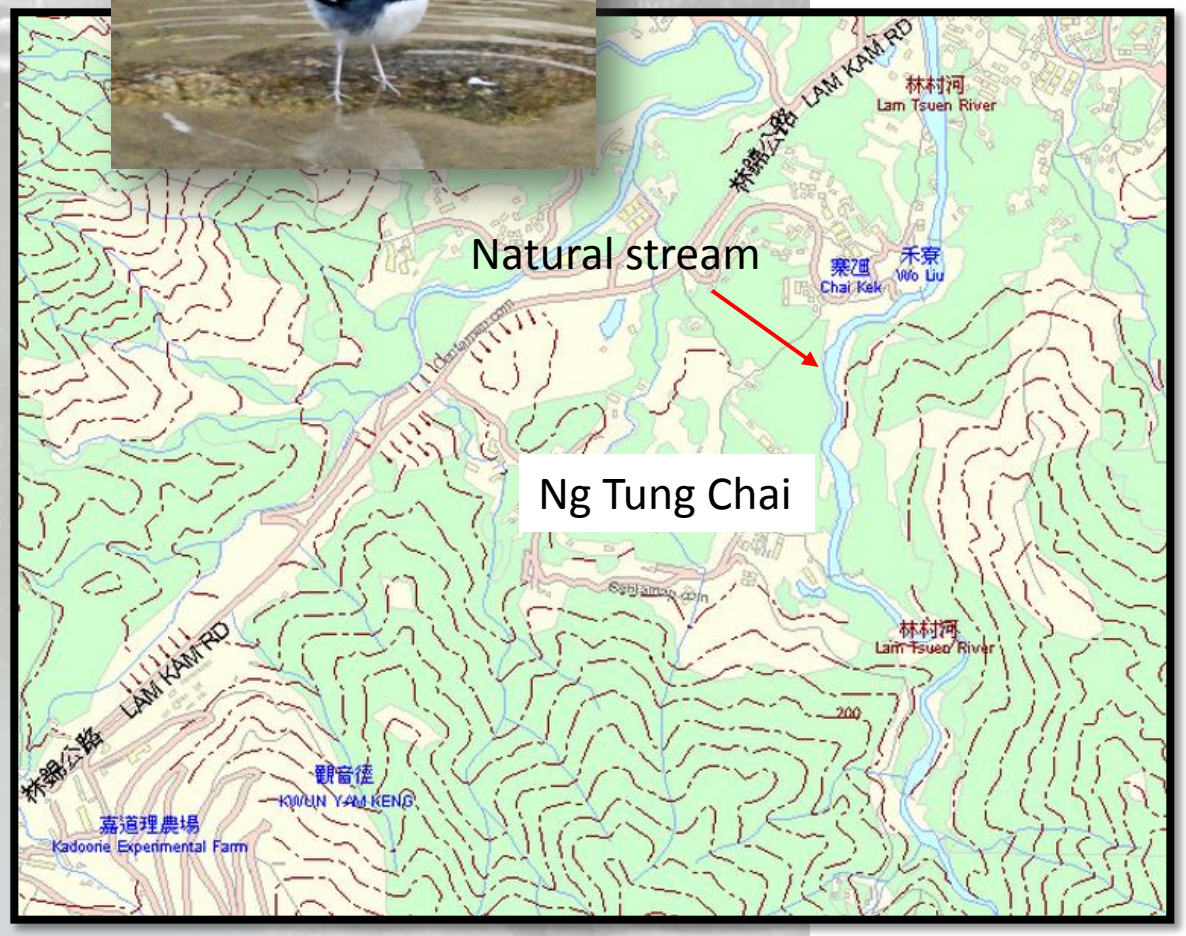
Location	Recorded Year
So Lo Pun	2009
So Lo Pun	2009

Siting Records of Riverine Species – HKBWS Data

Slaty-backed Forktail – 7 records

- Found along fast-flowing streams in wooded areas
- All recorded locations include natural streams with little disturbance, even the not-so-well-known Ng Tung Chai
- Numbers declining

Location	Recorded Year
Ng Tung Chai	2003
Tai Po Kau	2004
Ng Tung Chai	2004
Bride's Pool	2009
Shing Mun	2011
Tai Po Kau	2011



Siting Records of Riverine Species – HKBWS Data

Plumbeous Redstart – 18 records

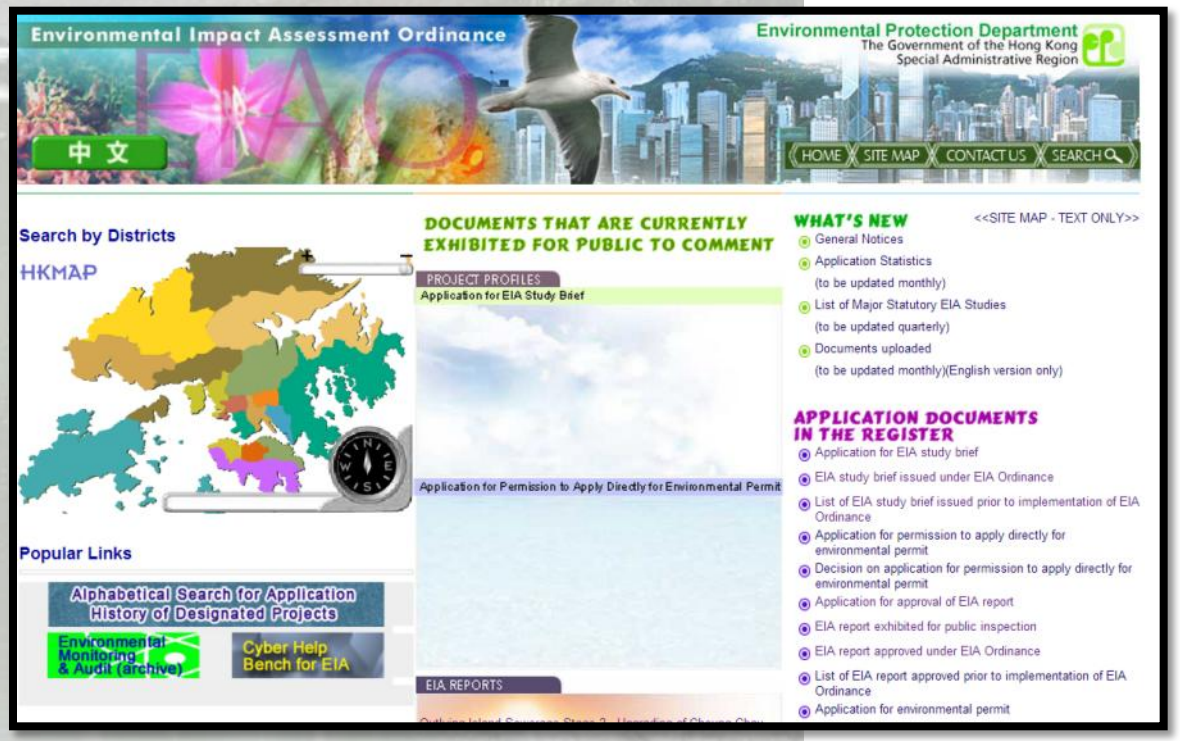
- Perches on rocks in streams, rarely found far from running water

Location	Recorded Year
Lam Tsuen	2001
Chung Mei, Wun Yiu, Lam Tsuen	2003
Chung Mei, Wun Yiu, Mui Wo	
Chung Mei, Wun Yiu	2005
Lam Tsuen, Nam Chung, Chung Mei, Po Toi, Hong Lok Yuen	2007
Chung Mei, Bride's Pool	2011
Tso Kung Tam	2012

- Records were obtained from areas with natural streams
- Including Lam Tsuen Ecologically Important Stream

Major Drainage Projects – EIA Studies

- By comparing baseline bird survey data to post-construction phase monitoring data (EM&A)
  - Any riverine species during the baseline?
  - If yes, are they still present during the post-construction phase monitoring



Major Drainage Projects – EIA Studies

Limited information available

- EIA 189/2010 Regulation of Shenzhen River Stage IV
  - None of three riverine species recorded during baseline
  - Other records: e. Greater Printed Snipe, White-breasted Water Hen
- EIA 122/2006 Yuen Long, Kam Tin, Ngau Tam Mei & Tin Shui Wai Drainage Improvement Stage 1, Phase 2B - Kam Tin Secondary Drainage Channel KT13
  - Common water birds
- EIA 110/2005 Drainage Improvements in South Lantau
  - Baseline – One record of Plumbeous Redstart
  - Monitoring – No records of Plumbeous Redstart so far, however monitoring period is not completed

Observations from Birdwatchers

- Natural channel vs. new channel at Sha Po, Kam Tin
  - much higher bird diversity in the natural channel
  - limited number of bird species, mainly generalists (s.a. herons and egrets), in the new channel

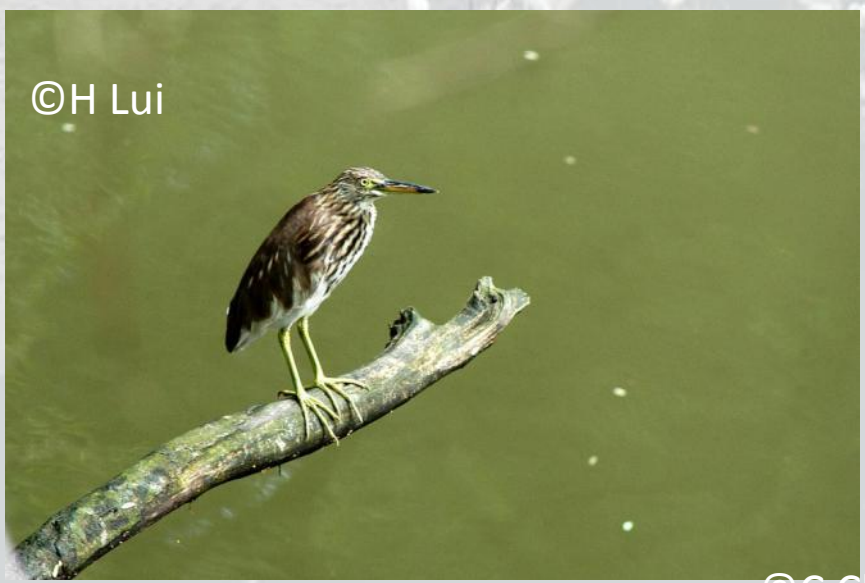
new channel

Remaining original channels at Sha Po, Kam Tin

Bird Species Composition after Channelization

Birds often seen

- Generalist species
- Tolerant to human disturbances
- Common species



Bird Species Composition After Channelization

Waterbirds/wetland-dependent species commonly seen at channelized rivers

- Ardeids
  - Little Egret
  - Chinese Pond Heron
  - Grey Heron
- Little Ringed Plover
- Sandpipers
  - Common Sandpiper 磯鷸
  - Green Sandpiper
  - Wood Sandpiper

Bird Species Composition after Channelization

Birds rarely seen

- Plovers
  - Grey-headed Lapwing 灰頭麥雞
- Rails and coots
  - White-breasted Waterhen白胸苦惡鳥
  - Common Moorhen
- Snipes
  - Greater Painted-snipe
  - Common, Pintail, Swinhoe's Snipes
- Pheasant-tailed Jacana

Grey-headed Lapwing

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What we are left with…

- Channelized low-land streams provide only a limited amount of foraging opportunities
- Bird diversity decreased at channelized rivers
- Few generalist species adapts to the change

The more natural substrate the better

In-stream vegetation provide roosting opportunities for wetland-dependent species

Natural bottom substrate provide foraging opportunities for wetland-dependent species

Thank you

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