

## **Review and Development of Marine Water Quality Objectives**

### **Summary Report of the First Stage Public Engagement**

## **1 Background**

In order to keep the Water Quality Objectives (WQOs) of Hong Kong in pace with advancement in water science and technologies, the Environmental Protection Department initiated the consultancy study on the Review and Development of Marine Water Quality Objectives (the Study) in October 2008. The Study involves two stages of public engagement. This report presents the views and suggestions received from the public and key stakeholders during the First Stage Public Engagement period from 25 September 2009 to 31 December 2009.

## **2 The First Stage Public Engagement Exercise**

- For the First Stage Public Engagement Exercise, we organised a public seminar and 15 consultative sessions to gauge the views of advisory bodies, interest groups, academics, other stakeholders and the general public on the Study. To facilitate public understanding in the subject of this Study, we published a Public Engagement Document and an accompanying Technical Note for dissemination to the participants. A dedicated website was also launched for access to these materials by the general public. A total of 228 participants have attended the public seminar and consultative sessions. There were also 21 written submissions received from the general public.

## **3 General observations on public responses**

- In general, the community at large had welcomed the Government to undertake the Study for reviewing the existing WQOs having regard to advancement in scientific knowledge and relevant development in the international arena. An overwhelming majority of them also expressed support for the development of a new set of WQOs to afford better protection to our marine environment and public health, or for facilitating enjoyment of the waters by the general public. The public was also generally receptive to the proposed review approaches and water quality management principles, and consider them to be in the appropriate direction.
- The majority of respondents have also expressed support for the Government to continue to implement various measures for improving water quality in Hong Kong. These include enforcement, enhanced monitoring, development of additional sewerage infrastructure, and review of WQOs from time to time. While looking forward to further improvement in water quality through development of the new set of WQOs, the respondents considered it equally important for the Study to explore the additional strategies and technical measures required for compliance with the new WQOs in the future, as well as the social cost for implementation of these measures. A more detailed analysis on the sources of water pollution would facilitate the formulation of suitable measures.
- Respondents have welcomed the opportunity to express views on the review, and look forward to provide further input on more concrete issues in the second stage engagement exercise.

## **4 Comments and suggestions on the WQO parameters**

- An overwhelming majority supported the adoption of numerical vis-à-vis descriptive standards for WQOs as far as practicable, particularly for persistent and toxic chemical

compounds. The monitoring regime might also need to be expanded to be capable of capturing the additional data.

- Respondents were generally receptive to establishment of biological parameters for monitoring the ecosystem integrity of Hong Kong waters. The existing biological monitoring programme of EPD could be further developed to serve the purpose, while other benchmarks were also suggested for further analysis in subsequent stage of the Study.
- For WQOs for bathing waters, respondents noted the publication of new WHO guidelines in 2003 and welcomed the review in this context, and agreed that protecting the health of swimmers should continue to be the primary objective for this class of WQO. There were diverse views on the merits and limitations of the existing indicator (*E. coli*) and alternative indicators (such as Enterococci and faecal coliforms). Further studies were considered necessary.
- Respondents from the fisheries industries considered that the Study should carefully assess the potential impact of any changes in WQOs for Fish Culture Zones (FCZs) to the fisheries industries with due consideration to the livelihood of mariculture practitioners. They would welcome the Study to conduct further analysis, including field studies, on the relationship between the health of fish and water quality. Some respondents from other sectors considered that WQOs for mariculture site should be set at a level that encourages adoption of sustainable fish culture practices, and suggested that consideration should be given as to how to increase public confidence in safety of seafood.

## **5 Comments and suggestions on methodologies and management principles**

- Regarding the review approaches recommended for the Study, the respondents generally supported using the Non-Degradation Approach for protection of sensitive organisms and important ecological sites, and they were receptive to the use of Use Protection Approach for other existing BUs in principle. As regards the Risk Assessment Approach, respondents raised doubts as to why the WQOs would not protect a higher percentage of species. Having regard to the Study's finding that 80% protection level was usually set for heavily modified ecosystems, these respondents considered that a higher protection percentage of species should be adopted under Risk Assessment Approach, though there were diverse views on the exact percentage. It was suggested that the review should further analyse this issue and consider incorporating additional criteria for according higher degree of protection to sensitive receivers and ecologically valuable species, such as Chinese White Dolphins.
- Regarding beneficial uses (BUs) and their implications on development of new set of WQOs, respondents have expressed support for developing suitable WQOs for the corresponding BU. They have welcomed the proposed addition of new BUs to reflect the new designated usages (such as establishment of marine parks and reserves) in recent years. Individual respondents have also suggested a host of diverse new BUs from ecological, social and recreational perspectives for the Government's further consideration having regard to stakeholder implications and practical circumstances. Some have suggested paying attention to possible conflicting water quality requirements of adjacent BUs and the need to balance the interest of different stakeholders of the same water body. The Study should explore suitable solutions to handle such scenarios as appropriate. There were suggestions on more refined classification of BUs by grouping those uses with negative impact on water quality into a separate category for different management.
- Respondents have also commented on the existing definitions of primary and secondary contact recreational activities. The views received were generally pointing to more scientific rationalisation of the existing definitions. This would involve classification of various water-based recreational activities having regard to the respective levels of health risk associated with difference in the human body's exposure to marine water. While there were diverse views on whether different aquatic recreational activities should be assigned

individual or one-size-fits-all WQO(s), the respondents agreed that the WQOs should be set at a level capable of offering adequate protection to the recreational activities participants.

- For the delineation of Water Control Zones (WCZs), respondents generally supported a review of the WCZ boundaries and recognised that the natural hydrodynamic regime of Hong Kong waters could serve as the starting point for demarcation of WCZs. They nevertheless considered it necessary for the Study to take into account the contiguous nature of water bodies and the physical constraints related to partitioning of our waters into smaller distinct zones with different water quality standards. There were views that the relationship between inland waters, coastal uses and marine waters should be taken into account. There were also suggestions for reconciliation of WCZs with the BUs through re-demarcation of the WCZs to facilitate wider participation in leisure aquatic recreational activities in our waters, particularly the Victoria Harbour.
- Respondents considered that Hong Kong waters are adjacent to the Mainland waters. Its quality could not be separated from that of the Pearl River Estuary as a whole. Hence, it was considered important to take into account the holistic marine environment of the Pearl River Delta Region throughout the Study. It would be desirable for the Government to continue to coordinate with Guangdong Province and undertake joint measures for management of the regional water quality. Collaboration with Shenzhen could focus on improving the water quality of Deep Bay and Mirs Bay which fall along the boundaries of both sides.

## **6 Comments and suggestions on issues relating to the marine environment**

- Some respondents have also offered comments on fisheries resources in Hong Kong waters. They generally hoped that fisheries resources in Hong Kong could be gradually restored and consider that continuous improvement in the water quality would be the primary driver throughout the restoration process. The Government should continue to strive for improvement in the water quality of those waters with low WQO compliance rate at present, such as the Tolo Harbour and Deep Bay where FCZs are located. Other measures proposed include more stringent assessment and control of the impact to marine environment due to reclamation and marine works. Respondents from other sectors have also suggested banning of fish trawling to facilitate the rejuvenation of marine ecosystem.
- Some respondents noted that WQOs have been the basis of Environmental Impact Assessment (EIA) process. The review might need to come up with proposals for updating the relevant parameters under the EIA regime at the same time. There were also suggestions for more realistic assessment of the impact on the marine environment (including fisheries resource) due to marine works, sediment disposal and dredging activities, to be complemented by a strengthened enforcement and monitoring regime to ensure that mitigation measures would be duly implemented.
- Some respondents suggested tackling various perceivable issues that would affect citizens' enjoyment of the coastal areas and harbourfront promenade, such as odour problems and floating refuse in this Study. These issues could have significant influence on public perception on the cleanliness of our marine waters.
- Some respondents suggested that the Study's findings and information relating to the latest water quality should be presented in a manner that could be easily communicated to and understood by the general public.

- 7** We would like to thank all the participants and stakeholders for their valuable contribution to the study and the engagement exercise. Their views and suggestions would be taken into account and considered as appropriate in remaining stages of works of the Study.