

## EPD - Beach Water Quality

### Beach Water Quality in Hong Kong 2017

#### Our Mission:

**To safeguard the health and welfare of the community and meet conservation goals by working to achieve and maintain the Water Quality Objective for bathing beaches**

[Photo: Bathing beaches are valuable coastal resources of Hong Kong]

#### Introduction

Hong Kong is a blessed coastal city that boasts picturesque beaches with fine sands and clean water. These beaches are popular leisure destinations for millions of local residents and tourists alike every month during the summer.

The objective of the Environmental Protection Department (EPD)'s Beach Water Quality Monitoring Programme is to monitor beach water quality and protect the health of bathers. This report summarises the beach monitoring data collected in 2017, the gradings of the beaches and the annual compliance with the Water Quality Objective (WQO) for bathing beaches.

[Photo: Families and friends spending a relaxing day at a beach]

In 2017, the EPD monitored 41 gazetted beaches and three non-gazetted beaches in different parts of the territory. The gazetted beaches were monitored weekly during the bathing season from March to October, and EPD staff conducted field observations and collected water samples for laboratory analyses of *Escherichia coli* (*E. coli*) as the bacteriological water quality indicator. EPD staff also took measurements of dissolved oxygen, pH, salinity, temperature and turbidity of beach water.

[Photo: EPD staff collecting water samples and measuring field data at beaches]

[Photo: Analysis of water quality at EPD's environmental microbiology laboratory]

Hong Kong's beaches are assessed using a dual rating system: annual ranking and weekly grading which are both based on the *E. coli* level in beach water to indicate potential health risks associated with swimming. The annual ranking reflects the overall water quality of the beach over the entire bathing season, while the weekly grading denotes the recent water quality of the beach. Under the dual rating system, beaches are categorised into “Good”, “Fair”, “Poor” and “Very Poor”. Those ranked “Good” or “Fair” meet the WQO for bathing waters.

[Photo: Water quality grading board displayed at the gazetted beaches]

## Annual Beach Ranking in 2017

All 41 gazetted beaches in Hong Kong complied with the WQO in 2017. Compared with 2016, the number of beaches ranked as “Good” has increased from 18 (or 44 %) to 23 (or 56 %), and the number of beaches ranked as “Fair” has decreased from 23 (or 56%) to 18 (or 44%). Reduction in the annual geometric mean of *E. coli* level was recorded at 36 of the beaches. The improvement in water quality was largely brought by a relatively sunny bathing season of 2017, with cumulative rainfall 3% lower and the number of bright sunshine hours 16% higher when compared to the same period in 2016. Despite the overall water quality improvement, there was occasional transient water quality deterioration at individual beaches after heavy rainstorms in the summer (June-August), while the *E. coli* levels were still within the normal range of fluctuation of the bacteriological water quality, and had no overall adverse impact on the health of swimmers. No beach was ranked as “Poor” or “Very Poor” in 2017.

[Photo: Stanley Main Beach in Southern District has received a “Good” ranking for five consecutive years]

Among all 41 gazetted beaches in Hong Kong, the beaches located in Southern (Hong Kong Island South), Islands and Sai Kung Districts had generally better annual ranking. 11 of the 12 beaches in the Southern District were ranked as “Good” in 2017. Shek O Beach and Rocky Bay Beach had improved from “Fair” to “Good”, while Big Wave Bay Beach continued to receive a “Fair” ranking. Of the nine beaches in the Islands District, seven were ranked as “Good”, including Lower Cheung Sha Beach which was ranked as “Fair” in the previous year. Pui O Beach and Silver Mine Bay Beach remained to be ranked as “Fair”. Silver Mine Bay Beach was temporarily closed by the Leisure and Cultural Services Department to carry out “Improvement Works at Silvermine Bay Beach, Mui Wo, Lantau Island” under the Signature Project Scheme (Islands District) during the 2017 bathing season, and is expected to reopen in mid-2018. In the Sai Kung District, five of the six beaches were rated as “Good” in 2017, in which Clear Water Bay First Beach and Clear Water Bay Second Beach have upgraded from “Fair” to “Good”, while Silverstrand Beach remained a “Fair” ranking. On the western side of the territory, all eight beaches in the Tsuen Wan District and all six beaches in the Tuen Mun District received a “Fair” ranking in 2017 same as the previous year.

[Photo: Clear Water Bay Second Beach had improved annual ranking from “Fair” to “Good” in 2017 ]

The water quality of beaches in Tsuen Wan continued to be satisfactory after the commissioning of Harbour Area Treatment Scheme Stage 2A in December 2015. The seven beaches along Castle Peak Road had once been closed due to poor water quality before 2010. Upon the completion of sewerage along Castle Peak Road in the beach hinterland and the commissioning of the Advanced Disinfection Facilities of the Harbour Area Treatment Scheme in March 2010, the water quality of these seven beaches improved considerably and met the WQO for bathing beaches. This led to the gradual re-opening of all these beaches during 2011 - 2014 and they have maintained open since then

[Photo: Beaches in Tsuen Wan continued to exhibit satisfactory water quality]

EPD also monitored three non-gazetted beaches in Hong Kong: Discovery Bay (a popular beach in Lantau Island), a sandy beach adjacent to Kiu Tsui Beach in Sai Kung, and a planned artificial beach in Lung Mei, Tai Po. In 2017, Discovery Bay has improved from “Fair” to “Good”. The beach adjacent to Kiu Tsui Beach continued to be ranked as “Good”, and Lung Mei as “Fair”. Most of the village houses in the Lung Mei area have been connected to the public sewerage network, and the remaining connection work is still ongoing. Together with the pollution abatement measures to be implemented, the water quality at Lung Mei will continue to improve.

### **Weekly Beach Grading in 2017**

To provide the latest beach water quality information to the public, the EPD issues weekly gradings of all open gazetted beaches and one non-gazetted beach (i.e. Discovery Bay) through weekly press release, EPD's websites, the beach enquiry hotline, GeoInfo Map of the GovHK website and noticeboards at the beaches.

In 2017, beaches in the Southern District continued to enjoy excellent water quality. All ten open gazetted beaches received “Good” or “Fair” grading most of the time in the bathing season. In particular, Repulse Bay Beach, South Bay Beach and St. Stephen's Beach achieved all “Good” grading for the entire bathing season, only Deep Water Bay Beach and Big Wave Bay Beach received a “Very Poor” grading once, in early May and early July respectively, after heavy rain.

The beaches in the Islands District had decent water quality. Lo So Shing Beach and Upper Cheung Sha Beach achieved “Good” grading for the entire bathing season, and the latter has maintained 100% “Good” grading record for three consecutive years since 2015. In addition, Hung Shing Yeh Beach and Tong Fuk Beach were also graded as “Good” over 90% of the time. Only Lower Cheung Sha Beach was rated as “Very Poor” once in late May. No weekly grading was given to Silver Mine Bay Beach in 2017 during its closure for improvement works.

**[Photo: Pui O Beach - a unique black-sand beach in Lantau Island]**

Beaches in the Sai Kung District had fine water quality with mostly “Good” or “Fair” weekly grading. Silverstrand Beach was rated as “Very Poor” on four occasions, all associated with storms. Hap Mun Bay Beach and Kiu Tsui Beach were two of the seven beaches in Hong Kong achieving 100% “Good” grading in 2017.

**[Photo: Clear Water Bay First Beach - a gem in the forest]**

The water quality of the beaches in the Tuen Mun District was satisfactory and suitable for swimming. These beaches usually received “Fair” and occasionally “Good” weekly grading. Butterfly Beach, Castle Peak Beach, Kadoorie Beach and Old Cafeteria Beach were each graded as “Very Poor” once in the first half of year after heavy rain.

**[Photo: Castle Peak Beach - in the shade of trees]**

Tsuen Wan beaches continued to have an improving trend of water quality. Although still mostly rated as “Fair”, the beaches received more “Good” grading when compared to last year. Approach Beach, Hoi Mei Wan Beach and Ting Kau Beach were rated as “Very Poor” one to three times after heavy rain during the summer.

### Water Quality Trend

The beach water quality in Hong Kong has been fully in compliance with the WQO, and suitable for swimming, for the last eight years. The percentage of beaches complying with the WQO had once dropped from 74% in 1986 (29 of 39 beaches) to 63% (26 of 41 beaches) in 1997, and then achieved 100% (all 41 beaches) since 2010.

### Comparison of annual beach ranking of gazetted beaches in 1986, 1997 and 2017

Year	WQO Compliant		WQO Non-compliant	
	Good	Fair	Poor	Very Poor
<b>1986</b>	23.1% (9)	51.3% (20)	17.9% (7)	7.7% (3)
<b>1997</b>	24.4% (10)	39.0% (16)	29.3% (12)	7.3% (3)
<b>2017</b>	56.1% (23)	43.9% (18)	-	-

( ) No. of beaches

Note: Two beaches degazetted in 1995 were excluded from all the statistics above.

Back in the 1980s, many beaches were closed, such as Cafeteria Old Beach, Castle Peak Beach and Silver Mine Bay Beach, or on the verge of being closed (e.g. Middle Bay Beach and Repulse Bay Beach) due to poor water quality. There was a further drop in compliance rate in the mid-1990s due to population growth particularly in the new town areas. In the past two decades, there has been progressive improvement in beach water quality as a result of various pollution abatement measures, including enforcement of environmental legislation, extension of the sewerage network and provision of new sewage treatment facilities across the territory including the beach hinterland, as well as implementation of the Harbour Area Treatment Scheme. Major improvement measures implemented in the past are summarized in the following table.

<b>Major improvement measures for the beaches since the implementation of beach water quality monitoring programme in 1986</b>	
<b>1986 – 1990</b>	<b>Beaches with Water Quality Improvement</b>
Implementation of the Livestock Waste Control Scheme under the Waste Disposal (Livestock Waste) Regulation.	Most beaches, particularly Silver Mine Bay Beach
Declaration of the Southern Water Control Zone (WCZ) under the Water Pollution Control Ordinance (WPCO) for legislative enforcement.	Southern beaches
Interception and diversion of polluted storm drains at beaches in Southern District.	Southern beaches
<b>1991- 1995</b>	
Implementation of chemical waste control.	All beaches
Declaration of the North Western WCZ under the WPCO for legislative enforcement.	Tuen Mun beaches
Diversion of polluted storm water drains away from Castle Peak Beach.	Castle Peak Beach
Provision of public sewers for So Kwun Wat and Sam Shing Estate.	Tuen Mun Beaches
Commissioning of Stanley Sewage Treatment Works (STW).	Stanley Main Beach
<b>1996 - 2000</b>	
Full implementation of the WPCO in all WCZs.	All beaches
Commissioning of the Shek O Sewage Screening Plant and diversion of polluted storm water drains at Shek O Village.	Shek O Beach
Completion of all major works under Southern Sewerage Master Plan.	Southern beaches
Commissioning of the new 2 km long Pillar Point sewage submarine outfall.	Tuen Mun beaches
<b>2001 - 2005</b>	
Completion of Harbour Area Treatment Scheme Stage 1.	Big Wave Bay, Shek O, Rocky Bay Beaches
Provision of public sewers in the Silverstrand area.	Silverstrand Beach
Full operation of the Sham Tseng STW.	Beaches along the Tsuen Wan coast
<b>2006 - 2017</b>	
Commissioning of the Advance Disinfection Facilities at Stonecutters Island STW.	All Tsuen Wan beaches
Extension of the public sewerage network to the beach hinterland along Castle Peak Road.	Beaches along the Tsuen Wan coast
Full operation of the Harbour Area Treatment Scheme (HATS) Stage 2A.	Beaches along the Tsuen Wan coast

All of Hong Kong's gazetted beaches have now achieved the required standard for swimming for the eighth consecutive year. EPD will continue to closely monitor the beach water quality in the future to support water quality management policy and as reference for beach users.

## Compliance with WQO at gazetted beaches, 1997 - 2017

[Figure: Compliance with WQO at gazetted beaches, 1997 - 2017]

Water quality trend lines of gazetted beaches over the last 32 years are included in this report to show the changes over the years. More in-depth background and details of the beach monitoring programme are available at the EPD's [Hong Kong Water Quality Resource Centre thematic website \(http://wqrc.epd.gov.hk\)](http://wqrc.epd.gov.hk) or its [beach water quality thematic website \(http://www.beachwq.gov.hk\)](http://www.beachwq.gov.hk).

[Photos: Beach water quality monitored for protecting the health of bathers]

## The Monitoring Programme

### Beaches monitored by the EPD

Southern District	Sai Kung District	Tsuen Wan District	Tuen Mun District	Islands District	Tai Po District
Deep Water Bay	Kiu Tsui	Ma Wan Tung Wan	Butterfly	Silver Mine Bay	Lung Mei**
Repulse Bay	Hap Mun Bay	Anglers'	Castle Peak	Pui O	
Middle Bay	Trio	Gemini	Kadoorie	Lower Cheung Sha	
South Bay	Silverstrand	Hoi Mei Wan	Cafeteria Old	Upper Cheung Sha	
Chung Hom Kok	Clear Water Bay First	Casam	Cafeteria New	Tong Fuk	
St. Stephen's	Clear Water Bay Second	Lido	Golden	Cheung Chau Tung Wan	
Stanley Main	Kiu Tsui (New)**	Ting Kau		Kwun Yam	
Hairpin		Approach		Hung Shing Yeh	
Turtle Cove				Lo So Shing	
Shek O				Discovery Bay**	
Rocky Bay					
Big Wave Bay					

\*\* Non-gazetted beaches

## Beach monitoring frequency

Beach	Monitoring frequency per month	
	Bathing season *	Non-bathing season
<b>Gazetted beaches open all year round**</b>	at least 3 times	at least 3 times
<b>Other gazetted beaches</b>	at least 3 times	once
<b>Non-gazetted beaches</b>	at least 3 times	once

\* March to October

\*\* Clear Water Bay Second, Deep Water Bay, Golden and Silverstrand Beaches

## Overview of various stages of the Beach Monitoring Programme

[Image of overview of various stages of the Beach Monitoring Programme]

## Hong Kong's annual beach ranking system

Rank	<i>E. coli</i> counts per 100 mL*	Minor illness rate** (Cases per 1,000 swimmers)	WQO Compliance
Good	≤24	Undetectable	Compliant
Fair	25-180	≤10	
Poor	181-610	11-15	Non-compliant
Very Poor	>610	>15	

\* Geometric mean *E. coli* count calculated based on all data collected between March and October.

\*\* Skin and gastrointestinal illnesses

## Hong Kong's weekly beach grading system

Grade	Beach water quality	<i>E. coli</i> counts per 100 mL*	Minor illness rate ** (Cases per 1,000 swimmers)
1	Good	≤24	Undetectable
2	Fair	25-180	≤10
3	Poor	181-610	11-15
4	Very Poor	>610 or last reading >1,600	>15

\* Unless otherwise indicated, the *E. coli* count represents the geometric mean of the 5 most recent sampling occasions.

\*\* Skin and gastrointestinal illnesses



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**2017 Annual ranking and bathing season geometric mean *E. coli* levels of Hong Kong's gazetted beaches**

<b>Annual Ranking</b>	<b>Beach</b>	<b><i>E. coli</i> (counts/100ml)</b>
<b>Good</b>	Hap Mun Bay	3
	South Bay	3
	Tong Fuk	3
	Upper Cheung Sha	3
	St. Stephen's	4
	Hairpin*	5
	Hung Shing Yeh	5
	Kiu Tsui	5
	Repulse Bay	5
	Turtle Cove	5
	Chung Hom Kok	6
	Lo So Shing	6
	Trio	7
	Stanley Main	8
	Kwun Yam	9
	Deep Water Bay	14
	Middle Bay	14
	Clear Water Bay Second	16
	Shek O	16
	Cheung Chau Tung Wan	18
	Rocky Bay*	18
Lower Cheung Sha	19	
Clear Water Bay First	20	
<b>Fair</b>	Ma Wan Tung Wan	29
	Cafeteria New	31
	Kadoorie	31
	Lido	34
	Pui O	34
	Big Wave Bay	36
	Golden	37
	Gemini*	39
	Casam	43
	Anglers'	45
	Cafeteria Old	50
	Silverstrand	56
	Hoi Mei Wan	63
	Castle Peak	65
	Ting Kau	75
	Butterfly	81
	Approach	114
Silver Mine Bay**	141	

\*Beaches not open for swimming (no lifeguard service)

\*\* Temporarily closed for improvement works

## Annual ranking of gazetted beaches at a glance in 2017

District	Beach	Annual Ranking
Southern	Big Wave Bay	Fair
	Chung Hom Kok	Good
	Deep Water Bay	Good
	Hairpin*	Good
	Middle Bay	Good
	Repulse Bay	Good
	Rocky Bay*	Good
	Shek O	Good
	South Bay	Good
	St. Stephen's	Good
	Stanley Main	Good
	Turtle Cove	Good
	Sai Kung	Clear Water Bay First
Clear Water Bay Second		Good
Hap Mun Bay		Good
Kiu Tsui		Good
Silverstrand		Fair
Trio		Good
Tsuen Wan	Anglers'	Fair
	Approach	Fair
	Casam	Fair
	Gemini*	Fair
	Hoi Mei Wan	Fair
	Lido	Fair
	Ting Kau	Fair
	Ma Wan Tung Wan	Fair
Tuen Mun	Butterfly	Fair
	Cafeteria New	Fair
	Cafeteria Old	Fair
	Castle Peak	Fair
	Golden	Fair
	Kadoorie	Fair
Islands	Cheung Chau Tung Wan	Good
	Hung Shing Yeh	Good
	Kwun Yam	Good
	Lo So Shing	Good
	Lower Cheung Sha	Good
	Pui O	Fair
	Silver Mine Bay**	Fair
	Tong Fuk	Good
	Upper Cheung Sha	Good

\*Beaches not open for swimming (no lifeguard service)

\*\* Temporarily closed for improvement works

## Weekly beach grading summary of open gazetted beaches by district in 2017

District	Percentage of Weekly Gradings				Total no. of Grading Occasions
	Grade 1	Grade 2	Grade 3	Grade 4	
<b>Southern</b>	80%	18%	1%	1%	342
<b>Sai Kung</b>	72%	24%	2%	2%	208
<b>Tsuen Wan</b>	24%	63%	10%	2%	241
<b>Tuen Mun</b>	24%	65%	9%	2%	202
<b>Outlying Islands</b>	78%	21%	1%	0%	256

Figures may not add up to 100% due to roundings

## Annual ranking and weekly grading summary - Southern District beaches

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
<b>Big Wave Bay</b>	Fair	31 %	51 %	14 %	3 %
<b>Chung Hom Kok</b>	Good	91 %	9 %	0 %	0 %
<b>Deep Water Bay</b>	Good	66 %	31 %	0 %	3 %
<b>Hairpin *</b>	Good	85 %	15 %	0 %	0 %
<b>Middle Bay</b>	Good	68 %	32 %	0 %	0 %
<b>Repulse Bay</b>	Good	100 %	0 %	0 %	0 %
<b>Rocky Bay *</b>	Good	50 %	50 %	0 %	0 %
<b>Shek O</b>	Good	76 %	24 %	0 %	0 %
<b>South Bay</b>	Good	100 %	0 %	0 %	0 %
<b>St. Stephen's</b>	Good	100 %	0 %	0 %	0 %
<b>Stanley Main</b>	Good	82 %	18 %	0 %	0 %
<b>Turtle Cove</b>	Good	85 %	15 %	0 %	0 %

Note: Figures may not add up to 100% due to roundings

\* Beaches not open for swimming (no lifeguard service)

## Annual ranking and weekly grading summary - Sai Kung beaches

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
Clear Water Bay First	Good	53 %	47 %	0 %	0 %
Clear Water Bay Second	Good	74 %	24 %	3 %	0 %
Hap Mun Bay	Good	100 %	0 %	0 %	0 %
Kiu Tsui	Good	100 %	0 %	0 %	0 %
Silverstrand	Fair	24 %	55 %	11 %	11 %
Trio	Good	88 %	12 %	0 %	0 %

Note: Figures may not add up to 100% due to roundings

## Annual ranking and weekly grading summary - Tsuen Wan beaches

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
<b>Anglers'</b>	Fair	26 %	74 %	0 %	0 %
<b>Approach</b>	Fair	3 %	66 %	26 %	6 %
<b>Casam</b>	Fair	29 %	65 %	6 %	0 %
<b>Gemini *</b>	Fair	24 %	76 %	0 %	0 %
<b>Hoi Mei Wan</b>	Fair	9 %	77 %	11 %	3 %
<b>Lido</b>	Fair	41 %	56 %	3 %	0 %
<b>Ting Kau</b>	Fair	14 %	56 %	22 %	8 %
<b>Ma Wan Tung Wan</b>	Fair	48 %	52 %	0 %	0 %

Note: Figures may not add up to 100% due to roundings

\* Beaches not open for swimming (no lifeguard service)

## Annual ranking and weekly grading summary - Tuen Mun beaches

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
<b>Butterfly</b>	Fair	3 %	71 %	24 %	3 %
<b>Cafeteria New</b>	Fair	33 %	67 %	0 %	0 %
<b>Cafeteria Old</b>	Fair	21 %	65 %	12 %	3 %
<b>Castle Peak</b>	Fair	18 %	65 %	15 %	3 %
<b>Golden</b>	Fair	33 %	64 %	3 %	0 %
<b>Kadoorie</b>	Fair	38 %	59 %	0 %	3 %

Note: Figures may not add up to 100% due to roundings



## Annual ranking and weekly grading summary - Beaches on the Outlying Islands

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
<b>Cheung Chau Tung Wan</b>	Good	48 %	52 %	0 %	0 %
<b>Hung Shing Yeh</b>	Good	94 %	6 %	0 %	0 %
<b>Kwun Yam</b>	Good	87 %	13 %	0 %	0 %
<b>Lo So Shing</b>	Good	100 %	0 %	0 %	0 %
<b>Lower Cheung Sha</b>	Good	61 %	33 %	3 %	3 %
<b>Pui O</b>	Fair	41 %	56 %	3 %	0 %
<b>Silver Mine Bay*</b>	Fair	3 %	56 %	19 %	22 %
<b>Tong Fuk</b>	Good	94 %	6 %	0 %	0 %
<b>Upper Cheung Sha</b>	Good	100 %	0 %	0 %	0 %

Note: Figures may not add up to 100% due to roundings

\* Temporarily closed for improvement works

## Annual beach rankings of gazetted beaches from 1986 to 2017

Year	Number of Beaches in Each Rank				Total
	Good	Fair	Poor	Very Poor	
1986	9	20	7	3	39
1987	5	21	9	5	40
1988	7	19	7	7	40
1989	13	18	7	2	40
1990	14	19	5	2	40
1991	17	14	7	2	40
1992	16	14	7	3	40
1993	15	12	10	3	40
1994	13	14	11	2	40
1995	14	10	13	4	41
1996	13	14	10	4	41
1997	10	16	12	3	41
1998	16	16	8	1	41
1999	22	13	6	0	41
2000	21	14	6	0	41
2001	21	13	5	2	41
2002	23	10	2	6	41
2003	23	11	1	6	41
2004	25	9	5	2	41
2005	23	11	1	6	41
2006	22	12	5	2	41
2007	25	9	7	0	41
2008	24	10	7	0	41
2009	23	15	3	0	41
2010	23	18	0	0	41
2011	31	10	0	0	41
2012	23	18	0	0	41
2013	24	17	0	0	41
2014	23	18	0	0	41
2015	25	16	0	0	41
2016	18	23	0	0	41
2017	23	18	0	0	41

Note: Two beaches degazetted in 1995 were excluded from all the statistics above

## Comparison of annual beach ranking of gazetted beaches in 1986 and 2017

Year	WQO Compliant		WQO Non-compliant	
	Good	Fair	Poor	Very Poor
<b>1986</b>	23.1% (9)	51.3% (20)	17.9% (7)	7.7% (3)
<b>2017</b>	56.1% (23)	43.9% (18)	0% (0)	0% (0)

( ) No. of beaches

Note: Two beaches degazetted in 1995 were excluded from all the statistics above

**Annual geometric mean *E. coli* levels of gazetted beaches by district, 1997 - 2017**

<b>Year</b>	<b>Southern</b>	<b>Sai Kung</b>	<b>Tsuen Wan</b>	<b>Tuen Mun</b>	<b>Outlying Islands</b>
<b>1997</b>	55	26	562	326	24
<b>1998</b>	34	17	321	125	12
<b>1999</b>	16	9	231	59	7
<b>2000</b>	16	11	219	57	8
<b>2001</b>	18	13	321	101	12
<b>2002</b>	10	12	666	70	7
<b>2003</b>	11	14	566	85	8
<b>2004</b>	9	10	405	64	5
<b>2005</b>	14	14	576	77	8
<b>2006</b>	13	11	447	122	11
<b>2007</b>	9	8	294	77	9
<b>2008</b>	11	13	247	56	12
<b>2009</b>	11	13	163	43	10
<b>2010</b>	14	10	90	39	8
<b>2011</b>	7	5	25	34	7
<b>2012</b>	11	10	50	47	8
<b>2013</b>	12	15	85	54	11
<b>2014</b>	12	13	76	44	12
<b>2015</b>	14	8	70	45	10
<b>2016</b>	17	18	57	66	16
<b>2017</b>	9	11	51	46	12

Note: Annual geometric mean *E. coli* levels calculated based on all the data collected between March and October

Annual geometric mean *E. coli* levels (1997 - 2017)

Beach																					
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Southern District</b>																					
Big Wave Bay	179	114	77	98	106	23	33	26	101	50	17	31	46	149	17	31	21	40	21	78	36
Chung Hom Kok	22	40	14	8	15	13	14	9	13	10	9	13	14	9	5	5	8	13	13	6	6
Deep Water Bay	55	46	14	16	18	9	9	7	8	7	7	9	12	9	6	9	11	14	19	24	14
Hairpin	44	72	17	18	10	6	7	7	13*	11*	19*	10*	12*	33*	6*	9*	14*	12*	8*	17*	5*
Middle Bay	40	16	11	11	8	9	14	12	20	18	9	11	12	12	6	15	14	13	13	20	14
Repulse Bay	23	11	8	9	13	9	12	4	8	12	7	14	11	7	6	7	10	11	14	10	5
Rocky Bay	399*	223*	72*	80*	118*	43*	28*	19*	30*	33*	17*	15*	13*	50*	23*	30*	22*	16*	35*	47*	18*
Shek O	102	70	32	29	31	13	11	16	19	24	18	22	11	19	11	16	15	18	29	26	16
South Bay	17	6	4	7	5	5	11	9	7	7	5	5	4	4	4	5	4	5	9	5	3
St. Stephen's	40	26	11	6	7	5	9	4	12	11	6	9	6	4	4	4	10	5	6	7	4
Stanley Main	72	24	13	12	9	8	6	5	7	10	9	10	13	20	6	34	19	9	20	23	8
Turtle Cove	40	14	12	11	15	8	4	5	8	7	5	5	5	8	4	6	6	8	5	11	5
<b>Sai Kung District</b>																					
Clear Water Bay First	62	41	11	16	28	28	17	9	16	20	14	11	15	10	7	8	24	15	14	31	20
Clear Water Bay Second	66	44	12	26	22	14	21	10	19	13	9	19	27	13	5	18	15	18	17	32	16
Hap Mun Bay	3	2	2	2	1	2	4	3	4	4	3	5	3	3	2	2	7	4	2	4	3
Kiu Tsui	5	4	4	5	5	4	5	17	14	11	6	13	16	13	9	10	13	11	6	10	5
Silverstrand	148	99	32	61	100	133	97	74	67	30	33	35	51	28	18	30	39	40	18	63	56
Trio	30	21	17	10	12	6	10	2	6	5	2	12	5	6	2	9	8	10	4	13	7
<b>Tsuen Wan District</b>																					
Anglers'	691*	502*	442*	326*	621*	1169*	693*	619*	895*	772*	496*	510*	276*	134*	27*	69*	133	130	77	76	45
Approach	1009*	435*	387*	316*	411*	696*	762*	470*	663*	599*	352*	251*	208*	124*	59	83	106	121	143	78	114
Casam	609	239	231	209	233	741	702*	594*	716*	426*	305*	289*	144*	102*	21	50	71	63	52	42	43
Gemini	458	399	350	258	323	1155	875*	1102*	1042*	853*	566*	481*	410*	137*	19*	40*	135*	110*	56*	40*	39*
Hoi Mei Wan	471	280	109	177	199	547	442*	287*	641*	308*	286*	271*	130*	87*	23	51	86	58	90	65	63
Lido	600	262	231	181	269	683	734*	523*	782*	459*	280*	296*	178*	87*	21	32	53	57	52	39	34
Ma Wan Tung Wan	110	92	51	39	133	201	159	101	132	171	78	53	60	17	10	24	41	31	20	32	29
Ting Kau	1583*	1045*	515*	593*	739*	742*	831*	412*	512*	469*	405*	258*	145*	141*	58*	88*	107*	89	151	140	75
<b>Tuen Mun District</b>																					
Butterfly	259	121	44	61	74	60	74	55	55	94	84	56	49	30	41	42	71	38	98	131	81
Cafeteria New	309	100	60	51	104	62	80	54	70	120	68	48	38	31	27	47	50	31	30	38	31
Cafeteria Old	435	138	58	57	125	74	76	61	81	150	67	45	46	34	29	48	39	45	41	70	50
Castle Peak	332*	199*	57*	58*	105*	58*	64*	80*	90	139	64	47	35	63	49	48	78	91	71	106	65
Golden Beach	352	98	44	50	87	66	84	46	62	117	87	63	42	37	26	62	45	39	31	45	37
Kadoorie	290	130	109	68	120	114	160	98	117	118	101	87	48	45	37	40	52	37	29	48	31
<b>Outlying Islands</b>																					
Cheung Chau Tung Wan	24	19	11	12	16	17	11	12	14	37	21	15	17	12	6	13	10	14	19	9	18
Hung Shing Yeh	5	3	3	5	6	2	5	4	4	4	6	4	6	4	3	4	4	5	4	6	5
Kwun Yam	32	21	6	10	11	9	7	5	10	13	9	10	9	8	5	9	8	12	12	9	9
Lo So Shing	3	2	4	2	5	2	3	2	3	4	3	5	7	3	3	4	5	5	4	6	6
Lower Cheung Sha	85	23	10	12	22	10	14	7	12	11	12	20	13	11	9	10	17	21	17	47	19
Pui O	36	16	10	10	17	10	15	9	10	16	30	24	12	14	13	22	51	60	24	29	34
Silver Mine Bay	481	123	39	50	67	42	50	14	34	52	22	43	45	31	28	38	39	51	59	119	141*
Tong Fuk	14	10	4	5	6	4	3	4	5	5	4	10	5	5	4	4	7	4	4	9	3
Upper Cheung Sha	8	3	2	3	5	3	3	3	3	4	4	7	5	4	3	4	4	5	3	7	3

Note:

\* Beach not open for swimming that year

## 2017 Beach visitor number

Beach	Daily Average		Peak Day	Peak Month	Total
	Weekdays	Weekends & Public Holidays			
<b>Southern District</b>					
Big Wave Bay	237	1085	2500	21320	124260
Chung Hom Kok	138	601	2250	12780	69990
Deep Water Bay	825	4312	13500	91100	474050
Hairpin	131	261	500	7110	42260
Middle Bay	171	280	600	8020	50440
Repulse Bay	11860	14074	36000	403010	3078420
Rocky Bay	0	0	0	0	0
Shek O	2322	5914	22000	220100	849160
South Bay	134	374	1000	9100	51540
St. Stephen's	189	335	800	9800	57600
Stanley Main	756	2407	17800	65950	314030
Turtle Cove	55	391	2200	7120	39645
<b>Sai Kung District</b>					
Clear Water Bay First	153	553	2500	13690	68730
Clear Water Bay Second	2085	4127	20000	200010	670110
Hap Mun Bay	436	1103	3750	46440	158800
Kiu Tsui	252	754	1590	15000	100920
Silverstrand	133	700	5260	20240	76720
Trio	258	710	3220	20720	98430
<b>Tsuen Wan District</b>					
Anglers'	150	558	1060	9960	68610
Approach	166	242	460	8010	46610
Casam	76	194	500	5340	27830
Gemini	18	34	150	860	5640
Hoi Mei Wan	49	163	880	3490	20930
Lido	357	1026	9900	23070	139560
Ma Wan Tung Wan	525	2023	4310	44310	245470
Ting Kau	136	354	1650	9300	50360
<b>Tuen Mun District</b>					
Butterfly	795	1392	2200	34800	241400
Cafeteria New	963	1614	3900	63900	286670
Cafeteria Old	950	1304	2160	39720	260320
Castle Peak	705	742	2000	24590	175615
Golden	1985	4316	8000	104800	668150
Kadoorie	668	856	1400	30900	178300
<b>Outlying Islands</b>					
Cheung Chau Tung Wan	506	2089	4000	46300	247460
Hung Shing Yeh	576	1311	3030	40400	198520
Kwun Yam	192	524	1250	14000	72900
Lo So Shing	145	355	650	9610	51930
Lower Cheung Sha	356	1303	2800	30800	161100
Pui O	1148	2701	8750	88060	402290
Silver Mine Bay	0	0	0	0	0
Tong Fuk	359	489	1450	25880	97980
Upper Cheung Sha	505	723	1600	30020	140750

Note: Information provided by the Leisure and Cultural Services Department

2017年憲報公布泳灘的物理化學水質參數

泳灘	酸鹼值	鹽度 (psu)	混濁度 (NTU)	水溫 (攝氏)	溶解氧量 (毫克/公升)	(飽和百分比)
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南區

大浪灣	8.3 (8.13 - 8.59)	28.8 (18.6 - 32.7)	2.95 (0.56 - 8.65)	26.5 (18.2 - 31.1)	6.9 (5.7 - 8.3)	97 (85 - 114)
春坎角	8.29 (8.01 - 8.73)	29.1 (19.0 - 32.7)	3 (1.14 - 8.26)	26.9 (19.0 - 31.2)	6.8 (5.5 - 8.8)	97 (83 - 119)
深水灣	8.26 (7.97 - 8.61)	28 (17.6 - 32.7)	4.07 (1.15 - 10.20)	27.3 (19.3 - 31.8)	6.9 (5.4 - 8.5)	99 (83 - 126)
夏萍灣 *	8.36 (8.16 - 8.71)	29.4 (20.3 - 33.2)	1.87 (0.48 - 7.59)	27.4 (19.2 - 32.3)	7.1 (5.6 - 10.0)	102 (82 - 130)
中灣	8.31 (8.06 - 8.75)	28.6 (15.3 - 32.7)	3.52 (0.96 - 9.12)	26.7 (18.4 - 30.9)	7 (5.5 - 9.0)	99 (78 - 130)
淺水灣	8.31 (8.10 - 8.72)	29.3 (20.0 - 32.8)	3.41 (0.97 - 15.50)	26.6 (18.5 - 30.9)	6.9 (5.6 - 8.3)	97 (82 - 117)
石澳後灘 *	8.27 (8.07 - 8.59)	30.6 (23.1 - 32.9)	2.76 (0.68 - 10.60)	26.2 (18.6 - 31.4)	6.7 (4.9 - 9.8)	94 (74 - 130)
石澳	8.31 (8.10 - 8.60)	30.5 (24.3 - 33.2)	3.56 (0.71 - 10.10)	26.5 (18.6 - 31.3)	6.7 (5.5 - 9.8)	96 (79 - 129)
南灣	8.3 (8.01 - 8.68)	29.2 (20.4 - 32.6)	2.65 (0.75 - 10.90)	26.8 (18.9 - 31.0)	6.8 (5.1 - 8.8)	98 (75 - 130)
聖士提反灣	8.28 (8.05 - 8.62)	29 (17.6 - 32.9)	2.6 (0.74 - 7.24)	27 (18.8 - 31.3)	6.7 (5.2 - 8.5)	96 (77 - 122)
赤柱正灘	8.35 (8.14 - 8.70)	29.1 (19.6 - 33.2)	2.56 (0.93 - 8.06)	27.2 (19.4 - 31.7)	7.1 (5.3 - 9.7)	101 (77 - 130)
龜背灣	8.34 (8.15 - 8.63)	29 (20.2 - 32.7)	4.05 (0.74 - 15.60)	27.2 (19.0 - 31.7)	7 (5.6 - 9.9)	100 (82 - 130)

西貢區

清水灣第一灣	8.34 (8.20 - 8.81)	29.5 (20.8 - 32.5)	5.2 (0.77 - 18.60)	27.1 (18.2 - 32.5)	6.7 (5.2 - 8.5)	97 (80 - 121)
清水灣第二灣	8.32 (8.17 - 8.79)	30.6 (20.8 - 33.3)	6.15 (1.28 - 20.20)	27.1 (18.0 - 32.4)	6.5 (4.4 - 7.8)	95 (75 - 108)
廈門灣	8.32 (8.19 - 8.71)	30.4 (23.0 - 33.0)	3.63 (0.54 - 14.50)	27.4 (17.9 - 31.9)	6.6 (5.6 - 8.3)	97 (82 - 113)
橋咀	8.3 (8.06 - 8.69)	29.7 (22.0 - 33.1)	1.66 (0.60 - 4.82)	27.4 (17.4 - 32.1)	6.7 (5.1 - 8.7)	98 (77 - 120)
銀線灣	8.35 (8.12 - 8.72)	28.1 (16.3 - 32.2)	4.15 (0.94 - 23.30)	26.7 (17.5 - 31.3)	6.6 (5.5 - 8.1)	95 (84 - 106)
三星灣	8.29 (8.12 - 8.64)	28.8 (16.3 - 32.7)	2.26 (0.66 - 5.74)	27.6 (18.1 - 33.1)	6.7 (5.4 - 8.3)	98 (81 - 125)

荃灣區

釣魚灣	8.14 (7.94 - 8.34)	26.4 (14.0 - 32.5)	3.83 (1.76 - 10.80)	26 (18.1 - 31.2)	6.8 (5.1 - 9.6)	92 (71 - 109)
近水灣	8.15 (7.88 - 8.31)	25.3 (18.1 - 32.3)	4.71 (1.04 - 11.80)	26.1 (17.8 - 31.0)	6.7 (4.2 - 9.1)	93 (60 - 112)
更生灣	8.15 (7.95 - 8.34)	26 (18.3 - 32.5)	3.22 (1.24 - 6.53)	26.1 (17.8 - 30.8)	6.6 (5.0 - 8.1)	93 (73 - 108)
雙仙灣 *	8.12 (7.91 - 8.29)	26.9 (15.5 - 32.5)	3.59 (1.38 - 8.52)	25.9 (18.1 - 30.4)	6.5 (4.9 - 8.2)	90 (61 - 114)
海美灣	8.14 (7.91 - 8.34)	25.8 (18.6 - 32.5)	3.19 (1.31 - 6.64)	26.2 (18.0 - 30.7)	6.6 (4.6 - 8.5)	92 (61 - 117)
麗都灣	8.14 (7.96 - 8.30)	26.2 (18.5 - 32.5)	3.38 (1.28 - 7.56)	26.1 (18.0 - 30.9)	6.5 (4.8 - 8.3)	90 (59 - 107)
馬灣東灣	8.12 (7.87 - 8.40)	27.2 (16.8 - 32.6)	4.41 (2.16 - 7.61)	26.6 (18.4 - 30.5)	6.5 (4.3 - 8.2)	93 (64 - 121)
汀九灣	8.15 (7.91 - 8.34)	24.8 (15.6 - 32.1)	3.33 (1.09 - 6.79)	26.3 (17.8 - 31.0)	6.7 (4.9 - 8.6)	94 (70 - 110)

屯門區

蝴蝶灣	8.13 (7.75 - 8.38)	22.8 (10.0 - 32.4)	9.77 (3.22 - 27.10)	27.3 (19.1 - 31.9)	6.6 (5.0 - 8.1)	93 (75 - 109)
新咖啡灣	8.12 (7.83 - 8.33)	22.3 (10.2 - 32.3)	9.02 (4.79 - 18.30)	27.2 (18.7 - 31.1)	6.5 (5.1 - 7.9)	93 (70 - 113)
舊咖啡灣	8.12 (7.82 - 8.35)	21.8 (9.2 - 32.3)	9.05 (3.61 - 21.30)	27.1 (18.7 - 31.5)	6.5 (5.1 - 7.7)	91 (69 - 104)
青山灣	8.16 (7.80 - 8.56)	21.8 (8.9 - 31.9)	5.37 (1.54 - 11.50)	27.4 (18.9 - 32.1)	6.9 (5.2 - 10.0)	98 (70 - 130)
黃金	8.13 (7.87 - 8.34)	22.4 (10.5 - 32.4)	10.51 (4.65 - 32.80)	27.1 (18.9 - 30.9)	6.6 (5.2 - 8.9)	93 (73 - 112)
加多利灣	8.14 (7.86 - 8.37)	22.1 (9.3 - 32.3)	6.05 (2.49 - 13.90)	27.3 (18.7 - 31.5)	6.6 (5.1 - 9.8)	94 (70 - 124)

離島區

長洲東灣	8.22 ( 8.03 - 8.91 )	27.5 ( 17.9 - 32.5 )	3.93 ( 1.03 - 12.80 )	26 ( 18.3 - 30.6 )	6.9 ( 5.2 - 8.9 )	96 ( 77 - 126 )
洪聖爺灣	8.24 ( 8.05 - 8.61 )	27.4 ( 15.7 - 32.6 )	5.85 ( 1.52 - 20.30 )	26.4 ( 17.9 - 31.7 )	6.8 ( 5.7 - 8.2 )	96 ( 81 - 127 )
觀音灣	8.21 ( 8.01 - 8.76 )	27.1 ( 17.7 - 32.3 )	4.06 ( 1.12 - 18.80 )	26.1 ( 18.2 - 30.5 )	6.9 ( 5.4 - 9.2 )	95 ( 82 - 112 )
蘆鬚城	8.29 ( 8.06 - 8.85 )	28.1 ( 14.6 - 32.6 )	3.64 ( 1.20 - 14.80 )	26.7 ( 17.9 - 31.2 )	6.9 ( 5.4 - 8.1 )	96 ( 82 - 122 )
下長沙	8.3 ( 8.12 - 8.77 )	27.2 ( 14.7 - 32.1 )	9.31 ( 1.69 - 31.10 )	27.6 ( 19.1 - 33.5 )	6.6 ( 5.3 - 7.9 )	95 ( 85 - 113 )
貝澳	8.31 ( 8.14 - 8.76 )	26.8 ( 15.9 - 32.2 )	11.93 ( 4.23 - 31.50 )	28.1 ( 19.2 - 34.4 )	6.7 ( 5.5 - 8.3 )	97 ( 84 - 129 )
銀礦灣**	8.26 ( 8.02 - 8.92 )	24.1 ( 7.5 - 32.1 )	10.95 ( 2.75 - 52.10 )	27.7 ( 18.9 - 32.5 )	6.5 ( 4.5 - 8.1 )	93 ( 64 - 115 )
塘福	8.28 ( 8.06 - 8.69 )	27.2 ( 13.9 - 32.4 )	7.33 ( 1.82 - 37.40 )	27.7 ( 18.3 - 32.7 )	6.6 ( 5.6 - 7.8 )	95 ( 85 - 102 )
上長沙	8.3 ( 8.12 - 8.71 )	27.2 ( 14.1 - 32.5 )	7.45 ( 1.51 - 37.30 )	27.7 ( 18.6 - 33.1 )	6.6 ( 5.7 - 7.4 )	95 ( 80 - 105 )

備註: 算術平均數據，圓括號內的數據為差距

註腳:

1. 實用鹽度單位

2. 比濁法濁度單位

\* 由於泳灘沒有救生服務，不開放給市民游泳

\*\*因進行改善工程而暫停開放