

# 香港泳灘水質 2014

*Beach Water Quality in Hong Kong*

為更佳泳灘水質而努力

*Strive for better beach water quality*



環境保護署

香港特別行政區政府

Environmental Protection Department

The Government of the Hong Kong Special Administrative Region





# Beach Water Quality in Hong Kong 2014



## *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*



Beaches in Hong Kong are popular places for both local people and tourists to enjoy their leisure time





# Beach Water Quality in Hong Kong 2014



## Introduction

Hong Kong has many beautiful and attractive beaches with white sands along its long and twisting coastline. Each year, millions of beach-goers enjoy bathing in these beaches with clean water.

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 its [Hong Kong Water Quality Resource Centre \(HKWQRC\) 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).



The beach is a perfect place for kids to play and enjoy sunshine





# Beach Water Quality in Hong Kong 2014



This report summarises the beach monitoring data collected in 2014, the gradings of the beaches and their annual compliance with the Water Quality Objective (WQO) for bathing beaches. In 2014, 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 *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.



EPD staff monitoring beach water quality



Bacteriological analysis of beach water  
at EPD's microbiology laboratory

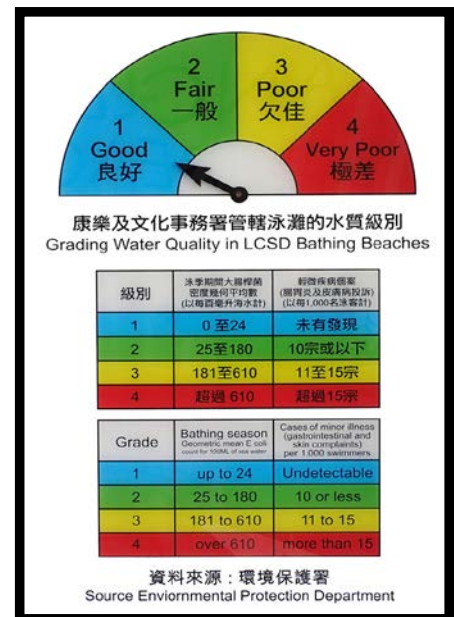




# Beach Water Quality in Hong Kong 2014



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.



Beach water quality  
grading board

## Annual Beach Ranking in 2014



Clear Water Bay First Beach

All 41 gazetted beaches in Hong Kong complied with the WQO in 2014. Although the total rainfall recorded during the bathing season in 2014 (2523 mm) was 5.5% lower than that in 2013 (2671 mm), the accumulated rainfall was above normal for the same period. There were frequent heavy rainstorms in the territory from April, and the total rainfall in May was more than double the normal amount. There were occasional increases in the *E. coli* levels in beach water, which were recorded mostly for

beaches in the western side of Hong Kong. The *E. coli* levels were, however, still generally within the normal range of fluctuation of their bacteriological water quality. Compared with the ranking in 2013, the number of beaches ranked as "Good" has changed from 24 (or 59 %) to 23 (or 56 %) and the number of beaches ranked as "Fair" has changed from 17 (or 41%) to 18 (or 44%). No beach was ranked as "Poor" or "Very Poor" in 2014.



# Beach Water Quality in Hong Kong 2014



Shek O Beach - great place for taking photos

The beaches with a "Good" water quality ranking were largely located in the Southern District (Hong Kong Island South), Outlying Islands and Sai Kung. Eleven of the 12 beaches in the Southern District were ranked as "Good" in 2014. The ranking of Big Wave Bay Beach has changed to "Fair", but the change in *E.coli* levels was not statistically significant. Of the nine beaches on the Outlying Islands, seven were ranked as "Good" while Silver Mine Bay Beach and Pui O Beach were rated as "Fair". In the Sai Kung area, five beaches were "Good" in 2014 with Silverstrand Beach rated as "Fair". On the western side, all six beaches along the Tuen Mun coast and all eight beaches in the Tsuen Wan District received a "Fair" ranking in 2014.

The water quality of the Tsuen Wan beaches has been stable in 2014 following improvement in previous years, which is mainly due to the smooth operation of the Advance Disinfection Facilities (ADF) of the Stonecutters Island Sewage Treatment Works since March 2010, and the completion of the sewerage works in the hinterland of the beaches.





# Beach Water Quality in Hong Kong 2014



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, have been reopened to the public for swimming since June 2011. After the upgrading of beach facilities, Anglers' Beach and Ting Kau Beach have been reopened for swimming since September 2013 and April 2014 respectively. The Leisure and Cultural Services Department has also reopened Gemini Beaches for public use after the completion of improvement works in 2014, but the beach is not open for swimming since there is no lifeguard service.



Scenic Ting Kau Beach



Lung Mei (a planned artificial beach in Tai Po)

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. In 2014, Discovery Bay and the beach adjacent to Kiu Tsui Beach continued to be ranked as "Good". Lung Mei changed from "Poor" in 2013 to "Fair" in 2014. The public sewerage network is

being extended to villages in the Lung Mei area, and other pollution abatement measures will be implemented to further improve the water quality.



# Beach Water Quality in Hong Kong 2014



## Weekly Beach Grading in 2014

The EPD issues weekly gradings of gazetted beaches which are open for swimming. The information is disseminated to the public through weekly press release, EPD's websites, the beach enquiry hotline, GeoInfo Map of the GovHK website and noticeboards at the beaches.

In 2014, the water quality of beaches in the Southern District was largely satisfactory. All ten gazetted beaches received mostly "Good" or "Fair" grading in the bathing season, while Big Wave Bay Beach, Chung Hom Kok Beach and Shek O Beach were rated as "Very Poor" on one or two occasions after heavy rain. South Bay Beach continued to have the best water quality, achieving "Good" gradings on all rating occasions.

The beaches on the Outlying Islands were generally suitable for swimming, with Tong Fuk Beach achieving 100% "Good" gradings. Hung Shing Yeh Beach, Lo So Shing Beach and Upper Cheung Sha Beach achieved "Good" gradings over 90% of the occasions, while Kwun Yam Beach achieved "Good" gradings close to 90% of the time. Pui O Beach was rated as "Very Poor" on two occasions after heavy rain.



Getting away from the crowds at Upper Cheung Sha Beach





# Beach Water Quality in Hong Kong 2014



The water quality of the Sai Kung beaches was also generally good with weekly gradings mostly "Good" or "Fair". Except Clear Water Bay First Beach and Hap Mun Bay Beach, other beaches were rated as "Very Poor" on one or a few occasions after heavy rain. Clear Water Bay Second Beach was also rated as "Very Poor" once due to the temporary malfunction of the sewerage network of the beach facilities.



Hap Mun Bay Beach - one of the favourite beaches in Sai Kung

The water quality of the beaches in Tuen Mun area was generally fine and nearly all graded as "Good" or "Fair". Castle Peak Beach and Golden Beach were rated as "Very Poor" once after heavy rain.

The water quality of the beaches in Tsuen Wan was generally satisfactory with gradings mostly at "Fair". Only Anglers' Beach was rated as "Very Poor" after heavy rain on one occasion.

The 14 beaches in Tuen Mun and Tsuen Wan districts had been temporarily closed on August 25 and 26 as a precaution following the equipment breakdown and emergency bypass of sewage at the Pillar Point Sewage Treatment Works. They were reopened on August 27 after confirmation that the water quality was suitable for swimming.





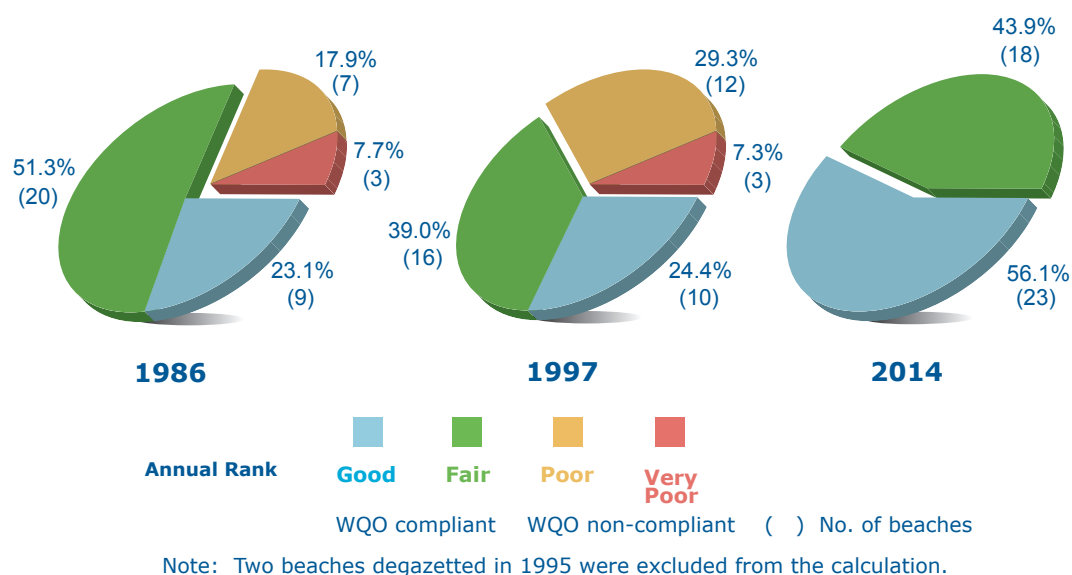
# Beach Water Quality in Hong Kong 2014



## Water Quality Trend

The beach water quality in Hong Kong is able to fully comply with the WQO for the last five years. The percentage of beaches complying with the WQO had changed from 74% in 1986 (29 of 39 beaches) to 63% (26 of 41 beaches) in 1997, and then improved to 100% since 2010 for all 41 gazetted beaches.

## Comparison of annual beach ranking of gazetted beaches in 1986, 1997 and 2014



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.

There was a further 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.





# Beach Water Quality in Hong Kong 2014



Major improvement measures for the beaches since the implementation of beach water quality monitoring programme in 1986	
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 the 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 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 the 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 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
2006 - 2014	
✳ Commissioning of the Advance Disinfection Facilities at the 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



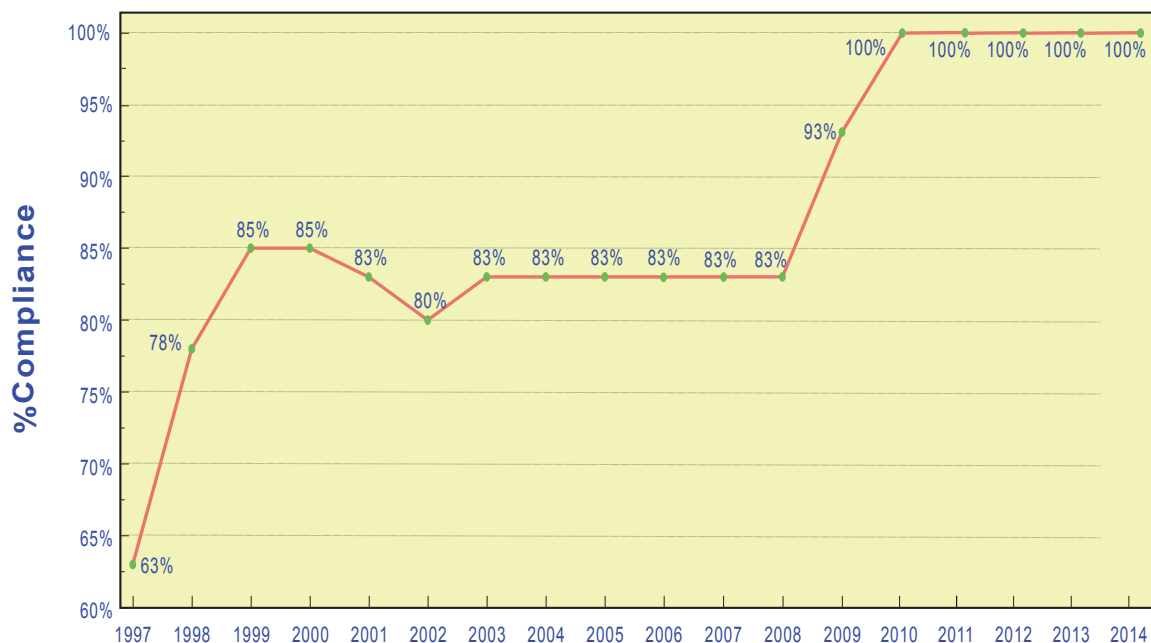


# Beach Water Quality in Hong Kong 2014



Through continuous efforts of the government to implement pollution abatement measures over the years, there was significant improvement at the beaches in various districts in the last few years. Improvement at Silver Mine Bay Beach, Castle Peak Beach and Repulse Bay Beach was most remarkable as the beaches have consistently complied with the WQO in recent years. All beaches in Tsuen Wan have met the WQO since 2010. To sum up, all of Hong Kong's bathing beaches have now achieved the required standard for swimming.

## Compliance with WQO at gazetted beaches, 1997 - 2014





# Beach Water Quality in Hong Kong 2014



Water quality trend lines of gazetted beaches over the last 29 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 \(HKWQRC\) 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), which provides user-friendly access to the annual beach reports as well as data published since 2000.

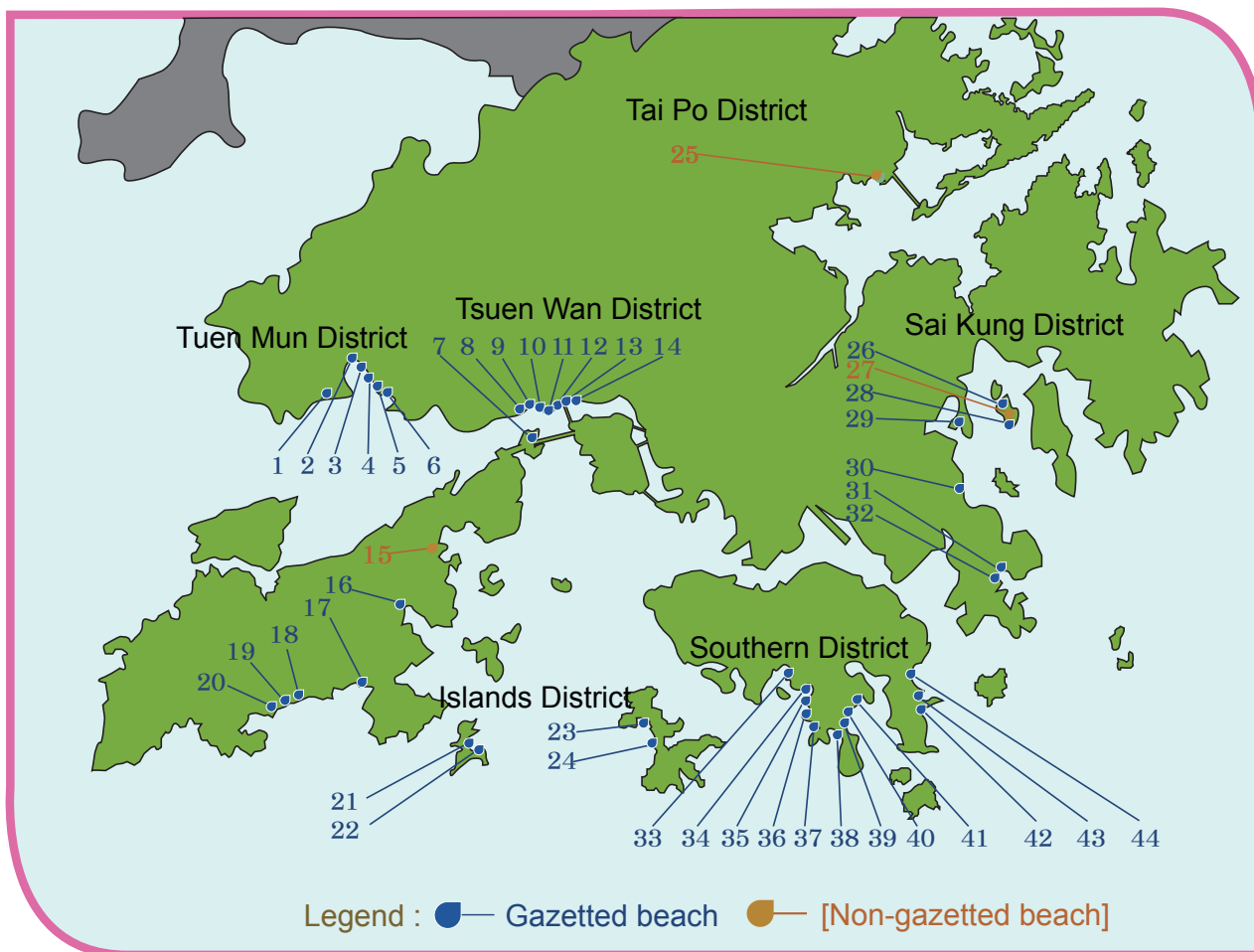


Family fun day at Stanley Main Beach



# Beach Water Quality in Hong Kong 2014

## Beaches monitored by the EPD



### Tuen Mun District

1. Butterfly
2. Castle Peak
3. Kadoorie
4. Cafeteria Old
5. Cafeteria New
6. Golden

### Tsuen Wan District

7. Ma Wan Tung Wan
8. Anglers'
9. Gemini
10. Hoi Mei Wan
11. Casam
12. Lido
13. Ting Kau
14. Approach

### Islands District

15. [Discovery Bay]
16. Silver Mine Bay
17. Pui O
18. Lower Cheung Sha
19. Upper Cheung Sha
20. Tong Fuk
21. Cheung Chau Tung Wan
22. Kwun Yam
23. Hung Shing Yeh
24. Lo So Shing

### Tai Po District

25. [Lung Mei]

### Sai Kung District

26. Kiu Tsui
27. [Kiu Tsui (New)]
28. Hap Mun Bay
29. Trio
30. Silverstrand
31. Clear Water Bay First
32. Clear Water Bay Second

### Southern District

33. Deep Water Bay
34. Repulse Bay
35. Middle Bay
36. South Bay
37. Chung Hom Kok
38. St. Stephen's
39. Stanley Main
40. Hairpin
41. Turtle Cove
42. Shek O
43. Rocky Bay
44. Big Wave Bay





# Beach Water Quality in Hong Kong 2014



## Beaches 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

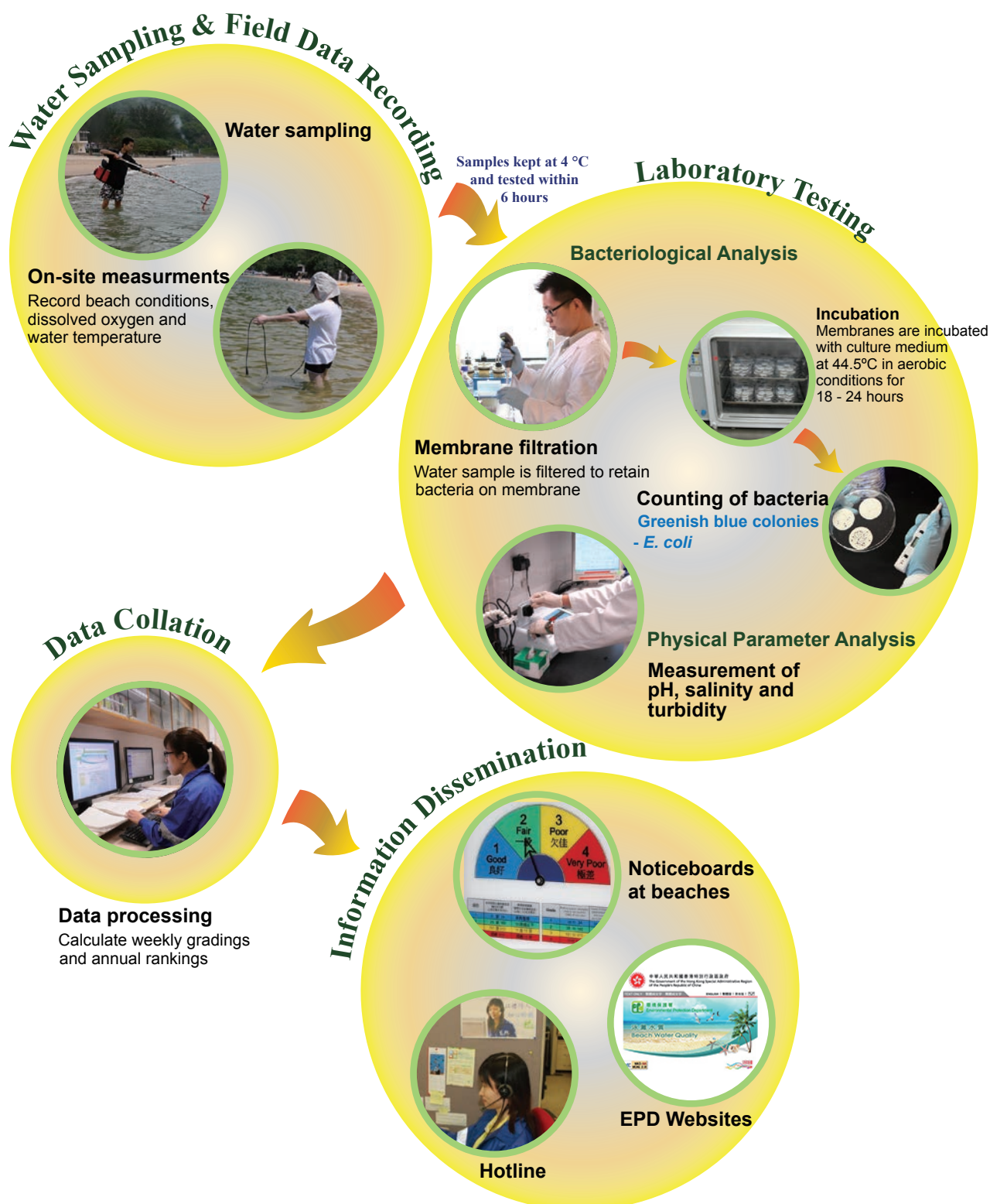
\*\* Clear Water Bay Second, Deep Water Bay, Golden and Silverstrand Beaches



# Beach Water Quality in Hong Kong 2014

## Overview of various stages of the Beach Monitoring Programme

The Monitoring Programme





# Beach Water Quality in Hong Kong 2014



## 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.

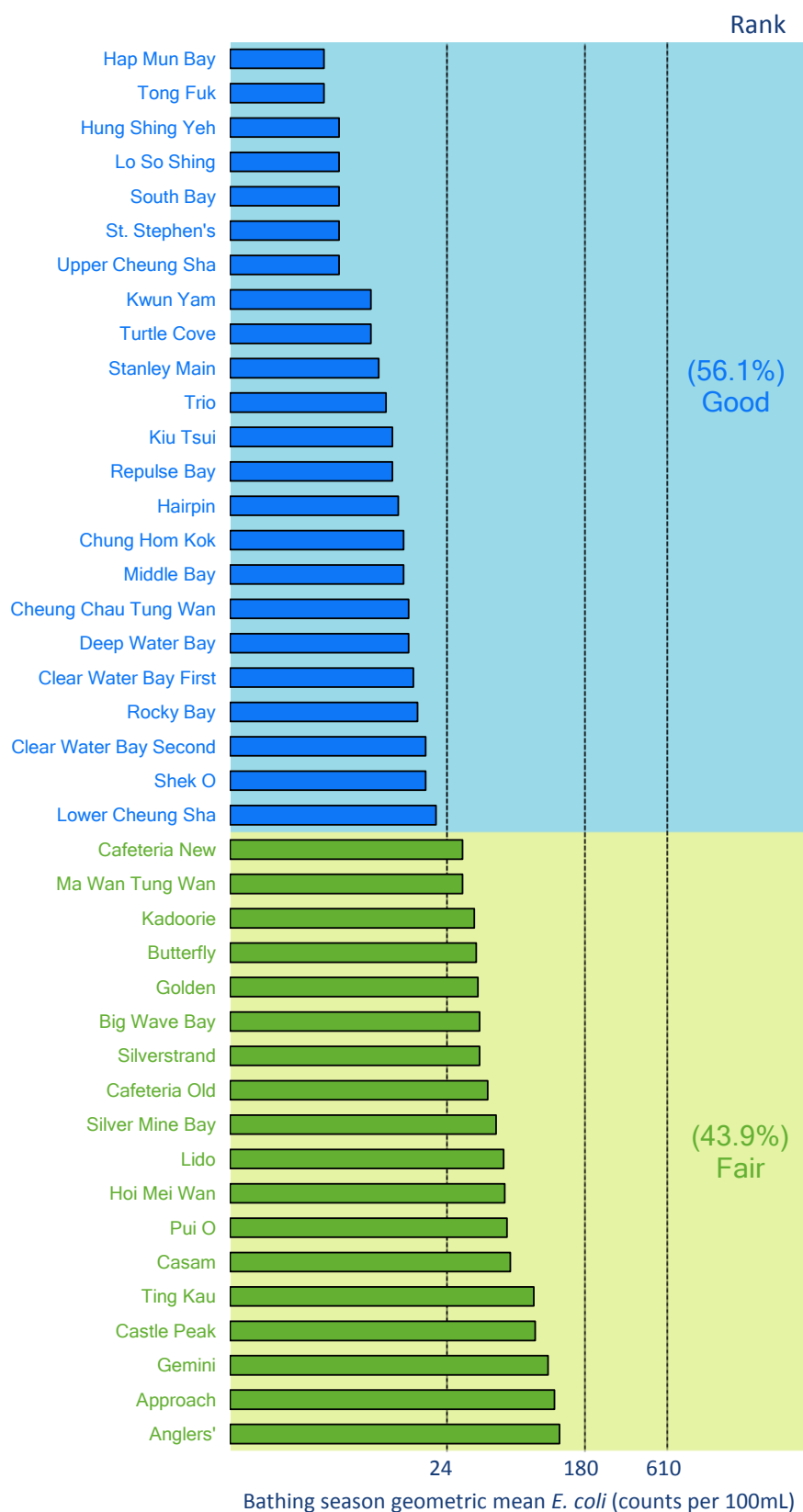
\*\* Skin and gastrointestinal illnesses



# Beach Water Quality in Hong Kong 2014

## Hong Kong's gazetted beaches 2014 annual ranking

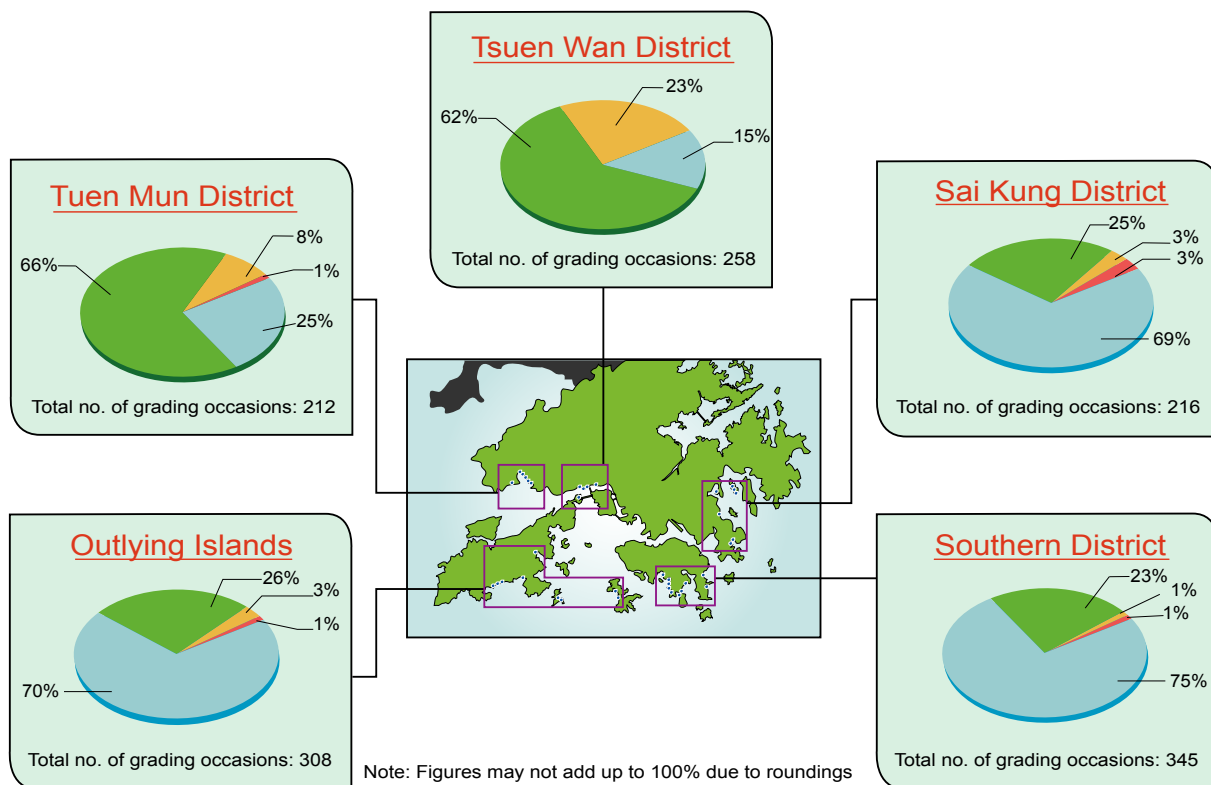
2014 Findings





# Beach Water Quality in Hong Kong 2014

## Weekly beach grading summary of gazetted beaches by district in 2014



Beach Grade

1

Good

2

Fair

3

Poor

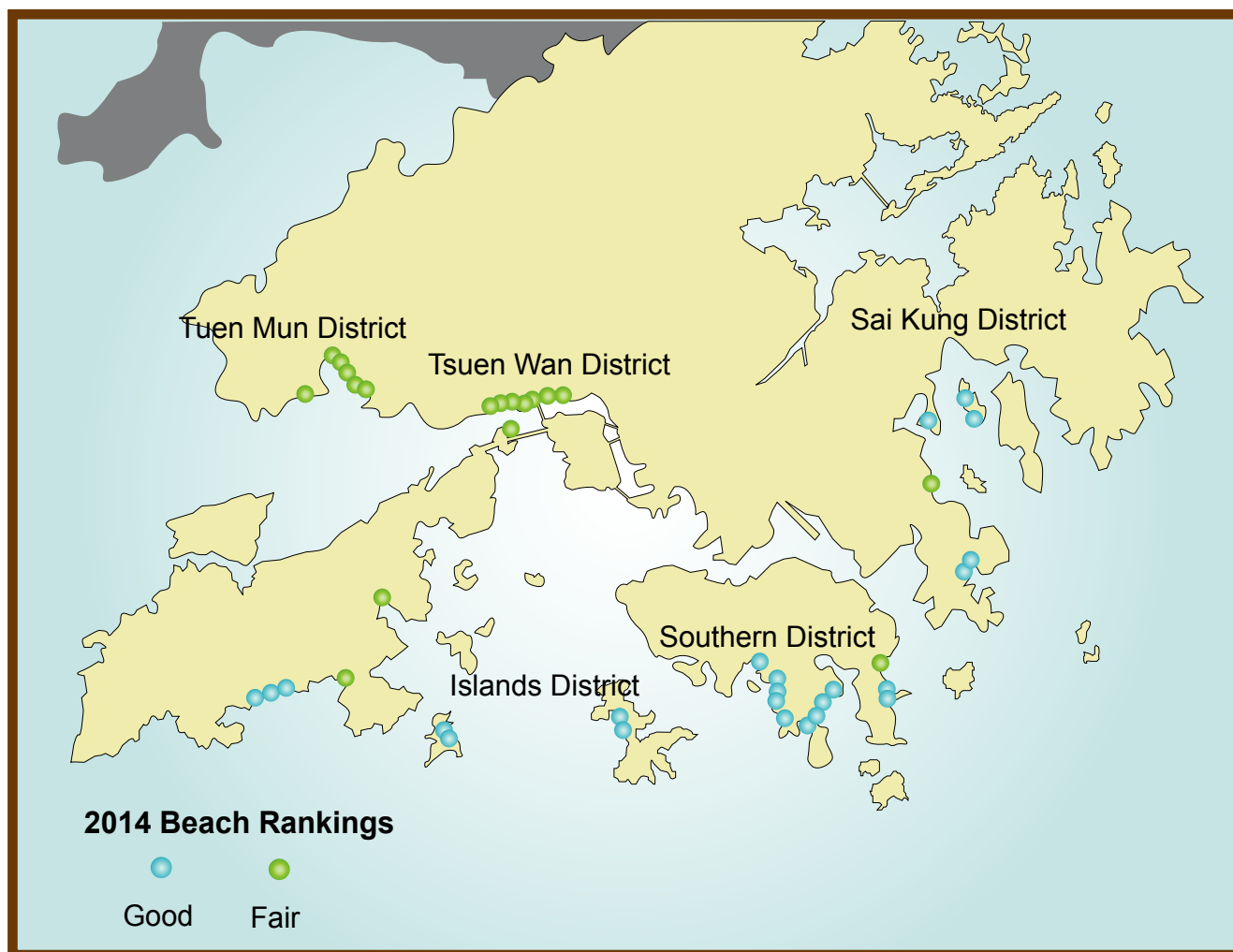
4

Very Poor

# Beach Water Quality in Hong Kong 2014



## Annual Ranking of gazetted beaches at a glance

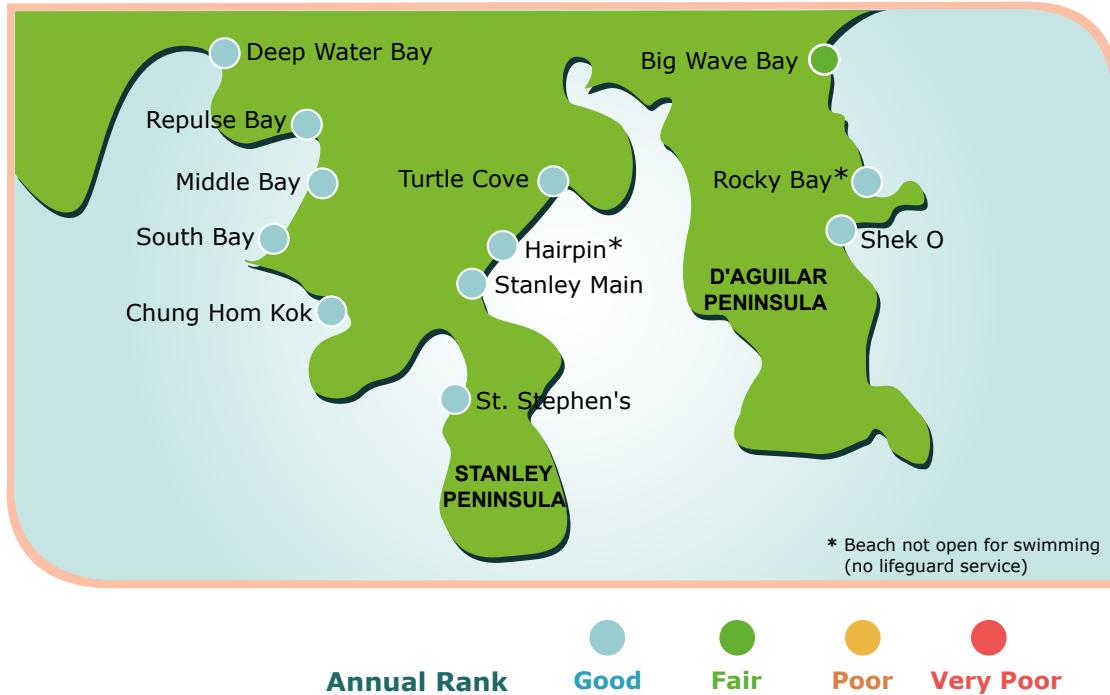




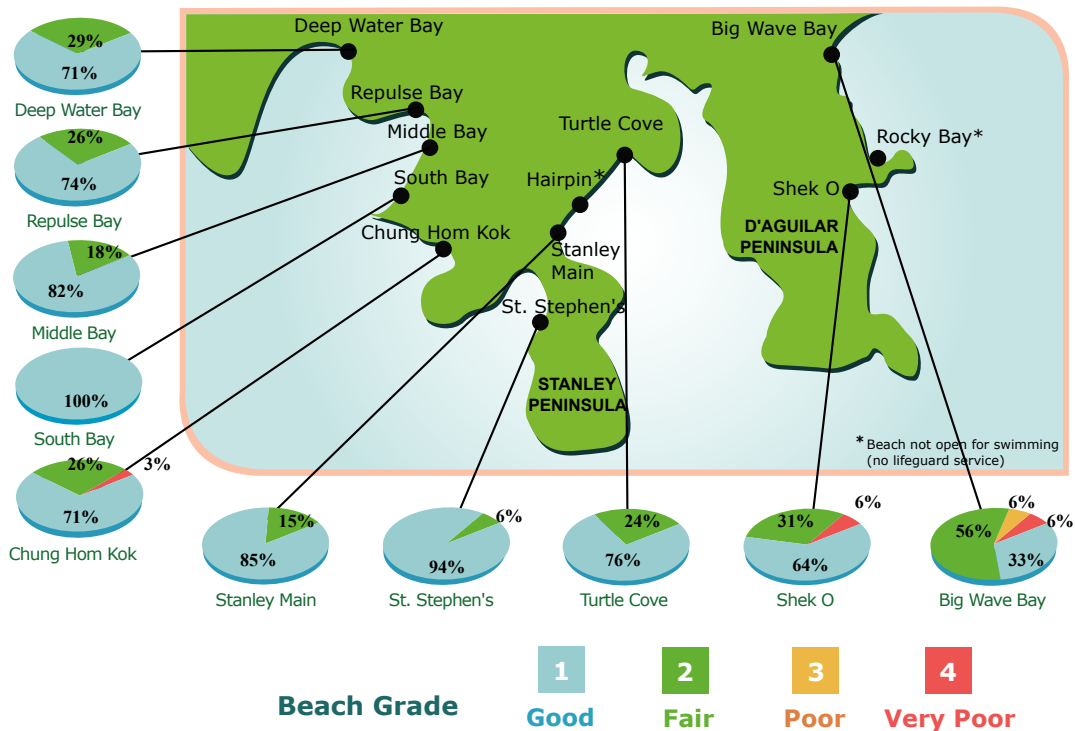
# Beach Water Quality in Hong Kong 2014

## Southern District beaches

### Annual ranking



### Weekly grading

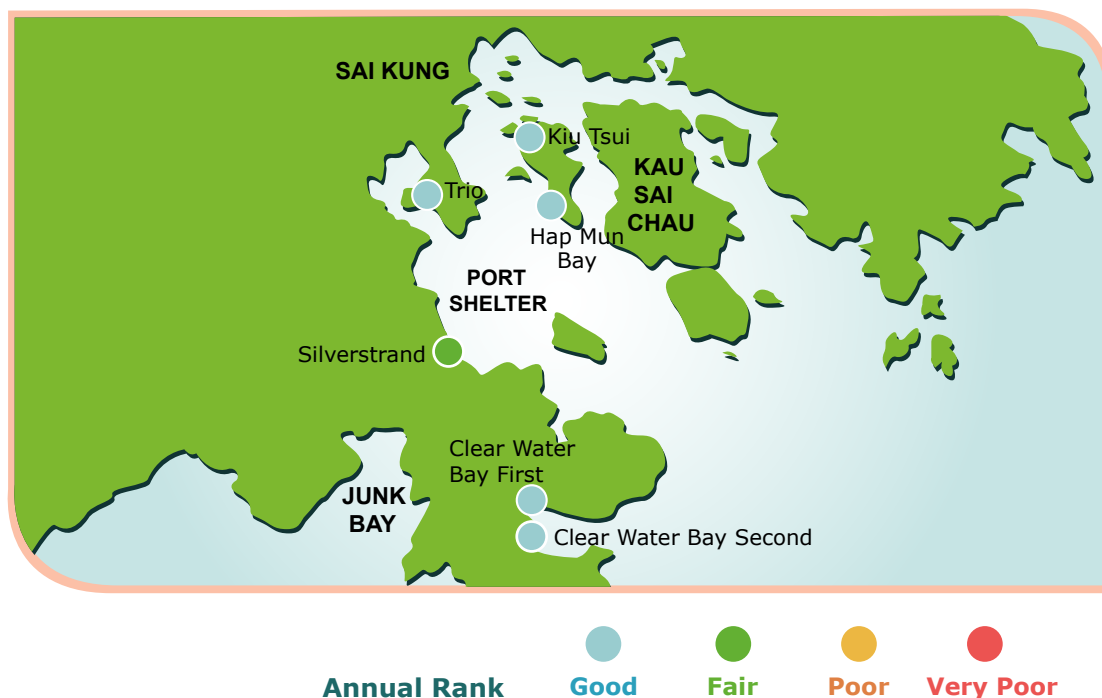


Note: Figures may not add up to 100% due to roundings; "\*" Beach not open for swimming. No grading was made.

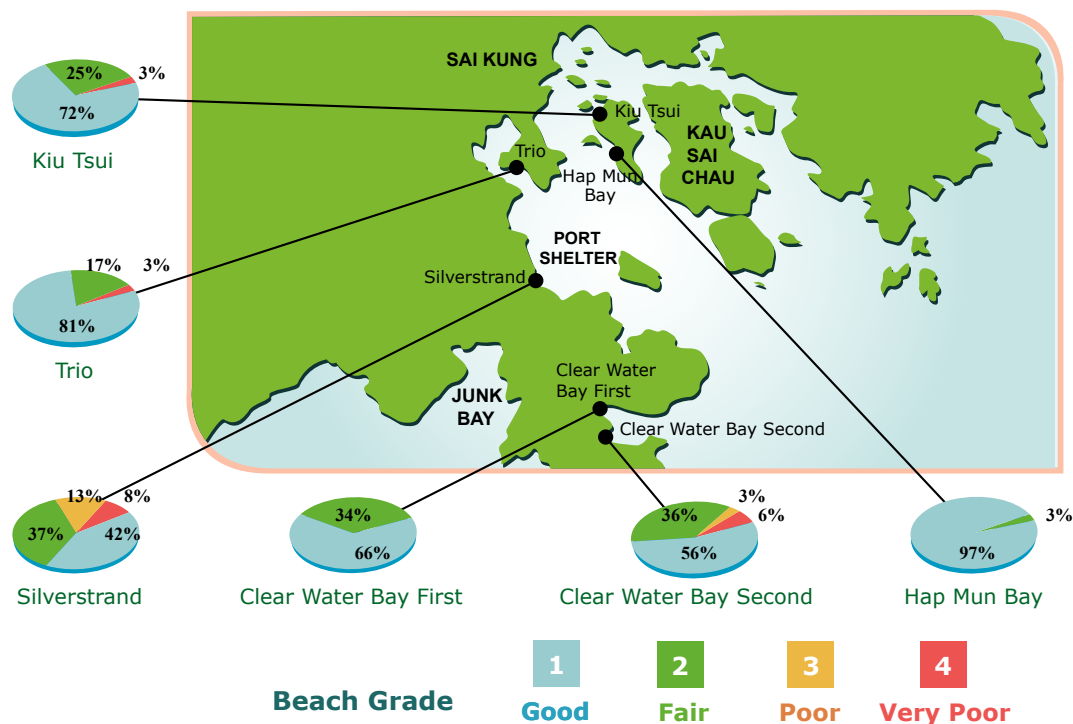
# Beach Water Quality in Hong Kong 2014

## Sai Kung beaches

### Annual ranking



### Weekly grading



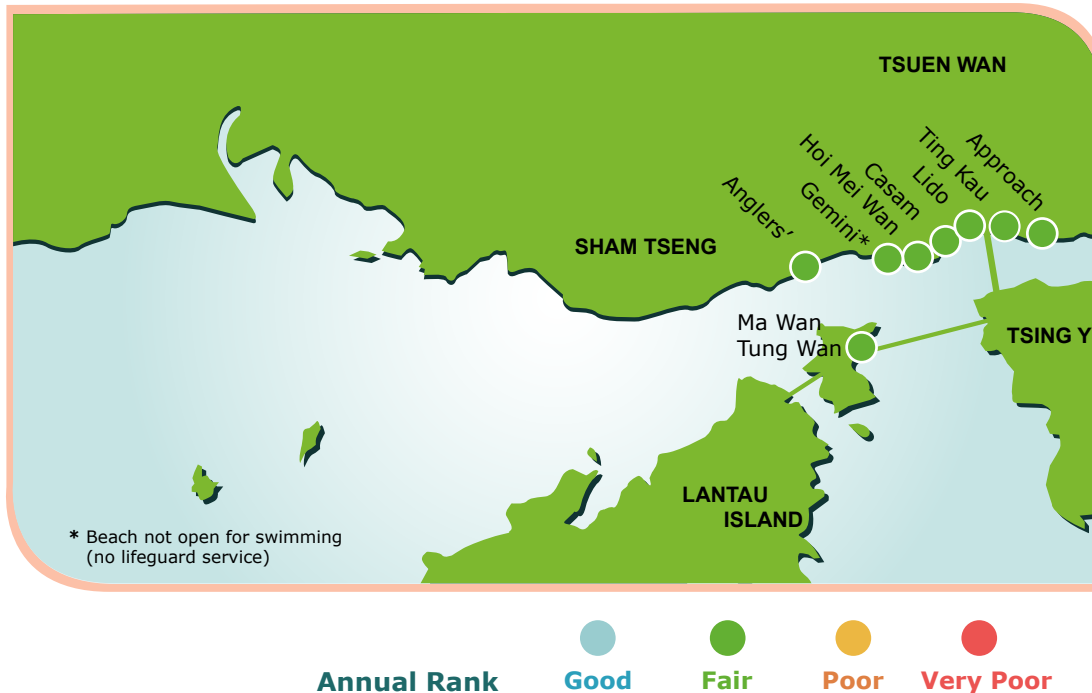
Note: Figures may not add up to 100% due to roundings



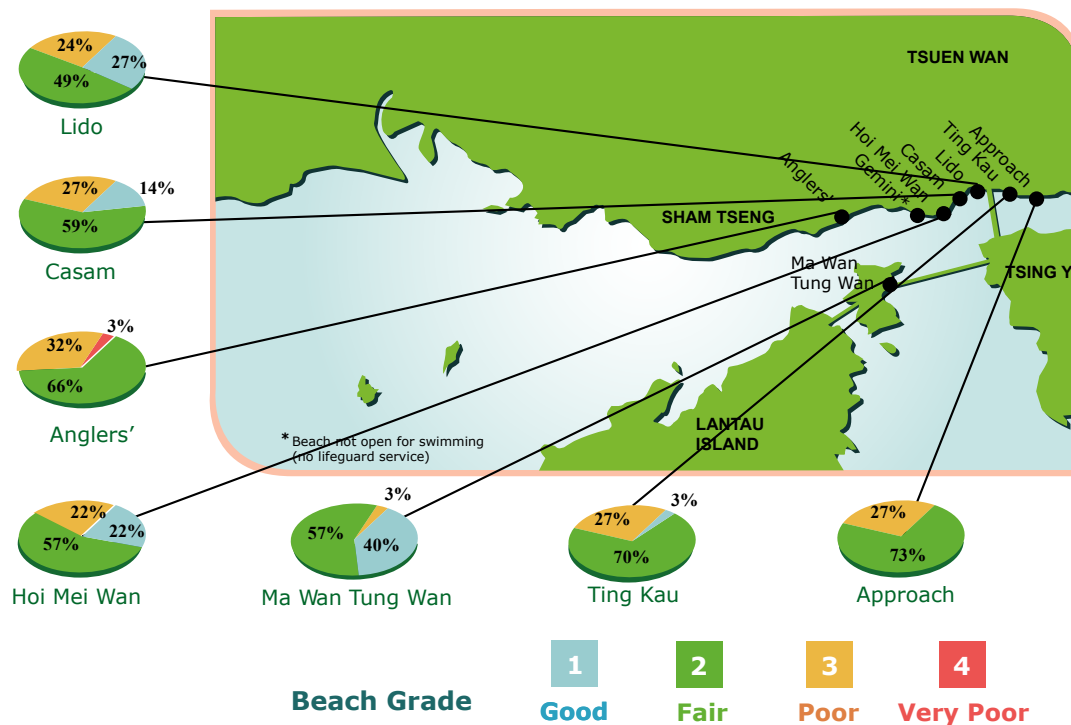
# Beach Water Quality in Hong Kong 2014

## Tsuen Wan beaches

### Annual ranking



### Weekly grading



Note: Figures may not add up to 100% due to roundings; "\*" Beach not open for swimming. No grading was made.

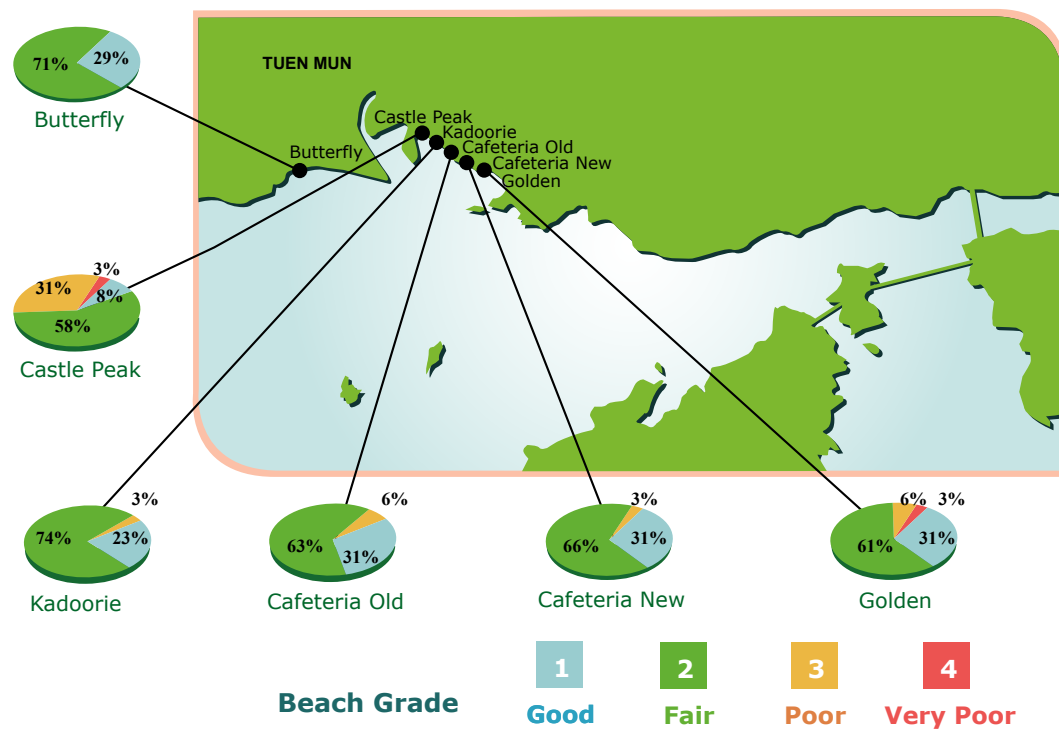
# Beach Water Quality in Hong Kong 2014

## Tuen Mun beaches

### Annual ranking



### Weekly grading



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



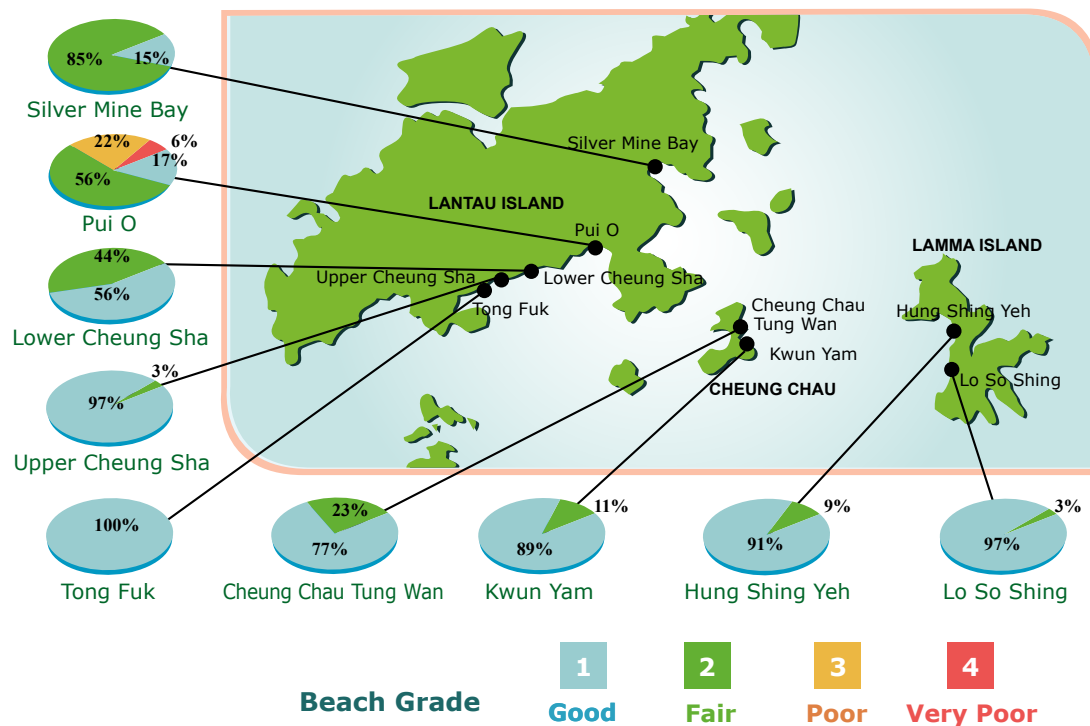
# Beach Water Quality in Hong Kong 2014

## Outlying Islands beaches

### Annual ranking



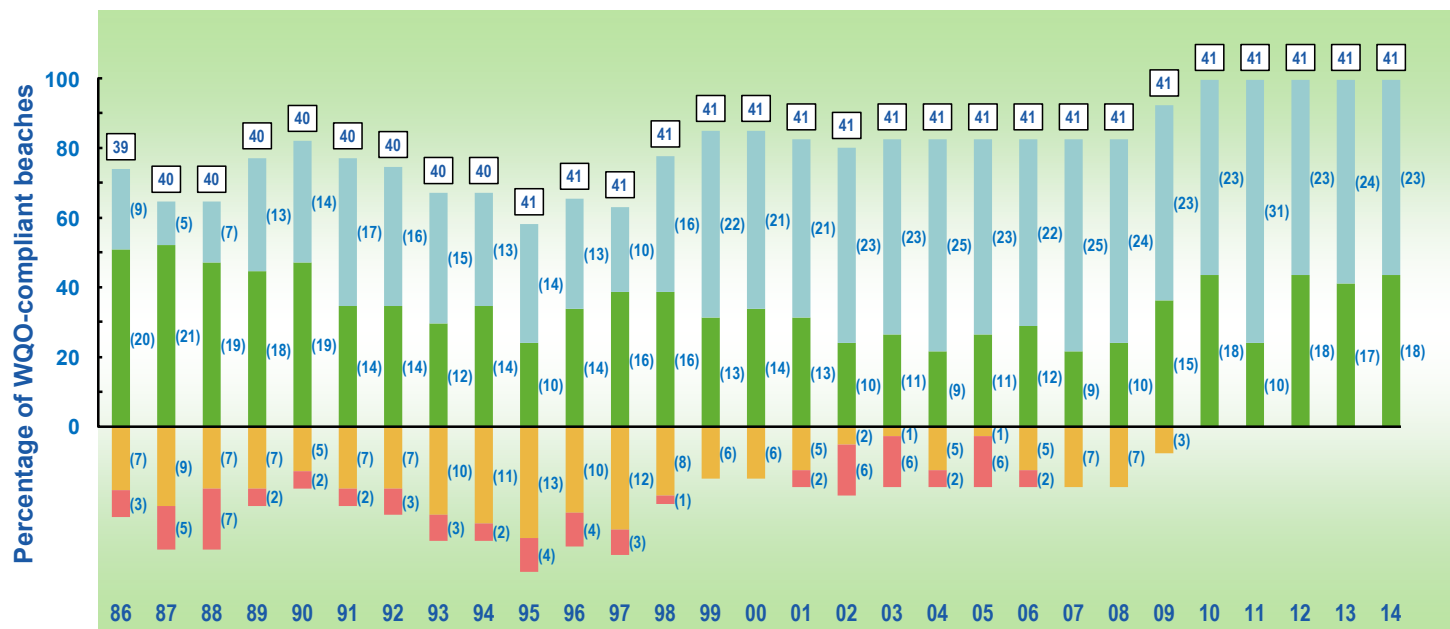
### Weekly grading



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

# Beach Water Quality in Hong Kong 2014

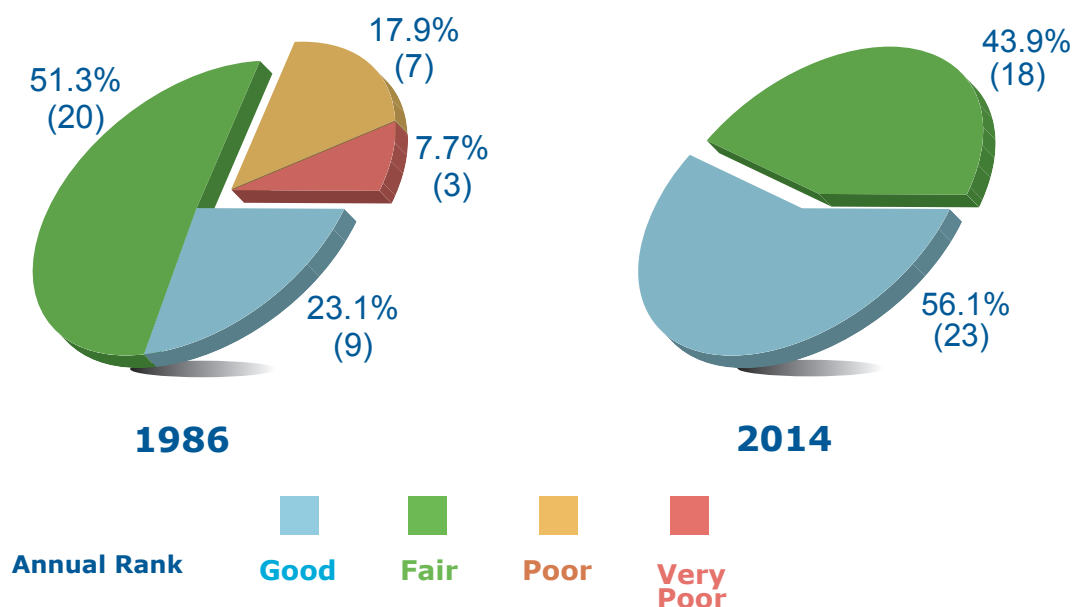
## Annual beach rankings of gazetted beaches from 1986 to 2014



Legend : ( ) Number of beaches in each rank    Total number of gazetted beaches  
 Note: Two beaches degazetted in 1995 were excluded from the calculation.

Rank  
 Good Fair Poor Very Poor

## Comparison of annual beach ranking of gazetted beaches in 1986 and 2014



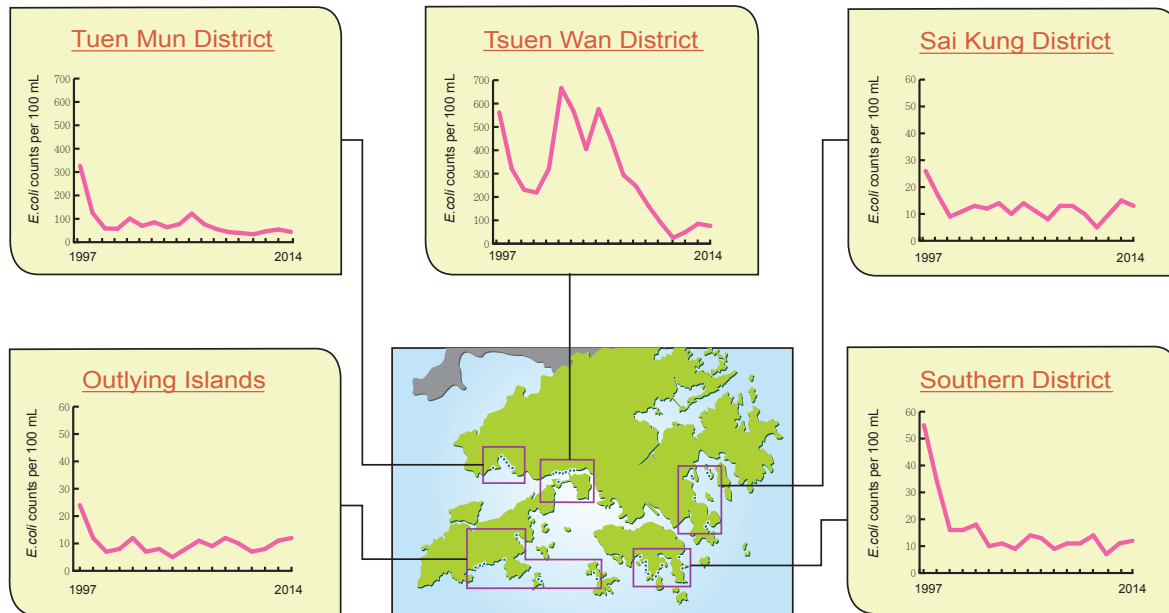
WQO compliant    WQO non-compliant    ( ) No. of beaches  
 Note: Two beaches degazetted in 1995 were excluded from the calculation.



# Beach Water Quality in Hong Kong 2014



## Annual geometric mean *E.coli* levels of gazetted beaches by district, 1997 - 2014



Water Quality Trend



# Beach Water Quality in Hong Kong 2014



## Appendix A - Annual geometric mean *E. coli* levels (1997-2014)

### Southern District

#### Annual geometric mean *E.coli* levels

	E. coli counts per 100mL								
Beach	1997	1998	1999	2000	2001	2002	2003	2004	2005
Big Wave Bay	179	114	77	98	106	23	33	26	101
Chung Hom Kok	22	40	14	8	15	13	14	9	13
Deep Water Bay	55	46	14	16	18	9	9	7	8
Hairpin	44	72	17	18	10	6	7	7	13
Middle Bay	40	16	11	11	8	9	14	12	20
Repulse Bay	23	11	8	9	13	9	12	4	8
Rocky Bay	399	223	72	80	118	43	28	19	30
Shek O	102	70	32	29	31	13	11	16	19
South Bay	17	6	4	7	5	5	11	9	7
St. Stephen's	40	26	11	6	7	5	9	4	12
Stanley Main	72	24	13	12	9	8	6	5	7
Turtle Cove	40	14	12	11	15	8	4	5	8

Beach	E. coli counts per 100mL								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Big Wave Bay	50	17	31	46	149	17	31	21	40
Chung Hom Kok	10	9	13	14	9	5	5	8	13
Deep Water Bay	7	7	9	12	9	6	9	11	14
Hairpin	11	19	10	12	33	6	9	14	12
Middle Bay	18	9	11	12	12	6	15	14	13
Repulse Bay	12	7	14	11	7	6	7	10	11
Rocky Bay	33	17	15	13	50	23	30	22	16
Shek O	24	18	22	11	19	11	16	15	18
South Bay	7	5	5	4	4	4	5	4	5
St. Stephen's	11	6	9	6	4	4	4	10	5
Stanley Main	10	9	10	13	20	6	34	19	9
Turtle Cove	7	5	5	5	8	4	6	6	8

Note: Figure in red indicates that the beach was not opened for swimming that year





# Beach Water Quality in Hong Kong 2014



## Sai Kung District Annual geometric mean *E.coli* levels

Beach	<i>E. coli</i> counts per 100mL								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Clear Water Bay First	62	41	11	16	28	28	17	9	16
Clear Water Bay Second	66	44	12	26	22	14	21	10	19
Hap Mun Bay	3	2	2	2	1	2	4	3	4
Kiu Tsui	5	4	4	5	5	4	5	17	14
Silverstrand	148	99	32	61	100	133	97	74	67
Trio	30	21	17	10	12	6	10	2	6

Beach	<i>E. coli</i> counts per 100mL								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Clear Water Bay First	20	14	11	15	10	7	8	24	15
Clear Water Bay Second	13	9	19	27	13	5	18	15	18
Hap Mun Bay	4	3	5	3	3	2	2	7	4
Kiu Tsui	11	6	13	16	13	9	10	13	11
Silverstrand	30	33	35	51	28	18	30	39	40
Trio	5	2	12	5	6	2	9	8	10

## Tsuen Wan District Annual geometric mean *E.coli* levels

Beach	<i>E. coli</i> counts per 100mL								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Anglers'	691	502	442	326	621	1169	693	619	895
Approach	1009	435	387	316	411	696	762	470	663
Casam	609	239	231	209	233	741	702	594	716
Gemini	458	399	350	258	323	1155	875	1102	1042
Hoi Mei Wan	471	280	109	177	199	547	442	287	641
Lido	600	262	231	181	269	683	734	523	782
Ma Wan Tung Wan	110	92	51	39	133	201	159	101	132
Ting Kau	1583	1045	515	593	739	742	831	412	512

Beach	<i>E. coli</i> counts per 100mL								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Anglers'	772	496	510	276	134	27	69	133	130
Approach	599	352	251	208	124	59	83	106	121
Casam	426	305	289	144	102	21	50	71	63
Gemini	853	566	481	410	137	19	40	135	110
Hoi Mei Wan	308	286	271	130	87	23	51	86	58
Lido	459	280	296	178	87	21	32	53	57
Ma Wan Tung Wan	171	78	53	60	17	10	24	41	31
Ting Kau	469	405	258	145	141	58	88	107	89

Note: Figure in red indicates that the beach was not opened for swimming that year



# Beach Water Quality in Hong Kong 2014



## Tuen Mun District

### Annual geometric mean *E.coli* levels

<i>E. coli</i> counts per 100mL									
Beach	1997	1998	1999	2000	2001	2002	2003	2004	2005
Butterfly	259	121	44	61	74	60	74	55	55
Cafeteria New	309	100	60	51	104	62	80	54	70
Cafeteria Old	435	138	58	57	125	74	76	61	81
Castle Peak	332	199	57	58	105	58	64	80	90
Golden	352	98	44	50	87	66	84	46	62
Kadoorie	290	130	109	68	120	114	160	98	117

<i>E. coli</i> counts per 100mL									
Beach	2006	2007	2008	2009	2010	2011	2012	2013	2014
Butterfly	94	84	56	49	30	41	42	71	38
Cafeteria New	120	68	48	38	31	27	47	50	31
Cafeteria Old	150	67	45	46	34	29	48	39	45
Castle Peak	139	64	47	35	63	49	48	78	91
Golden	117	87	63	42	37	26	62	45	39
Kadoorie	118	101	87	48	45	37	40	52	37

Note: Figure in red indicates that the beach was not opened for swimming that year

## Outlying Islands

### Annual geometric mean *E.coli* levels

<i>E. coli</i> counts per 100mL									
Beach	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cheung Chau Tung Wan	24	19	11	12	16	17	11	12	14
Hung Shing Yeh	5	3	3	5	6	2	5	4	4
Kwun Yam	32	21	6	10	11	9	7	5	10
Lo So Shing	3	2	4	2	5	2	3	2	3
Lower Cheung Sha	85	23	10	12	22	10	14	7	12
Pui O	36	16	10	10	17	10	15	9	10
Silver Mine Bay	481	123	39	50	67	42	50	14	34
Tong Fuk	14	10	4	5	6	4	3	4	5
Upper Cheung Sha	8	3	2	3	5	3	3	3	3

<i>E. coli</i> counts per 100mL									
Beach	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cheung Chau Tung Wan	37	21	15	17	12	6	13	10	14
Hung Shing Yeh	4	6	4	6	4	3	4	4	5
Kwun Yam	13	9	10	9	8	5	5	9	8
Lo So Shing	4	3	5	7	3	3	4	5	5
Lower Cheung Sha	11	12	20	13	11	9	10	17	21
Pui O	16	30	24	12	14	13	22	51	60
Silver Mine Bay	52	22	43	45	31	28	38	39	51
Tong Fuk	5	4	10	5	5	4	4	7	4
Upper Cheung Sha	4	4	7	5	4	3	4	4	5





# Beach Water Quality in Hong Kong 2014



## Appendix B - 2014 Beach visitor number

### Southern District Visitor numbers during the 2014 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Big Wave Bay	364	852	2,300	23,580	127,750
Chung Hom Kok	251	646	1,800	15,200	92,620
Deep Water Bay	917	4,732	15,000	126,300	526,050
Hairpin	150	279	600	7,800	46,920
Middle Bay	245	335	850	15,300	67,200
Repulse Bay	9,167	12,584	19,000	342,880	2,515,870
Rocky Bay	-	-	-	-	-
Shek O	2,648	7,243	23,500	327,200	1,011,800
South Bay	226	653	2,900	27,450	89,100
St. Stephen`s	154	394	1,000	12,100	56,700
Stanley Main	707	2,804	15,600	75,490	338,900
Turtle Cove	64	422	1,320	9,480	43,910

Note: Information provided by the Leisure and Cultural Services Department



# Beach Water Quality in Hong Kong 2014



## Sai Kung District

Visitor numbers during the 2014 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Clear Water Bay First	168	595	1,910	15,270	74,970
Clear Water Bay Second	1,998	4,509	22,300	224,050	687,880
Hap Mun Bay	355	1,083	4,400	42,980	144,540
Kiu Tsui	173	892	2,400	15,550	99,140
Silverstrand	161	1,129	6,020	32,480	115,860
Trio	290	1,046	3,610	32,250	130,760

Note: Information provided by the Leisure and Cultural Services Department

## Tsuen Wan District

Visitor numbers during the 2014 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Anglers'	179	557	1,020	10,420	73,650
Approach	179	505	960	12,550	69,550
Casam	60	151	280	3,460	21,840
Gemini	9	32	50	590	4,020
Hoi Mei Wan	61	170	550	3,450	23,550
Lido	333	914	8,550	23,980	127,460
Ma Wan Tung Wan	514	2,399	4,400	50,120	274,820
Ting Kau	178	285	1,040	10,080	52,070

Note: Information provided by the Leisure and Cultural Services Department





# Beach Water Quality in Hong Kong 2014



## Tuen Mun District

### Visitor numbers during the 2014 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Butterfly	793	1,484	2,500	36,560	248,900
Cafeteria New	873	1,759	4,750	63,600	283,950
Cafeteria Old	811	1,206	3,130	38,460	229,930
Castle Peak	393	1,359	1,850	22,200	172,550
Golden	2,044	4,619	9,500	114,400	704,250
Kadoorie	626	1,025	1,850	36,610	184,950

Note: Information provided by the Leisure and Cultural Services Department

## Outlying Islands

### Visitor numbers during the 2014 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Cheung Chau Tung Wan	278	709	2,700	20,310	102,190
Hung Shing Yeh	236	866	2,200	19,310	107,700
Kwun Yam	79	343	900	8,180	40,270
Lo So Shing	82	211	380	4,830	30,280
Lower Cheung Sha	204	780	1,500	20,500	95,490
Pui O	512	1,242	4,750	44,180	183,210
Silver Mine Bay	300	933	4,100	22,940	123,580
Tong Fuk	180	411	1,040	13,720	62,440
Upper Cheung Sha	194	406	900	13,320	64,330

Note: Information provided by the Leisure and Cultural Services Department



# Beach Water Quality in Hong Kong 2014



## Appendix C - Physicochemical water quality data for gazetted beaches, 2014

### Southern District :

#### Summary of physicochemical water quality data of gazetted beaches, 2014

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L)	(% Saturation)
Big Wave Bay Beach	8.35 (8.01 - 8.71)	28.5 (8.6 - 33.4)	2.82 (0.84 - 7.23)	26.0 (15.6 - 31.0)	6.8 (5.7 - 8.8)	95 (76 - 114)
Chung Hom Kok Beach	8.37 (8.13 - 8.89)	29.5 (18.8 - 33.4)	3.62 (1.38 - 14.70)	26.4 (17.1 - 30.7)	6.9 (5.4 - 9.6)	97 (74 - 130)
Deep Water Bay Beach	8.36 (7.93 - 8.74)	29.2 (18.3 - 33.5)	4.87 (1.29 - 18.90)	26.7 (16.5 - 31.5)	6.9 (4.8 - 9.5)	97 (71 - 125)
Hairpin Beach *	8.40 (7.42 - 9.06)	29.9 (21.7 - 33.6)	3.75 (0.74 - 66.00)	26.9 (16.7 - 32.2)	7.1 (5.4 - 9.3)	99 (80 - 128)
Middle Bay Beach	8.39 (8.19 - 8.79)	29.7 (19.1 - 33.3)	3.79 (1.42 - 7.45)	26.2 (16.6 - 30.9)	7.0 (5.4 - 9.9)	97 (76 - 135)
Repulse Bay Beach	8.39 (8.22 - 8.88)	30.1 (22.5 - 33.5)	3.51 (1.33 - 10.20)	26.1 (16.5 - 31.0)	6.8 (5.3 - 8.4)	96 (76 - 123)
Rocky Bay Beach *	8.31 (8.11 - 8.64)	30.6 (20.8 - 33.4)	2.64 (0.94 - 11.80)	26.1 (16.2 - 31.0)	6.7 (5.3 - 8.4)	93 (75 - 118)
Shek O Beach	8.40 (8.25 - 8.71)	30.5 (20.4 - 33.5)	3.45 (1.02 - 29.60)	26.3 (16.3 - 32.0)	6.9 (5.6 - 8.5)	96 (70 - 118)
South Bay Beach	8.38 (8.18 - 8.80)	30.0 (22.8 - 33.5)	2.75 (0.96 - 7.39)	26.4 (17.2 - 31.5)	6.9 (5.5 - 9.6)	97 (74 - 130)
St. Stephen's Beach	8.33 (7.89 - 8.73)	30.0 (20.4 - 33.6)	4.54 (1.08 - 52.40)	26.3 (17.2 - 31.5)	6.9 (5.4 - 8.6)	96 (76 - 114)
Stanley Main Beach	8.43 (8.24 - 9.20)	29.7 (21.8 - 33.5)	2.67 (1.12 - 6.93)	26.9 (15.4 - 32.0)	6.9 (5.4 - 9.4)	98 (85 - 130)
Turtle Cove Beach	8.35 (6.34 - 8.96)	29.7 (15.8 - 33.4)	14.27 (1.08 - 348.00)	26.7 (16.1 - 32.3)	6.8 (5.4 - 8.4)	96 (75 - 119)

1. Practical Salinity Unit ; 2. Nephelometric Turbidity Unit  
 Note: Data presented are arithmetic means; figures in brackets are ranges.  
 \* Beach not open for swimming (no lifeguard service)





# Beach Water Quality in Hong Kong 2014



## Sai Kung District :

### Summary of physicochemical water quality data of gazetted beaches, 2014

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Clear Water Bay First Beach	8.42 ( 8.25 - 8.82 )	30.0 ( 15.3 - 33.4 )	4.73 ( 1.16 - 16.40 )	26.8 ( 15.5 - 32.4 )	6.8 ( 4.9 - 8.7 )	96 ( 79 - 124 )
Clear Water Bay Second Beach	8.39 ( 8.20 - 8.82 )	30.6 ( 14.6 - 33.5 )	5.61 ( 0.65 - 17.70 )	27.0 ( 15.5 - 32.8 )	6.8 ( 4.8 - 8.6 )	96 ( 78 - 124 )
Hap Mun Bay Beach	8.42 ( 8.20 - 8.77 )	30.6 ( 19.7 - 33.5 )	2.25 ( 0.73 - 8.76 )	27.1 ( 16.2 - 32.2 )	6.9 ( 5.6 - 8.8 )	98 ( 70 - 114 )
Kiu Tsui Beach	8.41 ( 8.15 - 8.78 )	30.2 ( 16.6 - 33.1 )	2.22 ( 0.75 - 8.89 )	26.9 ( 16.2 - 32.4 )	6.8 ( 5.5 - 8.3 )	98 ( 83 - 110 )
Silverstrand Beach	8.38 ( 7.66 - 8.65 )	28.7 ( 15.6 - 32.9 )	5.52 ( 0.97 - 39.10 )	26.4 ( 15.2 - 31.9 )	6.9 ( 5.0 - 8.9 )	96 ( 75 - 115 )
Trio Beach	8.41 ( 8.11 - 8.69 )	28.9 ( 9.2 - 33.4 )	2.36 ( 0.82 - 8.89 )	27.1 ( 16.1 - 33.2 )	7.0 ( 5.9 - 8.5 )	99 ( 88 - 119 )

1. Practical Salinity Unit ; 2. Nephelometric Turbidity Unit  
Note: Data presented are arithmetic means; figures in brackets are ranges.

## Tsuen Wan District :

### Summary of physicochemical water quality data of gazetted beaches, 2014

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Anglers' Beach	8.18 ( 8.07 - 8.43 )	27.2 ( 16.5 - 32.9 )	6.12 ( 1.31 - 29.40 )	26.2 ( 17.5 - 30.2 )	6.5 ( 5.2 - 7.7 )	91 ( 71 - 104 )
Approach Beach	8.19 ( 7.96 - 8.36 )	26.0 ( 16.3 - 32.8 )	4.97 ( 1.75 - 12.60 )	26.3 ( 17.3 - 30.1 )	6.6 ( 4.9 - 8.6 )	92 ( 70 - 117 )
Casam Beach	8.19 ( 8.01 - 8.37 )	26.8 ( 19.7 - 33.2 )	4.06 ( 1.56 - 9.17 )	26.3 ( 17.6 - 30.3 )	6.4 ( 4.9 - 7.6 )	91 ( 73 - 104 )
Gemini Beaches *	8.17 ( 8.03 - 8.40 )	27.6 ( 18.2 - 33.0 )	4.70 ( 0.85 - 12.40 )	26.1 ( 17.5 - 30.3 )	6.4 ( 4.8 - 7.8 )	91 ( 67 - 102 )
Hoi Mei Wan Beach	8.17 ( 8.01 - 8.44 )	26.3 ( 19.3 - 33.1 )	3.69 ( 1.49 - 9.13 )	26.5 ( 17.6 - 30.7 )	6.3 ( 4.9 - 7.9 )	91 ( 73 - 104 )
Lido Beach	8.18 ( 8.02 - 8.37 )	26.7 ( 19.4 - 33.0 )	4.55 ( 1.68 - 16.80 )	26.3 ( 17.4 - 30.3 )	6.4 ( 4.9 - 7.6 )	90 ( 64 - 103 )
Ma Wan Tung Wan Beach	8.20 ( 8.06 - 8.52 )	28.2 ( 22.4 - 33.0 )	5.57 ( 1.43 - 18.90 )	26.4 ( 15.5 - 31.0 )	6.4 ( 5.0 - 8.9 )	91 ( 71 - 130 )
Ting Kau Beach	8.21 ( 8.01 - 8.39 )	26.0 ( 17.9 - 33.0 )	4.00 ( 1.29 - 10.30 )	26.4 ( 17.4 - 30.1 )	6.5 ( 4.9 - 8.3 )	92 ( 73 - 113 )

1. Practical Salinity Unit ; 2. Nephelometric Turbidity Unit  
Note: Data presented are arithmetic means; figures in brackets are ranges.  
\* Beach not open for swimming (no lifeguard service)



# Beach Water Quality in Hong Kong 2014

## Tuen Mun District :

### Summary of physicochemical water quality data of gazetted beaches, 2014

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Butterfly Beach	8.16 ( 7.87 - 8.53 )	23.7 ( 14.3 - 32.7 )	9.17 ( 2.85 - 28.10 )	27.0 ( 15.7 - 31.6 )	6.6 ( 4.7 - 8.0 )	93 ( 68 - 106 )
Cafeteria New Beach	8.20 ( 7.92 - 8.54 )	23.2 ( 12.3 - 32.6 )	10.51 ( 2.92 - 19.90 )	26.8 ( 15.6 - 30.9 )	6.5 ( 5.1 - 7.9 )	92 ( 77 - 105 )
Cafeteria Old Beach	8.20 ( 7.90 - 8.57 )	23.0 ( 11.9 - 32.6 )	18.34 ( 3.79 - 239.00 )	26.8 ( 15.7 - 31.0 )	6.5 ( 4.8 - 7.8 )	93 ( 74 - 105 )
Castle Peak Beach	8.19 ( 7.88 - 8.51 )	21.9 ( 11.4 - 32.0 )	6.62 ( 1.83 - 39.60 )	27.1 ( 15.6 - 31.2 )	6.8 ( 5.3 - 8.7 )	96 ( 74 - 127 )
Golden Beach	8.21 ( 7.96 - 8.63 )	23.1 ( 12.6 - 32.6 )	12.55 ( 3.41 - 27.30 )	26.7 ( 15.6 - 31.0 )	6.4 ( 4.9 - 8.0 )	92 ( 75 - 104 )
Kadoorie Beach	8.19 ( 7.90 - 8.47 )	22.9 ( 12.2 - 32.6 )	12.36 ( 2.22 - 215.00 )	26.9 ( 15.6 - 31.2 )	6.5 ( 4.8 - 7.9 )	90 ( 8 - 104 )

1. Practical Salinity Unit ; 2. Nephelometric Turbidity Unit  
Note: Data presented are arithmetic means; figures in brackets are ranges.

## Outlying Islands :

### Summary of physicochemical water quality data of gazetted beaches, 2014

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Cheung Chau Tung Wan Beach	8.32 ( 8.16 - 8.63 )	28.3 ( 16.3 - 33.1 )	3.23 ( 0.92 - 11.80 )	26.2 ( 16.7 - 30.4 )	7.0 ( 4.7 - 9.0 )	96 ( 70 - 115 )
Hung Shing Yeh Beach, Lamma	8.27 ( 8.07 - 8.71 )	28.2 ( 18.9 - 33.5 )	5.32 ( 1.35 - 23.20 )	26.8 ( 17.8 - 30.8 )	6.6 ( 4.6 - 8.4 )	96 ( 69 - 122 )
Kwun Yam Beach, Cheung Chau	8.32 ( 8.13 - 8.62 )	28.0 ( 15.6 - 33.1 )	3.33 ( 1.05 - 8.73 )	26.1 ( 16.6 - 30.2 )	7.0 ( 5.4 - 8.7 )	96 ( 76 - 115 )
Lo So Shing Beach, Lamma	8.28 ( 8.09 - 8.59 )	28.5 ( 19.8 - 33.5 )	3.78 ( 1.44 - 8.33 )	27.3 ( 17.8 - 32.7 )	7.0 ( 5.4 - 9.7 )	98 ( 80 - 130 )
Lower Cheung Sha Beach, Lantau	8.39 ( 8.22 - 8.74 )	27.9 ( 20.1 - 33.2 )	7.65 ( 1.77 - 36.90 )	27.3 ( 17.4 - 32.6 )	6.7 ( 5.2 - 8.1 )	93 ( 73 - 111 )
Pui O Beach, Lantau	8.39 ( 8.20 - 8.74 )	27.8 ( 17.1 - 33.2 )	12.72 ( 1.64 - 40.20 )	27.5 ( 17.3 - 33.2 )	6.7 ( 4.7 - 8.4 )	95 ( 68 - 110 )
Silver Mine Bay Beach, Lantau	8.28 ( 8.03 - 8.75 )	25.8 ( 14.3 - 32.9 )	10.53 ( 2.33 - 56.30 )	27.7 ( 16.8 - 33.9 )	6.6 ( 4.7 - 8.3 )	95 ( 70 - 130 )
Tong Fuk Beach, Lantau	8.40 ( 8.19 - 8.73 )	28.5 ( 19.5 - 33.3 )	6.99 ( 1.43 - 39.70 )	27.1 ( 17.0 - 32.2 )	6.6 ( 5.1 - 8.0 )	94 ( 72 - 115 )
Upper Cheung Sha Beach, Lantau	8.40 ( 8.21 - 8.79 )	28.5 ( 20.1 - 33.3 )	6.44 ( 1.22 - 29.50 )	27.1 ( 17.0 - 32.6 )	6.6 ( 4.8 - 8.0 )	92 ( 70 - 110 )

1. Practical Salinity Unit ; 2. Nephelometric Turbidity Unit  
Note: Data presented are arithmetic means; figures in brackets are ranges.

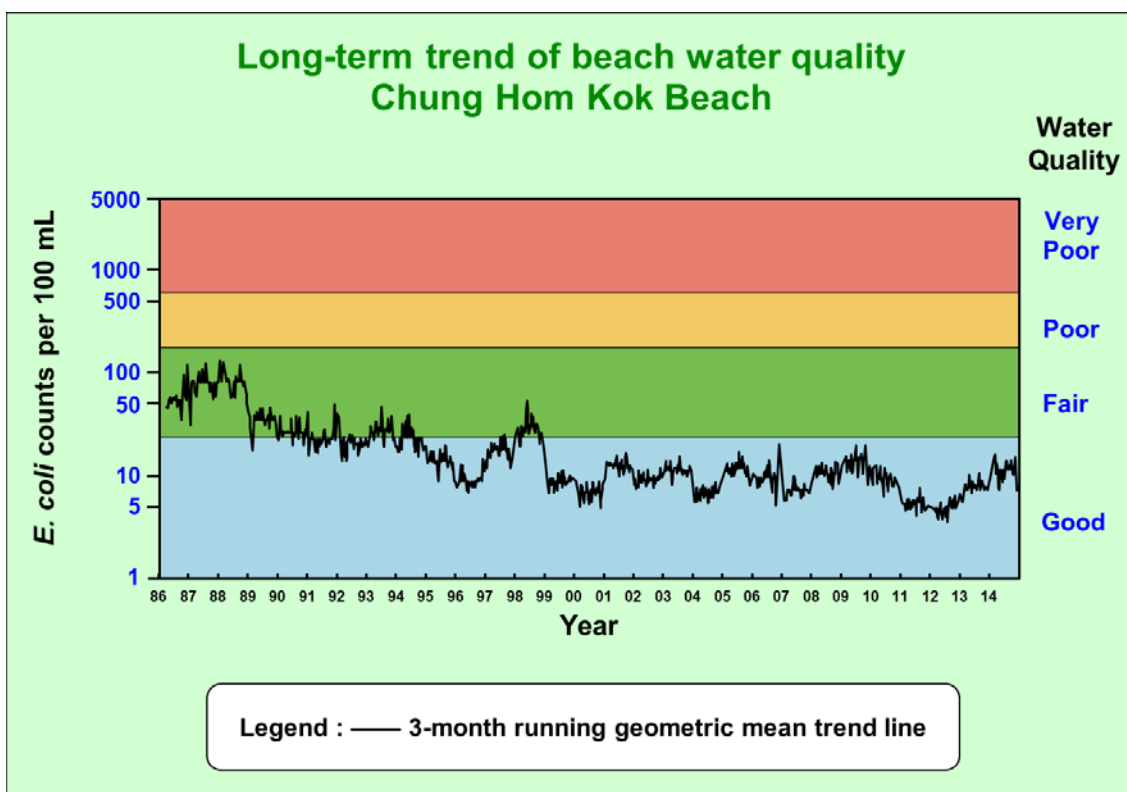
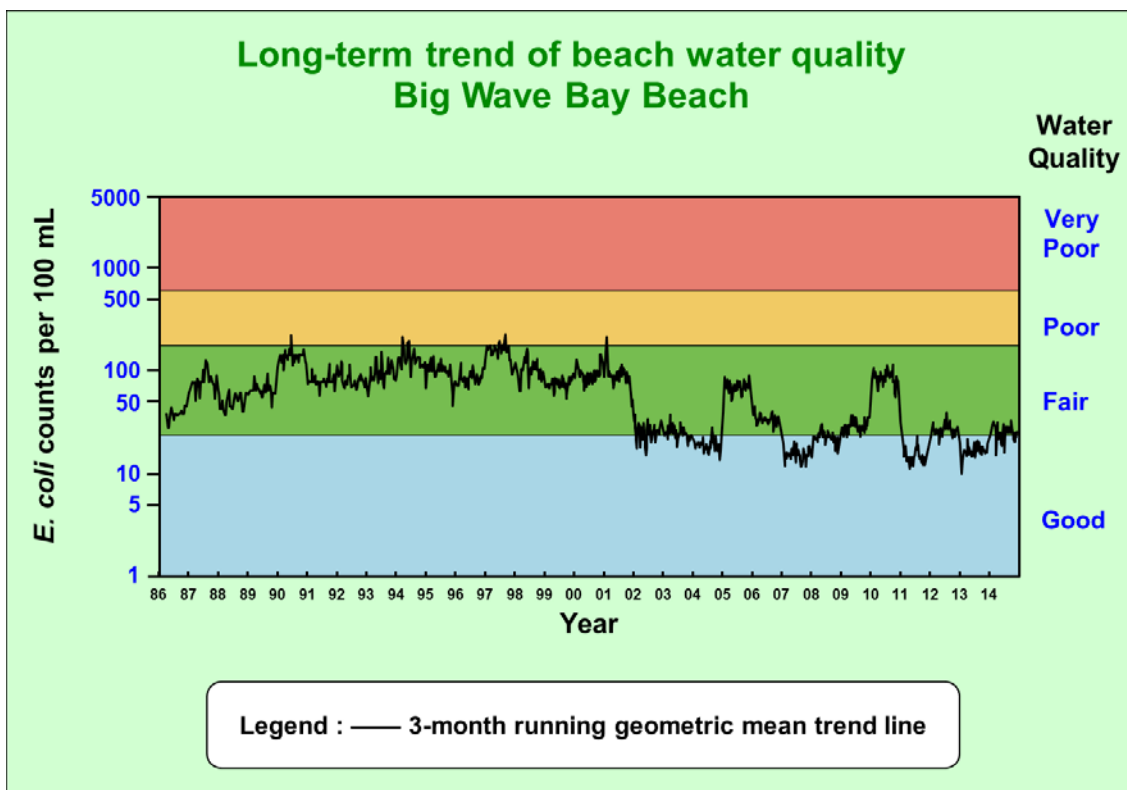




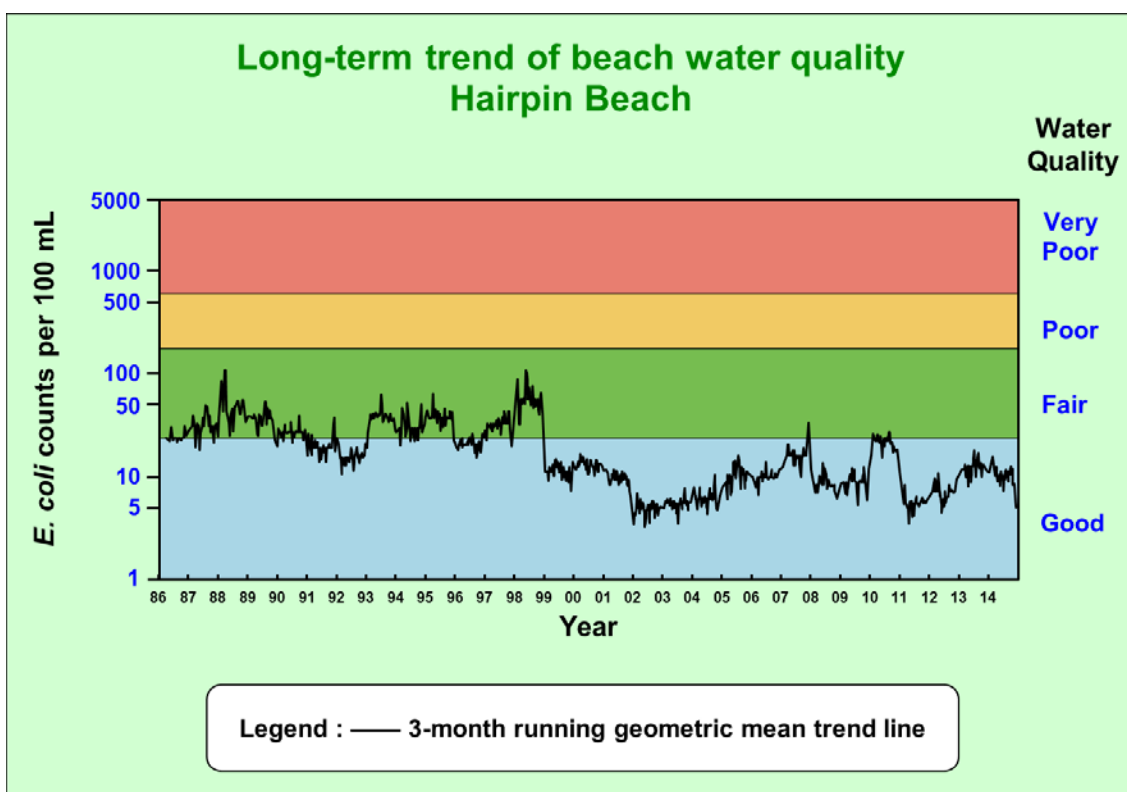
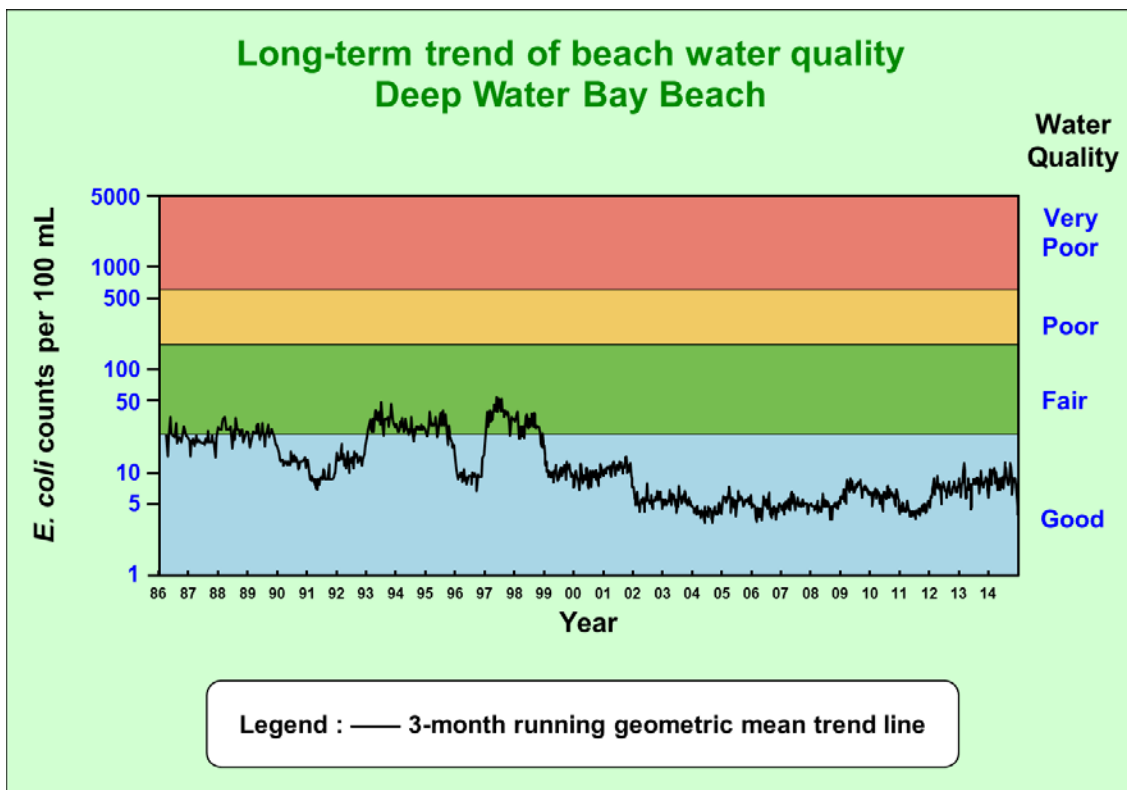
# Beach Water Quality in Hong Kong 2014



## Appendix D - Long-term trend of beach water quality (1986 - 2014) Southern District

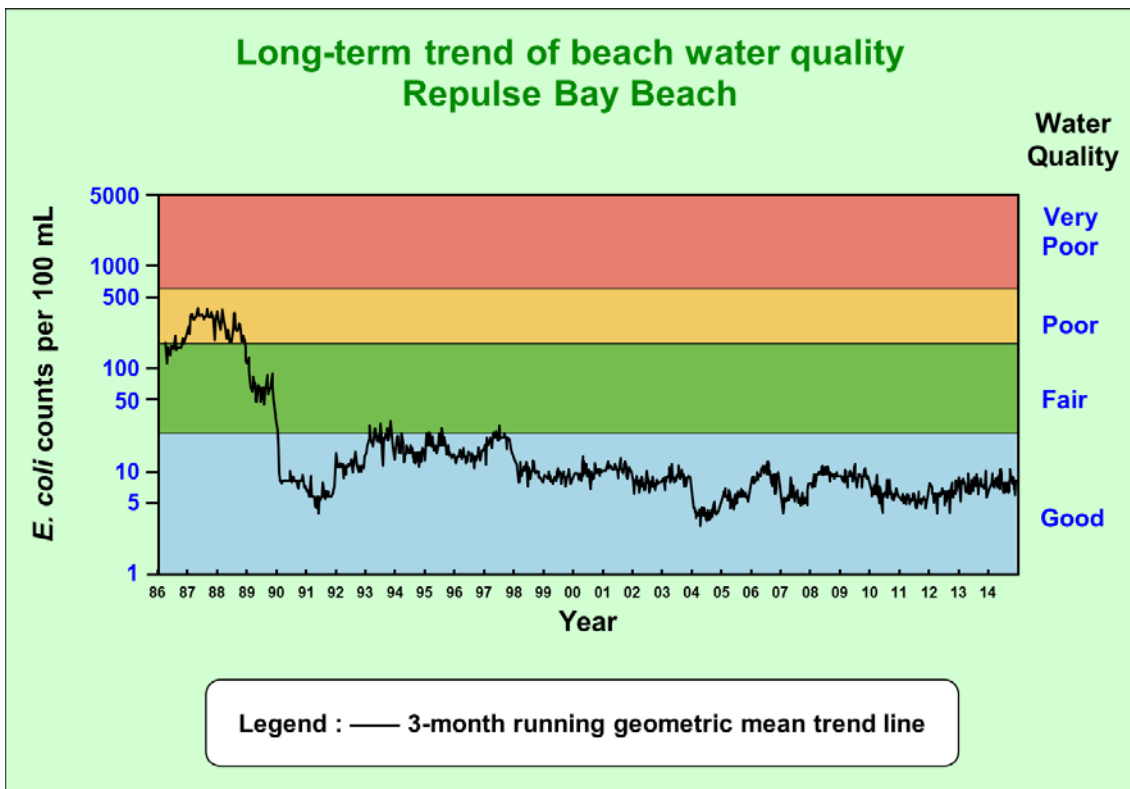
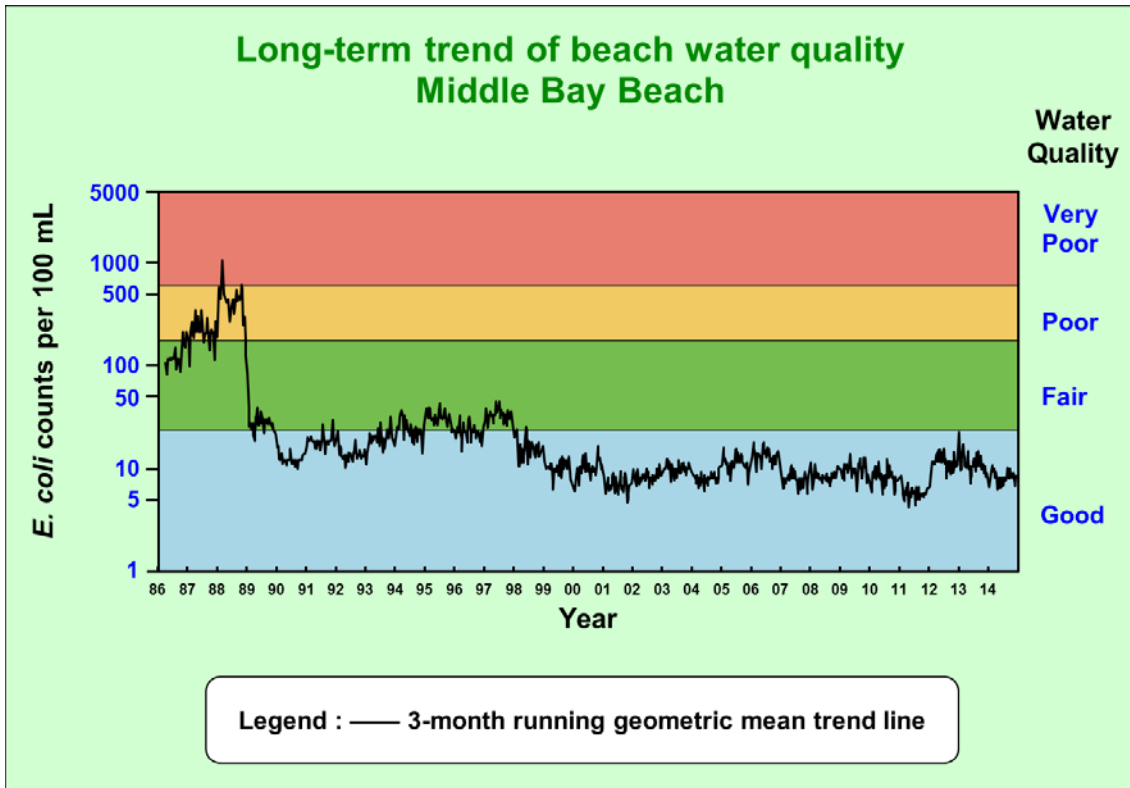


# Beach Water Quality in Hong Kong 2014

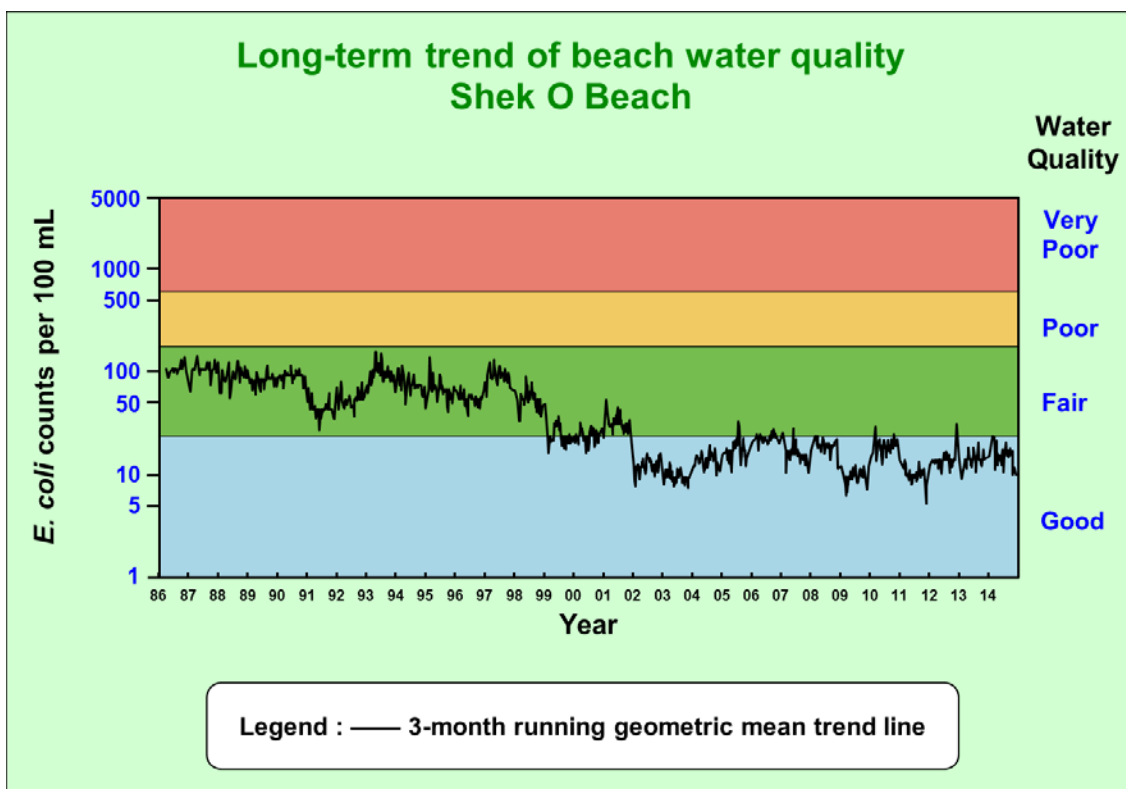
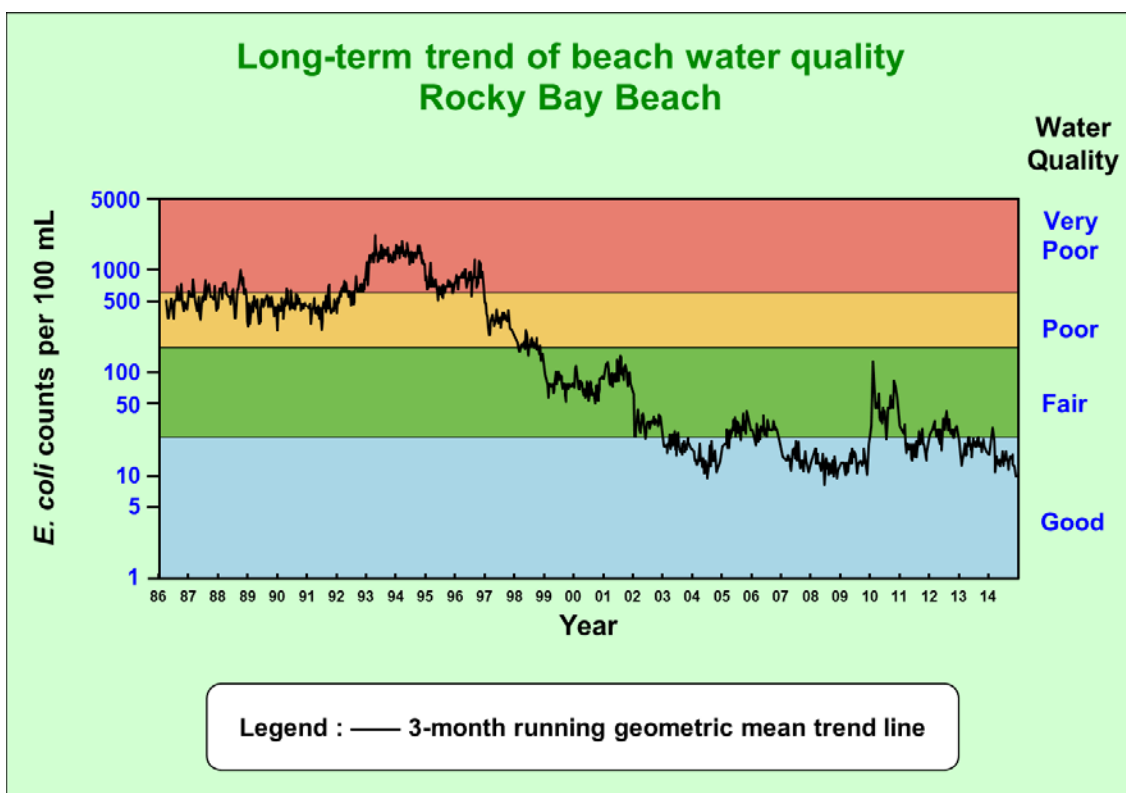




# Beach Water Quality in Hong Kong 2014

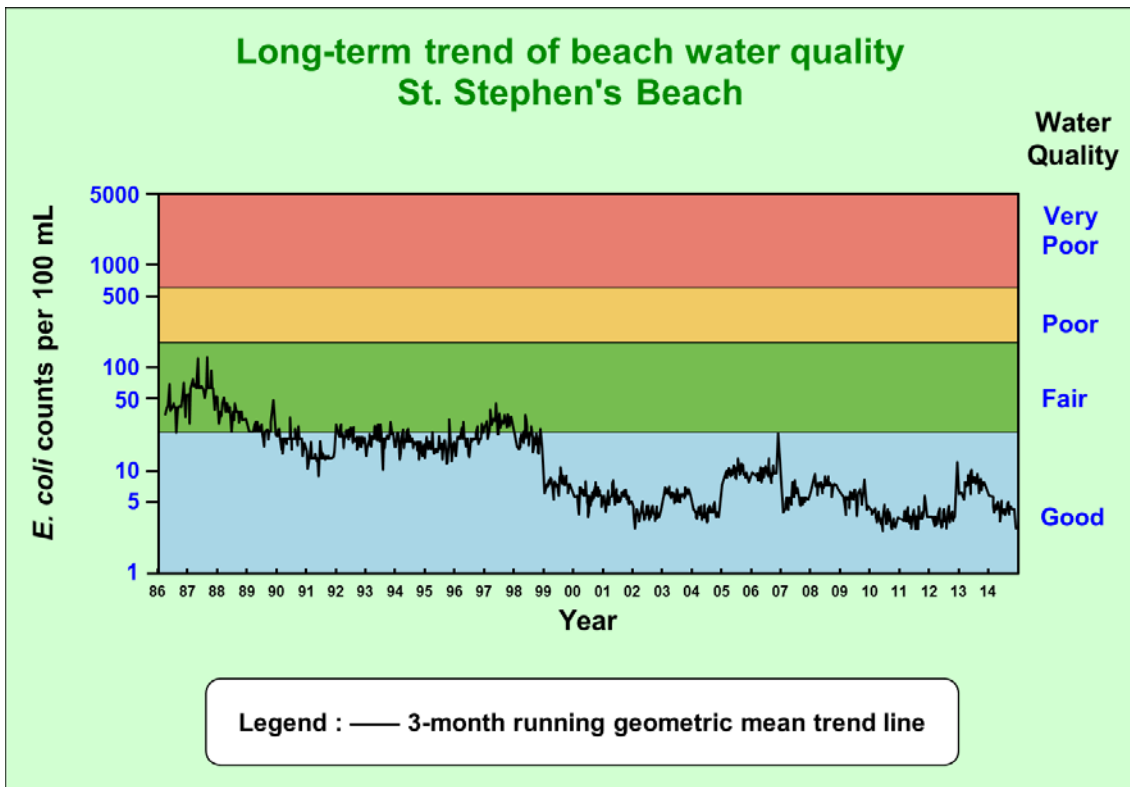
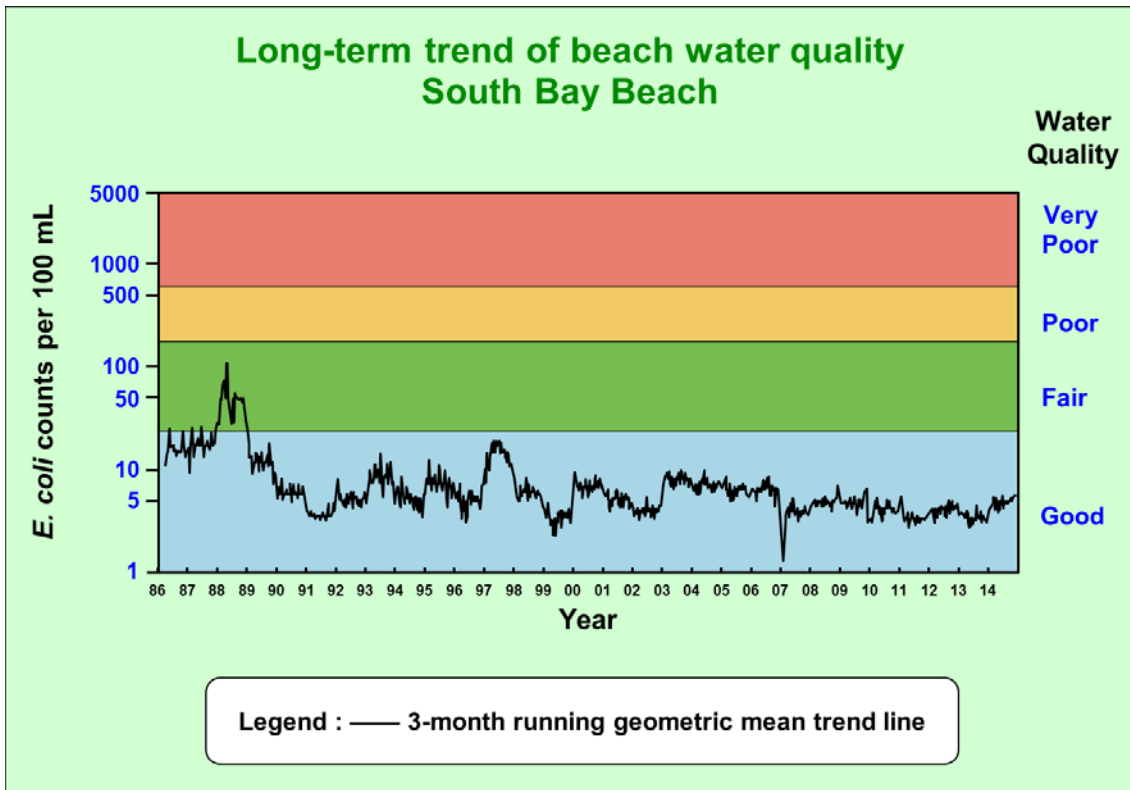


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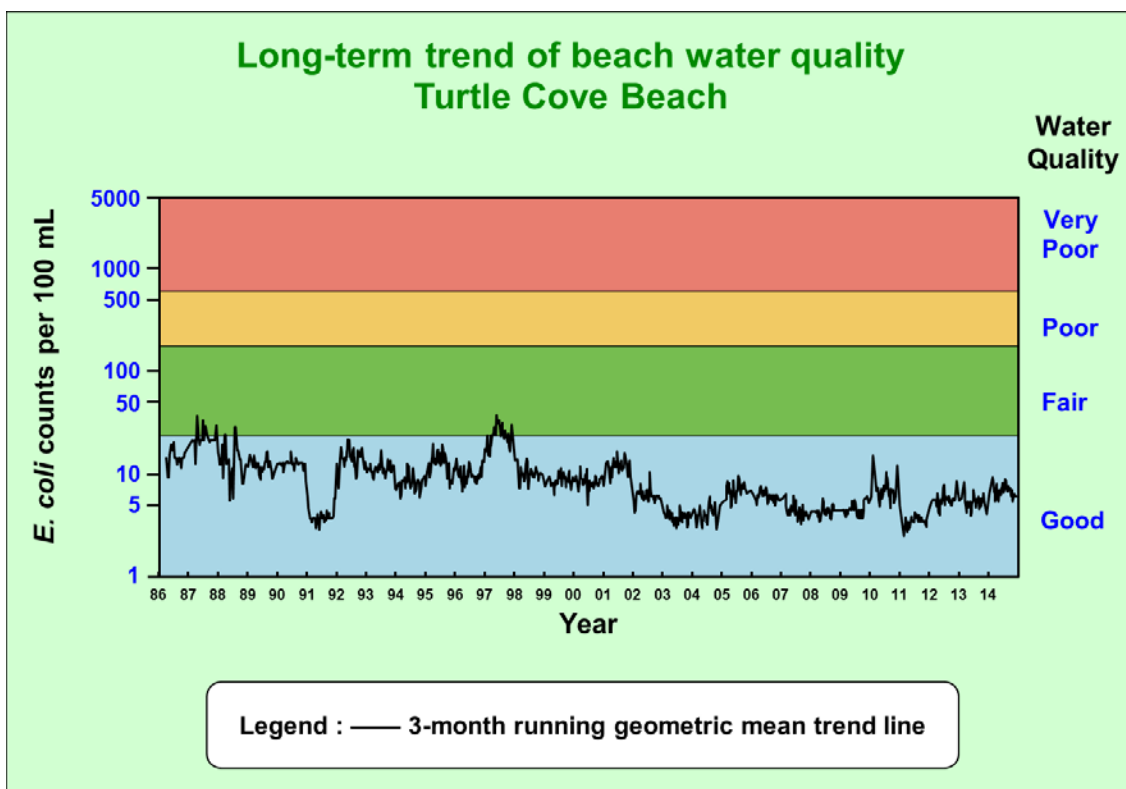
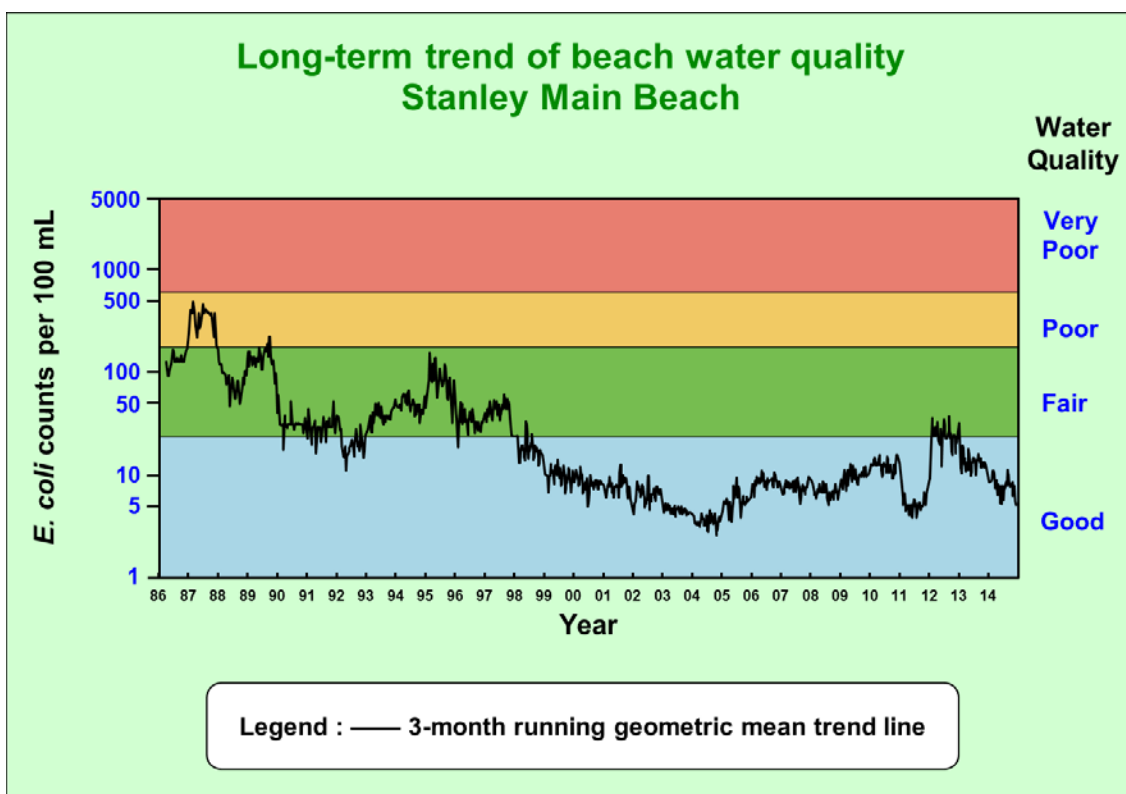




# Beach Water Quality in Hong Kong 2014



# Beach Water Quality in Hong Kong 2014

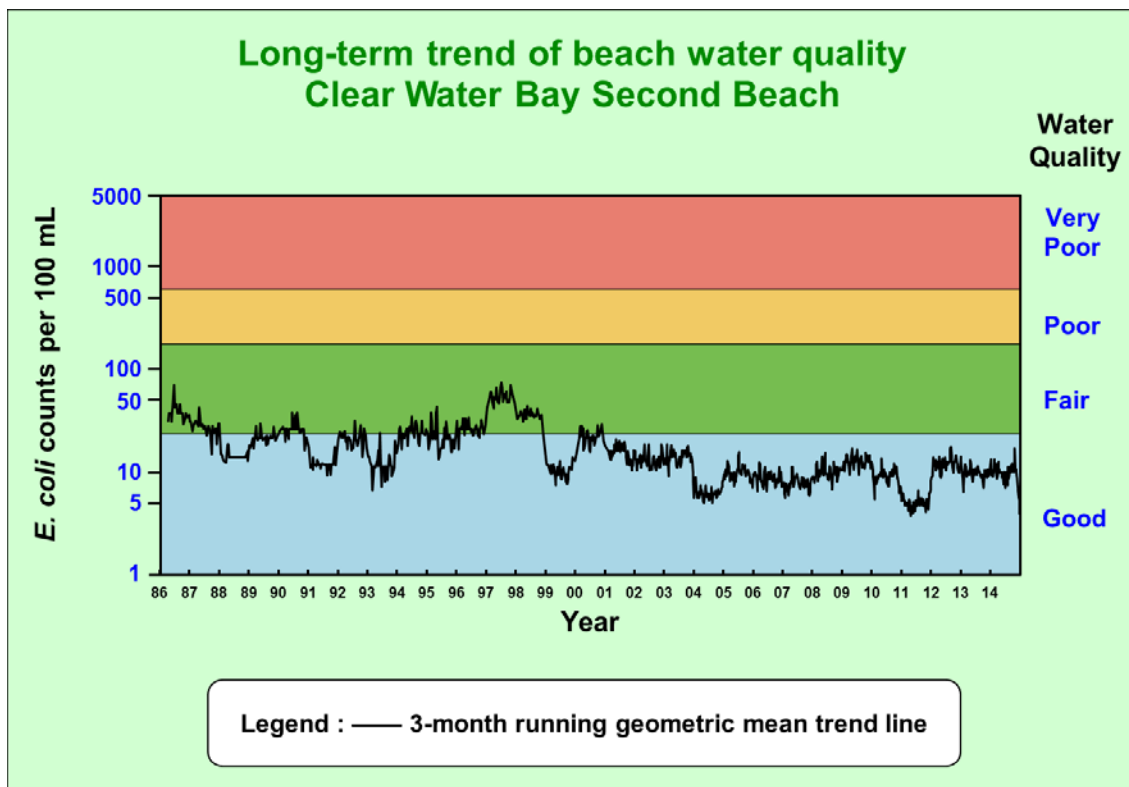
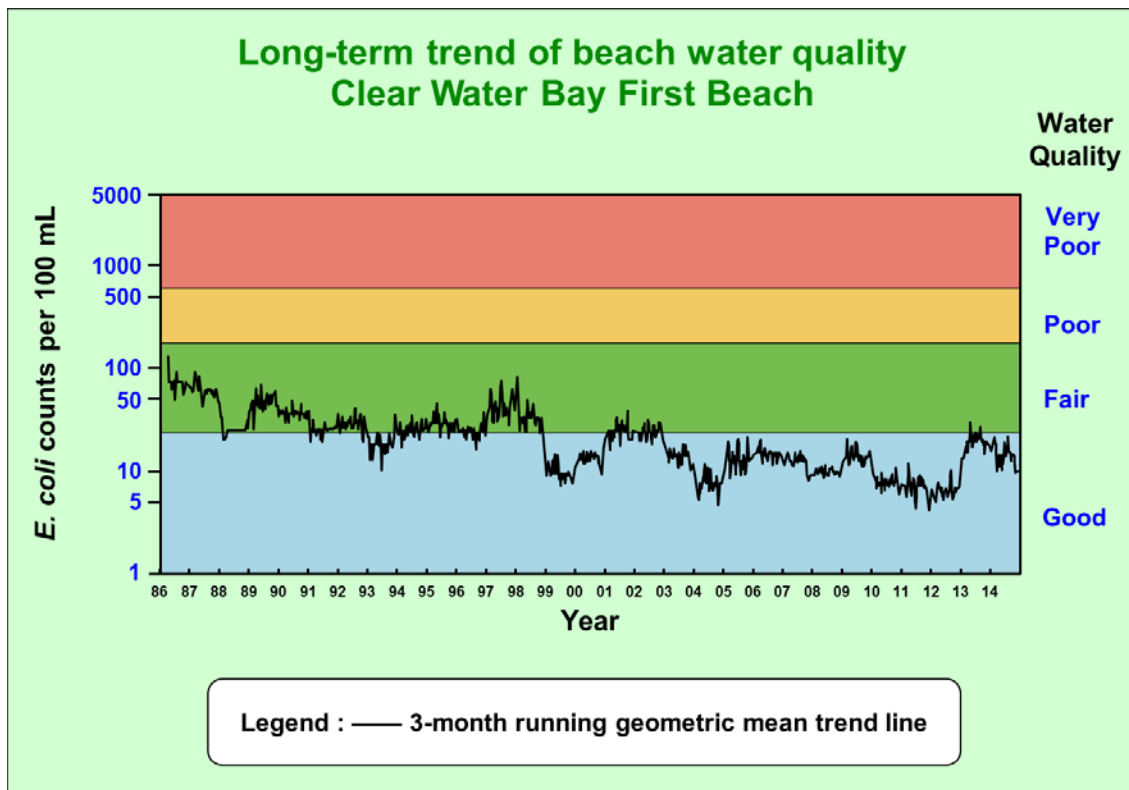




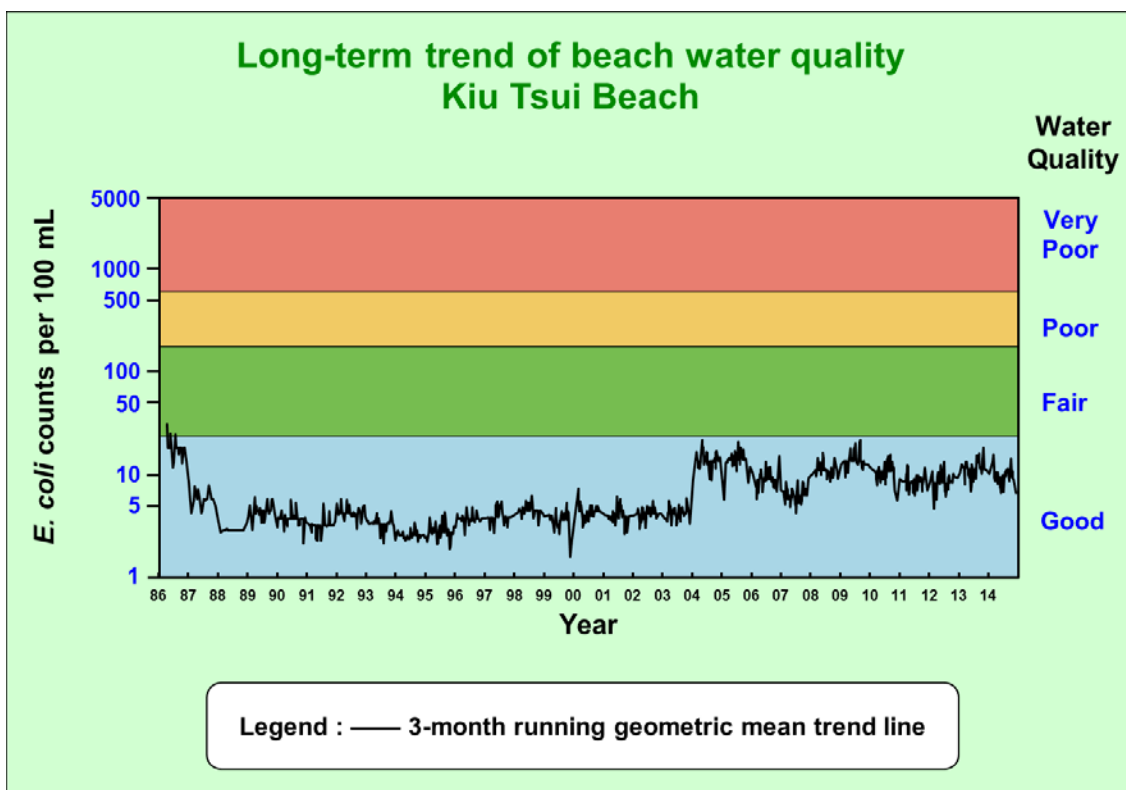
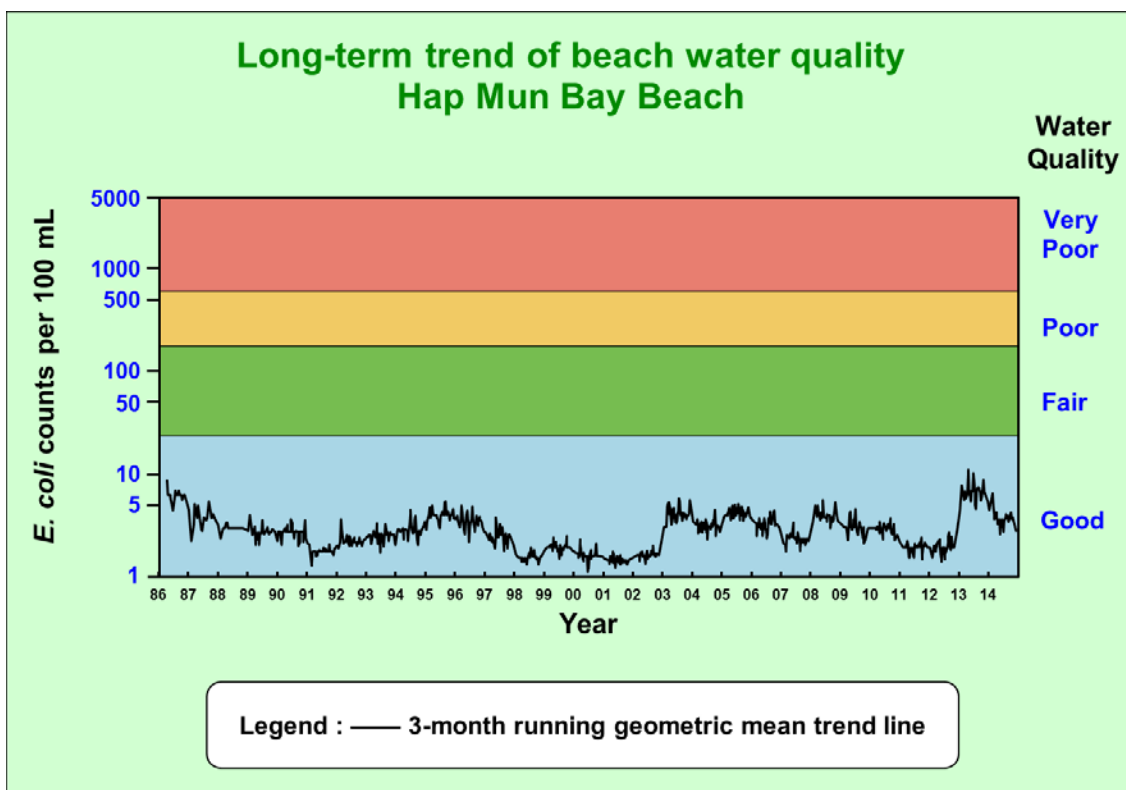
# Beach Water Quality in Hong Kong 2014



## Sai Kung District

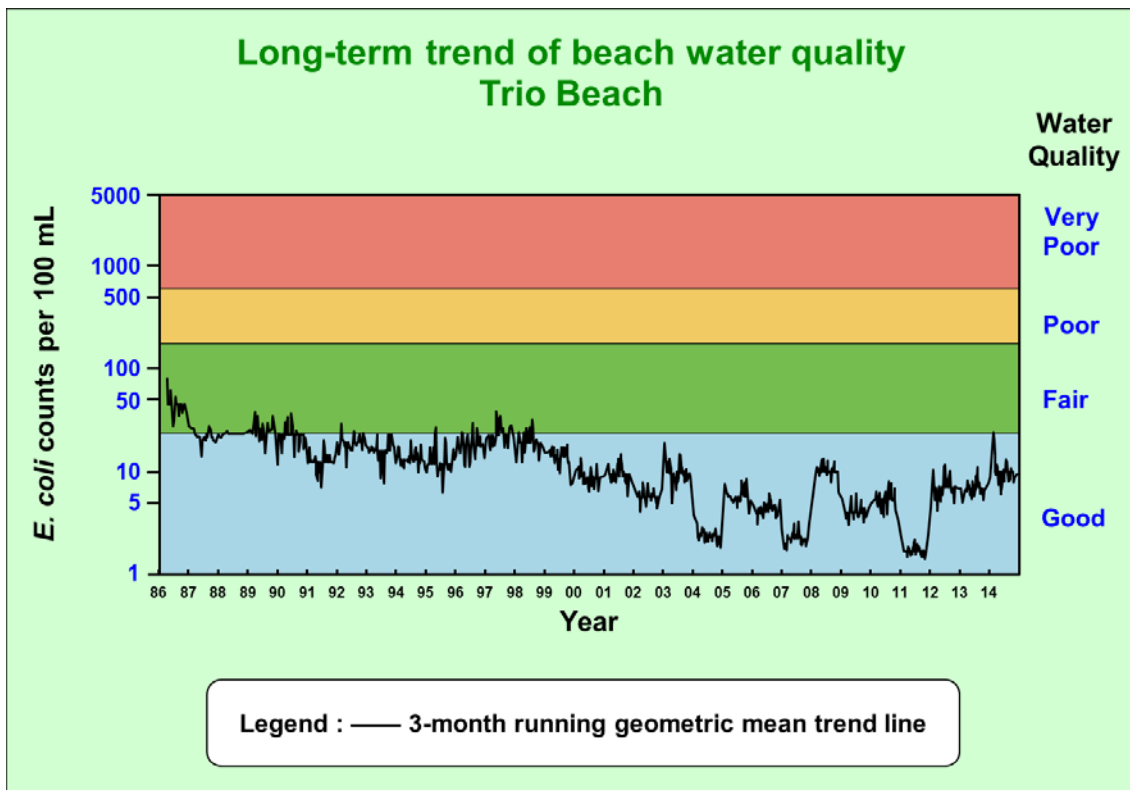
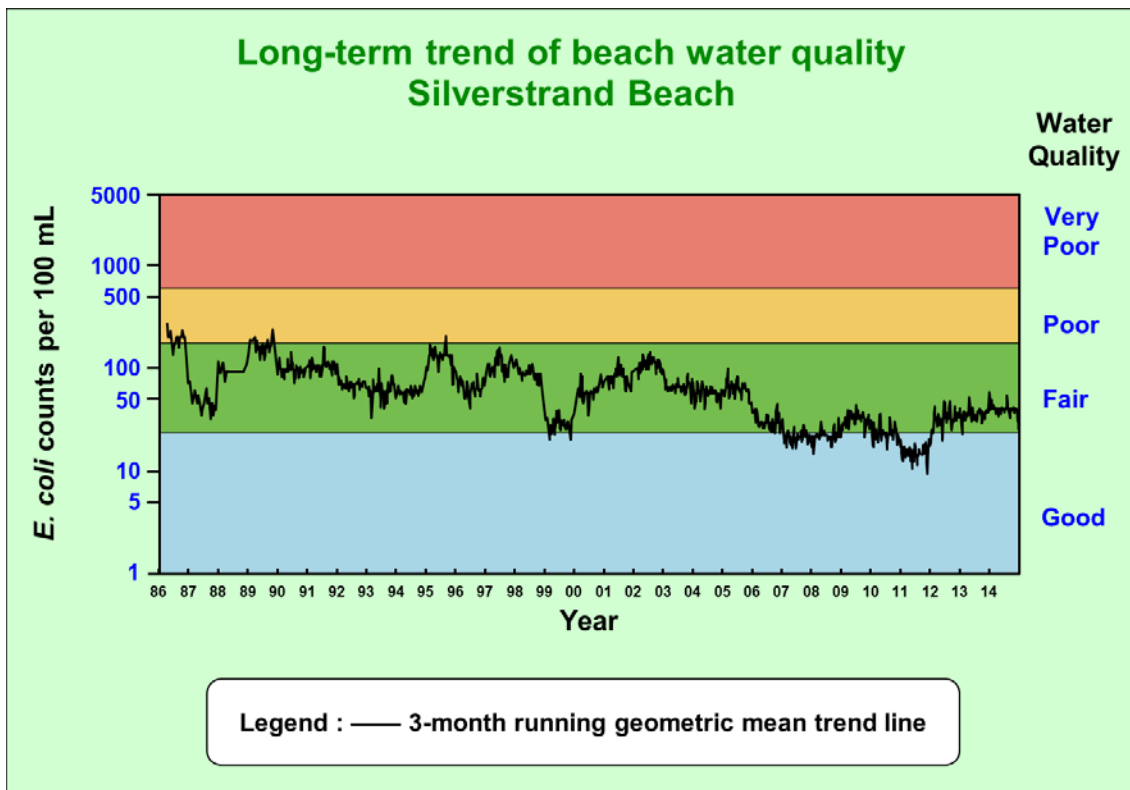


# Beach Water Quality in Hong Kong 2014





# Beach Water Quality in Hong Kong 2014

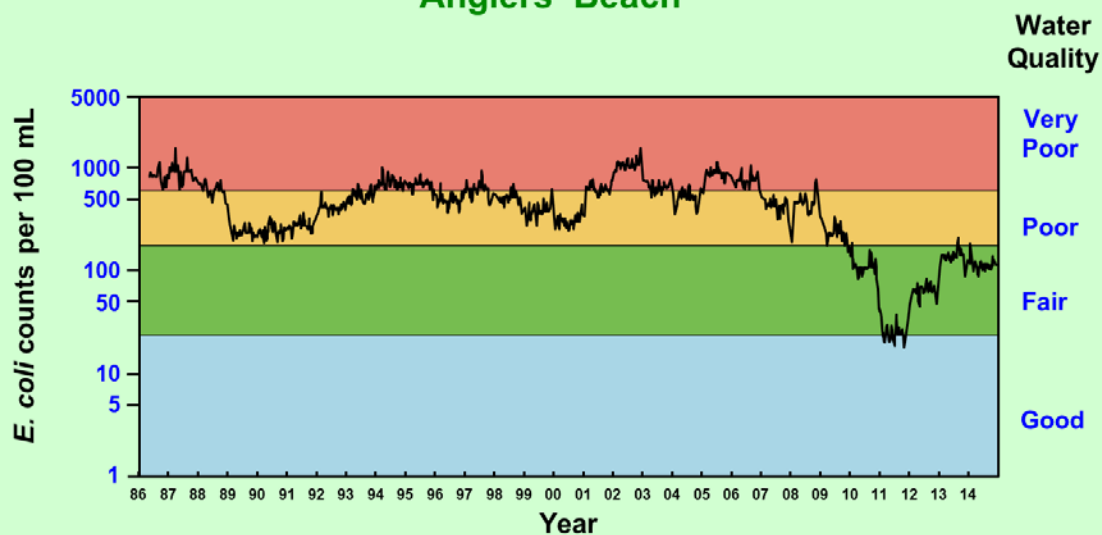


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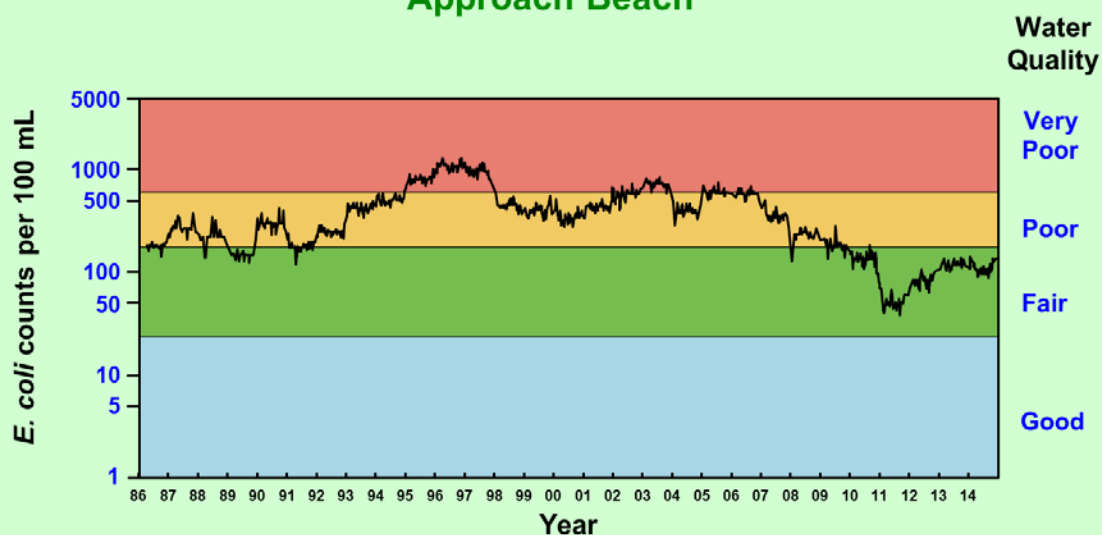


## Tsuen Wan District

### Long-term trend of beach water quality Anglers' Beach



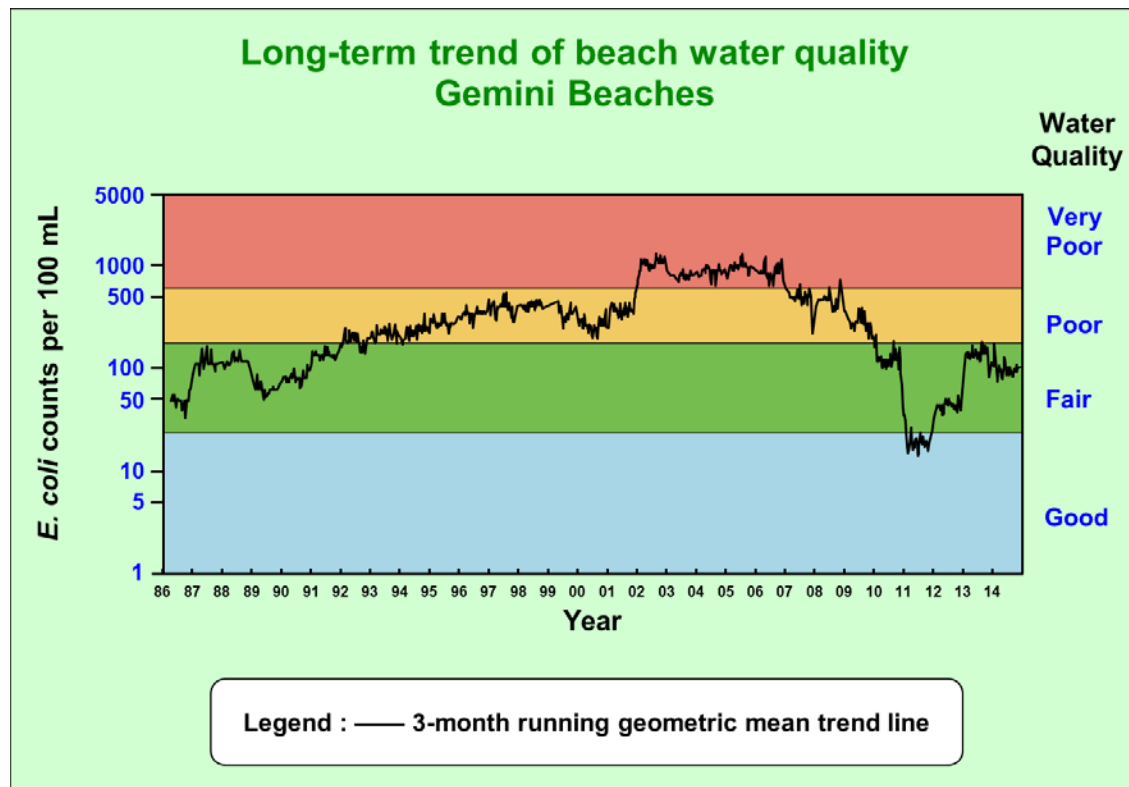
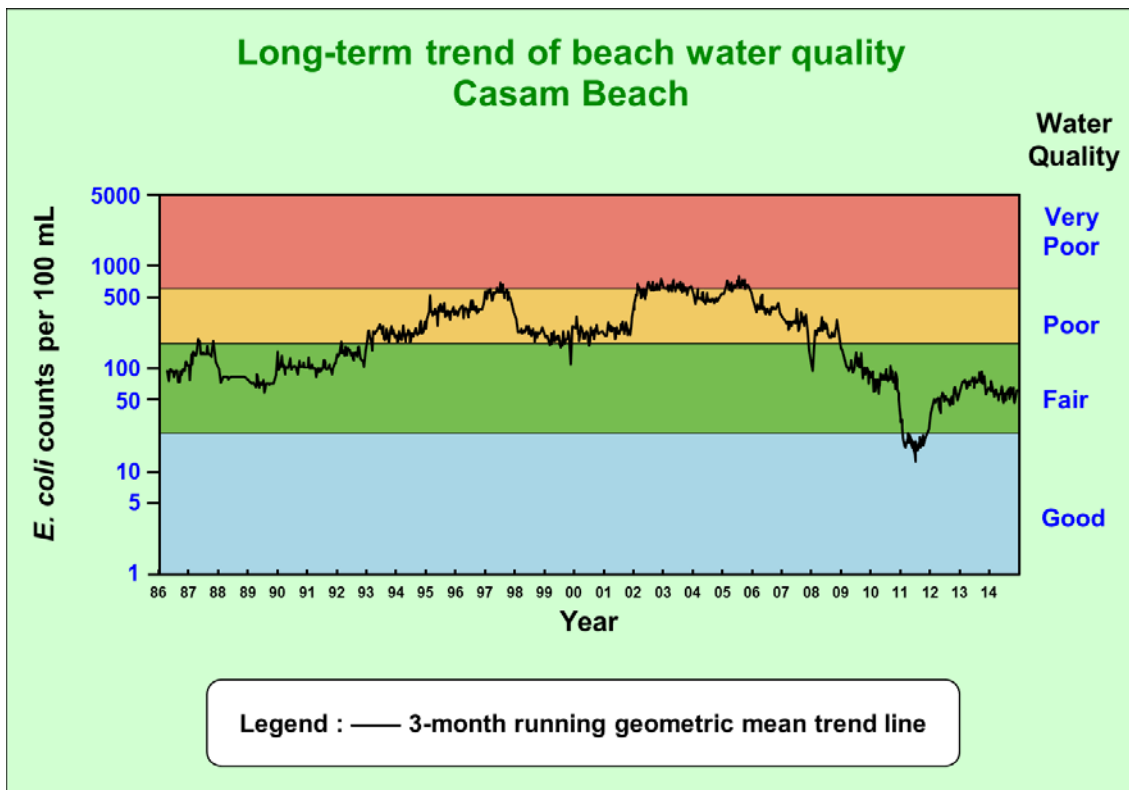
### Long-term trend of beach water quality Approach Beach



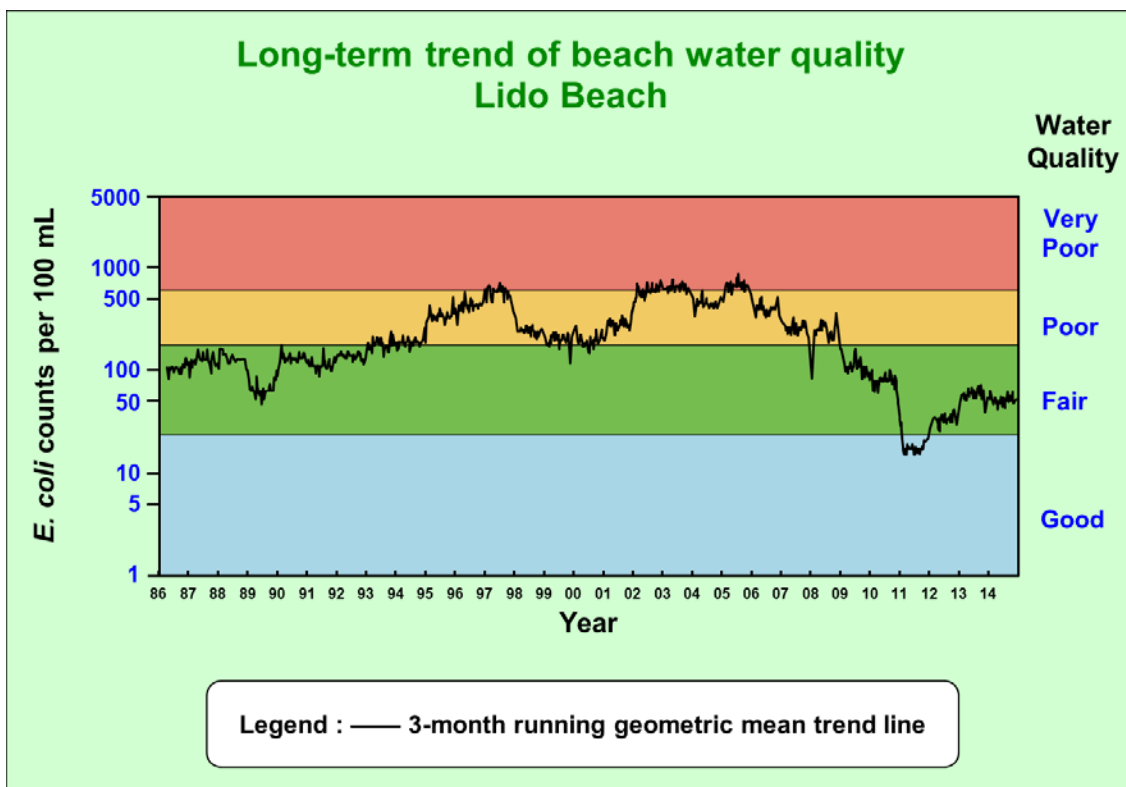
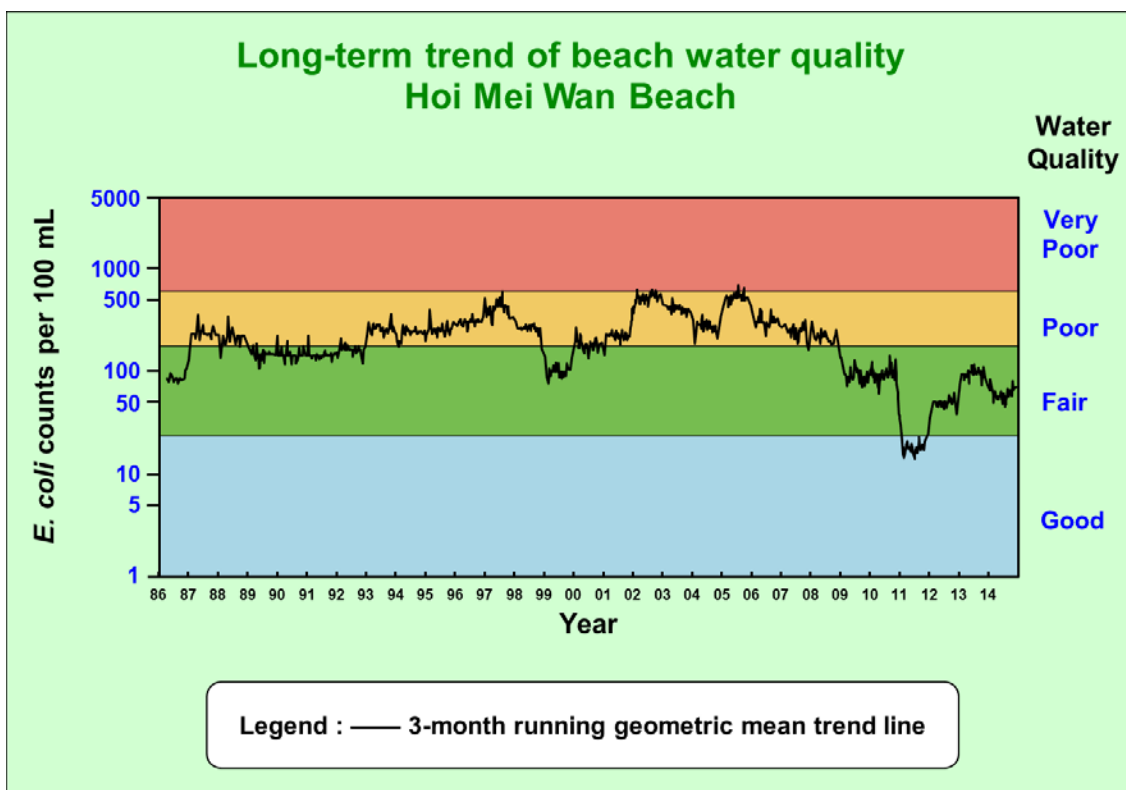
D10



# Beach Water Quality in Hong Kong 2014

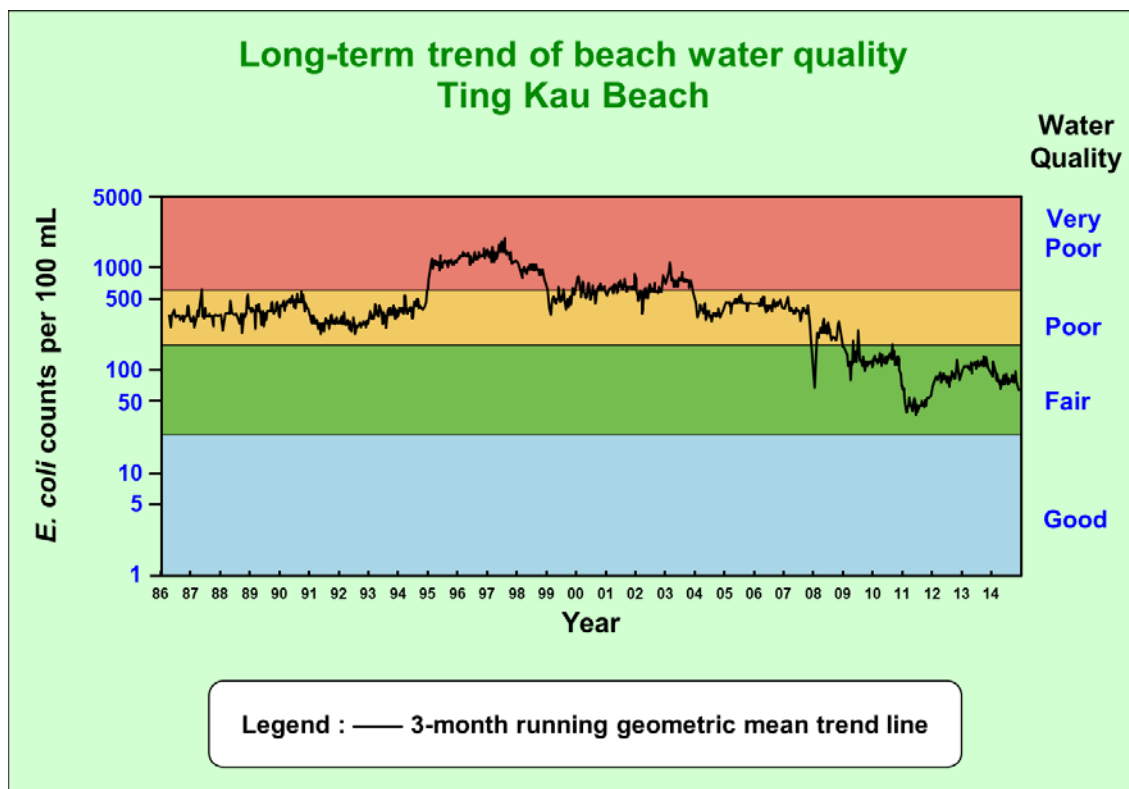
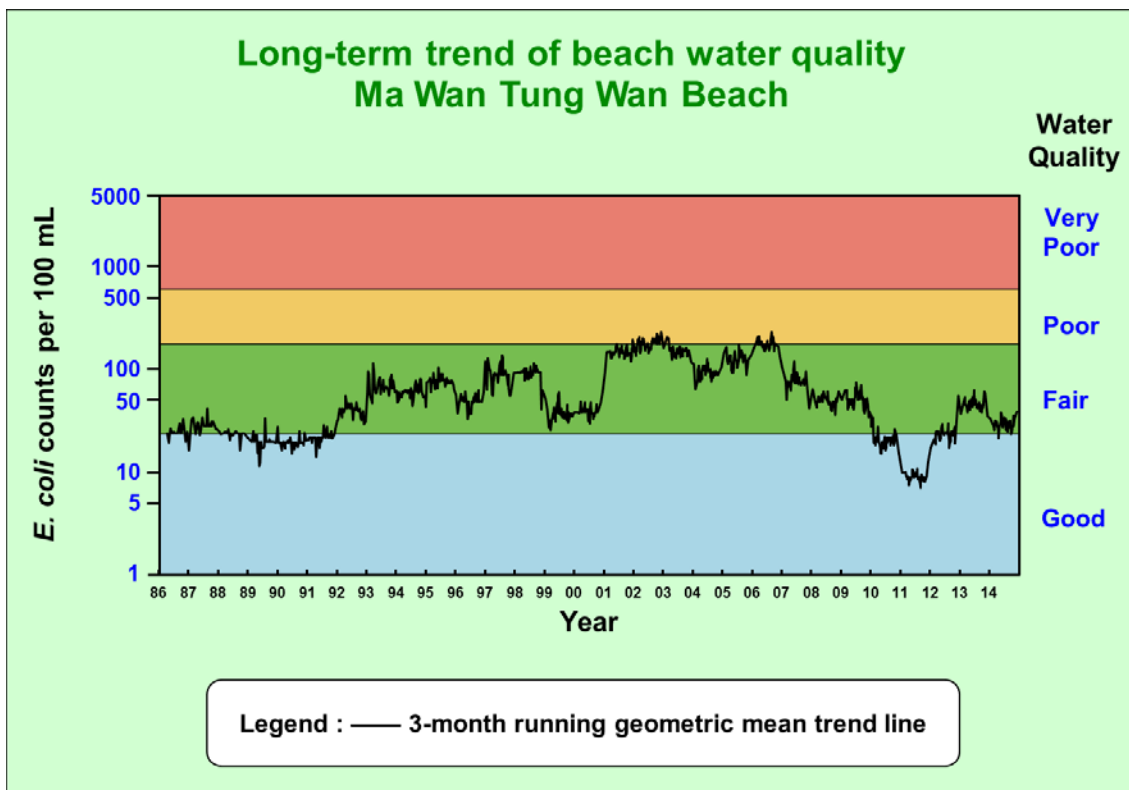


# Beach Water Quality in Hong Kong 2014





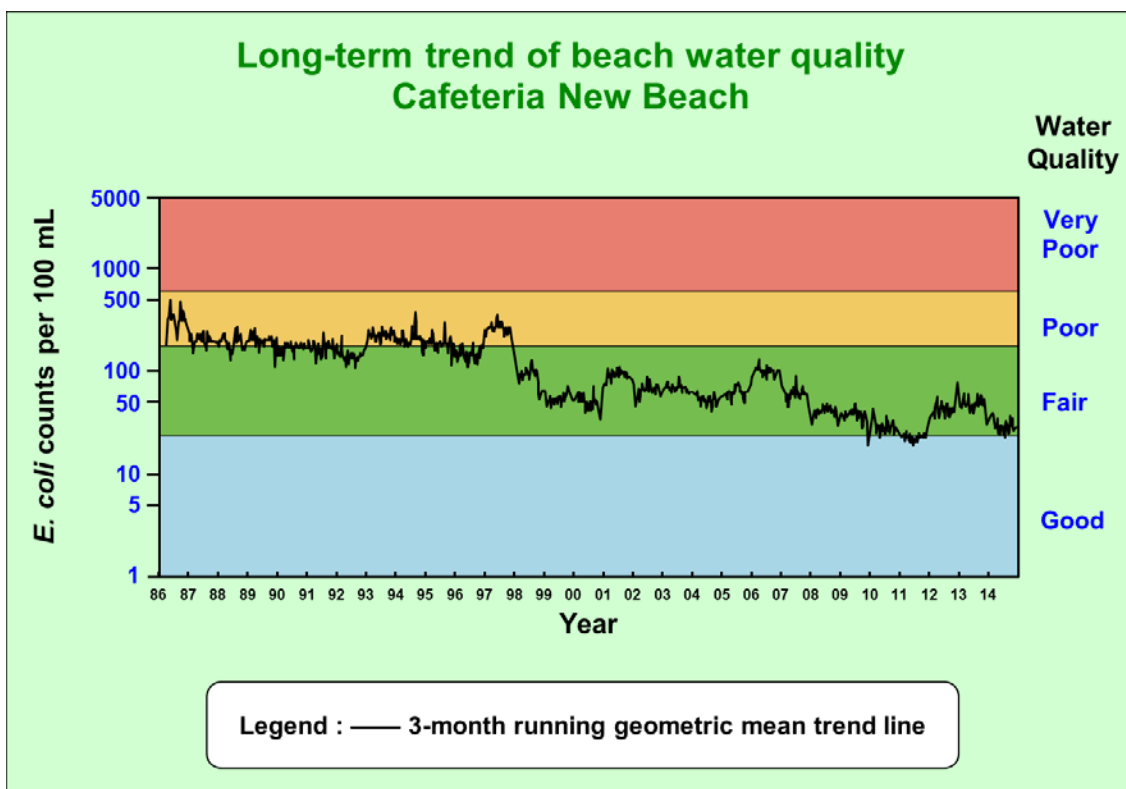
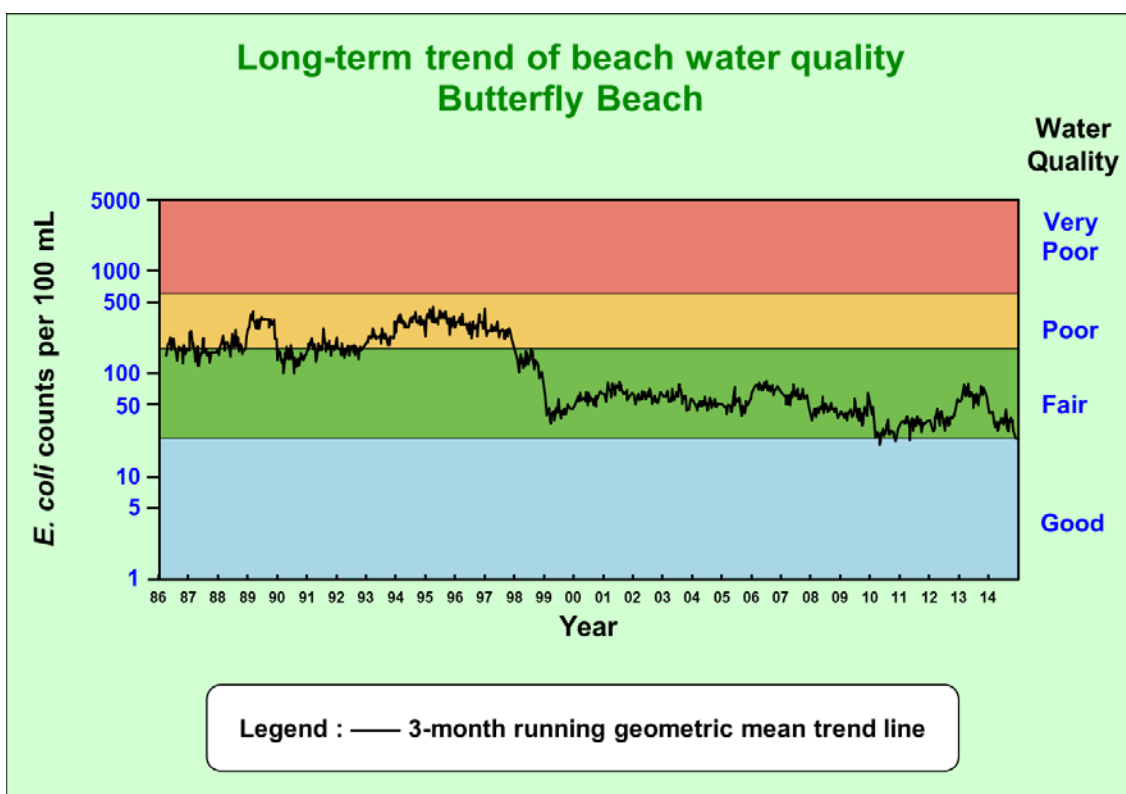
# Beach Water Quality in Hong Kong 2014



# Beach Water Quality in Hong Kong 2014

## Tuen Mun District

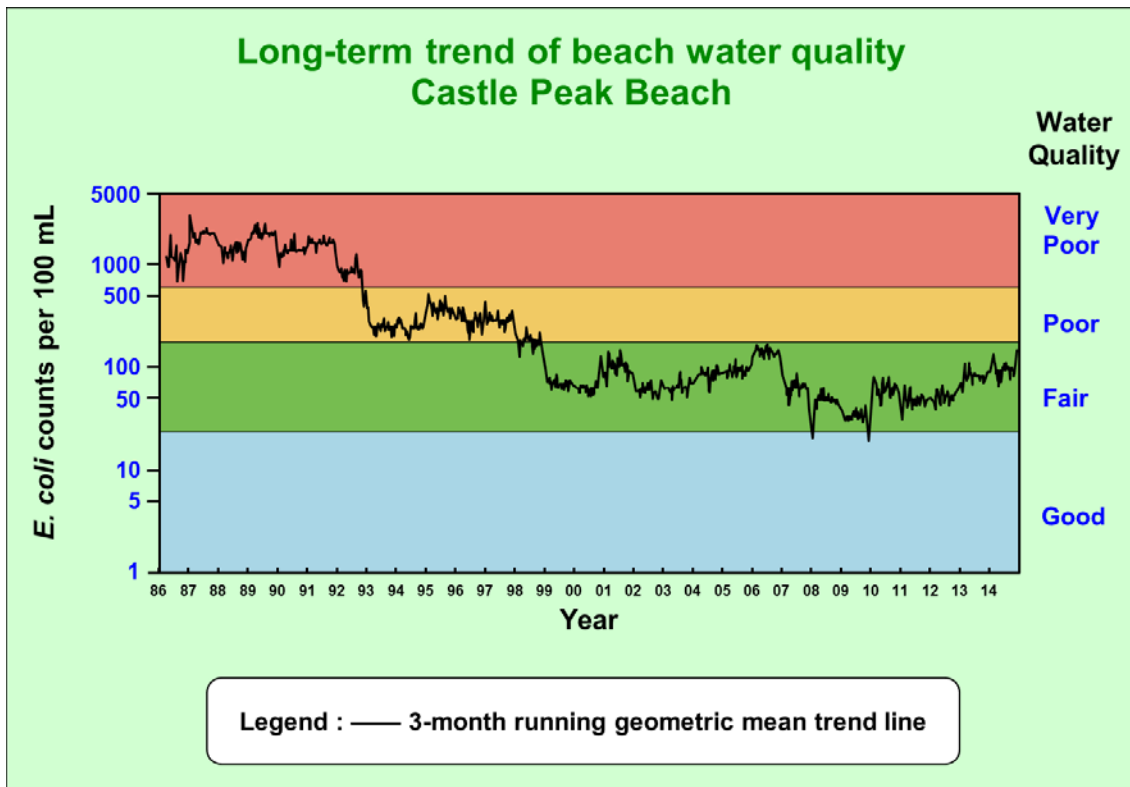
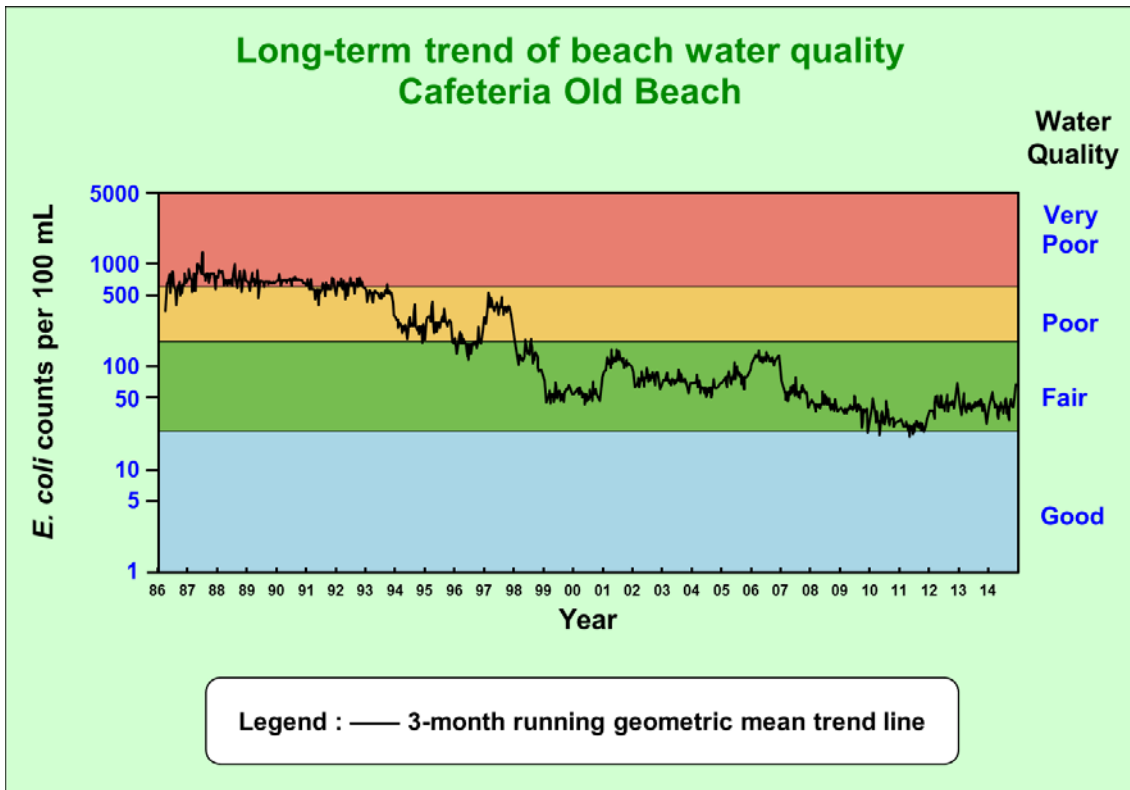
Appendix D



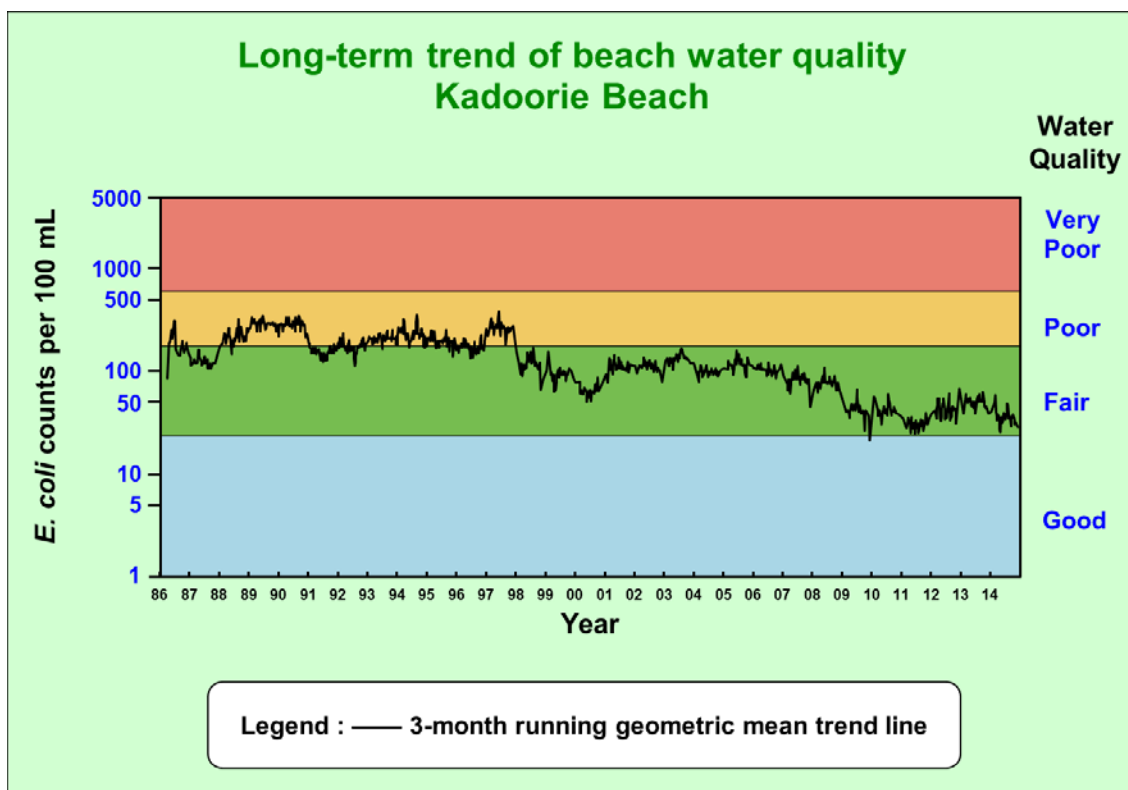
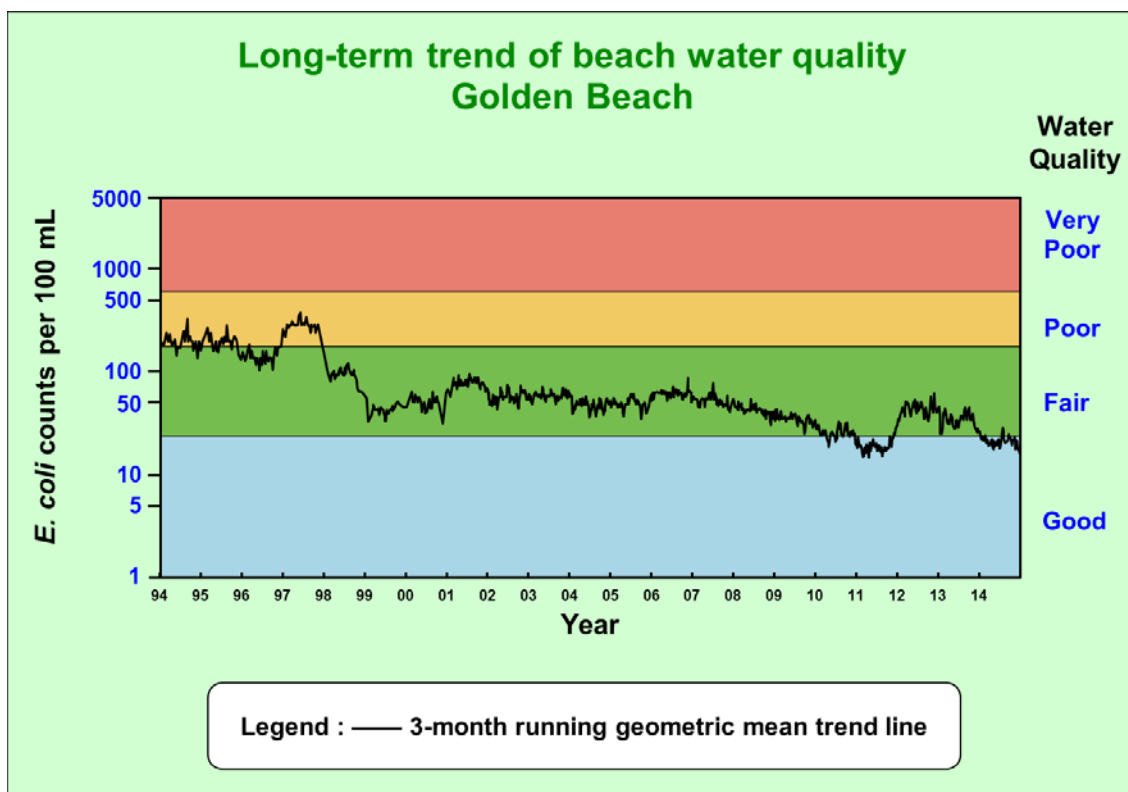
D14



# Beach Water Quality in Hong Kong 2014



# Beach Water Quality in Hong Kong 2014

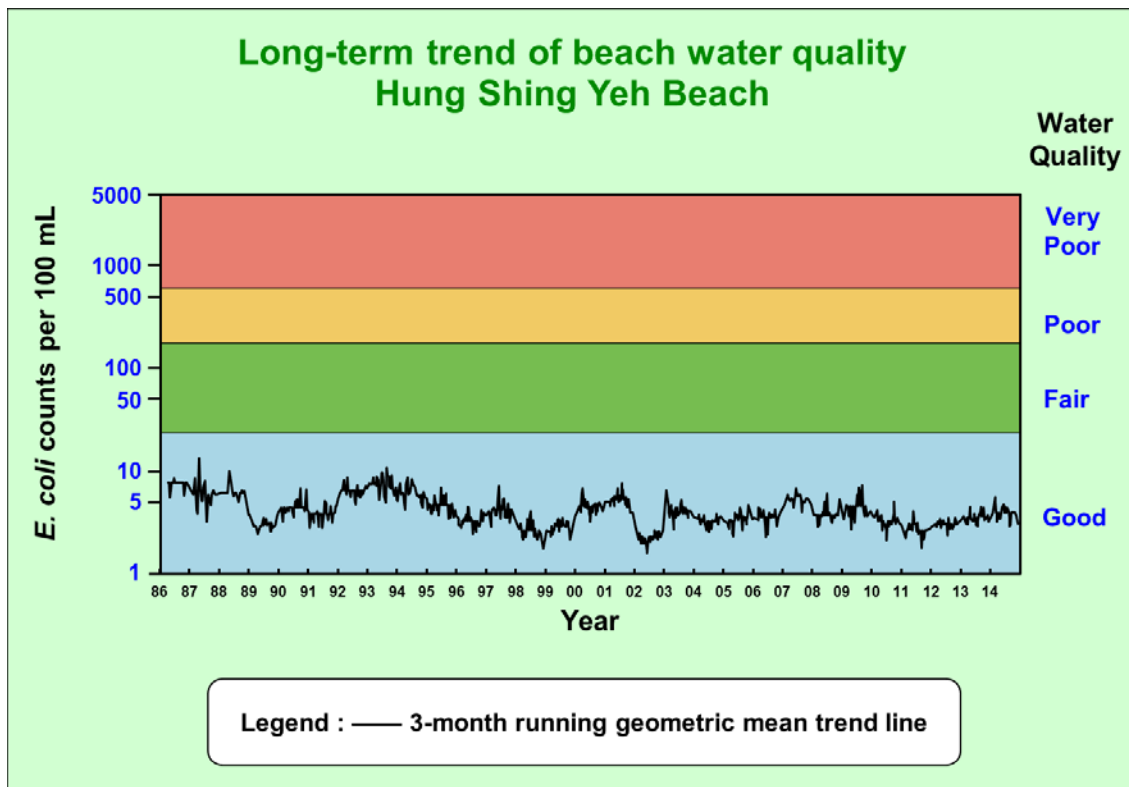
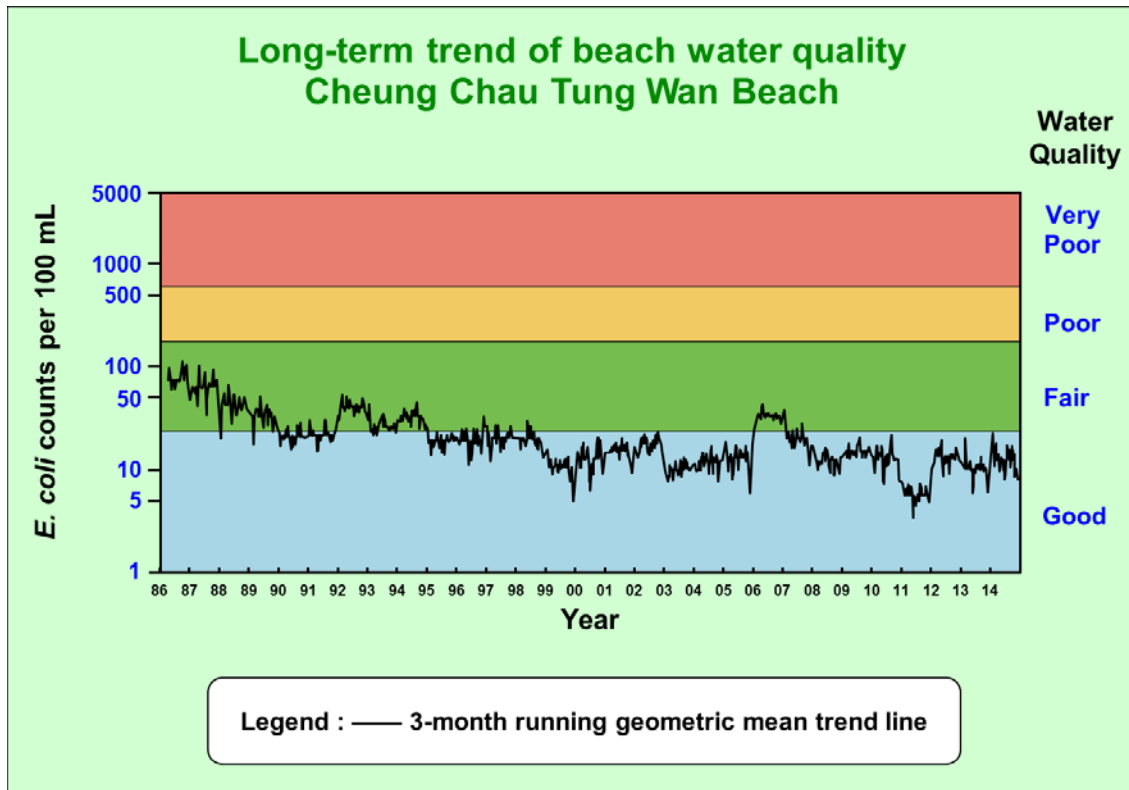




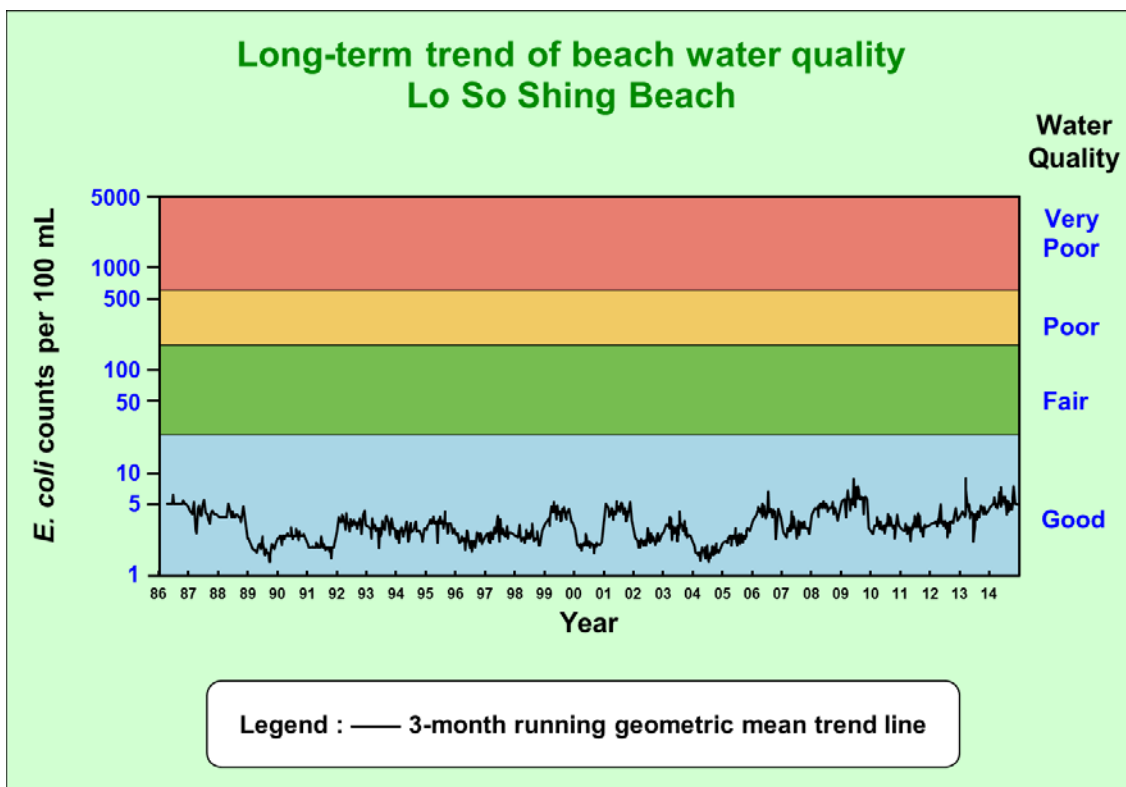
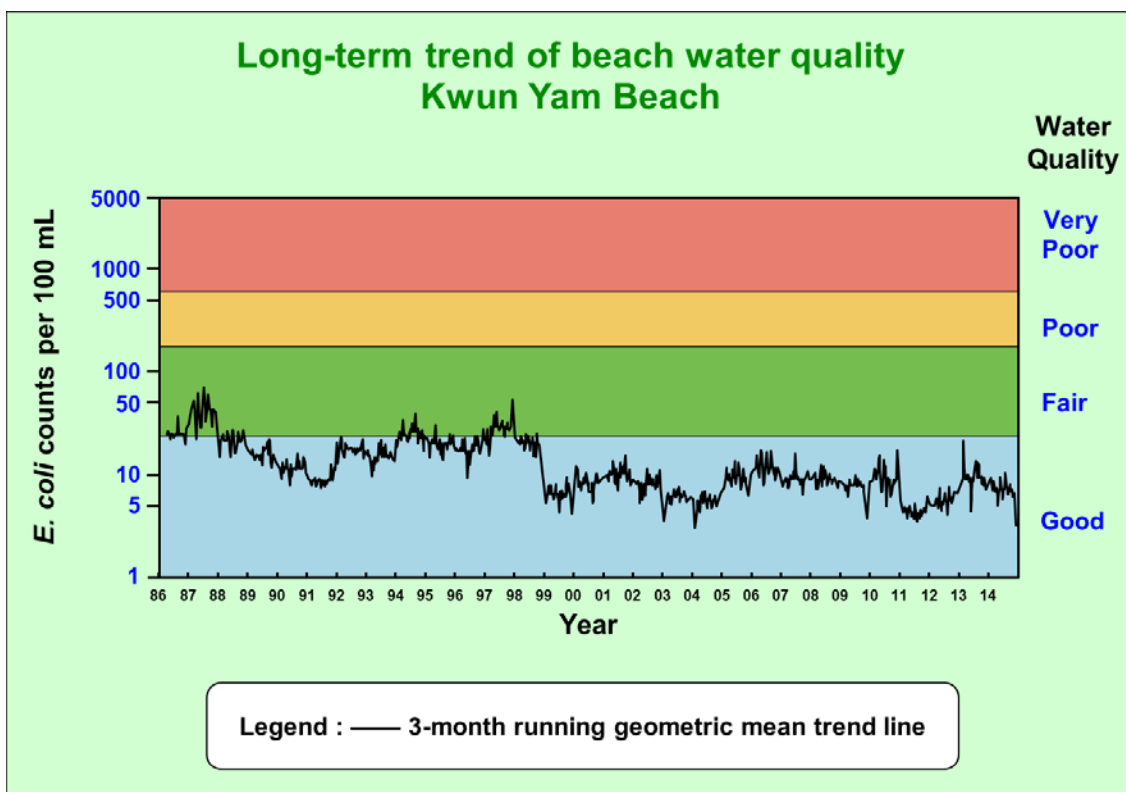
# Beach Water Quality in Hong Kong 2014



## Outlying Islands

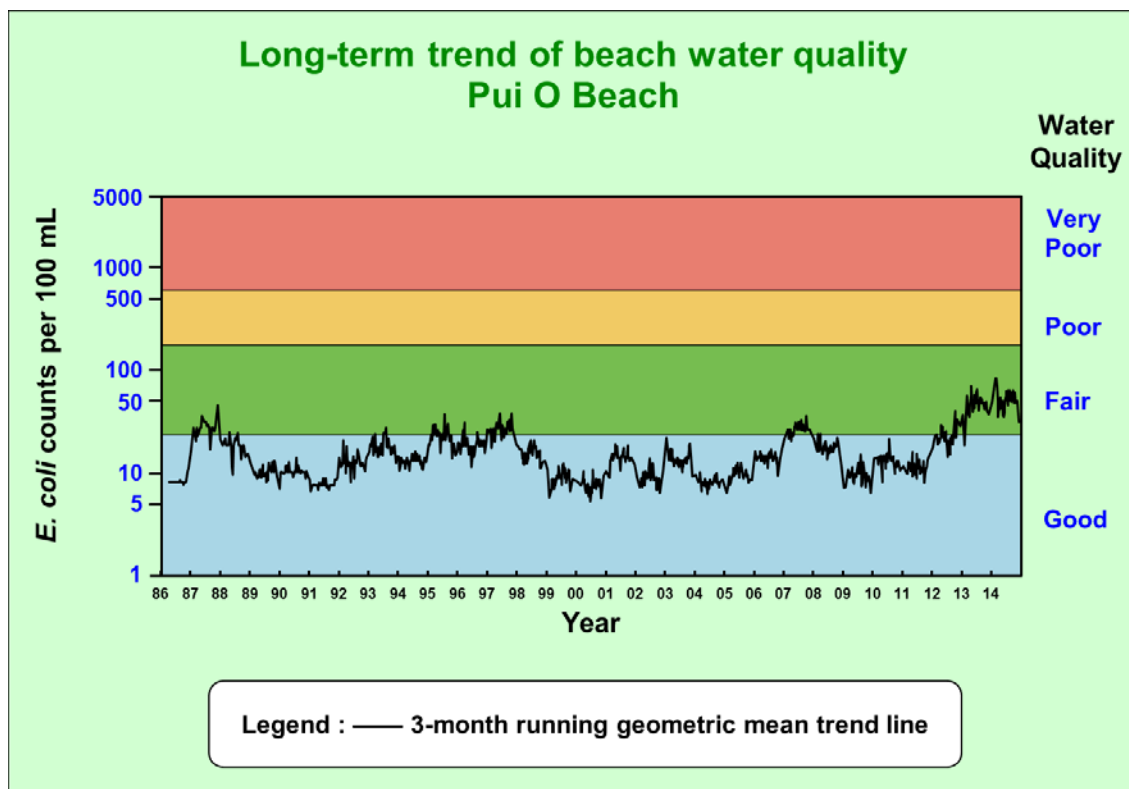
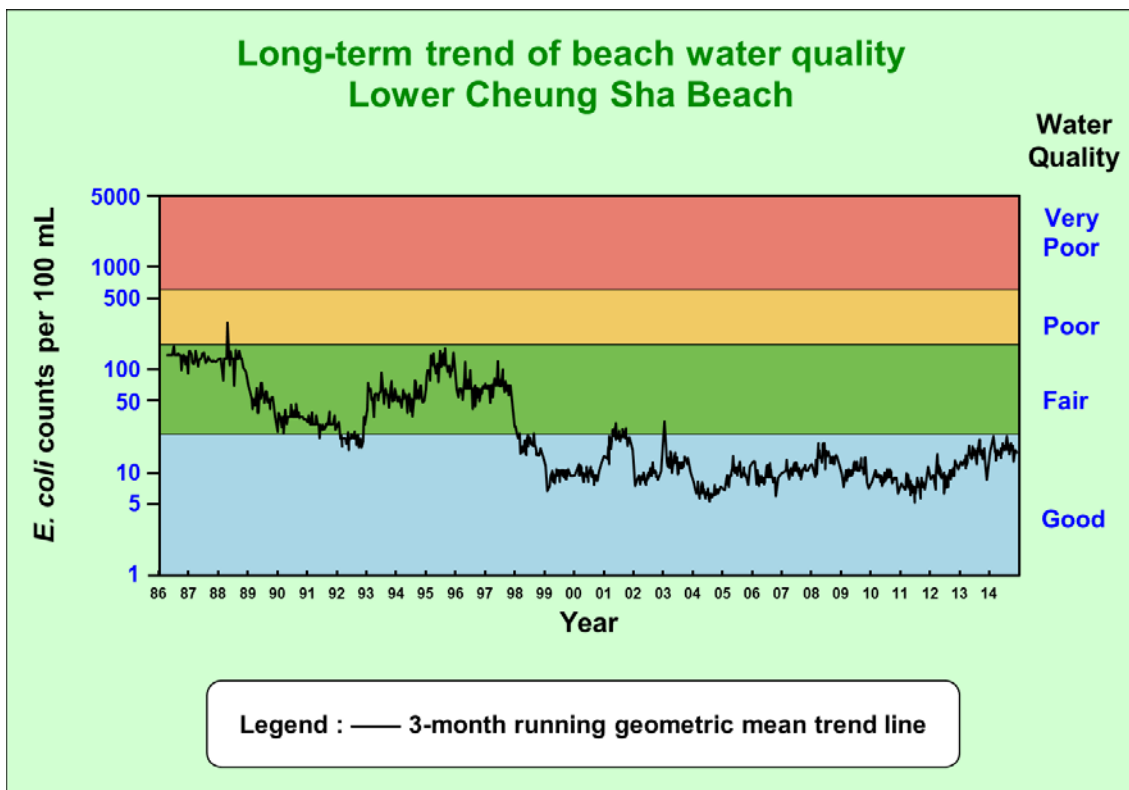


# Beach Water Quality in Hong Kong 2014

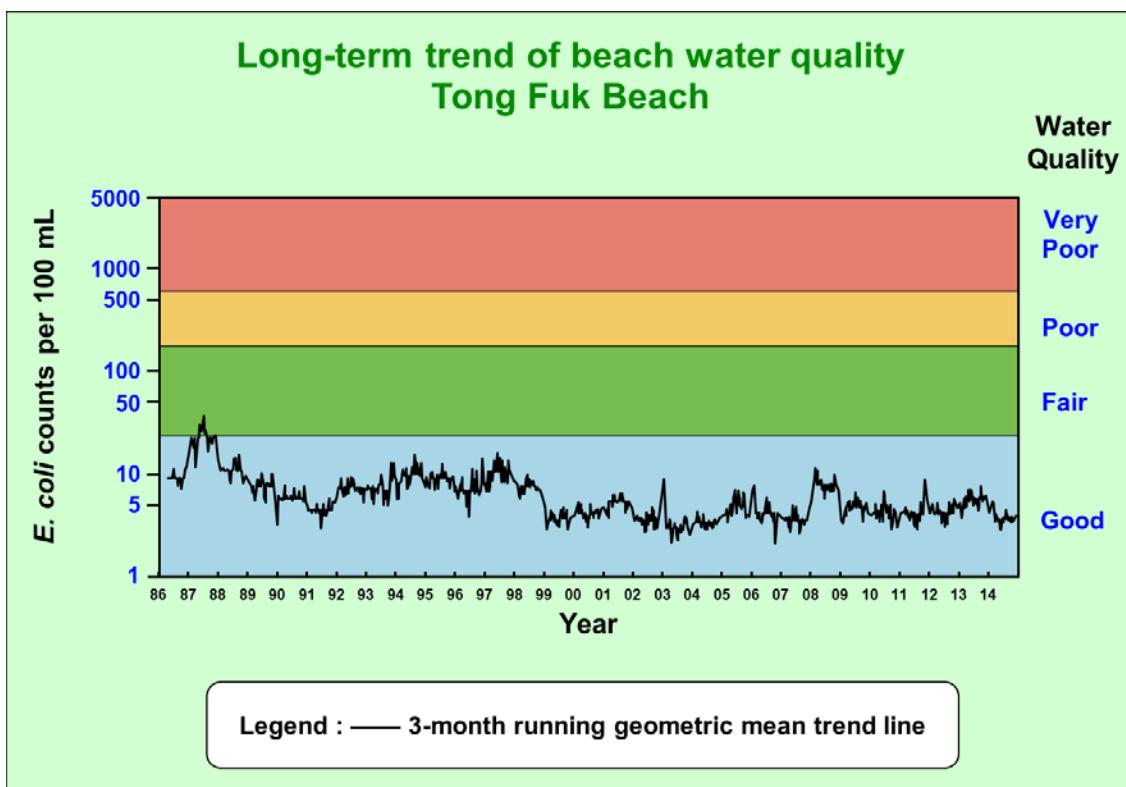
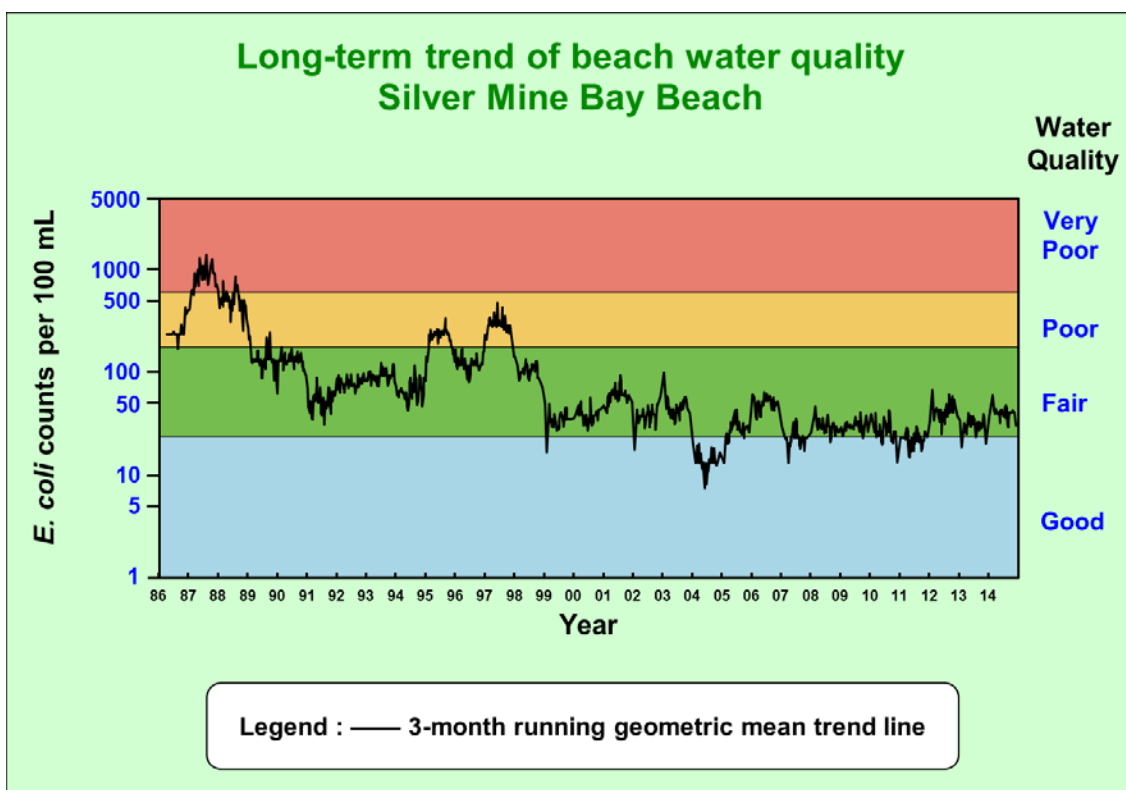




# Beach Water Quality in Hong Kong 2014

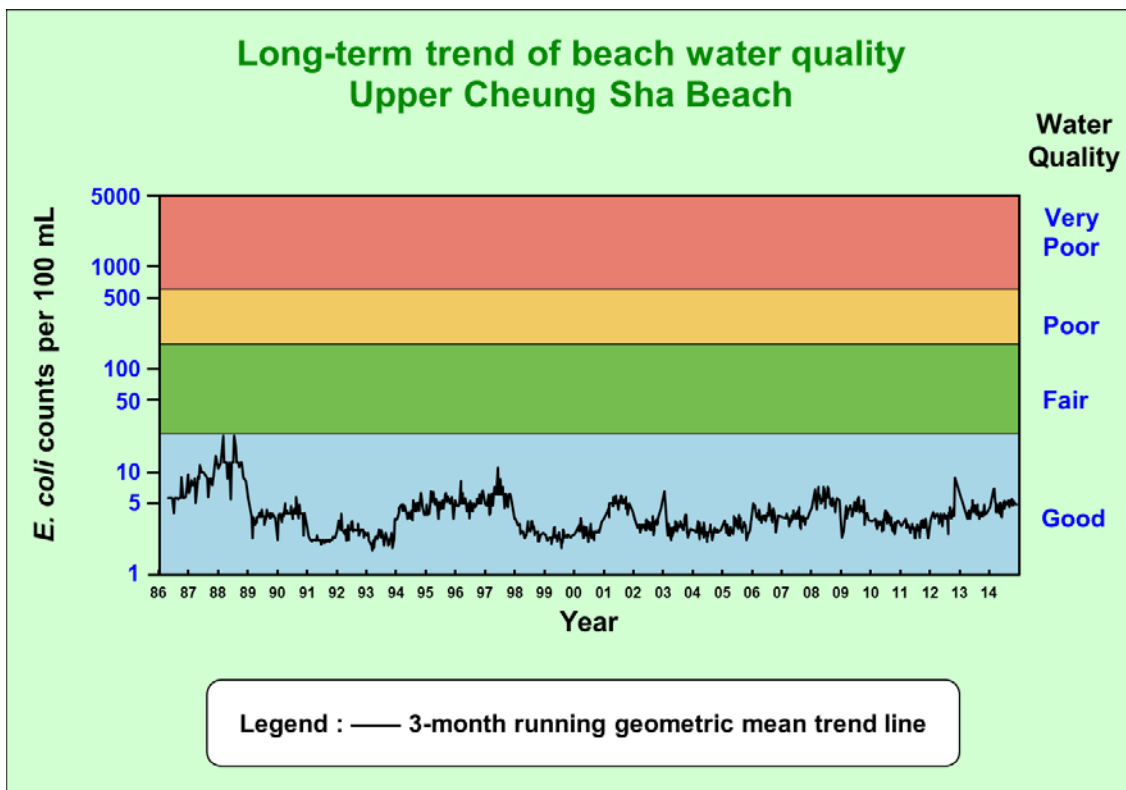


# Beach Water Quality in Hong Kong 2014





# Beach Water Quality in Hong Kong 2014





The background of the entire page is a photograph of a beach. In the foreground, a woman in a yellow sleeveless top and a young child in a purple dress are walking away from the camera on the sandy beach. The child is holding a red bucket. In the middle ground, there are large, dark, wet rocks. A yellow buoy line with black floats stretches across the water, partially obscured by the rocks. The water is a calm, light blue-grey color.

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