

# 香港泳灘水質 2021

## *Beach Water Quality in Hong Kong*

為更佳泳灘水質而努力 ● *Strive for better beach water quality*

大埔龍尾泳灘  
*Tai Po Lung Mei Beach*



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



## *Our Mission :*

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



▲ Charming beaches under clear sky



## Introduction

Sea bathing at scenic beaches is one of the popular outdoor activities of Hong Kong residents and tourists. To safeguard public health, the Government is committed to maintain a clean and safe swimming environment for beachgoers.

Since the establishment of the Environmental Protection Department (EPD) in 1986, a comprehensive Beach Water Quality Monitoring Programme has been implemented. This report summarizes the beach monitoring data collected in 2021, corresponding grading and bacteriological Water Quality Objective (WQO) compliance rate for bathing waters.



▲ Public enjoying sea bathing on a sunny day





The COVID-19 pandemic still prevailed in 2021. In spite of that, EPD had strived to continue the water quality monitoring work at all beaches in the territory. In the period, EPD staff conducted field visits to inspect the beach conditions and collect water samples for laboratory analysis of *Escherichia coli* (*E. coli*) level. Physicochemical water quality parameters including dissolved oxygen, pH, salinity, temperature and turbidity of beach water were also measured in-situ for reference purpose.



▲ Water sampling and field measurement at beaches



▲ Analysis of water samples at EPD's environmental microbiology laboratory



▲ Water quality information displayed at the gazetted beaches

EPD has established a dual rating system for beach water quality based on *E. coli* level as an indicator to assess the annual ranking and weekly grading of the beaches. Each ranking or grading represents a defined risk level of contracting minor swimming-associated gastrointestinal and skin illnesses. The annual ranking reflects the overall water quality of the beach in the entire bathing season, while the weekly grading traces recent water quality changes. Under this system, beaches are categorised into “Good”, “Fair”, “Poor” and “Very Poor”. Beaches with “Good” or “Fair” annual ranking meet the bacteriological WQO for bathing waters.

## Annual Beach Ranking in 2021

Upon the opening of Tai Po Lung Mei Beach to the public on 23 June 2021, the number of gazetted beaches in Hong Kong increased to a total of 42. All these 42 gazetted beaches complied with the bacteriological WQO in 2021, among which 30 beaches (or 71%), 6 more than in 2020, received a “Good” ranking and 12 (or 29%) received a “Fair” ranking. No beaches were in the “Poor” or “Very Poor” ranking in both years.



▲ Middle Bay Beach has maintained a “Good” annual ranking since 1998

The overall beach water quality this year was satisfactory, with number of “Good” ranking beaches reaching close to the record high. The cumulative rainfall in the 2021 bathing season (2 220 mm) was on par with the 30-year climatological average in 1991-2020 (2 285 mm), while the months of March to May and August to September were drier than normal. Hence the water quality remained largely stable during these periods, and presented higher extent of fluctuation in the exceptionally humid October. At the same time, the number of bright sunshine hours during the 2021 bathing season was 8.4% higher than the 30-year climatological average, enhancing the natural recovery of water quality.



The 42 gazetted beaches are distributed in 6 districts, namely Tuen Mun, Tsuen Wan, Southern (Hong Kong Island South), Islands, Sai Kung and Tai Po.

Across the territory, Sai Kung District remained better in beach water quality in 2021 with all its 6 beaches receiving a “Good” annual ranking. All the 12 beaches in the Southern District and the 9 beaches in the Islands District maintained the same ranking as in last year, with each district having one beach with “Fair” ranking (Big Wave Bay Beach in Southern District and Silver Mine Bay Beach in Islands District), and the rest were all ranked as “Good”.

Tuen Mun District made a record of having 4 beaches (Golden Beach, Cafeteria New Beach, Cafeteria Old Beach and Kadoorie Beach) ranked “Good” and 2 beaches (Castle Peak Beach and Butterfly Beach) ranked “Fair”. Cafeteria Old Beach and Kadoorie Beach were ranked “Good” for the first time since the monitoring programme started in 1986.



▲ The flat and broad Pui O Beach

Located adjacent to Tuen Mun District, Tsuen Wan District had all its 8 beaches maintained a “Fair” ranking as in last year. Since the gradual re-opening of all Tsuen Wan beaches between 2011 and 2014 due to water quality improvement upon the completion of sewerage works in the beach hinterland and the commissioning of the disinfection facilities of the Harbour Area Treatment Scheme in March 2010, stable water quality suitable for bathing has been observed at these beaches.

Tai Po Lung Mei Beach is the only public bathing beach in Tai Po District. The beach ended its first bathing season with a “Good” annual ranking.



▲ Tai Po Lung Mei Beach became a new leisure resort in the district

In 2021, EPD continued to monitor 2 non-gazetted beaches, the popular Discovery Bay in Lantau Island and the sandy New Kiu Tsui adjacent to Kiu Tsui Beach in Sai Kung. Both beaches maintained a “Good” ranking as in last year.



## Weekly Beach Grading in 2021

On top of the annual ranking, EPD also issues weekly grading of gazetted beaches during their usual opening periods to keep beachgoers informed of more recent changes in beach water quality. These latest grading information is disseminated through different channels including press releases, EPD's beach thematic website, beach water quality hotline, GeoInfo Map of the GovHK website and noticeboards at the beaches. An overview of the weekly grading status of the beaches in 2021 is provided below.

The 6 beaches in the Sai Kung District, which all received “Good” annual ranking, also performed well in terms of their weekly grading, and on average attained a “Good” grading for 88% of time in this bathing season. There was only 1 occasion when Silverstrand Beach was graded “Very Poor” in early October, with the water quality recovering to normal level on the following day.

Beaches in the Southern District maintained a long period of good water quality. Among the 10 beaches in the district, Repulse Bay Beach, South Bay Beach, Chung Hom Kok Beach, St. Stephen's



Beach, Turtle Cove Beach and Shek O Beach achieved a “Good” grading throughout the entire bathing season. Middle Bay Beach was graded as “Very Poor” once in late April and Big Wave Bay Beach once in early August, both occurrences were associated with rainfall.

▲ The energetic Shek O Beach



A majority of the beaches in the Islands District had excellent water quality. Among them, Hung Shing Yeh Beach, Lo So Shing Beach and Upper Cheung Sha Beach achieved a “Good” grading for 100% of the time in this bathing season. Lower Cheung Sha Beach and Kwun Yam Beach were graded “Very Poor” once in June and July respectively after heavy rain, while Silver Mine Bay Beach received a “Very Poor” grading 3 times between late June and late August.

Apart from Butterfly Beach and Castle Peak Beach which were graded “Fair” for most of the time and occasionally “Very Poor” after heavy rain in the bathing season, the other 4 beaches in the Tuen Mun District had overall achieved a considerably better weekly grading status when compared to the past few years.



▲ Golden Beach is one of the most popular beaches for family activities

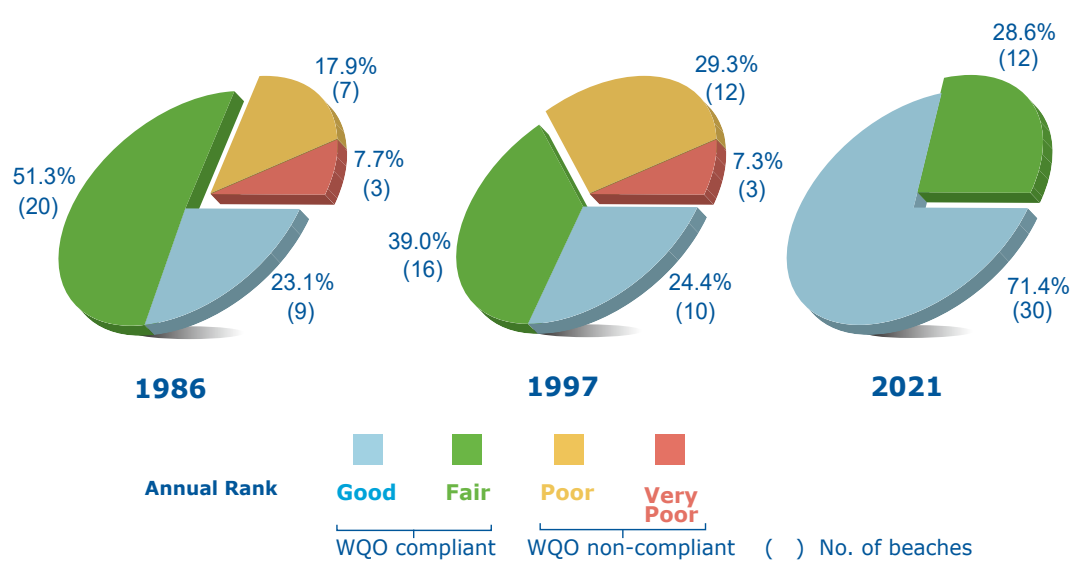
Similar to last year, beaches in the Tsuen Wan District were graded “Fair” in most of the time in this bathing season. A certain degree of improvement could be seen at Approach Beach, Ting Kau Beach and Casam Beach, where “Good” grading was recorded during mid-late April with ample sunshine. Except Hoi Mei Wan Beach, all other open Tsuen Wan beaches were graded “Very Poor” for 1 to 2 times.

Tai Po Lung Mei Beach in the Tai Po District was generally graded “Good” and only temporarily changed to a “Fair” grading between late July and mid August due to heavy rain. The beach did not record any “Poor” or “Very Poor” grading in the entire 2021.

### Water Quality Trend

The satisfying beach water quality in Hong Kong today is the outcome of continuous efforts of the Government and stakeholders in the past two decades. Beaches' rate of compliance with the bacteriological WQO had once deteriorated from 74% in 1986 (29 of 39 beaches) to 63% (26 of 41 beaches) in 1997, and thereafter improved gradually to 100% in 2010. The status of full compliance has maintained for 12 consecutive years since then.

### Comparison of annual beach ranking of gazetted beaches in 1986, 1997 and 2021



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

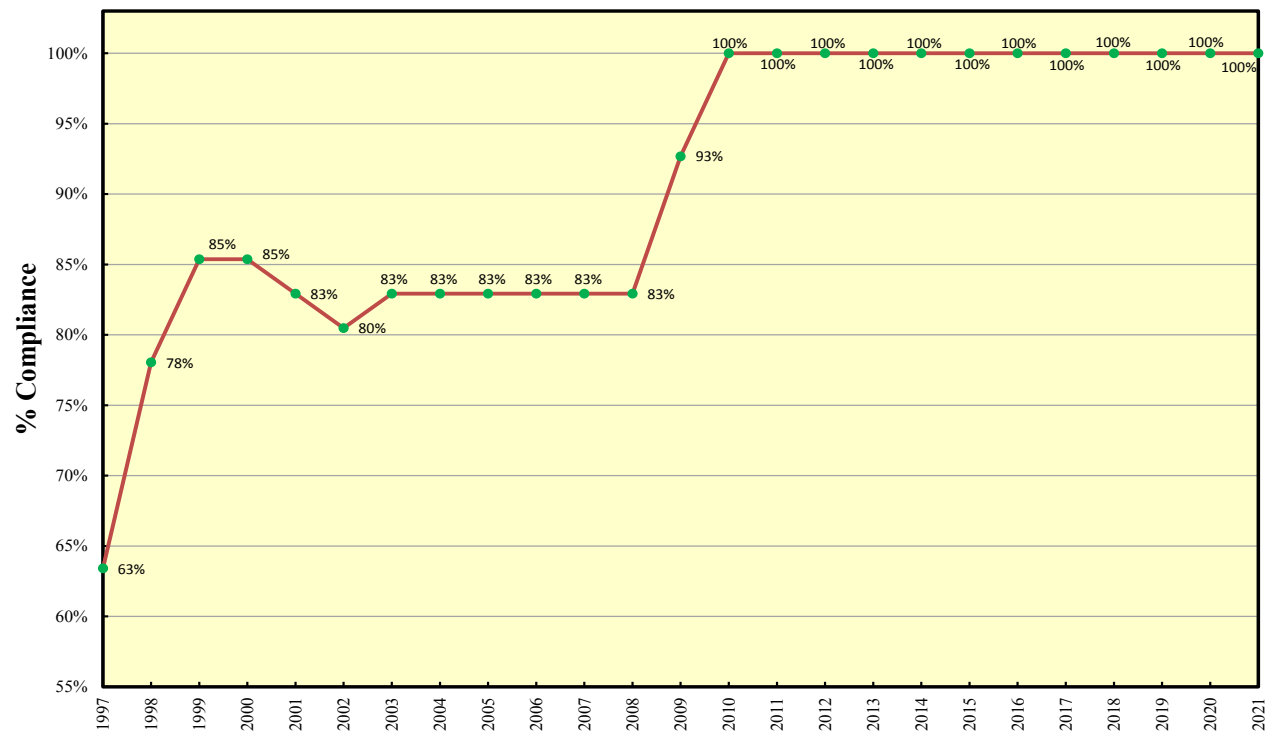
In the 1980s, many beaches were closed (e.g. Cafeteria Old Beach, Castle Peak Beach and Silver Mine Bay Beach) or on the verge of being closed (e.g. Middle Bay Beach and Repulse Bay Beach) due to poor water quality. There was a further drop in compliance rate in the mid-1990s due to population growth associated with new town development. In view of the situation, the Government invested resources extensively to implement various pollution abatement measures, including enforcement of environmental legislation (e.g. Water Pollution Control Ordinance and Livestock Waste Control Scheme), extension of sewerage network, provision of new sewage treatment facilities and upgrade of existing facilities. In particular the Harbour Area Treatment Scheme, a core infrastructure project, has brought marked improvement in beach water quality. The major water quality improvement measures implemented in the past are summarized in the following table.



Major improvement measures since the implementation of beach water quality monitoring programme in 1986	
1986 – 1990	Beaches with Water Quality Improved
<ul style="list-style-type: none"> <li>✱ Implementation of the Livestock Waste Control Scheme under the Waste Disposal (Livestock Waste) Regulation.</li> <li>✱ Declaration of the Southern Water Control Zone (WCZ) under the Water Pollution Control Ordinance (WPCO) for legislative enforcement.</li> <li>✱ Interception and diversion of polluted water from storm drains at beaches in Southern District.</li> </ul>	<p>Most beaches, particularly Silver Mine Bay Beach</p> <p>Southern beaches</p> <p>Southern beaches</p>
1991 – 1995	
<ul style="list-style-type: none"> <li>✱ Implementation of chemical waste control.</li> <li>✱ Declaration of the North Western WCZ under the WPCO for legislative enforcement.</li> <li>✱ Diversion of polluted storm water drains away from Castle Peak Beach.</li> <li>✱ Provision of public sewers for So Kwun Wat and Sam Shing Estate.</li> <li>✱ Commissioning of Stanley Sewage Treatment Works (STW).</li> </ul>	<p>All beaches</p> <p>Tuen Mun beaches</p> <p>Castle Peak Beach</p> <p>Tuen Mun Beaches</p> <p>Stanley Main Beach</p>
1996 – 2000	
<ul style="list-style-type: none"> <li>✱ Full implementation of the WPCO in all WCZs.</li> <li>✱ Commissioning of the Shek O Sewage Screening Plant and diversion of polluted storm water drains at Shek O Village .</li> <li>✱ Completion of all major works under the Southern Sewerage Master Plan.</li> <li>✱ Commissioning of the 2 km long Pillar Point sewage submarine outfall.</li> </ul>	<p>All beaches</p> <p>Shek O Beach</p> <p>Southern beaches</p> <p>Tuen Mun beaches</p>
2001 – 2005	
<ul style="list-style-type: none"> <li>✱ Completion of Harbour Area Treatment Scheme Stage 1.</li> <li>✱ Provision of public sewers in the Silverstrand area.</li> <li>✱ Full operation of the Sham Tseng STW.</li> </ul>	<p>Big Wave Bay, Shek O and Rocky Bay Beaches</p> <p>Silverstrand Beach</p> <p>Beaches along the Tsuen Wan coast</p>
2006 – 2021	
<ul style="list-style-type: none"> <li>✱ Commissioning of the Advance Disinfection Facilities at the Stonecutters Island STW.</li> <li>✱ Extension of the public sewerage network to the beach hinterland along Castle Peak Road.</li> <li>✱ Full scale commissioning of all facilities of the Harbour Area Treatment Scheme (HATS) Stage 2A.</li> </ul>	<p>All Tsuen Wan beaches</p> <p>Beaches along the Tsuen Wan coast</p> <p>Beaches along the Tsuen Wan coast</p>

All gazetted beaches in Hong Kong have consistently complied with the required bacteriological water quality standard established based on swimming-associated health risk. EPD will continue to closely monitor the beach water quality to support water quality management policy, and to provide latest water quality data for beach users' reference.

**Rate of compliance with bacteriological WQO at gazetted beaches  
during 1997 – 2021**





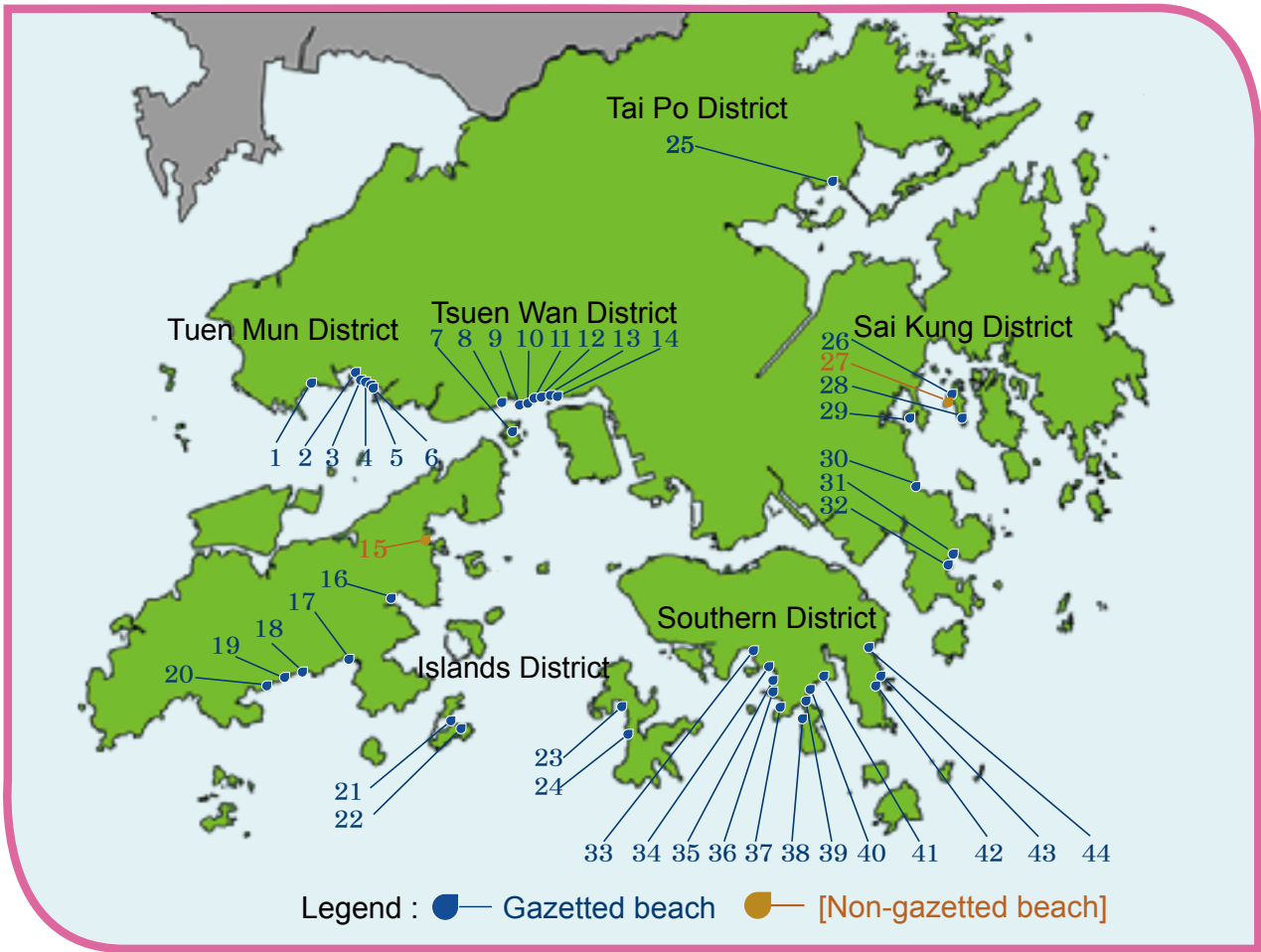
Appendix D of this report provides graphs of water quality trend of all gazetted beaches since the monitoring programme started. The public can also visit the beach water quality thematic website (<https://www.epd.gov.hk/epd/beach>) to obtain more details of the beach monitoring programme, as well as annual beach water quality reports and data published since 2000.



▲ We love beaches



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. Tai Po 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

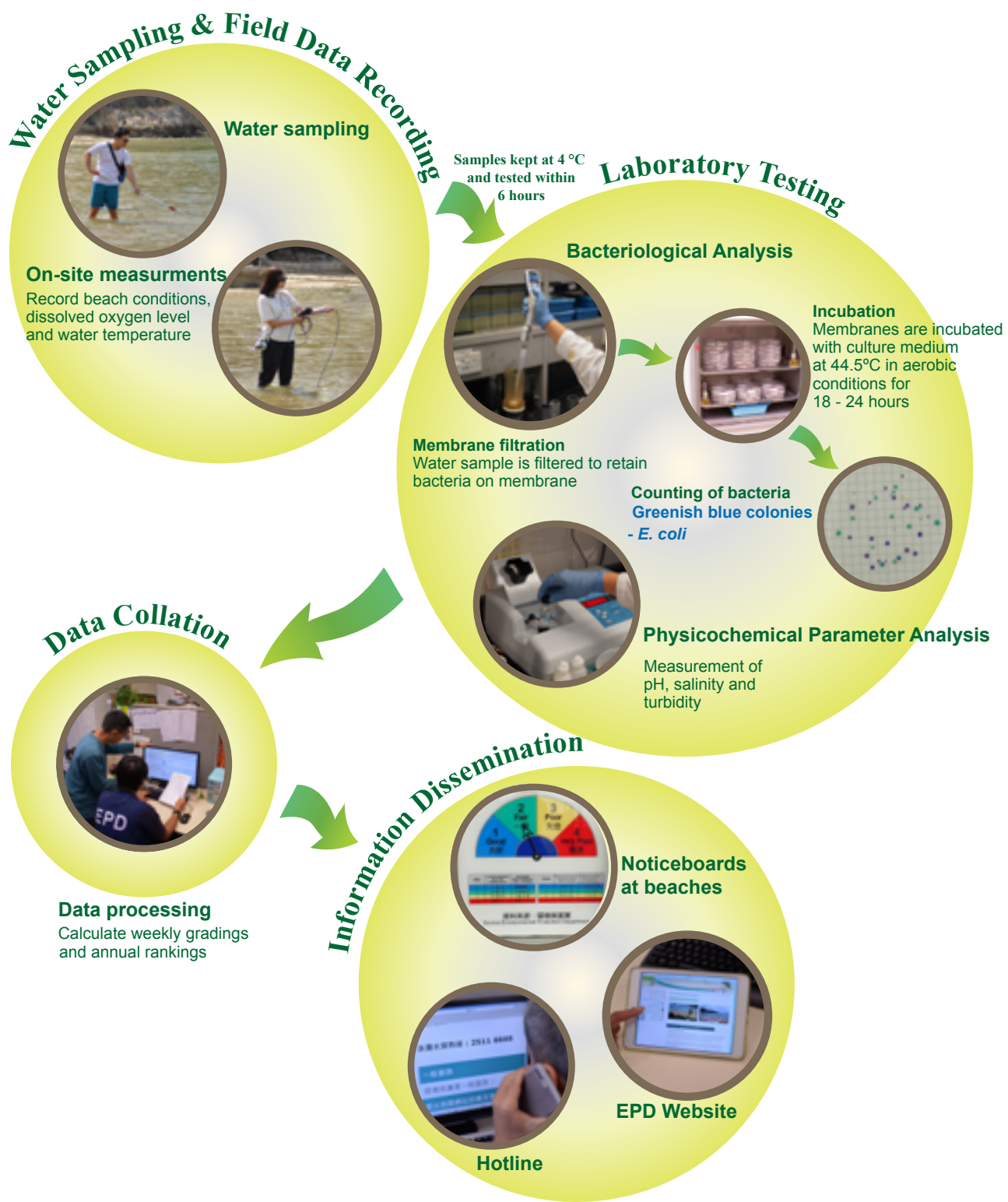


## Beach monitoring frequency

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

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

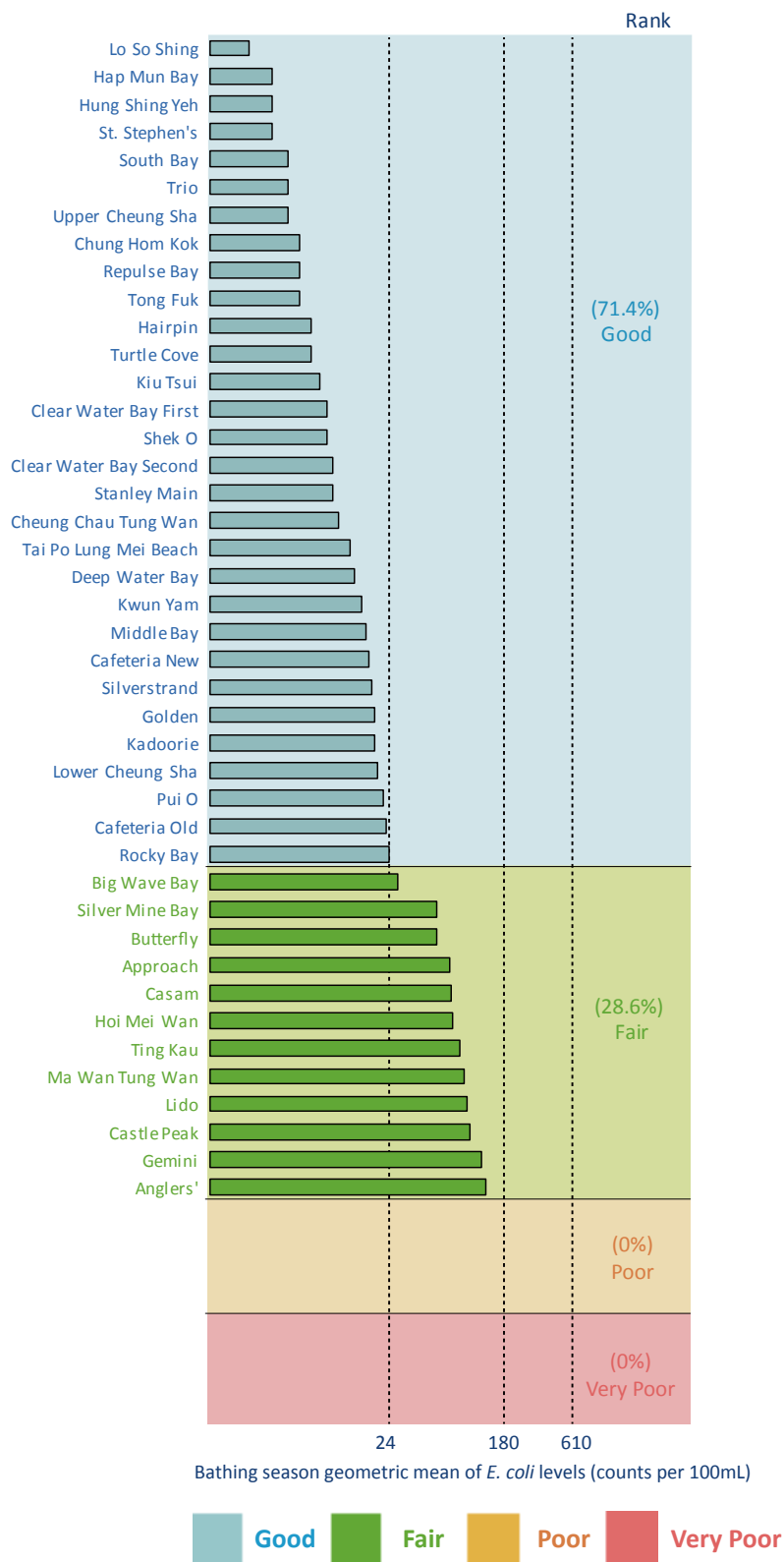
## Hong Kong's weekly beach grading system

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

Annual ranking and bathing season geometric mean of *E. coli* levels of Hong Kong's gazetted beaches, 2021

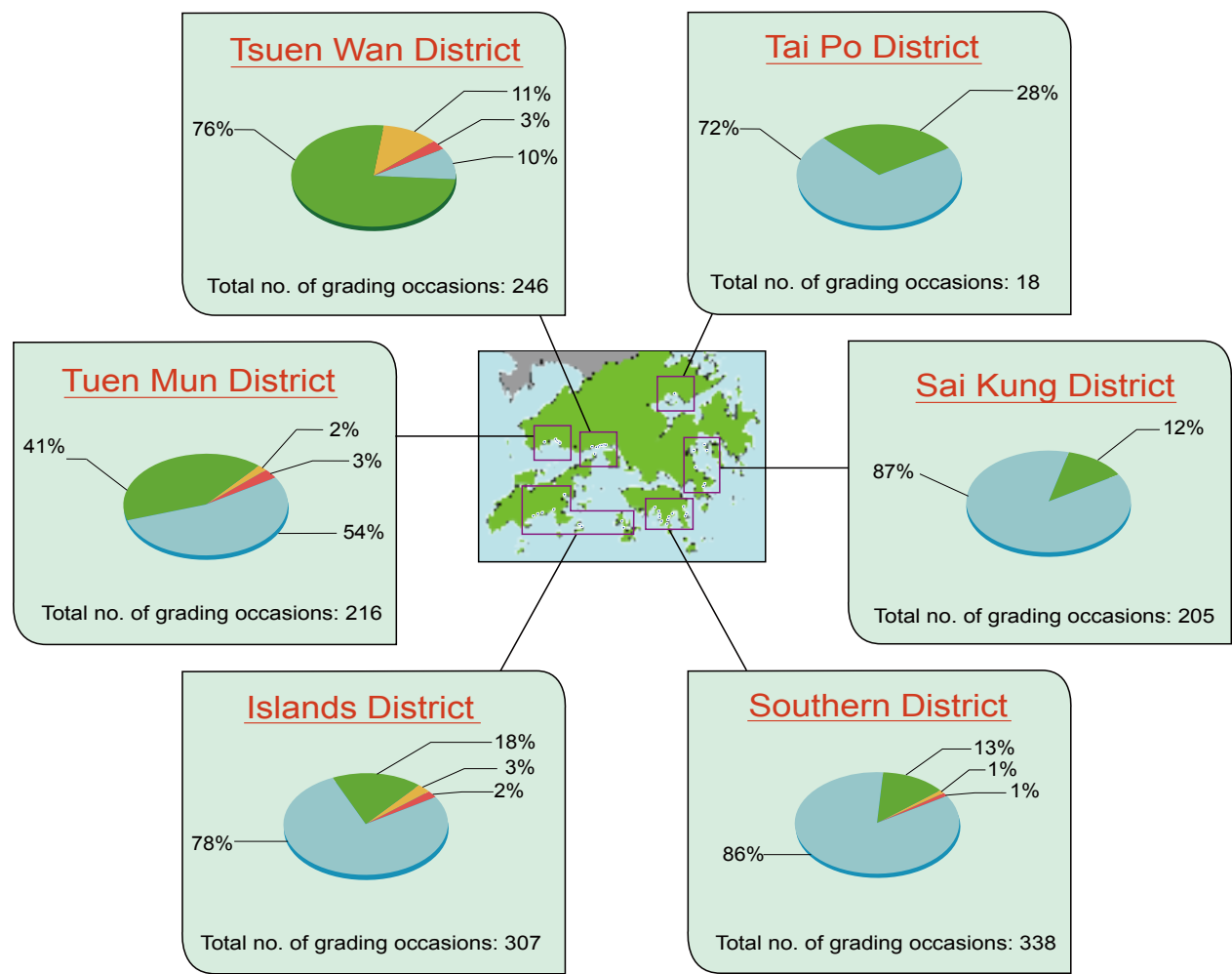




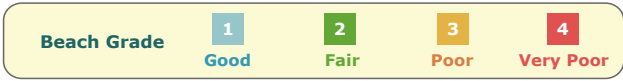
## Annual ranking of gazetted beaches at a glance, 2021



Weekly beach grading summary of open gazetted beaches by district, 2021



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



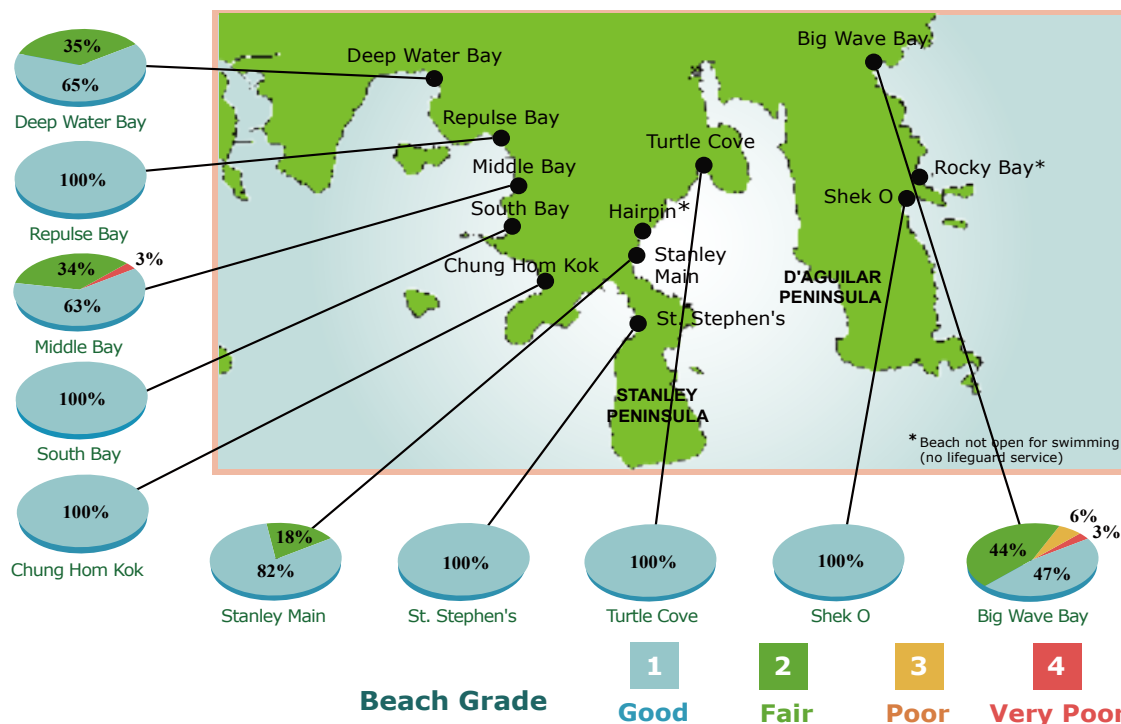


## Southern District beaches

### Annual ranking



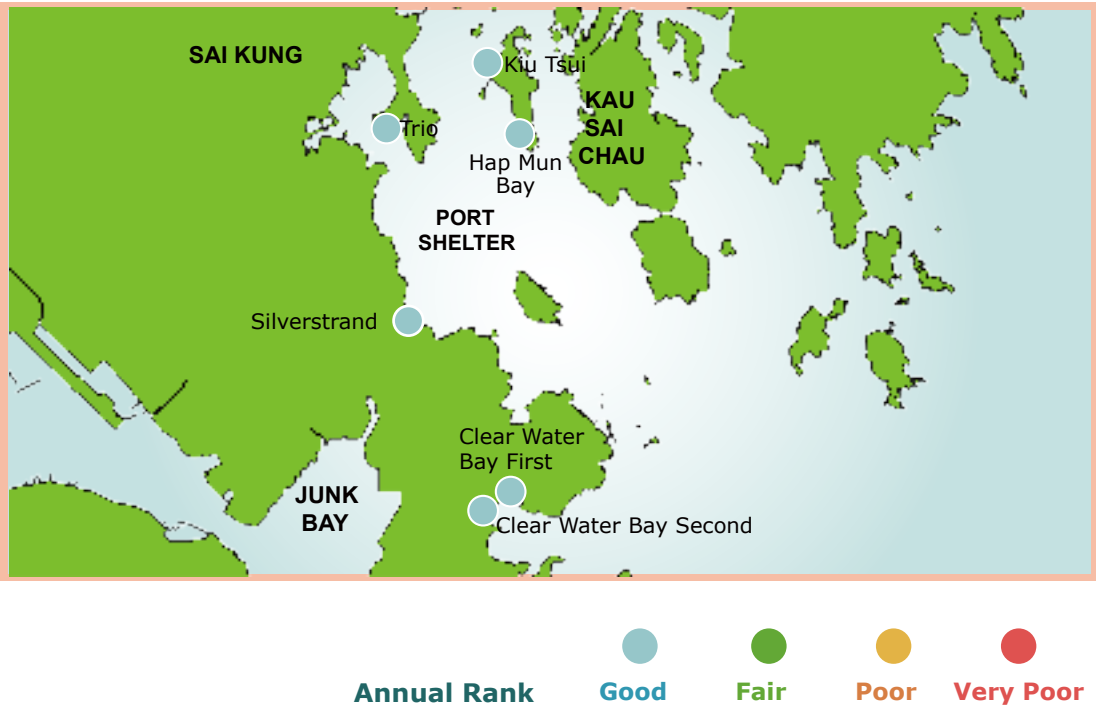
### Weekly grading



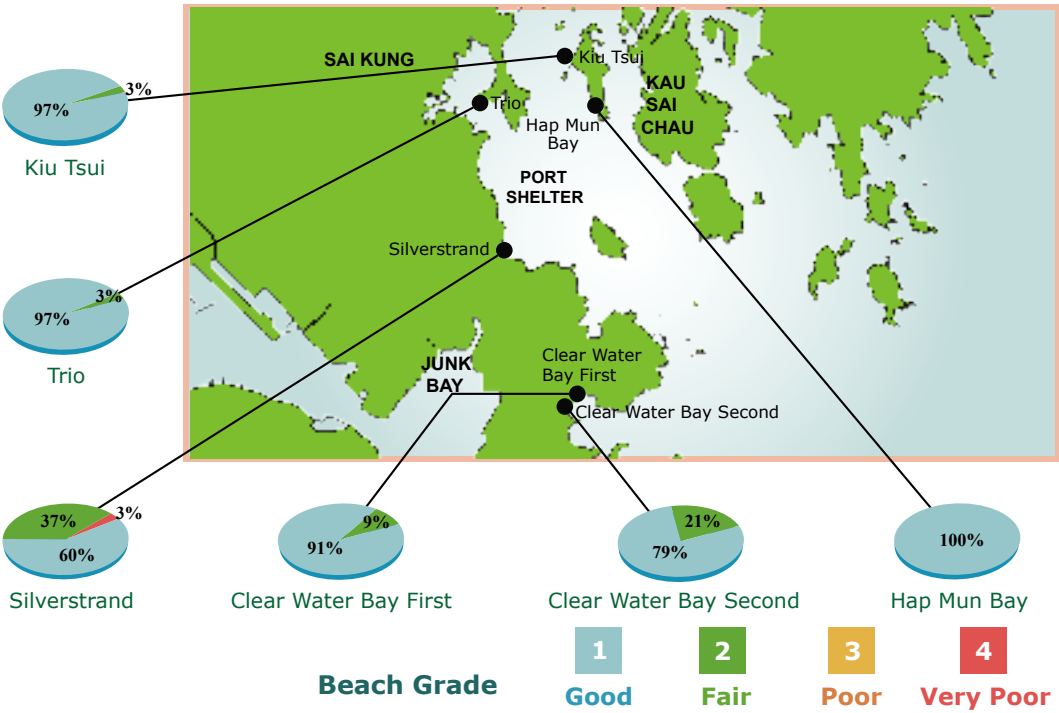
Note: Figures may not add up to 100% due to rounding; "\*" Beach not open for swimming. No grading was provided

Sai Kung District beaches

Annual ranking



Weekly grading



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

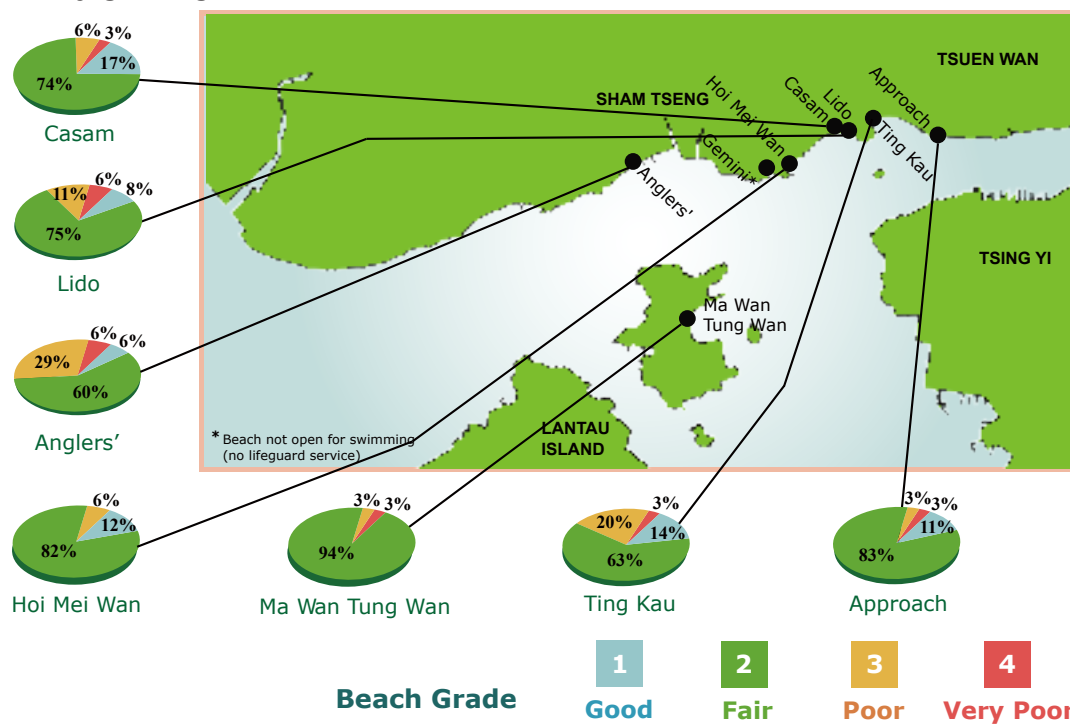


## Tsuen Wan District beaches

### Annual ranking



### Weekly grading



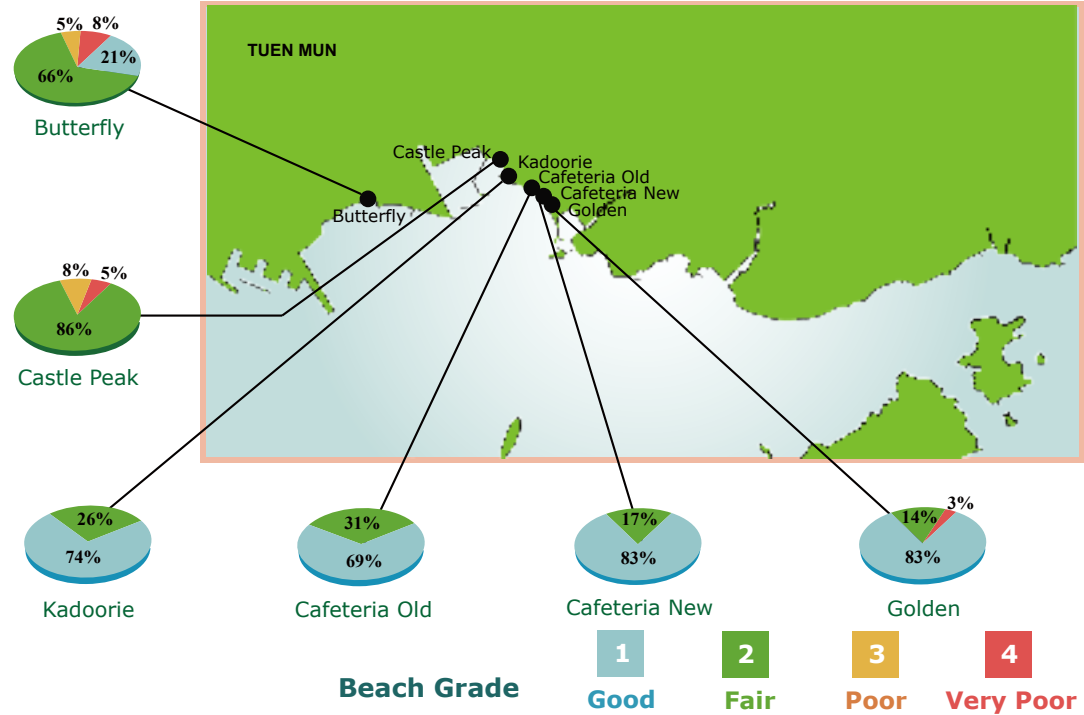
Note: Figures may not add up to 100% due to rounding; "\*" Beach not open for swimming. No grading was provided.

Tuen Mun District beaches

Annual ranking



Weekly grading



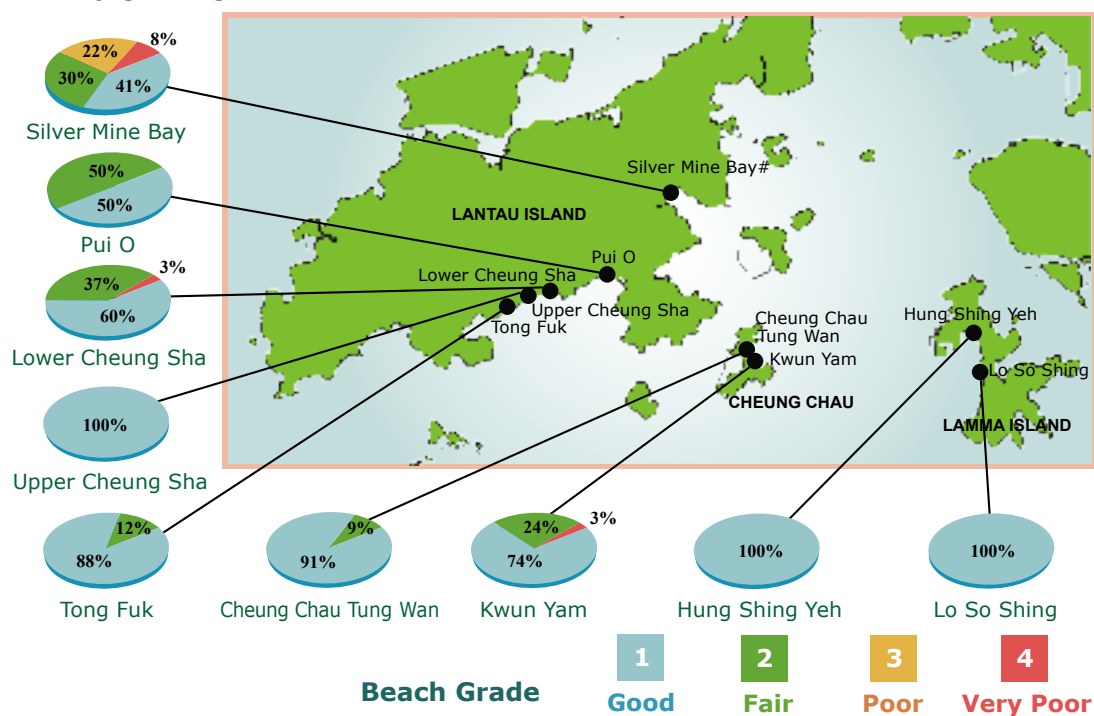
Note: Figures may not add up to 100% due to rounding

## Islands District beaches

### Annual ranking



### Weekly grading



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



Tai Po District beaches

Annual ranking

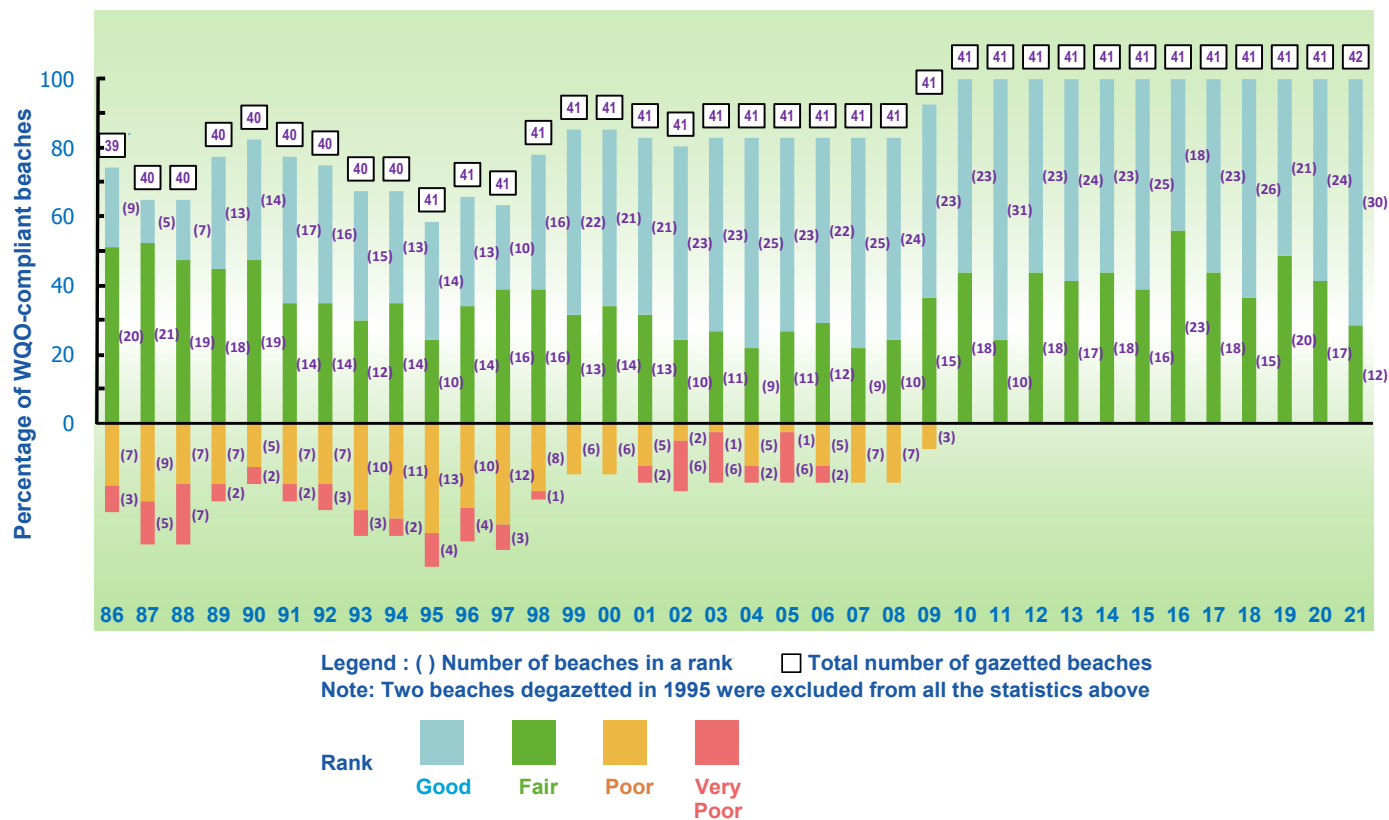


Weekly grading

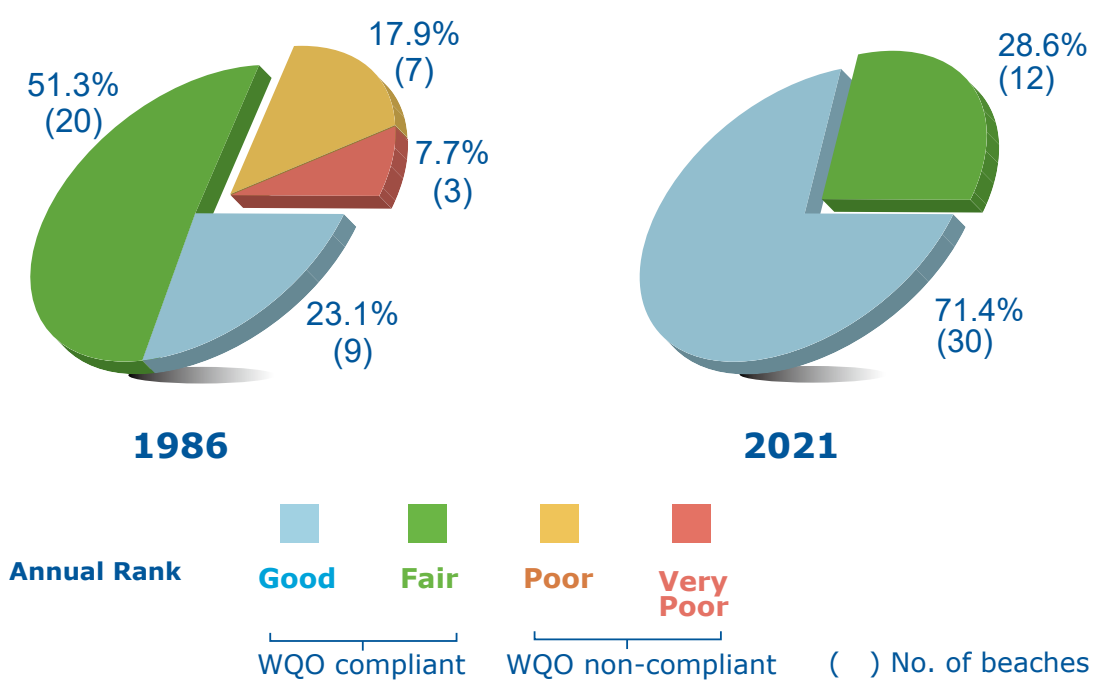


Note: Figures may not add up to 100% due to rounding

## Annual ranking of gazetted beaches, 1986 - 2021



Comparison of annual beach ranking of gazetted beaches in 1986 and 2021

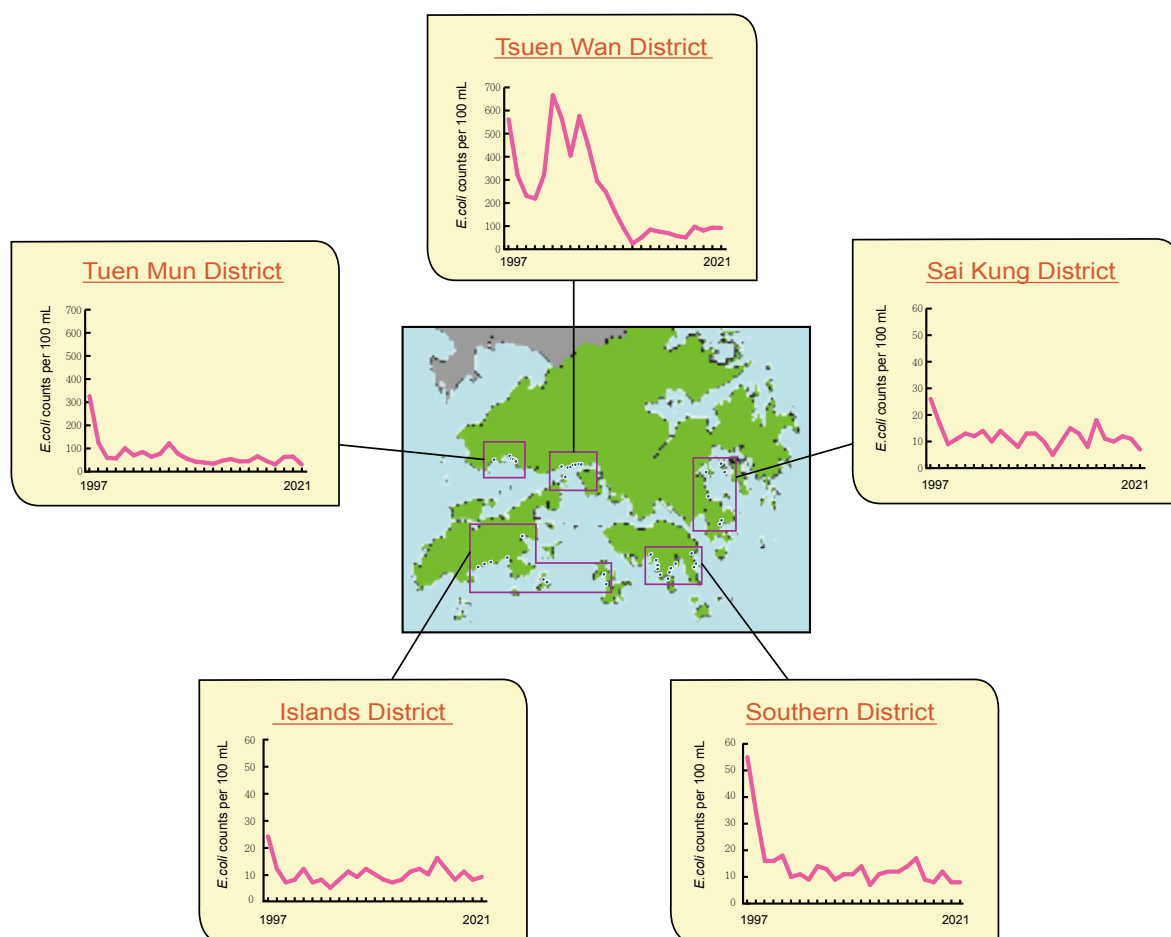


Note: Two beaches degazetted in 1995 were excluded from all the statistics above





## Annual geometric mean of *E. coli* levels of gazetted beaches by district, 1997 - 2021



\*Since Tai Po Lung Mei Beach was only open to public in 2021, trendline for Tai Po District is not yet available and will be provided starting from 2022.

Appendix A - Annual geometric mean *E. coli* levels (1997-2021)

Southern District  
Annual geometric mean *E. coli* levels

Beach	<i>E. coli</i> counts per 100mL											
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
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

Beach	<i>E. coli</i> counts per 100mL												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Big Wave Bay	46	149	17	31	21	40	21	78	36	34	103	37	28
Chung Hom Kok	14	9	5	5	8	13	13	6	6	4	6	9	5
Deep Water Bay	12	9	6	9	11	14	19	24	14	11	19	13	13
Hairpin	12*	33*	6*	9*	14*	12*	8*	17*	5*	8*	7*	5*	6*
Middle Bay	12	12	6	15	14	13	13	20	14	9	18	11	16
Repulse Bay	11	7	6	7	10	11	14	10	5	4	4	5	5
Rocky Bay	13*	50*	23*	30*	22*	16*	35*	47*	18*	29*	47*	10*	24*
Shek O	11	19	11	16	15	18	29	26	16	19	25	7	8
South Bay	4	4	4	5	4	5	9	5	3	2	4	3	4
St. Stephen's	6	4	4	4	10	5	6	7	4	4	5	6	3
Stanley Main	13	20	6	34	19	9	20	23	8	11	7	6	9
Turtle Cove	5	8	4	6	6	8	5	11	5	3	9	8	6

Note: \* Beach not open for swimming that year

Tai Po District  
Annual geometric mean *E. coli* levels

Beach	<i>E. coli</i> counts per 100mL	
	2021	
Tai Po Lung Mei	12	

## 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	2006	2007	2008
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

Beach	<i>E. coli</i> counts per 100mL												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Clear Water Bay First	15	10	7	8	24	15	14	31	20	19	23	19	8
Clear Water Bay Second	27	13	5	18	15	18	17	32	16	13	17	14	9
Hap Mun Bay	3	3	2	2	7	4	2	4	3	3	2	3	3
Kiu Tsui	16	13	9	10	13	11	6	10	5	8	8	11	7
Silverstrand	51	28	18	30	39	40	18	63	56	24	40	28	18
Trio	5	6	2	9	8	10	4	13	7	7	9	6	4

## 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	2006	2007	2008
Anglers'	691*	502*	442*	326*	621*	1 169*	693*	619*	895*	772*	496*	510*
Approach	1 009*	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	1 155	875*	1 102*	1 042*	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	1 583*	1 045*	515*	593*	739*	742*	831*	412*	512*	469*	405*	258*

Beach	<i>E. coli</i> counts per 100mL												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Anglers'	276*	134*	27*	69*	133	130	77	76	45	143	88	105	135
Approach	208*	124*	59	83	106	121	143	78	114	92	97	133	71
Casam	144*	102*	21	50	71	63	52	42	43	94	79	84	74
Gemini	410*	137*	19*	40*	135*	110*	56*	40*	39*	120*	79*	101*	127*
Hoi Mei Wan	130*	87*	23	51	86	58	90	65	63	92	112	84	76
Lido	178*	87*	21	32	53	57	52	39	34	76	65	66	98
Ma Wan Tung Wan	60	17	10	24	41	31	20	32	29	74	46	84	93
Ting Kau	145*	141*	58*	88*	107*	89	151	140	75	101	102	93	85

Note: \* Beach not open for swimming that year



Tuen Mun District  
Annual geometric mean *E. coli* levels

Beach	<i>E. coli</i> counts per 100mL											
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
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	48
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	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

Beach	<i>E. coli</i> counts per 100mL												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Butterfly	49	30	41	42	71	38	98	131	81	39	91	129	57
Cafeteria New	38	31	27	47	50	31	30	38	31	18	40	37	17
Cafeteria Old	46	34	29	48	39	45	41	70	50	30	64	53	23
Castle Peak	35	63	49	48	78	91	71	106	65	70	128	112	103
Golden	42	37	26	62	45	39	31	45	37	22	41	45	19
Kadoorie	48	45	37	40	52	37	29	48	31	28	52	55	19

Note: \* Beach not open for swimming that year

Islands District  
Annual geometric mean *E. coli* levels

Beach	<i>E. coli</i> counts per 100mL											
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cheung Chau Tung Wan	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

Beach	<i>E. coli</i> counts per 100mL												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cheung Chau Tung Wan	17	12	6	13	10	14	19	9	18	9	8	11	10
Hung Shing Yeh	6	4	3	4	4	5	4	6	5	4	4	5	3
Kwun Yam	9	8	5	5	9	8	12	12	9	8	7	8	15
Lo So Shing	7	3	3	4	5	5	4	6	6	4	3	4	2
Lower Cheung Sha	13	11	9	10	17	21	17	47	19	9	25	10	20
Pui O	12	14	13	22	51	60	24	29	34	19	22	21	22
Silver Mine Bay	45	31	28	38	39	51	59	119	141*	36	106	37	56
Tong Fuk	5	5	4	4	7	4	4	9	3	4	5	4	5
Upper Cheung Sha	5	4	3	4	4	5	3	7	3	4	7	4	4

Note: \* Beach not open for swimming that year

## Appendix B - 2021 Beach visitor number

### Southern District

#### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Big Wave Bay	245	832	2 000	21 110	92 830
Chung Hom Kok	39	265	800	5 230	24 030
Deep Water Bay	1 037	4 381	12 000	90 700	452 800
Hairpin	102	200	500	4 800	28 450
Middle Bay	97	197	400	4 750	27 450
Repulse Bay	994	6 678	13 100	116 330	607 680
Rocky Bay	---	---	---	---	---
Shek O	358	1 813	7 000	56 300	177 440
South Bay	73	253	500	5 550	28 000
St. Stephen's	46	137	400	3 500	16 060
Stanley Main	762	2 092	5 000	54 000	253 871
Turtle Cove	106	202	480	5 270	29 060

Note:

Information provided by the Leisure and Cultural Services Department

### Tai Po District

#### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Tai Po Lung Mei Beach	664	2 592	10 100	58 077	164 697

Note:

Information provided by the Leisure and Cultural Services Department

## Sai Kung District

### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Clear Water Bay First	127	458	880	9 620	50 000
Clear Water Bay Second	1 072	1 891	4 600	53 500	283 500
Hap Mun Bay	379	1 317	3 700	33 740	145 695
Kiu Tsui	133	301	600	6 510	39 830
Silverstrand	363	1 133	2 600	26 570	130 485
Trio	458	1 080	2 480	32 830	140 160

Note:

Information provided by the Leisure and Cultural Services Department

## Tsuen Wan District

### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Anglers	124	453	870	9 930	49 240
Approach	77	140	270	4 550	20 680
Casam	62	87	160	2 760	14 860
Gemini	24	74	250	1 380	8 540
Hoi Mei Wan	36	303	830	5 000	26 320
Lido	426	799	1 830	26 670	115 950
Ma Wan Tung Wan	241	967	2 670	18 960	101 620
Ting Kau	107	441	710	7 980	45 935

Note:

Information provided by the Leisure and Cultural Services Department



## Tuen Mun District

### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Butterfly	546	910	1 550	28 150	140 700
Cafeteria New	911	1 744	5 300	61 000	250 550
Cafeteria Old	555	1 090	1 590	24 820	154 540
Castle Peak	348	790	1 200	18 000	104 300
Golden	814	2 813	8 000	67 800	311 720
Kadoorie	831	803	1 400	32 040	173 370

Note:

Information provided by the Leisure and Cultural Services Department

## Islands District

### Visitor numbers during the 2021 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Cheung Chau Tung Wan	474	1 505	2 520	29 150	172 175
Hung Shing Yeh	611	1 020	2 010	26 280	157 530
Kwun Yam	151	575	1 600	14 250	61 440
Lo So Shing	148	247	430	6 650	38 230
Lower Cheung Sha	405	1 430	2 250	33 000	157 250
Pui O	664	1 299	2 800	45 010	184 530
Silver Mine Bay	466	1 741	5 650	39 640	187 480
Tong Fuk	369	730	1 510	26 690	103 110
Upper Cheung Sha	398	533	860	18 120	93 400

Note:

Information provided by the Leisure and Cultural Services Department

Appendix C - Physicochemical water quality data for gazetted beaches, 2021

Southern District  
Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Big Wave Bay	8.27 ( 8.01 - 8.51 )	30.0 ( 12.7 - 33.6 )	3.39 ( 1.02 - 14.20 )	26.6 ( 19.5 - 30.9 )	6.7 ( 5.2 - 8.8 )	95 ( 76 - 129 )
Chung Hom Kok	8.26 ( 8.05 - 8.49 )	30.7 ( 25.2 - 33.6 )	3.78 ( 1.27 - 8.73 )	27.3 ( 20.3 - 31.1 )	6.3 ( 4.7 - 7.9 )	90 ( 69 - 110 )
Deep Water Bay	8.22 ( 8.01 - 8.53 )	30.1 ( 24.5 - 33.7 )	6.45 ( 1.85 - 18.10 )	27.6 ( 20.3 - 31.8 )	6.4 ( 4.5 - 7.7 )	91 ( 69 - 120 )
Hairpin*	8.31 ( 8.06 - 8.53 )	31.0 ( 24.9 - 33.7 )	2.39 ( 0.61 - 11.90 )	27.5 ( 20.1 - 32.0 )	6.9 ( 4.9 - 8.9 )	99 ( 77 - 130 )
Middle Bay	8.27 ( 8.04 - 8.54 )	30.4 ( 24.5 - 33.7 )	4.26 ( 1.33 - 8.76 )	26.9 ( 20.0 - 30.4 )	6.5 ( 4.5 - 8.5 )	93 ( 66 - 127 )
Repulse Bay	8.27 ( 8.06 - 8.53 )	30.9 ( 24.8 - 33.7 )	4.24 ( 1.49 - 7.37 )	26.9 ( 20.0 - 30.1 )	6.5 ( 4.8 - 7.9 )	93 ( 69 - 114 )
Rocky Bay*	8.23 ( 8.06 - 8.48 )	31.7 ( 24.6 - 33.7 )	3.15 ( 0.97 - 13.80 )	26.2 ( 19.7 - 30.7 )	6.5 ( 4.5 - 9.1 )	92 ( 66 - 128 )
Shek O	8.28 ( 8.08 - 8.50 )	31.7 ( 26.5 - 33.8 )	3.78 ( 1.03 - 20.70 )	26.6 ( 19.8 - 30.7 )	6.4 ( 4.7 - 7.9 )	91 ( 71 - 119 )
South Bay	8.26 ( 8.03 - 8.54 )	30.8 ( 24.6 - 33.7 )	2.71 ( 0.85 - 9.04 )	27.1 ( 20.0 - 30.5 )	6.3 ( 4.3 - 7.7 )	91 ( 63 - 117 )
St. Stephen`s	8.25 ( 8.06 - 8.48 )	30.6 ( 24.4 - 33.8 )	2.95 ( 1.26 - 5.94 )	27.3 ( 20.4 - 30.8 )	6.3 ( 4.4 - 8.1 )	90 ( 65 - 117 )
Stanley Main	8.31 ( 8.07 - 8.56 )	31.0 ( 24.2 - 33.8 )	3.07 ( 0.96 - 13.20 )	27.6 ( 20.3 - 32.8 )	6.9 ( 5.3 - 9.6 )	100 ( 75 - 130 )
Turtle Cove	8.29 ( 8.06 - 8.50 )	30.4 ( 24.6 - 33.7 )	5.19 ( 1.37 - 22.30 )	27.4 ( 20.1 - 32.5 )	6.6 ( 5.2 - 7.7 )	95 ( 79 - 122 )

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

1. Practical Salinity Unit; 2. Nephelometric Turbidity Unit

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

Tai Po District  
Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Tai Po Lung Mei	8.30 ( 8.16 - 8.43 )	29.4 ( 22.1 - 32.3 )	2.29 ( 1.21 - 5.18 )	30.3 ( 26.6 - 32.7 )	6.9 ( 5.3 - 9.4 )	105 ( 88 - 130 )

Appendix C

## Sai Kung District

### Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Clear Water Bay First	8.23 ( 8.06 - 8.43 )	31.1 ( 17.2 - 33.6 )	4.33 ( 0.88 - 14.30 )	27.4 ( 19.6 - 32.0 )	6.4 ( 5.3 - 8.2 )	93 ( 76 - 128 )
Clear Water Bay Second	8.22 ( 8.10 - 8.41 )	31.7 ( 15.8 - 34.0 )	5.58 ( 1.45 - 17.10 )	27.1 ( 19.6 - 31.6 )	6.3 ( 4.8 - 9.5 )	91 ( 75 - 127 )
Hap Mun Bay	8.25 ( 8.12 - 8.39 )	32.0 ( 25.4 - 33.6 )	2.56 ( 0.36 - 7.66 )	27.7 ( 20.0 - 32.0 )	6.5 ( 5.1 - 8.1 )	94 ( 71 - 116 )
Kiu Tsui	8.24 ( 8.03 - 8.42 )	31.5 ( 21.1 - 33.5 )	2.45 ( 0.49 - 11.40 )	27.9 ( 19.9 - 32.2 )	6.5 ( 5.0 - 8.0 )	96 ( 75 - 120 )
Silverstrand	8.22 ( 7.89 - 8.37 )	30.4 ( 21.8 - 33.1 )	4.31 ( 0.91 - 14.60 )	27.3 ( 19.5 - 31.7 )	6.4 ( 4.6 - 8.4 )	92 ( 69 - 125 )
Trio	8.21 ( 8.10 - 8.37 )	30.8 ( 9.5 - 33.4 )	2.74 ( 0.58 - 11.40 )	28.0 ( 20.0 - 32.6 )	6.4 ( 4.6 - 7.9 )	93 ( 69 - 119 )

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

1. Practical Salinity Unit; 2. Nephelometric Turbidity Unit

## Tsuen Wan District

### Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Anglers'	8.16 ( 7.97 - 8.57 )	29.1 ( 20.3 - 32.9 )	4.03 ( 1.48 - 8.52 )	26.8 ( 20.8 - 30.2 )	5.9 ( 4.3 - 8.3 )	84 ( 64 - 120 )
Approach	8.18 ( 7.97 - 8.53 )	27.8 ( 21.5 - 32.2 )	4.78 ( 1.28 - 16.10 )	26.9 ( 20.3 - 30.0 )	6.3 ( 4.1 - 8.6 )	89 ( 63 - 116 )
Casam	8.18 ( 7.96 - 8.53 )	28.3 ( 21.8 - 32.6 )	3.78 ( 1.75 - 9.25 )	27.1 ( 20.6 - 30.5 )	6.2 ( 5.0 - 7.6 )	89 ( 72 - 109 )
Gemini*	8.14 ( 7.92 - 8.55 )	29.1 ( 20.3 - 33.3 )	3.51 ( 1.65 - 6.12 )	26.7 ( 20.8 - 30.4 )	5.8 ( 4.1 - 7.9 )	81 ( 62 - 113 )
Hoi Mei Wan	8.15 ( 7.89 - 8.48 )	28.1 ( 21.4 - 32.7 )	3.04 ( 1.12 - 5.92 )	27.1 ( 20.6 - 30.7 )	5.9 ( 4.1 - 8.9 )	84 ( 60 - 129 )
Lido	8.16 ( 7.87 - 8.48 )	28.5 ( 21.7 - 33.3 )	4.32 ( 1.55 - 7.75 )	26.9 ( 20.6 - 30.2 )	6.0 ( 4.3 - 7.4 )	85 ( 63 - 101 )
Ma Wan Tung Wan	8.14 ( 7.99 - 8.42 )	29.2 ( 23.9 - 32.6 )	5.88 ( 1.60 - 12.40 )	26.9 ( 19.8 - 30.2 )	6.1 ( 4.6 - 7.9 )	87 ( 68 - 107 )
Ting Kau	8.17 ( 7.99 - 8.49 )	27.6 ( 21.3 - 31.6 )	4.11 ( 0.99 - 15.10 )	27.2 ( 20.4 - 30.4 )	6.1 ( 4.1 - 7.6 )	86 ( 62 - 110 )

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

1. Practical Salinity Unit; 2. Nephelometric Turbidity Unit

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



Tuen Mun District  
Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Butterfly	8.17 ( 7.97 - 8.67 )	25.8 ( 17.4 - 32.2 )	10.01 ( 2.04 - 51.60 )	28.1 ( 20.7 - 31.5 )	6.1 ( 4.2 - 8.9 )	88 ( 60 - 130 )
Cafeteria New	8.19 ( 8.03 - 8.56 )	25.9 ( 15.0 - 32.3 )	7.10 ( 2.67 - 18.40 )	27.6 ( 20.7 - 31.3 )	6.0 ( 4.1 - 8.1 )	85 ( 62 - 114 )
Cafeteria Old	8.17 ( 7.98 - 8.55 )	25.7 ( 15.0 - 32.2 )	6.01 ( 2.57 - 12.70 )	27.7 ( 20.7 - 31.1 )	6.0 ( 4.1 - 8.9 )	84 ( 58 - 120 )
Castle Peak	8.18 ( 7.85 - 8.56 )	25.3 ( 15.6 - 32.2 )	6.51 ( 1.95 - 16.20 )	28.0 ( 20.8 - 32.1 )	6.5 ( 4.6 - 9.3 )	91 ( 64 - 130 )
Golden	8.18 ( 7.99 - 8.50 )	25.7 ( 15.1 - 32.4 )	7.51 ( 2.63 - 15.80 )	27.6 ( 20.5 - 31.2 )	6.2 ( 4.1 - 8.6 )	88 ( 61 - 120 )
Kadoorie	8.19 ( 8.03 - 8.55 )	25.7 ( 15.9 - 32.1 )	5.58 ( 1.86 - 15.10 )	27.8 ( 20.7 - 31.7 )	6.3 ( 4.5 - 9.7 )	89 ( 63 - 128 )

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

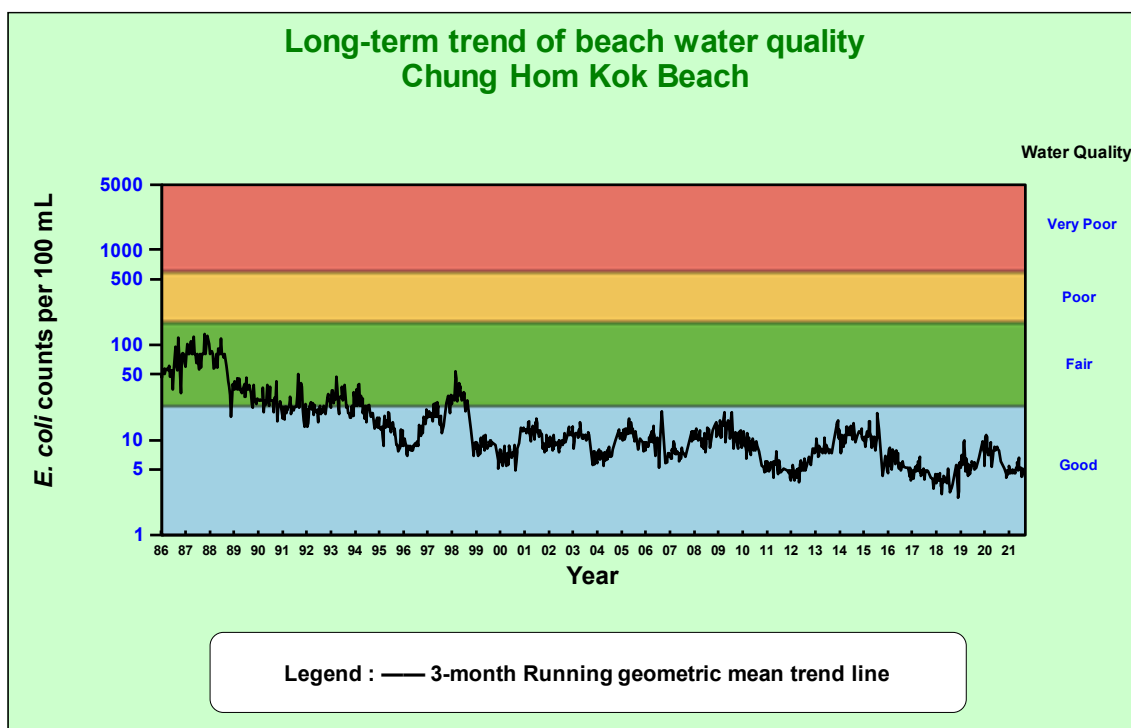
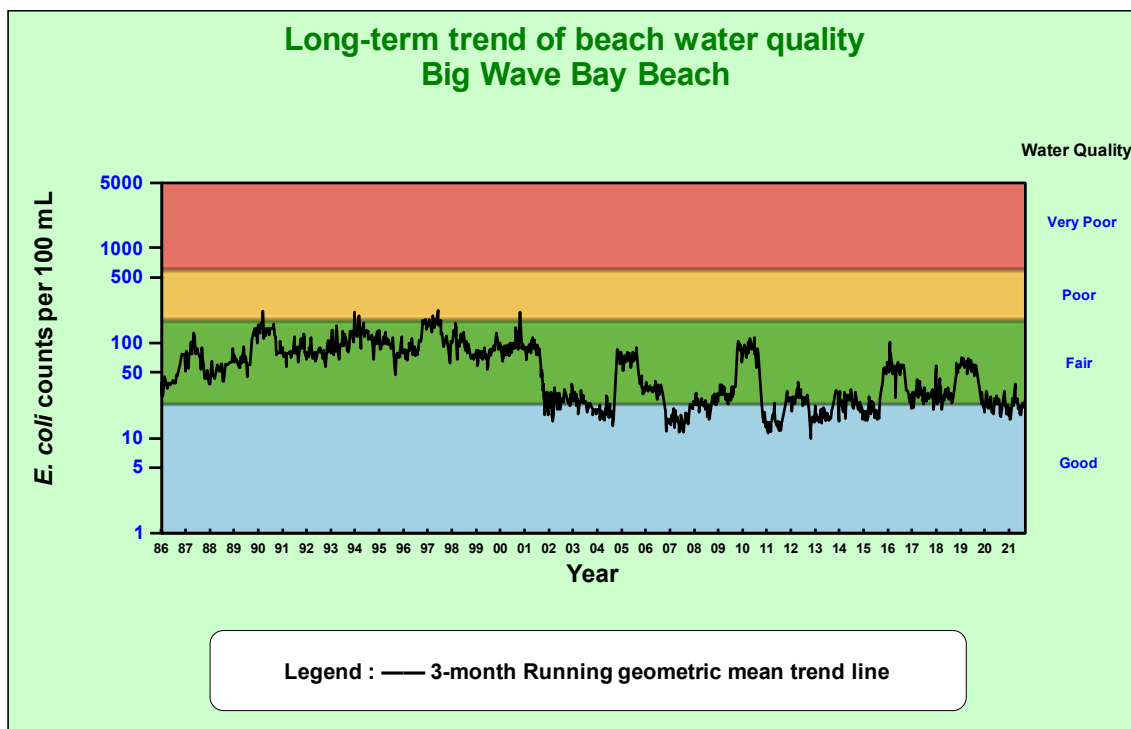
Islands District  
Summary of physicochemical water quality data of gazetted beaches, 2021

Beach	pH	Salinity (psu) <sup>1</sup>	Turbidity (NTU) <sup>2</sup>	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Cheung Chau Tung Wan	8.22 ( 8.06 - 8.56 )	29.6 ( 22.4 - 32.6 )	2.93 ( 1.09 - 8.76 )	27.3 ( 20.7 - 30.6 )	6.6 ( 4.6 - 8.9 )	92 ( 61 - 115 )
Hung Shing Yeh	8.23 ( 7.90 - 8.54 )	30.0 ( 20.6 - 33.7 )	4.98 ( 1.23 - 15.90 )	27.4 ( 20.3 - 31.5 )	6.6 ( 4.3 - 8.2 )	92 ( 62 - 128 )
Kwun Yam	8.21 ( 8.06 - 8.54 )	29.2 ( 21.9 - 32.5 )	3.26 ( 1.03 - 8.96 )	27.2 ( 20.6 - 30.6 )	7.0 ( 5.4 - 9.3 )	99 ( 77 - 130 )
Lo So Shing	8.24 ( 8.03 - 8.51 )	30.3 ( 22.0 - 33.7 )	4.40 ( 1.06 - 18.90 )	27.3 ( 19.9 - 31.3 )	6.7 ( 4.7 - 8.2 )	95 ( 71 - 120 )
Lower Cheung Sha	8.31 ( 8.09 - 8.67 )	27.4 ( 11.5 - 33.2 )	10.76 ( 2.43 - 48.60 )	27.9 ( 20.6 - 32.9 )	6.5 ( 5.5 - 7.8 )	92 ( 75 - 114 )
Pui O	8.28 ( 8.09 - 8.53 )	29.2 ( 20.4 - 33.0 )	15.63 ( 5.12 - 68.40 )	29.0 ( 20.4 - 35.0 )	6.0 ( 5.2 - 6.7 )	88 ( 73 - 105 )
Silver Mine Bay	8.22 ( 7.97 - 8.45 )	27.0 ( 15.1 - 32.3 )	16.92 ( 3.68 - 159.00 )	28.8 ( 20.0 - 33.9 )	6.2 ( 4.0 - 10.0 )	91 ( 61 - 130 )
Tong Fuk	8.30 ( 8.08 - 8.61 )	29.6 ( 20.3 - 33.1 )	7.04 ( 2.09 - 21.80 )	27.9 ( 20.0 - 32.6 )	6.4 ( 5.3 - 9.0 )	92 ( 75 - 130 )
Upper Cheung Sha	8.30 ( 8.10 - 8.67 )	29.6 ( 20.7 - 33.2 )	7.95 ( 1.68 - 29.70 )	28.0 ( 20.2 - 32.2 )	6.3 ( 5.1 - 8.5 )	90 ( 75 - 115 )

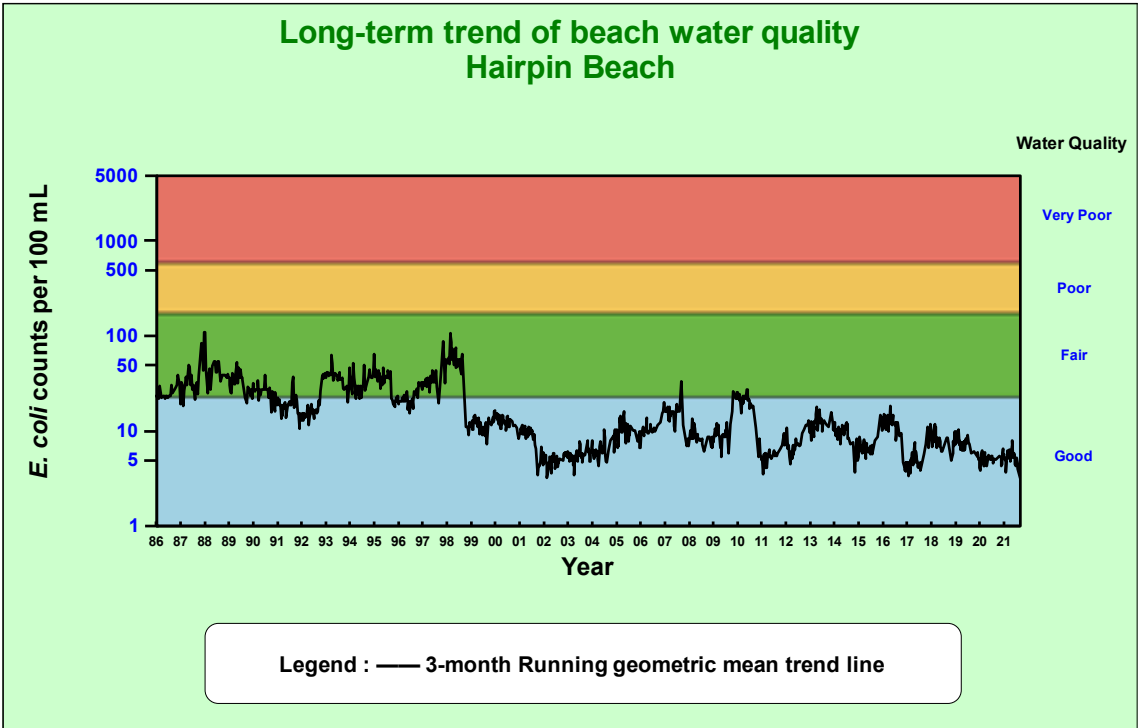
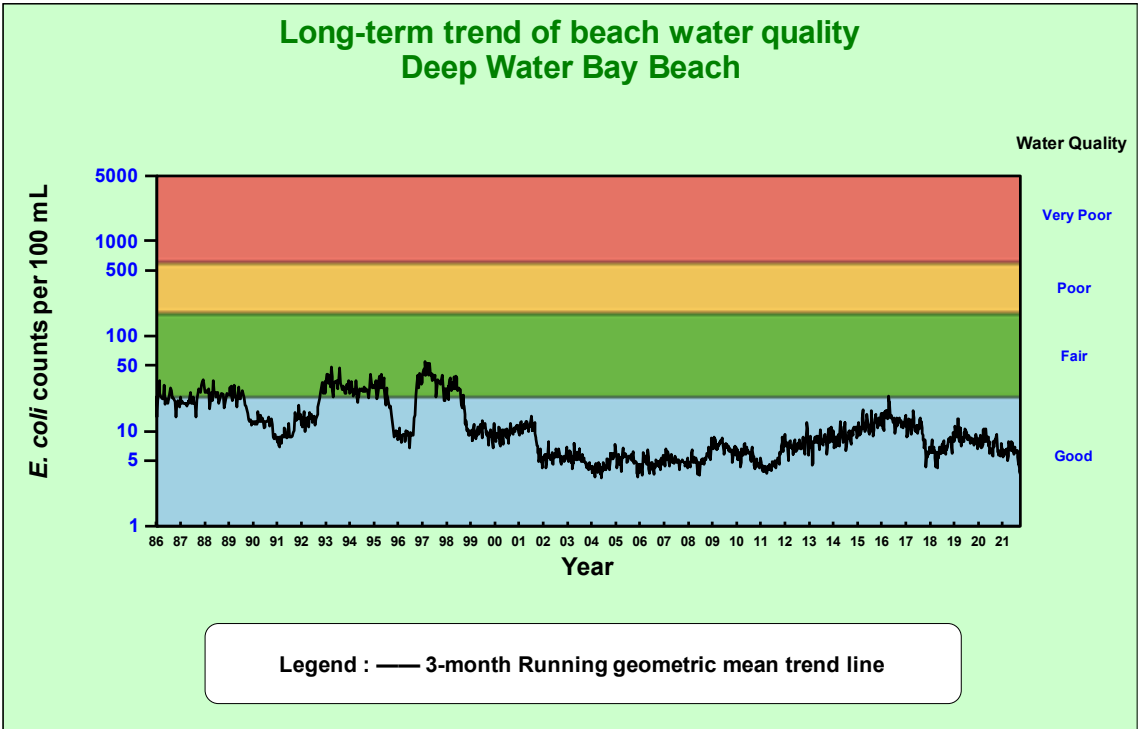
Note: Data presented are arithmetic means; figures in brackets are ranges  
1. Practical Salinity Unit; 2. Nephelometric Turbidity Unit

## Appendix D - Long-term trend of beach water quality (1986 - 2021)\*

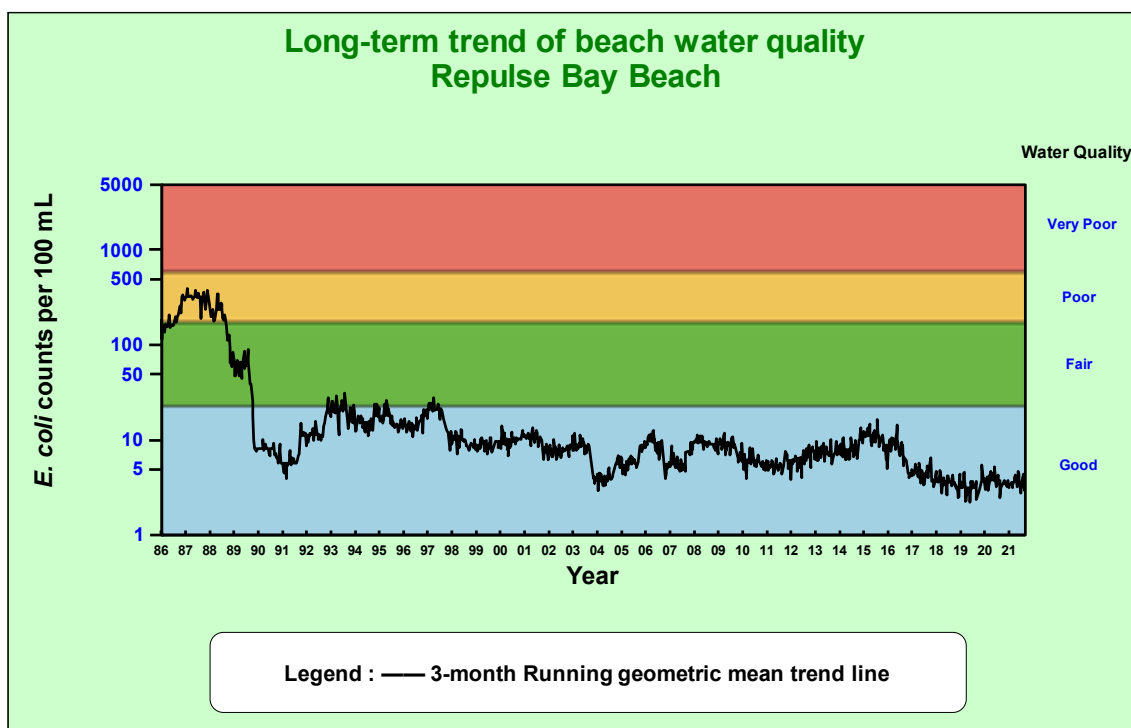
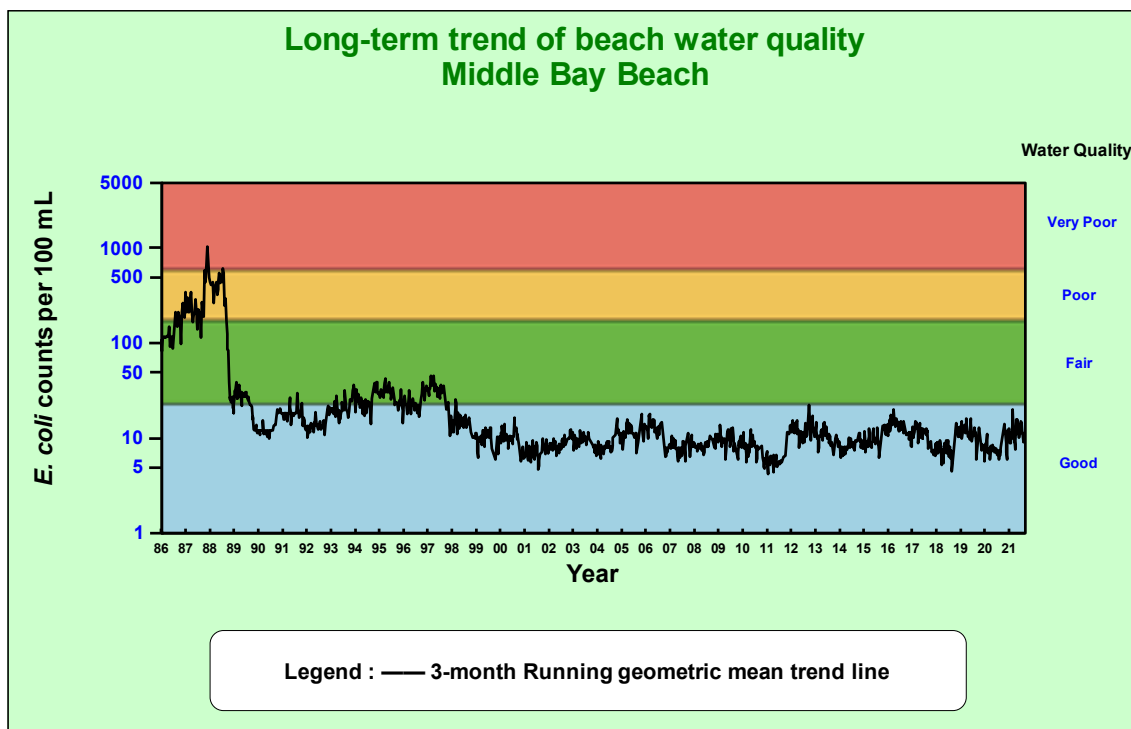
### Southern District

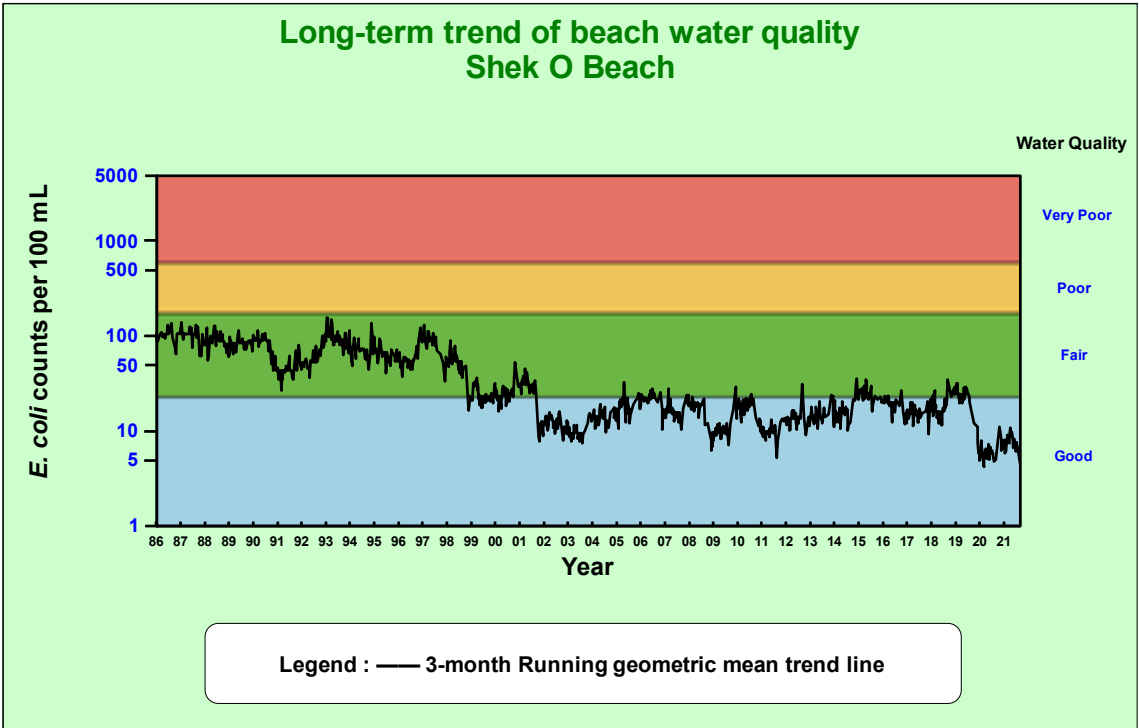
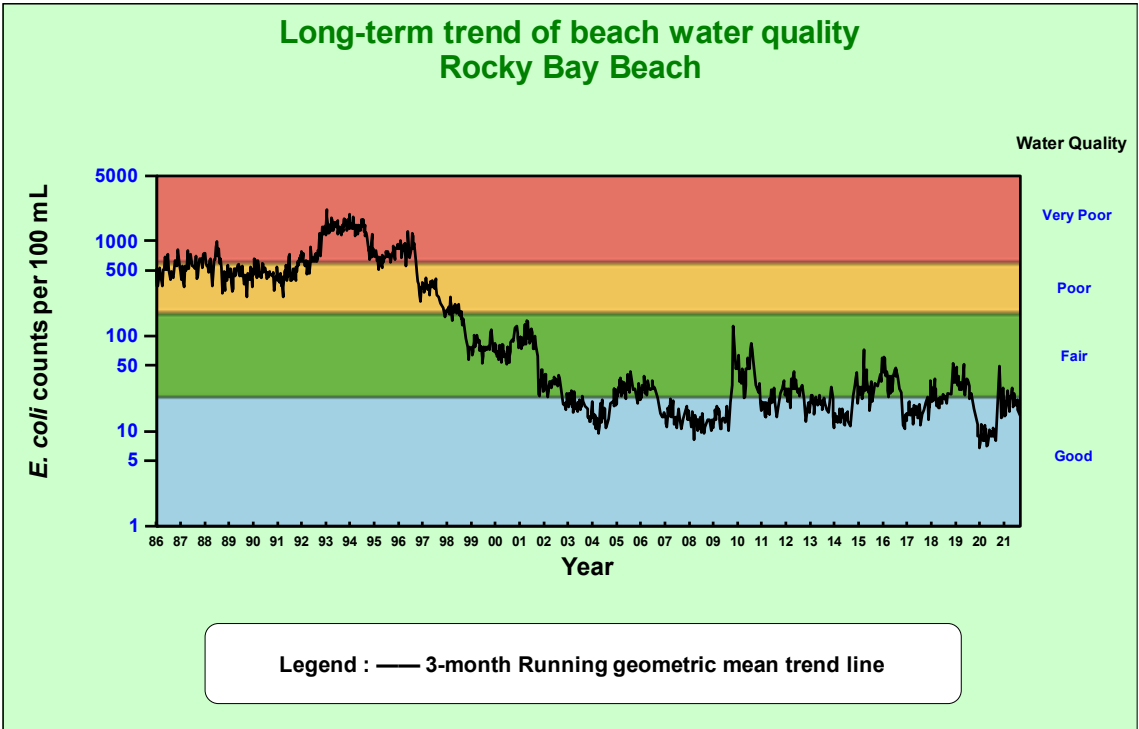


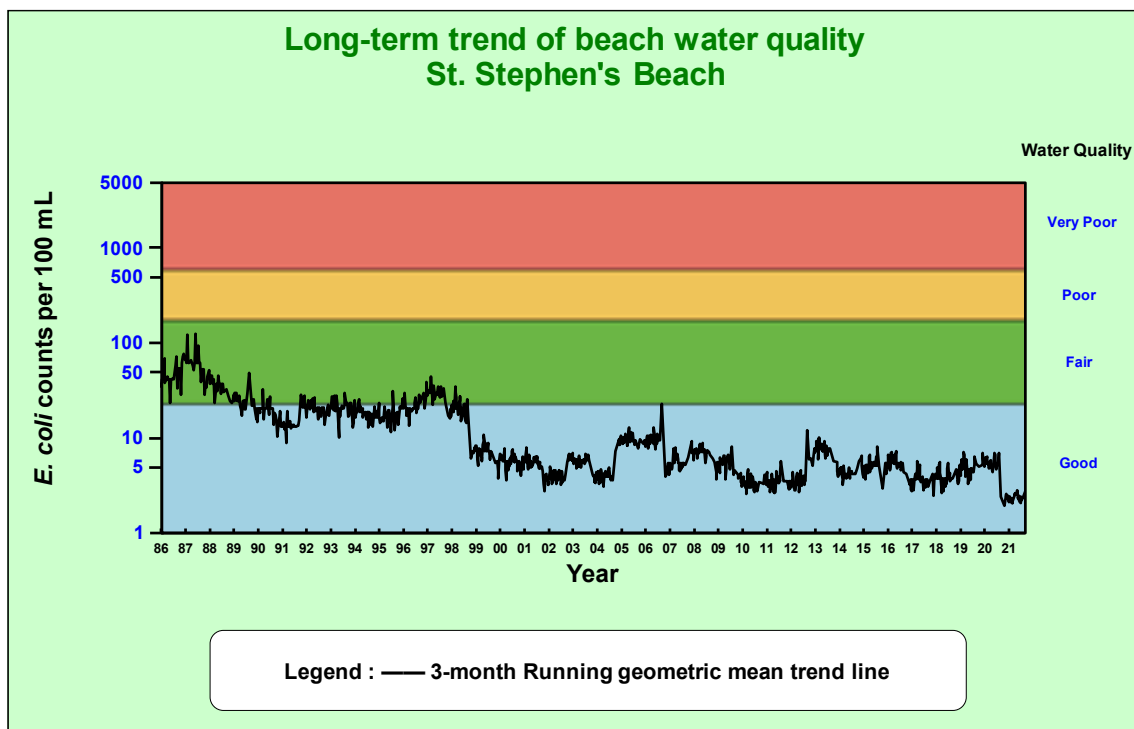
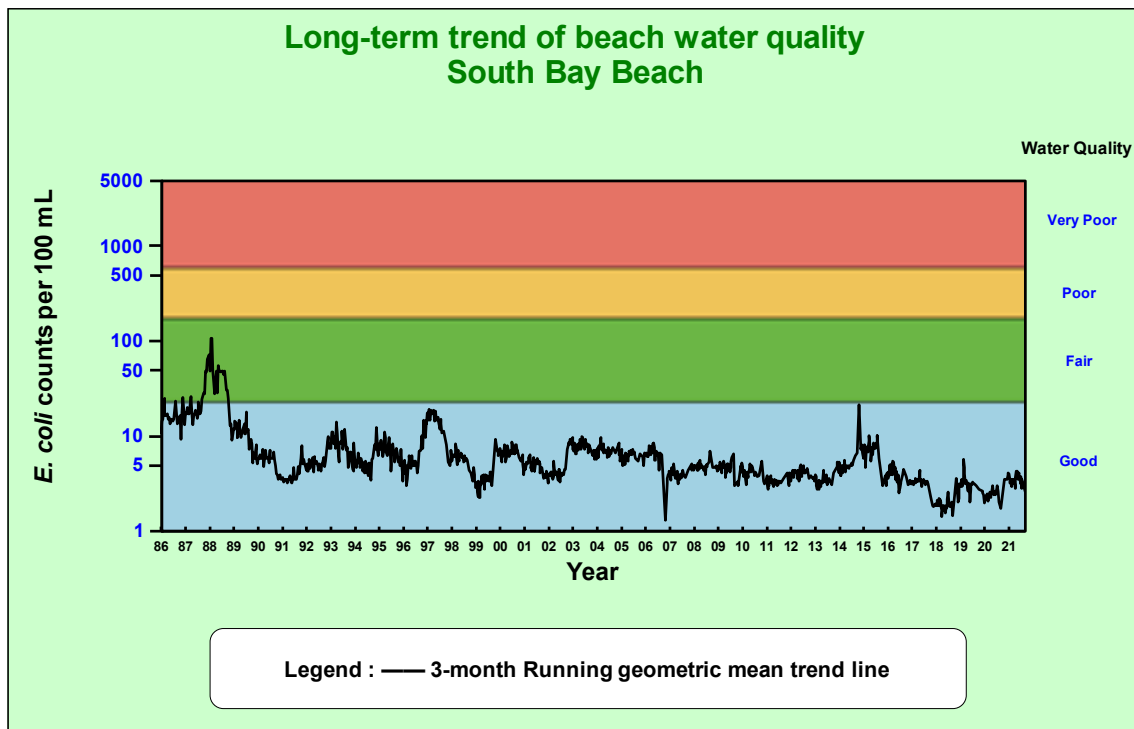
\*Since Tai Po Lung Mei Beach was only open to public in 2021, trendline for Tai Po District is not yet available and will be provided starting from 2022.



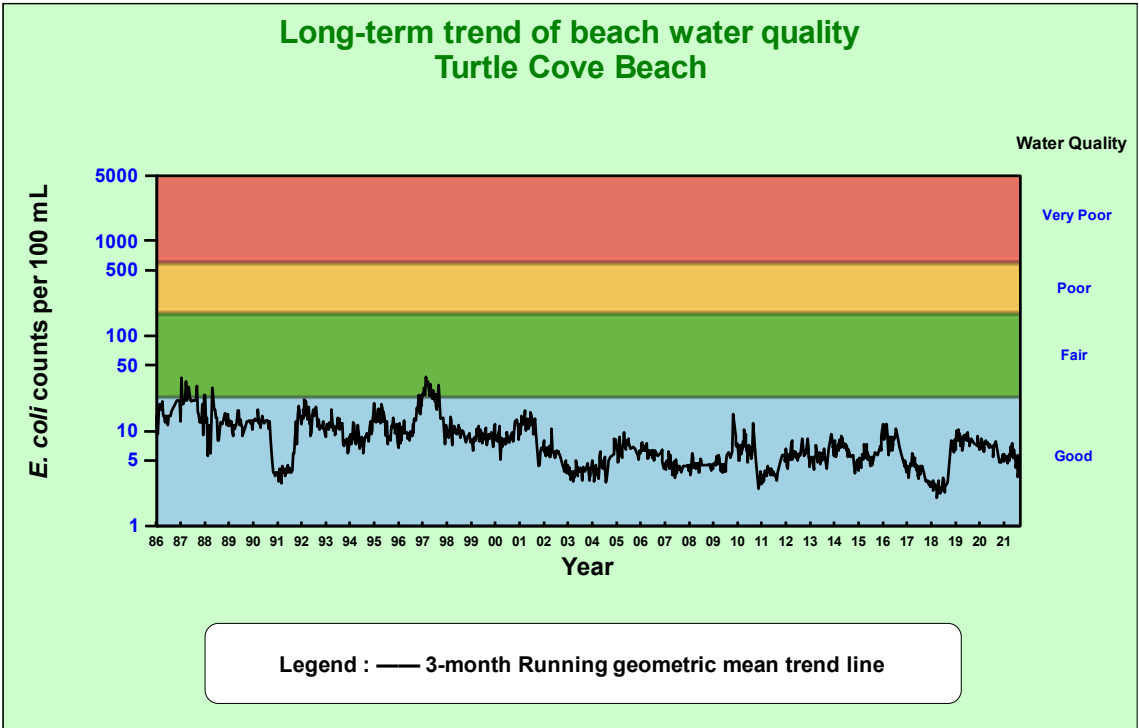
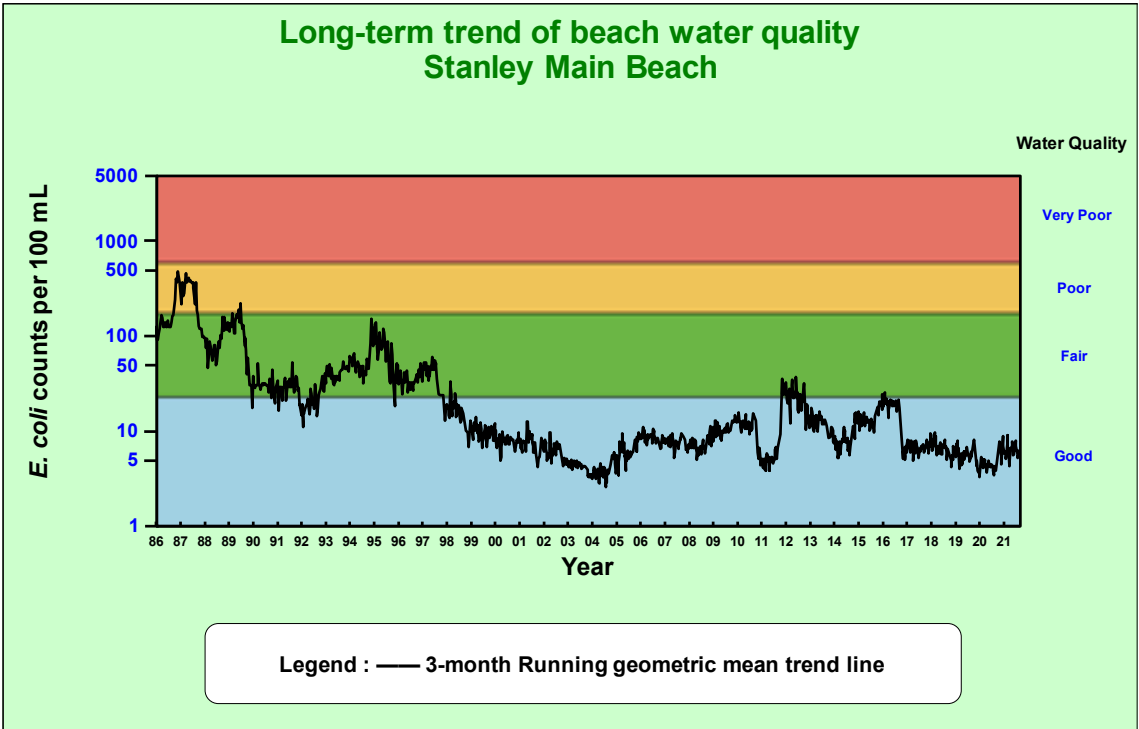




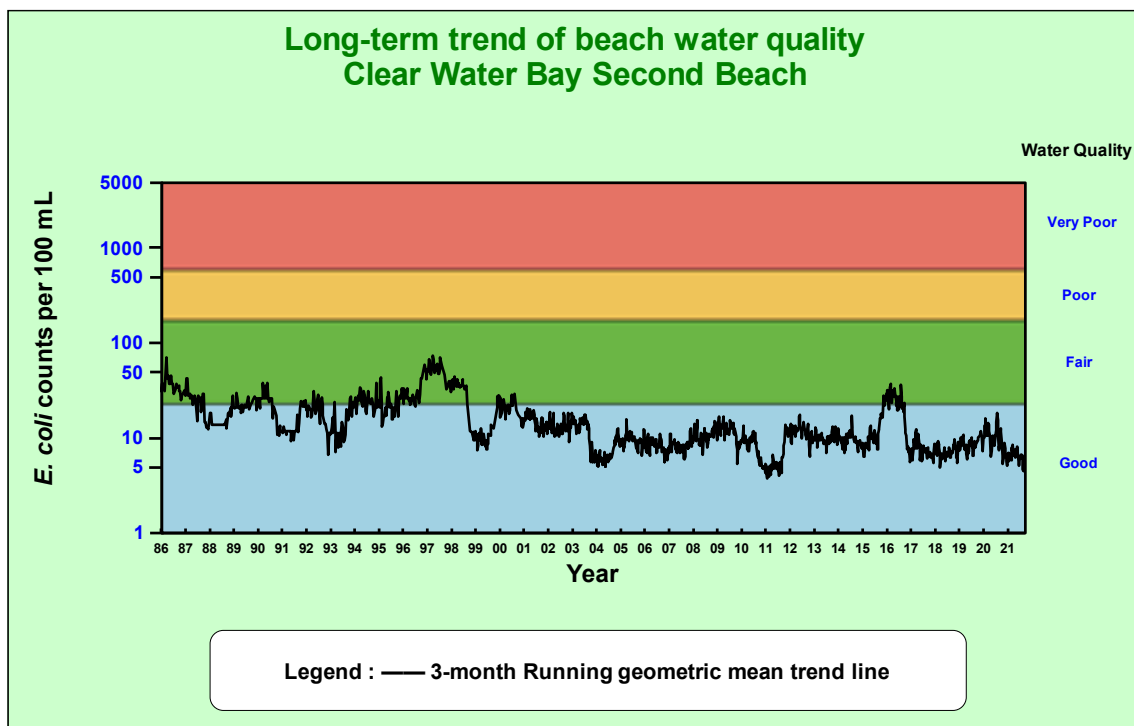
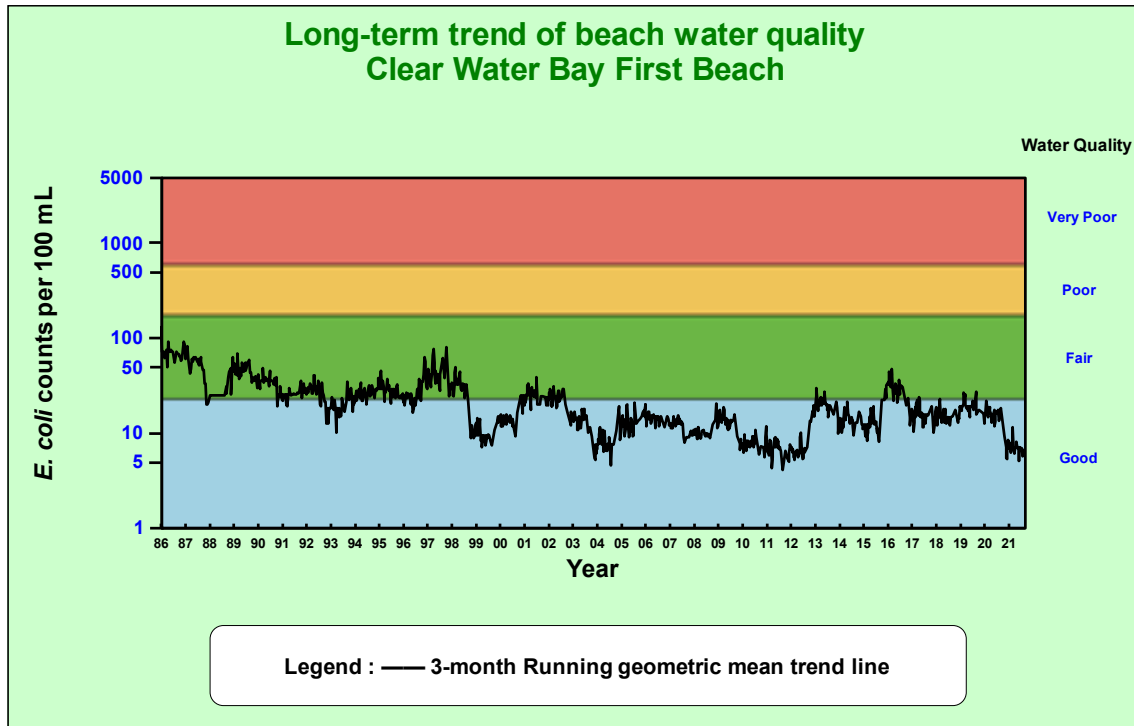


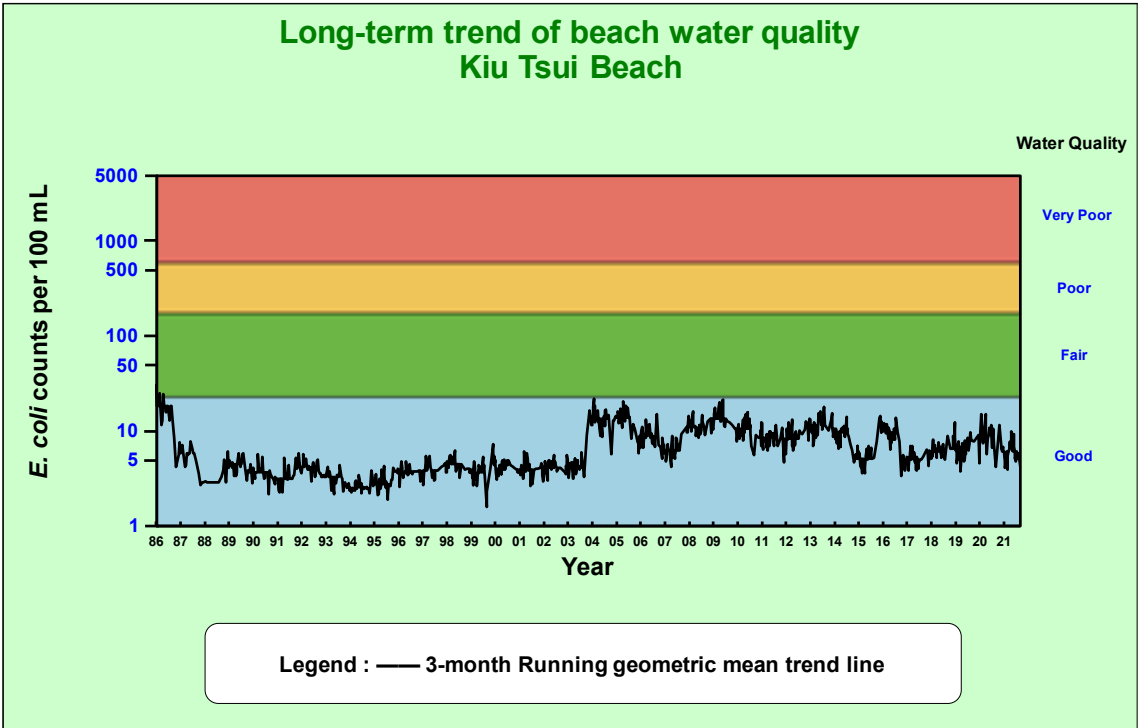
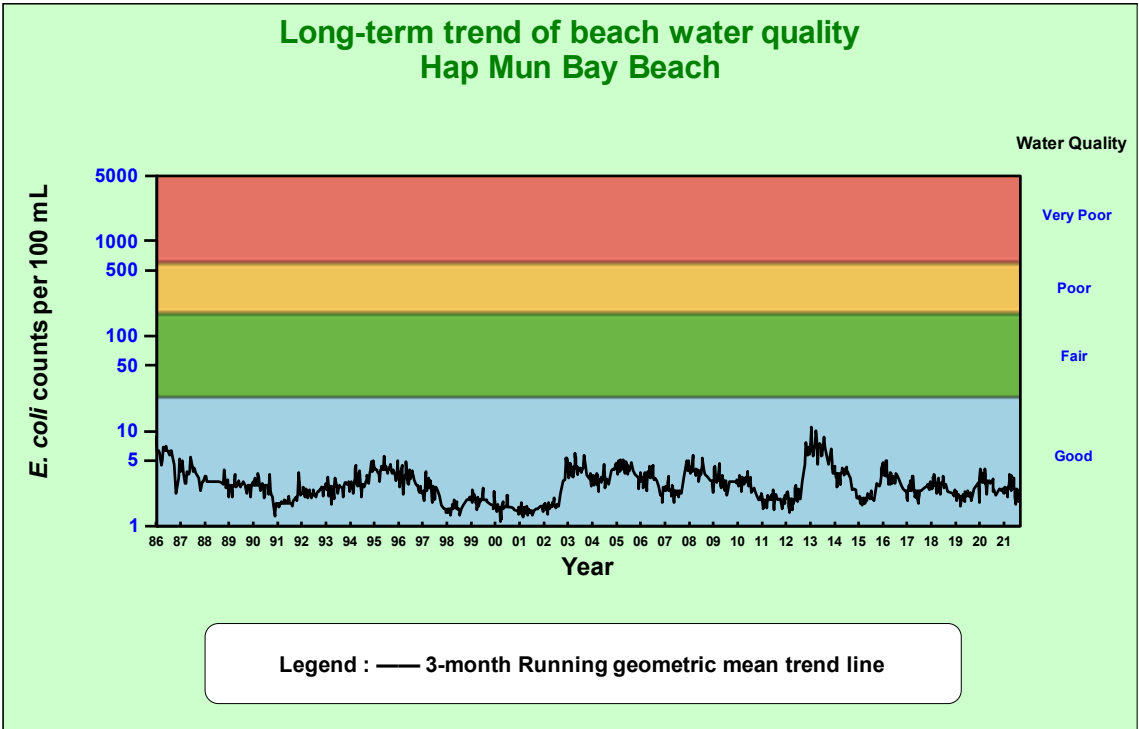




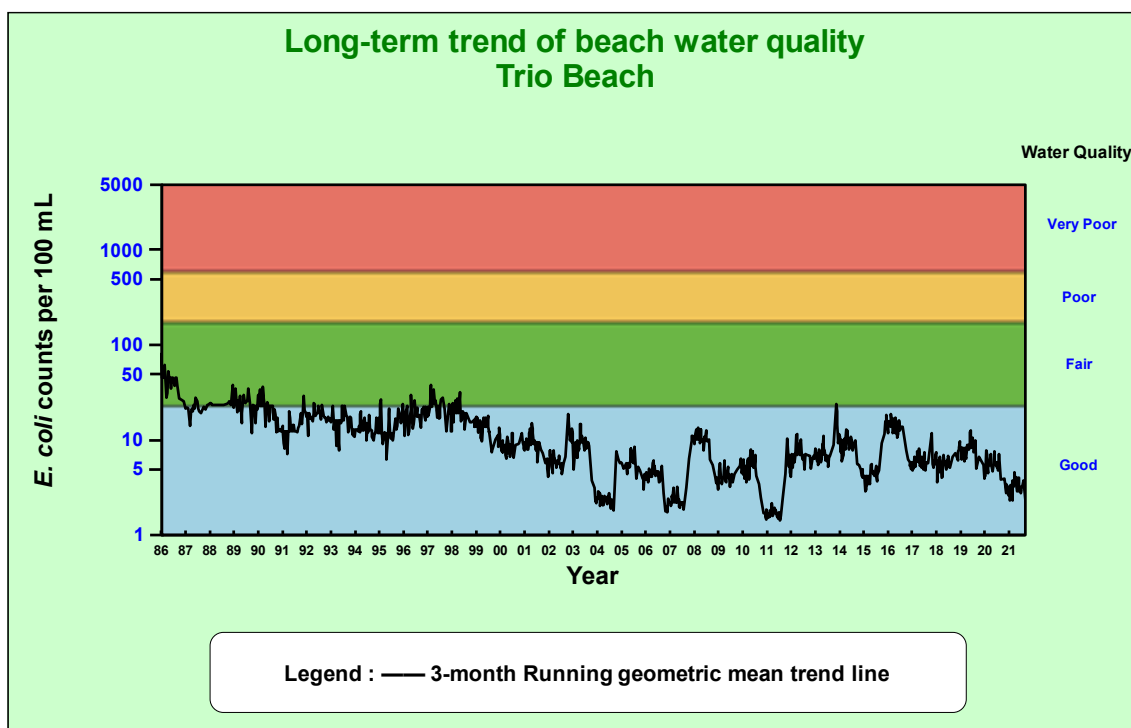
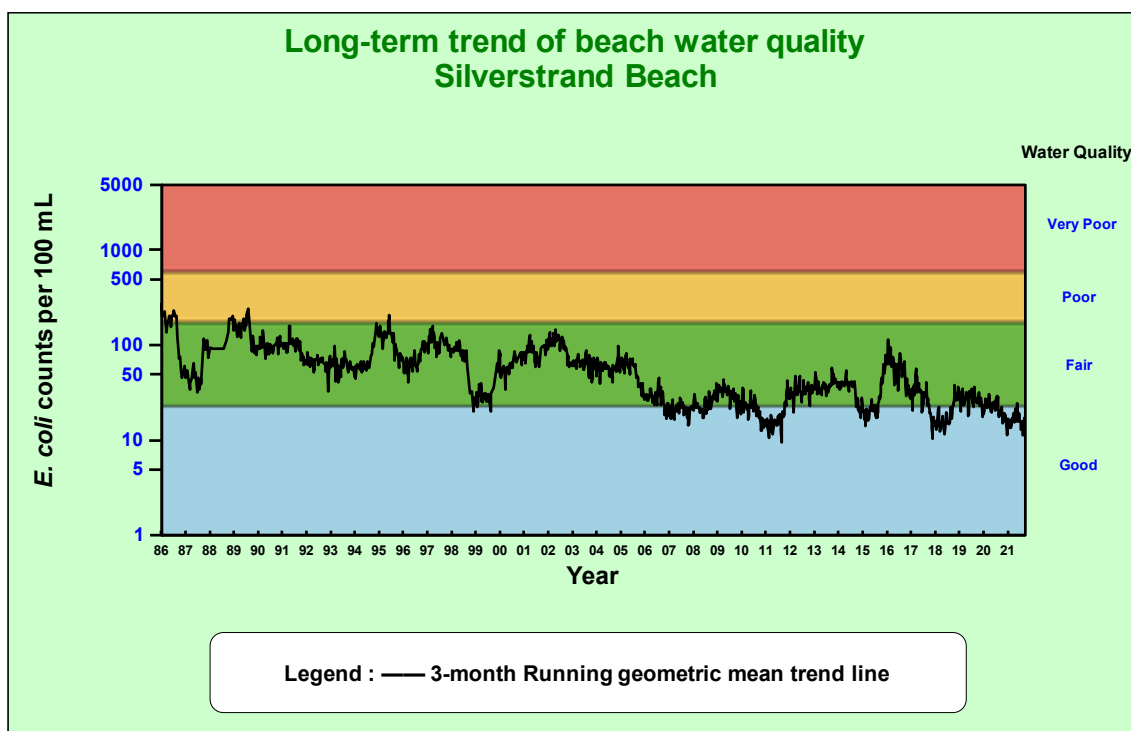


## Sai Kung District



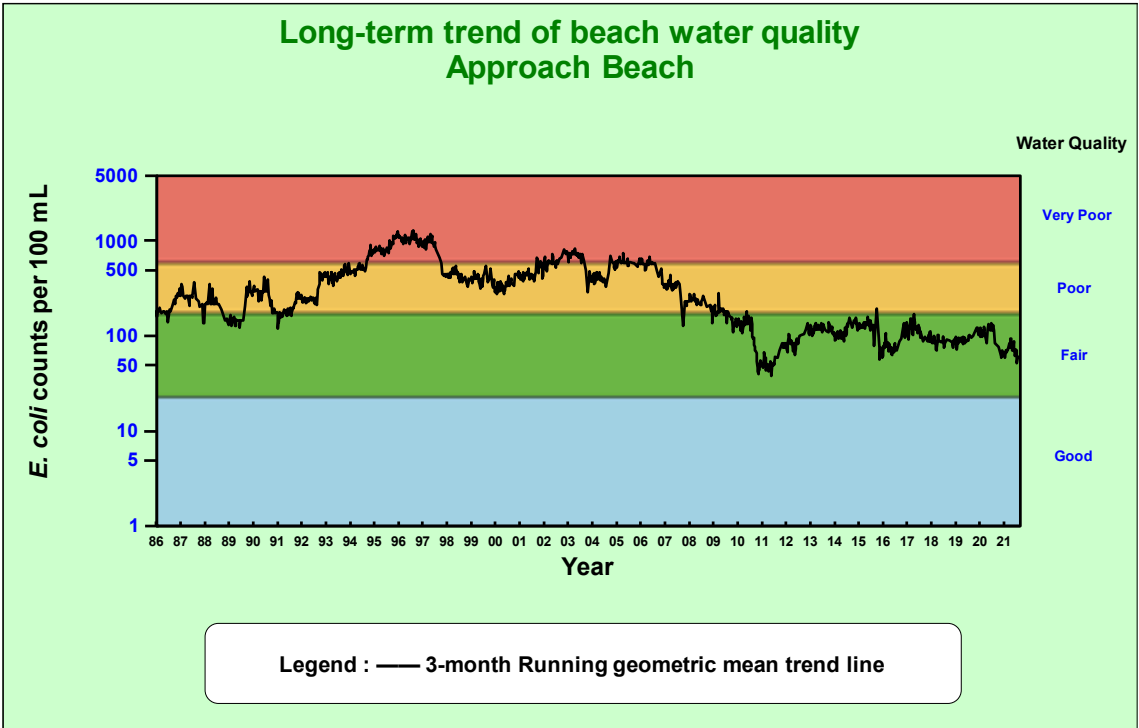
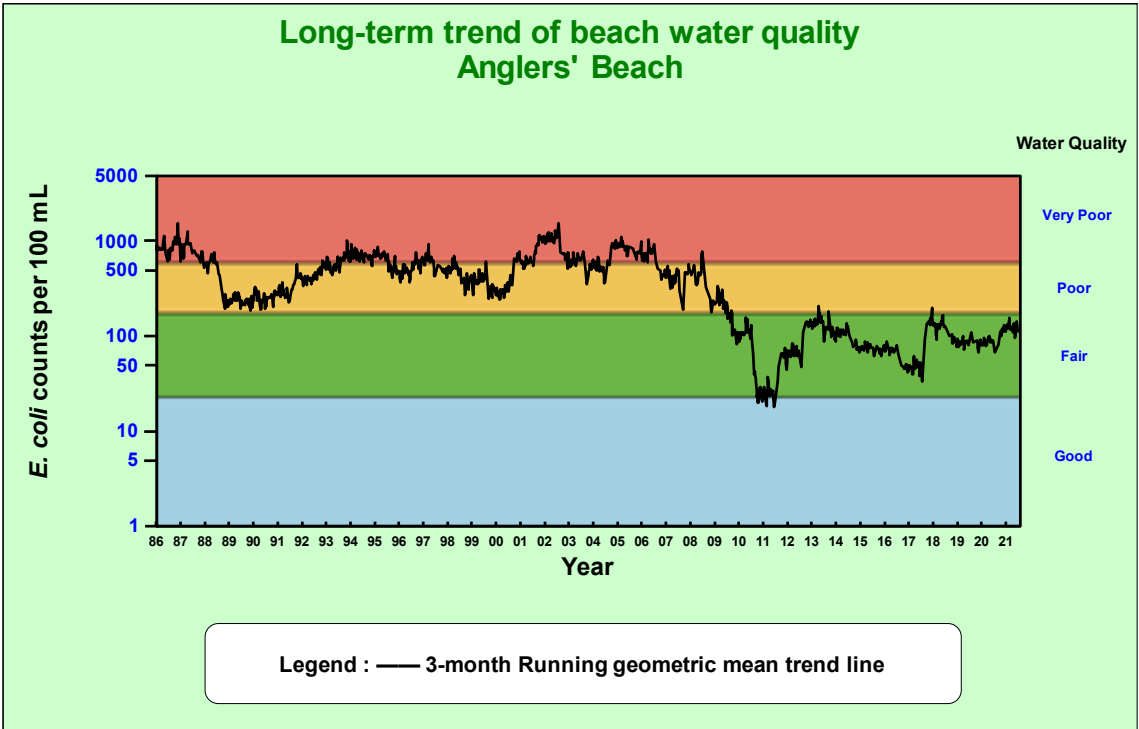


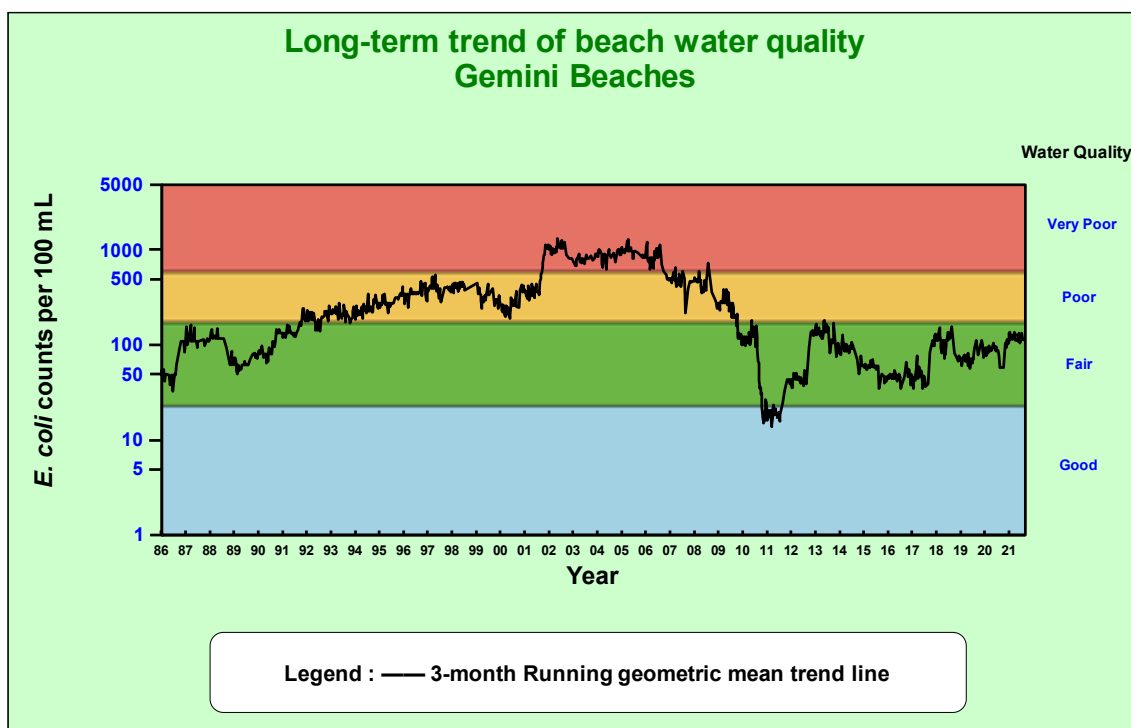
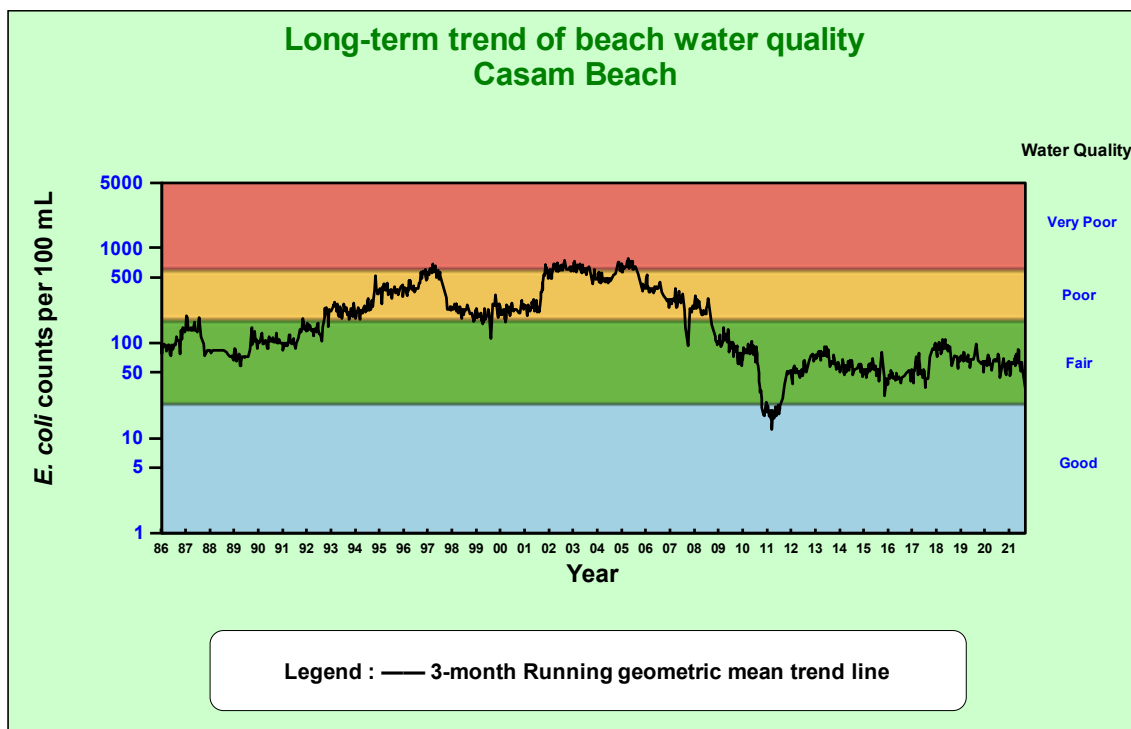


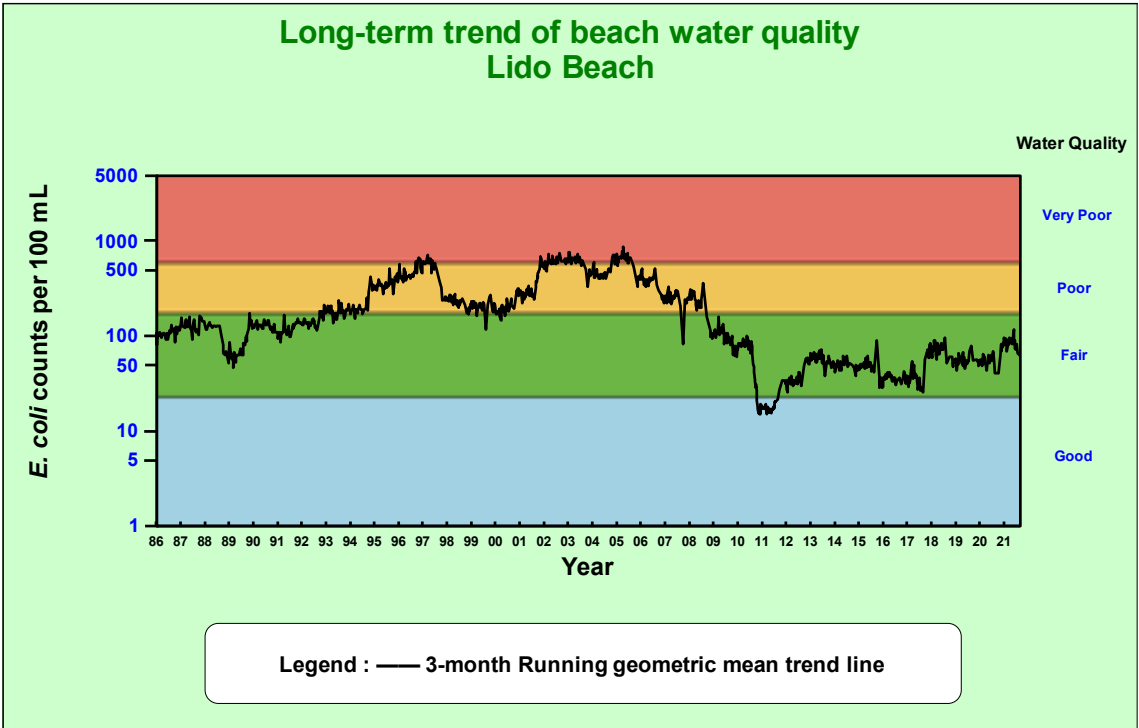
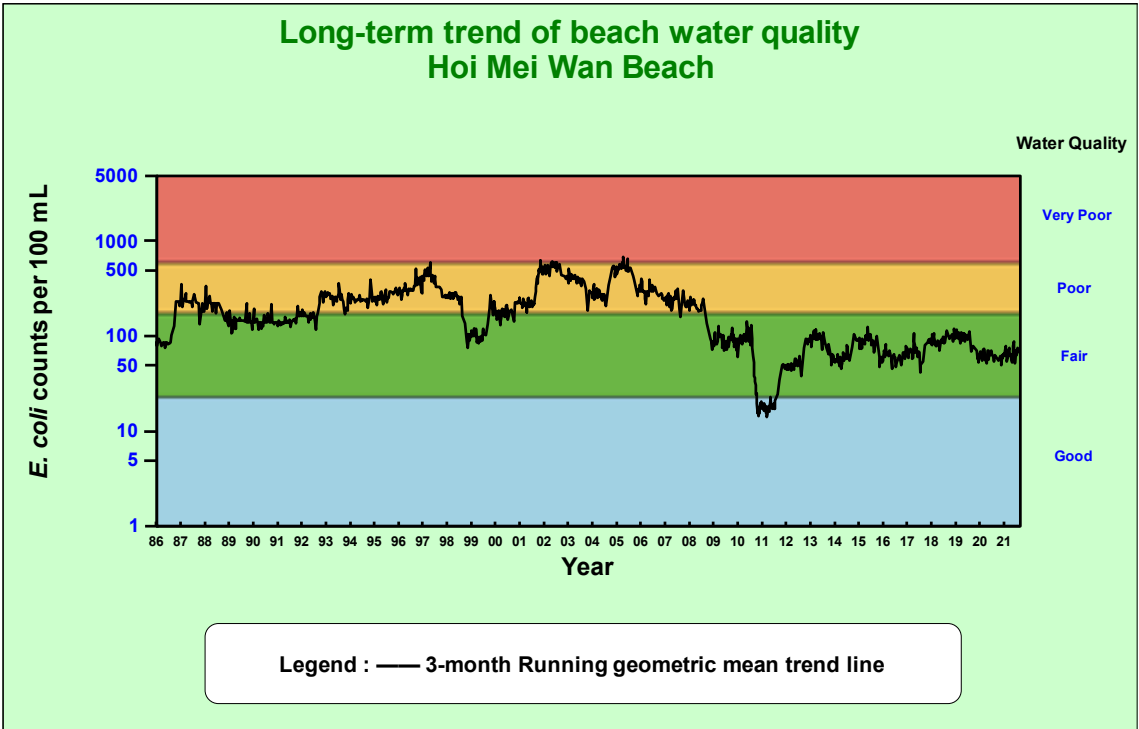


Tsuen Wan District

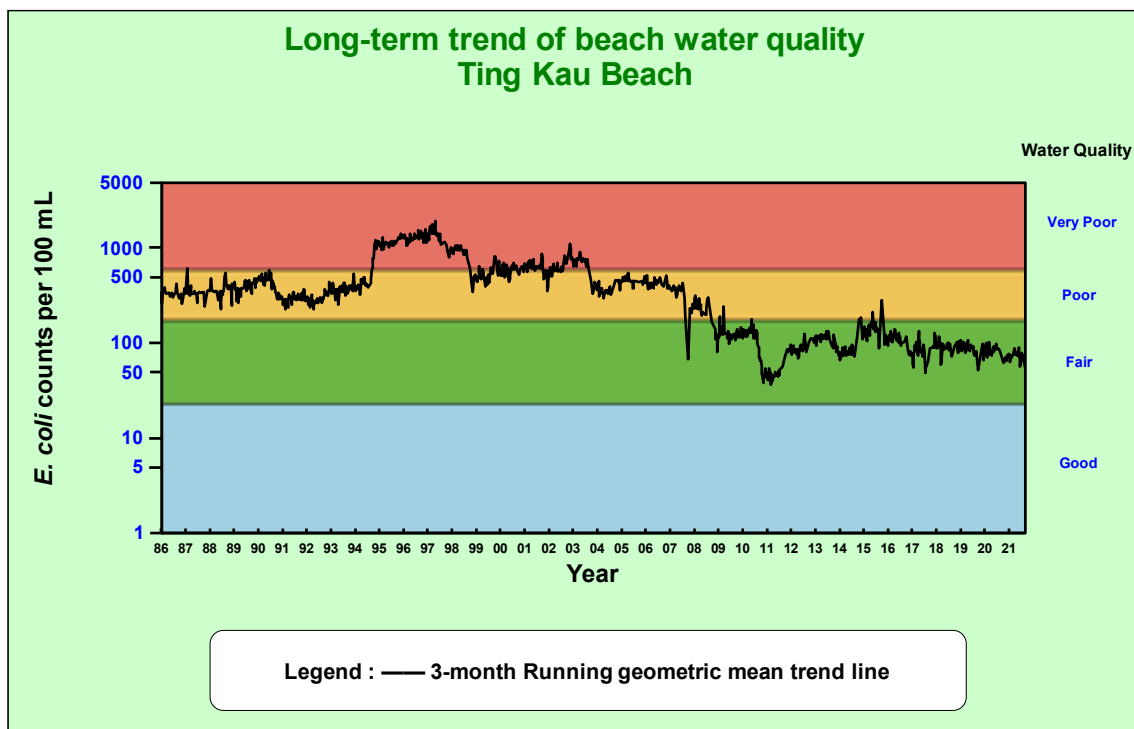
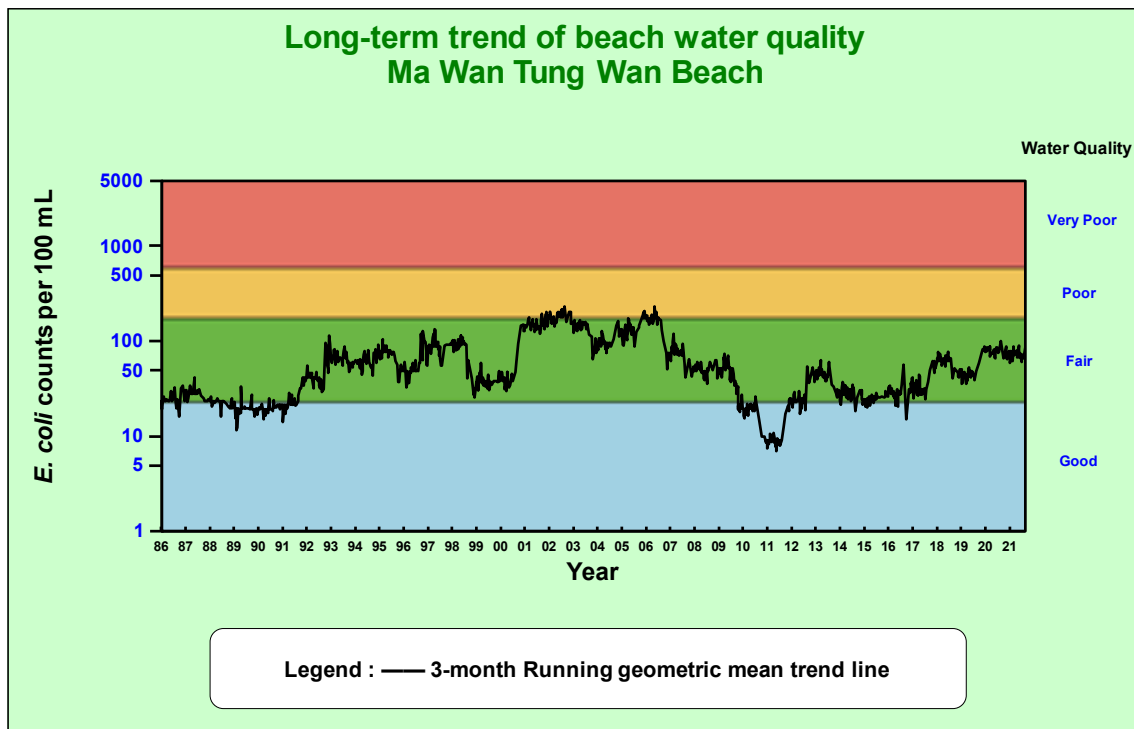
Appendix D



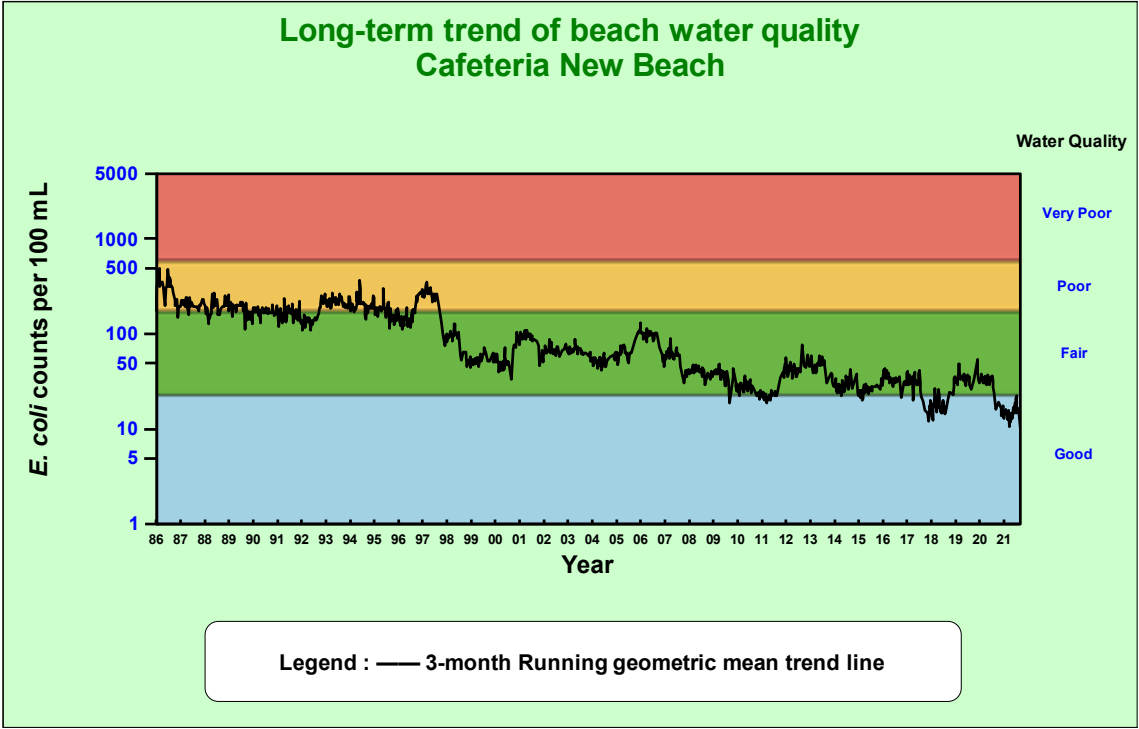
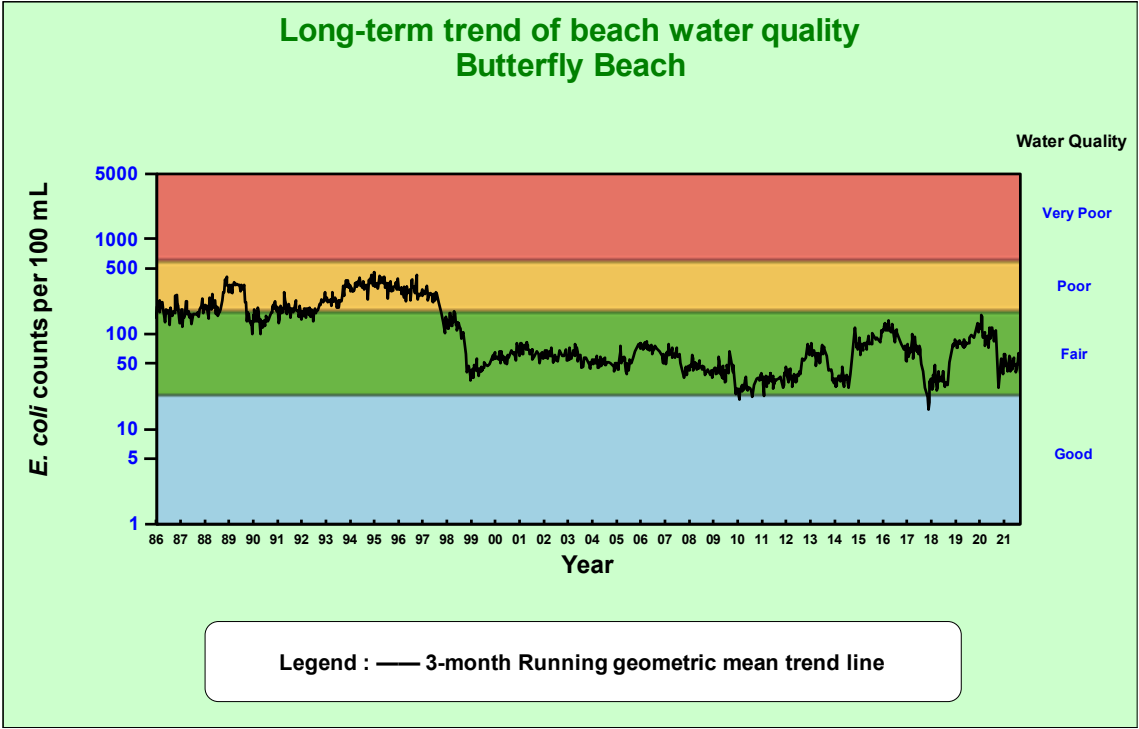


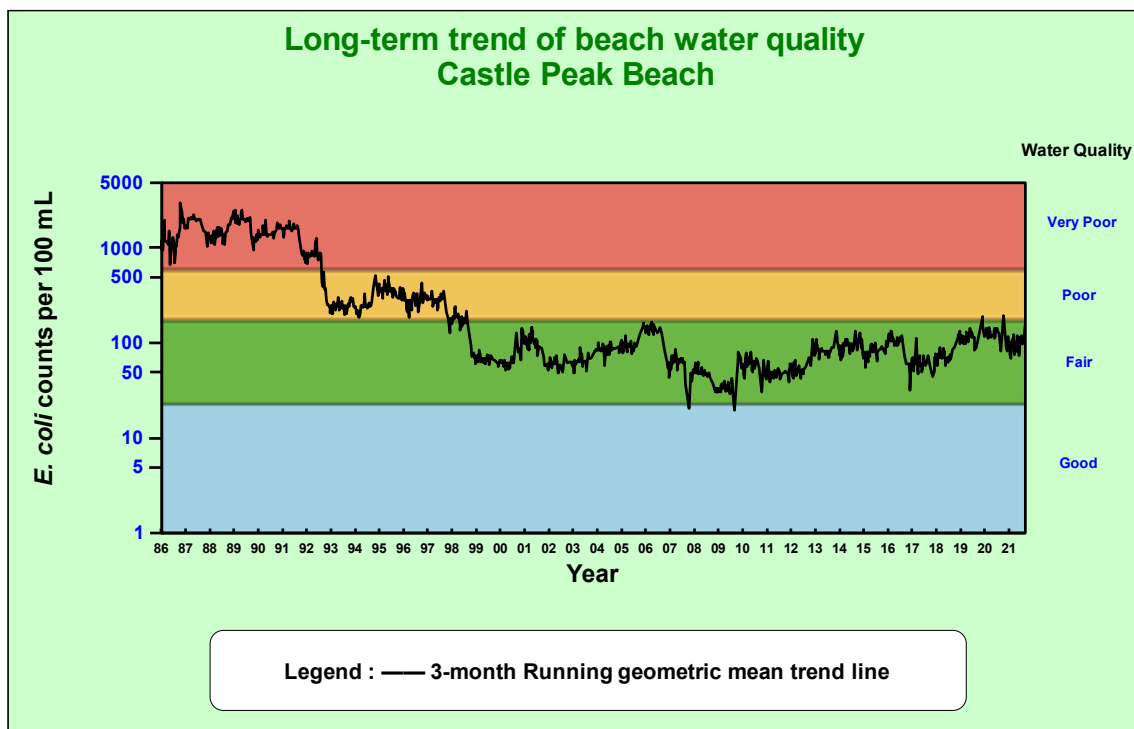
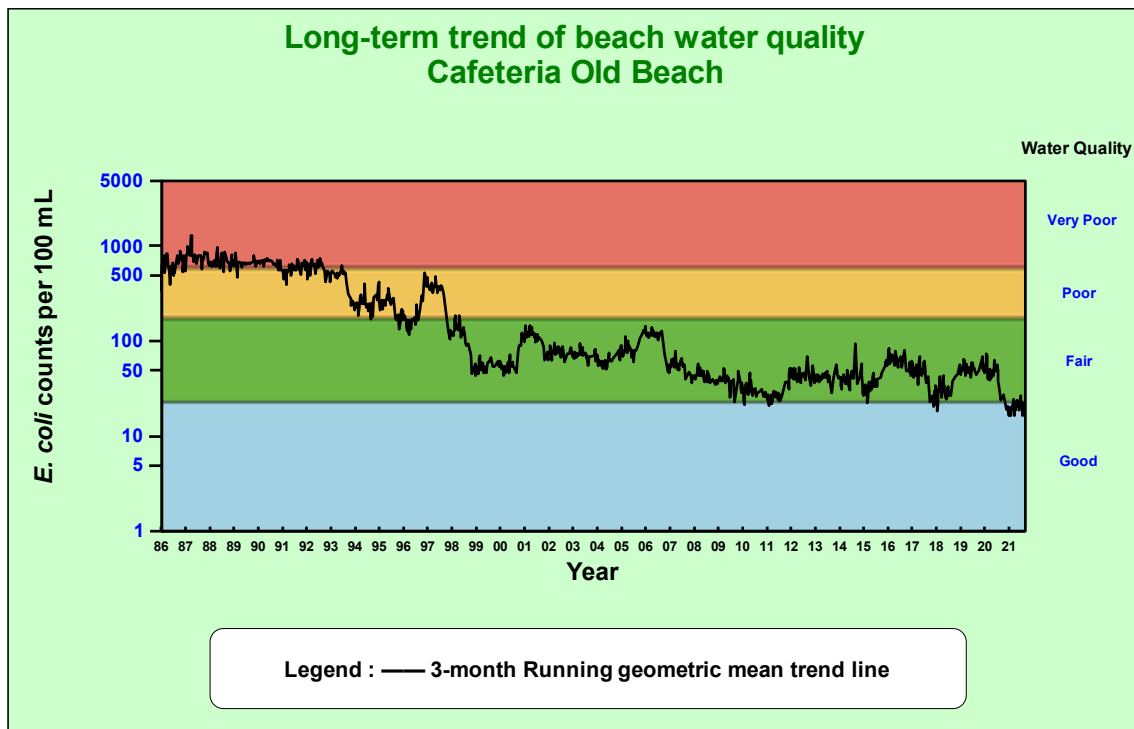


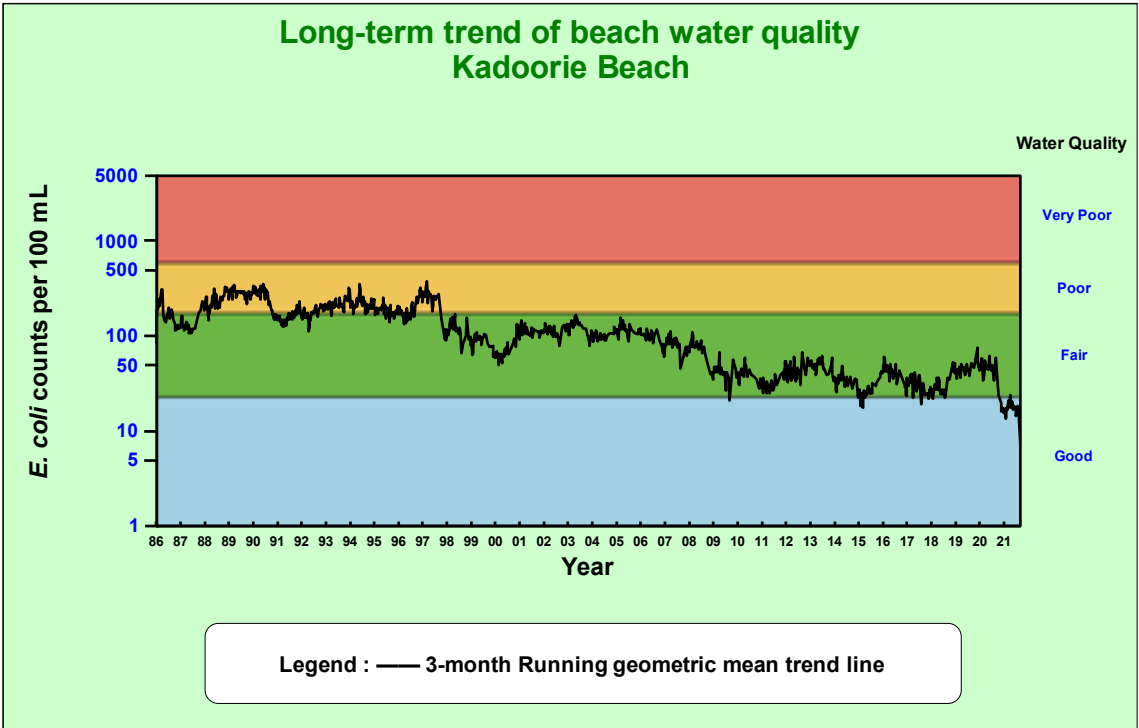
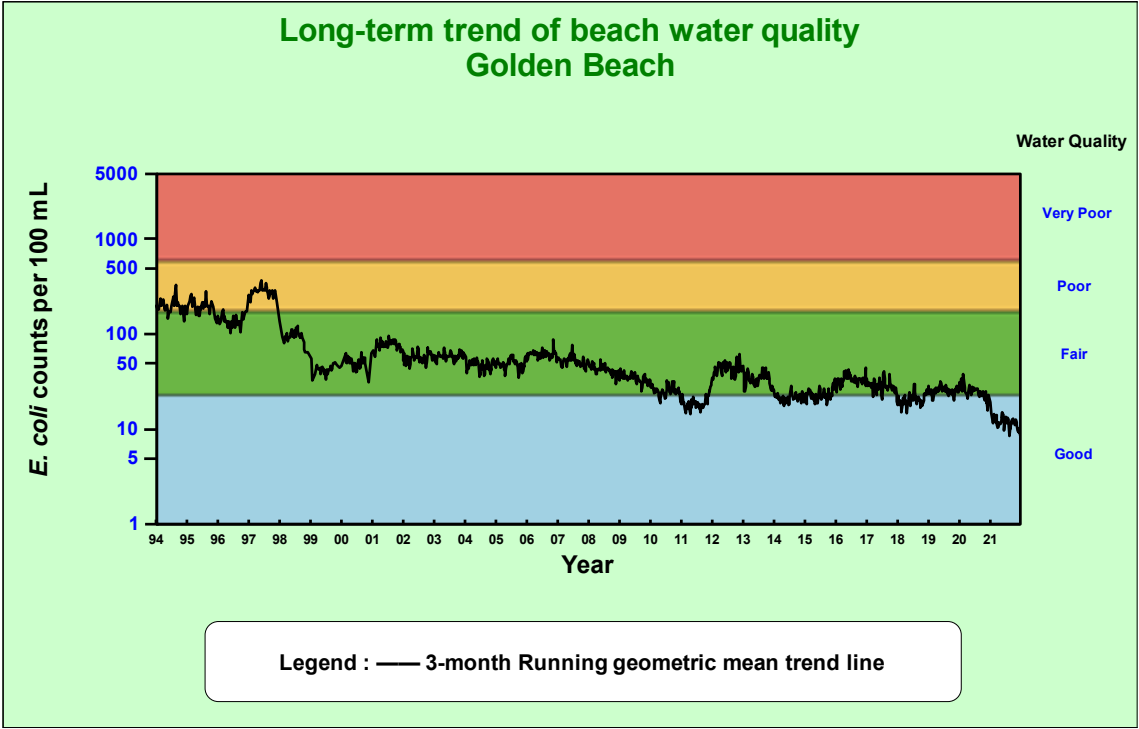




Tuen Mun District

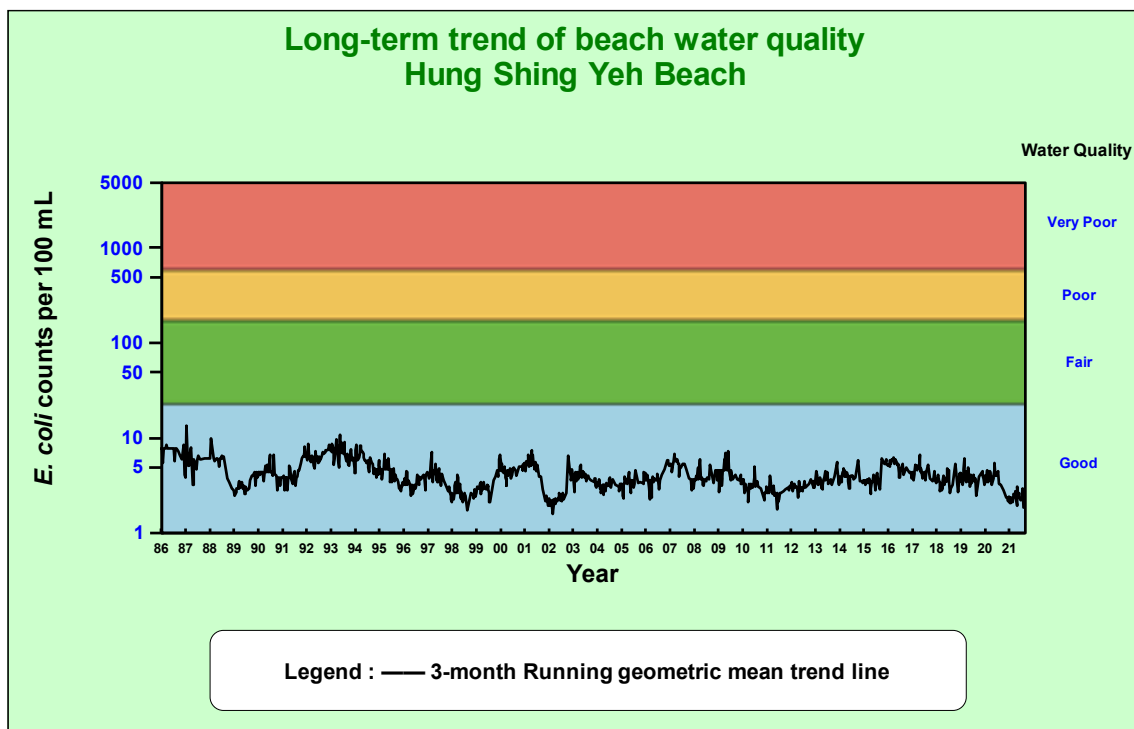
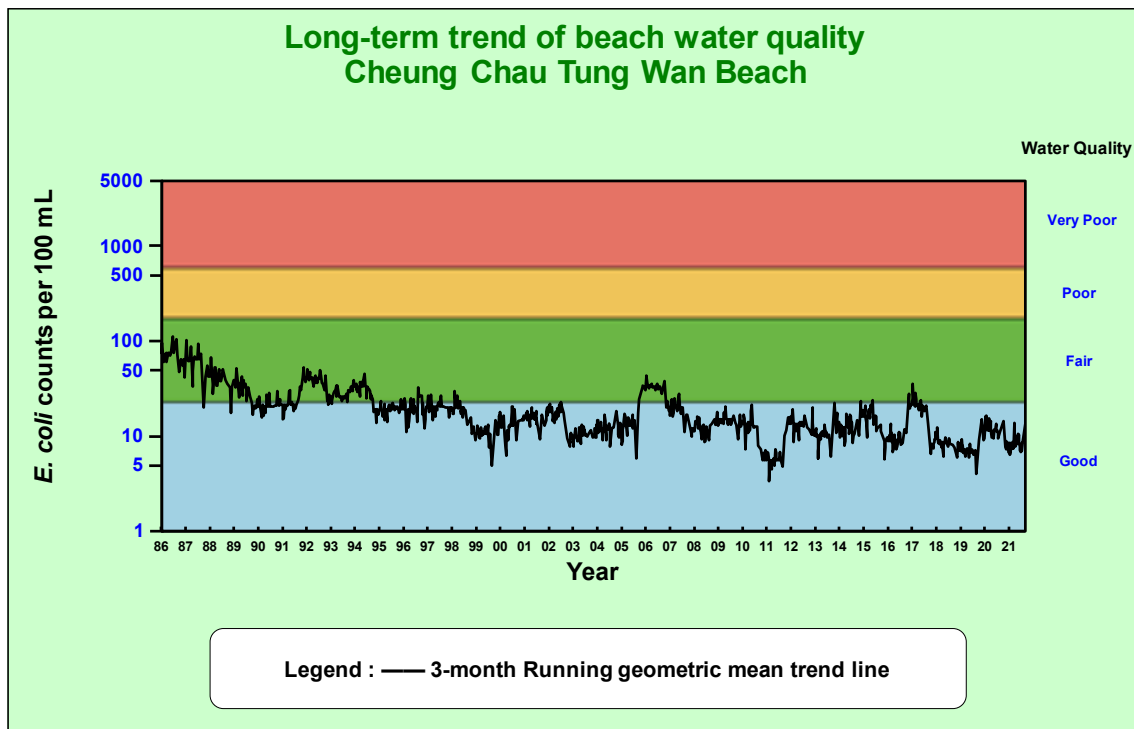


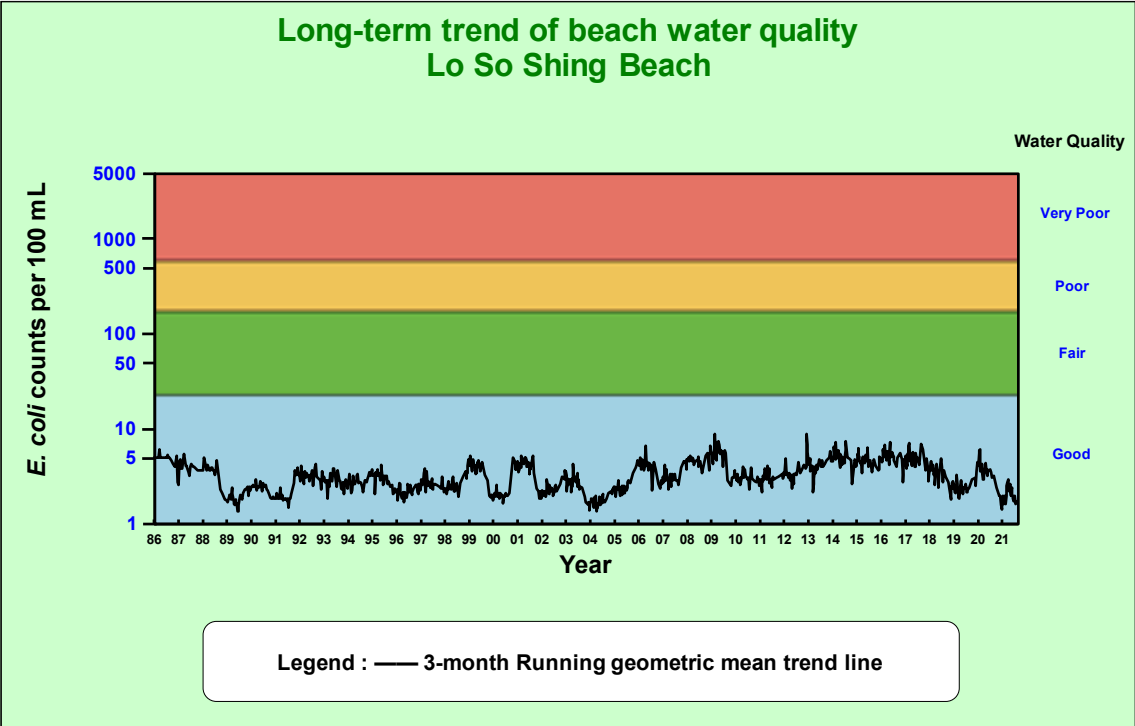
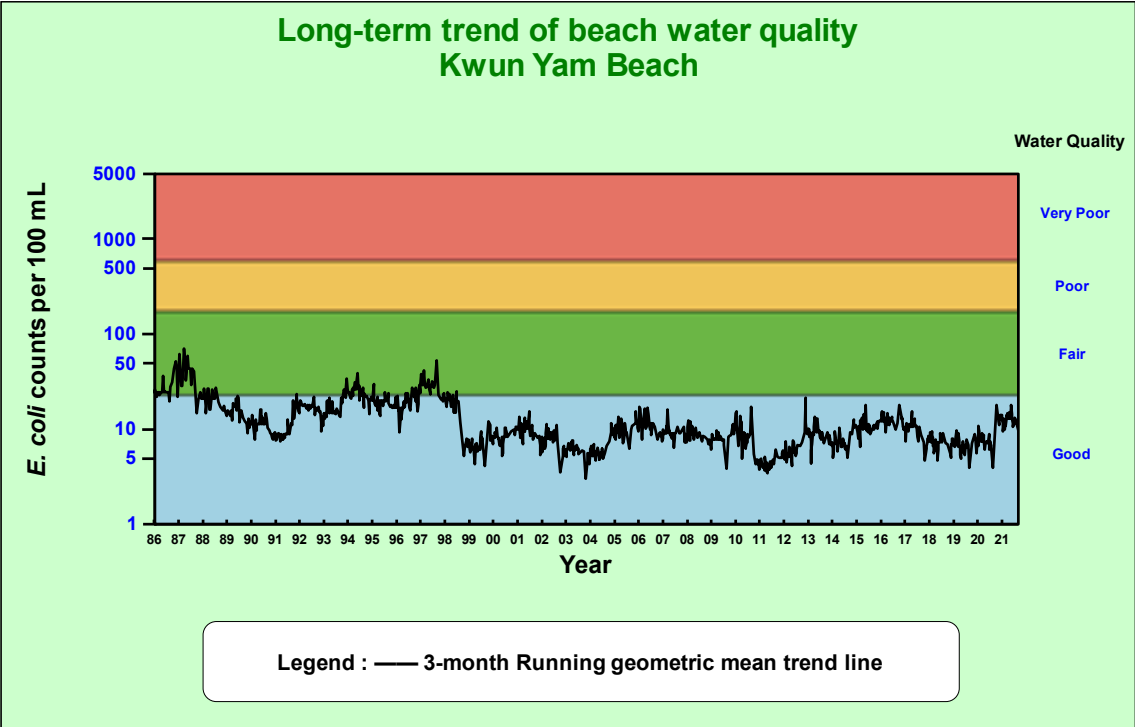


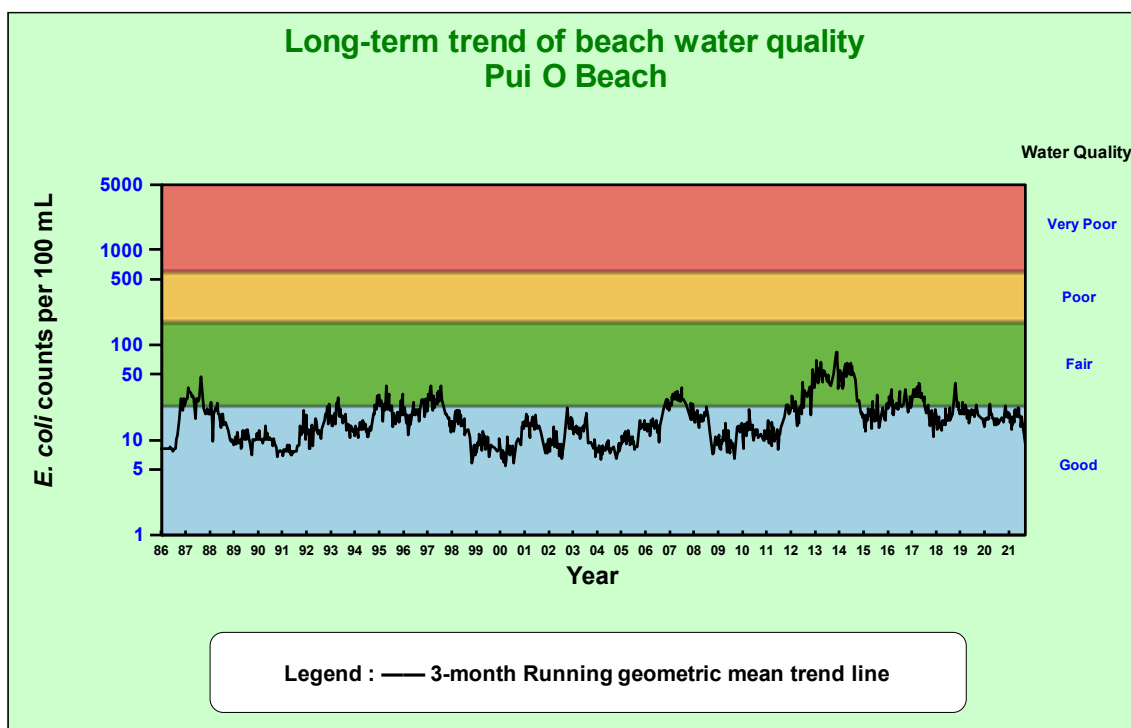
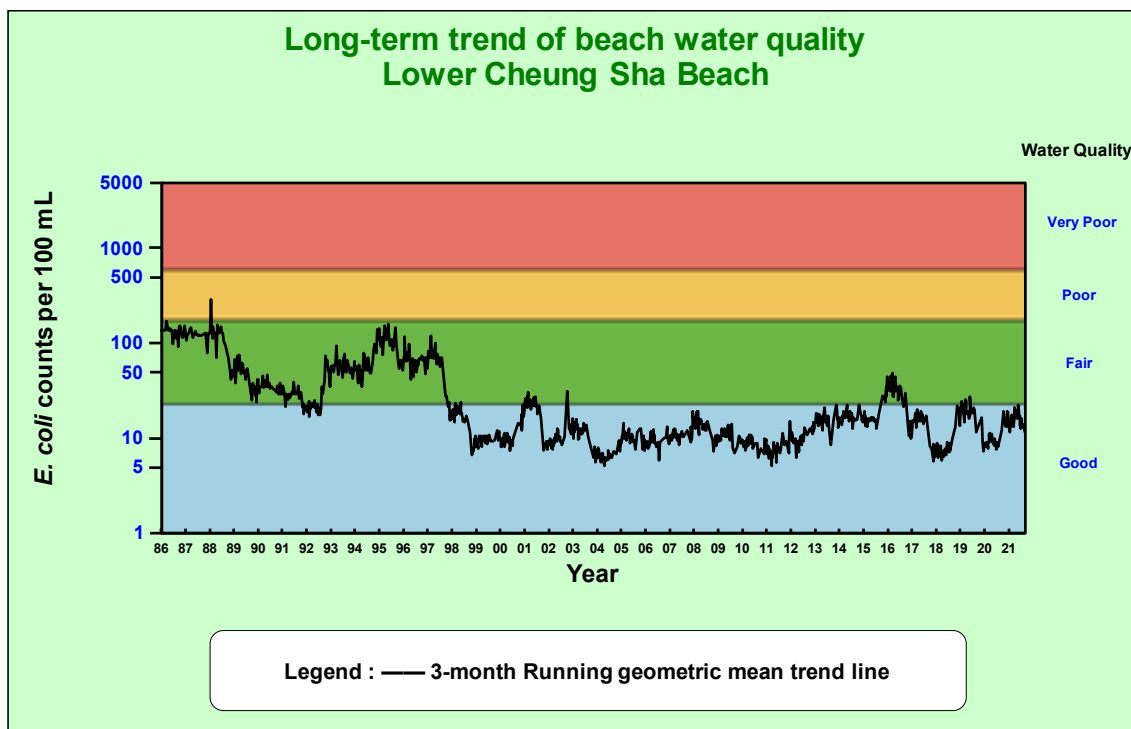


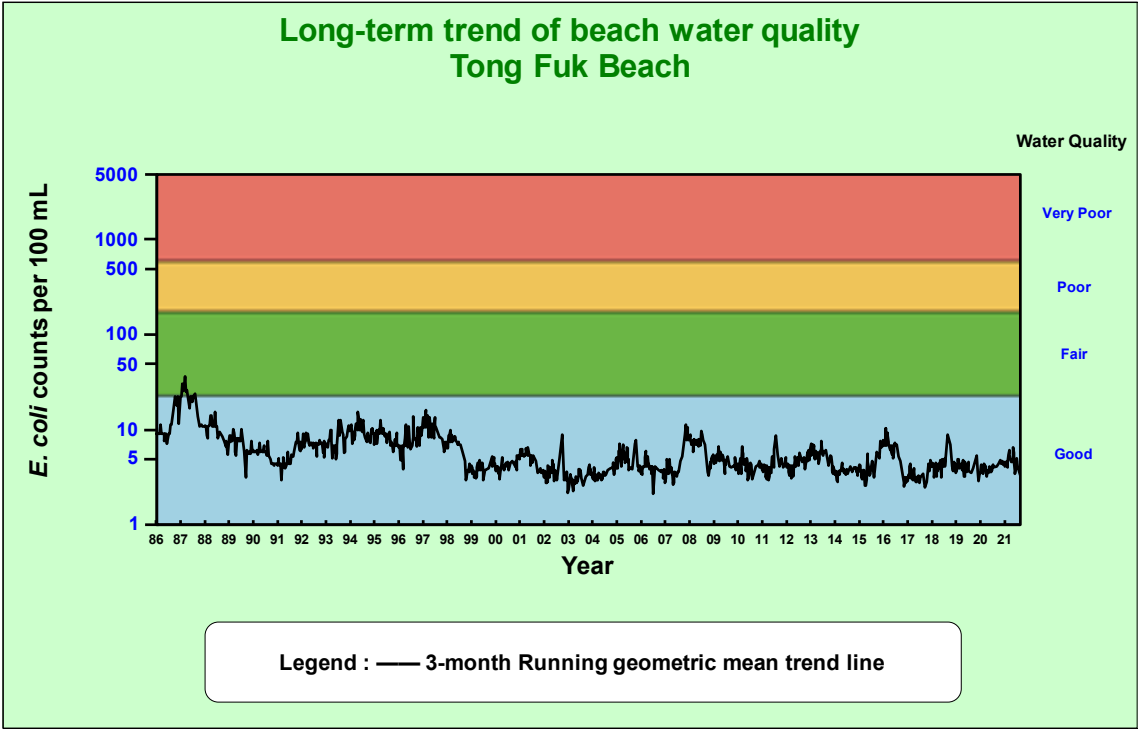
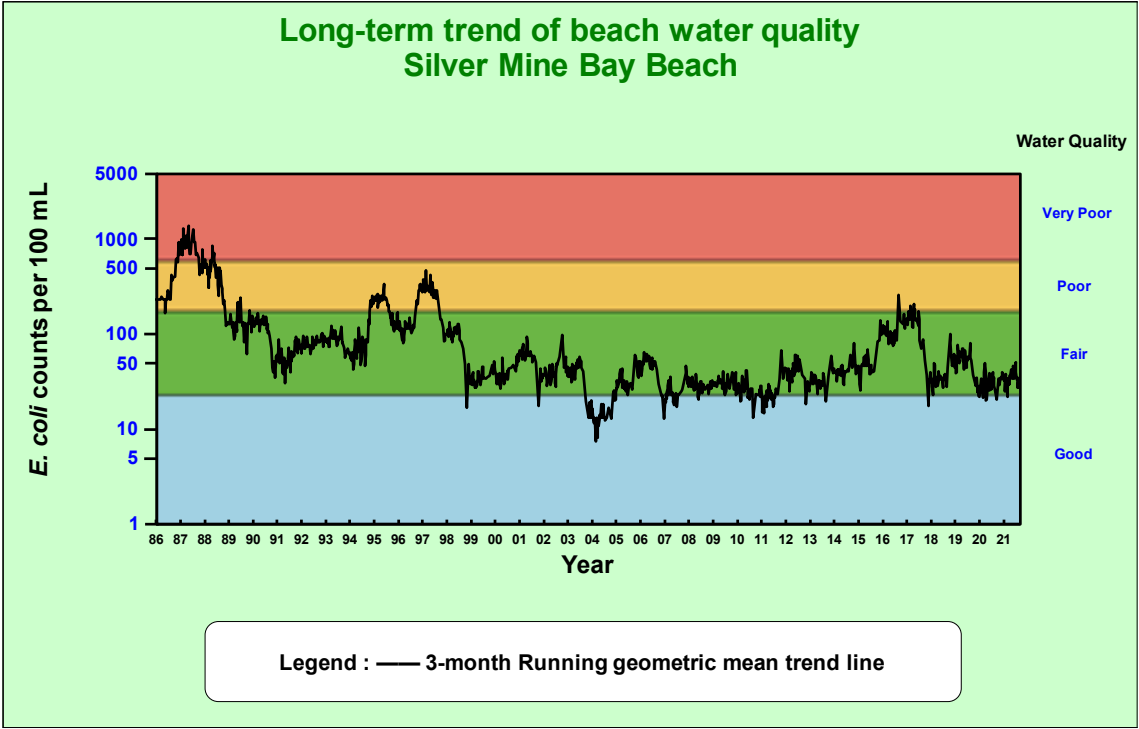


## Islands District

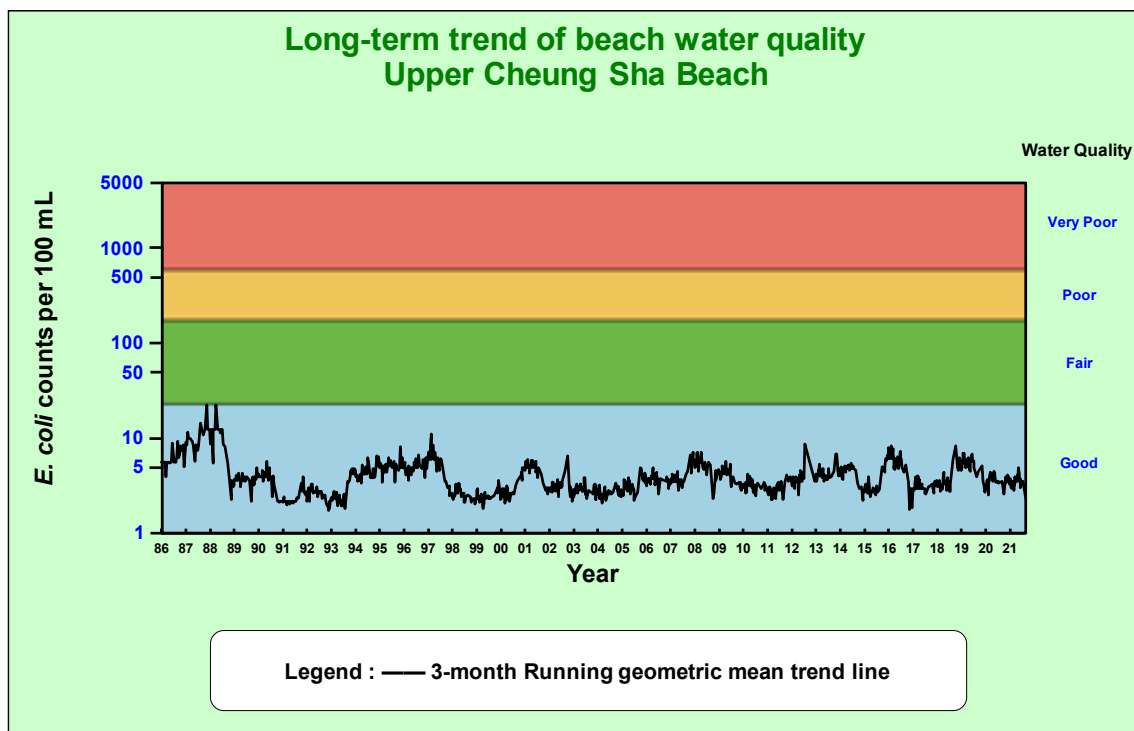












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## Contact us:

### Water Policy and Science Group Environmental Protection Department

48/F Revenue Tower,  
5 Gloucester Road,  
Wan Chai, Hong Kong  
Tel: (852)2838-3111  
Fax: (852)2827-8296  
Email: [enquiry@epd.gov.hk](mailto:enquiry@epd.gov.hk)

