



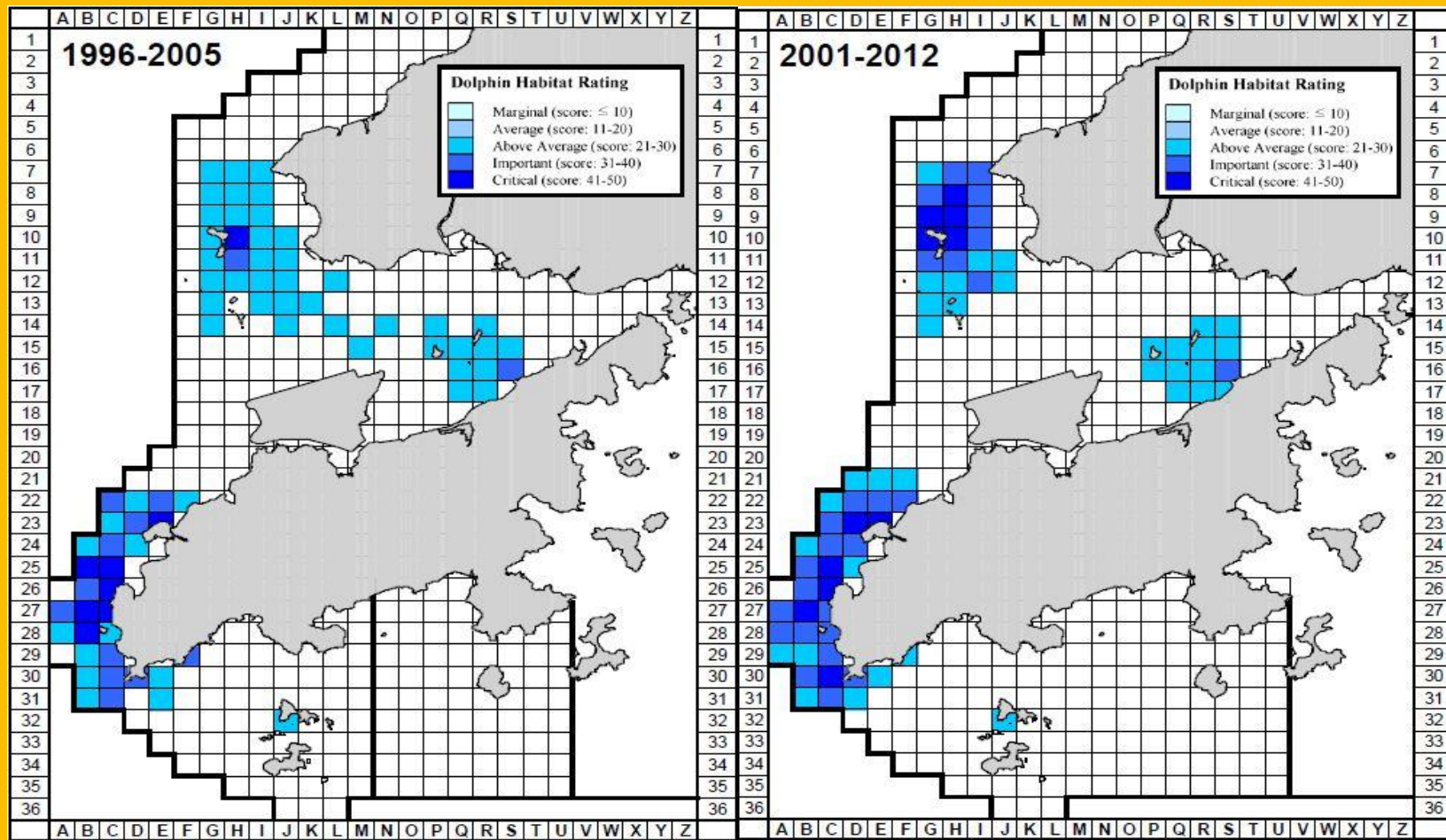
Legislative Council Subcommittee to Follow Up Issues Relating to the Three-runway System at the Hong Kong International Airport

**Mitigation and Enhancement Measures in connection with
the Conservation of Marine Ecology
and Chinese White Dolphins**

16 February 2016



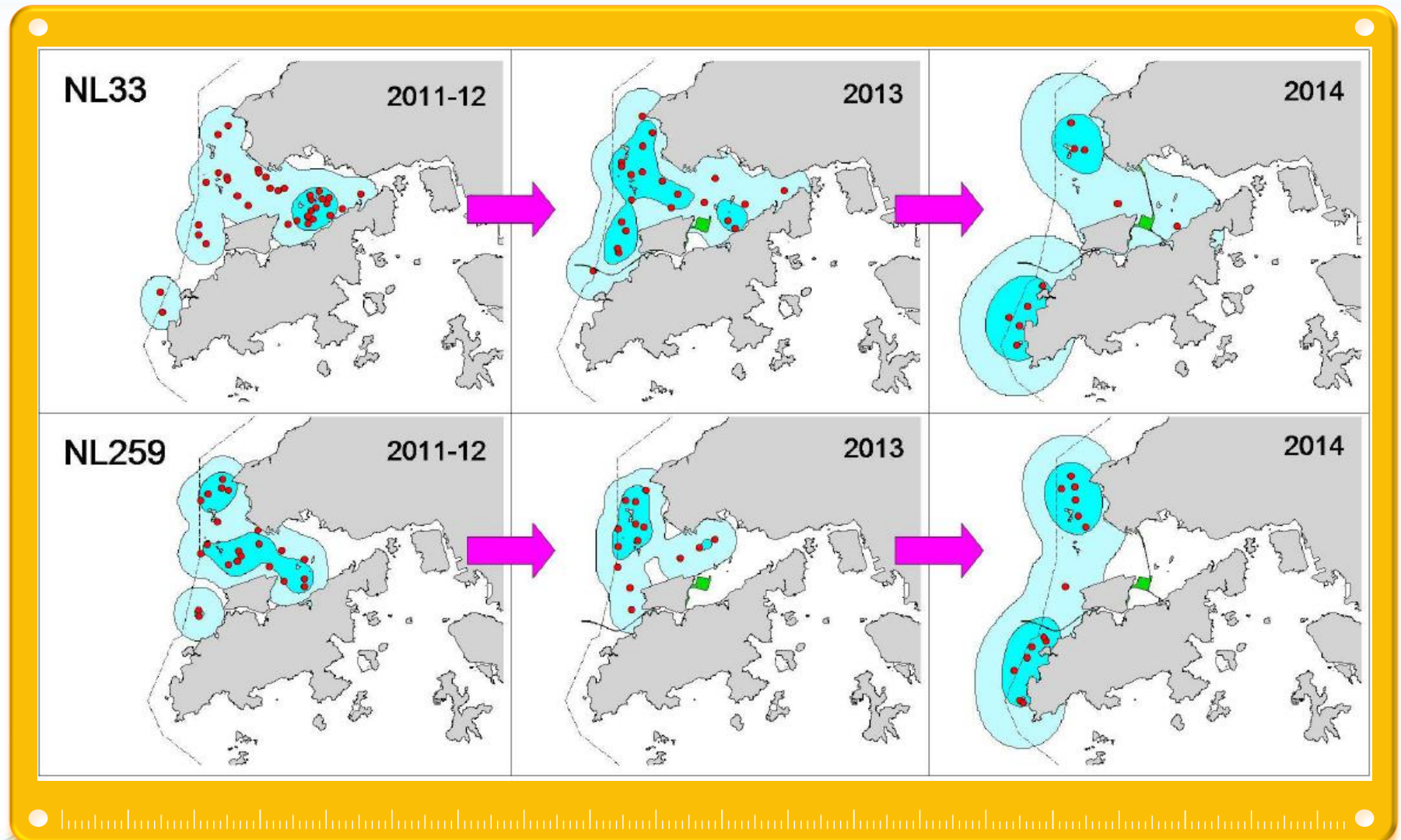
Prime CWD Habitat



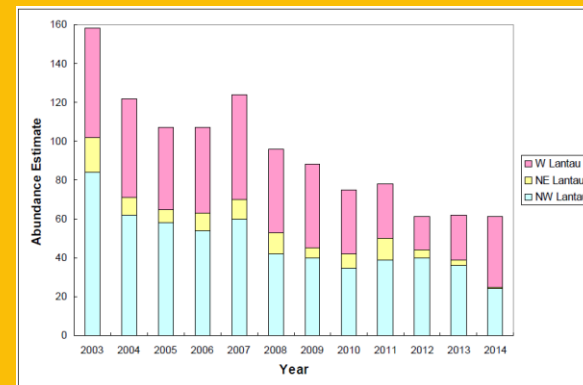
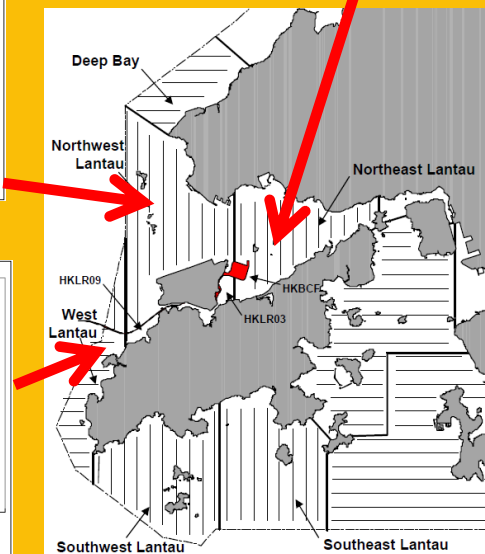
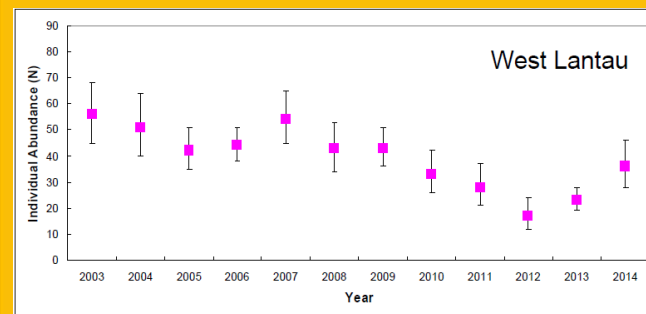
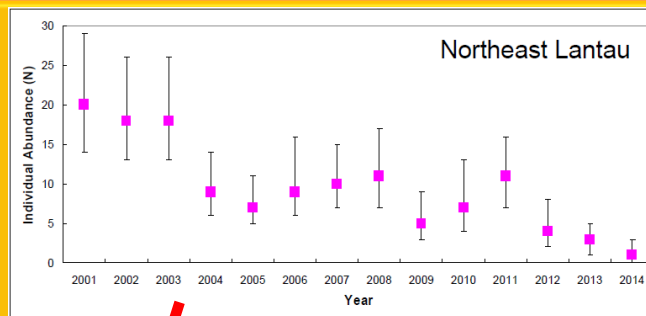
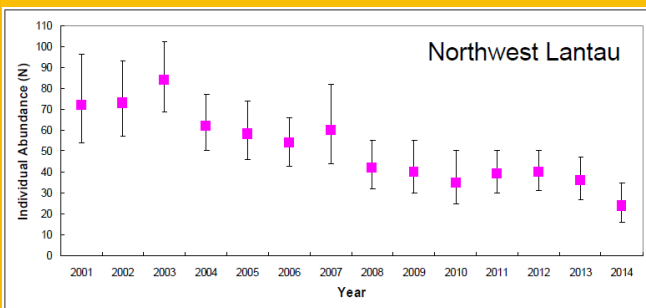
● [http://www.aquaticmammals.gov.hk/eng/monitoring/monitoring.htm](#) ●



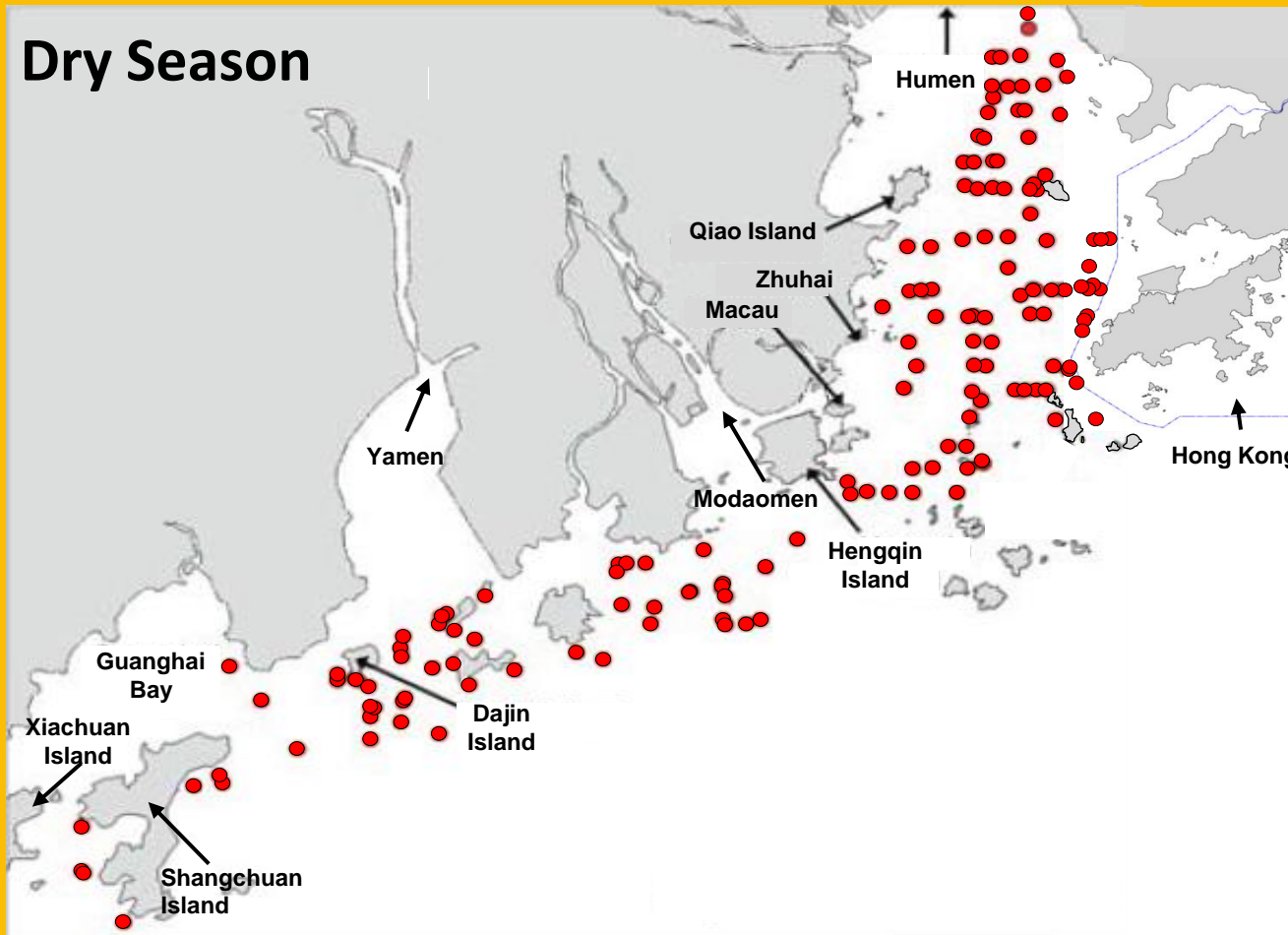
Shift of Dolphin Core Area (Comparison between 2011-12, 2013 and 2014)



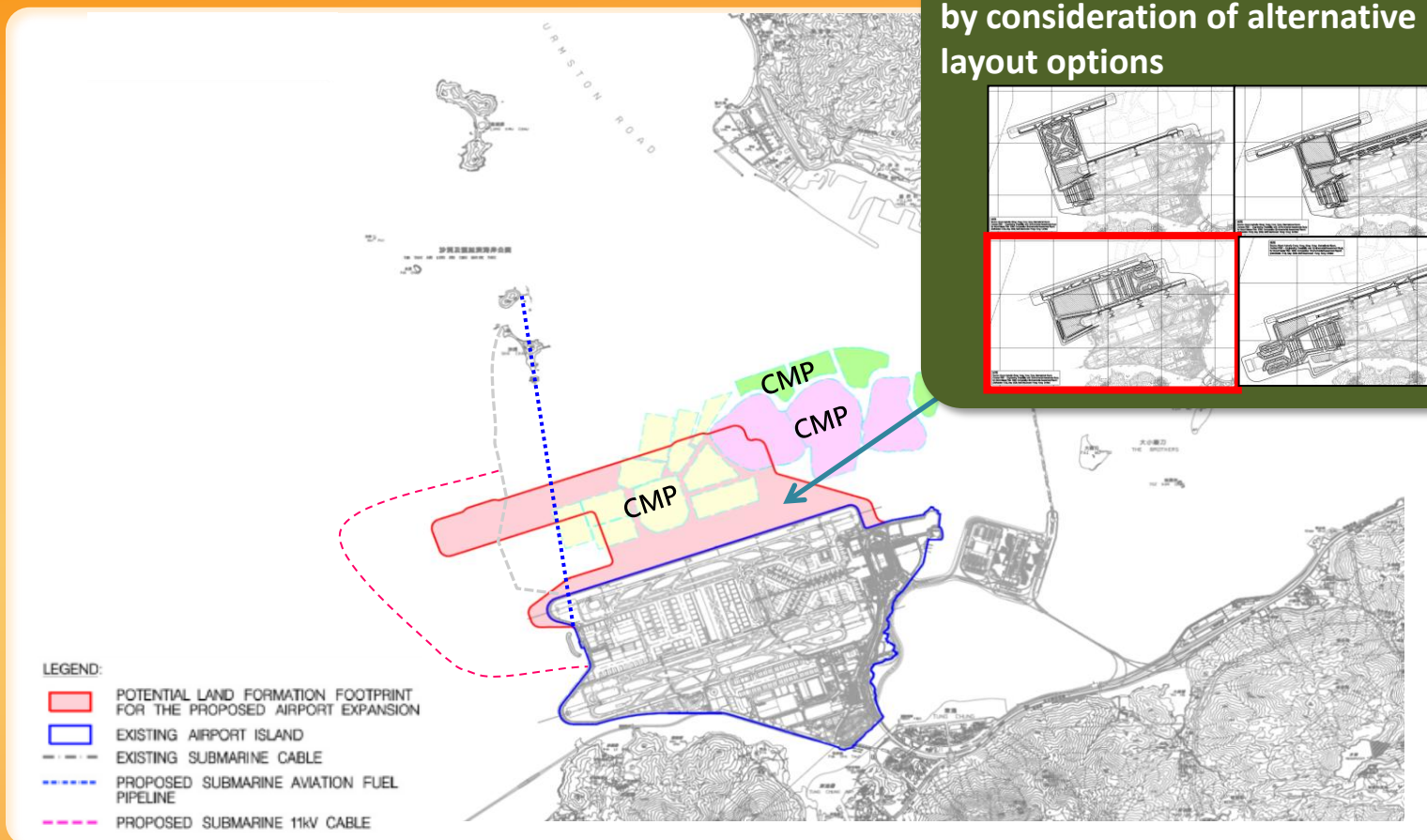
Shift of Dolphin Core Area



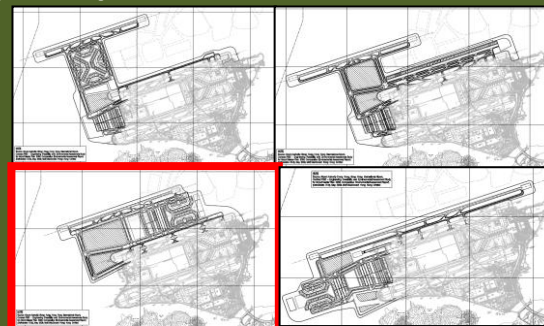
CWDs occur extensively in Pearl River Estuary



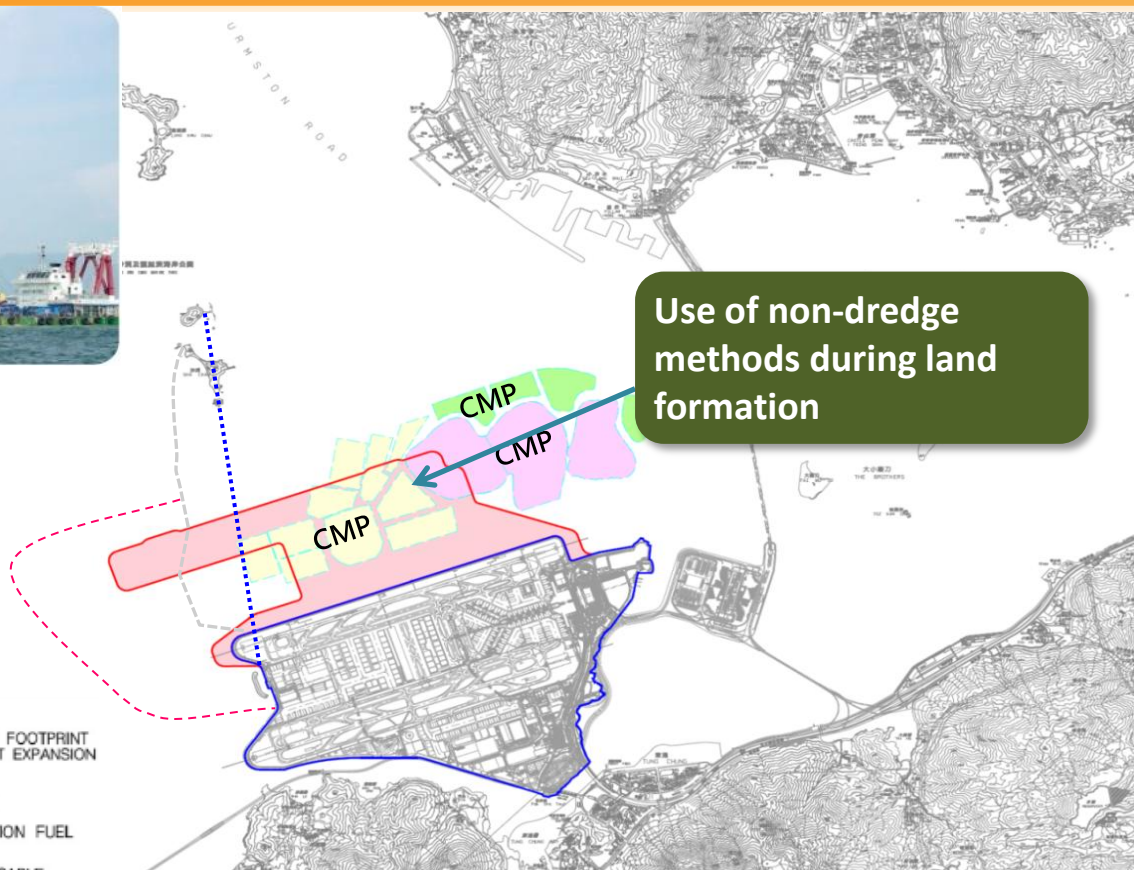
Adopt Advance Scheme Design and Construction Methods to Mitigate Environmental Impact



Minimization of land formation area by consideration of alternative layout options



Adopt Advance Scheme Design and Construction Methods to Mitigate Environmental Impact



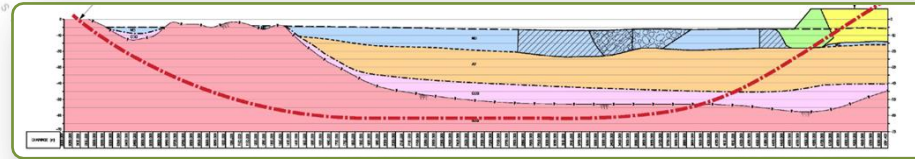
LEGEND:

- POTENTIAL LAND FORMATION FOOTPRINT FOR THE PROPOSED AIRPORT EXPANSION
- EXISTING AIRPORT ISLAND
- EXISTING SUBMARINE CABLE
- PROPOSED SUBMARINE AVIATION FUEL PIPELINE
- PROPOSED SUBMARINE 11KV CABLE

Adopt Advance Scheme Design and Construction Methods to Mitigate Environmental Impact

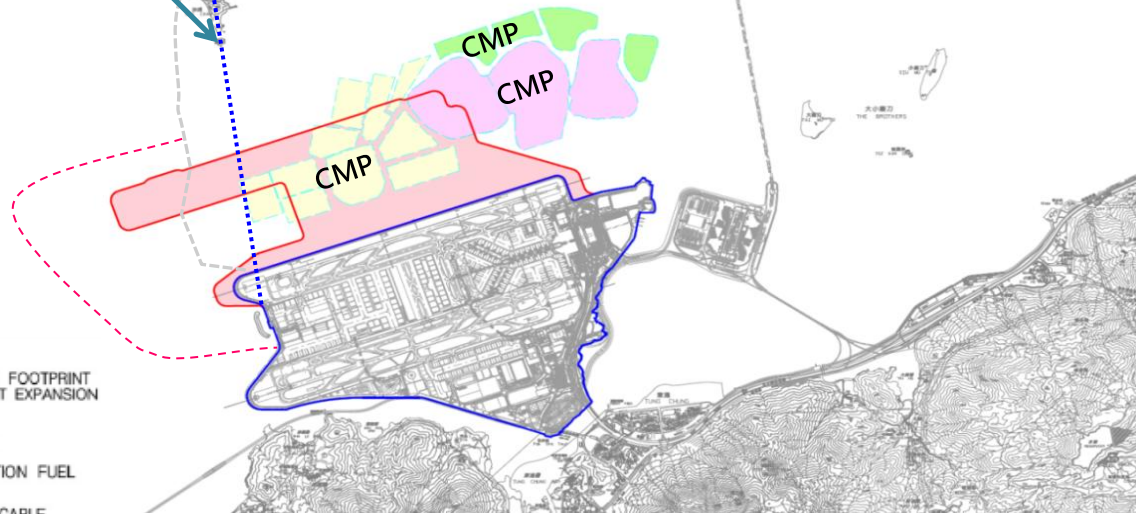
Use of Horizontal Directional Drilling (HDD) for submarine pipeline diversion

Proposed Submarine Aviation Fuel Pipeline



LEGEND:

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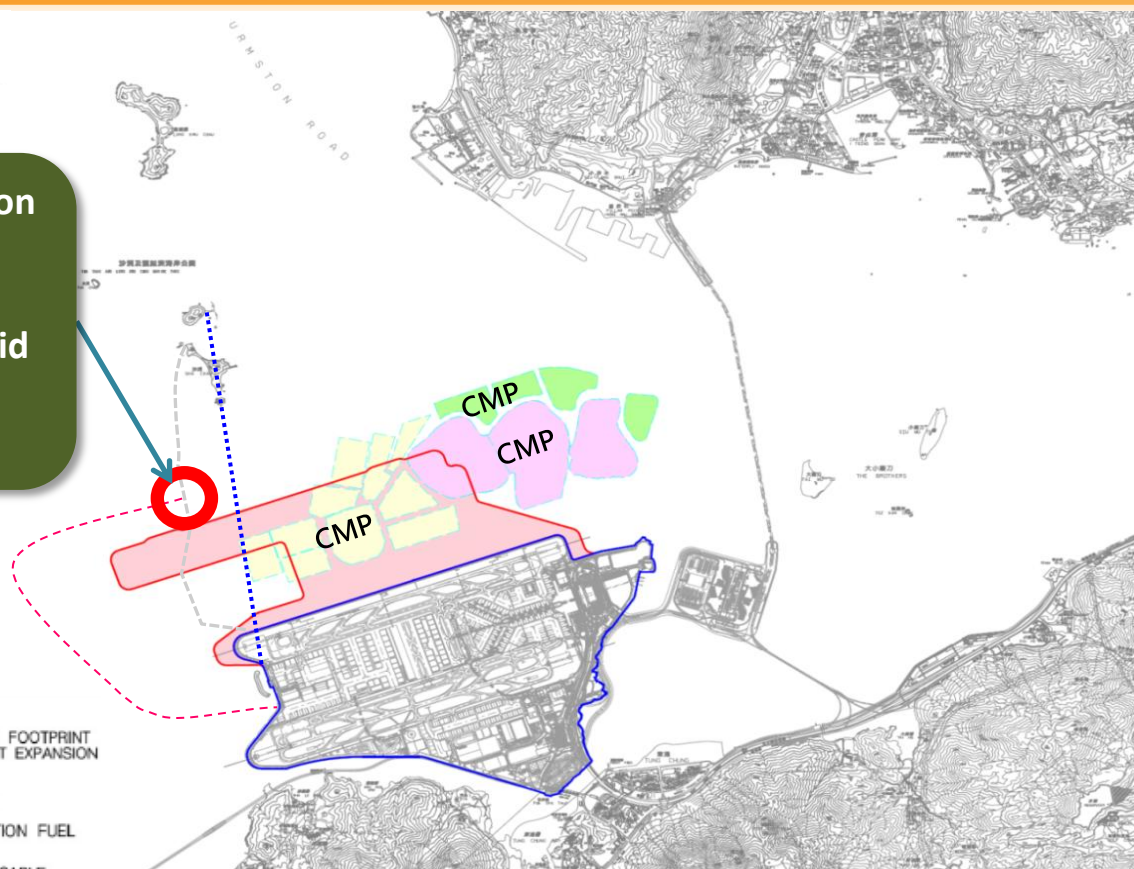


Adopt Advance Scheme Design and Construction Methods to Mitigate Environmental Impact

Field joint location
outside the
existing marine
park area to avoid
disturbance to
marine park

LEGEND:

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Adopt Advance Scheme Design and Construction Methods to Mitigate Environmental Impact

Use of Horizontal Directional Drilling (HDD) for submarine pipeline diversion

Use of non-dredge methods during land formation

Field joint location outside the existing marine park area to avoid disturbance to marine park

LEGEND:

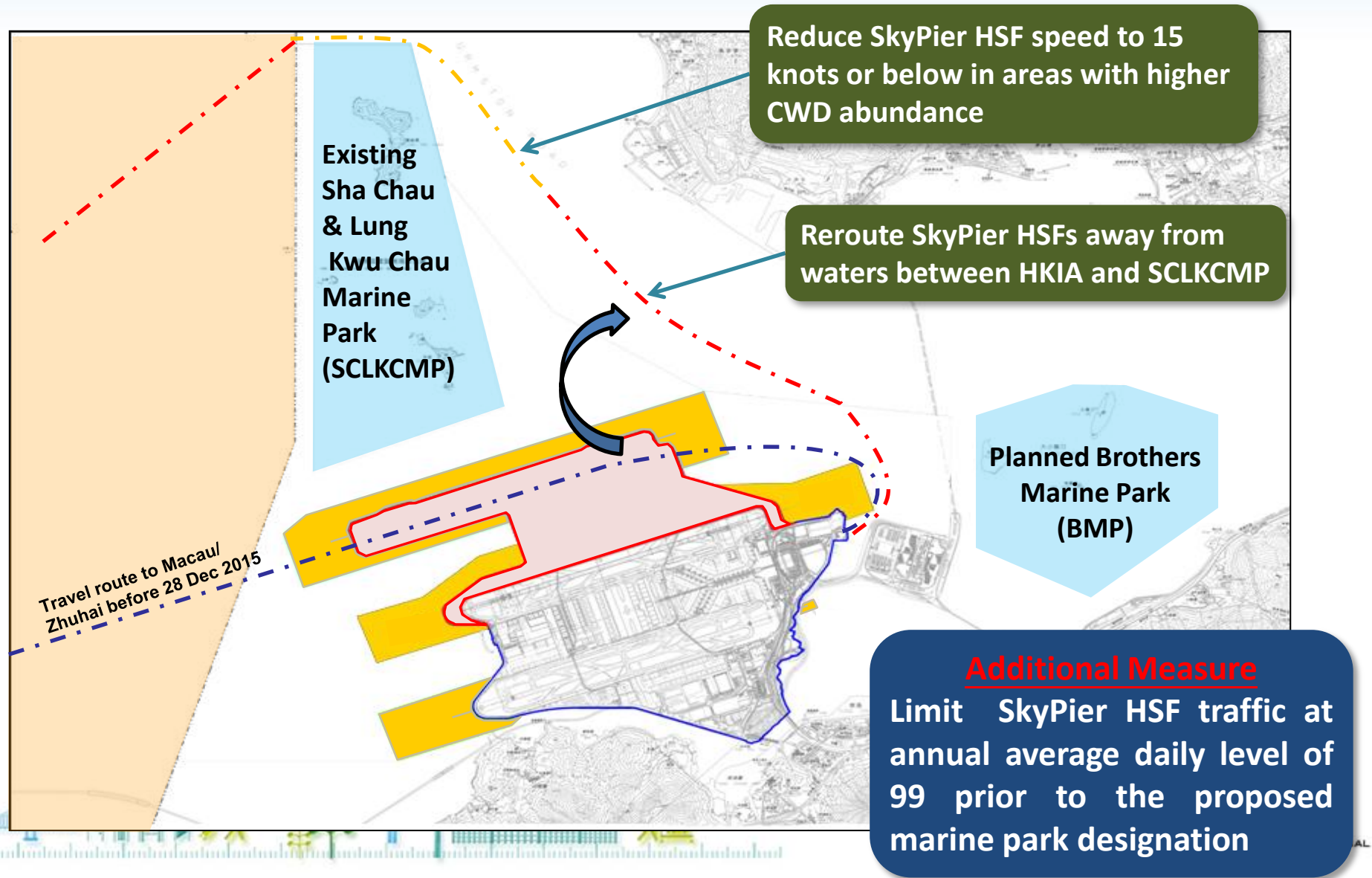
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Minimization of land formation area by consideration of alternative layout options

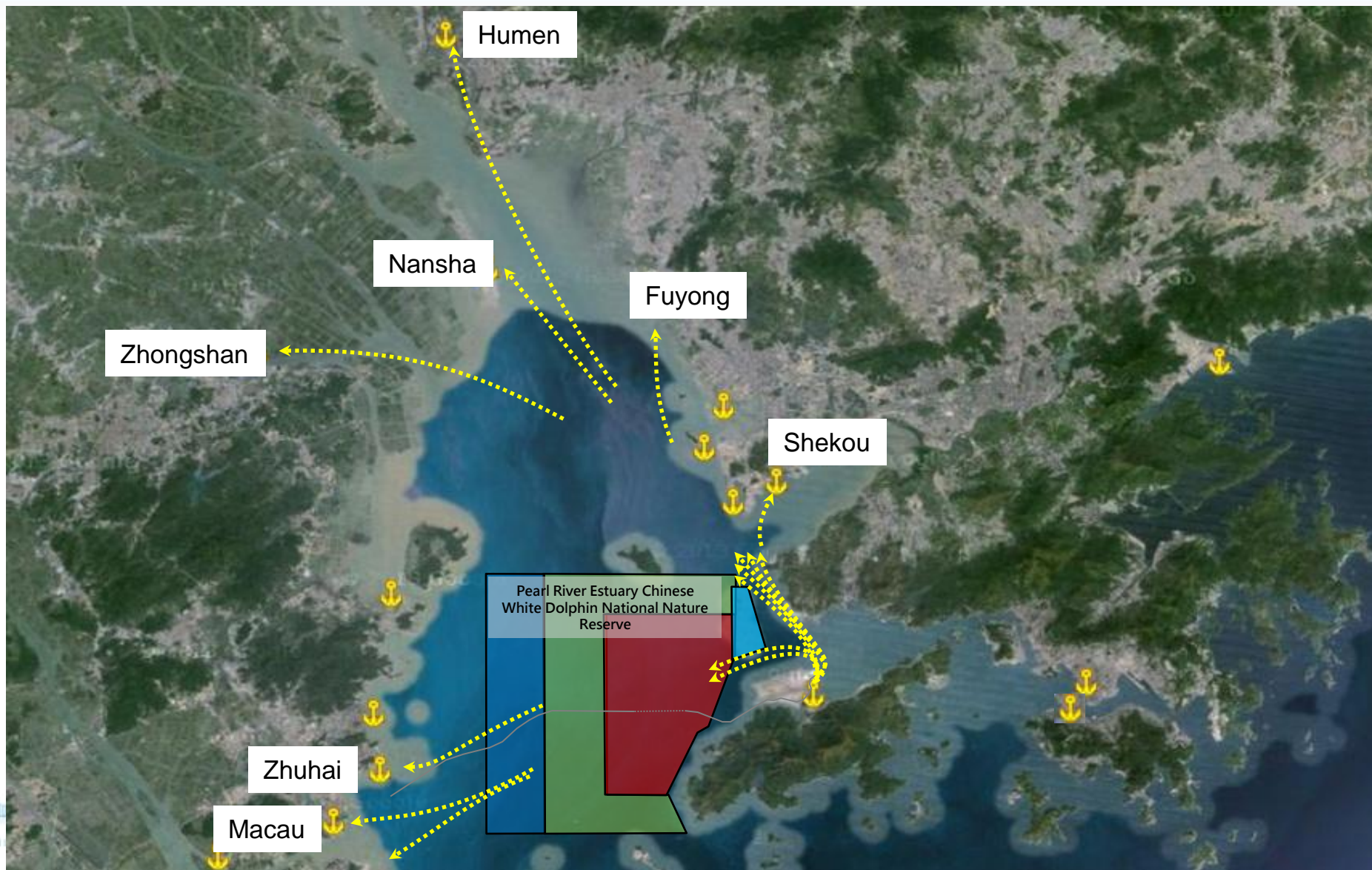
Other mitigation measures:

- Total ban on percussive piling for marine works
- Avoid bored piling during peak calving season for CWDs
- Setup advance sea wall and silt curtain to prevent spread of suspended solid
- Acoustic decoupling of construction equipment

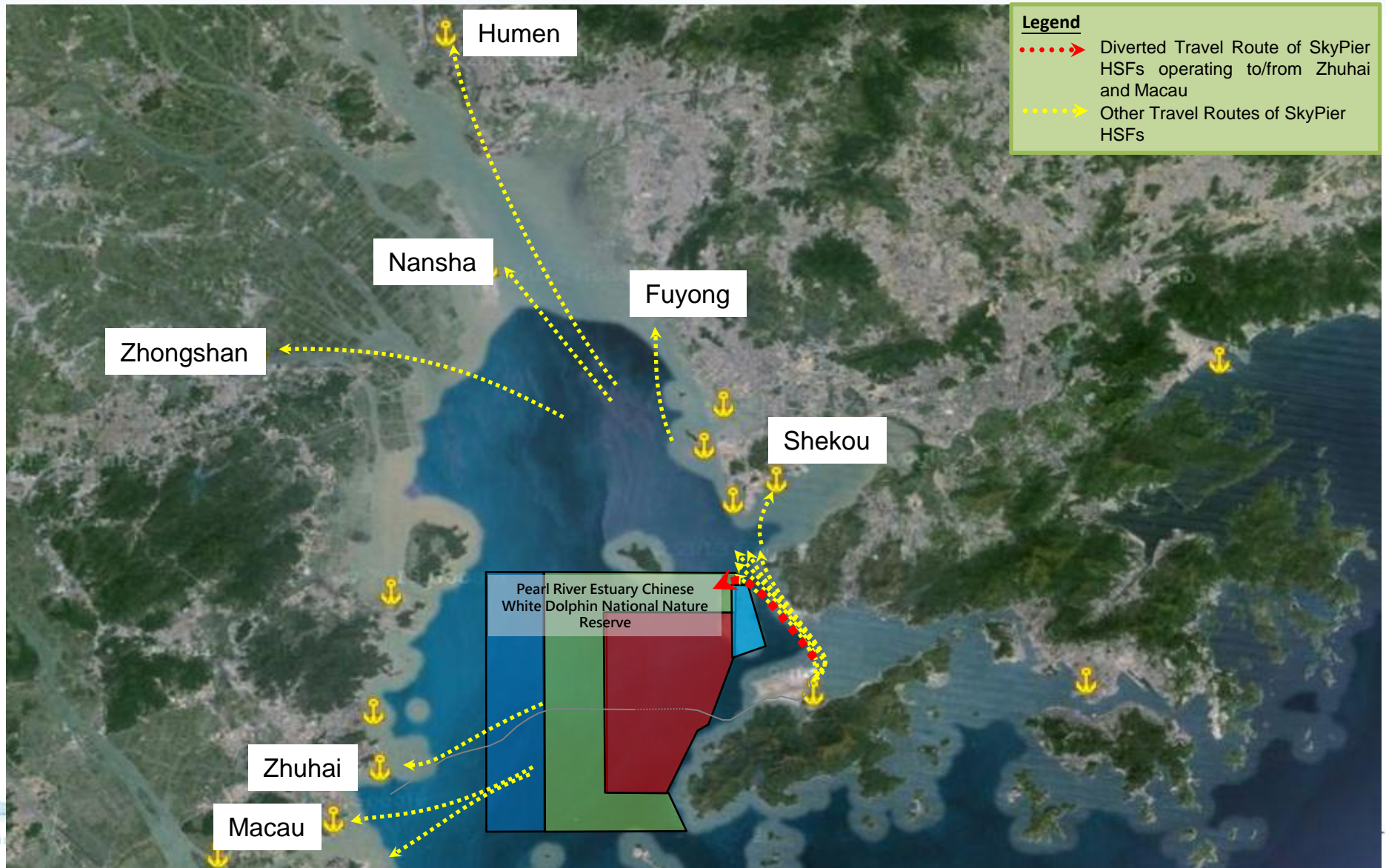
High-speed Ferry (HSF) Marine Traffic Routes and Management Plan



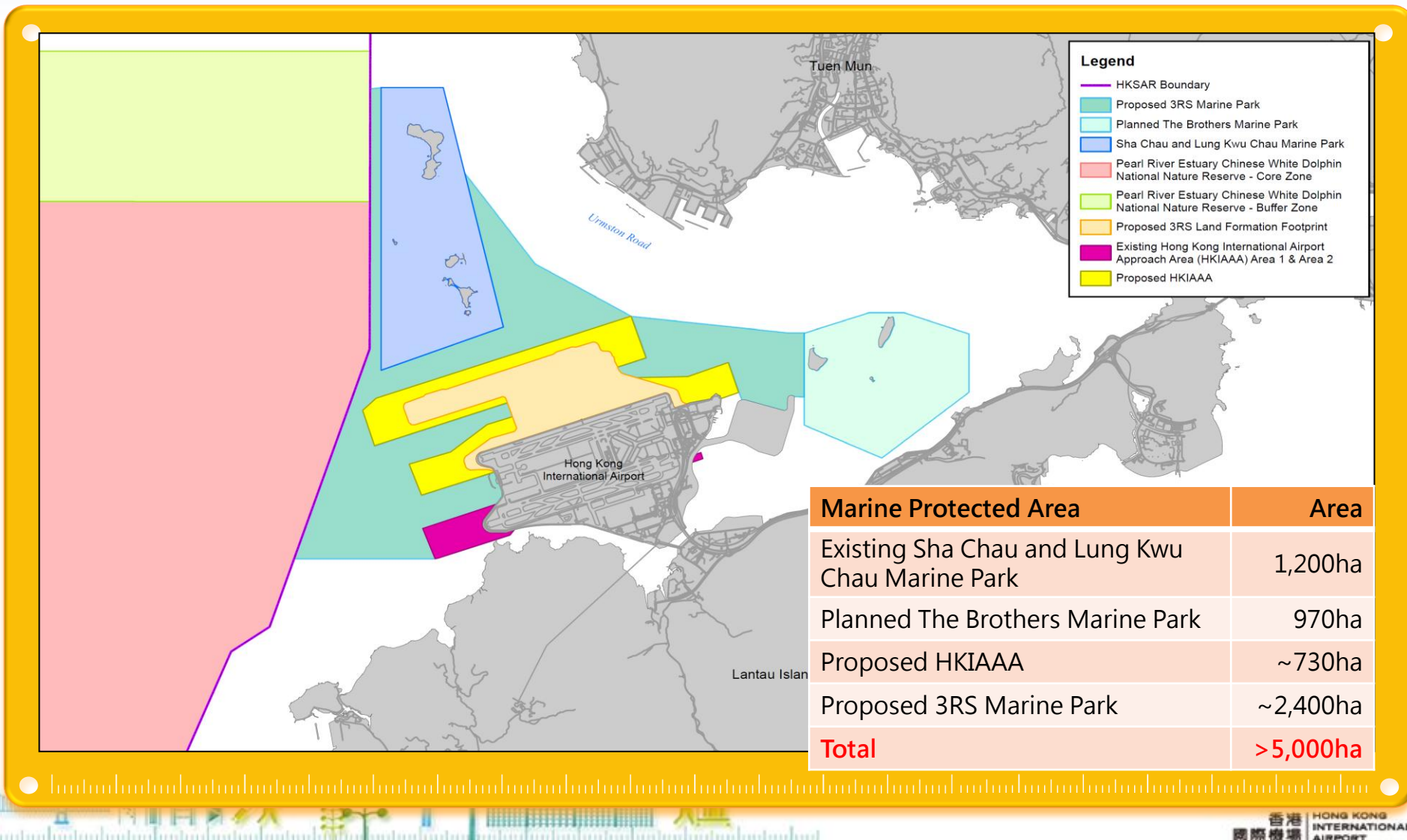
Travel Routes of SkyPier HSFs and the Pearl River Estuary CWD National Nature Reserve



Travel Routes of SkyPier HSFs and the Pearl River Estuary CWD National Nature Reserve

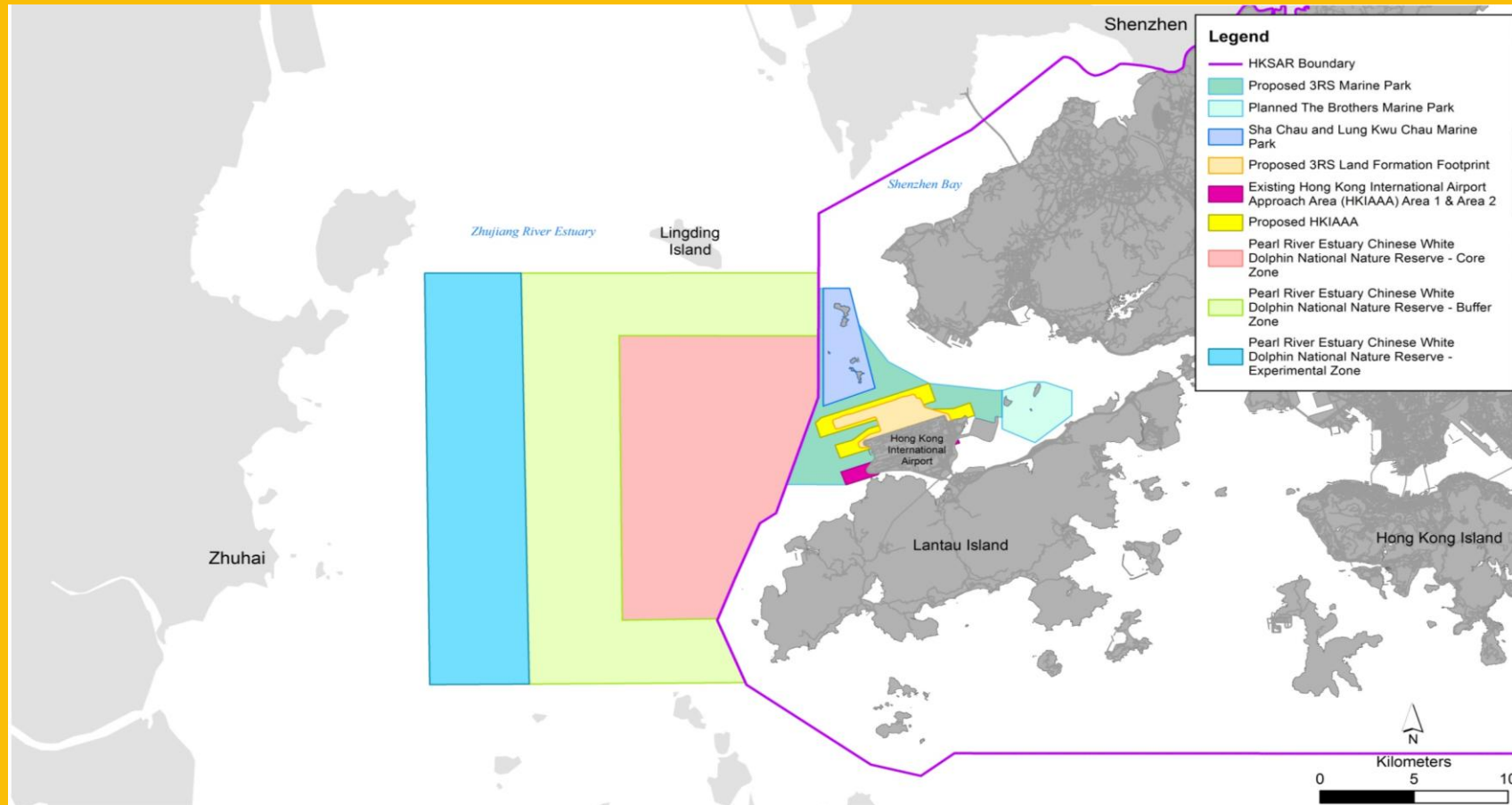


Provide linkages between Marine Park and Adjacent Conservation Areas to Enhance Marine Ecology



Note : The boundary of the proposed marine park is indicative only and subject to the draft map published in the Gazette under Marine Parks Ordinance.

Location of Pearl River Estuary Chinese White Dolphin National Nature Reserve



Note : The boundary of the proposed marine park is indicative only and subject to the draft map published in the Gazette under Marine Parks Ordinance.

Comprehensive EM&A for CWDs

- CWDs monitoring before construction, during construction, post-construction and operation phases
- To monitor the impact of 3RS Project on CWDs
 - travel areas and habitat use
 - effectiveness of proposed mitigation measures, including:
 - route diversion and speed reduction of SkyPier HSFs travelling to and from Zhuhai and Macau
 - the proposed 3RS Marine Park
- Adopt Dolphin Exclusion Zones for specific marine construction activities during day time and night time, to avoid the cause of injury/ noise disturbance to CWDs



Marine Ecology Conservation Plan & Marine Ecology Enhancement Fund

Fisheries Management Plan & Fisheries Enhancement Fund



Funding Objectives & Themes

Marine Ecology Conservation Plan

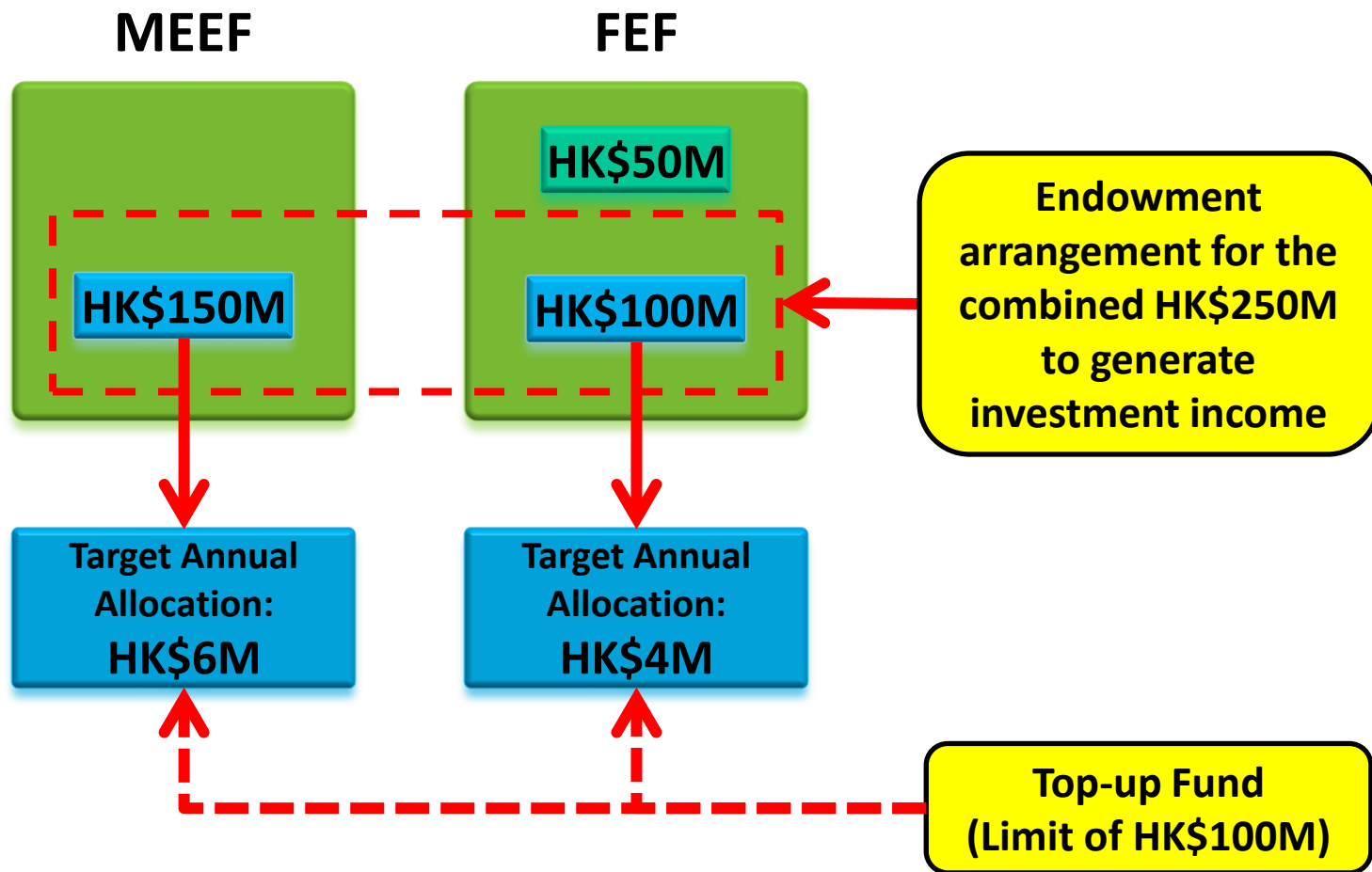
- Marine habitat & resource conservation & enhancement
- Scientific research & studies
- Environmental education & eco-tourism

Fisheries Management Plan

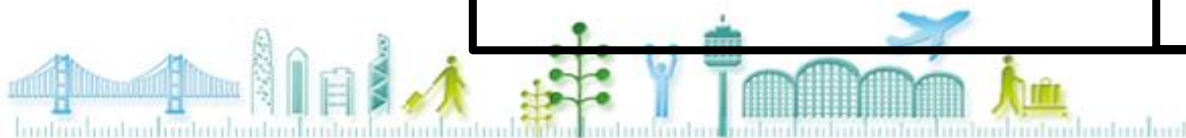
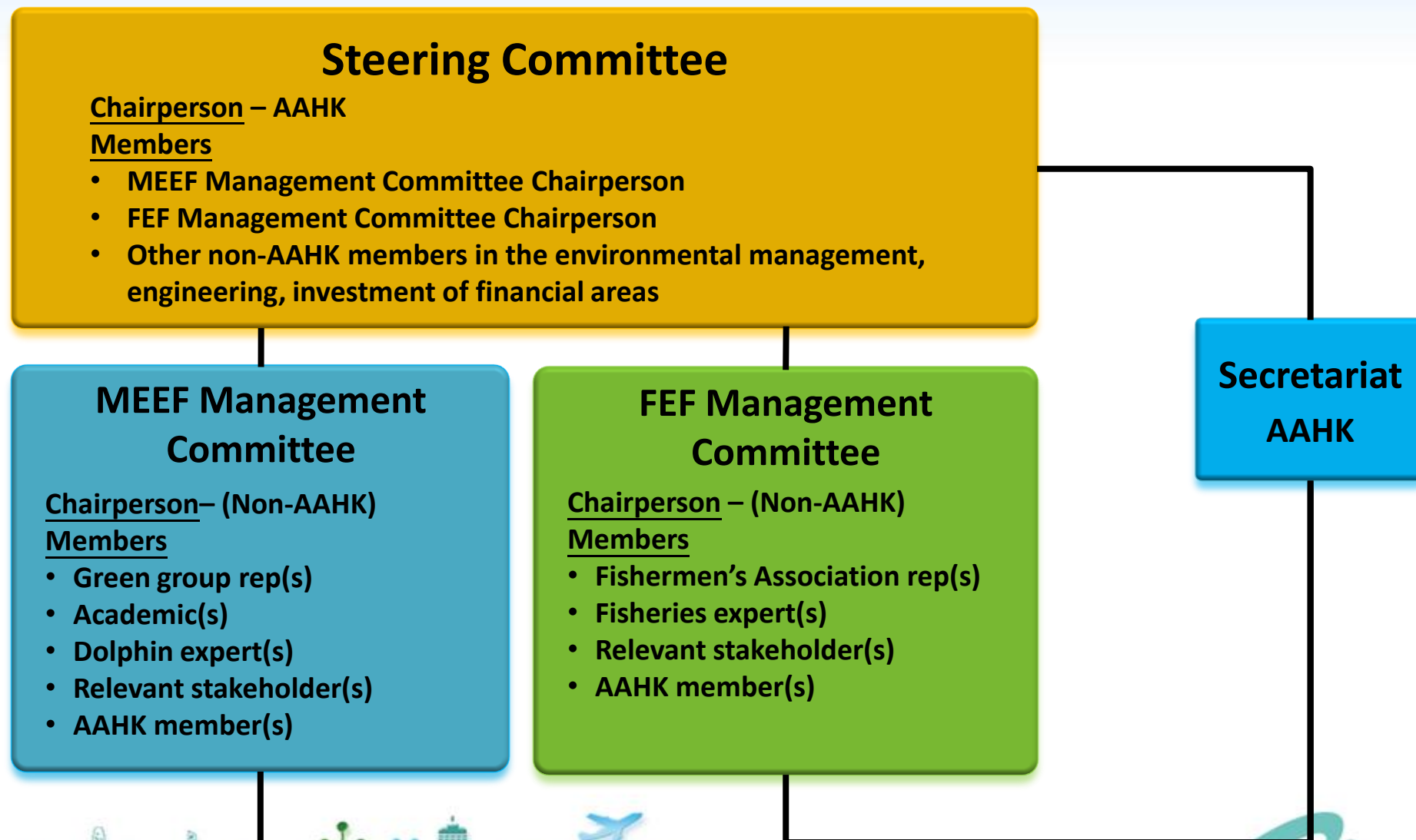
- Achieve sustainable management and enhancement of fisheries resources
- Enhance on-going fisheries operations in a sustainable manner
- Assist in shifting fisheries operations
- Promote and enhance fisheries-related business opportunities



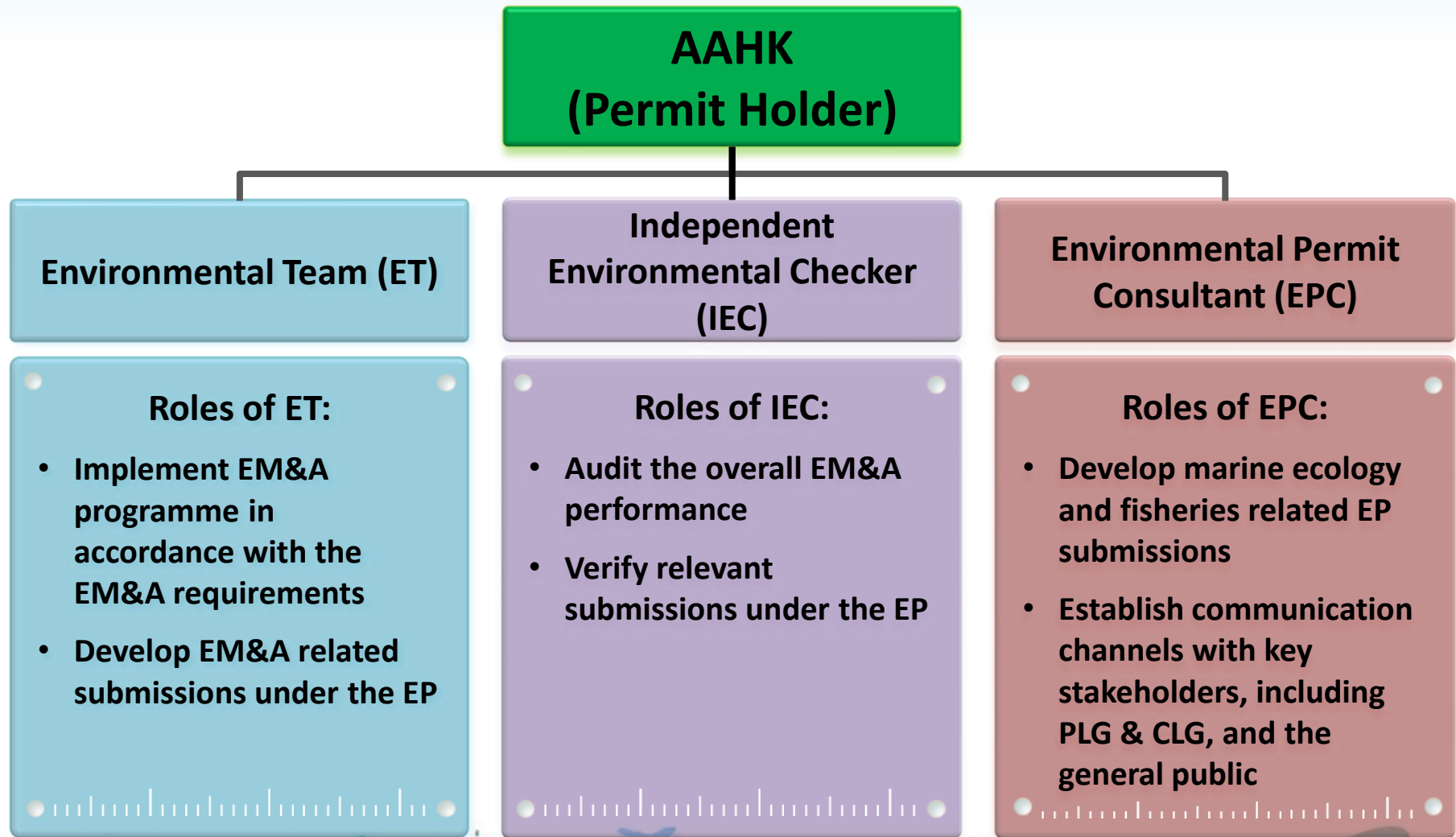
Proposed Funding Arrangement for MEEF and FEF



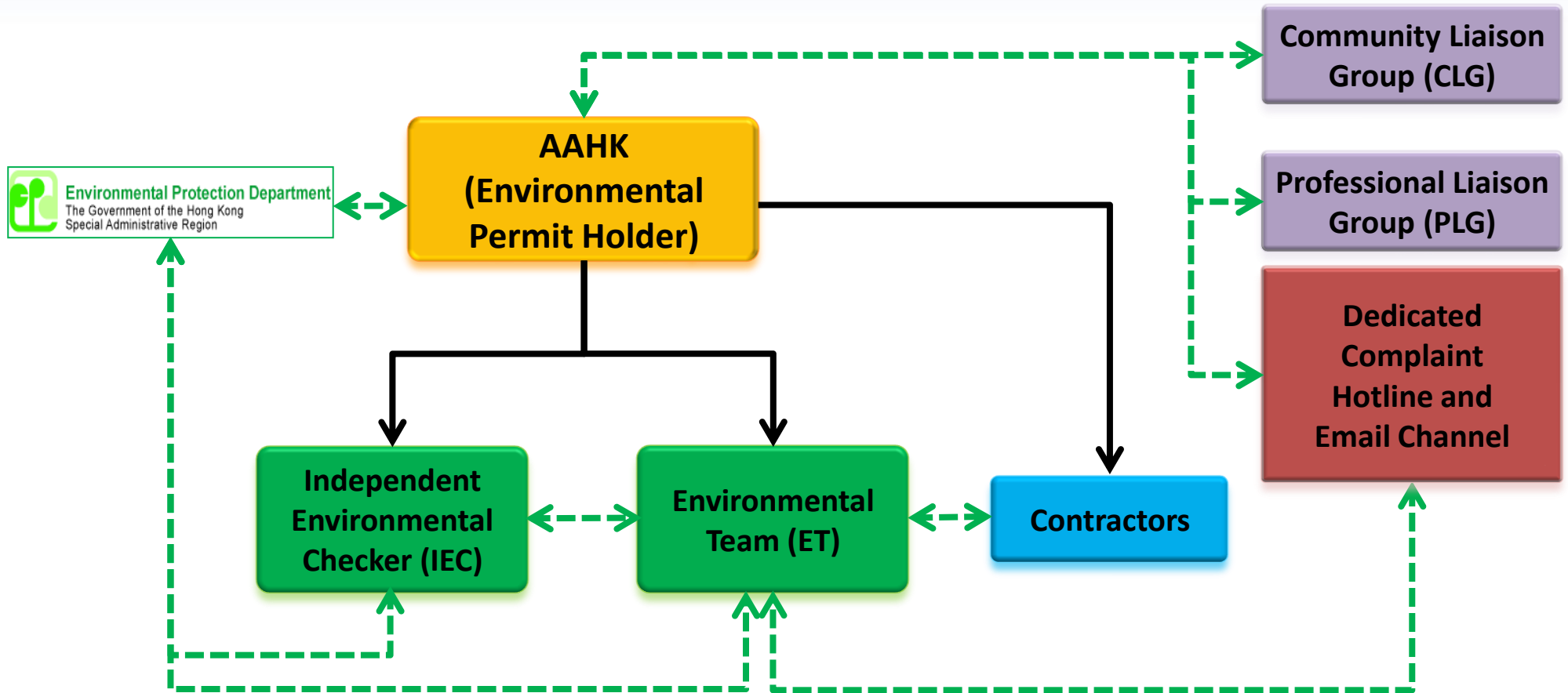
Proposed Fund Management Structure



Roles and Responsibility of Supporting Consultants



Communication Pathway for EM&A Project Organization (Construction Phase)



THANK YOU

