

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 2020

INTRODUCTION

The purpose of this paper is to brief Members on the water quality of gazetted beaches in Hong Kong in 2020.

BACKGROUND

2. The Environmental Protection Department (EPD) runs a regular beach monitoring programme to assess the water quality of 41 gazetted beaches in Hong Kong through weekly sampling during the bathing season between March and October 2020.

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 level of *E. coli* bacteria in the bathing water. Under 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", between 181 and 610 per 100 mL as "Poor", and those exceeding 610 per 100 mL as "Very Poor". Beaches with the ranks of "Good" and "Fair" meet the bacteriological Water Quality Objective (WQO) for bathing waters. For beaches ranked as "Very Poor", their *E. coli* levels correspond to a swimming-associated illness rate of more than 15 cases per 1,000 swimmers, and they are generally considered not suitable for swimming.

BEACH WATER QUALITY IN 2020

4. In 2020, all 41 gazetted beaches continued to comply with the bacteriological WQO for bathing waters. Among them 24 beaches (or 59%) were ranked as "Good", and the remaining 17 beaches (or 41%) were ranked as "Fair" (see **Figures 1** and **2**). There was no beach falling into the "Poor" or "Very Poor" category.

5. Overall speaking, there was some extent of water quality improvement in 2020 when compared to 2019. The observed improvement could be associated with the comparatively fine weather in the year. Although the cumulative rainfall was similar to that in the same period of 2019, the total number of bright sunshine hours during the bathing season was 9% higher than the 30-year climatological normal during 1981-2010, which could have made a difference. Notwithstanding, occasional fluctuations of water quality was observed after heavy downpours, especially during the wet and gloomy September. As in previous years, the changes in bacteriological water quality in the bathing water were transient and within the normal range of fluctuations.

6. Discounting the effect of year-to-year meteorological fluctuations, we can see a clear trend of beach water quality improvement in the past three decades. The compliance rate of the bacteriological WQO for gazetted beaches has increased from 74% in 1986 to a steady 100% since 2010 (see **Figure 3**). This achievement is attributable to the Government's sustained efforts in extending sewerage systems to the beach hinterlands, implementing the Harbour Area Treatment Scheme (HATS), as well as exercising pollution control and environmental improvement measures through the Water Pollution Control Ordinance and Livestock Waste Control Scheme.

CONCLUSION

7. The Government is devoted to safeguarding the water quality of the beaches for protecting the health of all beach-goers. Through extensive investment and concerted efforts in implementing various pollution control and environmental improvement measures, all gazetted beaches can now steadily meet the required health-based standard for bathing waters for eleven consecutive years since 2010. The EPD will continue to monitor the beach water quality closely in 2021.

Environmental Protection Department April 2021

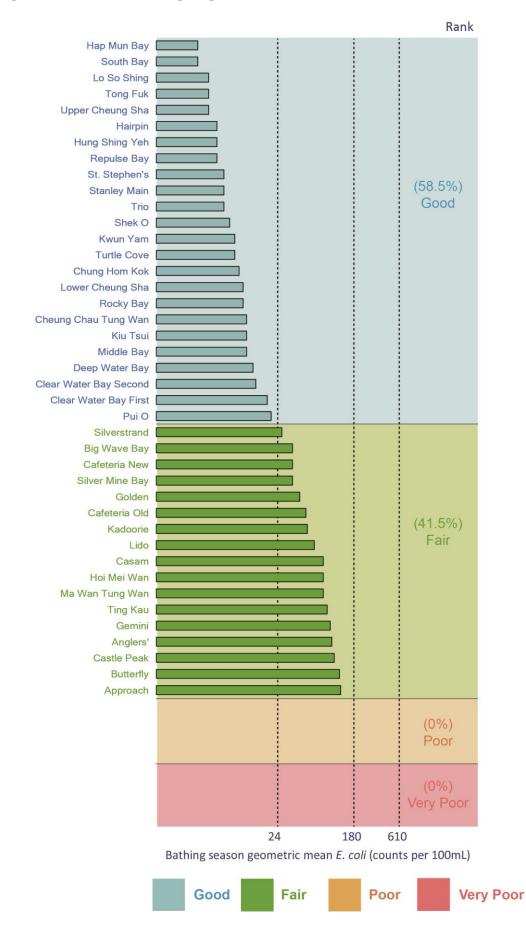


Figure 1 Annual ranking of gazetted beaches in 2020

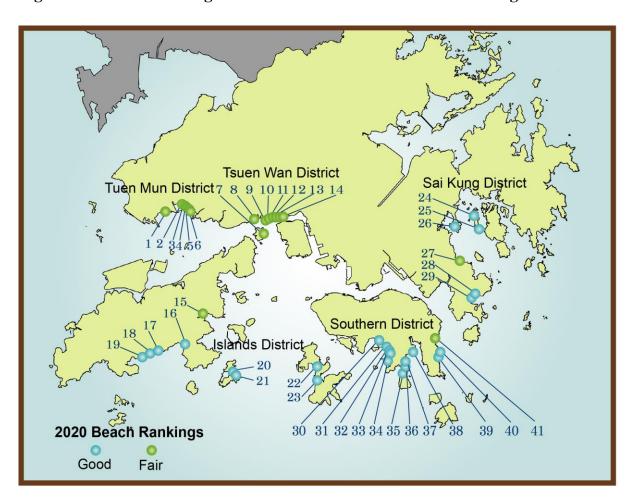


Figure 2 Distribution of gazetted beaches and their annual ranking in 2020

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
- * Beaches not open for swimming (no lifeguard service provided by Leisure and Cultural Services Department)

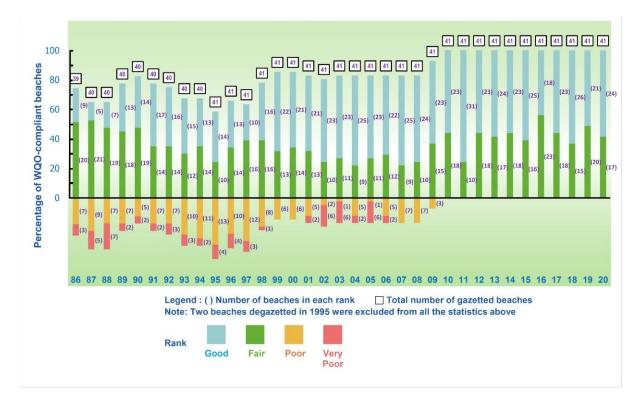


Figure 3 Annual ranking of gazetted beaches from 1986 to 2020