

EPD - Beach Water Quality

Beach Water Quality in Hong Kong 2006

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.

Introduction

The Environmental Protection Department (EPD) has implemented a comprehensive monitoring programme for bathing beaches in Hong Kong since 1986. The objective is to protect the public from possible health risks of swimming in polluted water. The background and details of the beach monitoring programme are available at the EPD's website (<http://www.epd.gov.hk/epd/textonly/eindex.html>), and from the report [20 Years of Beach Water Quality Monitoring in Hong Kong](#) issued in May 2006 (also accessible through the website).

[Photo of Repulse Bay Beach - an oasis of calm in the busy city]

In 2006, the EPD monitored 41 gazetted beaches and two non-gazetted beaches in Hong Kong. These beaches were monitored at least three times per month during the bathing season (March to October). Water samples were collected and tested for the bacteria *E. coli* at the EPD's Environmental Microbiology Laboratory. Other water quality parameters measured in the field and laboratory included: water temperature, dissolved oxygen, turbidity, pH and salinity.

Hong Kong's beaches are rated by a dual system: annual ranking and weekly grading based on the *E. coli* level in beach water, which indicates possible health risks associated with swimming. The annual ranking reflects the overall water quality of a beach in the entire bathing season, while the weekly grading denotes recent water quality of the beach. Under the system, beaches are grouped into "Good", "Fair", "Poor" and "Very Poor", and those ranked as "Good" and "Fair" meet the Water Quality Objective (WQO) for bathing water.

Annual Beach Ranking in 2006

In 2006 the percentage of beaches complying with the WQO was 83%, the same as in the previous three years (2003 to 2005). Of the 41 gazetted beaches, 22 (or 54 %) were ranked as "Good", 12 (29%) as "Fair", five (12%) as "Poor" and two (5%) as "Very Poor".

[Photo of Big Wave Bay Beach - a paradise for wind-surfers]

The "Good" water quality beaches were mainly located in the Southern District (Hong Kong Island South), Sai Kung, and Outlying Islands. Ten out of the 12 beaches in the Southern District were ranked as "Good", and only two (Big Wave Bay and Rocky Bay Beaches) as "Fair". On the Outlying Islands, among the nine beaches monitored by the EPD, seven were ranked as "Good", the rest (Cheung Chau Tung Wan and Silver Mine Bay Beaches) were "Fair". Of the six beaches in Sai Kung, five were "Good", and Silverstrand Beach was the only one ranked "Fair"; however, a steady decrease of *E. coli* level was observed at Silverstrand Beach in the last few years, indicating an improvement in water quality. Monitoring data show that all six beaches in Tuen Mun scored a "Fair" ranking in 2006. On the Tsuen Wan coast, seven beaches with "Poor" or "Very Poor" rankings were closed to swimmers due to poor water quality. Ma Wan Tung Wan Beach was the only beach open in the area and it was ranked as "Fair" in 2006. The Government is taking active measures to improve the water quality of Tsuen Wan beaches.

[Photo of Stanley Main Beach - bathers enjoying the broad clean sand]

Two non-gazetted beaches were monitored by the EPD: Discovery Bay, a popular beach on Lantau Island, and Lung Mei, an artificial beach under planning in Tai Po. These two beaches were ranked "Good" and "Fair" respectively in 2006.

Overall, the beach water quality in 2006 was largely stable. Compared with 2005, the ranking of Cheung Chau Tung Wan Beach has changed marginally from "Good" to "Fair", while Approach, Casam, Hoi Mei Wan and Lido Beaches in Tsuen Wan from "Very Poor" to "Poor". The changes were generally within the normal range of water quality fluctuation of these beaches.

Weekly Beach Grading in 2006

The EPD issued gradings for the beaches when they were open to the public for swimming. These gradings were disseminated through [daily updated webpages](#), telephone hotline, beach noticeboards and weekly press releases.

[Photo of Clear Water Bay First Beach - a beach in picturesque landscape]

The water quality of Sai Kung beaches was excellent. All six gazetted beaches maintained either "Good" or "Fair" gradings throughout the bathing season. Trio Beach was the best of all, achieving "Good" grading throughout the season. Beach gradings in the Southern District were also highly satisfactory. Nine out of the 10 beaches consistently achieved "Good" or "Fair" gradings, while Big Wave Bay Beach attained such gradings on over 80% of the sampling occasions. Tuen Mun beaches were mostly graded as "Fair". The gradings of the only open beach in Tsuen Wan (Ma Wan Tung Wan Beach) were more variable, mostly fluctuating between "Fair" and "Poor". The beaches on the Outlying Islands were ideal for swimming. Two out of the nine beaches, namely Lower Cheung Sha and Hung Shing Yeh Beaches, maintained a "Good" grading throughout the bathing season. Most of the other beaches maintained "Good" or "Fair" gradings, while Silver Mine Bay Beach attained such gradings in over 90% of the sampling occasions.

[Photo of Hung Shing Yeh Beach achieved 100% "Good" grading in 2006]

The number of "Grade 4 " incidents has been reduced from 11 in 2005 to four in 2006. Whenever a "Grade 4 " was issued, the beach would be closed to swimmers immediately and the EPD would undertake investigation and closely monitor the water quality. The decrease in "Grade 4 " incidents in 2006 might be related to pollution reduction, as well as a lower amount of rainfall 2,440 mm in 2006 versus 3,180 mm in 2005) during the bathing season.

Beach water quality trend in the last 10 years (1997 to 2006)

The number of gazetted beaches complying with the WQO has increased from 26 out of 41 (63%) in 1997 to 34 (83%) in 2006. In the same period, the number of "Good" beaches has more than doubled from 10 (24%) to 22 (54%). Since 1999, the number of beaches complying with the WQO has been maintained at above 80%. The improvement over the past decade was attributed to strict enforcement of environmental legislation, extension of the sewerage network and enhanced sewage treatment facilities in the beach hinterlands. The advances made at Silver Mine Bay and Tuen Mun beaches were most noticeable.

Measures to improve Tsuen Wan beaches

Seven gazetted beaches in Tsuen Wan remained closed in 2006 due to poor water quality. These were Anglers', Approach, Casam, Gemini, Hoi Mei Wan, Lido and Ting Kau Beaches. Although a slight upgrade in the annual rankings of four beaches was observed in 2006, the water quality in the area was generally poor and highly variable. This was due to pollution in the unsewered hinterlands and high background bacterial levels in the marine water off the Tsuen Wan coast.

To improve the water quality of the Tsuen Wan beaches, the Government is working on the next stage of the Harbour Area Treatment Scheme (HATS Stage 2A), and plans to disinfect effluent from the Stonecutters Island Sewage Treatment Works by 2009, subject to the support of the community for full recovery of the operating cost through sewage charges. The extension of public sewers and connection of unsewered villages along Castle Peak Road (near the Tsuen Wan beaches) is on-going. With the proposed sewerage works and continued pollution control measures, the water quality of the Tsuen Wan beaches should improve substantially in the next few years. This would prepare the way for the re-opening of the beaches to the public for swimming.

[Photo of Ma Wan Tung Wan Beach - the only open beach in Tsuen Wan District]

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		Ting Kau*		Kwun Yam	
Turtle Cove		Approach*		Hung Shing Yeh	
Shek O				Lo So Shing	
Big Wave Bay				Discovery Bay**	
Hairpin*					
Rocky Bay*					
* Closed beaches					
** 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 2 times	once
* March to October		
** Clear Water Bay Second, Deep Water Bay, Golden and Silverstrand Beaches		

[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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Hong Kong's gazetted beaches : the 2006 annual ranking

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

* Closed beach

Beach grading summary by district in 2006

District	Percentage of Weekly Gradings				Total no. of Grading Occasions
	Grade 1	Grade 2	Grade 3	Grade 4	
Southern	68%	30%	1%	1%	341
Sai Kung	74%	26%	0%	0%	205
Tsuen Wan and Tuen Mun	3%	62%	34%	1%	244
Outlying Islands	75%	24%	1%	0%	279

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	Fair	34%	49%	11%	6%
Chung Hom Kok	Good	76%	24%	0%	0%
Deep Water Bay	Good	79%	21%	0%	0%
Hairpin *	Good	No grading for closed beach.			
Middle Bay	Good	56%	44%	0%	0%
Repulse Bay	Good	59%	41%	0%	0%
Rocky Bay *	Fair	No grading for closed beach.			
Shek O	Good	47%	53%	0%	0%
South Bay	Good	82%	18%	0%	0%
St. Stephen's	Good	76%	24%	0%	0%
Stanley Main	Good	85%	15%	0%	0%
Turtle Cove	Good	85%	15%	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	59%	41%	0%	0%
Clear Water Bay Second	Good	74%	26%	0%	0%
Hap Mun Bay	Good	97%	3%	0%	0%
Kiu Tsui	Good	82%	18%	0%	0%
Silverstrand	Fair	31%	69%	0%	0%
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' *	Very Poor	No grading for closed beach.			
	Approach *	Poor				
	Casam *	Poor				
	Gemini *	Very Poor				
	Hoi Mei Wan *	Poor				
	Lido *	Poor				
	Ting Kau *	Poor				
	Ma Wan Tung Wan	Fair	0%	36%	61%	3%
Tuen Mun	Butterfly	Fair	6%	75%	19%	0%
	Cafeteria New	Fair	6%	66%	25%	3%
	Cafeteria Old	Fair	0%	60%	40%	0%
	Castle Peak	Fair	0%	69%	31%	0%
	Golden	Fair	9%	63%	28%	0%
	Kadoorie	Fair	0%	66%	34%	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	Fair	31%	69%	0%	0%
Hung Shing Yeh	Good	100%	0%	0%	0%
Kwun Yam	Good	77%	23%	0%	0%
Lo So Shing	Good	96%	4%	0%	0%
Lower Cheung Sha	Good	80%	20%	0%	0%
Pui O	Good	77%	23%	0%	0%
Silver Mine Bay	Fair	20%	71%	9%	0%
Tong Fuk	Good	97%	3%	0%	0%
Upper Cheung Sha	Good	100%	0%	0%	0%

Annual beach rankings over the last 10 years

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

Annual beach rankings of 1997 and 2006 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)
2006	53.6% (22)	29.3% (12)	12.2% (5)	4.9% (2)

() No. of beaches

**Compliance with the water quality objective
at gazetted beaches, 1997 - 2006**

Year	Percentage of Compliance
1997	63%
1998	78%
1999	85%
2000	85%
2001	83%
2002	80%
2003	83%
2004	83%
2005	83%
2006	83%

Annual geometric mean *E. coli* levels by district, 1997 - 2006

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

Annual geometric mean *E. coli* levels over 10 years

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

Note:

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

Beach visitor numbers, 2006

Beach	Daily Average		Peak Day	Peak Month	Total
	Weekdays	Weekends & Public Holidays			
Southern District					
Big Wave Bay	248	1,118	3,900	26,660	128,722
Chung Hom Kok	347	1,368	4,300	30,140	164,687
Deep Water Bay	1,230	4,979	39,000	141,200	593,730
Hairpin	89	517	900	9,340	55,230
Middle Bay	120	425	1,850	13,341	53,212
Repulse Bay	6,661	11,576	33,000	304,590	2,015,346
Rocky Bay	0	0	0	0	0
Shek O	789	4,574	33,000	124,400	488,510
South Bay	169	1,112	3,000	24,500	115,000
St. Stephen's	220	515	1,450	15,180	76,975
Stanley Main	558	3,088	17,500	63,480	334,140
Turtle Cove	88	268	750	6,113	35,630
Sai Kung District					
Clear Water Bay First	101	402	1,285	11,869	48,125
Clear Water Bay Second	2,398	8,823	38,000	279,700	1,088,764
Hap Mun Bay	377	2,816	16,450	79,453	282,613
Kiu Tsui	64	395	1,690	7,725	41,536
Silverstrand	150	796	4,500	18,680	87,144
Trio	325	712	3,100	35,476	109,816
Tsuen Wan District					
Anglers'	41	75	260	2,075	12,598
Approach	68	99	150	3,225	18,980
Casam	12	21	41	554	3,689
Gemini	3	7	14	171	1,068
Hoi Mei Wan	5	9	17	236	1,603
Lido	87	130	445	3,985	24,745
Ma Wan Tung Wan	244	1,332	5,093	30,402	144,585
Ting Kau	14	28	50	713	4,584
Tuen Mun District					
Butterfly	878	1,637	5,000	45,500	274,300
Cafeteria New	795	2,004	5,980	62,330	289,065
Cafeteria Old	538	1,737	4,820	38,720	225,330
Castle Peak	487	1,163	1,700	26,500	172,050
Golden	1,763	6,362	14,000	151,100	790,710
Kadoorie	515	736	1,600	25,800	143,390
Outlying Islands					
Cheung Chau Tung Wan	180	552	3,300	13,520	73,190
Hung Shing Yeh	149	519	1,090	12,820	65,280
Kwun Yam	120	351	750	9,240	47,400
Lo So Shing	46	135	550	2,970	18,280
Lower Cheung Sha	64	188	500	5,260	25,360
Pui O	81	285	850	7,270	35,850
Silver Mine Bay	125	281	2,500	8,435	42,760
Tong Fuk	89	199	720	7,160	30,400
Upper Cheung Sha	67	120	350	3,870	20,520

Note: Information provided by the Leisure and Cultural Services Department

Physicochemical water quality data of gazetted beaches, 2006

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (% Saturation)
Southern District						
Big Wave Bay	8.1 (7.9 - 8.4)	28.9 (14.3 - 32.9)	3.2 (1.3 - 7.4)	25.7 (17.7 - 30.2)	7.0 (5.6 - 8.5)	98 (85 - 117)
Chung Hom Kok	8.2 (7.9 - 8.5)	29.2 (20.8 - 33.0)	4.0 (1.3 - 8.3)	26.0 (18.4 - 30.4)	6.6 (5.0 - 8.8)	93 (75 - 122)
Deep Water Bay	8.1 (7.8 - 8.5)	28.9 (20.1 - 33.0)	7.1 (2.1 - 20.8)	26.3 (18.8 - 30.2)	6.5 (5.2 - 7.8)	93 (80 - 118)
Hairpin [Closed]	8.2 (8.0 - 8.7)	29.2 (19.1 - 33.1)	2.8 (1.0 - 9.3)	26.3 (18.2 - 31.0)	7.1 (6.0 - 9.7)	102 (84 - 140)
Middle Bay	8.2 (7.9 - 8.6)	29.1 (20.9 - 33.2)	4.7 (1.6 - 14.9)	26.1 (17.6 - 30.3)	6.5 (5.5 - 7.9)	93 (80 - 109)
Repulse Bay	8.2 (7.9 - 8.6)	29.3 (21.5 - 33.0)	4.1 (1.9 - 7.1)	25.9 (18.3 - 30.1)	6.7 (5.4 - 7.9)	94 (79 - 119)
Rocky Bay [Closed]	8.1 (7.9 - 8.3)	30.4 (23.7 - 33.0)	3.5 (1.0 - 9.4)	25.4 (17.8 - 30.8)	6.7 (4.5 - 9.9)	95 (60 - 140)
Shek O	8.1 (8.0 - 8.4)	30.3 (20.7 - 33.0)	4.2 (1.7 - 8.8)	26.0 (17.6 - 31.2)	6.9 (5.6 - 8.0)	95 (84 - 109)
South Bay	8.2 (7.9 - 8.7)	29.2 (21.0 - 33.0)	3.3 (1.3 - 10.7)	26.1 (18.0 - 30.2)	6.5 (4.8 - 8.5)	92 (74 - 121)
St. Stephen's	8.1 (7.9 - 8.6)	29.3 (20.7 - 33.1)	4.0 (1.4 - 14.1)	26.0 (17.9 - 30.4)	6.5 (5.4 - 8.2)	94 (81 - 122)
Stanley Main	8.2 (8.0 - 8.6)	29.0 (20.0 - 32.7)	4.0 (1.5 - 12.7)	26.5 (17.9 - 31.0)	7.1 (5.9 - 10.1)	101 (85 - 153)
Turtle Cove	8.2 (7.8 - 8.7)	28.9 (18.3 - 33.1)	5.3 (1.6 - 15.7)	26.4 (18.1 - 31.0)	6.8 (5.5 - 10.0)	98 (83 - 148)
Sai Kung District						
Clear Water Bay First	8.2 (8.0 - 8.6)	29.6 (18.4 - 33.2)	5.6 (1.1 - 16.2)	26.3 (16.5 - 31.0)	6.8 (4.9 - 8.3)	96 (73 - 118)
Clear Water Bay Second	8.1 (8.0 - 8.3)	30.3 (21.8 - 33.5)	6.3 (1.3 - 29.1)	26.5 (16.2 - 31.1)	6.6 (4.8 - 8.3)	94 (73 - 120)
Hap Mun Bay	8.2 (8.0 - 8.4)	30.3 (24.7 - 33.6)	2.6 (0.4 - 8.6)	26.4 (16.8 - 31.6)	6.8 (5.5 - 8.2)	97 (80 - 106)
Kiu Tsui	8.2 (8.0 - 8.5)	30.0 (23.9 - 33.7)	2.8 (0.6 - 6.7)	26.4 (16.9 - 31.6)	6.9 (5.6 - 8.5)	98 (85 - 114)
Silverstrand	8.1 (8.0 - 8.4)	29.0 (20.2 - 32.6)	3.9 (0.8 - 13.5)	26.2 (16.8 - 31.5)	6.7 (4.6 - 8.2)	95 (69 - 116)
Trio	8.1 (7.9 - 8.4)	29.1 (19.1 - 33.5)	1.9 (0.8 - 6.6)	26.7 (16.8 - 32.5)	6.6 (5.2 - 8.4)	95 (76 - 106)
Tsuen Wan District						
Anglers' [Closed]	8.0 (7.8 - 8.6)	27.2 (12.0 - 32.0)	5.0 (2.6 - 12.3)	25.6 (18.3 - 29.9)	6.4 (4.7 - 8.8)	89 (69 - 130)
Approach [Closed]	8.0 (7.8 - 8.4)	26.3 (14.6 - 32.0)	4.9 (2.1 - 11.1)	25.4 (18.2 - 28.6)	6.3 (4.6 - 8.5)	89 (70 - 118)
Casam [Closed]	8.0 (7.8 - 8.4)	26.6 (15.6 - 31.9)	5.8 (2.2 - 19.4)	25.5 (18.8 - 30.0)	6.4 (5.1 - 7.5)	90 (72 - 101)
Gemini [Closed]	8.0 (7.8 - 8.5)	26.8 (12.7 - 31.9)	4.6 (1.5 - 8.6)	25.7 (18.3 - 29.7)	6.4 (5.3 - 8.8)	90 (70 - 120)
Hoi Mei Wan [Closed]	8.0 (7.8 - 8.3)	26.4 (15.1 - 32.0)	4.0 (1.4 - 7.9)	25.6 (18.5 - 28.9)	6.4 (5.0 - 8.3)	88 (71 - 108)
Lido [Closed]	8.0 (7.8 - 8.5)	26.7 (15.4 - 32.0)	5.3 (2.2 - 15.1)	25.7 (18.8 - 30.0)	6.5 (5.2 - 7.8)	89 (71 - 106)
Ma Wan Tung Wan	8.1 (7.8 - 8.6)	26.7 (17.1 - 31.8)	11.4 (2.7 - 46.8)	26.5 (17.7 - 31.5)	6.5 (5.7 - 10.0)	92 (67 - 150)
Ting Kau [Closed]	8.0 (7.8 - 8.3)	26.0 (14.5 - 31.9)	4.8 (1.6 - 10.5)	25.7 (18.5 - 29.0)	6.6 (5.3 - 9.2)	90 (77 - 117)
Tuen Mun District						
Butterfly	8.0 (7.8 - 8.5)	22.9 (6.2 - 31.5)	8.8 (3.6 - 29.3)	26.3 (17.8 - 31.0)	6.5 (5.1 - 7.8)	90 (61 - 103)
Cafeteria New	8.0 (7.8 - 8.5)	22.4 (7.1 - 31.2)	11.5 (5.1 - 22.6)	26.0 (17.0 - 30.5)	6.7 (5.3 - 8.0)	92 (73 - 108)
Cafeteria Old	8.0 (7.8 - 8.5)	22.4 (7.0 - 31.2)	8.6 (3.7 - 15.6)	26.0 (17.0 - 30.3)	6.5 (5.2 - 7.8)	90 (73 - 105)
Castle Peak	8.0 (7.8 - 8.8)	22.5 (7.4 - 31.5)	6.4 (2.2 - 16.3)	26.4 (17.5 - 30.8)	6.7 (5.0 - 12.3)	94 (63 - 175)
Golden	8.0 (7.8 - 8.5)	22.4 (7.1 - 31.3)	13.2 (4.6 - 31.2)	26.0 (17.0 - 30.3)	6.8 (5.8 - 7.9)	93 (75 - 107)
Kadoorie	8.0 (7.8 - 8.6)	22.6 (7.2 - 31.3)	8.4 (2.3 - 28.8)	26.2 (17.0 - 31.2)	6.6 (5.3 - 8.2)	91 (70 - 106)
Outlying Islands						
Cheung Chau Tung Wan	8.1 (7.9 - 8.4)	27.7 (18.9 - 32.3)	4.4 (1.6 - 13.6)	25.8 (16.9 - 30.9)	6.8 (5.1 - 9.4)	95 (74 - 138)
Hung Shing Yeh	8.1 (8.0 - 8.7)	28.5 (14.4 - 33.1)	6.2 (2.0 - 12.0)	25.8 (18.4 - 31.4)	6.7 (5.3 - 7.7)	95 (80 - 114)
Kwun Yam	8.1 (7.9 - 8.4)	27.7 (19.6 - 32.3)	4.3 (1.6 - 11.5)	25.7 (16.6 - 31.3)	6.9 (5.6 - 9.6)	97 (80 - 140)

Lo So Shing	8.1 (8.0 - 8.6)	28.8 (11.3 - 33.0)	4.3 (1.2 - 14.9)	25.7 (17.3 - 30.5)	6.8 (5.9 - 7.6)	94 (84 - 103)
Lower Cheung Sha	8.2 (7.9 - 8.7)	26.9 (13.5 - 32.5)	11.6 (2.2 - 41.6)	26.4 (15.2 - 32.0)	6.7 (5.4 - 7.8)	93 (80 - 110)
Pui O	8.2 (7.9 - 8.6)	26.7 (14.6 - 32.5)	13.1 (2.3 - 49.4)	26.9 (15.4 - 32.0)	6.6 (5.6 - 7.6)	94 (82 - 122)
Silver Mine Bay	8.1 (7.7 - 8.5)	25.2 (11.1 - 32.0)	9.8 (2.1 - 36.6)	26.9 (15.9 - 32.3)	6.5 (4.9 - 8.9)	93 (75 - 123)
Tong Fuk	8.2 (8.0 - 8.7)	27.2 (15.2 - 32.5)	13.1 (1.8 - 75.5)	26.2 (15.6 - 30.7)	6.8 (5.4 - 7.6)	96 (76 - 104)
Upper Cheung Sha	8.2 (8.0 - 8.6)	27.3 (14.8 - 32.5)	13.8 (1.7 - 61.3)	26.0 (15.6 - 31.2)	6.8 (5.2 - 7.9)	95 (77 - 105)

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

Footnote:

1. Practical Salinity Unit
2. Nephelometric Turbidity Unit