

香港泳灘水質 2020

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

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



▲ Hong Kong has many beautiful beaches with clear water and soft sand

Introduction

Hong Kong is famous for its beautiful coastal beaches with clear water and white sands along its long and twisting coastline. In order to safeguard the health of bathers, the Government is devoted to upkeep the water quality of our beaches.

To achieve the goal, the Environmental Protection Department (EPD) has implemented a comprehensive Beach Water Quality Monitoring Programme since 1986. This report provides the beach monitoring data collected in 2020, and summarizes the corresponding grading and bacteriological Water Quality Objective (WQO) compliance rate for bathing waters.



▲ Beaches are perfect places to escape from the hustle and bustle of the city

Beach Water Quality in Hong Kong 2020

Despite the COVID-19 pandemic in Hong Kong during 2020, the EPD continued to monitor the 41 gazetted beaches and two non-gazetted beaches in the bathing season. In the period, the EPD staff monitored the water quality of beaches through field observation and water sample collection for laboratory analyses of *Escherichia coli* (*E. coli*) level. For reference purpose, dissolved oxygen, pH, salinity, temperature and turbidity of beach water were also measured in-situ.



▲ EPD staff conducting water sampling and field measurement at the beaches



▲ Beach water sample analysis is conducted at EPD's environmental microbiology laboratory

Hong Kong adopts a dual rating system for beach water quality assessment, which is based on the *E. coli* level in the beach water for assessing the annual ranking and weekly grading of the beaches. Different rankings or gradings represent different levels of risk of contracting swimming-associated



▲ Water quality grading displayed at the gazetted beaches

minor gastrointestinal and skin illnesses. The annual ranking reflects the overall water quality of the beach over the whole bathing season, while the weekly grading traces more recent changes in water quality. 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 2020

All 41 gazetted beaches complied with the bacteriological WQO in 2020. Compared with 2019, the number of beaches with “Good” ranking has increased from 21 (or 51 %) to 24 (or 59 %), and the number of beaches with “Fair” ranking has decreased from 20 (or 49%) to 17 (or 41%). No beaches were in the “Poor” or “Very Poor” ranking.



▲ Turtle Cove Beach in the Southern District has received “Good” annual ranking for 23 consecutive years

The overall improvement in beach ranking in 2020 was primarily associated with the generally fine weather during the bathing season. Although the cumulative rainfall in the bathing season (2 294 mm) was only slightly lower than the same period in 2019 (2 309 mm), the prolonged period of sunshine was the key factor leading to enhanced natural recovery of water quality. The number of bright sunshine hours during the bathing season was 10.5% higher than that in 2019, and also 8.9% higher than the 30-year climatological normal during 1981-2010. In particular, the hot July and August brought very stable water quality to the territory. Occasional fluctuations of water quality could still be observed after heavy downpours during the wet and cloudy September, but the changes were transient and within the normal range of fluctuation.

The 41 gazetted beaches are distributed in five different districts, namely Tuen Mun, Tsuen Wan, Southern (Hong Kong Island South), Islands and Sai Kung. Similar to past records, the beaches in the Southern, Islands and Sai Kung Districts generally received better annual ranking.

There are 12 beaches in the Southern District, 11 of them were ranked as “Good”, with Shek O Beach and Rocky Bay Beach improved from “Fair” to “Good”, and Big Wave Bay Beach continued to receive a “Fair” ranking. In the Islands District, the seven beaches that were ranked as “Good” last year continued to receive the same ranking, and Lower Cheung Sha Beach also improved from “Fair” to “Good”, while Silver Mine Bay Beach remained as “Fair”. Beaches in the Sai Kung District attained the same record as in last year: Silverstrand Beach and the remaining five beaches continued to be ranked as “Fair” and “Good”, respectively.

All the eight beaches in the Tsuen Wan District and all the six beaches in the Tuen Mun District received a “Fair” annual ranking, on par with last year.



▲ Chung Hom Kok Beach embraced by trees

Before 2010, seven Tsuen Wan beaches along Castle Peak Road had once been closed due to poor water quality. Since 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, the water quality of these beaches has significantly improved and complied with the bacteriological WQO for bathing waters since then. This has led to the gradual re-opening of all these beaches during 2011 – 2014.



▲ Hoi Mei Wan Beach by the Tsing Ma Bridge

In 2020, EPD’s monitoring programme also covered the following two non-gazetted beaches: Discovery Bay (a popular beach in Lantau Island) and New Kiu Tsui (a sandy beach adjacent to Kiu Tsui Beach in Sai Kung). Both beaches received a “Good” ranking. Monitoring at Lung Mei in Tai Po has been suspended since March 2019 due to the ongoing construction works under Lung Mei Beach Project. As the construction works were near completion, EPD commenced the preliminary work towards the end of 2020 to prepare for resumption of routine monitoring.

Weekly Beach Grading in 2020

Besides the annual ranking, EPD also issues weekly grading of gazetted beaches during their usual opening periods, with an aim to closely trace the changes in beach water quality. The public can obtain up-to-date grading information through different channels including press releases, EPD's website, beach water quality hotline, GeoInfo Map of the GovHK website and noticeboards at the beaches. This chapter summarizes the weekly grading status of the beaches during the 2020 bathing season.

All the ten gazetted beaches in the Southern District had decent water quality, and on average maintained a “Good” grading for 85% of time in the bathing season. Among them, four beaches (Repulse Bay Beach, South Bay Beach, St. Stephen’s Beach and Shek O Beach) made a record of 100% “Good” grading throughout the entire bathing season. Chung Hom Kok Beach was the only beach in the district graded as “Very Poor” for two times after heavy rain between late May and early June.

Some beaches in the Islands District had fairly good water quality. Five beaches, namely, Kwun Yam Beach, Hung Shing Yeh Beach, Lo So Shing Beach, Tong Fuk Beach and Upper Cheung Sha Beach received “Good” grading for at least 90% of the time. In addition, no beaches were graded “Very Poor” in the district during this bathing season.



▲ Moment of peace at Lo So Shing Beach

Water quality of Sai Kung beaches continued to be satisfying where Hap Mun Bay Beach and Trio Beach had the best water quality among all, each attaining a “Good” grading for 93% of time in the bathing season. Only Silverstrand Beach and Kiu Tsui Beach received a rainfall-associated “Very Poor” grading this year.



▲ Clear Water Bay Second Beach is open all year round for swimming

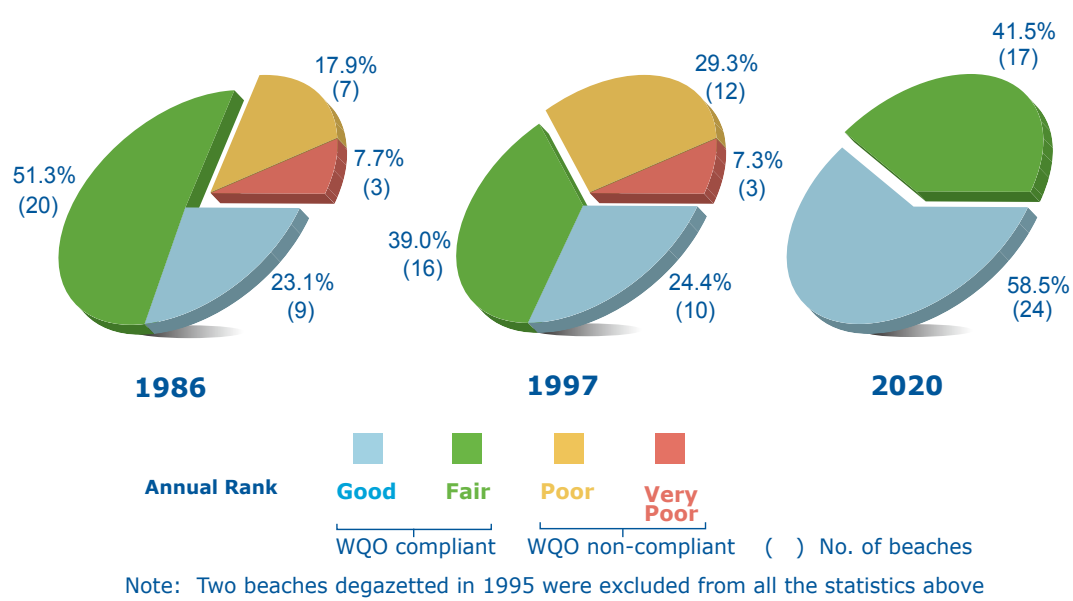
Beaches in the Tuen Mun District maintained a “Fair” grading for most of the time in the bathing season, largely similar to the previous years. All beaches in the district, except Cafeteria New Beach, were graded as “Very Poor” one to two times in the first half of the year due to the effect of rainstorms.

Fluctuation of water quality was observed at beaches in the Tsuen Wan District in mid-June. The frequent heavy rainstorms in September also occasionally brought temporary water quality deterioration to the district. Nevertheless, water quality of Tsuen Wan beaches was largely fine in other months of the year, and their overall grading status was consistent when compared with the past few years.

Water Quality Trend

Since 2010, all gazetted beaches have been in full compliance with the bacteriological WQO for 11 consecutive years. The compliance rate for beaches once decreased from 74% in 1986 (29 of 39 beaches) to 63% (26 of 41 beaches) in 1997, and then progressively increased to 100% in 2010, with the full compliance maintained since then.

Comparison of annual beach ranking of gazetted beaches in 1986, 1997 and 2020

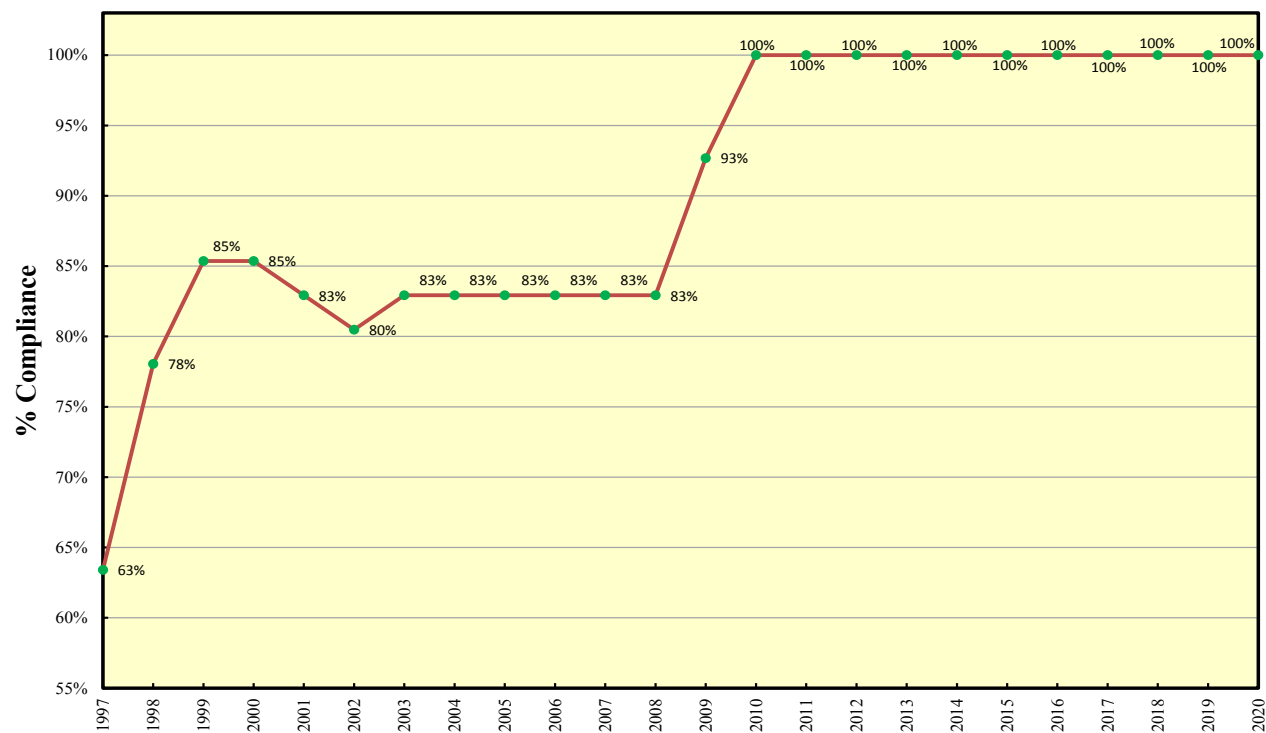


Looking back to the 1980s, many beaches were closed (e.g. Cafeteria Old Beach, Castle Peak Beach and Silver Mine Bay Beach) or on the verge of being closed (e.g. Middle Bay Beach and Repulse Bay Beach) due to poor water quality. There was a further drop in compliance rate in the mid-1990s due to population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

Major improvement measures for the beaches since the implementation of beach water quality monitoring programme in 1986	
1986 – 1990	Beaches with Water Quality Improvement
<ul style="list-style-type: none"> ✱ Implementation of the Livestock Waste Control Scheme under the Waste Disposal (Livestock Waste) Regulation. 	Most beaches, particularly Silver Mine Bay Beach
<ul style="list-style-type: none"> ✱ Declaration of the Southern Water Control Zone (WCZ) under the Water Pollution Control Ordinance (WPCO) for legislative enforcement. 	Southern beaches
<ul style="list-style-type: none"> ✱ Interception and diversion of polluted storm drains at beaches in Southern District. 	Southern beaches
1991 – 1995	
<ul style="list-style-type: none"> ✱ Implementation of chemical waste control. 	All beaches
<ul style="list-style-type: none"> ✱ Declaration of the North Western WCZ under the WPCO for legislative enforcement. 	Tuen Mun beaches
<ul style="list-style-type: none"> ✱ Diversion of polluted storm water drains away from Castle Peak Beach. 	Castle Peak Beach
<ul style="list-style-type: none"> ✱ Provision of public sewers for So Kwun Wat and Sam Shing Estate. 	Tuen Mun Beaches
<ul style="list-style-type: none"> ✱ Commissioning of Stanley Sewage Treatment Works (STW). 	Stanley Main Beach
1996 – 2000	
<ul style="list-style-type: none"> ✱ Full implementation of the WPCO in all WCZs. 	All beaches
<ul style="list-style-type: none"> ✱ Commissioning of the Shek O Sewage Screening Plant and diversion of polluted storm water drains at Shek O Village . 	Shek O Beach
<ul style="list-style-type: none"> ✱ Completion of all major works under the Southern Sewerage Master Plan. 	Southern beaches
<ul style="list-style-type: none"> ✱ Commissioning of the new 2 km long Pillar Point sewage submarine outfall. 	Tuen Mun beaches
2001 – 2005	
<ul style="list-style-type: none"> ✱ Completion of Harbour Area Treatment Scheme Stage 1. 	Big Wave Bay, Shek O and Rocky Bay Beaches
<ul style="list-style-type: none"> ✱ Provision of public sewers in the Silverstrand area. 	Silverstrand Beach
<ul style="list-style-type: none"> ✱ Full operation of the Sham Tseng STW. 	Beaches along the Tsuen Wan coast
2006 – 2020	
<ul style="list-style-type: none"> ✱ Commissioning of the Advance Disinfection Facilities at the Stonecutters Island STW. 	All Tsuen Wan beaches
<ul style="list-style-type: none"> ✱ Extension of the public sewerage network to the beach hinterland along Castle Peak Road. 	Beaches along the Tsuen Wan coast
<ul style="list-style-type: none"> ✱ Full scale commissioning of all facilities of the Harbour Area Treatment Scheme (HATS) Stage 2A. 	Beaches along the Tsuen Wan coast

All gazetted beaches in Hong Kong have continuously met the required standard developed based on swimming-associated health risk. The EPD will continue to closely monitor the beach water quality to support water quality management policy, and to provide water quality data for beach users’ reference.

Compliance rate with bacteriological WQO at gazetted beaches
during 1997 – 2020



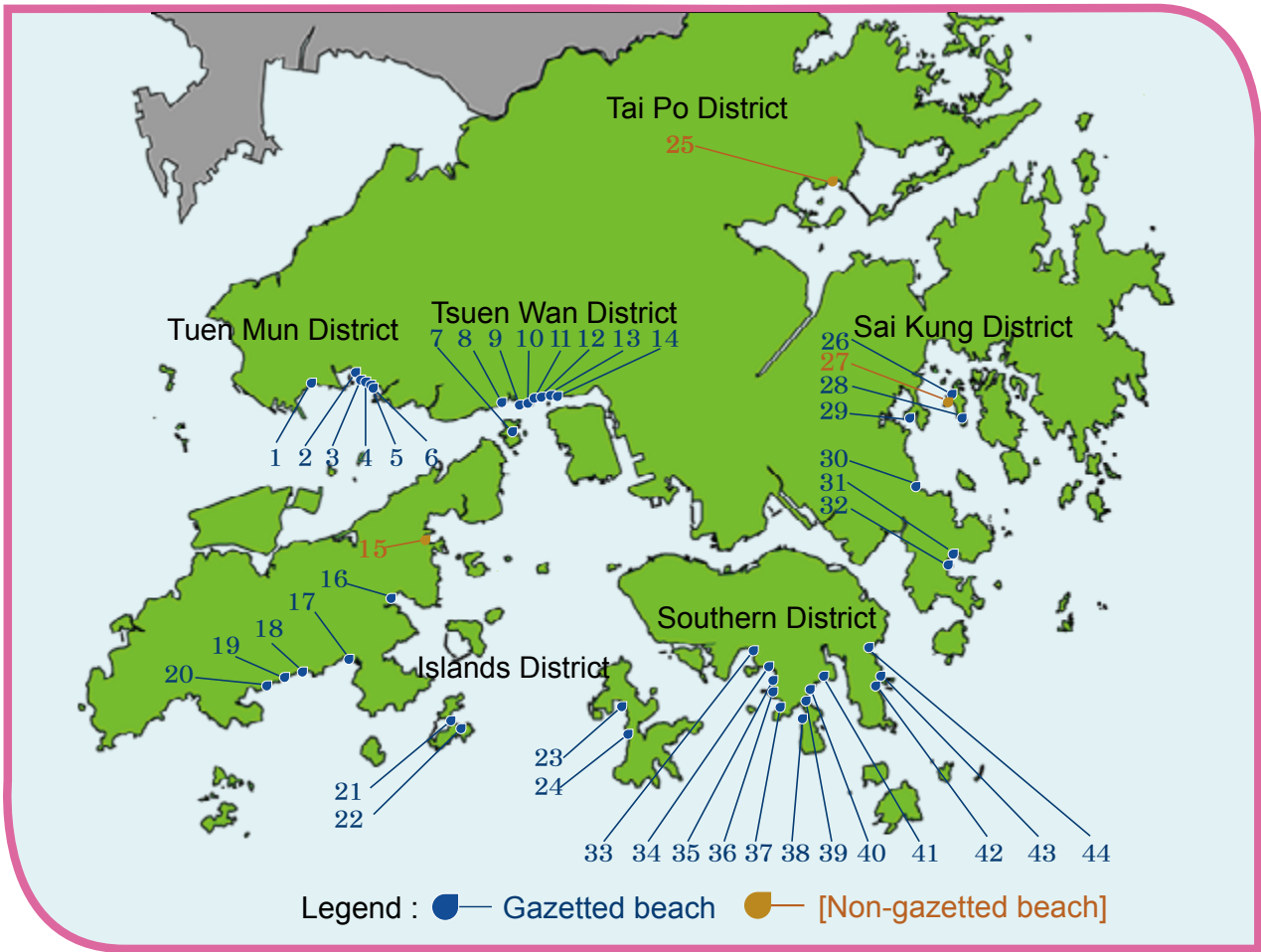
Water quality trend lines of all gazetted beaches in the last 35 years are provided in Appendix D of this report. The public is welcome to visit the beach water quality thematic website (<https://www.epd.gov.hk/epd/beach>) to obtain more details of the beach monitoring programme, as well as past annual beach water quality reports and data published since 2000.



▲ Leisure at 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. [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

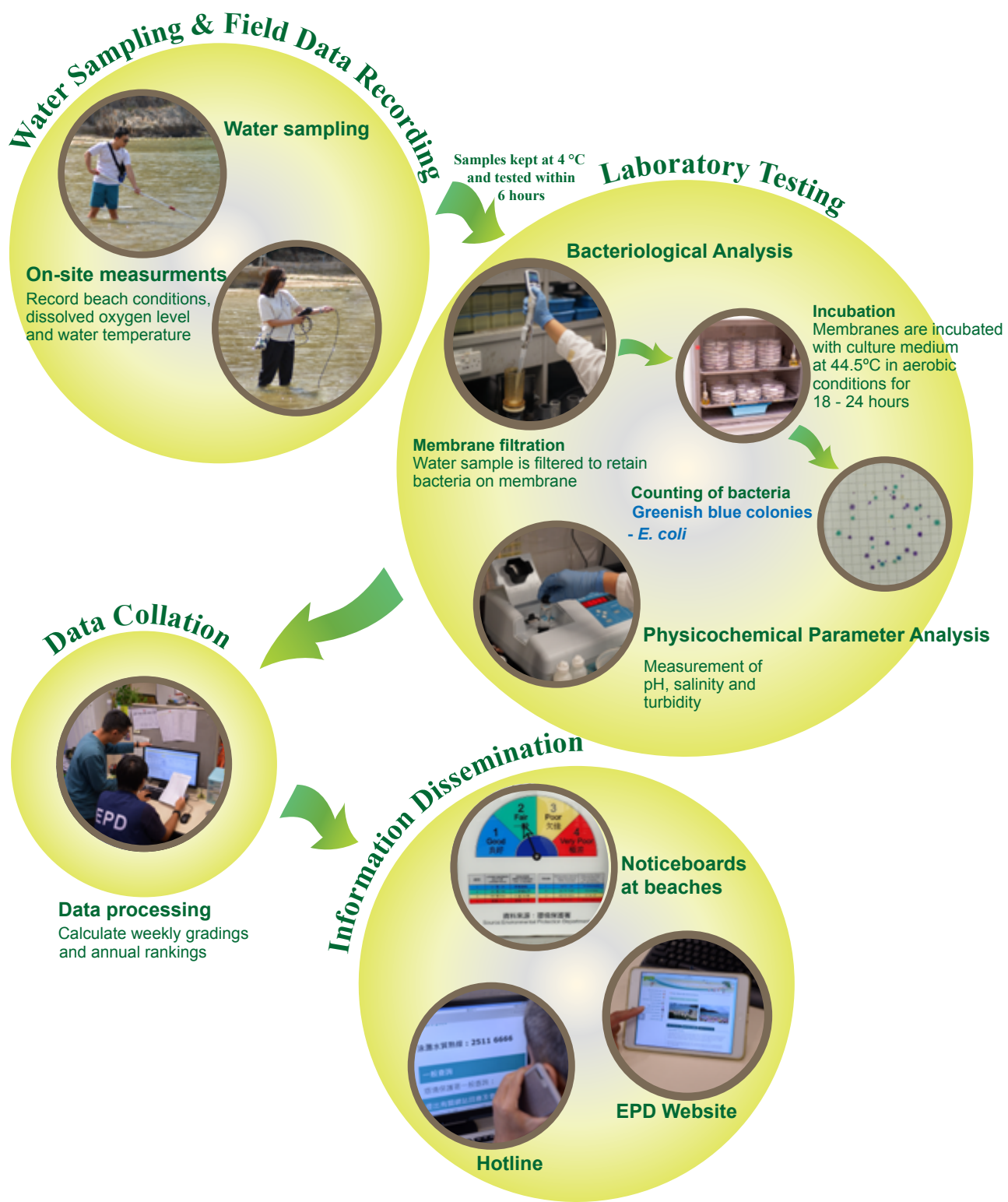
- 33. Deep Water Bay
- 34. Repulse Bay
- 35. Middle Bay
- 36. South Bay
- 37. Chung Hom Kok
- 38. St. Stephen's
- 39. Stanley Main
- 40. Hairpin
- 41. Turtle Cove
- 42. Shek O
- 43. Rocky Bay
- 44. Big Wave Bay

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

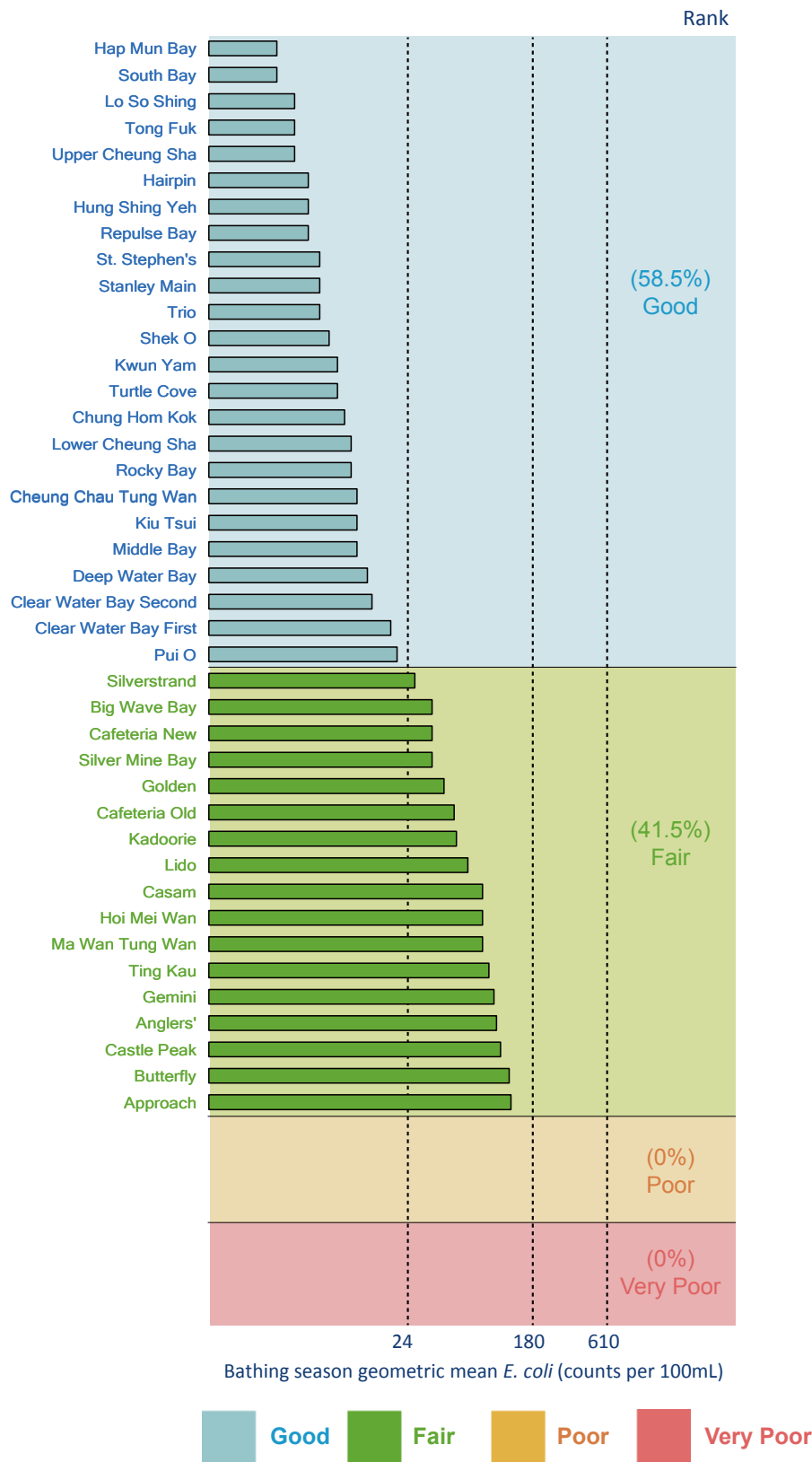
Hong Kong's weekly beach grading system

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

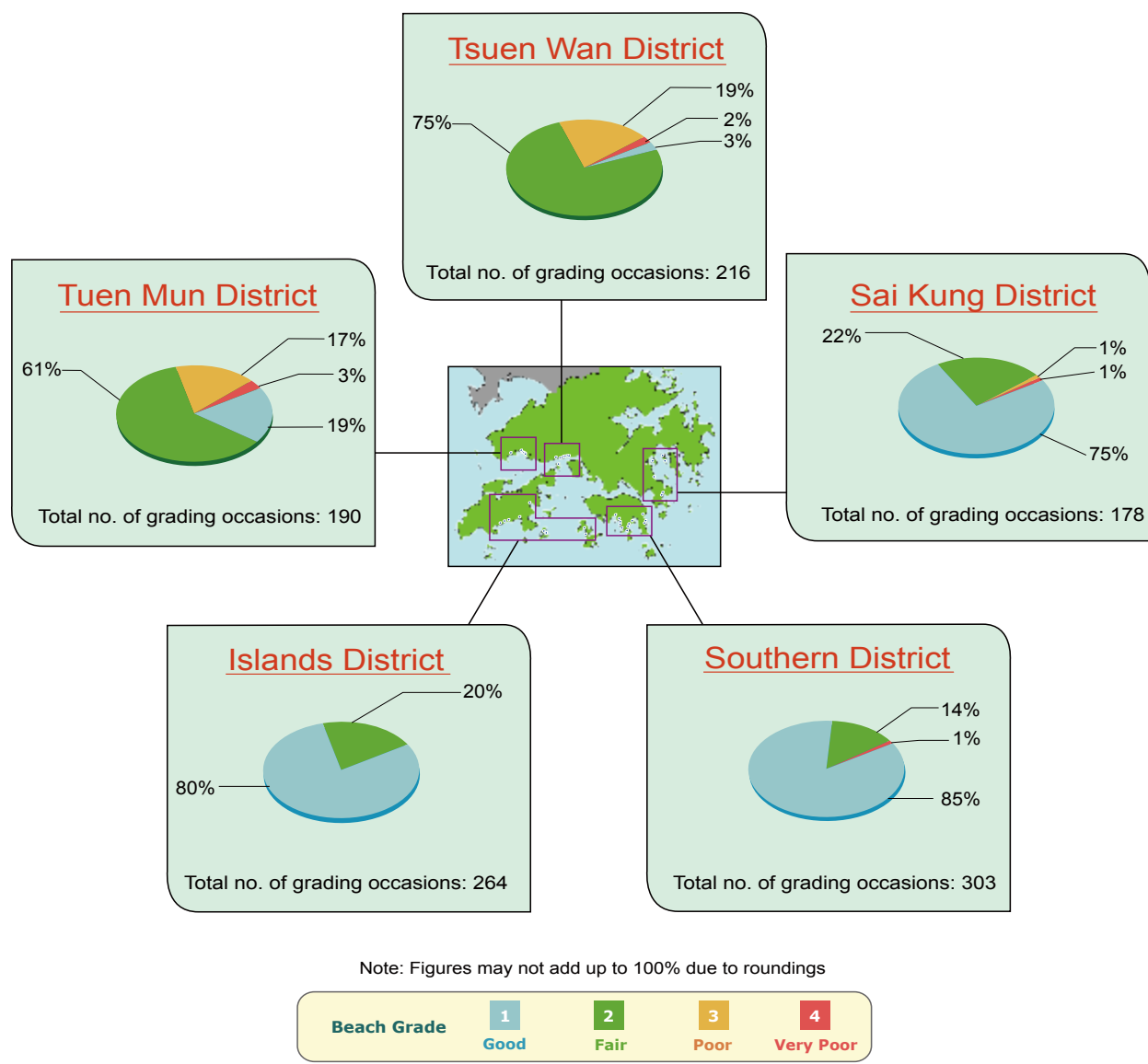
2020 Annual ranking and bathing season geometric mean *E. coli* levels of Hong Kong's gazetted beaches



Annual ranking of gazetted beaches at a glance in 2020



Weekly beach grading summary of open gazetted beaches by district in 2020



Southern District beaches

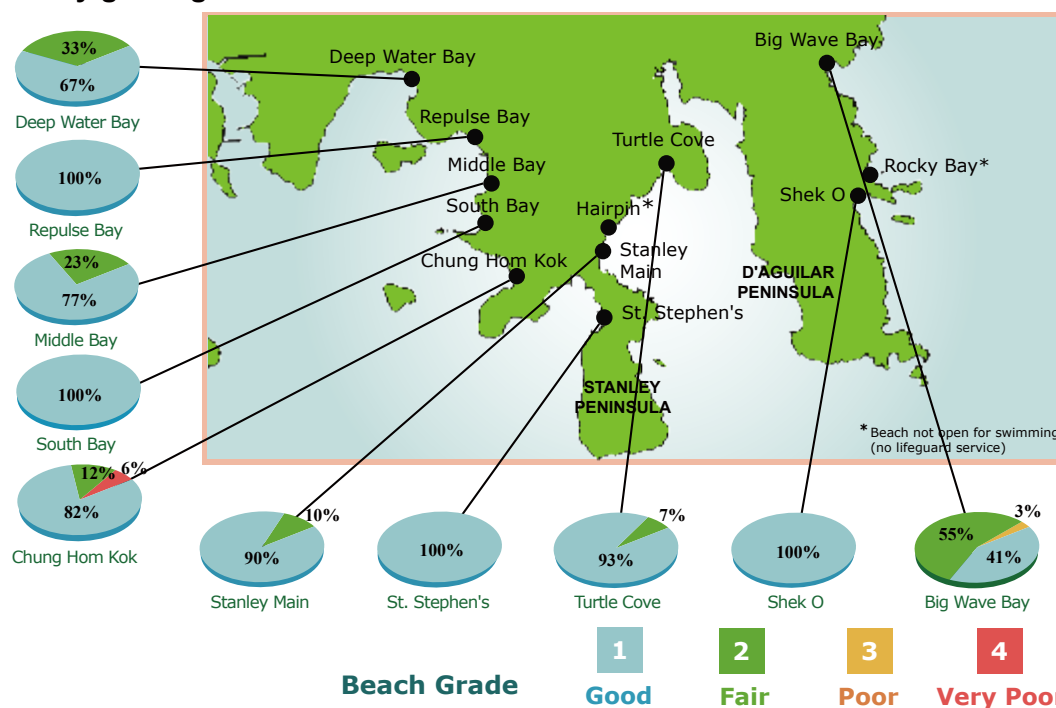
Annual ranking



Annual Rank

Good Fair Poor Very Poor

Weekly grading



Beach Grade

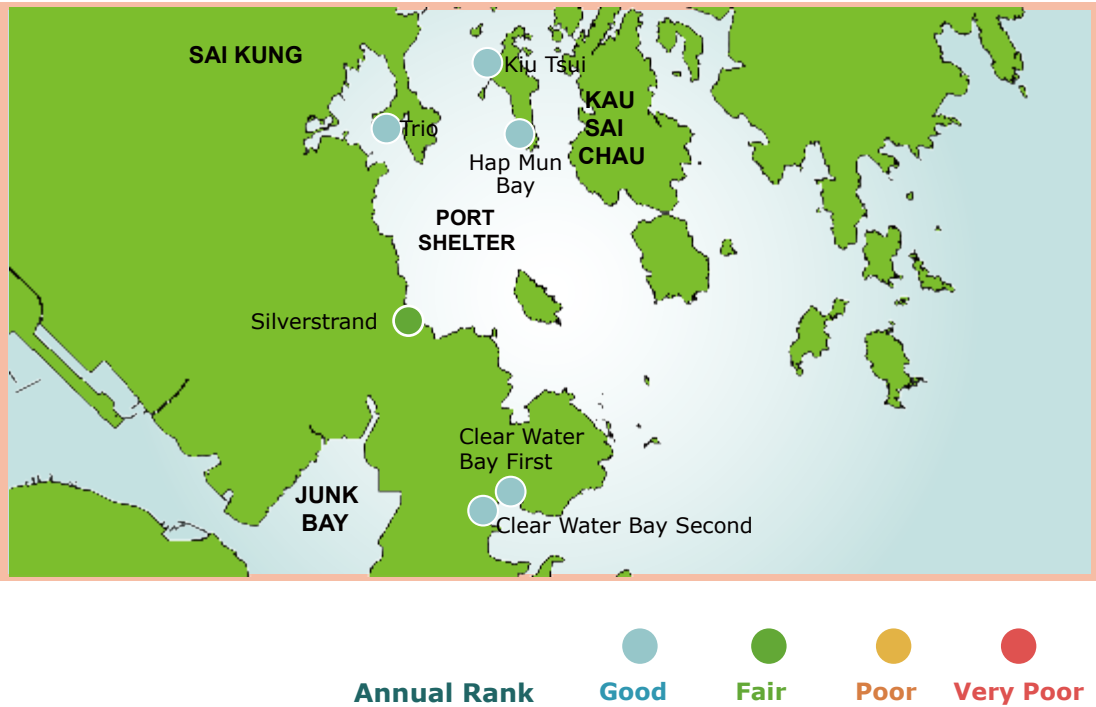
1 2 3 4

Good Fair Poor Very Poor

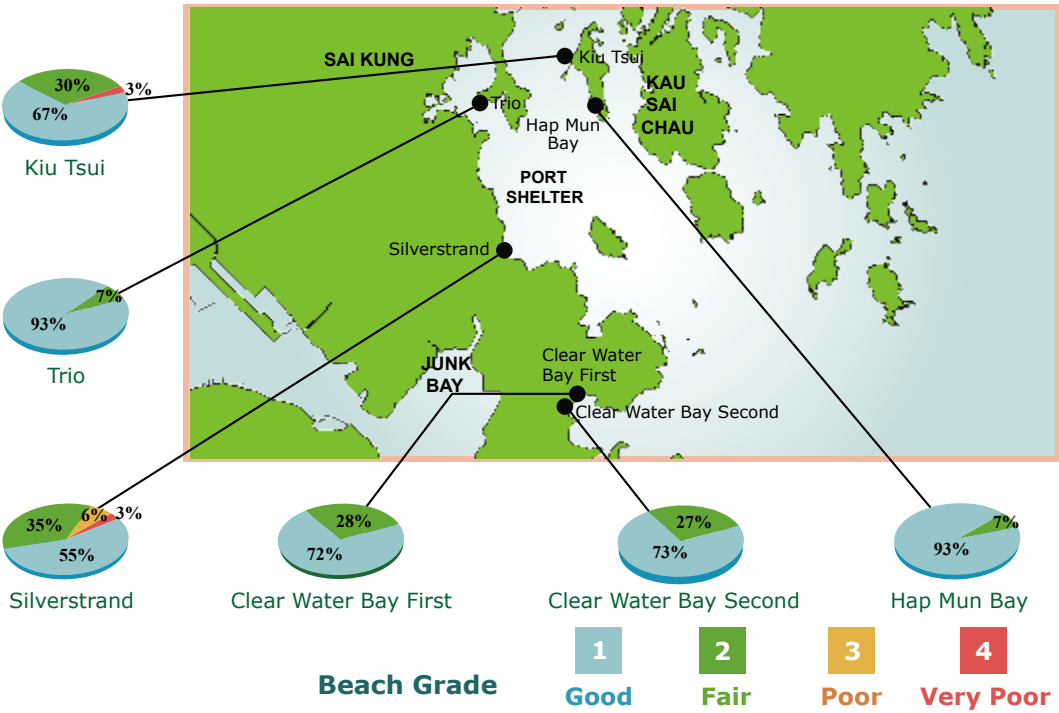
Note: Figures may not add up to 100% due to roundings; "*" Beach not open for swimming. No grading was provided

Sai Kung District beaches

Annual ranking



Weekly grading



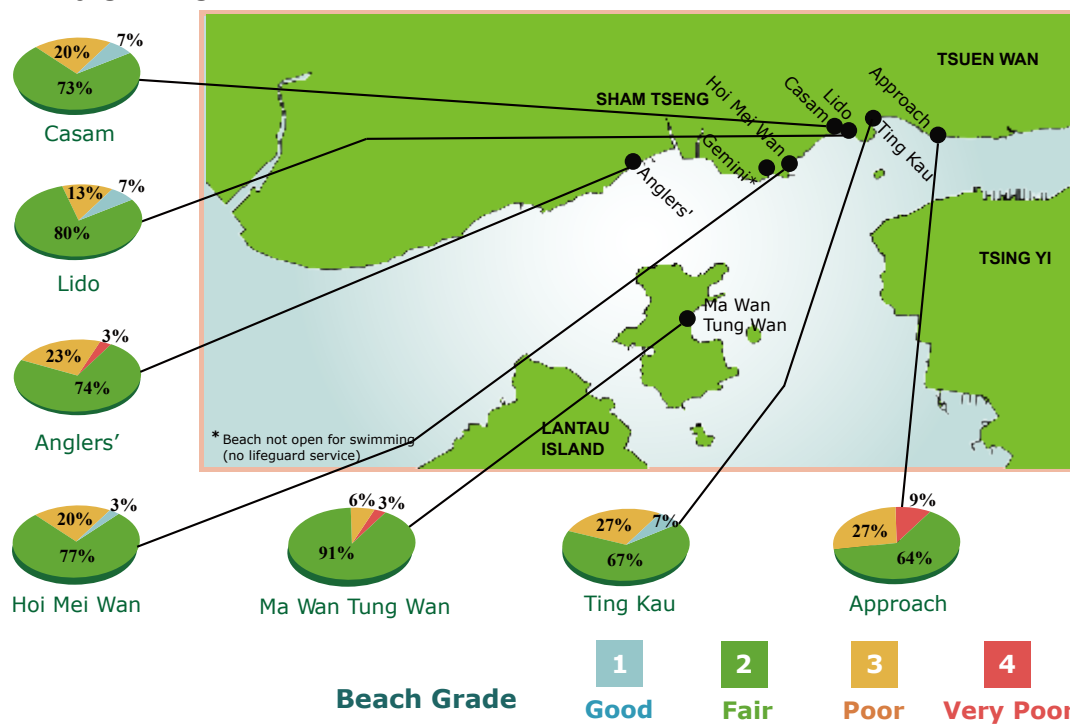
Note: Figures may not add up to 100% due to roundings

Tsuen Wan District beaches

Annual ranking



Weekly grading



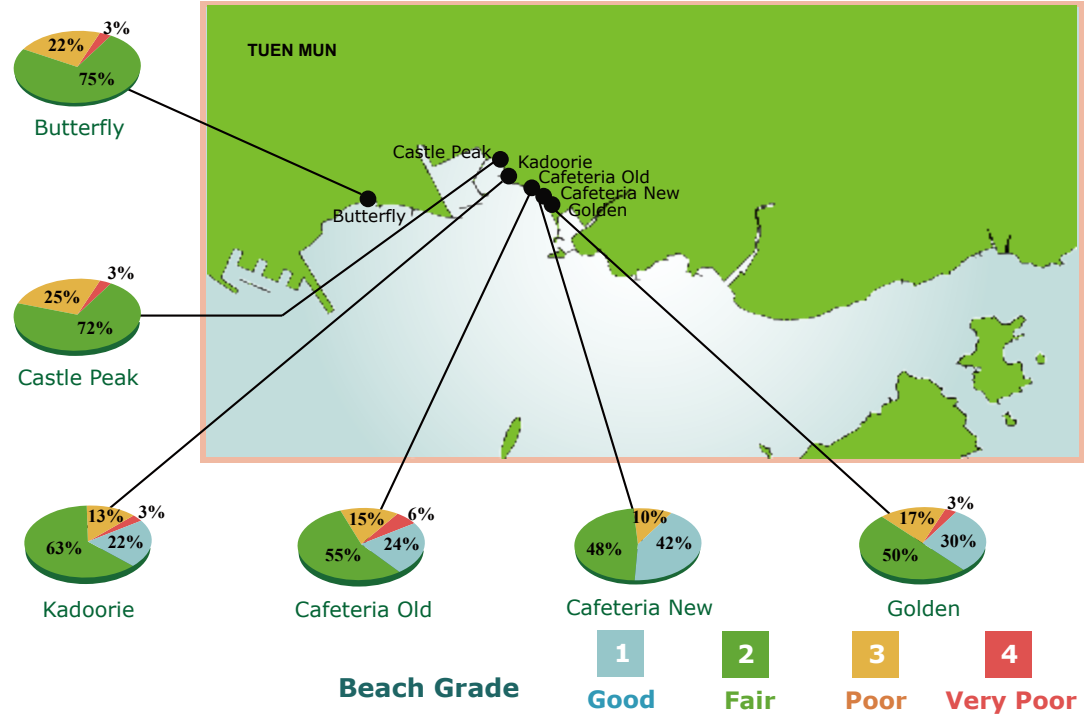
Note: Figures may not add up to 100% due to roundings; "*" Beach not open for swimming. No grading was provided.

Tuen Mun District beaches

Annual ranking



Weekly grading



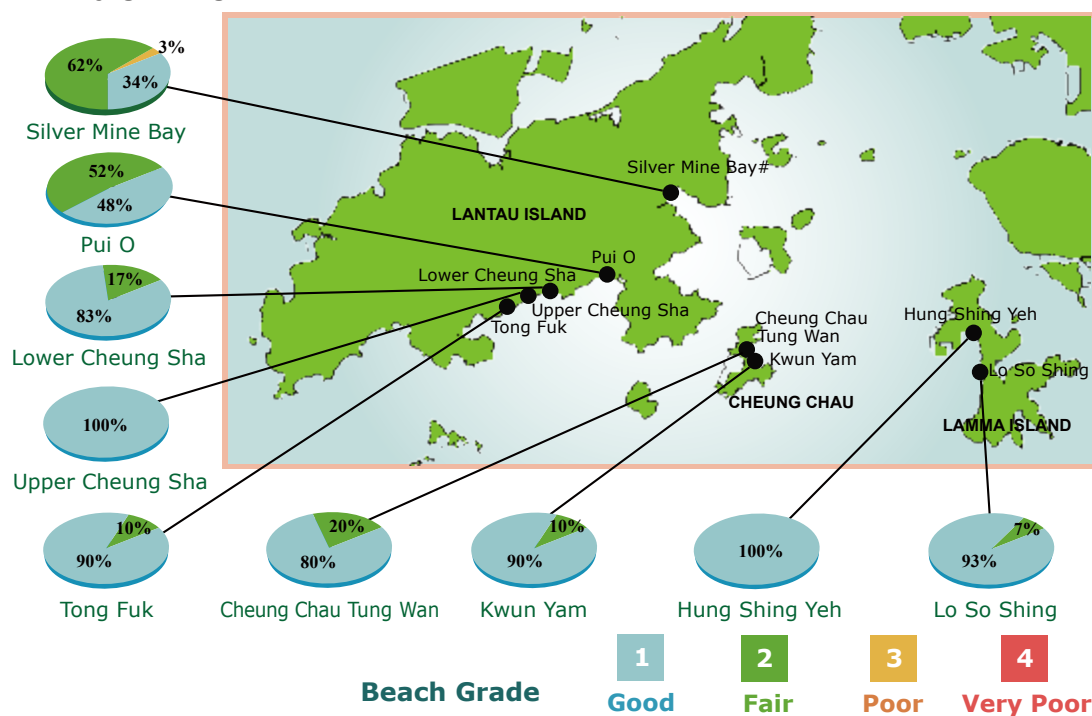
Note: Figures may not add up to 100% due to roundings

Islands District beaches

Annual ranking

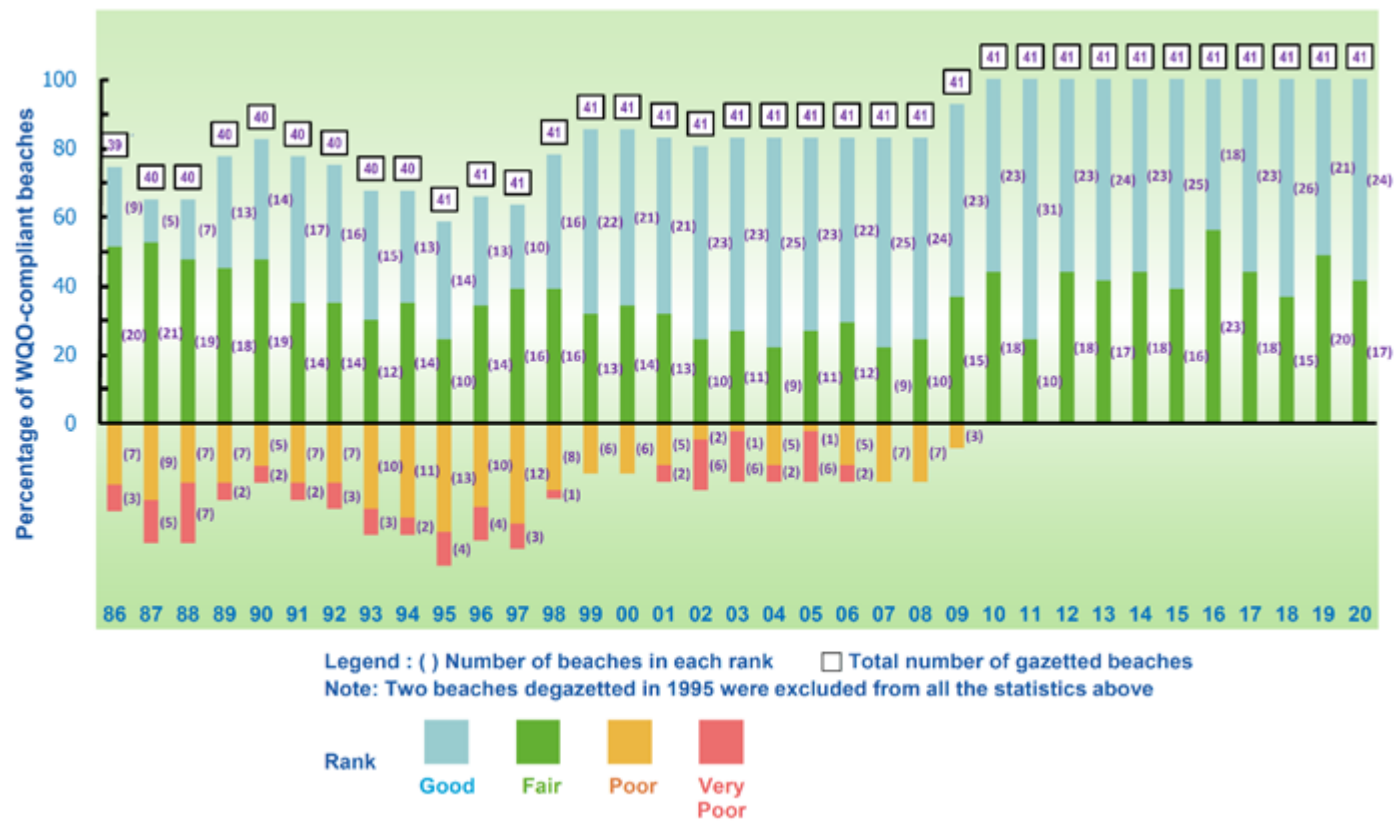


Weekly grading

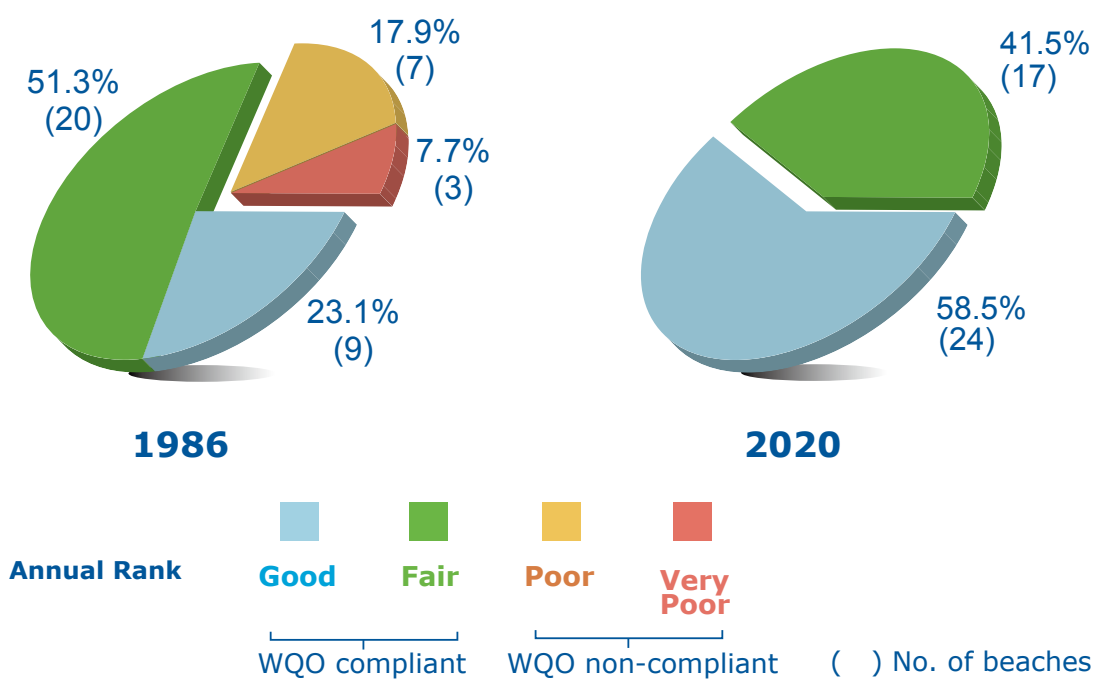


Note: Figures may not add up to 100% due to roundings

Annual beach rankings of gazetted beaches from 1986 to 2020

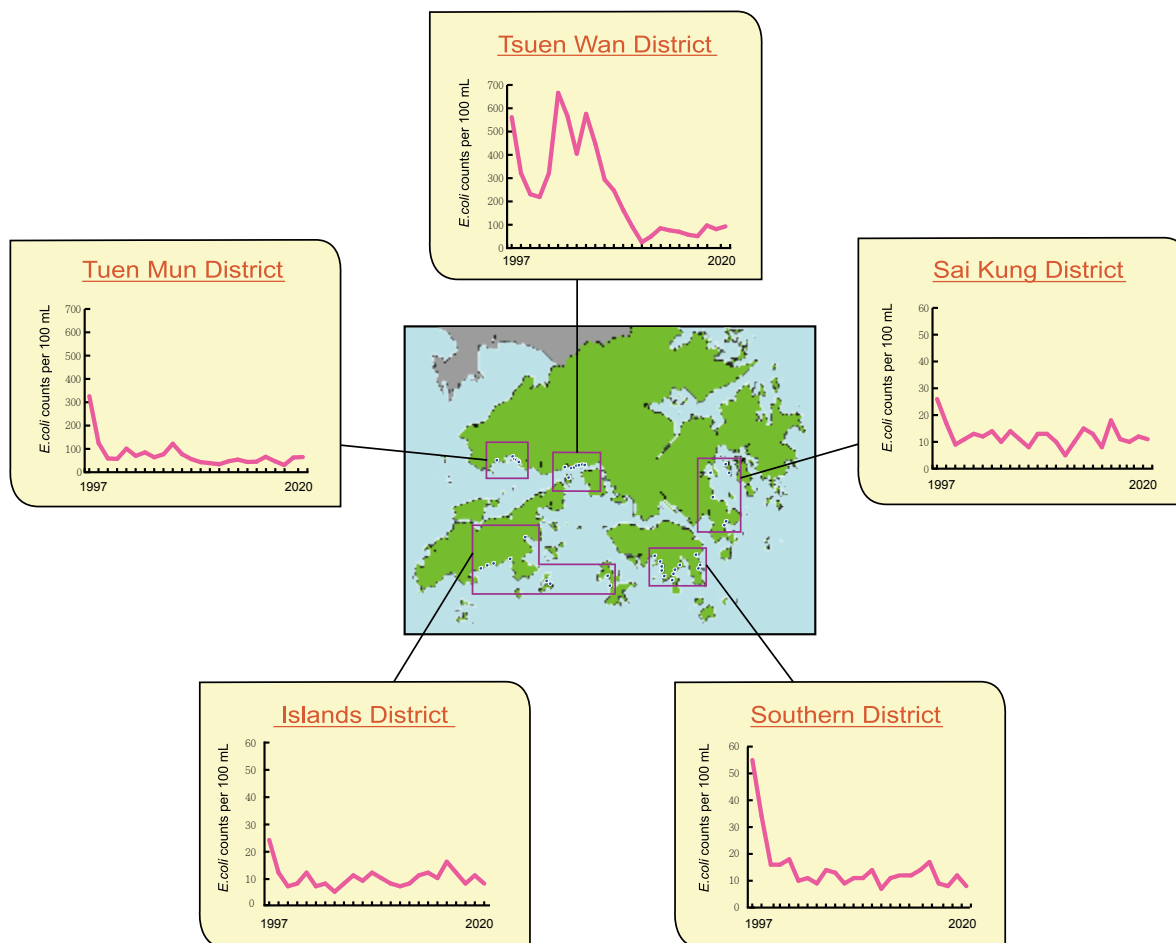


Comparison of annual beach ranking of gazetted beaches in 1986 and 2020



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

Annual geometric mean *E. coli* levels of gazetted beaches by district, 1997 - 2020



Appendix A - Annual geometric mean *E. coli* levels (1997-2020)

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
Big Wave Bay	46	149	17	31	21	40	21	78	36	34	103	37
Chung Hom Kok	14	9	5	5	8	13	13	6	6	4	6	9
Deep Water Bay	12	9	6	9	11	14	19	24	14	11	19	13
Hairpin	12*	33*	6*	9*	14*	12*	8*	17*	5*	8*	7*	5*
Middle Bay	12	12	6	15	14	13	13	20	14	9	18	11
Repulse Bay	11	7	6	7	10	11	14	10	5	4	4	5
Rocky Bay	13*	50*	23*	30*	22*	16*	35*	47*	18*	29*	47*	10*
Shek O	11	19	11	16	15	18	29	26	16	19	25	7
South Bay	4	4	4	5	4	5	9	5	3	2	4	3
St. Stephen's	6	4	4	4	10	5	6	7	4	4	5	6
Stanley Main	13	20	6	34	19	9	20	23	8	11	7	6
Turtle Cove	5	8	4	6	6	8	5	11	5	3	9	8

Note: * Beach not open for swimming that year

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
Clear Water Bay First	15	10	7	8	24	15	14	31	20	19	23	19
Clear Water Bay Second	27	13	5	18	15	18	17	32	16	13	17	14
Hap Mun Bay	3	3	2	2	7	4	2	4	3	3	2	3
Kiu Tsui	16	13	9	10	13	11	6	10	5	8	8	11
Silverstrand	51	28	18	30	39	40	18	63	56	24	40	28
Trio	5	6	2	9	8	10	4	13	7	7	9	6

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
Anglers'	276*	134*	27*	69*	133	130	77	76	45	143	88	105
Approach	208*	124*	59	83	106	121	143	78	114	92	97	133
Casam	144*	102*	21	50	71	63	52	42	43	94	79	84
Gemini	410*	137*	19*	40*	135*	110*	56*	40*	39*	120*	79*	101
Hoi Mei Wan	130*	87*	23	51	86	58	90	65	63	92	112	84
Lido	178*	87*	21	32	53	57	52	39	34	76	65	66
Ma Wan Tung Wan	60	17	10	24	41	31	20	32	29	74	46	84
Ting Kau	145*	141*	58*	88*	107*	89	151	140	75	101	102	93

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
Butterfly	49	30	41	42	71	38	98	131	81	39	91	129
Cafeteria New	38	31	27	47	50	31	30	38	31	18	40	37
Cafeteria Old	46	34	29	48	39	45	41	70	50	30	64	53
Castle Peak	35	63	49	48	78	91	71	106	65	70	128	112
Golden	42	37	26	62	45	39	31	45	37	22	41	45
Kadoorie	48	45	37	40	52	37	29	48	31	28	52	55

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
Cheung Chau Tung Wan	17	12	6	13	10	14	19	9	18	9	8	11
Hung Shing Yeh	6	4	3	4	4	5	4	6	5	4	4	5
Kwun Yam	9	8	5	5	9	8	12	12	9	8	7	8
Lo So Shing	7	3	3	4	5	5	4	6	6	4	3	4
Lower Cheung Sha	13	11	9	10	17	21	17	47	19	9	25	10
Pui O	12	14	13	22	51	60	24	29	34	19	22	21
Silver Mine Bay	45	31	28	38	39	51	59	119	141*	36	106	37
Tong Fuk	5	5	4	4	7	4	4	9	3	4	5	4
Upper Cheung Sha	5	4	3	4	4	5	3	7	3	4	7	4

Note: * Beach not open for swimming that year

Appendix B - 2020 Beach visitor number

Southern District

Visitor numbers during the 2020 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Big Wave Bay	307	942	1 500	9 550	17 430
Chung Hom Kok	---	---	---	---	---
Deep Water Bay	1 289	6 061	14 000	83 900	154 200
Hairpin	---	---	---	---	---
Middle Bay	---	---	---	---	---
Repulse Bay	10 697	11 576	15 000	343 060	582 760
Rocky Bay	---	---	---	---	---
Shek O	3 109	8 811	26 000	164 500	267 400
South Bay	163	488	650	3 250	3 250
St. Stephen's	---	---	---	---	---
Stanley Main	987	3 428	10 000	55 850	96 250
Turtle Cove	---	---	---	---	---

Note:

Information provided by the Leisure and Cultural Services Department

In view of the latest developments of COVID-19, gazetted beaches were temporarily closed during the whole or part of the bathing season.

Sai Kung District

Visitor numbers during the 2020 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Clear Water Bay First	350	1 205	1 230	7 620	7 620
Clear Water Bay Second	1 476	3 252	9 100	80 120	110 190
Hap Mun Bay	557	1 271	2 920	22 185	41 105
Kiu Tsui	---	---	---	---	---
Silverstrand	443	3 151	6 100	25 950	46 660
Trio	311	1 867	4 000	16 140	28 610

Note:
Information provided by the Leisure and Cultural Services Department
In view of the latest developments of COVID-19, gazetted beaches were temporarily closed during the whole or part of the bathing season.

Tsuen Wan District

Visitor numbers during the 2020 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Anglers	---	---	---	---	---
Approach	129	158	180	1 660	1 660
Casam	90	133	200	3 280	5 550
Gemini	---	---	---	---	---
Hoi Mei Wan	---	---	---	---	---
Lido	414	775	3 670	18 490	28 430
Ma Wan Tung Wan	281	901	2 300	15 290	26 040
Ting Kau	133	399	870	4 750	7 440

Note:
Information provided by the Leisure and Cultural Services Department
In view of the latest developments of COVID-19, gazetted beaches were temporarily closed during the whole or part of the bathing season.

Tuen Mun District

Visitor numbers during the 2020 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Butterfly	729	1 181	1 900	24 000	46 750
Cafeteria New	1 293	2 721	3 700	31 400	58 500
Cafeteria Old	---	---	---	---	---
Castle Peak	49	302	1 000	3 675	4 595
Golden	2 103	5 739	9 000	89 200	176 900
Kadoorie	---	---	---	---	---

Note:

Information provided by the Leisure and Cultural Services Department

In view of the latest developments of COVID-19, gazetted beaches were temporarily closed during the whole or part of the bathing season.

Islands District

Visitor numbers during the 2020 bathing season

Beach	Daily average		Peak day	Peak month	Total
	Weekdays	Weekends & public holidays			
Cheung Chau Tung Wan	452	2 580	4 100	34 280	62 270
Hung Shing Yeh	736	999	2 000	24 300	43 740
Kwun Yam	---	---	---	---	---
Lo So Shing	---	---	---	---	---
Lower Cheung Sha	500	2 300	2 300	13 200	13 200
Pui O	1 511	2 832	4 550	60 600	103 870
Silver Mine Bay	348	887	1 740	15 870	28 150
Tong Fuk	---	---	---	---	---
Upper Cheung Sha	---	---	---	---	---

Note:

Information provided by the Leisure and Cultural Services Department

In view of the latest developments of COVID-19, gazetted beaches were temporarily closed during the whole or part of the bathing season.

Appendix C - Physicochemical water quality data for gazetted beaches, 2020

Southern District
Summary of physicochemical water quality data of gazetted beaches, 2020

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Big Wave Bay	8.29 (8.06 - 8.46)	29.5 (20.4 - 33.2)	4.40 (1.22 - 11.80)	26.6 (20.0 - 30.2)	6.8 (5.9 - 8.5)	95 (83 - 108)
Chung Hom Kok	8.32 (8.09 - 8.59)	29.5 (20.2 - 33.3)	3.84 (1.15 - 8.59)	26.9 (19.7 - 30.0)	7.0 (5.1 - 9.3)	99 (75 - 130)
Deep Water Bay	8.27 (8.06 - 8.53)	28.7 (20.3 - 33.3)	5.63 (1.94 - 11.60)	27.6 (19.8 - 31.2)	7.0 (4.6 - 9.5)	100 (70 - 127)
Hairpin*	8.35 (8.13 - 8.61)	30.4 (21.8 - 33.5)	2.16 (0.57 - 11.80)	27.1 (19.8 - 31.2)	7.2 (5.7 - 10.0)	102 (84 - 130)
Middle Bay	8.31 (8.06 - 8.54)	29.2 (21.1 - 33.2)	3.63 (1.07 - 8.47)	26.8 (19.9 - 30.1)	6.9 (4.9 - 8.6)	99 (72 - 130)
Repulse Bay	8.32 (8.08 - 8.56)	29.8 (22.4 - 33.4)	4.28 (1.25 - 11.40)	26.9 (19.8 - 30.2)	6.9 (5.3 - 8.5)	98 (76 - 130)
Rocky Bay*	8.26 (8.06 - 8.45)	30.9 (23.6 - 33.1)	3.42 (0.86 - 10.09)	25.7 (19.2 - 29.7)	6.8 (5.6 - 8.9)	95 (82 - 130)
Shek O	8.31 (8.12 - 8.47)	31.2 (24.3 - 33.2)	3.77 (1.33 - 14.40)	26.2 (19.0 - 30.5)	6.9 (5.4 - 8.2)	96 (83 - 117)
South Bay	8.31 (8.06 - 8.58)	29.8 (22.3 - 33.3)	2.91 (0.75 - 10.50)	26.8 (19.9 - 30.8)	7.1 (4.7 - 9.9)	100 (71 - 130)
St. Stephen`s	8.29 (8.06 - 8.59)	29.4 (20.0 - 33.4)	2.87 (1.07 - 5.86)	27.0 (19.4 - 30.8)	6.7 (4.5 - 9.7)	97 (67 - 130)
Stanley Main	8.35 (8.12 - 8.60)	30.0 (22.2 - 33.4)	3.18 (0.69 - 8.74)	27.2 (19.6 - 30.6)	7.3 (5.6 - 10.0)	103 (83 - 130)
Turtle Cove	8.34 (8.13 - 8.54)	29.4 (20.2 - 33.5)	5.33 (0.66 - 20.20)	26.9 (19.7 - 30.9)	6.8 (5.6 - 8.2)	98 (82 - 117)

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)

Appendix C



Sai Kung District

Summary of physicochemical water quality data of gazetted beaches, 2020

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Clear Water Bay First	8.30 (8.16 - 8.47)	30.2 (18.4 - 32.9)	4.38 (0.87 - 13.60)	27.6 (20.4 - 31.6)	6.7 (5.7 - 7.8)	97 (86 - 116)
Clear Water Bay Second	8.28 (8.16 - 8.48)	31.1 (24.7 - 33.8)	4.03 (1.09 - 10.30)	27.4 (20.4 - 31.7)	6.5 (5.5 - 7.4)	94 (84 - 108)
Hap Mun Bay	8.30 (8.14 - 8.49)	30.9 (21.2 - 33.6)	2.88 (0.92 - 10.80)	28.1 (20.4 - 31.9)	6.3 (5.6 - 7.7)	94 (82 - 106)
Kiu Tsui	8.30 (8.13 - 8.50)	30.5 (21.4 - 33.6)	2.11 (0.57 - 7.12)	28.2 (20.4 - 32.0)	6.5 (5.6 - 7.6)	97 (76 - 119)
Silverstrand	8.31 (8.13 - 8.49)	29.0 (15.9 - 32.4)	4.32 (1.03 - 16.80)	27.5 (20.1 - 31.5)	6.5 (5.3 - 8.1)	95 (77 - 110)
Trio	8.27 (7.95 - 8.44)	29.1 (11.3 - 33.3)	3.17 (0.88 - 6.85)	28.2 (20.5 - 32.9)	6.3 (5.5 - 7.6)	93 (80 - 103)

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, 2020

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Anglers'	8.21 (7.99 - 8.71)	27.6 (11.1 - 33.1)	4.08 (1.13 - 10.90)	26.4 (19.5 - 30.7)	6.5 (4.7 - 9.3)	92 (70 - 130)
Approach	8.22 (7.92 - 8.61)	25.8 (11.4 - 32.8)	4.64 (0.98 - 11.40)	26.6 (19.8 - 30.0)	6.8 (5.1 - 9.4)	96 (74 - 130)
Casam	8.22 (8.04 - 8.65)	26.8 (13.6 - 33.1)	3.20 (1.06 - 4.83)	26.4 (19.6 - 30.2)	6.7 (5.3 - 8.8)	94 (80 - 128)
Gemini*	8.19 (7.98 - 8.66)	27.5 (13.7 - 33.0)	3.30 (1.15 - 7.31)	26.4 (20.1 - 30.5)	6.4 (4.3 - 7.9)	91 (64 - 113)
Hoi Mei Wan	8.20 (8.00 - 8.65)	26.6 (13.7 - 33.0)	3.25 (1.11 - 7.31)	26.7 (20.3 - 30.6)	6.7 (5.2 - 8.3)	95 (79 - 123)
Lido	8.20 (8.03 - 8.63)	26.8 (13.8 - 32.8)	3.51 (1.20 - 6.45)	26.4 (20.1 - 29.9)	6.6 (4.8 - 7.9)	92 (73 - 110)
Ma Wan Tung Wan	8.19 (7.97 - 8.56)	28.0 (16.9 - 33.1)	5.23 (1.46 - 13.50)	26.6 (19.8 - 30.9)	6.7 (5.1 - 8.9)	95 (79 - 130)
Ting Kau	8.22 (7.95 - 8.57)	26.0 (11.8 - 32.0)	3.61 (0.80 - 10.20)	26.6 (19.7 - 30.3)	6.8 (5.2 - 8.7)	96 (77 - 128)

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, 2020

Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Butterfly	8.22 (7.86 - 8.63)	24.1 (8.8 - 32.4)	6.08 (2.34 - 15.50)	27.1 (20.4 - 31.0)	6.8 (5.1 - 9.9)	97 (79 - 130)
Cafeteria New	8.23 (7.85 - 8.67)	23.3 (7.3 - 32.9)	6.34 (2.36 - 14.30)	27.2 (20.4 - 31.1)	6.6 (5.1 - 9.2)	95 (79 - 128)
Cafeteria Old	8.20 (7.82 - 8.64)	22.8 (6.2 - 32.4)	6.26 (2.54 - 13.20)	27.1 (20.4 - 31.1)	6.5 (5.0 - 8.9)	92 (77 - 126)
Castle Peak	8.22 (7.82 - 8.62)	23.0 (7.2 - 31.8)	4.90 (1.73 - 10.90)	27.3 (20.4 - 31.5)	6.9 (4.6 - 9.8)	99 (70 - 130)
Golden	8.21 (7.82 - 8.64)	22.4 (6.3 - 33.0)	7.43 (2.07 - 18.00)	27.7 (20.4 - 30.8)	6.7 (5.1 - 8.7)	94 (69 - 123)
Kadoorie	8.21 (7.83 - 8.65)	22.7 (6.3 - 32.6)	4.89 (1.75 - 10.50)	27.4 (20.5 - 31.1)	6.7 (4.6 - 10.0)	94 (69 - 130)

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, 2020

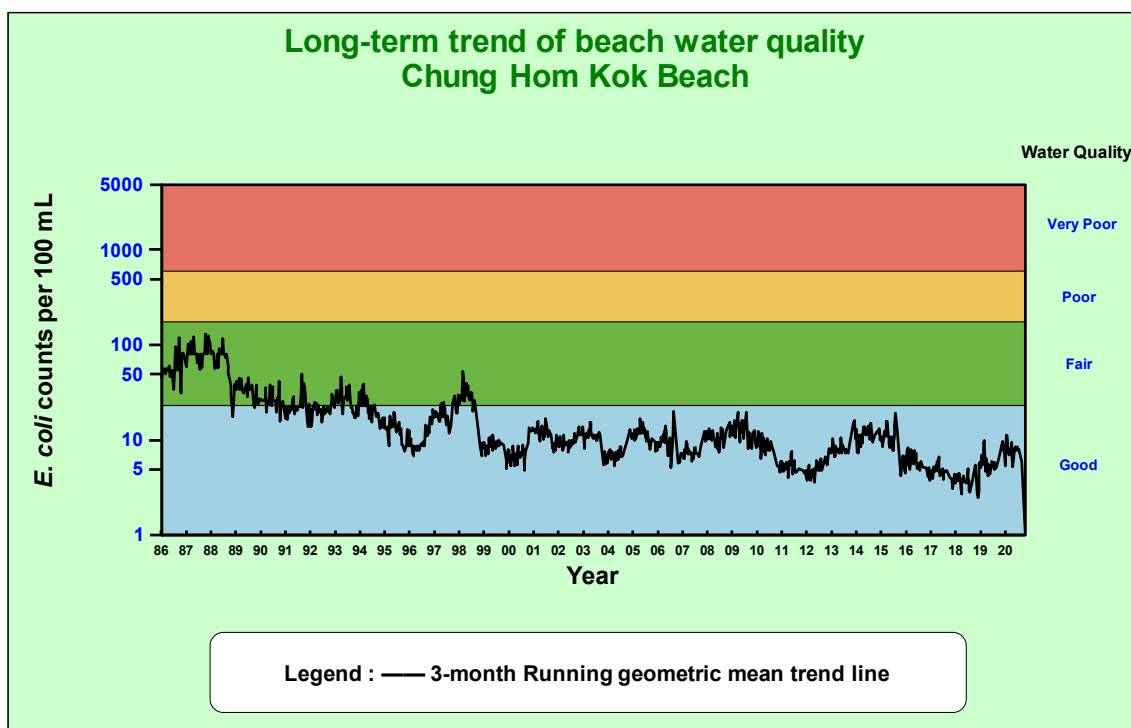
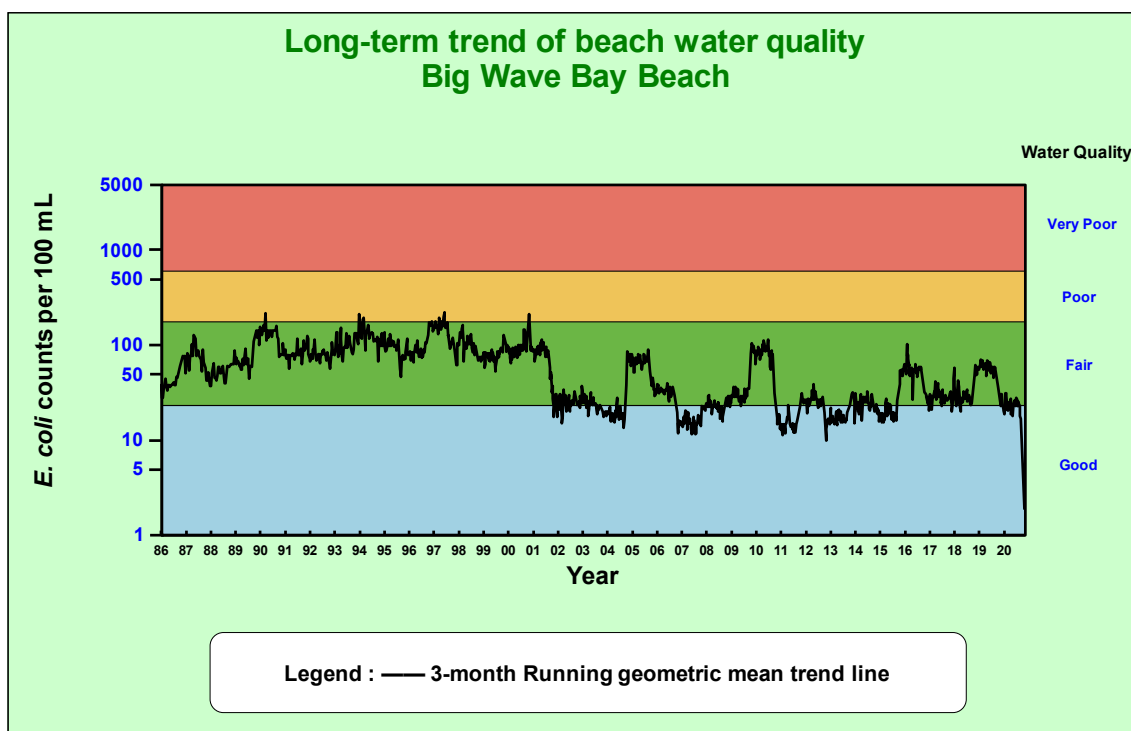
Beach	pH	Salinity (psu) ¹	Turbidity (NTU) ²	Temperature (°C)	Dissolved Oxygen (mg/L) (% Saturation)	
Cheung Chau Tung Wan	8.27 (8.08 - 8.58)	28.5 (20.5 - 32.7)	4.01 (1.02 - 9.67)	26.8 (19.9 - 30.5)	6.8 (5.8 - 9.3)	97 (82 - 129)
Hung Shing Yeh	8.28 (8.06 - 8.53)	28.2 (16.2 - 33.2)	6.69 (1.45 - 28.10)	27.4 (19.3 - 31.5)	6.7 (5.1 - 8.1)	96 (77 - 128)
Kwun Yam	8.25 (8.03 - 8.59)	28.0 (20.6 - 33.0)	3.24 (1.14 - 8.64)	26.6 (19.8 - 30.0)	6.9 (5.6 - 9.9)	98 (84 - 130)
Lo So Shing	8.32 (8.07 - 8.62)	28.3 (17.8 - 33.4)	4.42 (1.32 - 10.80)	27.2 (19.2 - 31.8)	6.9 (6.0 - 8.7)	97 (84 - 126)
Lower Cheung Sha	8.32 (8.08 - 8.57)	27.6 (13.0 - 33.1)	9.83 (1.39 - 30.20)	27.8 (20.4 - 32.0)	6.5 (5.5 - 8.0)	93 (76 - 108)
Pui O	8.28 (8.07 - 8.55)	27.2 (11.9 - 33.1)	15.28 (4.04 - 49.60)	28.5 (19.9 - 33.9)	6.3 (5.0 - 7.5)	92 (80 - 103)
Silver Mine Bay	8.22 (7.95 - 8.70)	24.9 (9.7 - 32.3)	8.81 (3.24 - 31.90)	28.4 (20.7 - 33.6)	6.5 (4.8 - 10.0)	93 (67 - 130)
Tong Fuk	8.32 (8.07 - 8.58)	28.0 (12.7 - 33.1)	7.59 (1.86 - 25.30)	27.7 (20.3 - 32.3)	6.7 (5.5 - 8.1)	95 (83 - 107)
Upper Cheung Sha	8.31 (8.08 - 8.54)	28.1 (12.9 - 33.2)	8.40 (2.40 - 26.70)	27.7 (20.3 - 31.7)	6.6 (5.6 - 8.3)	94 (84 - 108)

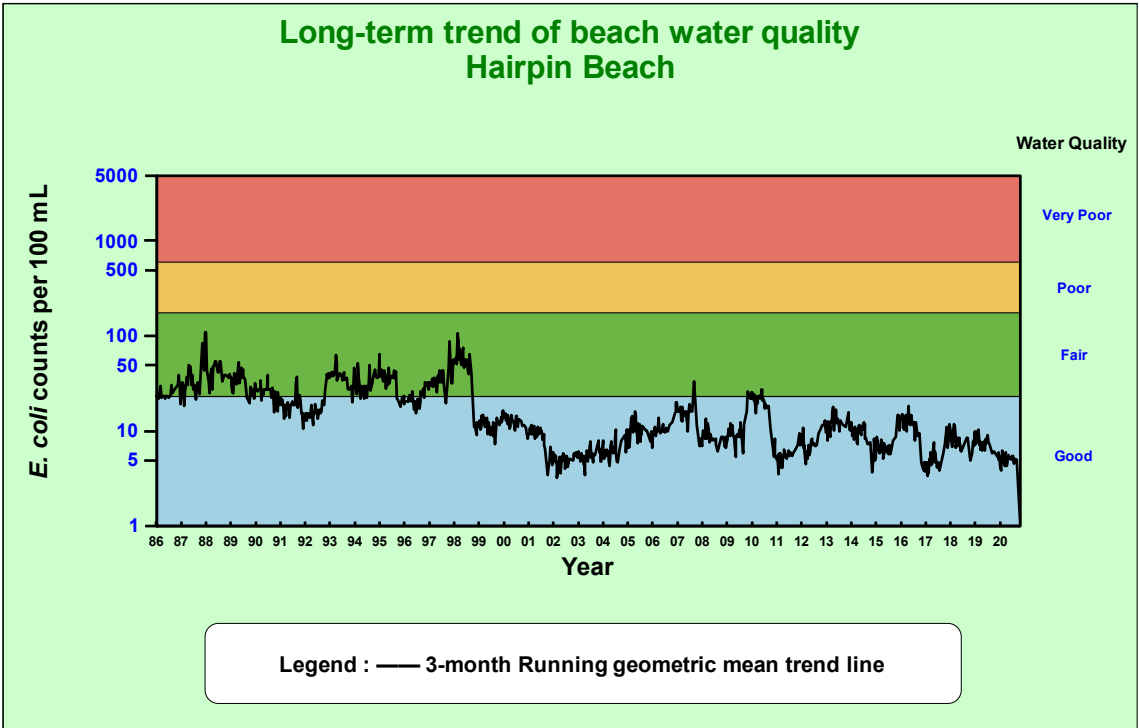
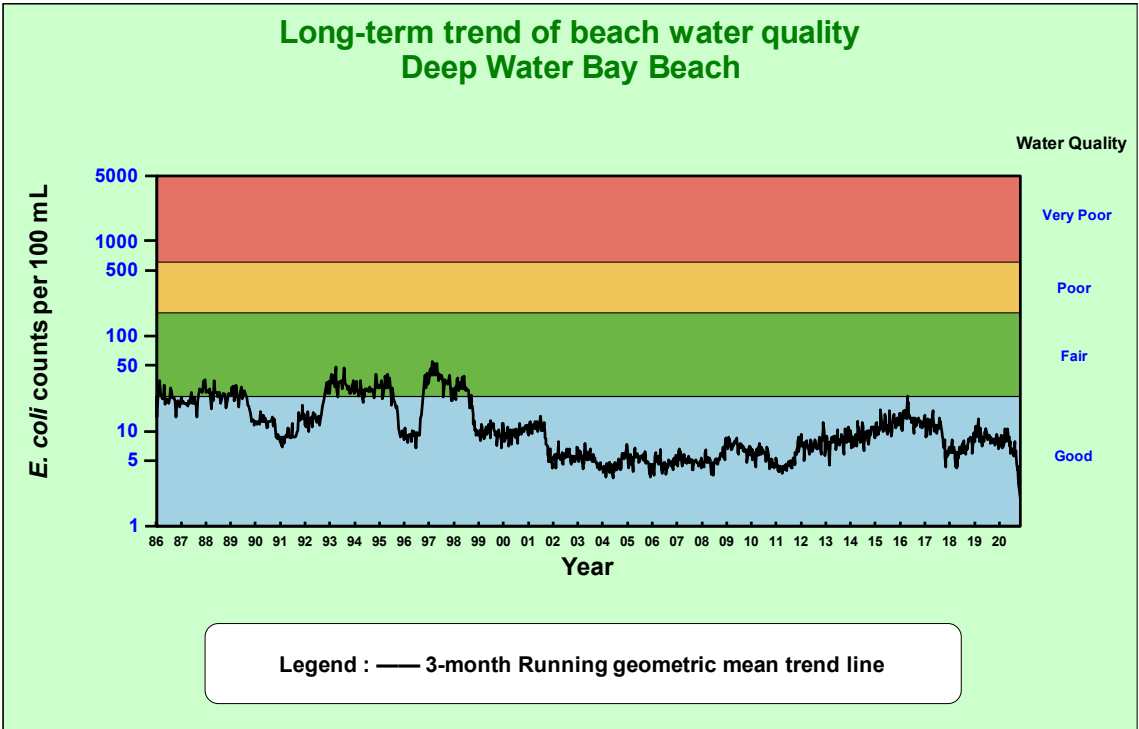
Note: Data presented are arithmetic means; figures in brackets are ranges
1. Practical Salinity Unit; 2. Nephelometric Turbidity Unit

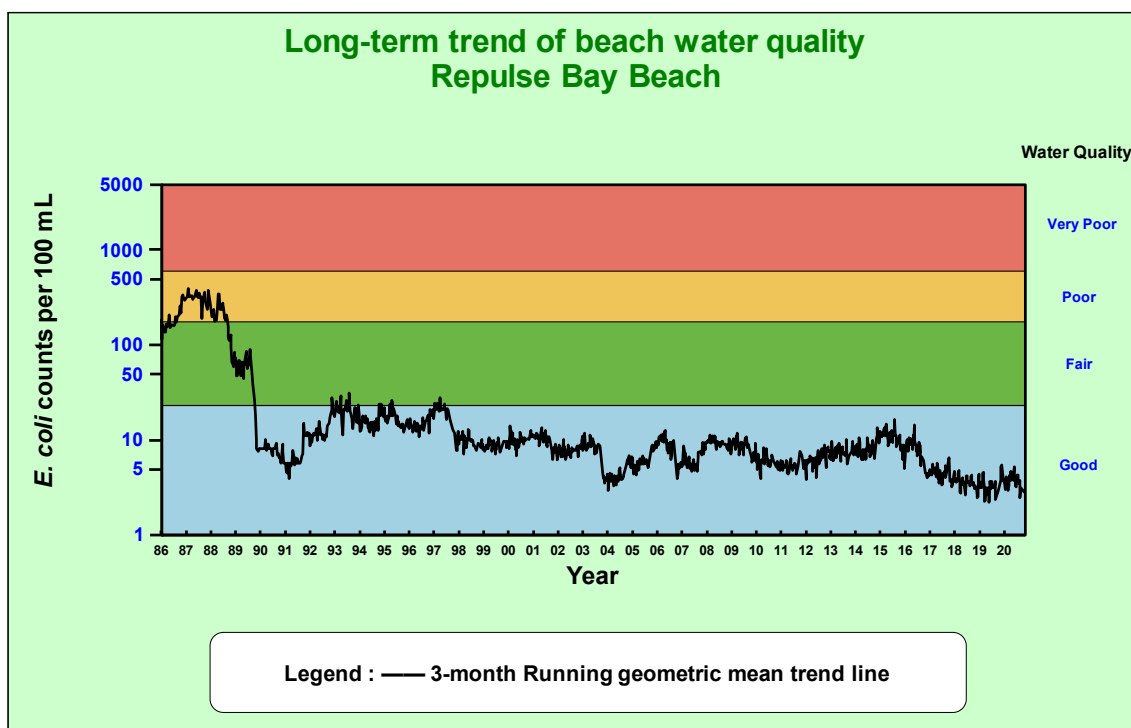
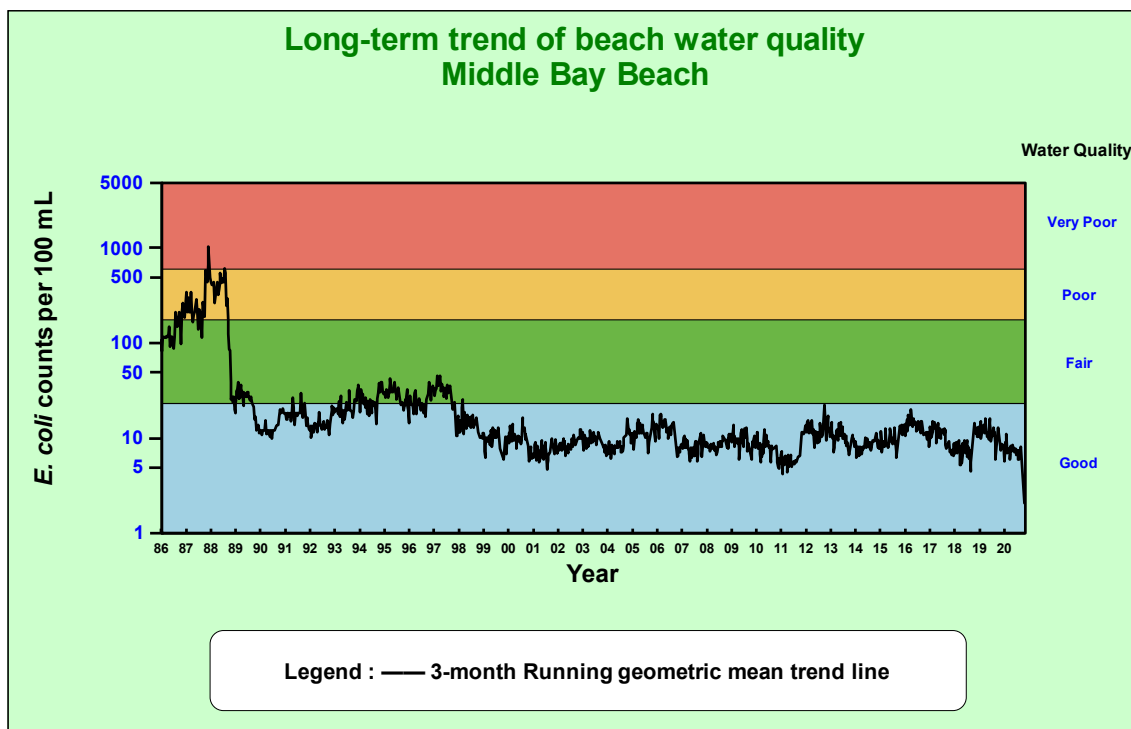


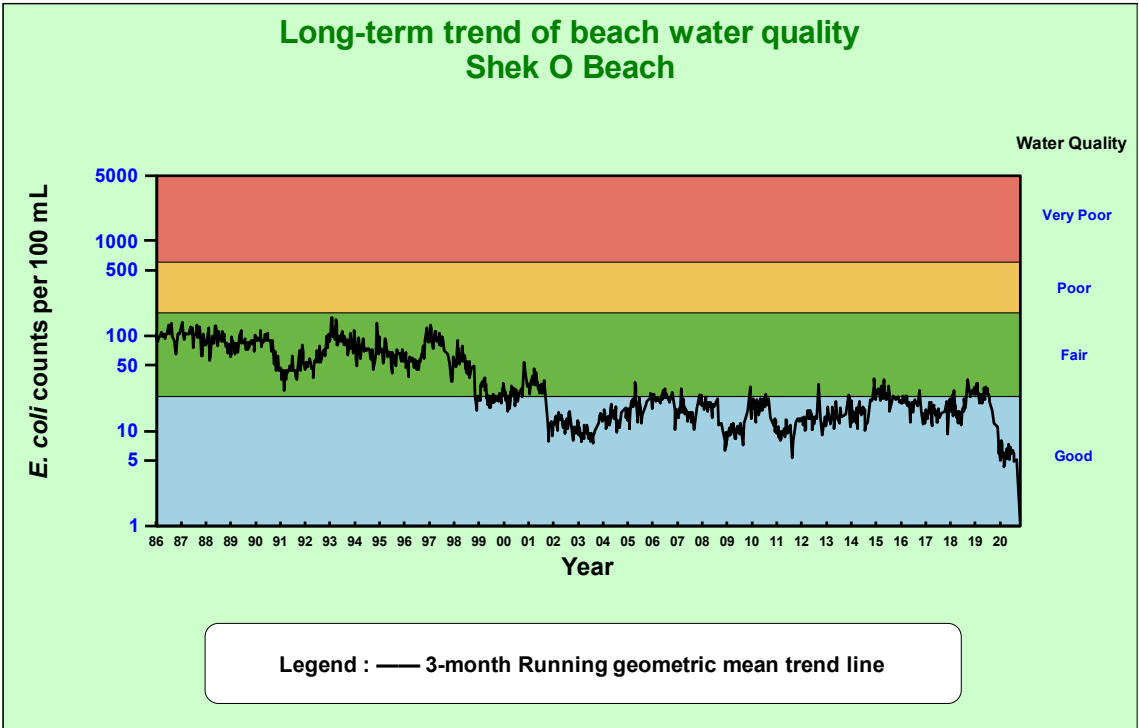
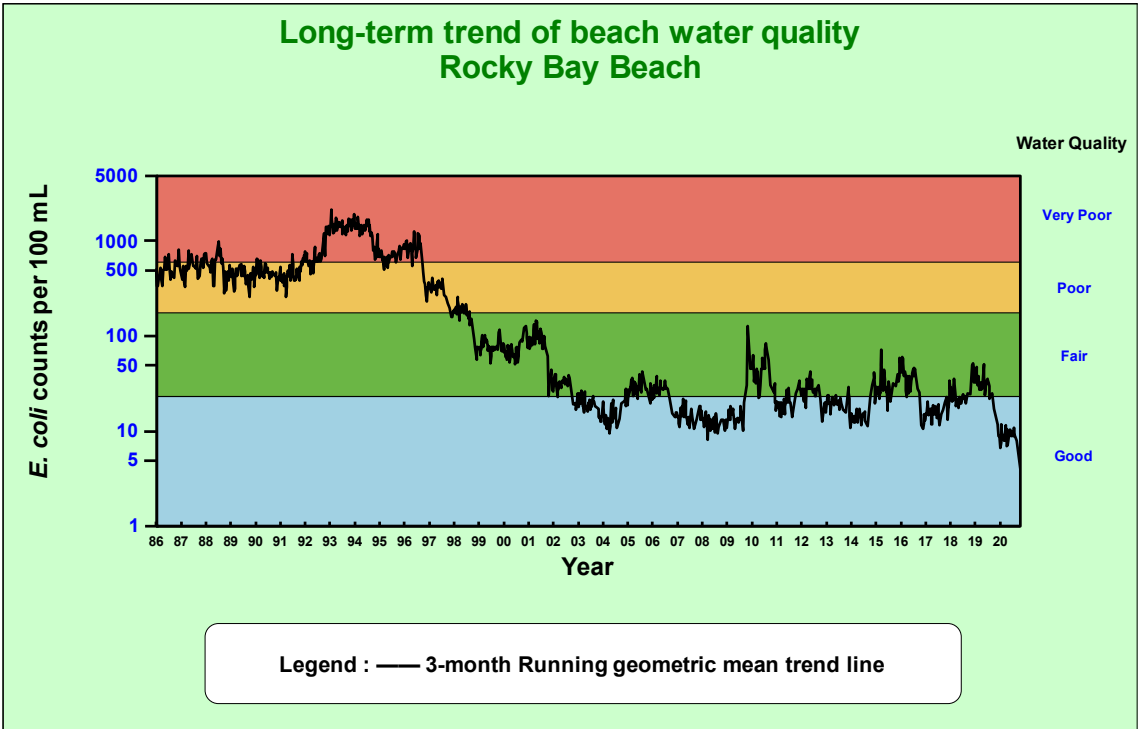
Appendix D - Long-term trend of beach water quality (1986 - 2020)

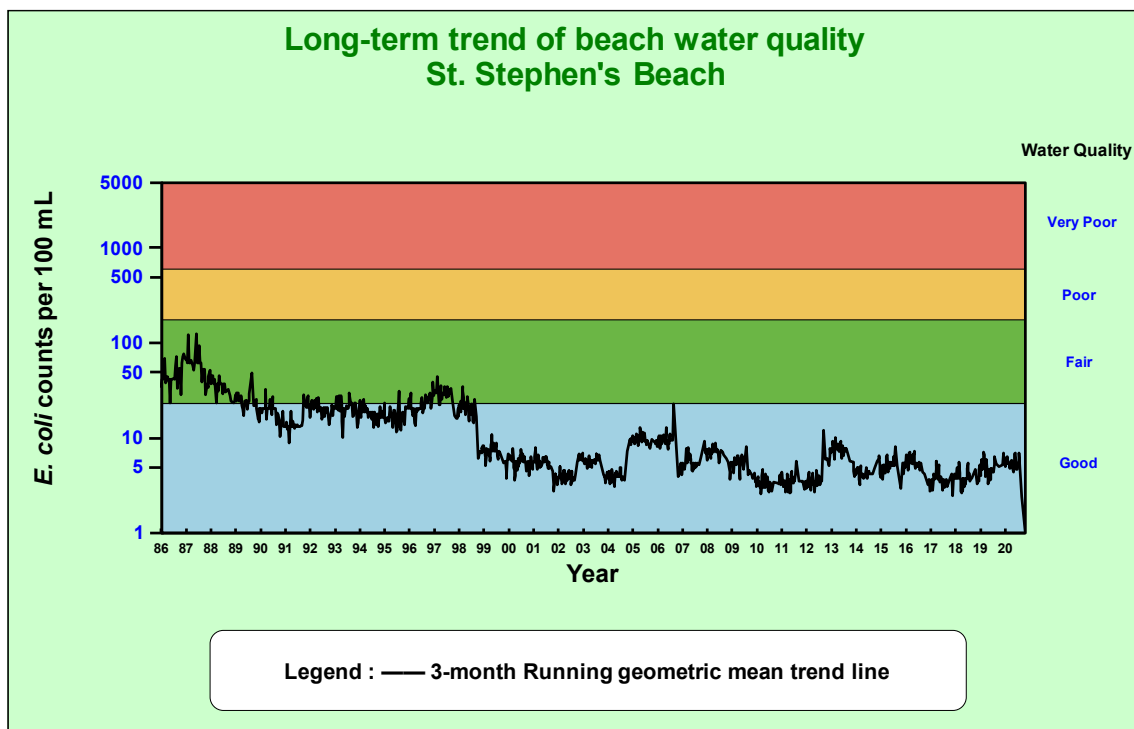
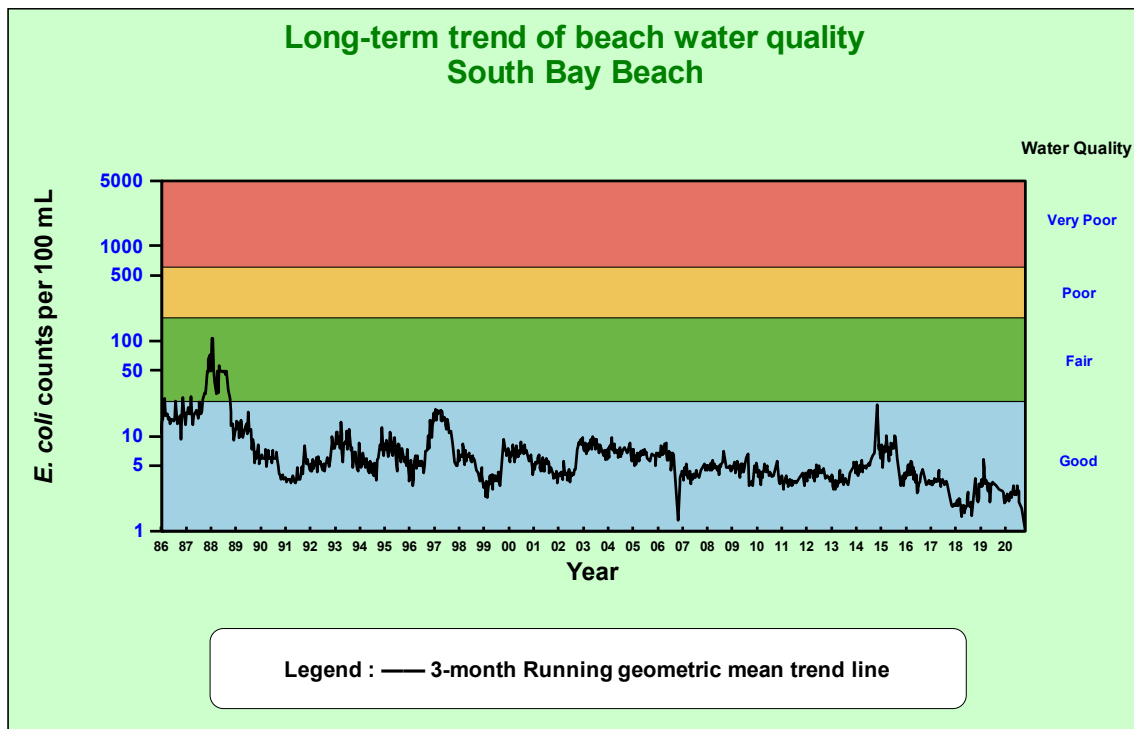
Southern District

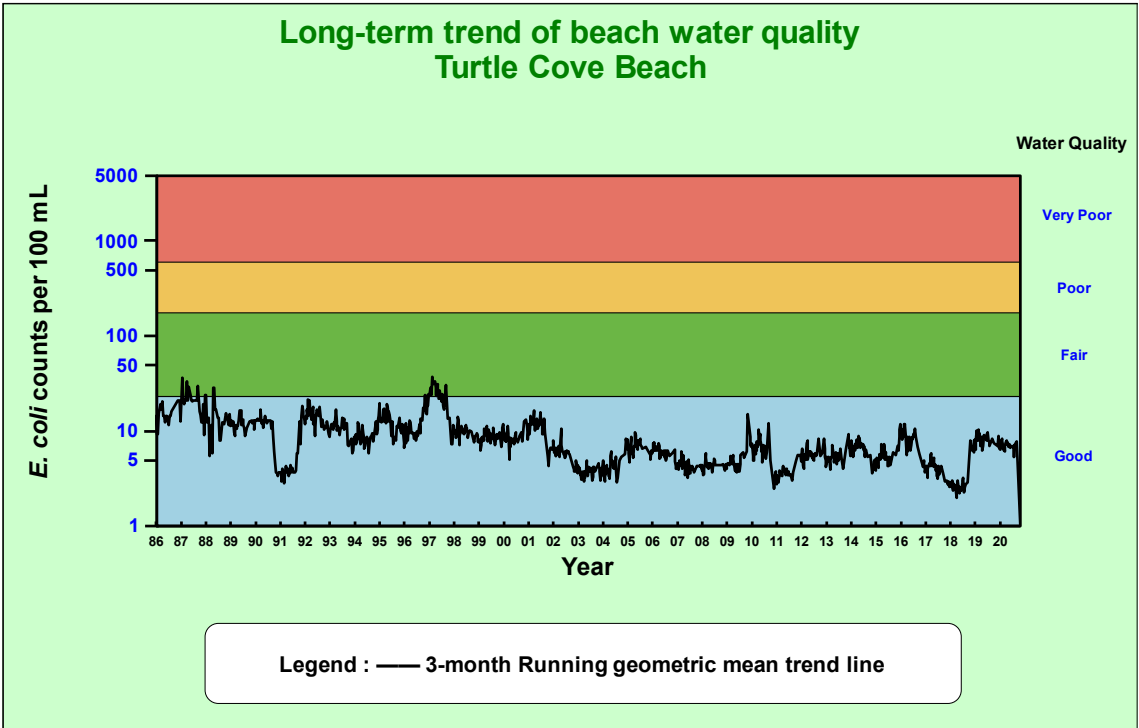
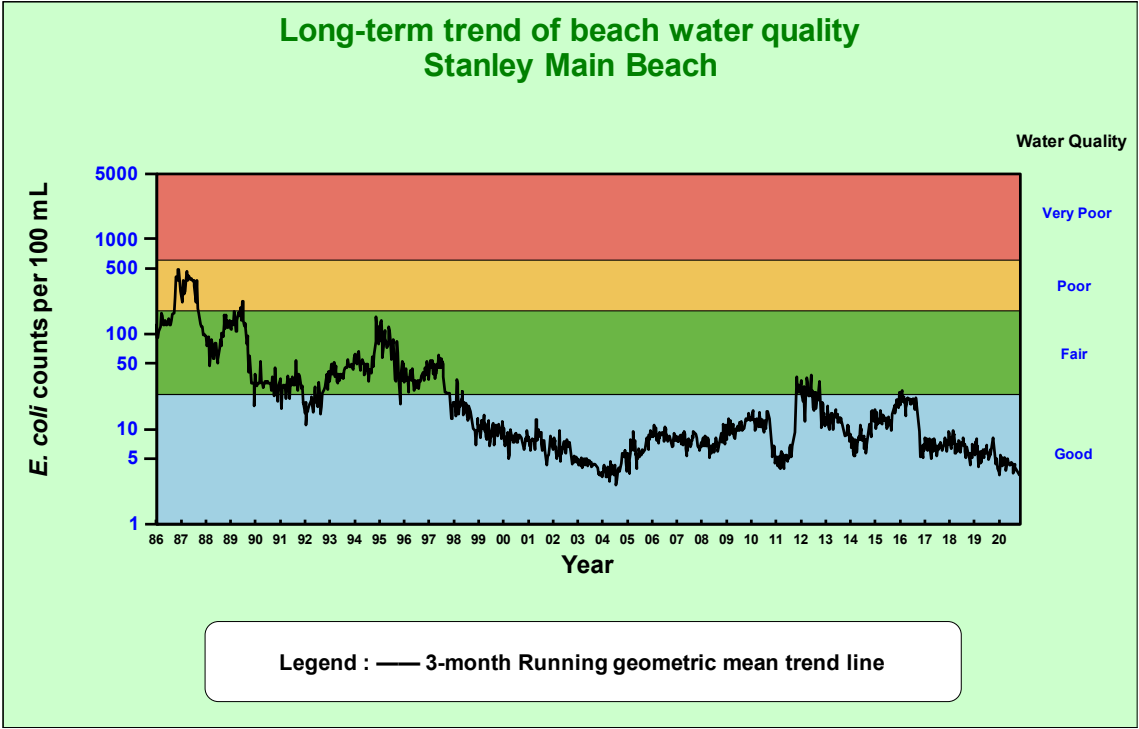




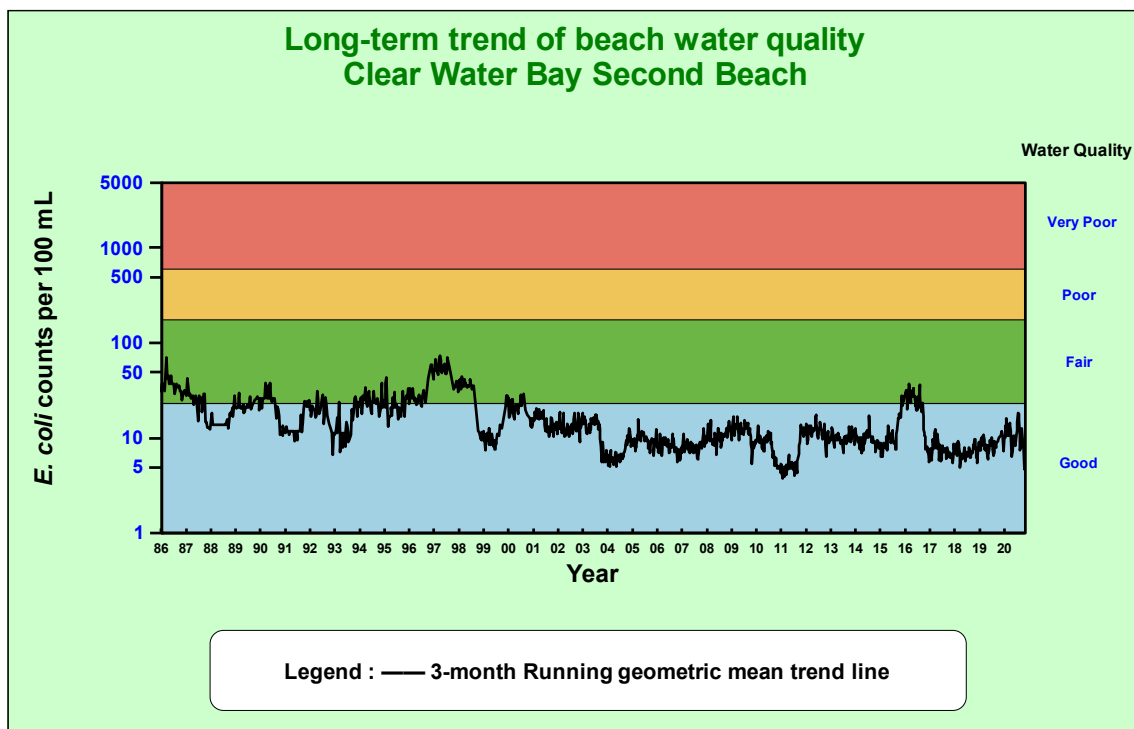
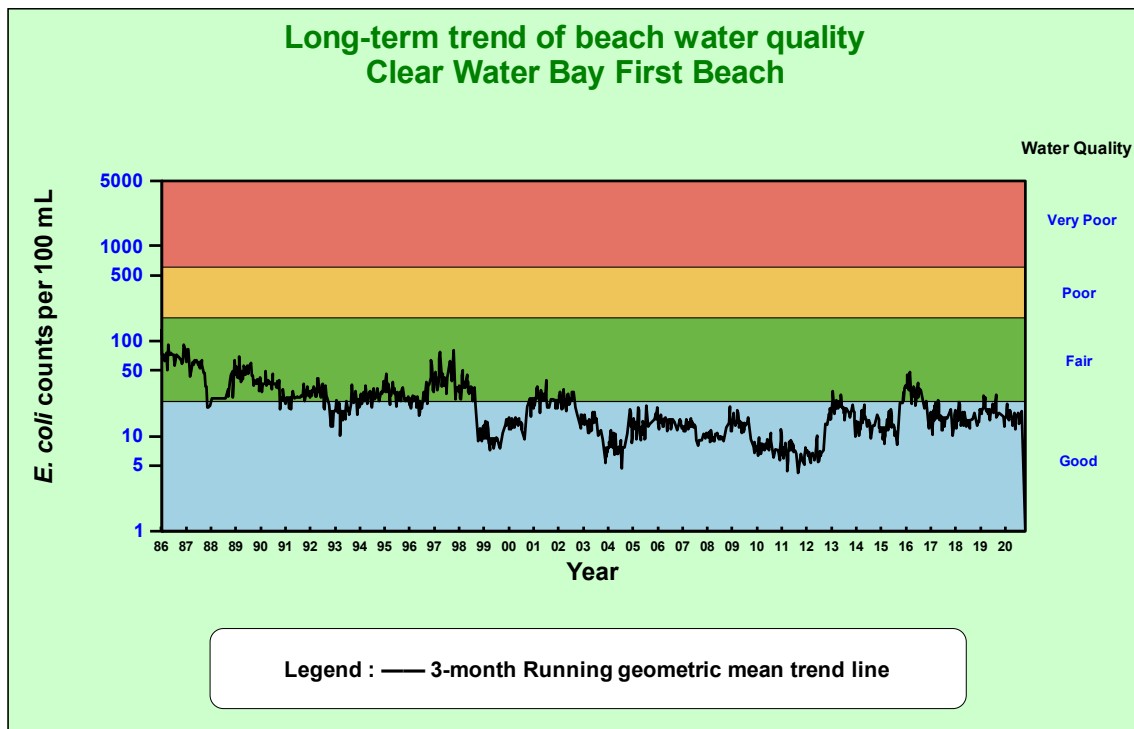


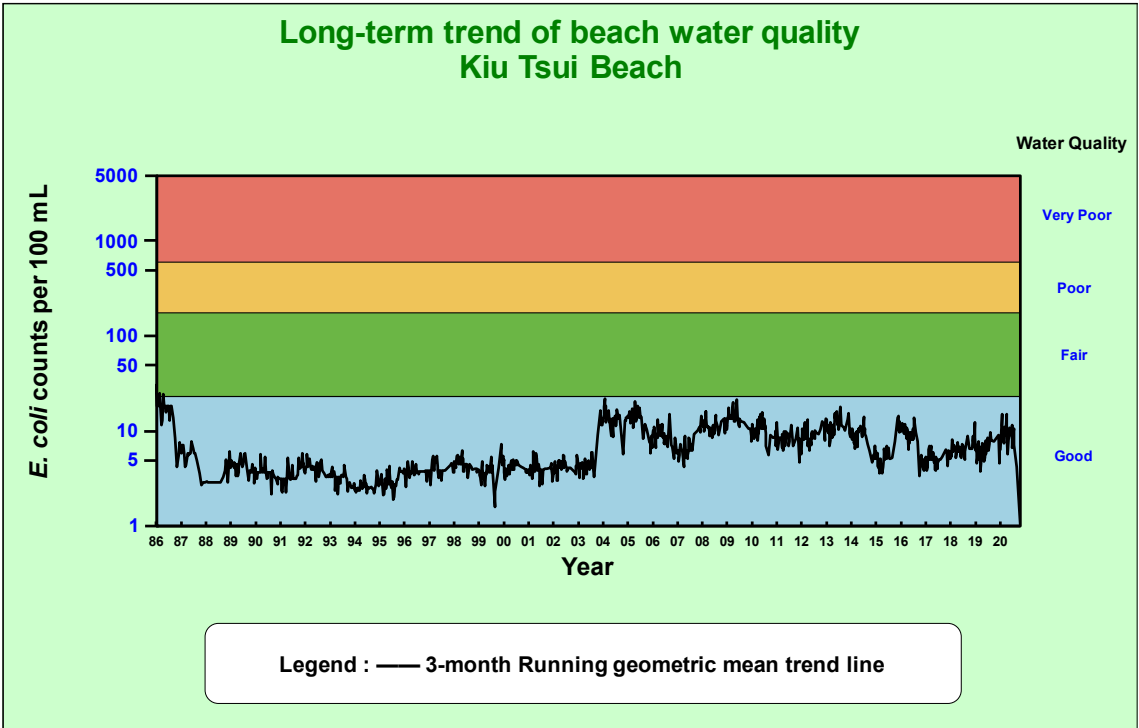
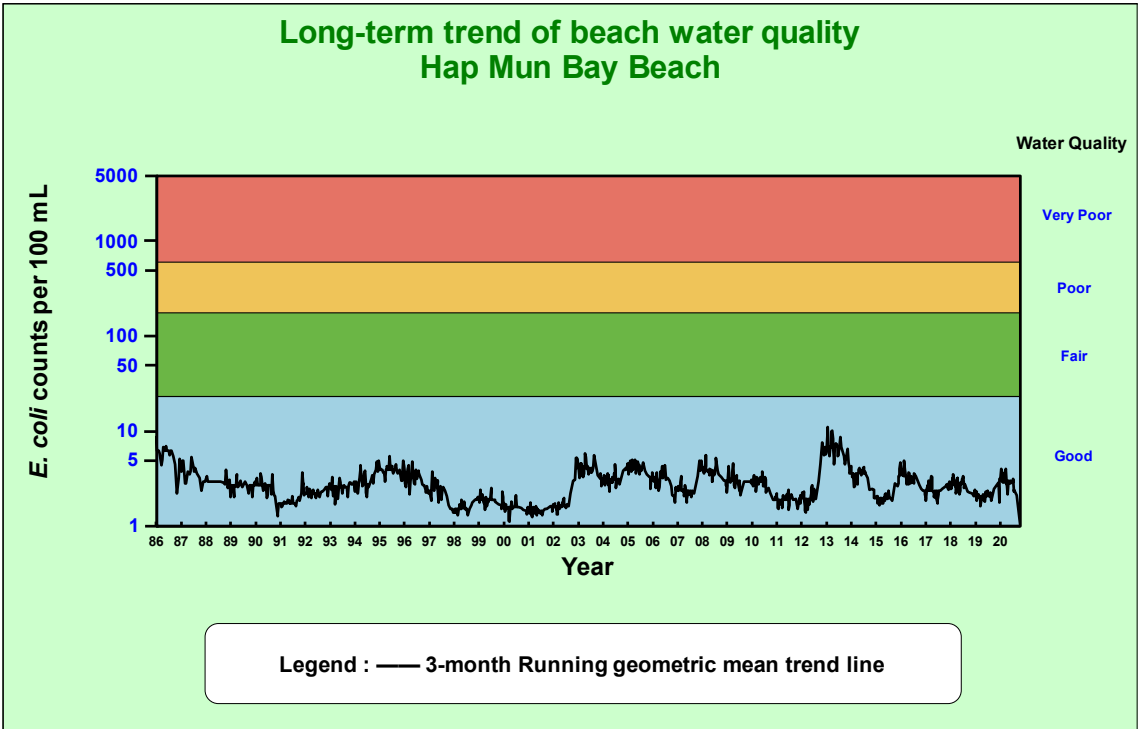


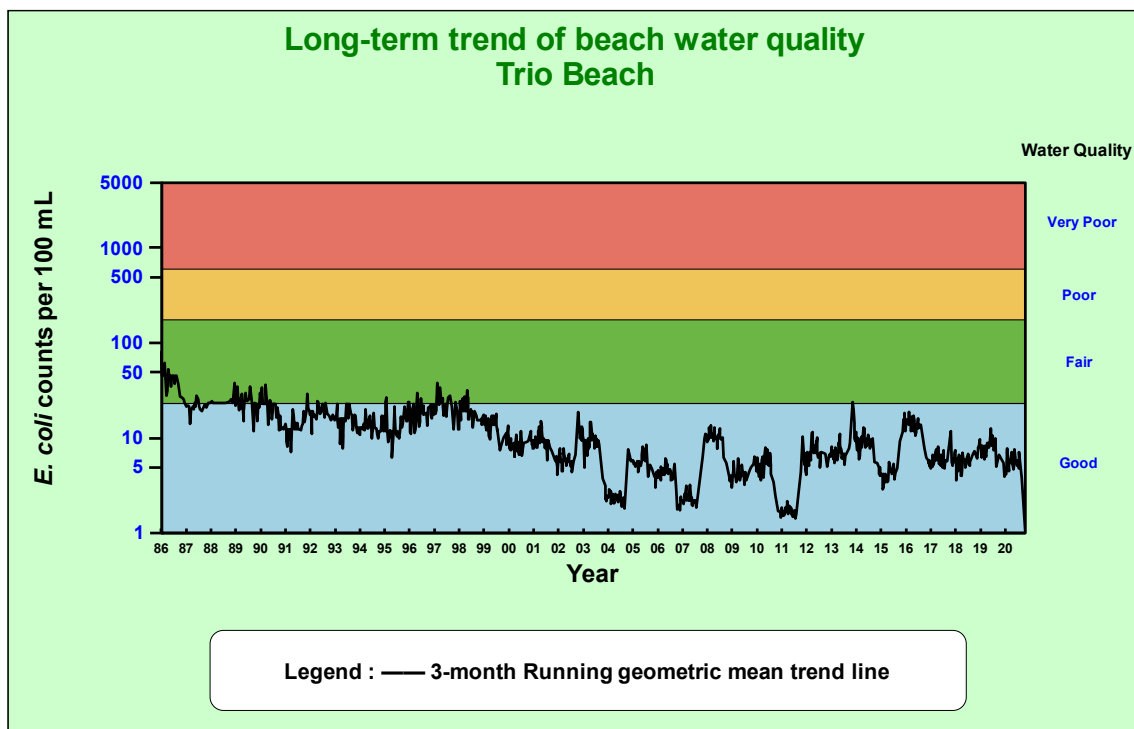
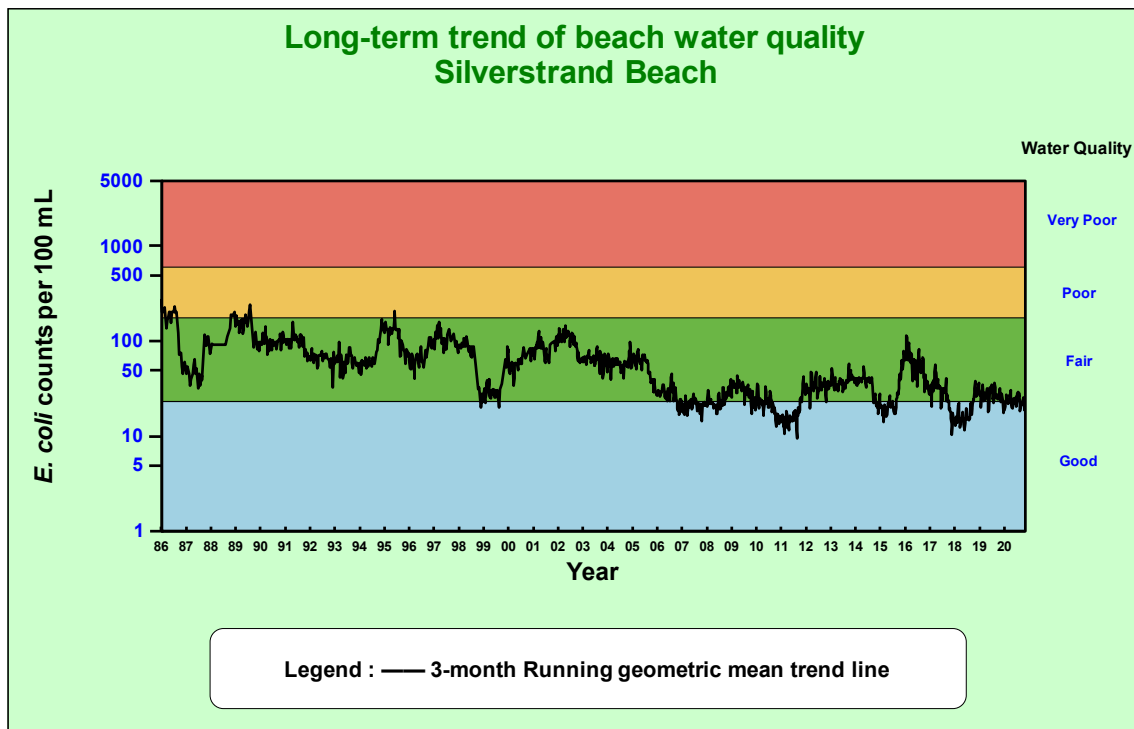




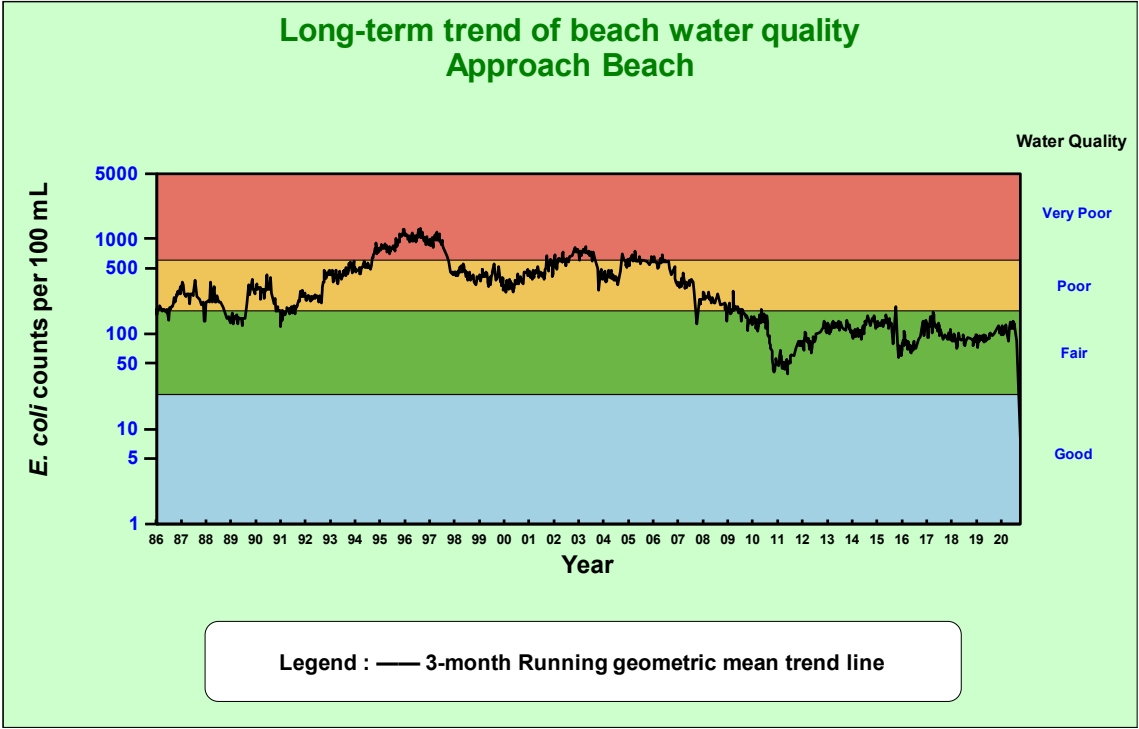
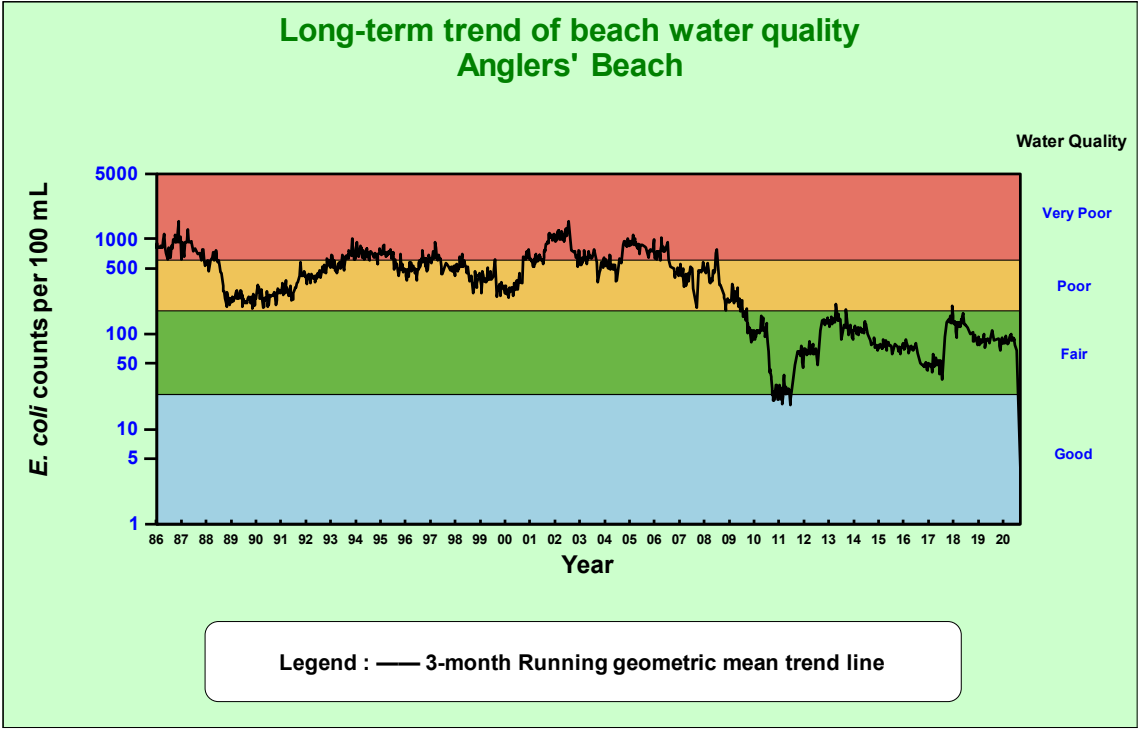
Sai Kung District

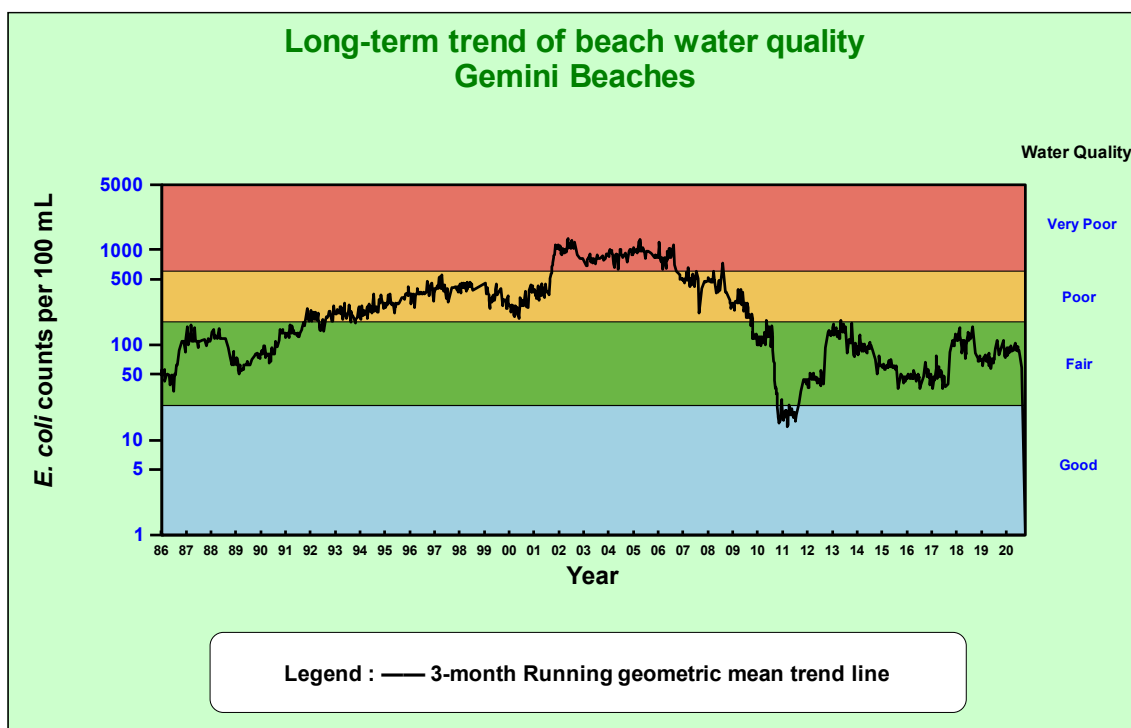
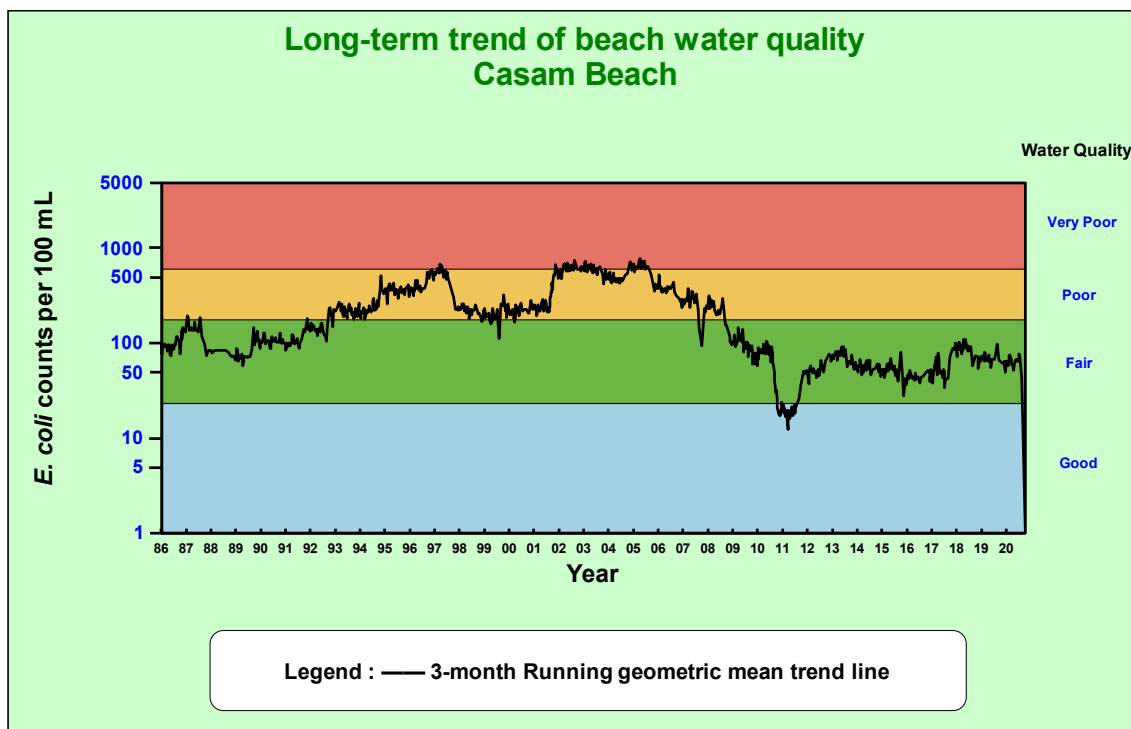


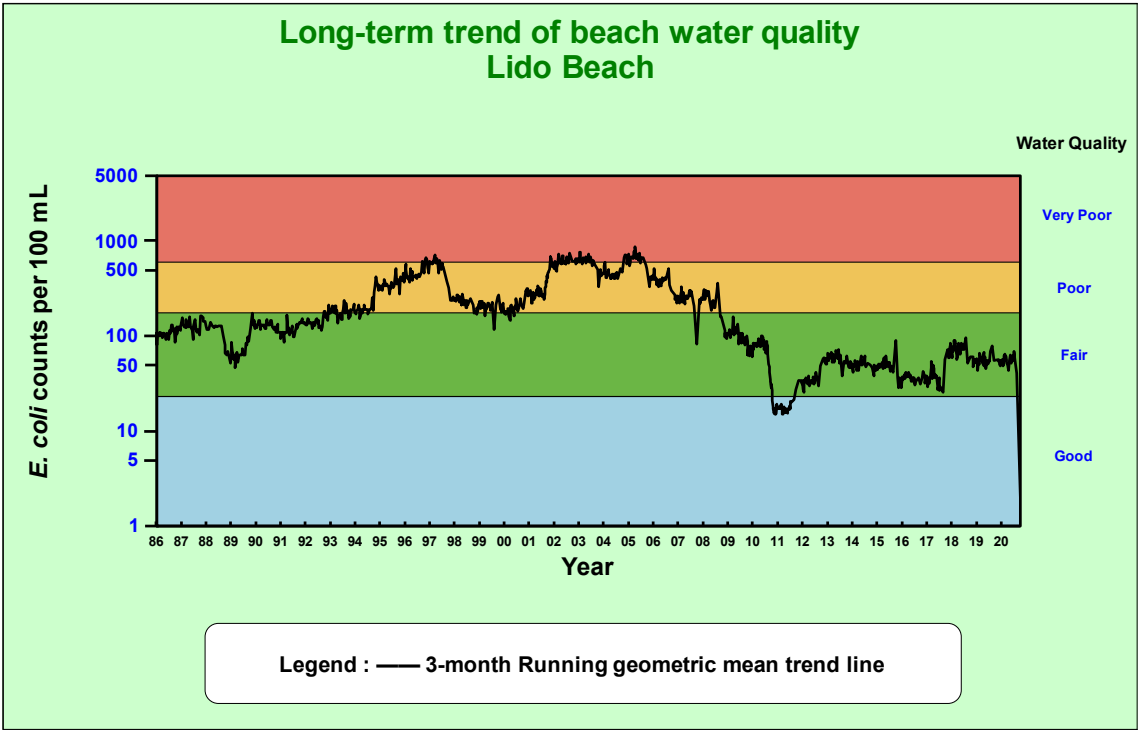
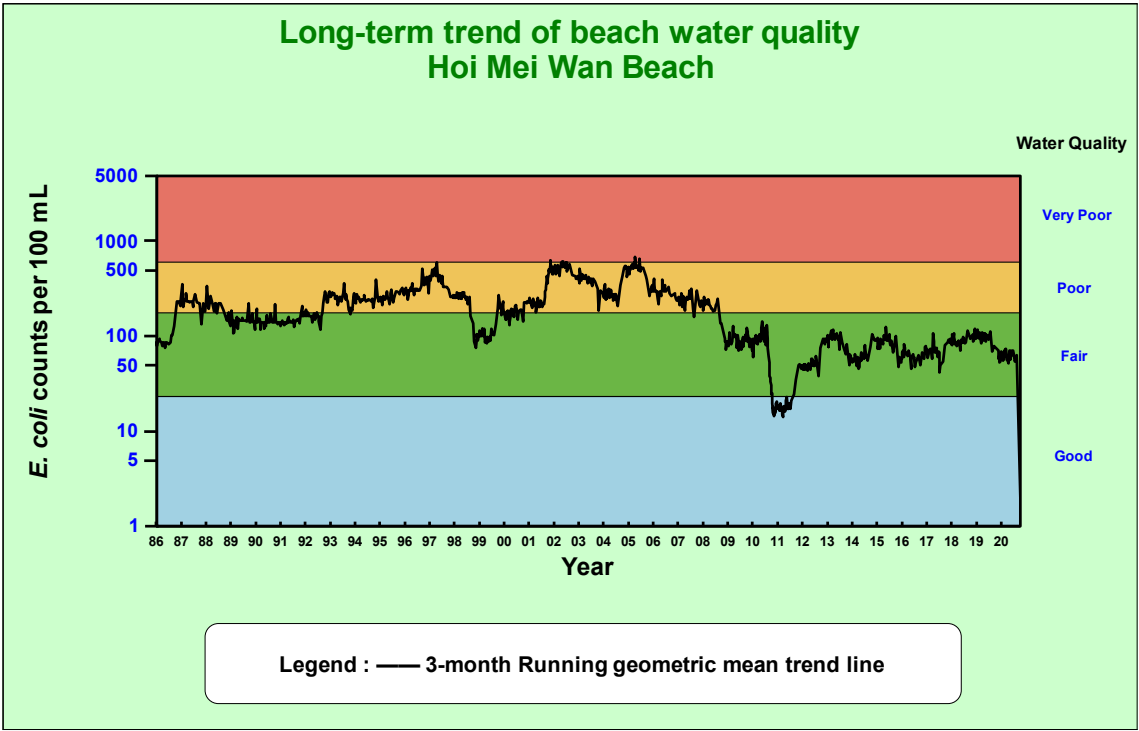


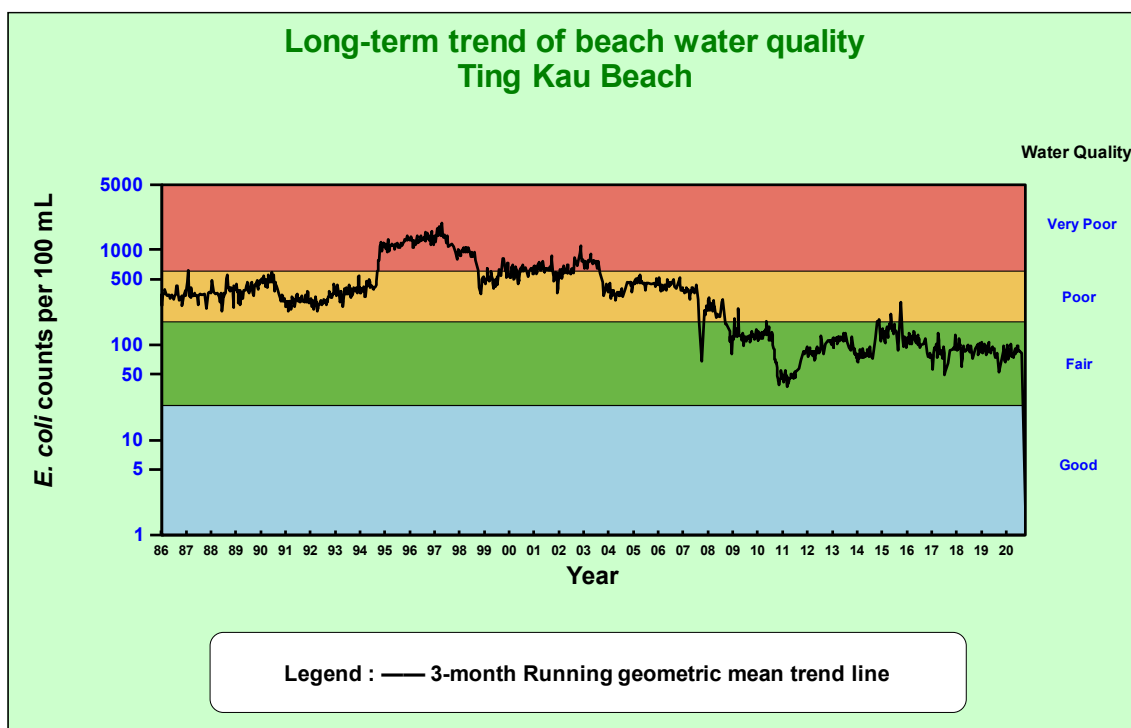
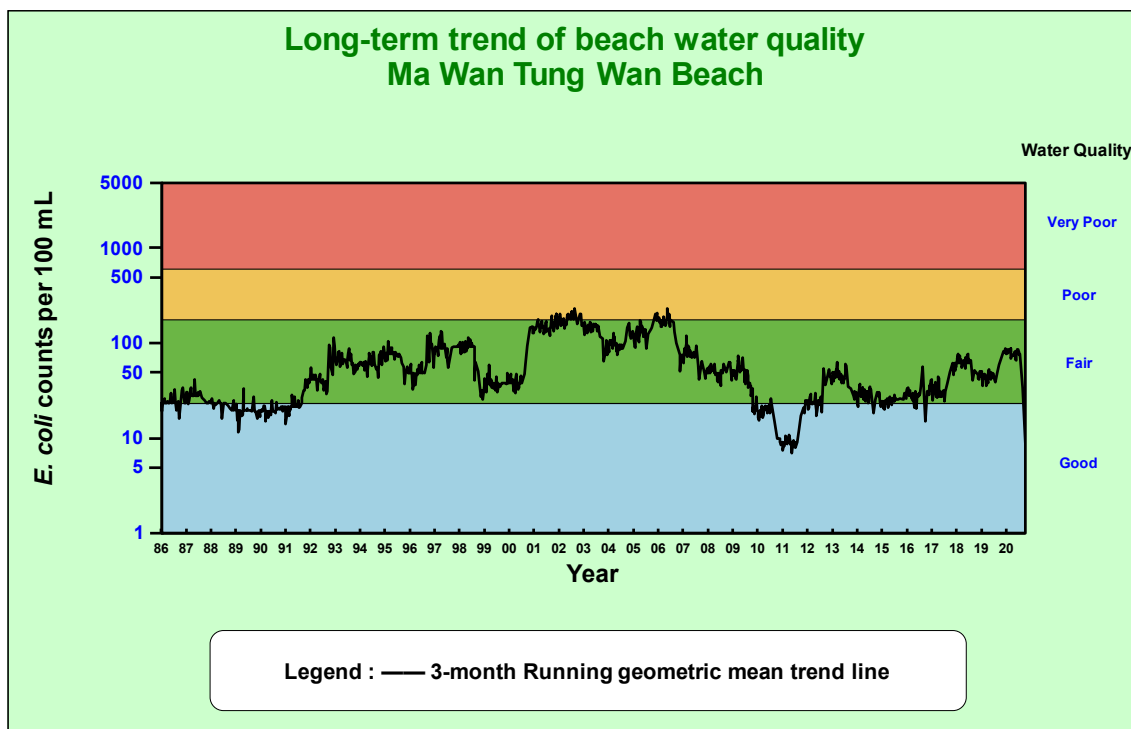


Tsuen Wan District

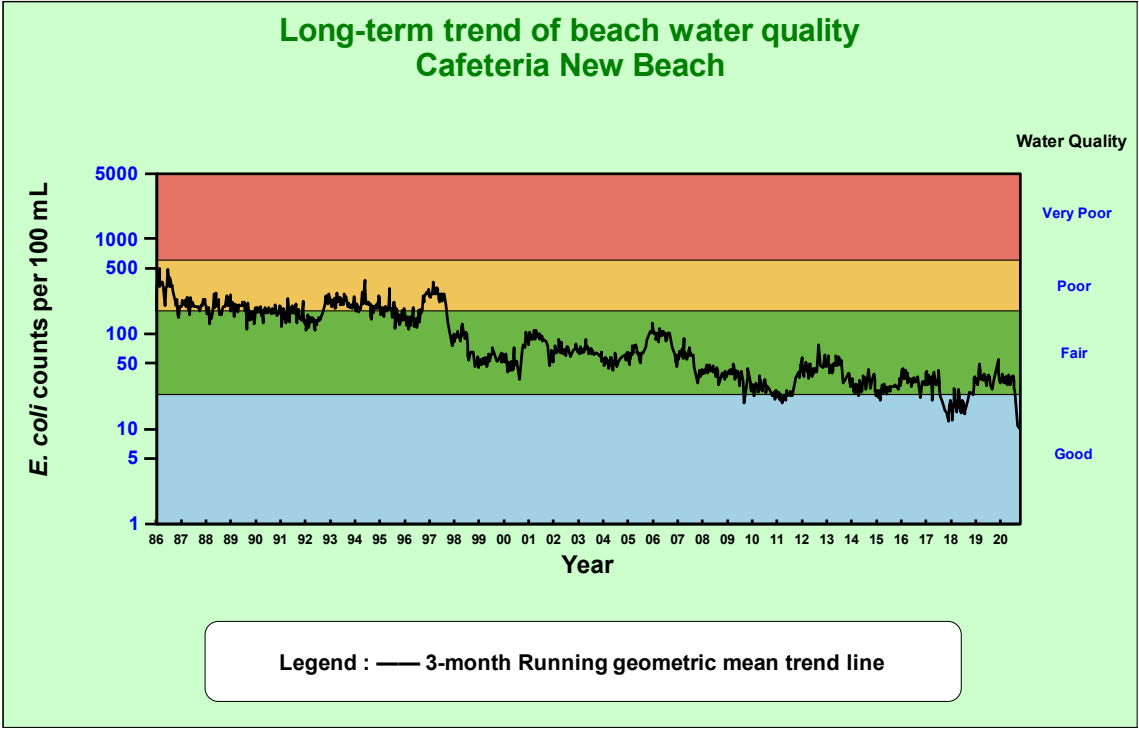
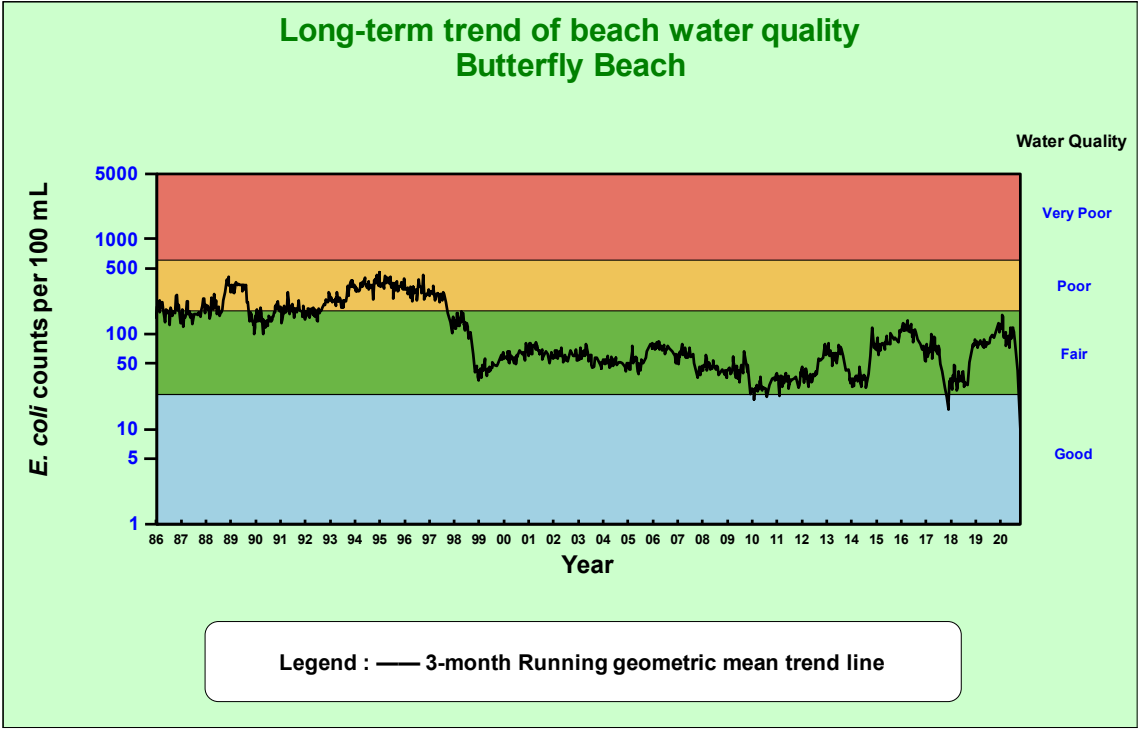


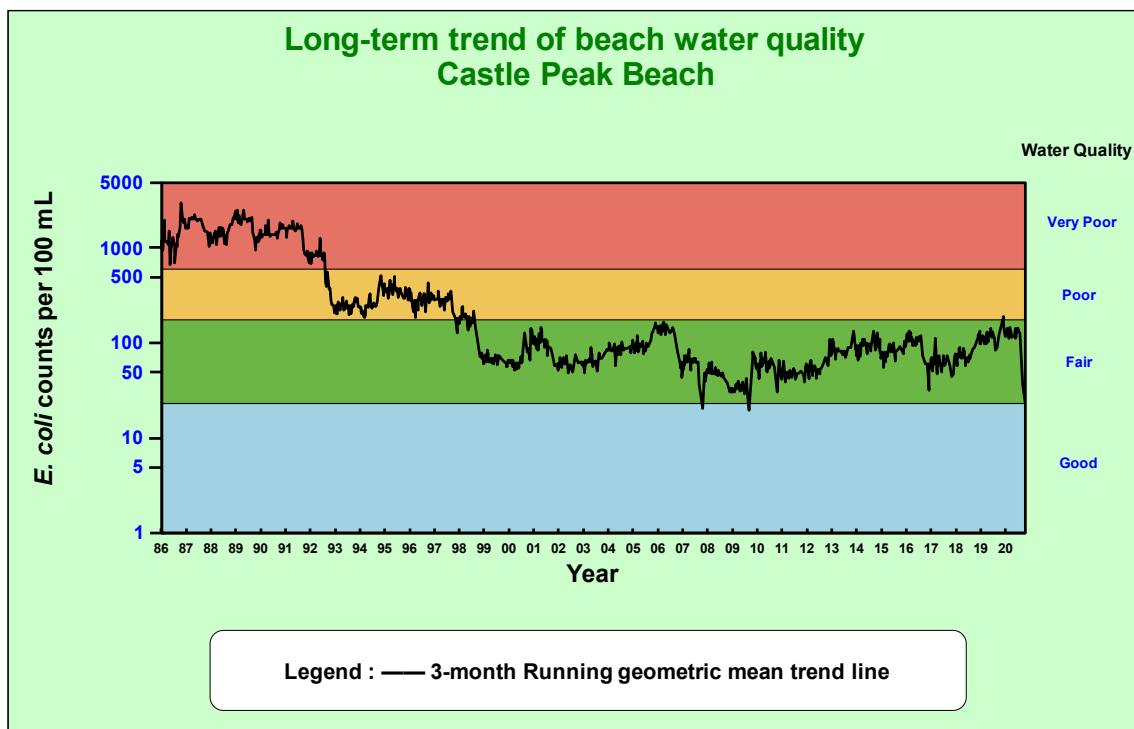
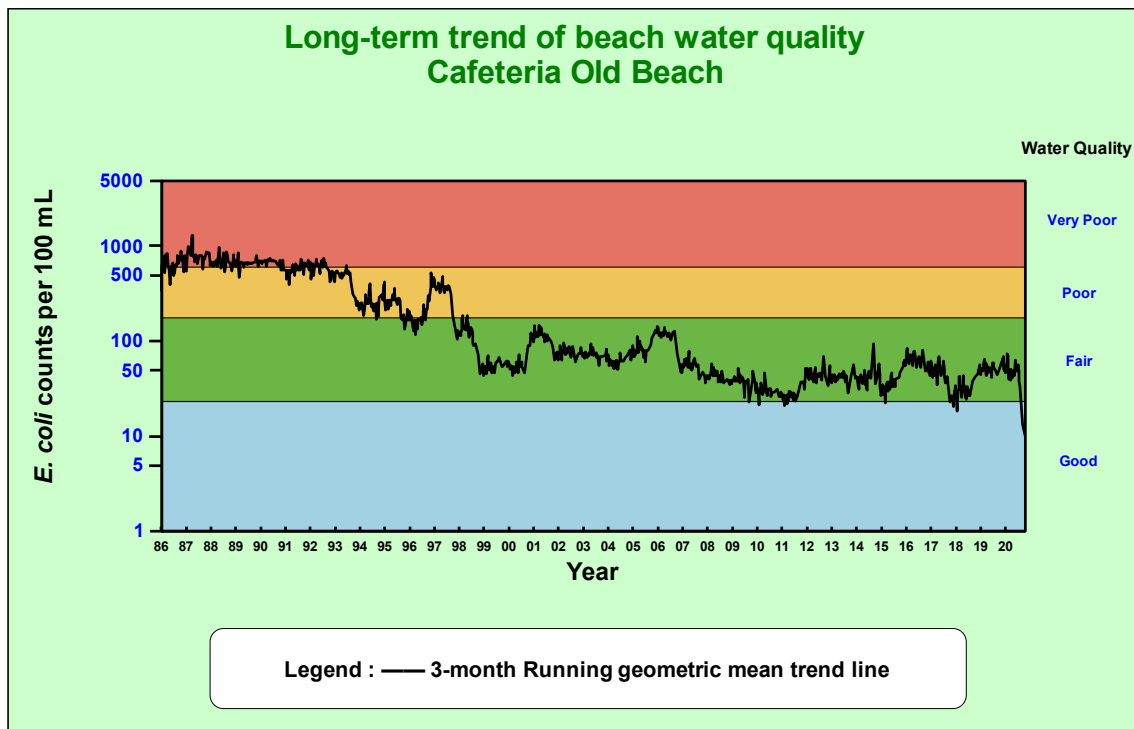


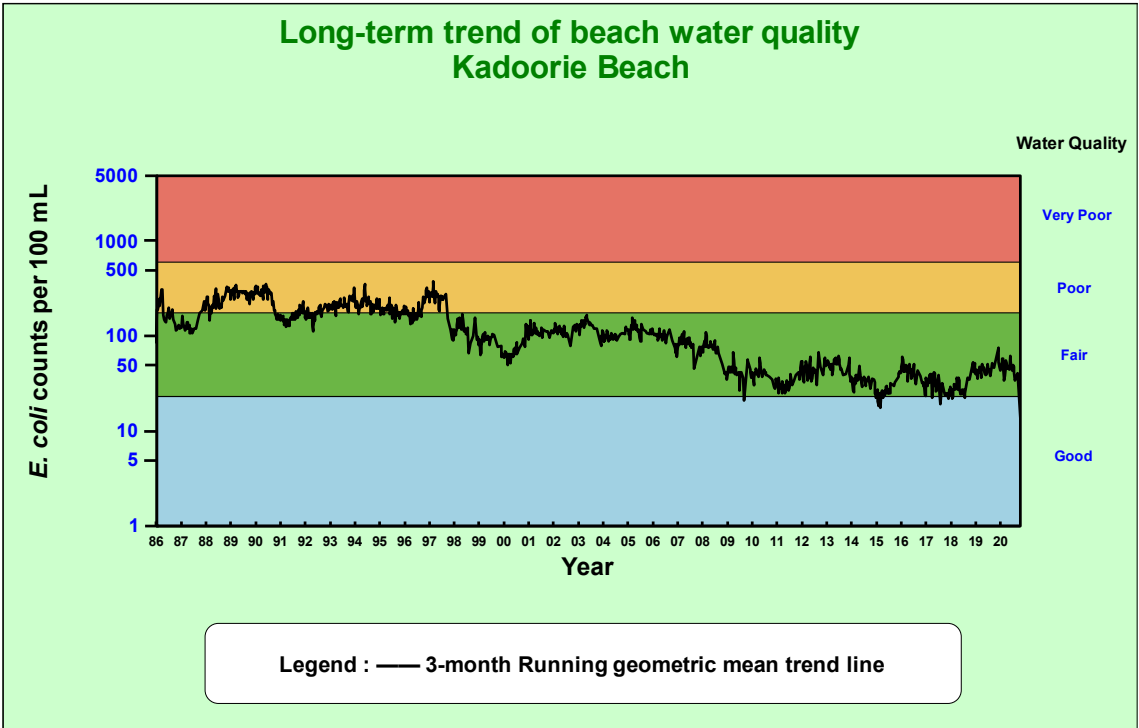
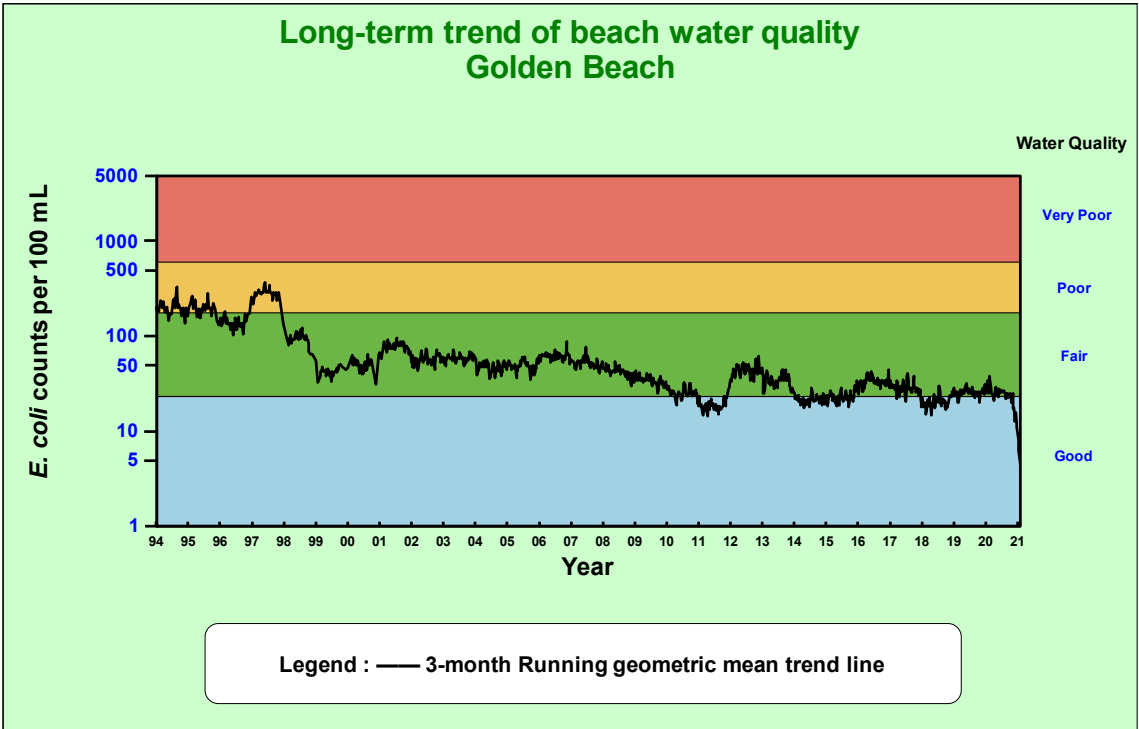




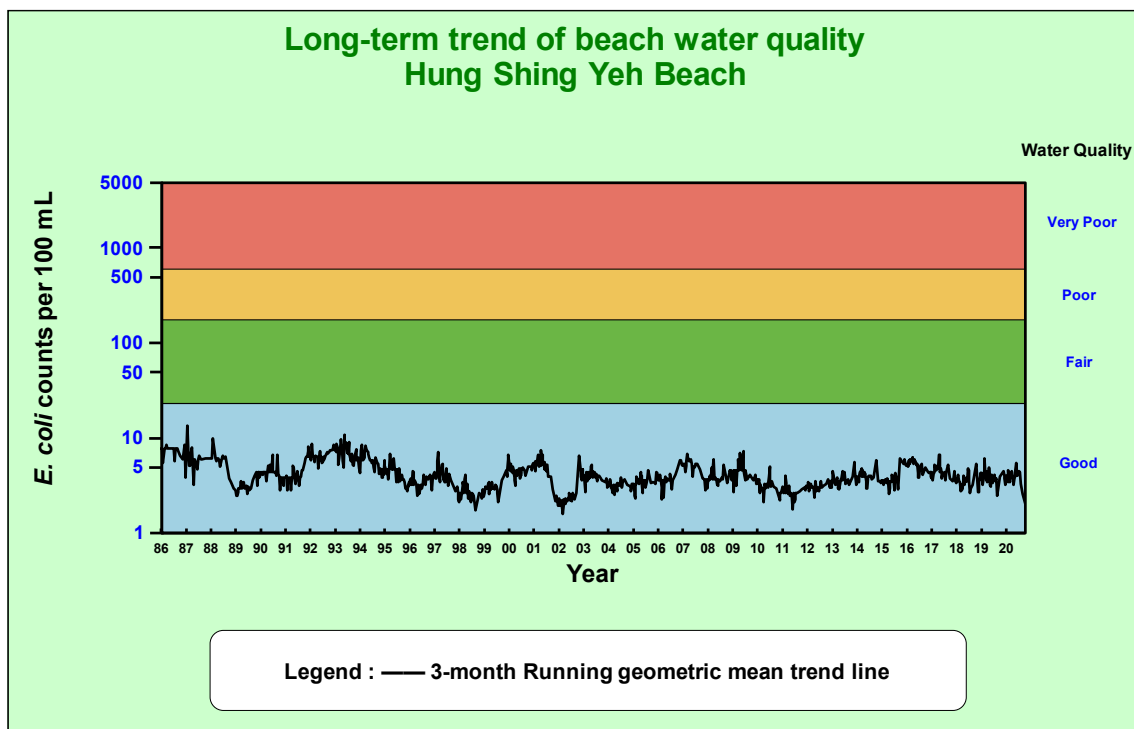
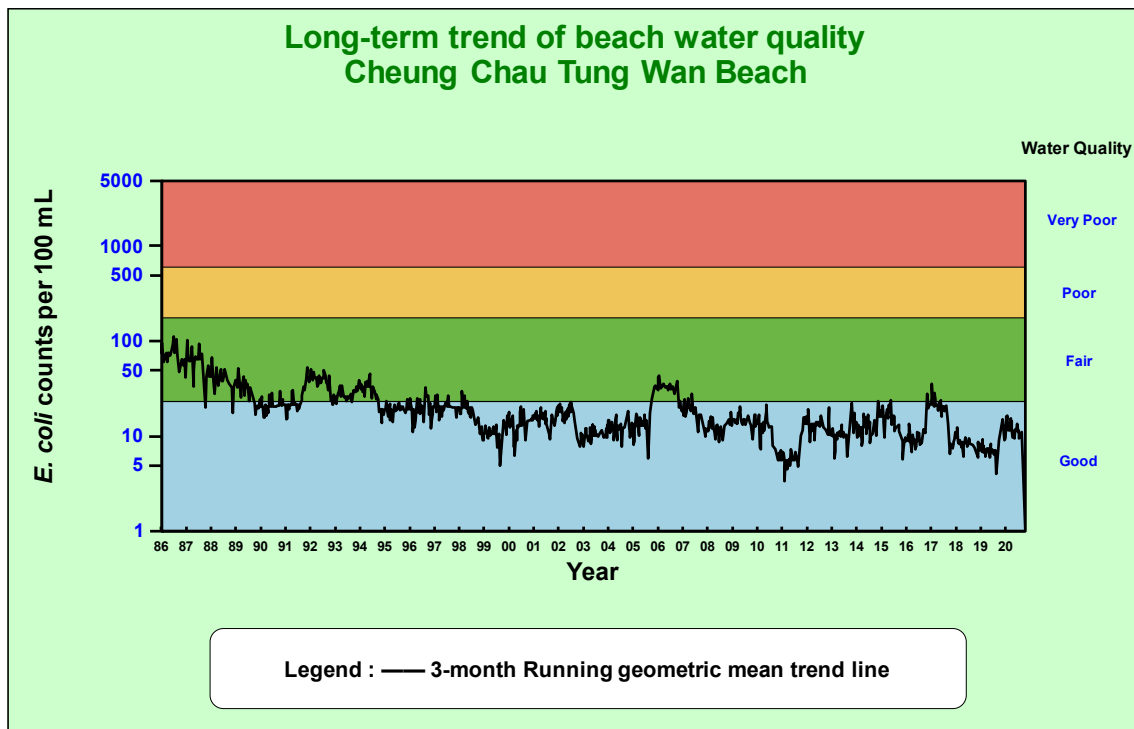
Tuen Mun District

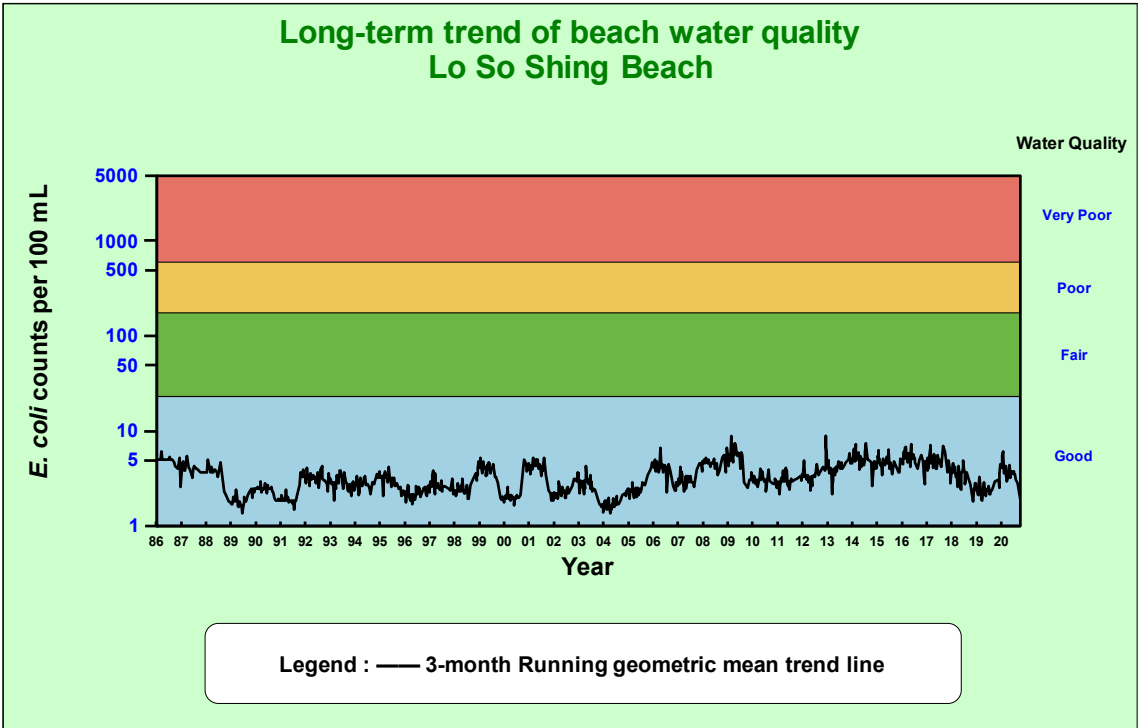
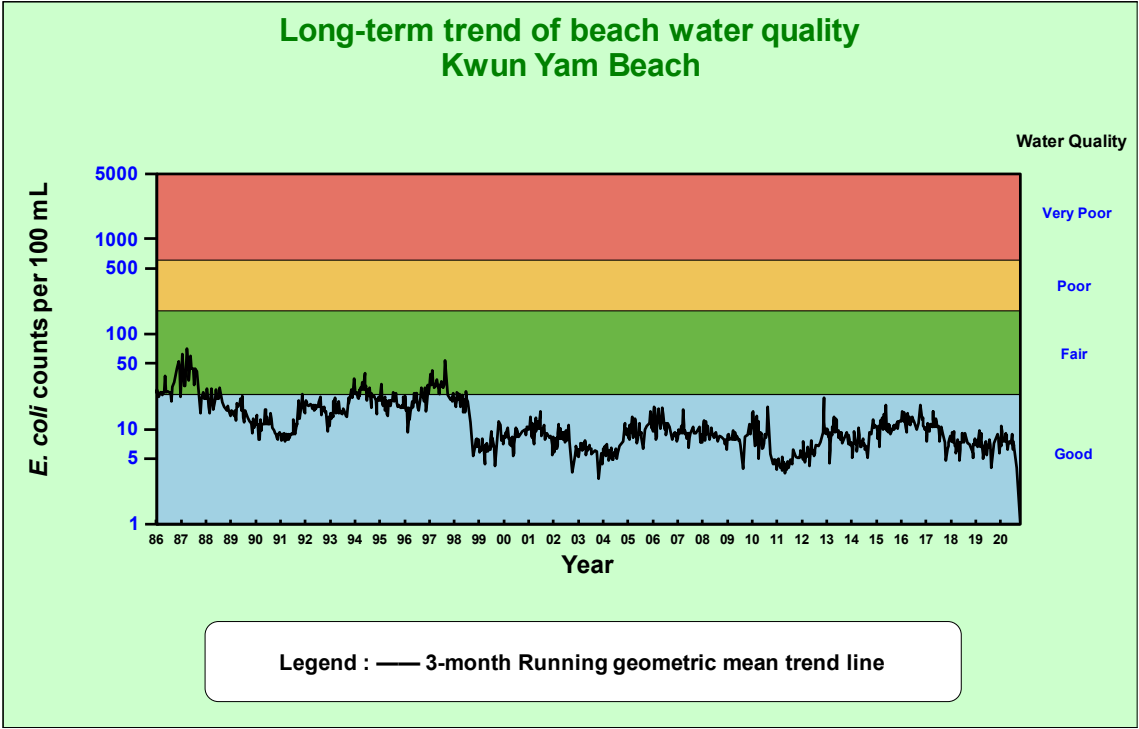


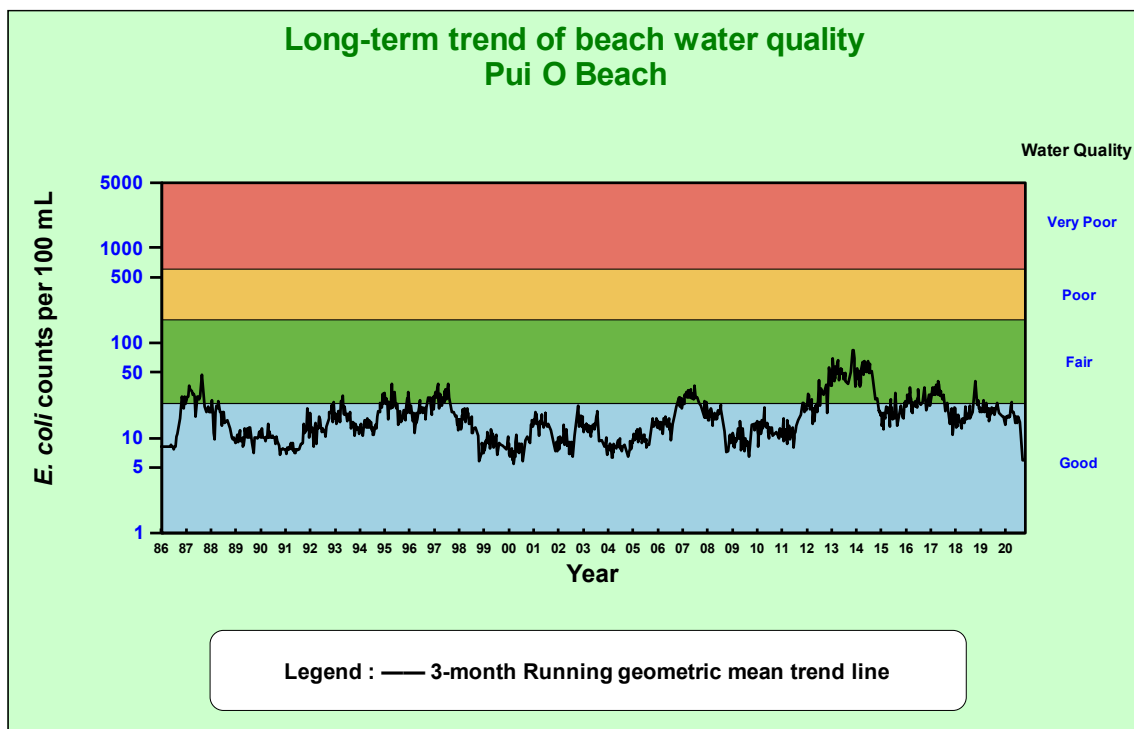
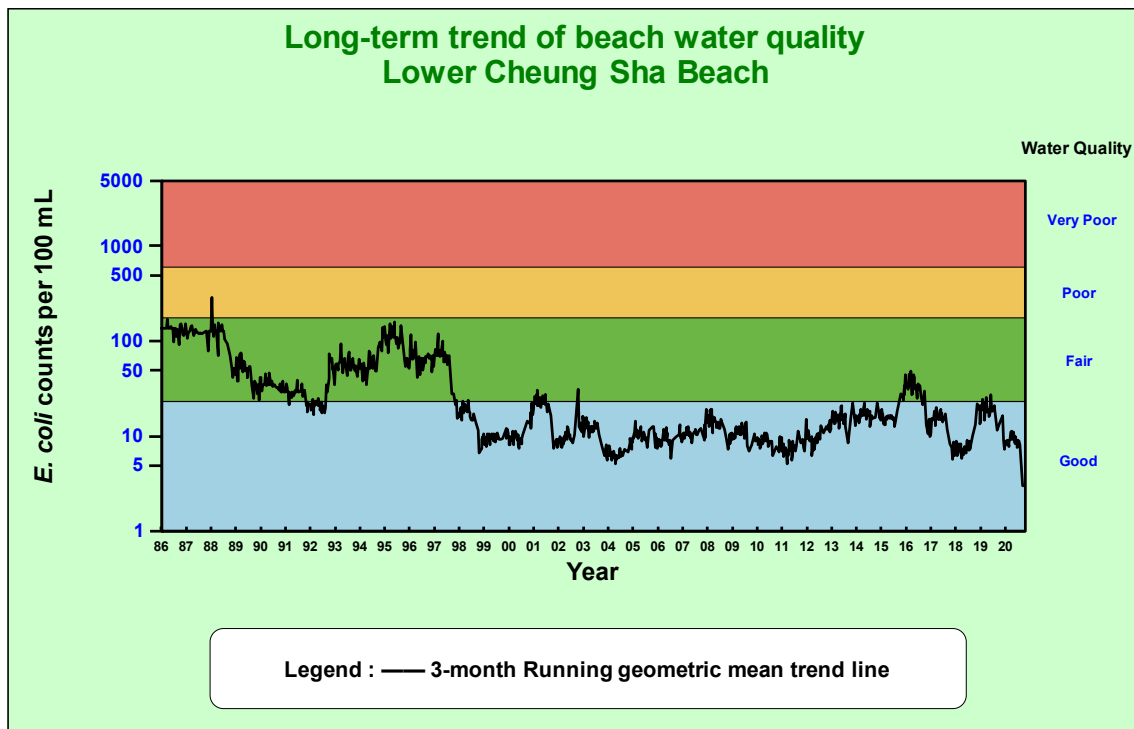


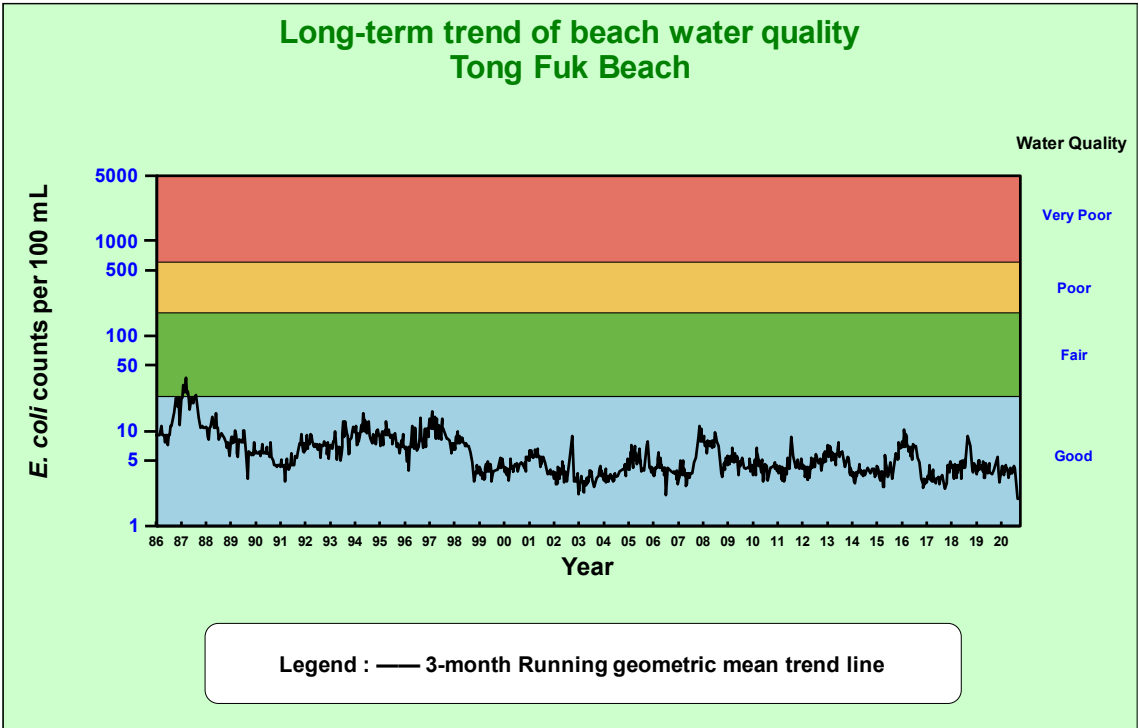
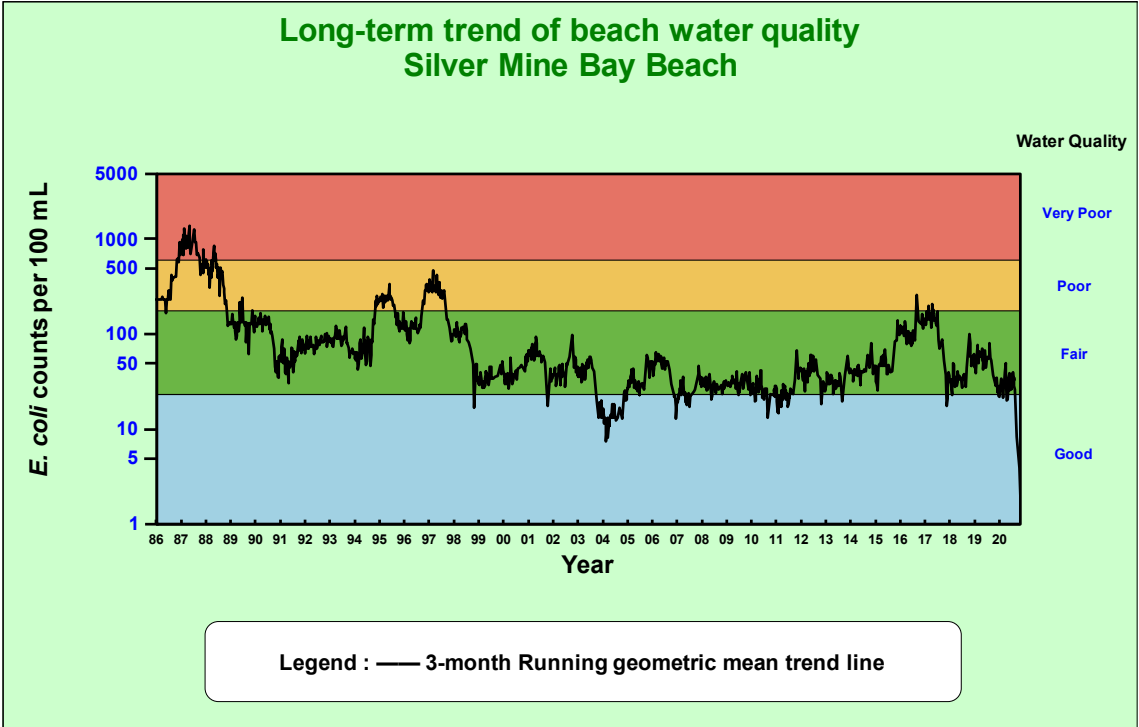


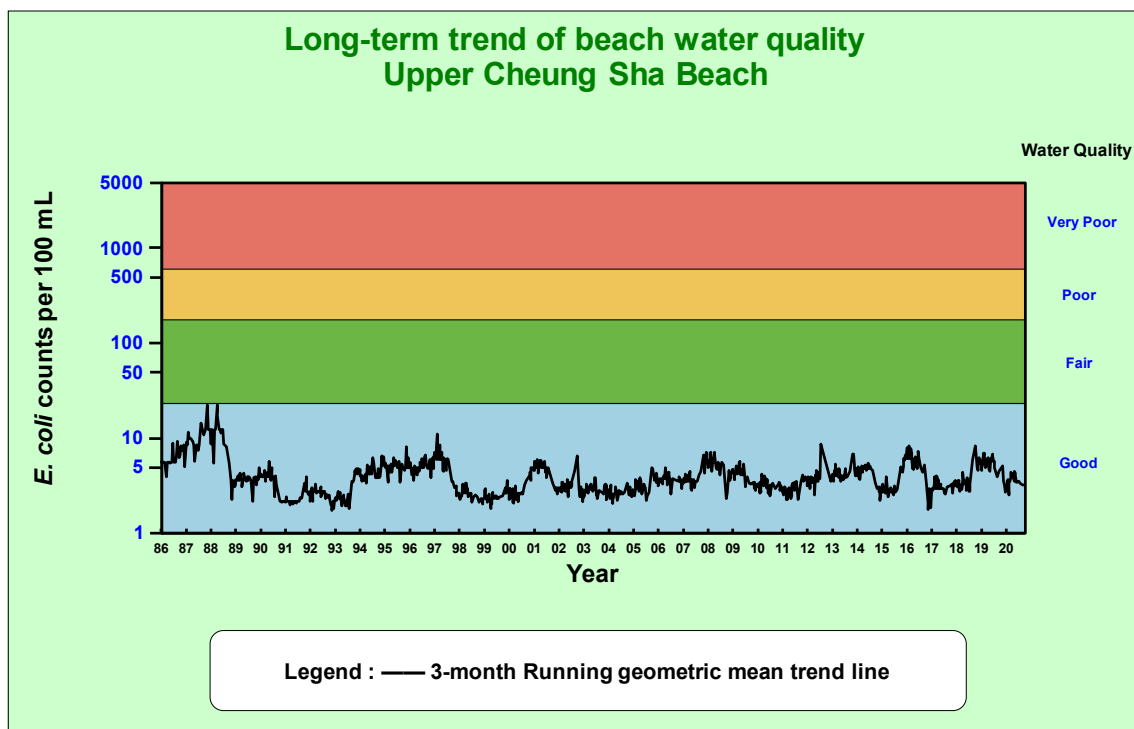
Islands District











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