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Beach Water Quality of Hong Kong in 2009

Introduction

The purpose of this paper is to brief Members on the water quality of gazetted beaches in Hong Kong in 2009.

Background

2. The Environmental Protection Department (EPD) implements a monitoring programme to assess the water quality of 41 gazetted beaches in Hong Kong.

3. The beach water quality is assessed through a ranking system which links the water quality of a beach with swimming-associated health risks, as indicated by the number of *E. coli* bacteria in the water. According to this system, beaches are ranked as “Good”, “Fair”, “Poor” or “Very Poor” in accordance with the *E. coli* level. Beaches with annual geometric mean *E. coli* levels of 24 per 100 mL or below are ranked as “Good”, between 25 and 180 per 100 mL as “Fair”, and those between 181 and 610 per 100 mL as “Poor”. Only those beaches in the ranks of “Good” and “Fair” meet the Water Quality Objective (WQO) for bathing water. Beaches ranked “Very Poor” (*E. coli* level exceeding 610 per 100 mL, which corresponds to a swimming-associated illness rate of more than 15 cases per 1,000 swimmers) are generally considered not suitable for swimming, and are recommended to be closed to safeguard the health of swimmers.

Beach Water Quality in 2009

4. In 2009, 23 (or 56%) of the 41 gazetted beaches were ranked as “Good”, 15 (or 37%) as “Fair” and three (or 7%) as “Poor”. None of the beaches was rated as “Very

Poor” (**Figure 1**). The total number of beaches complying with the WQO (viz. total of “Good” and “Fair” beaches) was 38 (or 93%), a noticeable increase compared with the 34 (or 83%) WQO-compliant beaches in the previous six years (2003 - 2008). This also represented a substantial improvement from the 63% compliance recorded in 1997 (**Figure 2**).

5. The improvement in the overall compliance in 2009 was due to upgrading of the annual ranking of four Tsuen Wan beaches, namely Casam, Hoi Mei Wan, Lido and Ting Kau Beaches from “Poor” in 2008 to “Fair” in 2009. The improvement was attributed in part to the Government’s continuous effort in providing new public sewers in phases along the Castle Peak Road and in enforcing environmental legislation. Nevertheless, the drier summer in 2009 compared to 2008 could also be a crucial factor.

6. Apart from the above changes, the annual ranking of Clear Water Bay Second Beach in Sai Kung was changed from “Good” in 2008 to “Fair” in 2009. This change was generally within its normal range of water quality fluctuation as we had not detected increase in local pollution sources.

Closed beaches in Tsuen Wan

7. The seven closed beaches were all located along the Tsuen Wan coast, namely Anglers’, Approach, Casam, Gemini, Hoi Mei Wan, Lido and Ting Kau Beaches. Despite the improvements recently observed at four of the beaches mentioned above in 2009, there is a need to closely monitor the water quality of these seven beaches during the bathing season in 2010 in order to ascertain whether the improvement in the four beaches can be sustained and what the improvement for the other three beaches would be before considering if the beaches can be re-opened for swimming.

8. The Advance Disinfection Facilities (ADF) at the Stonecutters Island Sewage Treatment Works (STW) was substantially completed in December 2009 and has been in full operation since 1 March 2010. The disinfection of effluent at the Stonecutters Island STW, together with the provision of public sewers in the beach hinterland, is expected to further improve the water quality of Tsuen Wan beaches and facilitate the early re-opening of the beaches.

9. To further improve the conditions of the Tsuen Wan beaches and lower the bacterial levels in the marine waters off Tsuen Wan coast and the Victoria Harbour, the Government has commenced the construction of Stage 2A of the Harbour Area Treatment Scheme (HATS Stage 2A), including a 21-km sewage conveyance system and other

upgrading works at related sewage treatment plants. The Stage 2A works when completed will collect, treat and disinfect the remaining 25% sewage generated from the harbour catchment.

Conclusion

10. Thirty-eight (or 93%) of the 41 gazetted beaches complied with the WQO in 2009, which is the highest compliance rate since the monitoring programme began in 1986. It represents a marked improvement from 83% achieved in the last six years (2003 to 2008). Close monitoring of the seven beaches along the Tsuen Wan coast will continue in the bathing season in 2010 to ascertain that the observed improvement could be sustained and whether the water quality could meet the WQO.

Environmental Protection Department
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Figure 1

Annual beach rankings of 2009

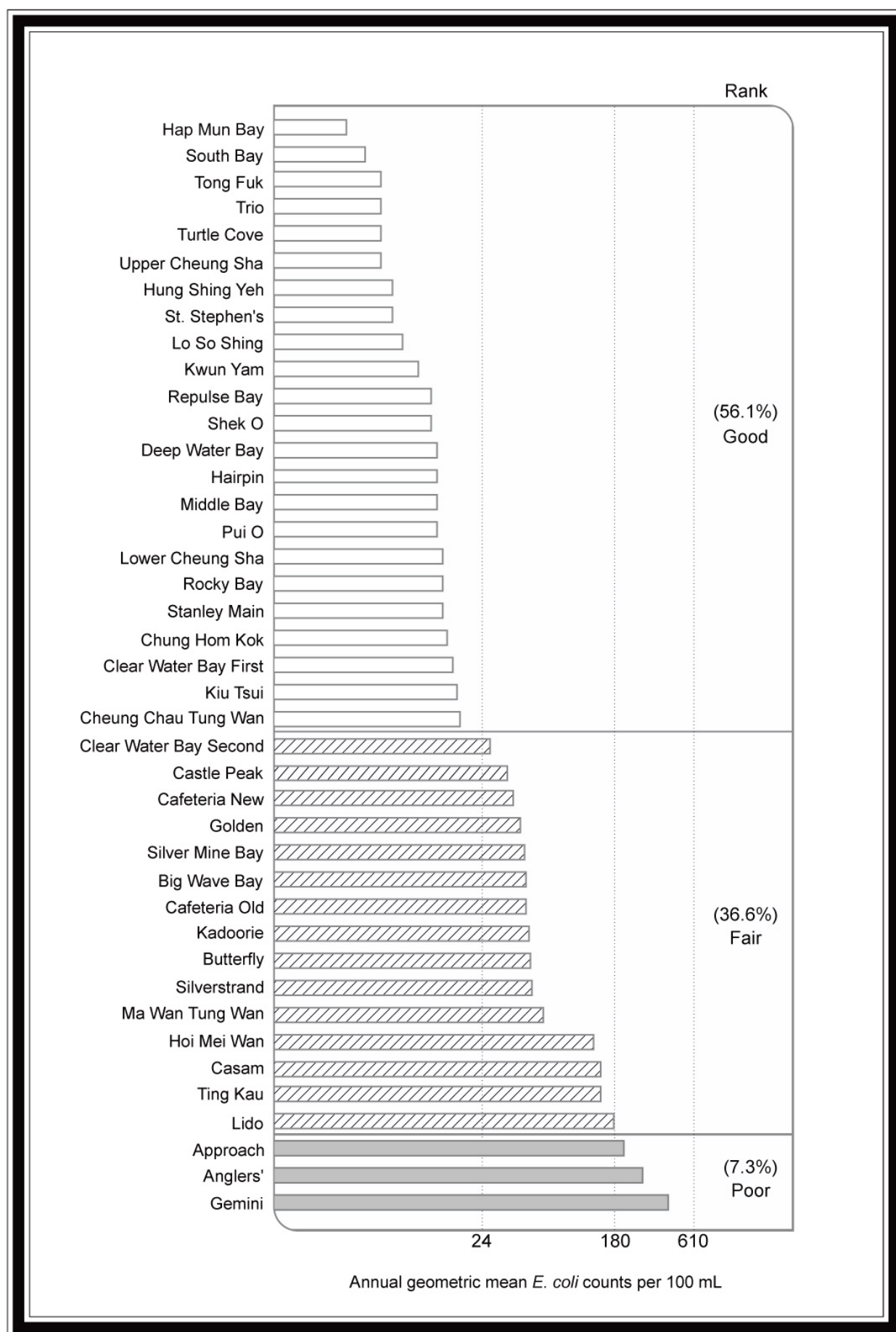


Figure 2 Level of compliance with the Water Quality Objective at the 41 gazetted beaches in Hong Kong, 1997 – 2009

