

EPD - Beach Water Quality

Beach Water Quality in Hong Kong 2011

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: The local community and overseas tourists all enjoy very much the beautiful beaches in Hong Kong]

Introduction

Many attractive beaches are found along the long coastline of Hong Kong. Each year, millions of beach-goers enjoy bathing in these beaches with clean water.

[Photo: Kid enjoying summer fun at Stanley Main Beach]

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. The background and details of EPD's monitoring activities can be found at [EPD's Homepage \(http://www.epd.gov.hk\)](http://www.epd.gov.hk) or its [thematic website \(http://www.beachwq.gov.hk\)](http://www.beachwq.gov.hk).

[Photo: Blue sky and clean water greet swimmers at Deep Water Bay Beach]

This report summarises the beach monitoring data collected in 2011, the gradings of the beaches and their compliance with the Water Quality Objective (WQO) for bathing beaches. In 2011, 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 made field observations and collected samples for laboratory analyses of *E. coli* bacteria. EPD staff also took measurements of dissolved oxygen, pH, salinity, temperature and turbidity of beach water.

[Photo: EPD inspectors monitor water quality at Lido Beach]

[Photo: Bacterial testing of beach water at EPD's laboratory]

Hong Kong's beaches are assessed using a dual 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" and "Fair" meet the WQO for bathing waters.

Annual Beach Ranking in 2011

All 41 gazetted beaches in Hong Kong complied with the WQO in 2011. Compared with the ranking in 2010, the number of beaches ranked as "Good" has increased from 23 (or 56%) to 31 (or 76%). The improvement was due to the progress of eight beaches from last year's ranking of "Fair" to "Good". The remaining 10 beaches were ranked as "Fair", and none as "Poor" or "Very Poor".

[Photo: The scenic Trio Beach]

The beaches with a "Good" water quality ranking were largely located in the Southern District (Hong Kong Island South), Outlying Islands, Sai Kung and Tsuen Wan. All 12 beaches in the Southern District were ranked as "Good" in 2011. Of the nine beaches monitored on the Outlying Islands, eight were "Good" while Silver Mine Bay Beach was rated as "Fair". In the Sai Kung area, all six beaches were "Good" in 2011. Among them, Hap Mun Bay Beach and Trio Beach were the cleanest gazetted beaches 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 in 2011.

The water quality of the Tsuen Wan beaches has continued to show improvement in 2011, which is mainly brought about by the full commissioning of the Advance Disinfection Facilities (ADF) in March 2010 to disinfect the treated effluent from the Stonecutters Island Sewage Treatment Works, and the completion of the sewerage works in the hinterland of the beaches. Since all the Tsuen Wan beaches have achieved the WQO for bathing, 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 Government has planned to re-open the remaining three beaches, namely Anglers' Beach, Gemini Beaches and Ting Kau Beach in the swimming season of 2013.

In 2011, Casam Beach, Hoi Mei Wan Beach, Lido Beach and Ma Wan Tung Wan Beach were ranked as "Good" while Approach Beach was ranked as "Fair".

[Photo: Hong Kong beaches offer respite from hustle and bustle of city life]

EPD also monitored three non-gazetted beaches in Hong Kong: Discovery Bay (a popular beach on Lantau Island), a sandy beach adjacent to Kiu Tsui Beach in Sai Kung, and a planned artificial beach in Lung Mei, Tai Po. Discovery Bay and the beach adjacent to Kiu Tsui Beach continued to be ranked as "Good" in 2011. Similar to 2010, Lung Mei was ranked as "Poor" in 2011. The public sewerage network is being extended to villages in the Lung Mei area, and other pollution abatement measures will be implemented to improve the water quality in the Lung Mei area in the next few years.

[Photo: Fun for all ages at Hap Mun Beach]

Weekly Beach Grading in 2011

The EPD issues weekly gradings of gazetted beaches which are open for swimming. The information is disseminated to the public through weekly press releases, EPD's websites, the beach hotline and beach noticeboards.

In 2011, the water quality of beaches in the Southern District has shown great improvement. All ten gazetted beaches received mainly "Good" or "Fair" grading in the bathing season. Chung Hom Kok, Deep Water Bay, Hairpin, South Bay, St. Stephen's, Stanley Main and Turtle Cove Beaches had the best water quality, achieving "Good" gradings on all rating occasions.

The water quality of the Sai Kung beaches was also generally good. Hap Mun Bay and Trio Beaches achieved "Good" gradings for all rating occasions, while the other beaches were mostly "Good" or "Fair".

The beaches on the Outlying Islands were generally ideal for swimming, with Cheung Chau Tung Wan, Hung Shing Yeh, Kwun Yam, Tong Fuk and Upper Cheung Sha Beaches achieving 100% "Good" gradings. Lo So Shing and Lower Cheung Sha Beaches achieved "Good" gradings over 80% of the rating occasions.

The water quality of the beaches in the Tuen Mun area was generally fine and nearly all graded as "Good" or "Fair". The water quality of Beaches in Tsuen Wan continued to show positive signs of improvement with gradings maintained mostly at either "Good" or "Fair".

[Photo: An impressive view of the Ting Kau Bridge from the Casam Beach]

Water Quality Trend

There has been a noticeable trend in the improvement of beach water quality in Hong Kong in recent years. The percentage of beaches complying with the WQO has changed from 74% in 1986 (29 of 39 beaches) to 63% (26 of 41 beaches) in 1997, and then improved to 100% in 2010 and 2011 (all 41 beaches).

Annual beach ranking of 1986, 1997 and 2011 compared

Year	WQO Compliant		WQO Non-compliant	
	Good	Fair	Poor	Very Poor
1986	23.1%(9)	51.3%(20)	17.9%(7)	7.7%(3)
1997	24.4% (10)	39.0% (16)	29.3% (12)	7.3% (3)
2011	75.6%(31)	24.4%(10)	-	-

() No. of beaches

Note: Two Beaches degazetted in 1995 were excluded from the calculation.

There was a drop in compliance rate in the mid-1990s due to population growth particularly in the new town areas. Since then, there has been progressive improvement in the last decade as a result of enforcement of environmental legislation, extension of the sewerage network and provision of new sewage treatment facilities across the territory including the beach hinterland. Major improvement measures implemented in the past are summarized in the following table.

Major improvement measures for the beaches over the past 25 years	
1986 – 1990	
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) and legislative enforcement.	Southern beaches
Interception and diversion of polluted storm drains at beaches in Southern District.	Southern beaches
1991- 1995	
Implementation of chemical waste control.	All beaches
Declaration of the North Western WCZ under WPCO and legislative enforcement.	Tuen Mun beaches
Diversion of polluted storm water drains away from Castle Peak Beach.	
Provision of public sewers for So Kwun Wat and Sam Shing Estate.	
Commissioning of Stanley Sewage Treatment Works (STW).	Stanley Main Beach
1996 - 2000	
Full implementation of 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 Southern Sewerage Master Plan.	Southern beaches
Commissioning of the new 2 km long Pillar Point sewage submarine outfall.	Tuen Mun beaches
2001 - 2005	
Completion of HATS 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
2006 - 2010	
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

As a result of these measures, the percentage of beaches ranked as "Good" has significantly increased over the period, rising from just 23% in 1986 to 76% in 2011. Since 1999, the WQO compliance rate has been maintained at over 80%, a clear indication of sustained improvement in water quality. Between 1997 and 2011, out of the 41 gazetted beaches, those complying with the WQO have increased from 26 to 41 (63% to 100%). In the same period, the number of "Good" beaches has more than tripled from 10 to 31.

Compliance with WQO at gazetted beaches, 1997 - 2011

[Figure: Compliance with WQO at gazetted beaches, 1997 - 2011]

Back in the 1980s, many beaches were either 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) because of poor water quality. Through continuous efforts of the Government to implement pollution abatement measures over the past years, there were significant improvements at the beaches in various districts in the last few years. Silver Mine Bay Beach, Castle Peak Beach and Repulse Bay Beach were most remarkable as they have consistently complied with the WQO in recent years. All the seven closed Tsuen Wan beaches met the WQO in 2010 and 2011. All Hong Kong's beaches have now achieved the required standard for bathing waters.

Water quality trend lines of individual beaches over the last 26 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 [EPD's Homepage \(http://www.epd.gov.hk\)](http://www.epd.gov.hk) or its [thematic website \(http://www.beachwq.gov.hk\)](http://www.beachwq.gov.hk), which provides user-friendly access to the annual beach reports as well as data published since 2000.

[Photos: Paradise for kids]

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	
Turtle Cove		Approach		Hung Shing Yeh	
Shek O				Lo So Shing	
Big Wave Bay				Discovery Bay**	
Hairpin					
Rocky Bay					

** Non-gazetted beaches

Beach monitoring frequencies

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

The 2011 Findings

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Hong Kong's gazetted beaches : the 2011 annual ranking

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

* Closed beach

Beach grading summary by district in 2011

District	Percentage of Weekly Gradings				Total no. of Grading Occasions
	Grade 1	Grade 2	Grade 3	Grade 4	
Southern	95%	5%	0%	0%	337
Sai Kung	86%	12%	1%	1%	208
Tsuen Wan and Tuen Mun	43%	56%	0%	1%	373
Outlying Islands	88%	10%	1%	1%	270

Ranking and grading summary - Southern District beaches

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
Big Wave Bay	Good	73%	27%	0%	0%
Chung Hom Kok	Good	100%	0%	0%	0%
Deep Water Bay	Good	100%	0%	0%	0%
Hairpin *	Good	No grading for closed beach.			
Middle Bay	Good	94%	6%	0%	0%
Repulse Bay	Good	94%	6%	0%	0%
Rocky Bay *	Good	No grading for closed beach.			
Shek O	Good	91%	9%	0%	0%
South Bay	Good	100%	0%	0%	0%
St. Stephen's	Good	100%	0%	0%	0%
Stanley Main	Good	100%	0%	0%	0%
Turtle Cove	Good	100%	0%	0%	0%

* Beaches closed for reasons other than water quality.

Ranking and 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	94%	6%	0%	0%
Clear Water Bay Second	Good	83%	17%	0%	0%
Hap Mun Bay	Good	100%	0%	0%	0%
Kiu Tsui	Good	71%	23%	3%	3%
Silverstrand	Good	69%	28%	0%	3%
Trio	Good	100%	0%	0%	0%

Ranking and grading summary - Tsuen Wan and Tuen Mun beaches

District	Beach	Annual Ranking	Percentage of Weekly Gradings			
			Grade 1	Grade 2	Grade 3	Grade 4
Tsuen Wan	Anglers' *	Fair	No grading for closed beach.			
	Approach	Fair	0%	97%	0%	3%
	Casam	Good	39%	61%	0%	0%
	Gemini *	Good	No grading for closed beach.			
	Hoi Mei Wan	Good	52%	48%	0%	0%
	Lido	Good	55%	45%	0%	0%
	Ting Kau *	Fair	No grading for closed beach.			
	Ma Wan Tung Wan	Good	77%	23%	0%	0%
Tuen Mun	Butterfly	Fair	34%	63%	0%	3%
	Cafeteria New	Fair	53%	47%	0%	0%
	Cafeteria Old	Fair	38%	62%	0%	0%
	Castle Peak	Fair	24%	76%	0%	0%
	Golden	Fair	60%	40%	0%	0%
	Kadoorie	Fair	38%	62%	0%	0%

* Closed beaches

Ranking and Grading Summary - Beaches on the Outlying Islands

Beach	Annual Ranking	Percentage of Weekly Gradings			
		Grade 1	Grade 2	Grade 3	Grade 4
Cheung Chau Tung Wan	Good	100%	0%	0%	0%
Hung Shing Yeh	Good	100%	0%	0%	0%
Kwun Yam	Good	100%	0%	0%	0%
Lo So Shing	Good	96%	4%	0%	0%
Lower Cheung Sha	Good	88%	12%	0%	0%
Pui O	Good	65%	32%	0%	3%
Silver Mine Bay	Fair	54%	34%	6%	6%
Tong Fuk	Good	100%	0%	0%	0%
Upper Cheung Sha	Good	100%	0%	0%	0%

Annual beach rankings from 1997 to 2011

Year	Number of Beaches in Each Rank				Total
	Good	Fair	Poor	Very Poor	
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

Annual beach rankings of 1997 and 2011 compared

Year	WQO Compliant		WQO Non-compliant	
	Good	Fair	Poor	Very Poor
1997	24.4% (10)	39.0% (16)	29.3% (12)	7.3% (3)
2011	75.6% (31)	24.4% (10)	0% (0)	0% (0)

() No. of beaches

**Compliance with the Water Quality
Objective at gazetted beaches, 1997 - 2011**

Year	Percentage of Compliance
1997	63%
1998	78%
1999	85%
2000	85%
2001	83%
2002	80%
2003	83%
2004	83%
2005	83%
2006	83%
2007	83%
2008	83%
2009	93%
2010	100%
2011	100%

Annual geometric mean *E. coli* levels by district, 1997 - 2011

Year	Southern	Sai Kung	Tsuen Wan	Tuen Mun	Outlying Islands
1997	55	26	562	326	24
1998	34	17	321	125	12
1999	16	9	231	59	7
2000	16	11	219	57	8
2001	18	13	321	101	12
2002	10	12	666	70	7
2003	11	14	566	85	8
2004	9	10	405	64	5
2005	14	14	576	77	8
2006	13	11	447	122	11
2007	9	8	294	77	9
2008	11	13	247	56	12
2009	11	13	163	43	10
2010	14	10	90	39	8
2011	7	5	25	34	7

Annual geometric mean *E. coli* levels (1997 - 2011)

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

Note:

Figure in red indicates that the beach was closed in that year

Beach visitor numbers, 2011

Beach	Daily Average		Peak Day	Peak Month	Total
	Weekdays	Weekends & Public Holidays			
Southern District					
Big Wave Bay	239	1,299	3,000	26,345	141,320
Chung Hom Kok	286	937	2,100	20,130	121,020
Deep Water Bay	978	4,472	15,000	120,400	512,715
Hairpin	103	435	800	8,560	51,305
Middle Bay	190	346	920	14,920	58,885
Repulse Bay	8,295	12,336	21,000	348,000	2,356,002
Rocky Bay	-	-	-	-	-
Shek O	2,398	6,473	26,000	276,700	906,550
South Bay	254	707	2,700	30,690	97,684
St. Stephen's	203	837	2,400	22,390	99,317
Stanley Main	857	3,106	9,800	85,880	386,225
Turtle Cove	60	348	1,250	7,625	37,301
Sai Kung District					
Clear Water Bay First	161	569	1,911	14,070	71,387
Clear Water Bay Second	2,025	7,338	24,500	255,900	911,300
Hap Mun Bay	397	921	4,880	44,698	138,362
Kiu Tsui	39	466	1,380	8,450	42,857
Silverstrand	144	423	1,800	15,995	57,101
Trio	316	1,040	3,930	35,085	134,074
Tsuen Wan District					
Anglers'	22	131	260	2,530	13,974
Approach	58	181	860	6,643	23,929
Casam	15	44	659	1,621	5,966
Gemini	2	9	30	278	1,074
Hoi Mei Wan	8	22	72	752	3,052
Lido	275	1,092	5,960	42,805	131,256
Ma Wan Tung Wan	537	2,293	6,777	55,479	268,885
Ting Kau	11	11	23	600	2,673
Tuen Mun District					
Butterfly	803	1,493	2,250	37,950	251,200
Cafeteria New	846	1,816	4,740	64,250	284,070
Cafeteria Old	706	1,299	3,200	37,800	219,700
Castle Peak	430	1,391	1,800	23,800	180,750
Golden	1,809	5,762	9,500	124,350	757,700
Kadoorie	540	942	1,640	31,990	164,220
Outlying Islands					
Cheung Chau Tung Wan	177	496	2,000	14,320	68,290
Hung Shing Yeh	141	617	1,310	13,960	71,790
Kwun Yam	65	196	600	5,465	26,145
Lo So Shing	43	146	400	3,970	18,710
Lower Cheung Sha	109	404	1,160	10,240	49,980
Pui O	195	526	1,440	15,090	73,800
Silver Mine Bay	147	338	3,550	11,840	50,930
Tong Fuk	107	248	710	9,690	37,220
Upper Cheung Sha	84	239	800	6,860	32,780

Note: Information provided by the Leisure and Cultural Services Department

Physicochemical water quality data of gazetted beaches, 2011

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Southern District						
Big Wave Bay	8.4 (8.2 - 8.6)	30.6 (26.3 - 32.7)	3.0 (0.8 - 20.3)	25.5 (16.4 - 30.9)	7.0 (5.8 - 9.0)	97 (87 - 107)
Chung Hom Kok	8.4 (8.2 - 8.7)	30.8 (25.0 - 32.9)	3.9 (1.1 - 19.2)	26.1 (16.7 - 31.4)	6.9 (4.9 - 9.7)	97 (74 - 125)
Deep Water Bay	8.4 (8.2 - 8.7)	30.5 (24.9 - 32.9)	5.9 (1.5 - 18.7)	26.1 (17.1 - 31.4)	6.8 (5.5 - 8.1)	96 (85 - 118)
Hairpin [Closed]	8.5 (8.3 - 8.7)	30.8 (26.3 - 32.6)	2.8 (1.0 - 16.9)	26.2 (17.0 - 30.3)	7.0 (5.5 - 10.0)	100 (86 - 121)
Middle Bay	8.4 (8.2 - 8.7)	30.5 (22.4 - 33.0)	3.8 (1.4 - 11.8)	25.7 (16.3 - 30.8)	7.1 (5.8 - 9.6)	99 (85 - 127)
Repulse Bay	8.4 (8.2 - 8.7)	30.7 (25.5 - 32.8)	3.6 (1.3 - 8.0)	25.6 (16.4 - 30.4)	6.9 (5.4 - 8.8)	97 (80 - 125)
Rocky Bay [Closed]	8.4 (8.1 - 8.6)	31.2 (28.8 - 32.6)	3.0 (0.9 - 15.8)	25.3 (16.8 - 29.0)	6.9 (5.3 - 9.9)	96 (81 - 106)
Shek O	8.4 (8.2 - 8.6)	31.2 (27.7 - 32.8)	4.6 (1.2 - 36.8)	25.7 (16.8 - 30.3)	7.1 (5.9 - 9.6)	98 (85 - 122)
South Bay	8.4 (8.2 - 8.6)	30.7 (25.6 - 33.1)	2.8 (1.1 - 9.4)	26.1 (16.7 - 30.9)	6.9 (5.0 - 9.0)	98 (74 - 125)
St. Stephen's	8.4 (8.2 - 8.6)	30.6 (24.4 - 33.2)	2.8 (0.9 - 10.9)	26.0 (16.7 - 31.1)	6.9 (5.3 - 7.9)	97 (80 - 116)
Stanley Main	8.4 (8.2 - 8.7)	30.4 (25.3 - 32.5)	2.9 (1.0 - 12.6)	26.0 (17.6 - 30.5)	7.0 (5.4 - 9.6)	100 (86 - 120)
Turtle Cove	8.4 (8.2 - 8.7)	30.7 (26.2 - 33.0)	4.7 (1.0 - 19.5)	26.2 (16.8 - 32.0)	6.8 (4.8 - 9.6)	98 (76 - 124)
Sai Kung District						
Clear Water Bay First	8.5 (8.3 - 8.6)	31.2 (26.5 - 32.9)	4.6 (1.0 - 26.1)	26.5 (17.9 - 31.4)	6.8 (5.4 - 8.4)	97 (80 - 117)
Clear Water Bay Second	8.4 (8.3 - 8.6)	31.7 (29.1 - 33.1)	5.3 (1.1 - 20.5)	26.4 (17.7 - 32.1)	6.8 (5.9 - 8.5)	97 (88 - 112)
Hap Mun Bay	8.5 (8.2 - 8.6)	31.6 (28.6 - 33.0)	2.2 (0.4 - 6.0)	26.9 (17.7 - 31.9)	6.6 (5.1 - 8.3)	97 (82 - 107)
Kiu Tsui	8.5 (8.2 - 8.6)	31.5 (28.3 - 32.9)	1.8 (0.5 - 6.3)	26.8 (17.7 - 32.9)	7.0 (5.5 - 9.3)	100 (76 - 121)
Silverstrand	8.4 (8.2 - 8.6)	30.7 (27.3 - 32.8)	3.8 (0.8 - 17.9)	26.0 (17.2 - 31.0)	6.8 (4.8 - 8.5)	97 (73 - 111)
Trio	8.4 (8.2 - 8.6)	31.2 (28.6 - 32.9)	1.9 (0.6 - 4.6)	27.1 (17.8 - 33.5)	6.5 (5.2 - 8.9)	96 (80 - 111)
Tsuen Wan District						
Anglers' [Closed]	8.3 (8.1 - 8.7)	27.7 (16.3 - 32.1)	4.8 (1.7 - 9.7)	25.9 (17.2 - 30.0)	6.9 (4.9 - 10.0)	96 (76 - 122)
Approach	8.3 (8.1 - 8.6)	27.7 (16.9 - 32.2)	4.3 (1.9 - 10.7)	25.8 (17.3 - 29.7)	6.8 (4.5 - 9.8)	96 (71 - 124)
Casam	8.3 (8.1 - 8.7)	27.9 (18.9 - 32.2)	3.6 (1.5 - 7.8)	26.1 (17.4 - 30.6)	6.9 (5.5 - 8.6)	98 (80 - 126)
Gemini [Closed]	8.3 (8.1 - 8.6)	27.9 (17.7 - 32.2)	4.2 (1.4 - 12.4)	25.9 (16.9 - 30.3)	6.8 (4.6 - 9.7)	94 (73 - 120)
Hoi Mei Wan	8.3 (8.1 - 8.6)	27.5 (18.0 - 32.3)	4.4 (1.3 - 10.8)	26.0 (17.2 - 29.9)	6.8 (4.5 - 9.4)	96 (72 - 114)
Lido	8.3 (8.1 - 8.6)	27.9 (19.2 - 32.4)	4.4 (1.5 - 10.8)	25.9 (17.1 - 29.9)	6.8 (5.0 - 8.6)	96 (77 - 126)
Ma Wan Tung Wan	8.3 (8.0 - 8.5)	28.7 (22.2 - 32.2)	6.4 (2.3 - 15.1)	25.8 (18.0 - 29.4)	6.4 (4.8 - 8.7)	90 (73 - 104)
Ting Kau [Closed]	8.3 (8.1 - 8.6)	27.5 (16.9 - 32.1)	3.9 (1.8 - 9.6)	25.9 (17.1 - 29.8)	6.8 (4.6 - 8.6)	95 (74 - 116)
Tuen Mun District						
Butterfly	8.3 (8.0 - 8.7)	25.3 (13.7 - 32.1)	8.6 (1.6 - 27.9)	26.9 (17.9 - 30.9)	6.5 (4.9 - 8.2)	93 (64 - 120)
Cafeteria New	8.3 (8.1 - 8.8)	25.0 (12.3 - 31.9)	10.7 (2.1 - 25.2)	26.7 (17.8 - 30.5)	6.8 (4.8 - 9.5)	95 (76 - 153)
Cafeteria Old	8.3 (8.0 - 8.7)	24.9 (12.5 - 31.9)	9.6 (1.9 - 36.4)	26.6 (17.8 - 30.5)	6.7 (4.6 - 10.0)	95 (72 - 152)
Castle Peak	8.4 (8.0 - 8.8)	25.0 (12.6 - 32.0)	5.9 (1.3 - 23.2)	27.0 (18.0 - 30.9)	7.1 (5.1 - 10.0)	101 (82 - 139)
Golden	8.3 (8.0 - 8.7)	25.1 (12.5 - 31.8)	11.4 (2.3 - 32.9)	26.3 (16.7 - 30.4)	6.8 (4.5 - 10.0)	95 (69 - 151)
Kadoorie	8.3 (8.1 - 8.7)	25.1 (12.8 - 31.9)	9.1 (1.8 - 102.0)	26.9 (17.7 - 30.8)	6.8 (4.9 - 10.0)	97 (77 - 152)

Outlying Islands						
Cheung Chau Tung Wan	8.3 (8.1 - 8.6)	29.6 (24.8 - 31.9)	4.2 (1.8 - 12.9)	25.5 (16.9 - 30.0)	6.8 (5.7 - 8.1)	95 (84 - 105)
Hung Shing Yeh	8.3 (8.2 - 8.6)	30.3 (22.4 - 33.0)	5.6 (1.7 - 17.8)	25.8 (16.8 - 31.0)	7.1 (5.2 - 8.9)	96 (76 - 108)
Kwun Yam	8.3 (8.1 - 8.7)	29.4 (24.2 - 32.0)	4.1 (1.3 - 10.3)	25.4 (17.0 - 29.4)	6.8 (5.6 - 8.3)	96 (83 - 108)
Lo So Shing	8.3 (7.5 - 8.7)	29.9 (21.9 - 33.0)	5.9 (1.9 - 60.4)	26.1 (16.8 - 32.2)	6.9 (5.5 - 8.1)	96 (86 - 111)
Lower Cheung Sha	8.4 (8.2 - 8.6)	28.9 (20.8 - 32.5)	10.7 (2.2 - 35.6)	26.5 (16.7 - 33.3)	6.8 (5.1 - 8.0)	96 (73 - 105)
Pui O	8.4 (8.2 - 8.7)	28.5 (19.2 - 32.6)	15.0 (4.6 - 36.4)	27.2 (16.9 - 33.2)	6.8 (5.2 - 8.2)	96 (84 - 118)
Silver Mine Bay	8.3 (8.0 - 8.6)	27.0 (11.6 - 32.0)	12.3 (3.1 - 49.0)	27.2 (16.9 - 33.0)	6.6 (4.5 - 8.0)	94 (55 - 128)
Tong Fuk	8.4 (8.2 - 8.6)	29.1 (22.3 - 32.5)	7.2 (1.7 - 22.5)	26.4 (16.9 - 31.9)	6.8 (5.7 - 8.4)	96 (86 - 105)
Upper Cheung Sha	8.4 (8.2 - 8.6)	29.2 (22.6 - 32.2)	10.2 (1.8 - 38.5)	26.4 (16.9 - 31.9)	6.8 (5.5 - 8.0)	96 (85 - 104)

Note: Data presented are arithmetic means; figures in brackets are ranges.

Footnote:

1. Practical Salinity Unit

2. Nephelometric Turbidity Unit