

**MAI PO INNER DEEP BAY  
RAMSAR SITE  
MANAGEMENT PLAN  
EXECUTIVE SUMMARY**



漁農自然護理署  
Agriculture, Fisheries and  
Conservation Department

**2011**

## **INTRODUCTION**

In 1997, the then Agriculture and Fisheries Department (renamed Agriculture, Fisheries and Conservation Department in 2000 (AFCD)) undertook the consultancy study on “Development of a Comprehensive Strategy and a Management Plan in Relation to the Listing of Mai Po and Inner Deep Bay as a Wetland of International Importance under the Ramsar Convention” which produced the first Ramsar Site Strategy and Management Plan (RSMP) for Hong Kong.

The first RSMP provided a general framework of management zoning and an outlined management programme for the long term conservation and wise use of wetlands of the Mai Po Inner Deep Bay Ramsar Site in Hong Kong. The government has implemented the first RSMP since 1998 and regularly reviewed the management programme and issues of concern.

One of the major components of the first RSMP is the management zoning scheme of the Ramsar Site. The scheme comprises five management zones, namely, Core Zone (CZ), Biodiversity Management Zone (BMZ), Wise Use Zone (WUZ), Public Access Zone (PAZ), and Private Land Zone (PLZ), as shown in **Annex I**. Each zone has its own specific management goals which highlight its management and conservation focus. The first RSMP also put forward some 200 projects which were recommended to be implemented under a schedule of priority for the achievement of respective management goals and objectives.

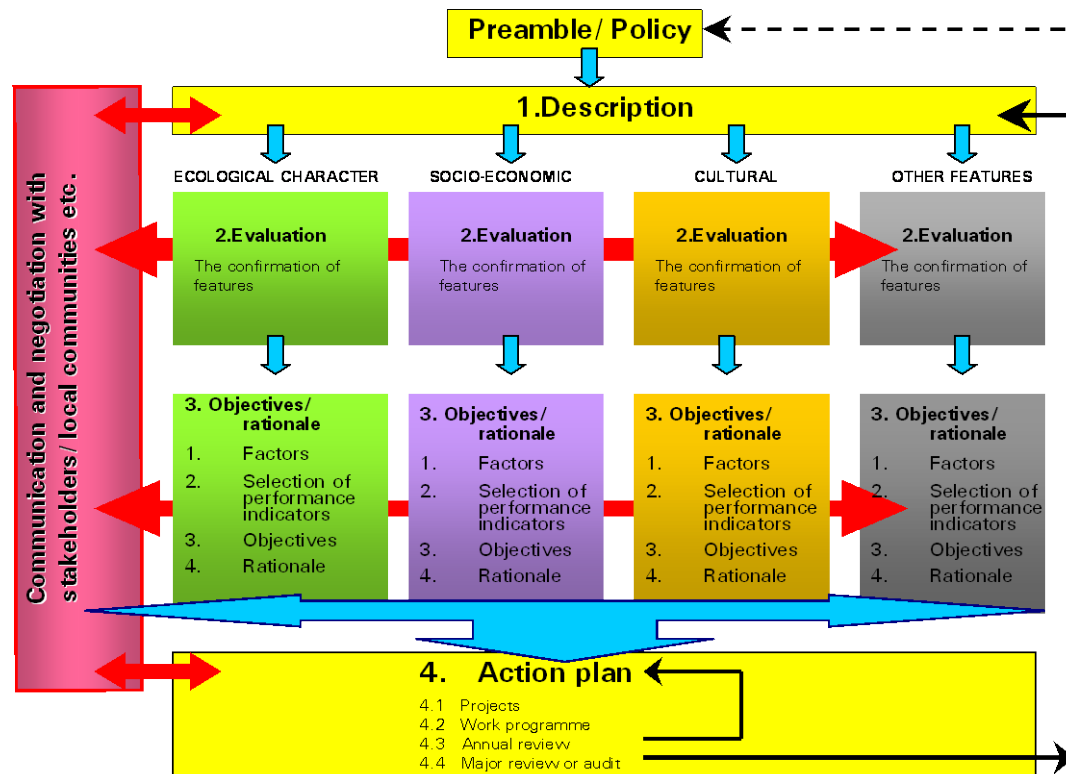
## **RENEWAL OF RAMSAR SITE MANAGEMENT PLAN**

In considering that the implementation of the RSMP is a continuous process, an overall review on the implementation of the first RSMP has been conducted in 2008-09 taking account of actions undertaken in the management programme and updated the status of issues of concern for the renewal of the first RSMP. The renewed RSMP is regarded as the second stage of the Plan, referred as RSMPII.

Since the listing of the Mai Po Inner Deep Bay Ramsar Site of Hong Kong in September 1995, there have been developments of the Ramsar Convention as results of several meetings of the Conference of the Parties to the Convention on Wetlands (Ramsar, Iran, 1971) (Ramsar COP). The focus of “Ramsar Strategic Plan 2009-2015” (Resolution X.1) and the Ramsar Convention’s programme on communication, education, participation and awareness (CEPA) 2009-2015 (Resolution X.8) have been adopted in reviewing the first RSMP for providing guidance on the implementation of the Ramsar Convention for the next 6 years.

Other references for RSMP II include inputs required in the “Information Sheet on Ramsar Wetlands” and the “Ramsar National Report”, datasets from the annual ecological monitoring programmes conducted by AFCD including the Baseline Ecological Monitoring Programme, the Waterbird Monitoring Programme, habitat mapping projects and also annual habitat management work/projects carried out by the WWFHK within the Mai Po Marshes Nature Reserve (MPMNR).

The renewal of the first RSMP followed the “New guidelines for management planning for Ramsar Sites and other wetlands” as outlined in Annex to Resolution VIII.14 adopted at Ramsar COP 8 (Valencia, 2002) which is shown in the figure below:



The documentation on the overall review and renewal of the RSMP is organized into two parts, i.e. Part A: Overall review of the first RSMP, and Part B: Ramsar Site Management Plan II (RSMPII).

## Part A: Overall review of RSMP

The review of the first RSMP covers three major areas including:

- (i) Updating of Information: the developments of the Ramsar Convention and descriptive information including some physical and environmental information to reflect the current situations. The current implementation of the CEPA programme by the Hong Kong Wetland Park (HKWP) is also briefly accounted.
- (ii) Review of implementation: (a) an update and review on the existing management compartments and (b) the progress of projects listed in the first RSMP.
- (iii) Identify and review issues of concern and factors that may affect the management of the Ramsar Site.

The management zonings and compartments of the Ramsar Site have been reviewed based on their current land uses. Changes are made with reference to the consideration highlighted in **Annex 2**.

About 94% of the some 200 management projects that were recommended to be undertaken to achieve the respective management goals in the first RSMP, have been implemented. These projects included the setting up of the Ramsar Administrative/Management Authority for conservation management of the Ramsar Site, implementation of measures and programme to protect, monitor and enhance the ecological values of the Ramsar Site and arrangement of CEPA programme in the HKWP. The remaining projects were either partly proceeded or the objectives (e.g. prepare conservation plans for certain migratory birds) have been achieved through implementing specific conservation measures for the species/issues concerned.

A total of seven issues of concerns that may have implications on the conservation management of the Ramsar Site have been identified. The brief accounts of the reviews are summarized in **Annex 3**.

## **Part B: Ramsar Site Management Plan II (RSMP II)**

The format and content of the RSMP II has followed the recommendations in the Ramsar Handbook 16 – Managing Wetlands (3rd edition, 2007) which describes the guidelines and workflow in formulating and reviewing management plans. The handbook made particular reference to the social-economic and cultural values of the Ramsar Site which have been receiving attention among the Parties of the Ramsar Convention in recent years.

The RSMP II consists of the Preamble, Goals and Strategies and three Sections.

### *Section 1 Description*

This Section summarizes the descriptive information of the Ramsar Site including general site information, statutory designations (e.g. Wetland Buffer Area, Wetland Conservation Area and land use zoning of the Ramsar Site), environmental description and conservation management of the Ramsar Site. It also covers the cultural values of the Ramsar Site with particular reference to the current situation of the traditional aquaculture practice which is the major wise-use of wetlands in Inner Deep Bay, and the updated CEPA programme undertaken by the HKWP.

The success of the Ramsar Site as a managed habitat is reflected by the increase in biodiversity, especially the number and diversity of waterbirds which are of major ecological significance to the Inner Deep Bay. The four designation criteria have either been maintained or improved since the designation of the Ramsar Site. An update on the position of the biodiversity supported by the Ramsar Site under the relevant criteria at the time of the review is shown in **Annex 4**.

### *Section 2 Evaluation, Goals and Management Issues*

This Section evaluates and updates the important features and foci for management planning. The important values of the Ramsar Site include ecological character values

and its potential for improvement, socio-economic values, cultural values, communication, education and public awareness values and also scientific research and study values.

The relevant factors, grouped in four aspects namely natural trends, human-induced trends, external impacts and visitor demands, that are likely to affect the ecological values and relevant management objectives are discussed in this Section. The “issues of concerns” that are discussed in Part A are also re-visited in this Section.

Building upon the review of management zonings and compartments of the Ramsar Site, a new scheme of management compartments is adopted in RSMP II and are illustrated in **Annex 5**.

### *Section 3 Goals, Strategies and Action Plans*

This Section sets out the four Goals to be achieved under the Ramsar Convention according to the definitions of the Ramsar Strategic Plan 2009-2015, namely (i) Wise-use of Wetlands, (ii) Wetlands of International Importance, (iii) International Cooperation and (iv) Institutional Capacity and Effectiveness. Strategies, Key Result Areas and Action Plans are identified to achieve these Goals for the implementation of the Convention. Issues of concern and factors that are considered in Part A and Section 2 of Part B respectively which may have influences on the site management have been taken into account for developing the Action Plans.

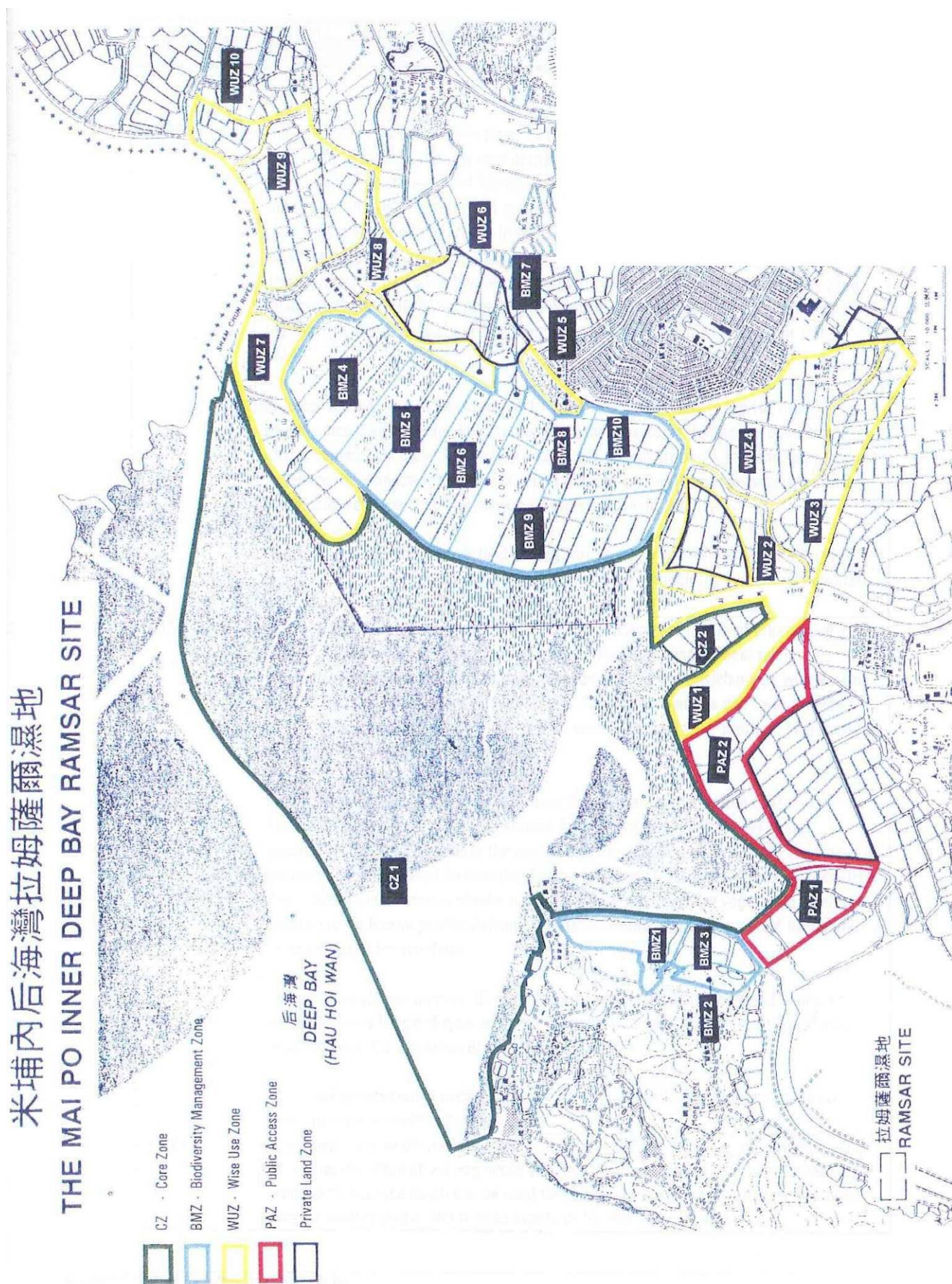
The Action Plan and Management Programmes include the routine day to day management actions and projects/ studies that are planned to be carried out to address issues for conservation management of the Ramsar Site. For the individual scopes of new projects that are proposed to address the “issues of concerns” highlighted in Part A are also briefly described in this Section.

### **Consultation**

Seven NGOs have been consulted on the review and renewal exercise, namely, Hong Kong Bird Watching Society, Green Power, the Conservancy Association, Friends of the Earth, Tai Po Environmental Association, Kadoorie Farm and Botanic Garden and WWF Hong Kong. The Mai Po Management Committee under WWFHK has also been consulted. Their comments and AFCD’s responses are summarized in Appendix XII of RSMP II for record.



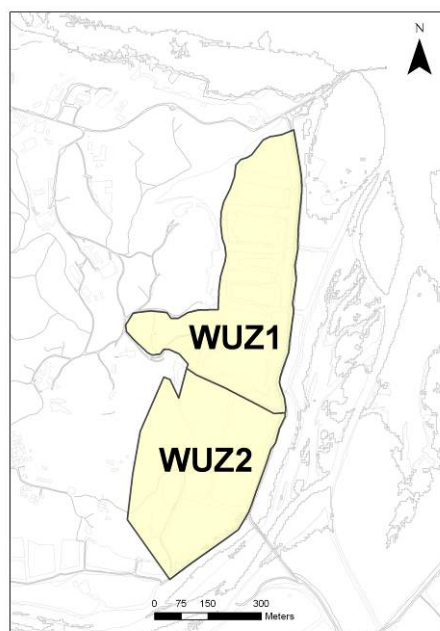
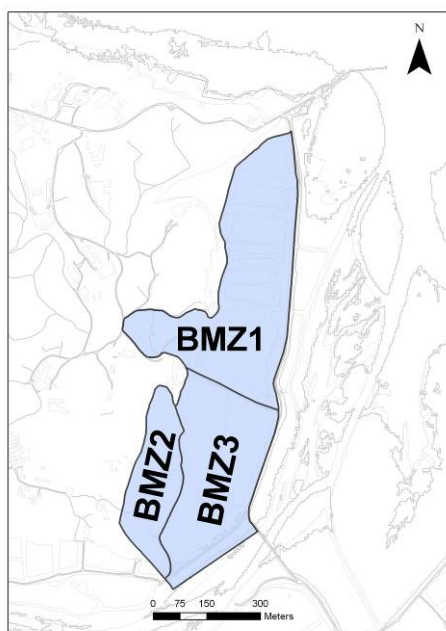
The Management Compartments of RSMP I:



## Major Changes in the Management Zoning of RSMP II

### Renaming of BMZ1-3 to WUZ1-2:

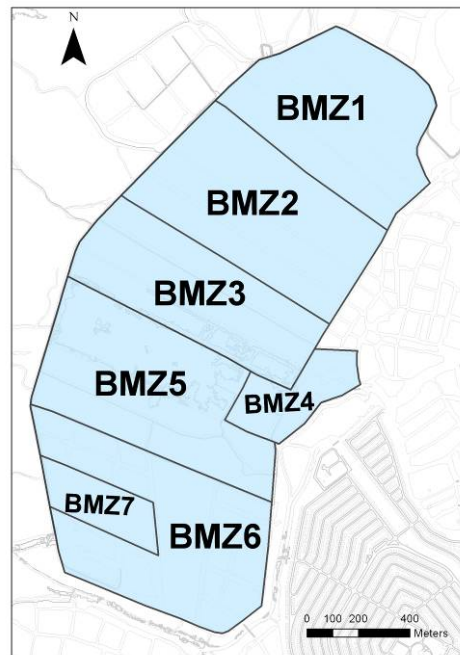
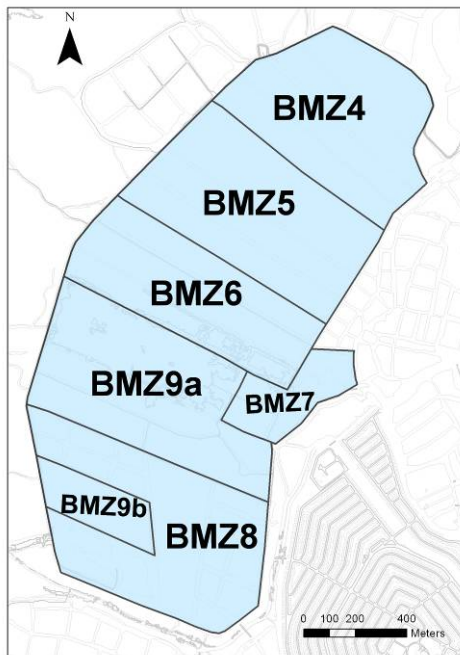
There is no current habitat management arrangement for BMZs 1-3 due to unclear land ownership issues. As the existing *gei wai* and fish ponds are regarded as wise use of wetlands and the complicated land ownership issues may not be easily resolved in the short term, these three BMZs will be renamed as Wise Use Zone in order to allow for alternative management considerations.





### Renaming of BMZ4-9 to BMZ1-7:

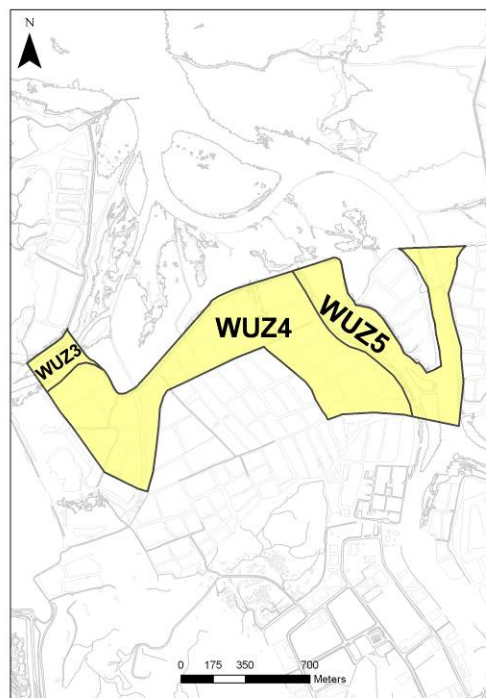
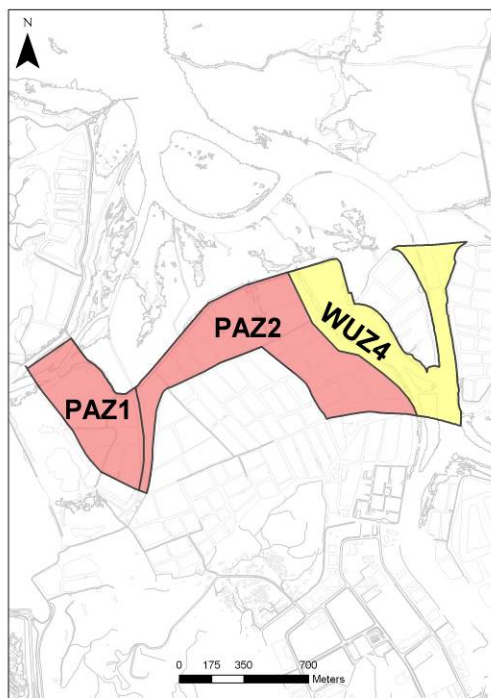
To rectify the change of boundaries of BMZ compartments made in the Mai Po Management Plan 2006-2010 and to streamline the numbering sequence of all BMZs due to the renaming of the BMZ 1-3 (renamed as WUZ 1-2 as discussed earlier) to WUZ, the BMZ4-9 will be renamed to BMZ1-7.





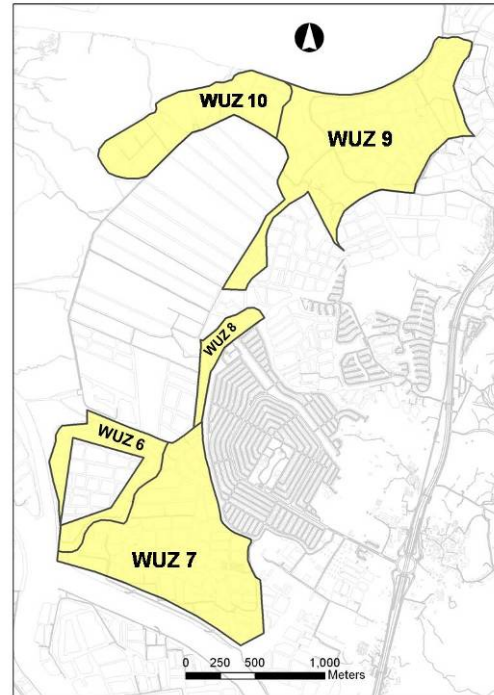
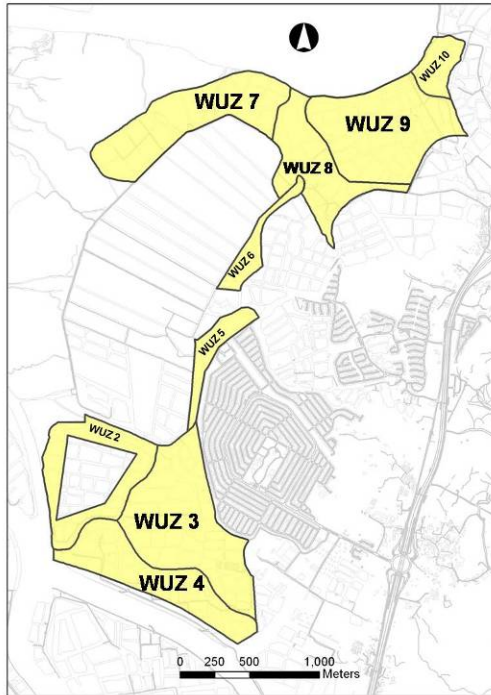
# **Renaming of PAZ1-2 to WUZ3-4, WUZ1 to WUZ5:**

Since the establishment of the Hong Kong Wetland Park, it has taken up the role for public education and awareness programmes on wetland conservation and there is no need to develop the two PAZs for public awareness programmes. The fish ponds within PAZ 1 and PAZ 2 are in fact contiguous with the proposed enhanced fish ponds in the proposed Wetland Nature Reserve at Fung Lok Wai (Private Land zone at Fung Lok Wai), the renaming is to reflect more appropriately their existing function as a fish pond in the Ramsar Site.



### Renumbering of WUZ2-10 to WUZ6-10:

The new WUZ compartments are to streamline the numbering sequence in order to reflect the updated status and current use of the fish ponds.



**Issues of Concerns that may have Implications on the Conservation of the Ramsar Site**

1. Siltation in Inner Deep Bay:  
Sedimentation is a natural process, the long-term effect may lead to gradual extension of the existing mudflat in the long run. The preliminary results of the Baseline Ecological Monitoring Programme reveal that both sedimentation and erosion take place at different time over the intertidal mudflat, indicating the process does not have a definite trend or pattern. While monitoring on the mudflat profile would be continued, a study is proposed to evaluate the ecological values of the mudflats which may be considered for inclusion into the Ramsar Site.
2. Mangrove colonization and management:  
While removal of the exotic *Sonneratia* would be continued, it is still arguable whether clearance of native mangroves from the mudflat should be carried out so as to spare more feeding spaces for migratory waterbirds. A multi-disciplinary study is proposed so as to examine holistically issues related to mudflat and mangrove to provide information for formulation of a practicable management plan for mangroves.
3. Wintering waterbird conservation:  
The long-term annual waterbird monitoring programme has kept track of the dynamics of waterbirds in the Ramsar Site. A review on the data collected in the past 10 years and the methodology of the monthly waterbird monitoring programme would be conducted to review the conservation status of the species of concerns in the local context and identify if any follow-up actions, e.g. research projects and species-specific conservation plans, would be required.
4. Development pressure in and around the Ramsar Site:  
Developments in the surrounding area of the Ramsar Site (i.e. Wetland Conservation Area and Wetland Buffer Area) are subjected to stringent control under different measures including the 'no-net-loss in wetland' principle as set out in the Town Planning Board guidelines and statutory requirements as set out in Town Planning Ordinance and Environmental Impact Assessment Ordinance. AFCD shall continue to take the role to make sure that relevant statutory requirements from the wise use of wetlands perspective are met and any adverse impacts on the Ramsar Site are properly addressed and mitigated.
5. Water borne pollution:  
While water quality monitoring under the Baseline Ecological Monitoring Programme will be continued, different mitigation measures have been taken place at both the Hong Kong side and Shenzhen side with a view to gradually improve the water quality in the Inner Deep Bay over time.
6. Conservation and wise use of wetlands:  
Pond fish farming is regarded as the major wise use of wetlands in the Ramsar Site. Different measures are in place to sustain this practice in the long term so

that this kind of habitat, which is part of the wetland ecosystem in the Inner Deep Bay, could be largely maintained.

7. Climate change:

Apart from organizing educational activities to promote the importance of wetlands in combating the climate change effects, ecological monitoring on mudflat size and bird records are important to keep track on the effect of climate change on the Ramsar Site.

### Comparison of the Status of the Four Designation Criteria for the Ramsar Site in 1990-04 and 2005-10

Criteria	Situation in 1990-94 (Designation)	Situation in 2005-10 (Current at the time of the review)
<b>Criterion 2:</b> A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.	It held 13 globally threatened species.	It held 35 globally threatened species.
<b>Criterion 3:</b> A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.	It is the type locality of 13 endemic species of invertebrate, including one crab species <i>Perisesarma maipoensis</i> which could be found no where else in the world.	Situation remains unchanged.
<b>Criterion 5:</b> A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.	It supported an average of 48,500 waterbirds in Deep Bay.	It supported an average of 81,830 waterbirds in Deep Bay.
<b>Criterion 6:</b> A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	There were 6 species in the site having more than 1% of threshold population of Eastern Asia.	It held 19% of the global population of black-faced spoonbill, 3% of Nordmann's Greenshank, and 3% of Eurasian Curlew. There are 17 species in the site having more than 1% of threshold population of Eastern Asia.



## The New Management Compartments of RSMP II

