



33/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
香港灣仔告士打道 5 號稅務大樓 33 樓

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Beach Water Quality of Hong Kong in 2012

INTRODUCTION

The purpose of this paper is to brief Members on the water quality of gazetted beaches in Hong Kong in 2012.

BACKGROUND

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

3. 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 respective *E. coli* levels. 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 waters. Beaches ranked as “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 2012

4. In 2012, 23 (or 56%) of the 41 gazetted beaches were ranked as “Good” and the remaining 18 (or 44 %) were ranked as “Fair” (**Figure 1**). As compared with 2011, the number of beaches ranked as “Good” has changed from 31 to 23. For the beaches whose annual ranking has changed from “Good” to “Fair”, we observe slight increase in *E. coli* levels, which is generally within the normal range of fluctuation of

their bacteriological water quality. Same as 2011, none of the beaches was rated as “Poor” or “Very Poor”, maintaining full compliance with the WQO for bathing waters since 2010 (**Figure 2**).

5. The beach water quality in Hong Kong has complied fully with the WQO for the last three years. The percentage of beaches complying with the WQO has changed from 74% in 1986 (29 out of 39 beaches) to 63% (26 out of 41 beaches) in 1997, and then improved to 100% since 2010 (all 41 beaches) (**Figure 3**). These improvements are the results of the enforcement of pollution control under the Water Pollution Control Ordinance and the Livestock Waste Control Scheme introduced under the Waste Disposal Ordinance, as well as the construction of sewerage infrastructure, including the Harbour Area Treatment Scheme Stage 1, the Advance Disinfection Facilities (ADF) at the Stonecutters Island Sewage Treatment Works and the extension of the sewerage network to the beach hinterland.

6. The beaches with “Good” water quality ranking were largely located in the Southern District (Hong Kong Island South), Outlying Islands and Sai Kung. In 2012, nine of the 12 beaches in the Southern District were ranked as “Good”. Of the nine beaches monitored on the Outlying Islands, all except Silver Mine Bay Beach were ranked as “Good”. In the Sai Kung area, five beaches were ranked as “Good” in 2012 with Hap Mun Bay Beach being the cleanest gazetted beach in Hong Kong in terms of overall *E. coli* levels. On the western side, all six beaches along the Tuen Mun coast received a “Fair” ranking.

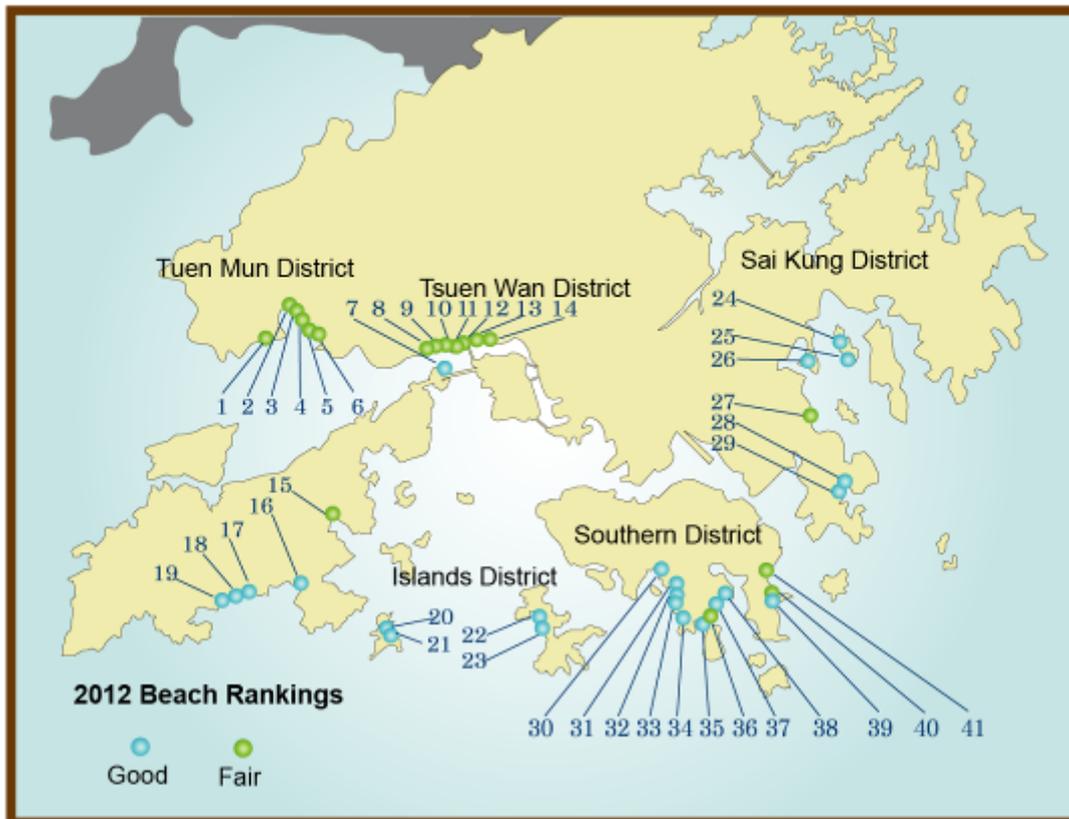
7. The Tsuen Wan beaches have maintained good water quality since the full commissioning of the ADF in March 2010 and the completion of the new sewerage network along Castle Peak Road in the beach hinterland. Since all the Tsuen Wan beaches have achieved the WQO for bathing waters, four previously closed beaches, namely Approach Beach, Casam Beach, Hoi Mei Wan Beach and Lido Beach, were reopened to the public for swimming in June 2011. The remaining three Tsuen Wan beaches, i.e. Anglers' Beach, Gemini Beaches and Ting Kau Beach, will be reopened in 2013/14 after the improvement works on the beach facilities are completed.

CONCLUSION

8. Through continuous efforts of the Government to implement pollution abatement measures over the past years, all beaches have now achieved the required standard for bathing waters for three consecutive years (2010, 2011 and 2012). Close monitoring of all the beaches will continue in 2013 to ascertain that the observed achievement can be sustained and that the beach water quality can continue to meet the WQO.

Environmental Protection Department
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Figure 1 Distribution of gazetted beaches and their annual ranking in 2012



Tuen Mun District

1. Butterfly
2. Castle Peak
3. Kadoorie
4. Cafeteria Old
5. Cafeteria New
6. Golden

Tsuen Wan District

7. Ma Wan Tung Wan
8. Anglers' *
9. Gemini *
10. Hoi Mei Wan
11. Casam
12. Lido
13. Ting Kau *
14. Approach

Islands District

15. Silver Mine Bay
16. Pui O
17. Lower Cheung Sha
18. Upper Cheung Sha
19. Tong Fuk
20. Cheung Chau Tung Wan
21. Kwun Yam
22. Hung Shing Yeh
23. Lo So Shing

Sai Kung District

24. Kiu Tsui
25. Hap Mun Bay
26. Trio
27. Silverstrand
28. Clear Water Bay First
29. Clear Water Bay Second

Southern District

30. Deep Water Bay
31. Repulse Bay
32. Middle Bay
33. South Bay
34. Chung Hom Kok
35. St. Stephen's
36. Stanley Main
37. Hairpin *
38. Turtle Cove
39. Shek O
40. Rocky Bay *
41. Big Wave Bay

* Closed Beaches

Figure 2 Annual ranking of gazetted beaches in 2012

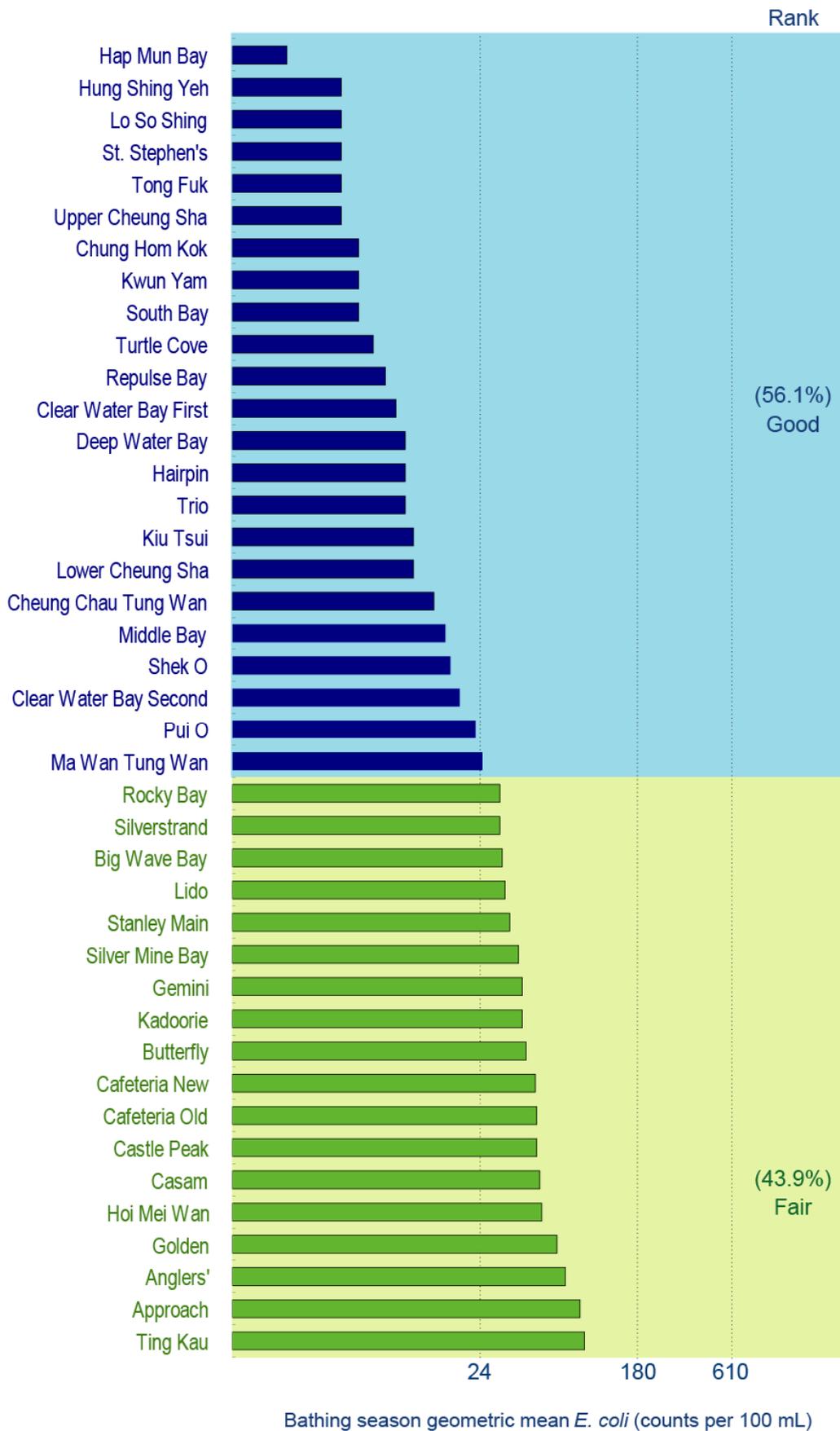


Figure 3 Annual ranking of gazetted beaches in 1997 and the marked improvement over the last 5 years (2008 - 2012)

