

## **EPD - Beach Water Quality**

### **Beach Water Quality in Hong Kong 2008**

#### **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 at the beach: Fun and exercise for all ages.]

#### **Introduction**

The objective of the Beach Water Quality Monitoring Programme is to monitor beach water quality and protect the health of the bathers. The background and details of EPD's monitoring activities can be found on [the website](#).

[Photo of Blue sky, bright sunlight and clean water at Lower Cheung Sha Beach]

This report summarises the beach monitoring data collected in 2008, and the gradings of the beaches and their compliance with the Water Quality Objective (WQO). In 2008, the EPD monitored 41 gazetted beaches and three non-gazetted beaches located in different parts of the territory. The monitoring frequency was at least three times a month during the bathing season from March to October. During monitoring, the EPD staff made field observations, took measurements such as water temperature and dissolved oxygen, and collected samples for further laboratory tests for the faecal bacteria *E. coli* and other water quality parameters (pH, salinity and turbidity).

Hong Kong's beaches are assessed using a dual system: annual ranking and weekly grading based on the *E. coli* level in beach water, which indicates potential health risks associated with swimming. The annual ranking reflects the overall water quality of the beach in the 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", and those ranked "Good" and "Fair" meet the WQO for bathing waters.

#### **Annual Beach Ranking in 2008**

The beach water quality in 2008 was generally good despite the summer being exceptionally wet, especially when compared with the particularly dry summer of 2007. The rainfall of 2,940 mm during the bathing season from March to October 2008 was much higher than the 1,650 mm in the corresponding period in 2007. It is worth-mentioning that the monthly total rainfall of 1,350 mm in June 2008 is a new monthly rainfall record for Hong Kong since record began in 1884.

As pointed out in our previous reports, heavy rainfall can lower beach water quality, in cases where it washes pollutants from beach hinterlands and causes septic tanks and soakaway sewerage systems to overflow and run into the sea. Despite of the exceptionally high rainfall in 2008, most beaches remained open and water quality was by and large good. Twenty-four (or 59%) out of 41 gazetted beaches were ranked as “Good”, slightly down from 25 last year. Ten other beaches (24%) were ranked as “Fair”, seven (17%) as “Poor”, and none as “Very Poor”. In terms of WQO compliance, thirty-four (or 83%) of the 41 gazetted beaches in Hong Kong complied with the WQO, the same as in the previous five years (2003 to 2007).

[\[Photo of Repulse Bay Beach offers respite from busy city life\]](#)

The beaches with “Good” water quality ranking were mainly located in the Southern District (Hong Kong Island South), Sai Kung area, and Outlying Islands. Eleven out of 12 beaches in the Southern District were ranked as “Good” in 2008, only Big Wave Bay Beach was ranked as “Fair”. Of the nine beaches monitored on the Outlying Islands, eight were “Good” while Silver Mine Bay Beach was rated as “Fair”. The ranking of Pui O Beach improved from “Fair” in 2007 to “Good” in 2008. The cleanest gazetted beach in Hong Kong in 2008 in terms of overall *E. coli* levels was Hung Shing Yeh Beach on Lamma Island. In the Sai Kung area, five of the six beaches were “Good” with Silverstrand Beach being the only one ranked as “Fair”; however, the *E. coli* levels of this beach have been decreasing in the last few years, indicating a steady improvement in water quality. On the western side, all six beaches along the Tuen Mun coast received a “Fair” ranking in 2008. In the Tsuen Wan area, seven beaches had “Poor” water quality rankings and were closed to swimmers. Ma Wan Tung Wan Beach ranked as “Fair” in 2008 and was the only beach open to the swimmers in the Tsuen Wan area. The Government is currently taking active [measures to improve the water quality of Tsuen Wan beaches](#).

The 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. While Discovery Bay and the beach adjacent to Kiu Tsui Beach were ranked “Good” in 2008, Lung Mei was ranked “Poor”. Drainage diversion and pollution control measures will be implemented to improve water quality in Lung Mei area in the coming few years.

To sum up, the broader picture of beach rankings has remained consistent over the past couple of years: the compliance of bathing WQO remains steady at 83%, and it has not been affected by the fluctuations of the exceptionally dry and wet summers of 2007 and 2008 respectively. It demonstrates that continued improvements of sewage infrastructure and enforcement of environmental legislation have lessened the effect of polluted surface runoff on Hong Kong beaches even under heavy rain storms.

## Weekly Beach Grading in 2008

The EPD issues weekly gradings for gazetted beaches which are open for swimming. The information is disseminated to the public on [the EPD's website](#), the beach hotline, beach noticeboards and through [weekly press releases](#). The EPD's website was significantly enhanced in 2008 to make it more user-friendly.

In 2008, the water quality of Southern District beaches was highly satisfactory. All ten gazetted beaches received mainly "Good" or "Fair" gradings in the bathing season, except on a few occasions when Big Wave Bay, Deep Water Bay and Shek O Beaches were rated as "Poor" after heavy rain storms. South Bay and Turtle Cove Beaches had the best water quality, achieving a "Good" grading in over 80% of the rating occasions. The water quality of Sai Kung beaches was also very good. Hap Mun Bay Beach achieved "Good" grading over 90% of the rating occasions, while the other beaches were mostly "Good" or "Fair". The water quality of the beaches in the Tuen Mun area was mostly graded as "Fair". The gradings of the only open beach in Tsuen Wan (Ma Wan Tung Wan Beach) were mostly maintained at "Fair", while it occasionally also fluctuated between "Good" and "Poor". The beaches on the Outlying Islands were generally ideal for swimming, with Hung Shing Yeh Beach on Lamma Island having a "Good" grading over 95% of the rating occasions.

[\[Photo of aerial view of Hap Mun Bay Beach\]](#)

[\[Photo of aerial view of Lo So Shing Beach\]](#)

## Water quality trend

There has been a steady improvement of beach water quality in Hong Kong in the last decade. Out of the 41 gazetted beaches, those complying with the WQO have increased from 26 to 34 (63% to 83%) between 1997 and 2008. In the same period, the number of "Good" beaches has more than doubled from 10 to 24.

## Annual beach rankings of 1997 and 2008 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)
2008	58.5% (24)	24.4% (10)	17.1% (7)	0% (0)

( ) No. of beaches

The overall WQO compliance rate has been maintained at above 80% since 1999. The improvement made at Silver Mine Bay and Tuen Mun beaches was most noticeable as they have consistently complied with the WQO in recent years. The improvement was attributed to the enforcement of environmental legislation, extension of the sewerage network and enhanced sewage treatment facilities in the beach hinterlands.

Water quality trend lines of individual beaches over the last two decades (since 1986 when the monitoring programme began) are also included in this report to show the changes over the years. Background and details of the beach monitoring programme are available at the EPD's website, and from the report "[20 Years of Beach Water Quality Monitoring in Hong Kong](#)" issued in 2006 (also accessible through [the website](#)).

### Measures to improve Tsuen Wan Beaches

Seven gazetted beaches in Tsuen Wan remained closed to swimmers in 2008 due to poor water quality. They were Anglers', Approach, Casam, Gemini, Hoi Mei Wan, Lido and Ting Kau Beaches. Their annual rankings remained the same as 2007, while the overall water quality in the area was still unsatisfactory. The absence of beaches being rated as "Very Poor" in two consecutive bathing seasons was, however, an encouraging sign. The poor water quality was due to pollution in the unsewered hinterlands and high background bacterial levels in the marine waters off Tsuen Wan coast.

To improve the water quality of Tsuen Wan beaches, the Government is implementing the next stage of the Harbour Area Treatment Scheme ([HATS Stage 2A](#)), and aims to disinfect effluent from the Stonecutters Island Sewage Treatment Works by the end of 2009. Moreover, the extension of the public sewers and connections to unsewered villages along Castle Peak Road is on-going. With the proposed sewerage works and continuous pollution control efforts, the water quality in the area is expected to improve substantially in the next few years. This would pave the way for the re-opening of Tsuen Wan beaches to the public for swimming.

[\[Photo of Approach Beach along the Tsuen Wan coastline\]](#)

## 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*					
* 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 3 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

<b>Grade</b>	<b>Beach water quality</b>	<b><i>E. coli</i> counts per 100 mL*</b>	<b>Minor illness rate ** (Cases per 1,000 swimmers)</b>
<b>1</b>	Good	$\leq 24$	Undetectable
<b>2</b>	Fair	25-180	$\leq 10$
<b>3</b>	Poor	181-610	11-15
<b>4</b>	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 2008 Findings**

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## Hong Kong's gazetted beaches : the 2008 annual ranking

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

\* Closed beach

## Beach grading summary by district in 2008

District	Percentage of Weekly Gradings				Total no. of Grading Occasions
	Grade 1	Grade 2	Grade 3	Grade 4	
Southern	71%	27%	2%	0%	328
Sai Kung	70%	28%	1%	<1%	208
Tsuen Wan and Tuen Mun	12%	76%	11%	1%	231
Outlying Islands	70%	28%	2%	0%	260

## 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	41%	50%	9%	0%
Chung Hom Kok	Good	75%	25%	0%	0%
Deep Water Bay	Good	69%	25%	6%	0%
Hairpin *	Good	No grading for closed beach.			
Middle Bay	Good	75%	25%	0%	0%
Repulse Bay	Good	66%	34%	0%	0%
Rocky Bay *	Good	No grading for closed beach.			
Shek O	Good	56%	35%	9%	0%
South Bay	Good	84%	16%	0%	0%
St. Stephen's	Good	75%	25%	0%	0%
Stanley Main	Good	79%	21%	0%	0%
Turtle Cove	Good	88%	12%	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	74%	26%	0%	0%
Clear Water Bay Second	Good	61%	36%	0%	3%
Hap Mun Bay	Good	94%	6%	0%	0%
Kiu Tsui	Good	68%	32%	0%	0%
Silverstrand	Fair	46%	48%	6%	0%
Trio	Good	79%	21%	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' *	Poor	No grading for closed beach.			
	Approach *	Poor				
	Casam *	Poor				
	Gemini *	Poor				
	Hoi Mei Wan *	Poor				
	Lido *	Poor				
	Ting Kau *	Poor				
Ma Wan Tung Wan	Fair	15%	70%	15%	0%	
Tuen Mun	Butterfly	Fair	9%	73%	18%	0%
	Cafeteria New	Fair	15%	82%	3%	0%
	Cafeteria Old	Fair	24%	70%	6%	0%
	Castle Peak	Fair	12%	76%	12%	0%
	Golden	Fair	6%	91%	3%	0%
	Kadoorie	Fair	0%	73%	21%	6%

\* 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
<b>Cheung Chau Tung Wan</b>	Good	80%	20%	0%	0%
<b>Hung Shing Yeh</b>	Good	96%	4%	0%	0%
<b>Kwun Yam</b>	Good	84%	16%	0%	0%
<b>Lo So Shing</b>	Good	84%	16%	0%	0%
<b>Lower Cheung Sha</b>	Good	63%	34%	3%	0%
<b>Pui O</b>	Good	50%	50%	0%	0%
<b>Silver Mine Bay</b>	Fair	35%	56%	9%	0%
<b>Tong Fuk</b>	Good	75%	25%	0%	0%
<b>Upper Cheung Sha</b>	Good	81%	19%	0%	0%

### Annual beach rankings from 1997 to 2008

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

### Annual beach rankings of 1997 and 2008 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)
2008	58.5% (24)	24.4% (10)	17.1% (7)	0% (0)

( ) No. of beaches



**Compliance with the Water Quality  
Objective at gazetted beaches, 1997 - 2008**

<b>Year</b>	<b>Percentage of Compliance</b>
<b>1997</b>	63%
<b>1998</b>	78%
<b>1999</b>	85%
<b>2000</b>	85%
<b>2001</b>	83%
<b>2002</b>	80%
<b>2003</b>	83%
<b>2004</b>	83%
<b>2005</b>	83%
<b>2006</b>	83%
<b>2007</b>	83%
<b>2008</b>	83%

**Annual geometric mean *E. coli* levels by district, 1997 - 2008**

<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

Annual geometric mean *E. coli* levels (1997 - 2008)

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

Note:

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

## Beach visitor numbers, 2008

Beach	Daily Average		Peak Day	Peak Month	Total
	Weekdays	Weekends & Public Holidays			
<b>Southern District</b>					
Big Wave Bay	199	1,265	3,900	27,455	134,047
Chung Hom Kok	286	1,021	2,300	20,220	128,910
Deep Water Bay	1,768	6,854	38,000	184,200	840,075
Hairpin	114	450	1,000	8,800	54,860
Middle Bay	53	405	1,400	11,000	41,100
Repulse Bay	6,924	10,978	19,000	302,695	2,020,773
Rocky Bay	-	-	-	-	-
Shek O	711	3,639	20,000	112,600	408,400
South Bay	109	861	3,700	20,917	86,981
St. Stephen's	185	459	1,380	11,435	67,264
Stanley Main	704	3,282	28,000	66,040	378,639
Turtle Cove	66	300	1,320	7,005	34,885
<b>Sai Kung District</b>					
Clear Water Bay First	97	502	3,025	11,497	56,095
Clear Water Bay Second	2,297	9,451	37,500	303,000	1,135,150
Hap Mun Bay	517	1,413	5,580	58,852	198,381
Kiu Tsui	35	324	966	5,477	31,723
Silverstrand	218	560	2,113	18,790	80,788
Trio	246	854	4,020	30,450	108,995
<b>Tsuen Wan District</b>					
Anglers'	45	102	2,828	4,036	15,551
Approach	85	84	231	2,777	20,712
Casam	14	14	65	525	3,388
Gemini	5	6	20	202	1,368
Hoi Mei Wan	6	7	20	229	1,611
Lido	90	121	295	3,335	24,432
Ma Wan Tung Wan	221	1,212	3,568	23,780	133,424
Ting Kau	22	21	50	756	5,298
<b>Tuen Mun District</b>					
Butterfly	789	1,506	3,400	37,800	250,745
Cafeteria New	818	1,827	4,520	62,890	281,130
Cafeteria Old	657	1,432	3,400	38,790	223,030
Castle Peak	428	1,353	1,800	23,850	178,800
Golden	1,750	5,748	11,500	122,800	748,540
Kadoorie	520	835	1,600	28,550	152,560
<b>Outlying Islands</b>					
Cheung Chau Tung Wan	124	357	2,000	12,470	49,050
Hung Shing Yeh	167	716	1,800	15,380	84,890
Kwun Yam	72	176	575	5,805	25,915
Lo So Shing	45	141	360	3,230	18,650
Lower Cheung Sha	66	172	470	5,580	24,620
Pui O	189	477	1,260	14,110	69,360
Silver Mine Bay	169	526	13,250	21,345	70,005
Tong Fuk	95	199	700	7,410	31,510
Upper Cheung Sha	71	100	250	3,430	19,680

Note: Information provided by the Leisure and Cultural Services Department

Physicochemical water quality data of gazetted beaches, 2008

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
<b>Southern District</b>						
Big Wave Bay	8.4 ( 8.1 - 9.0 )	28.4 ( 15.1 - 33.0 )	6.4 ( 2.8 - 8.4 )	25.4 ( 15.7 - 30.0 )	7.1 ( 6.2 - 8.3 )	98 ( 88 - 116 )
Chung Hom Kok	8.4 ( 8.1 - 8.7 )	29.0 ( 17.8 - 32.9 )	6.8 ( 2.5 - 20.8 )	25.5 ( 16.7 - 30.8 )	6.8 ( 5.3 - 9.0 )	94 ( 70 - 122 )
Deep Water Bay	8.4 ( 8.1 - 8.7 )	28.0 ( 13.8 - 33.0 )	8.1 ( 2.9 - 15.8 )	25.7 ( 17.4 - 30.8 )	6.9 ( 4.5 - 8.9 )	96 ( 75 - 123 )
Hairpin [Closed]	8.5 ( 8.2 - 9.0 )	28.7 ( 13.5 - 33.3 )	6.3 ( 1.6 - 13.6 )	26.1 ( 16.1 - 30.1 )	7.3 ( 5.5 - 9.7 )	101 ( 84 - 126 )
Middle Bay	8.4 ( 8.2 - 8.7 )	28.8 ( 17.0 - 32.8 )	7.5 ( 2.4 - 19.2 )	25.4 ( 17.1 - 29.5 )	6.9 ( 5.3 - 8.9 )	96 ( 75 - 122 )
Repulse Bay	8.4 ( 8.2 - 8.8 )	28.8 ( 17.0 - 33.1 )	6.7 ( 1.9 - 11.5 )	25.3 ( 16.0 - 29.8 )	6.9 ( 5.7 - 8.9 )	98 ( 81 - 117 )
Rocky Bay [Closed]	8.3 ( 7.5 - 8.7 )	29.9 ( 20.6 - 33.1 )	6.5 ( 2.5 - 8.6 )	25.3 ( 16.7 - 30.3 )	7.1 ( 5.7 - 8.7 )	98 ( 88 - 110 )
Shek O	8.4 ( 8.1 - 9.1 )	29.7 ( 19.8 - 33.2 )	6.8 ( 2.6 - 12.2 )	25.6 ( 16.7 - 30.0 )	7.1 ( 5.8 - 10.0 )	99 ( 89 - 130 )
South Bay	8.4 ( 8.2 - 8.7 )	28.8 ( 16.5 - 32.9 )	6.7 ( 2.9 - 17.4 )	25.5 ( 16.5 - 29.8 )	6.8 ( 5.1 - 8.9 )	95 ( 71 - 125 )
St. Stephen's	8.4 ( 8.2 - 8.9 )	28.5 ( 17.1 - 33.1 )	6.8 ( 1.5 - 28.5 )	25.4 ( 15.9 - 30.4 )	6.9 ( 5.3 - 9.3 )	97 ( 74 - 124 )
Stanley Main	8.5 ( 8.1 - 9.0 )	28.2 ( 13.3 - 33.0 )	8.2 ( 1.5 - 43.2 )	26.2 ( 16.7 - 30.4 )	7.2 ( 5.6 - 8.8 )	101 ( 85 - 126 )
Turtle Cove	8.5 ( 8.2 - 9.0 )	27.9 ( 11.7 - 32.9 )	9.6 ( 1.8 - 66.0 )	26.1 ( 15.7 - 30.3 )	7.1 ( 5.0 - 9.0 )	98 ( 77 - 120 )
<b>Sai Kung District</b>						
Clear Water Bay First	8.5 ( 8.2 - 8.8 )	28.9 ( 16.5 - 33.1 )	7.8 ( 2.4 - 18.5 )	25.9 ( 16.0 - 30.4 )	6.7 ( 4.7 - 7.9 )	94 ( 63 - 105 )
Clear Water Bay Second	8.5 ( 8.2 - 8.8 )	29.3 ( 15.4 - 32.9 )	7.4 ( 2.2 - 14.1 )	26.2 ( 16.4 - 30.8 )	6.7 ( 4.9 - 8.1 )	94 ( 78 - 107 )
Hap Mun Bay	8.4 ( 8.2 - 8.8 )	29.5 ( 19.2 - 32.9 )	5.7 ( 1.2 - 9.5 )	26.3 ( 15.4 - 31.1 )	6.8 ( 4.9 - 8.4 )	96 ( 70 - 123 )
Kiu Tsui	8.4 ( 8.2 - 8.8 )	29.0 ( 19.9 - 32.7 )	6.0 ( 1.4 - 14.2 )	26.3 ( 16.1 - 31.2 )	7.0 ( 5.1 - 8.7 )	100 ( 71 - 130 )
Silverstrand	8.4 ( 7.7 - 8.7 )	28.3 ( 16.6 - 32.6 )	7.8 ( 1.6 - 34.9 )	26.1 ( 16.0 - 30.6 )	6.9 ( 5.7 - 7.9 )	98 ( 86 - 124 )
Trio	8.4 ( 8.2 - 8.8 )	27.9 ( 11.9 - 32.7 )	5.7 ( 1.5 - 7.8 )	26.6 ( 16.3 - 31.3 )	6.8 ( 5.4 - 8.1 )	96 ( 83 - 113 )
<b>Tsuen Wan District</b>						
Anglers' [Closed]	8.3 ( 7.9 - 8.5 )	26.5 ( 10.5 - 31.3 )	7.2 ( 3.1 - 11.2 )	25.4 ( 17.0 - 30.0 )	6.7 ( 5.3 - 8.0 )	92 ( 73 - 113 )
Approach [Closed]	8.3 ( 8.0 - 8.5 )	25.8 ( 13.3 - 30.6 )	7.3 ( 5.1 - 14.5 )	24.9 ( 16.0 - 28.1 )	6.8 ( 5.0 - 9.6 )	94 ( 68 - 129 )
Casam [Closed]	8.3 ( 8.0 - 8.5 )	26.4 ( 14.4 - 31.1 )	7.1 ( 4.2 - 10.6 )	25.3 ( 16.0 - 29.0 )	6.8 ( 5.3 - 8.5 )	94 ( 73 - 118 )
Gemini [Closed]	8.3 ( 7.9 - 8.5 )	26.2 ( 10.7 - 31.2 )	7.0 ( 3.3 - 18.5 )	25.3 ( 16.0 - 31.0 )	6.6 ( 5.3 - 8.2 )	91 ( 72 - 104 )
Hoi Mei Wan [Closed]	8.3 ( 8.0 - 8.5 )	25.9 ( 14.2 - 30.7 )	6.5 ( 3.3 - 7.9 )	25.5 ( 17.0 - 30.0 )	6.6 ( 5.6 - 8.4 )	91 ( 70 - 104 )
Lido [Closed]	8.3 ( 8.0 - 8.5 )	26.5 ( 14.9 - 30.7 )	6.9 ( 3.5 - 11.3 )	25.3 ( 16.0 - 29.4 )	6.6 ( 5.3 - 8.4 )	92 ( 70 - 110 )
Ma Wan Tung Wan	8.3 ( 8.0 - 8.7 )	27.3 ( 17.3 - 31.1 )	9.7 ( 4.2 - 35.6 )	26.5 ( 17.0 - 31.8 )	7.0 ( 5.6 - 9.5 )	97 ( 79 - 135 )
Ting Kau [Closed]	8.3 ( 8.0 - 8.5 )	25.7 ( 14.3 - 30.7 )	7.0 ( 3.6 - 19.5 )	25.2 ( 16.0 - 29.0 )	6.6 ( 5.1 - 8.2 )	92 ( 75 - 111 )
<b>Tuen Mun District</b>						
Butterfly	8.3 ( 7.9 - 8.8 )	23.0 ( 6.2 - 30.0 )	9.4 ( 3.7 - 37.5 )	26.7 ( 17.7 - 30.1 )	6.8 ( 5.2 - 8.8 )	96 ( 78 - 136 )
Cafeteria New	8.3 ( 8.1 - 8.8 )	22.6 ( 7.0 - 30.5 )	12.0 ( 4.7 - 24.8 )	26.3 ( 16.9 - 29.9 )	6.9 ( 5.4 - 8.3 )	98 ( 85 - 113 )
Cafeteria Old	8.3 ( 8.0 - 8.7 )	22.5 ( 6.1 - 30.1 )	10.1 ( 5.0 - 23.0 )	26.3 ( 16.8 - 30.2 )	6.9 ( 5.2 - 8.4 )	97 ( 71 - 114 )
Castle Peak	8.3 ( 8.0 - 8.8 )	22.4 ( 5.0 - 30.4 )	8.8 ( 5.4 - 30.5 )	26.8 ( 17.7 - 30.4 )	7.0 ( 5.3 - 9.7 )	100 ( 75 - 147 )
Golden	8.3 ( 8.0 - 8.8 )	22.7 ( 7.2 - 30.6 )	13.5 ( 5.2 - 29.6 )	26.2 ( 16.8 - 29.8 )	6.9 ( 5.7 - 8.1 )	97 ( 81 - 113 )
Kadoorie	8.3 ( 8.0 - 8.8 )	22.7 ( 6.8 - 30.3 )	8.9 ( 2.7 - 32.3 )	26.5 ( 16.9 - 30.3 )	6.9 ( 5.2 - 8.4 )	97 ( 78 - 124 )

<b>Outlying Islands</b>						
Cheung Chau Tung Wan	8.3 ( 8.0 - 8.8 )	27.7 ( 15.2 - 31.4 )	7.9 ( 4.4 - 20.1 )	25.7 ( 17.0 - 29.6 )	7.0 ( 6.0 - 8.3 )	96 ( 78 - 118 )
Hung Shing Yeh	8.4 ( 8.2 - 8.9 )	27.5 ( 11.1 - 33.2 )	8.0 ( 5.2 - 16.4 )	26.0 ( 17.8 - 30.4 )	7.0 ( 6.2 - 9.4 )	97 ( 89 - 130 )
Kwun Yam	8.3 ( 7.9 - 8.8 )	27.4 ( 15.0 - 31.4 )	8.3 ( 4.1 - 32.0 )	25.6 ( 17.0 - 29.3 )	7.0 ( 6.0 - 8.5 )	95 ( 78 - 120 )
Lo So Shing	8.4 ( 7.8 - 9.0 )	27.6 ( 9.7 - 33.1 )	7.6 ( 2.1 - 22.0 )	25.6 ( 16.0 - 31.0 )	7.4 ( 6.4 - 9.2 )	100 ( 91 - 128 )
Lower Cheung Sha	8.4 ( 8.1 - 8.8 )	26.0 ( 12.9 - 32.1 )	11.8 ( 5.8 - 28.8 )	26.6 ( 17.2 - 30.6 )	6.8 ( 5.3 - 7.9 )	94 ( 68 - 107 )
Pui O	8.4 ( 8.1 - 8.9 )	25.5 ( 8.8 - 32.4 )	14.6 ( 5.7 - 30.0 )	26.9 ( 17.3 - 30.5 )	6.6 ( 5.1 - 7.9 )	93 ( 68 - 103 )
Silver Mine Bay	8.3 ( 8.0 - 8.9 )	23.3 ( 7.0 - 31.5 )	10.4 ( 3.6 - 39.3 )	26.9 ( 17.6 - 30.4 )	6.4 ( 3.0 - 8.8 )	91 ( 41 - 130 )
Tong Fuk	8.4 ( 8.1 - 8.7 )	26.3 ( 12.5 - 32.1 )	10.2 ( 3.4 - 23.6 )	26.5 ( 16.9 - 30.4 )	7.0 ( 6.3 - 7.9 )	98 ( 84 - 109 )
Upper Cheung Sha	8.4 ( 8.2 - 8.8 )	26.0 ( 11.2 - 32.2 )	12.3 ( 3.0 - 40.8 )	26.5 ( 17.2 - 30.1 )	7.0 ( 6.2 - 8.1 )	97 ( 79 - 113 )

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

Footnote:

1. Practical Salinity Unit
2. Nephelometric Turbidity Unit