



Kualiti Air Marin dan Pulau-Pulau *Marine and Island Marine Water Quality*

KUALITI AIR MARIN DAN PULAU-PULAU

MARINE AND ISLAND MARINE WATER QUALITY

PENGAWASAN KUALITI AIR MARIN

Jabatan Alam Sekitar (JAS) menjalankan pengawasan kualiti air marin bermula pada tahun 1978 di Semenanjung Malaysia dan 1985 bagi Sabah dan Sarawak dengan tujuan untuk mengenalpasti status kualiti air marin dan menentukan tahap pencemaran daripada punca-punca di daratan dan juga di laut. Punca-punca pencemaran ini boleh menimbulkan ancaman kepada sumber kehidupan marin dan mengganggu kestabilan dan kepelbagaian ekosistem marin.

Pada tahun 2017, sebanyak 188 stesen pantai, 88 stesen kuala dan 95 stesen pulau telah dipantau. Sebanyak 752 sampel di kawasan pantai, 352 di kuala dan 380 di pulau telah diambil untuk dianalisis dan hasilnya dilaporkan berdasarkan Indeks Kualiti Air Marin (IKAM).

IKAM digunakan sebagai satu kaedah untuk menentukan kategori dan status kualiti air marin. Indeks ini dibangunkan berdasarkan 7 parameter utama iaitu Oksigen Terlarut (DO), Nitrat (NO_3), Fosfat (PO_4), Ammonia Tidak Terion (NH_3), Faecal Coliform, Minyak dan Gris (O&G) dan Jumlah Pepejal Terampai (TSS).

IKAM yang berskala 0 hingga 100 akan menentukan kategori kualiti air marin daripada "**Terbaik**" hingga "**Tercemar**" (Jadual 4.1).

MARINE WATER QUALITY MONITORING

The Department of Environment (DOE) has been monitoring the marine water quality since 1978 in Peninsular Malaysia and 1985 in Sabah and Sarawak with the objectives to establish the marine water quality status and to determine the pollution level from land-based and the sea based sources. These sources may pose threats to the marine resources and can disrupt the stability and diversity of the marine ecosystem.

In 2017, a total of 188 coastal, 88 estuary and 95 island stations were monitored. 752 samples from coastal, 352 samples from estuary and 380 samples from island were collected for analysis and reported based on the Marine Water Quality Index (MWQI).

The MWQI is used as a method to determine the marine water quality status and its category. The Index was developed based on the 7 main parameters which are Dissolved Oxygen (DO), Nitrate (NO_3), Phosphate (PO_4), Unionized Ammonia (NH_3), Faecal Coliform, Oil and Grease (O&G) and Total Suspended Solids (TSS).

*The resulting MWQI with a scale between 0 to 100 will determine the category of the marine water quality, ranging from "**Excellent**" to "**Poor**" (Table 4.1).*

Jadual 4.1: Klasifikasi Indeks Kualiti Air Marin
Table 4.1: Marine Water Quality Index Classification

KATEGORI / CATEGORY	NILAI INDEKS / INDEX VALUE
Terbaik / Excellent	90 -100
Baik / Good	80 - <90
Sederhana / Moderate	50 - <80
Tercemar / Poor	0 - <50

Jadual 4.2: Standard dan Kriteria Kualiti Air Marin Malaysia
 Table 4.2: Malaysia Marine Water Quality Criteria and Standards

PARAMETER/ PARAMETER	KELAS 1/ CLASS 1	KELAS 2/ CLASS 2	KELAS 3/ CLASS 3	KELAS E/ CLASS E
Kegunaan/ Uses	Pemeliharaan, Kawasan Dilindungi, Taman Laut/ <i>Preservation, Marine Protected areas, Marine Parks</i>	Kehidupan Laut, Perikanan, Terumbu Karang, Rekreasi dan Marikultur/ <i>Marine Life, Fisheries, Coral Reefs, Recreational and Mariculture</i>	Pelabuhan, Lapangan Minyak dan Gas/ <i>Ports, Oil & Gas Fields</i>	Paya Bakau & Muara Sungai/ <i>Mangroves Estuarine & River-mouth Water</i>
Suhu (°C)/ Temperature (°C)	≤ 2°C peningkatan terhadap ambien maksimum ≤ 2°C increase over maximum ambient	≤ 2°C peningkatan terhadap ambien maksimum ≤ 2°C increase over maximum ambient	≤ 2°C peningkatan terhadap ambien maksimum ≤ 2°C increase over maximum ambient	≤ 2°C peningkatan terhadap ambien maksimum ≤ 2°C increase over maximum ambient
Oksigen Terlarut (mg/L)/ Dissolved Oxygen (mg/L)	>80% tepu >80% saturation	5	3	4
Jumlah Pepejal Terampai* (mg/L)/ Total suspended solid (mg/L)	25 mg/L atau ≤ 10% peningkatan dalam purata bermusim, yang mana lebih rendah/ 25 mg/L or ≤ 10% increase in seasonal average, whichever is lower	50mg/L (25 mg/L) atau ≤ 10% peningkatan dalam purata bermusim, yang mana lebih rendah/ 50mg/L (25 mg/L) or ≤ 10% increase in seasonal average, whichever is lower	100 mg/L atau ≤ 10% peningkatan dalam purata bermusim, yang mana lebih rendah/ 100 mg/L or ≤ 10% increase in seasonal average, whichever is lower	100 mg/L atau ≤ 30 % peningkatan dalam purata bermusim, yang mana lebih rendah/ 100 mg/L or ≤ 30 % increase in seasonal average, whichever is lower
Minyak dan Geris (mg/L)/ Oil and grease (mg/L)	0.01	0.14	5	0.14
Raksa* (µg/L)/ Mercury* (µg/L)	0.04	0.16 (0.04)	50	0.5
Kadmium* (µg/L)/ Cadmium* (µg/L)	0.5	2 (3)	10	2
Kromium (VI) (µg/L)/ Chromium (VI) (µg/L)	5	10	48	10
Kuprum (µg/L)/ Copper (µg/L)	1.3	2.9	10	2.9
Arsenik (III)* (µg/L)/ Arsenic (III)* (µg/L)	3	20(3)	50	20 (3)

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Kegunaan/ Uses	Pemeliharaan, Kawasan Dilindungi, Taman Laut/ <i>Preservation, Marine Protected areas, Marine Parks</i>	Kehidupan Laut, Perikanan, Terumbu Karang, Rekreasi dan Marikultur/ <i>Marine Life, Fisheries, Coral Reefs, Recreational and Mariculture</i>	Pelabuhan, Lapangan Minyak dan Gas/ <i>Ports, Oil & Gas Fields</i>	Paya Bakau & Muara Sungai/ <i>Mangroves Estuarine & River-mouth Water</i>
Plumbum ($\mu\text{g/L}$)/ <i>Lead ($\mu\text{g/L}$)</i>	4.4	8.5	50	8.5
Zink ($\mu\text{g/L}$)/ <i>Zinc ($\mu\text{g/L}$)</i>	15	50	100	50
Sianida ($\mu\text{g/L}$)/ <i>Cyanide ($\mu\text{g/L}$)</i>	2	7	20	7
Ammonia (tidak terion) ($\mu\text{g/L}$)/ <i>Ammonia (unionized) ($\mu\text{g/L}$)</i>	35	70	320	70
Nitrit (NO_2) ($\mu\text{g/L}$)/ <i>Nitrite (NO_2) ($\mu\text{g/L}$)</i>	10	55	1,000	55
Nitrat (NO_3) ($\mu\text{g/L}$)/ <i>Nitrate (NO_3) ($\mu\text{g/L}$)</i>	10	60	1,000	60
Fosfat ($\mu\text{g/L}$)/ <i>Phosphate ($\mu\text{g/L}$)</i>	5	75	670	75
Fenol ($\mu\text{g/L}$)/ <i>Phenol ($\mu\text{g/L}$)</i>	1	10	100	10
Tributyltin (TBT) ($\mu\text{g/L}$)	0.001	0.01	0.05	0.01
Faecal coliform	70 faecal coliform count/100mL	100 faecal coliform count/100mL & (70 faecal coliform count/100mL)	200 faecal coliform count/100mL	100 faecal coliform count/100mL & (70 faecal coliform count/100mL)
Polycyclic Aromatic Hydrocarbon (PAHs) $\mu\text{g/L}$	100	200	1000	1000

Nota: * Nilai SKKAM dalam kurungan digunakan untuk kawasan air marin yang menjadi sumber makanan laut

Note: * MWQCS in parentheses are for coastal and marine water areas where seafood for human consumption is applicable

STATUS KUALITI AIR MARIN PANTAI

Pada tahun 2017, sebanyak 188 stesen pantai telah dipantau dan dianalisis serta dilaporkan dalam Indeks Kualiti Air Marin. Hasil pengawasan menunjukkan 60 stesen (31.9%) dikategorikan sebagai **Terbaik**, 56 stesen (29.8%) sebagai **Baik**, 70 stesen (37.2%) sebagai **Sederhana** dan 2 stesen (1.1%) sebagai **Tercedmar**. (Jadual 4.3).

COASTAL WATER QUALITY STATUS

*In 2017, a total of 188 coastal stations were monitored, analysed and reported in terms of the Marine Water Quality Index. The monitoring results indicated that 60 stations (31.9%) as **Excellent**, 56 stations (29.8%) as **Good**, 70 stations (37.2%) as **Moderate** and 2 stations (1.1%) as **Poor**. (Table 4.3).*

Jadual 4.3 Malaysia: Status Kualiti Air Marin Kawasan Pantai
Table 4.3 Malaysia: Marine Water Quality Status for Coastal

NEGERI / STATE	KLASIFIKASI STESEN / STATION CLASSIFICATION	KAWASAN / AREA	NOMBOR STESEN LAMA / OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM / MWQI VALUE					KATEGORI (2017) / CATEGORY (2017)
					2013	2014	2015	2016	2017	
Kedah	Pantai/ Coastal	Pantai Merdeka	5603905	MMKC001	59.92	65.63	68.57	76.30	79.04	Sederhana/ Moderate
		Langkawi Island Resort	6399914	MMKC002	60.61	80.51	71.44	66.09	90.51	Terbaik/ Excellent
		Pantai Kok	6397922	MMKC003	69.04	82.15	72.23	66.59	83.69	Baik/Good
		Pantai Kuah	6398925	MMKC004	62.02	80.37	71.05	71.01	91.54	Terbaik/ Excellent
		Pantai Pasir Tengkorak	6499701	MMKC005	84.28	82.05	85.47	68.89	93.10	Terbaik/ Excellent
		Pantai Teluk Burau	6396923	MMKC006	81.59	88.36	70.95	64.55	85.55	Baik/Good
		Pantai Teluk Nibong	6497915	MMKC007	74.92	79.68	74.75	63.19	91.78	Terbaik/ Excellent
		Pantai Tengah	6297903	MMKC008	69.04	70.21	68.06	60.04	87.80	Baik/Good
		Pantai Beras Basah*	NA	MMKC009	-	-	-	-	93.92	Terbaik/ Excellent
Pulau Pinang	Pantai/ Coastal	Gertak Sanggul	5201919	MMPC001	56.60	55.64	53.11	53.91	71.21	Sederhana/ Moderate
		Kawasan Perindustrian Bayan Lepas 1	5303932	MMPC002	50.26	55.34	-	-	67.05	Sederhana/ Moderate
		Kawasan Perindustrian Bayan Lepas 2**	5303933	NA	51.17	54.71	-	-	-	Stesen tutup/ Station closed
		Kawasan Perindustrian Bayan Lepas 3**	5302939	NA	49.12	54.46	53.88	50.05	-	Stesen tutup/ Station closed
		Pantai Bersih	5403906	MMPC003	61.81	61.22	52.63	76.02	50.80	Sederhana/ Moderate
		Pantai Miami	5502901	MMPC004	50.22	65.47	69.18	61.60	68.12	Sederhana/ Moderate
		Pantai Pasir Panjang	5201938	MMPC005	58.66	66.81	70.46	63.77	86.17	Baik/Good
		Batu Feringgi (Casuarina)	5402904	MMPC006	53.81	69.22	66.07	79.68	67.86	Sederhana/ Moderate
		Luar Pantai Teluk Bahang	5402930	MMPC007	74.79	66.54	65.36	88.10	85.28	Baik/Good
		Persiaran Gurney	5403902	MMPC008	51.75	66.86	48.03	83.66	63.00	Sederhana/ Moderate

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NEGERI / STATE	KLASIFIKASI STESEN / STATION CLASSIFICATION	KAWASAN / AREA	NOMBOR STESEN LAMA / OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM / MWQI VALUE					KATEGORI (2017) / CATEGORY (2017)
					2013	2014	2015	2016	2017	
Pulau Pinang	Pantai/ Coastal	Rumah Pam Baru Perai	5304927	MMPC009	50.53	55.45	52.80	66.44	59.80	Sederhana/ Moderate
		Rumah Pam Lama Perai	5303926	MMPC010	51.02	59.73	55.26	61.75	64.91	Sederhana/ Moderate
		Selat PP Selatan (Jelutong)	5303911	MMPC011	60.52	51.73	49.68	60.39	49.33	Tercemar/ Poor
		Tanjung Bungah	5402937	MMPC012	51.91	67.36	61.82	83.73	84.84	Baik/Good
		Teluk Tempoyak	5202923	MMPC013	57.00	61.87	52.55	51.15	61.99	Sederhana/ Moderate
		Batu Maung	5202901	MMPC014	72.34	57.26	52.83	46.69	59.39	Sederhana/ Moderate
Perak	Pantai/ Coastal	Pantai Pasir Bogak	4205908	MMAC001	51.75	80.41	55.97	58.61	91.20	Terbaik/ Excellent
		Pantai Teluk Dalam	4205928	MMAC002	65.64	70.01	54.45	75.24	91.52	Terbaik/ Excellent
		Pantai Teluk Batik	4205932	MMAC003	63.86	71.11	73.00	51.24	89.77	Baik/Good
		Pantai Tanjung Batu	4406927	MMAC004	56.32	84.07	69.34	53.16	92.86	Terbaik/ Excellent
		Pantai Teluk Rubiah*	NA	MMAC005	-	-	-	-	93.00	Terbaik/ Excellent
		Pantai Damai Laut*	NA	MMAC006	-	-	-	-	91.49	Terbaik/ Excellent
		Pantai Teluk Senangin*	NA	MMAC007	-	-	-	-	92.82	Terbaik/ Excellent
		Pantai Pasir Panjang	4205924	MMAC008	64.09	85.58	51.97	52.02	93.57	Terbaik/ Excellent
Selangor	Pantai/Coastal	Pantai Bagan Lalang	2616927	MMBC001	86.08	85.49	89.27	90.62	92.68	Terbaik/ Excellent
		Pantai Morib	2712902	MMBC002	53.76	87.97	70.10	62.47	89.80	Baik/Good
		Selat Pulau Babi	3012929	MMBC003	65.21	93.51	87.15	75.42	72.81	Sederhana/ Moderate
		Selat Klang Utara	3013908	MMBC004	64.28	94.96	68.11	78.09	64.95	Sederhana/ Moderate
		Pantai Remis*	NA	MMBC005	-	-	-	-	67.30	Sederhana/ Moderate
		Pantai Klanang*	NA	MMBC006	-	-	-	-	91.39	Terbaik/ Excellent
Negeri Sembilan	Pantai/Coastal	Bagan Pinang	2518915	MMNC001	67.90	92.75	87.97	97.65	68.29	Sederhana/ Moderate
		Telok Sinting	2419908	MMNC002	72.29	88.84	90.65	97.53	87.24	Baik/Good
		Port Dickson Bandar	2517907	MMNC003	75.97	70.39	84.10	97.95	68.68	Sederhana/ Moderate
		Port Dickson Batu 4	2518937	MMNC004	68.60	93.92	91.61	97.91	67.96	Sederhana/ Moderate
		Port Dickson Batu 5	2418906	MMNC005	68.41	67.31	88.16	97.82	79.69	Sederhana/ Moderate
		Port Dickson Batu 6	2418916	MMNC006	73.31	81.68	88.80	97.93	68.19	Sederhana/ Moderate

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					2013	2014	2015	2016	2017	
Negeri Sembilan	Pantai/Coastal	Port Dickson Batu 7	2418905	MMNC007	71.36	90.13	86.85	97.94	67.91	Sederhana/Moderate
		Port Dickson Batu 8	2418912	MMNC008	94.06	93.86	77.94	97.95	75.82	Sederhana/Moderate
		Port Dickson Batu 10	2418914	MMNC009	94.40	90.10	93.11	97.91	68.64	Sederhana/Moderate
		Port Dickson Janakuasa TNB	2517909	MMNC010	74.92	91.99	79.48	97.91	68.02	Sederhana/Moderate
		Telok Pelanduk	2419917	MMNC011	91.62	91.50	93.60	97.86	81.03	Baik/Good
		Pantai Cermin	2416918	MMNC012	92.36	88.47	89.62	97.79	68.11	Sederhana/Moderate
		Pantai Teluk Kemang*	NA	MMNC013	-	-	-	-	68.50	Sederhana/Moderate
		Pantai Seri Purnama*	NA	MMNC014	-	-	-	-	85.39	Baik/Good
Melaka	Pantai/Coastal	Pantai Rombang	2221916	MMMC001	45.21	55.15	58.84	68.99	85.13	Baik/Good
		Pantai Kundur	2221908	MMMC002	46.15	55.51	55.38	57.84	84.20	Baik/Good
		Pantai Tanjung Bidara	2320909	MMMC003	44.08	52.04	53.50	57.91	82.07	Baik/Good
		Teluk Gong	2320902	MMMC004	45.18	51.58	55.56	57.93	88.35	Baik/Good
		Pulau Melaka Point A1	2121915	MMMC005	42.39	-	78.57	72.98	64.69	Sederhana/Moderate
		Pulau Melaka Point A2	2121915	MMMC006	40.67	-	-	-	72.65	Sederhana/Moderate
		Pulau Melaka Point B1	2121916	MMMC007	41.95	-	84.38	63.91	63.42	Sederhana/Moderate
		Pulau Melaka Point B2	2121916	MMMC008	42.32	-	-	-	66.54	Sederhana/Moderate
		Pantai Klebang*	NA	MMMC009	-	-	-	-	67.73	Sederhana/Moderate
Johor	Pantai/Coastal	Tanjung Bin	1336975	MMJC001	88.26	90.21	90.25	84.91	92.25	Terbaik/Excellent
		Pelabuhan Tanjung Pelepas	1438943	MMJC002	85.67	85.79	89.61	85.92	90.15	Terbaik/Excellent
		Hadapan Jabatan Laut	1438918	MMJC003	78.90	87.11	62.51	84.09	80.94	Baik/Good
		Pantai Stulang Laut	1437951	MMJC004	61.19	61.00	58.56	76.01	61.90	Sederhana/Moderate
		Jeti Teluk Jawa	1438918	MMJC005	65.03	84.28	64.59	53.12	62.01	Sederhana/Moderate
		Pelabuhan Pasir Gudang	1428939	MMJC006	63.94	64.62	75.37	75.61	64.46	Sederhana/Moderate
		Hadapan HSAJB	1437920	MMJC007	63.48	55.74	64.08	44.36	59.09	Sederhana/Moderate
		Pantai Lido	1437921	MMJC008	64.32	63.25	59.16	66.36	55.01	Sederhana/Moderate
		Pantai Teluk Mahkota	1841911	MMJC009	82.96	85.51	85.58	89.13	92.22	Terbaik/Excellent

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					2013	2014	2015	2016	2017	
Johor	Pantai/Coastal	Pantai Tanjung Leman	2140694	MMJC010	83.06	87.85	88.85	88.87	94.20	Terbaik/Excellent
		Pantai Sri Pantai	2339960	MMJC011	59.57	87.81	87.93	88.88	94.21	Terbaik/Excellent
		Tanjung Merak	1441968	MMJC012	49.56	61.98	73.30	89.54	93.47	Terbaik/Excellent
		Tanjung Pengelih	1441967	MMJC013	76.20	85.38	88.54	88.20	93.96	Terbaik/Excellent
		Pantai Tanjong Stapa	1341961	MMJC014	57.47	57.22	88.08	89.76	93.88	Terbaik/Excellent
		Pantai Teluk Gorek	2538958	MMJC015	60.72	79.89	89.11	88.61	93.45	Terbaik/Excellent
		Pantai Air Papan	2538959	MMJC016	79.08	86.86	89.75	89.22	93.85	Terbaik/Excellent
		Jeti Kukup	1334925	MMJC017	58.52	64.52	62.22	87.52	88.60	Baik/Good
		Pasir Gogok	1441966	MMJC018	71.97	79.73	89.48	90.36	94.04	Terbaik/Excellent
		Tanjung Buai	1340973	MMJC019	60.45	89.89	88.39	80.37	92.09	Terbaik/Excellent
		Pantai Desaru	1542914	MMJC020	82.91	71.54	65.60	89.51	94.17	Terbaik/Excellent
		Tanjung Sepang	1443969	MMJC021	81.78	83.51	64.57	87.30	94.16	Terbaik/Excellent
		Tanjung Penyusup	1444920	MMJC022	82.02	77.08	62.72	86.43	92.46	Terbaik/Excellent
		Pantai Sungai Lurus	1730962	MMJC023	64.81	86.68	64.68	89.10	90.64	Terbaik/Excellent
		Punggur	1531974	MMJC024	49.47	52.74	87.55	88.36	84.61	Baik/Good
		Pantai Penyabung*	NA	MMJC025	-	-	-	-	93.92	Terbaik/Excellent
		Tanjung Resang*	NA	MMJC026	-	-	-	-	94.41	Terbaik/Excellent
		Tanjung Balau*	NA	MMJC027	-	-	-	-	93.86	Terbaik/Excellent
		Batu Layar*	NA	MMJC028	-	-	-	-	93.86	Terbaik/Excellent
Tanjung Sengat*	NA	MMJC029	-	-	-	-	92.57	Terbaik/Excellent		
Pahang	Pantai/Coastal	Pantai Cherating (Club Med A)	4133903 (A)	MMCC001	73.92	91.11	85.03	60.09	92.11	Terbaik/Excellent
		Pantai Cherating (Club Med B)	4133903 (B)	MMCC002	73.83	94.11	85.22	61.61	93.60	Terbaik/Excellent
		Pantai Cherating (Legend A)	4133942 (A)	MMCC003	73.76	67.36	87.51	81.62	92.61	Terbaik/Excellent
		Pantai Cherating (Legend B)	4133942 (B)	MMCC004	73.96	92.74	87.95	61.87	89.74	Baik/Good
		Pantai Muhibbah Balok A	3933901 (A)	MMCC005	72.82	87.45	77.60	58.94	68.10	Sederhana/Moderate

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					2013	2014	2015	2016	2017	
Pahang	Pantai/Coastal	Pantai Muhibbah Balok B	3933901 (B)	MMCC006	71.03	86.44	75.96	59.70	65.04	Sederhana/ Moderate
		Pantai Batu Hitam A	3833915 (A)	MMCC007	73.09	93.94	85.10	62.06	68.56	Sederhana/ Moderate
		Pantai Batu Hitam B	3833915 (B)	MMCC008	73.87	91.21	87.43	56.89	81.00	Baik/Good
		Pantai Berserah A	3933941 (A)	MMCC009	73.62	93.92	90.27	65.05	80.33	Baik/Good
		Pantai Berserah B	3933941 (B)	MMCC010	73.84	71.49	78.41	63.68	67.80	Sederhana/ Moderate
		Pantai Teluk Cempedak A	3833910 (A)	MMCC011	73.96	93.36	78.44	59.21	67.63	Sederhana/ Moderate
		Pantai Teluk Cempedak B	3833910 (B)	MMCC012	73.89	94.29	67.43	59.02	88.17	Baik/Good
		Pantai Teluk Gelora A	3833909 (A)	MMCC013	55.80	71.47	62.30	64.01	67.65	Sederhana/ Moderate
		Pantai Teluk Gelora B	3833909 (B)	MMCC014	61.48	78.43	64.60	59.26	66.33	Sederhana/ Moderate
		Pantai Sepat A	3737915	MMCC015	73.52	93.66	62.05	88.46	91.76	Terbaik/ Excellent
		Pantai Sepat B	3633916	MMCC016	73.89	94.29	85.58	80.21	91.74	Terbaik/ Excellent
		Pantai Legenda A	3534943 (A)	MMCC017	73.62	94.25	82.83	85.48	93.97	Terbaik/ Excellent
		Pantai Legenda B	3534943 (B)	MMCC018	73.62	94.20	64.31	79.76	94.00	Terbaik/ Excellent
		Pantai Kuala Api-Api	3235917	MMCC019	72.90	93.21	66.17	79.71	90.68	Terbaik/ Excellent
		Pantai Tanjung Batu	3334915	MMCC020	72.65	93.03	83.32	79.29	90.23	Terbaik/ Excellent
		Pantai Chendor*	NA	MMCC021	-	-	-	-	86.73	Baik/Good
		Pantai Lanjut*	NA	MMCC022	-	-	-	-	93.87	Terbaik/ Excellent
Terengganu	Pantai/Coastal	Pantai Batu Buruk	5331935	MMTC001	66.87	66.63	58.57	78.18	94.43	Terbaik/ Excellent
		Pantai Bukit Keluang	5825903	MMTC002	63.44	69.87	52.50	64.21	94.14	Terbaik/ Excellent
		Pantai Chendering	5231934	MMTC003	66.03	69.84	53.93	61.90	89.64	Baik/Good
		Pantai Rantau Abang	4833917	MMTC004	68.06	70.35	60.72	61.70	90.20	Terbaik/ Excellent
		KIPC Utara	4634954	MMTC005	65.02	62.22	62.63	74.41	91.53	Terbaik/ Excellent
		KIPC Tengah	4534955	MMTC006	64.23	63.60	73.57	77.28	89.32	Baik/Good
		KIPC Selatan	4534956	MMTC007	69.81	66.53	75.99	74.86	89.73	Baik/Good
		Pantai Rhu 10*	NA	MMTC008	-	-	-	-	94.35	Terbaik/ Excellent
		Pantai Tok Jembal*	NA	MMTC009	-	-	-	-	94.19	Terbaik/ Excellent

Jadual 4.3 Malaysia: Status Kualiti Air Marin Kawasan Pantai
 Table 4.3 Malaysia: Marine Water Quality Status for Coastal

NEGERI / STATE	KLASIFIKASI STESEN / STATION CLASSIFICATION	KAWASAN / AREA	NOMBOR STESEN LAMA / OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM / MWQI VALUE					KATEGORI (2017) / CATEGORY (2017)
					2013	2014	2015	2016	2017	
Terengganu	Pantai/Coastal	Pantai Kelului*	NA	MMTC010	-	-	-	-	94.09	Terbaik/Excellent
		Pantai Teluk Ketapang*	NA	MMTC011	-	-	-	-	94.36	Terbaik/Excellent
		Pantai Kuala Abang*	NA	MMTC012	-	-	-	-	94.18	Terbaik/Excellent
		Pantai Teluk Kalong*	NA	MMTC013	-	-	-	-	94.43	Terbaik/Excellent
		Pantai Sura*	NA	MMTC014	-	-	-	-	94.23	Terbaik/Excellent
		Pantai Tanjung Bidara*	NA	MMTC015	-	-	-	-	94.13	Terbaik/Excellent
		Pantai Kemasik*	NA	MMTC016	-	-	-	-	93.96	Terbaik/Excellent
Kelantan	Pantai/Coastal	Pantai Seri Tujuh	6221910	MMDC001	66.22	71.10	63.01	66.23	88.59	Baik/Good
		Pantai Cahaya Bulan	6122903	MMDC002	66.00	74.47	61.56	78.02	87.27	Baik/Good
		Pantai Sabak	6123909	MMDC003	58.87	72.13	61.66	66.66	81.71	Baik/Good
		Pantai Irama Bachok	6024908	MMDC004	56.77	69.29	62.24	66.25	86.72	Baik/Good
		Pantai Bisikan Bayu	5825905	MMDC005	50.28	67.44	64.01	66.69	89.28	Baik/Good
		Pantai Melawi*	NA	MMDC006	-	-	-	-	93.91	Terbaik/Excellent
Sarawak	Pantai/Coastal	Pantai Sematan	1898902	MMQC001	59.58	91.47	76.37	74.39	88.38	Baik/Good
		Pantai Pandan	1824918	MMQC002	57.94	94.47	87.00	75.63	87.29	Baik/Good
		Pantai Pasir Putih	1604910	MMQC003	44.04	67.36	67.73	88.80	80.70	Baik/Good
		Pantai Bako	1704906	MMQC004	69.65	94.29	88.54	74.23	88.23	Baik/Good
		Pantai Damai	1702904	MMQC005	58.34	91.29	76.13	89.00	86.35	Baik/Good
		Pantai Tanjung Kembang	1810923	MMQC006	69.32	73.99	87.39	85.32	69.40	Sederhana/Moderate
		Pantai Harmoni Mukah	2920921	MMQC007	53.42	53.87	54.68	85.54	72.22	Sederhana/Moderate
		Pantai Tanjung Batu	3132602	MMQC008	62.49	70.29	67.28	82.07	84.93	Baik/Good
		Pantai Likau	3230915	MMQC009	51.99	63.19	89.02	79.00	85.38	Baik/Good
		Pantai Emas	3331903	MMQC010	63.45	63.77	88.93	90.88	87.54	Baik/Good
		Pantai Piasau	4539918	MMQC011	54.53	88.55	82.17	68.65	86.75	Baik/Good
		Pantai Brighton	4449917	MMQC012	54.84	91.43	94.00	68.01	81.72	Baik/Good
		Pantai Esplaned	4339920	MMQC013	54.97	89.63	97.11	68.31	86.60	Baik/Good
		Pantai Beraya	4238921	MMQC014	70.12	89.42	97.32	68.08	87.88	Baik/Good

Jadual 4.3 Malaysia: Status Kualiti Air Marin Kawasan Pantai
 Table 4.3 Malaysia: Marine Water Quality Status for Coastal

NEGERI / STATE	KLASIFIKASI STESEN / STATION CLASSIFICATION	KAWASAN / AREA	NOMBOR STESEN LAMA / OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM / MWQI VALUE					KATEGORI (2017) / CATEGORY (2017)
					2013	2014	2015	2016	2017	
Sarawak	Pantai/Coastal	Pantai Bungai	4137922	MMQC015	53.41	91.11	82.96	94.62	88.37	Baik/Good
		Pantai Belawai	2212913	MMQC016	76.91	65.92	83.80	73.02	84.97	Baik/Good
		Pantai Mukah*	NA	MMQC017	-	-	-	-	84.59	Baik/Good
		Tanjung Kidurong*	NA	MMQC018	-	-	-	-	85.41	Baik/Good
		Pasir Pandak*	NA	MMQC019	-	-	-	-	86.99	Baik/Good
		Rambungan*	NA	MMQC020	-	-	-	-	89.13	Baik/Good
		Sri Tanjung Lawas*	NA	MMQC021	-	-	-	-	92.56	Terbaik/Excellent
		Pantai Luak*	NA	MMQC022	-	-	-	-	88.30	Baik/Good
		Pasir Panjang*	NA	MMQC023	-	-	-	-	87.14	Baik/Good
Sabah	Pantai/Coastal	Pantai Teluk Brunei 1	5053901	MMSC001	71.27	80.05	82.27	66.57	70.24	Sederhana/Moderate
		Pantai Teluk Brunei 2	5053902	MMSC002	70.87	79.10	83.66	59.43	65.45	Sederhana/Moderate
		Pantai Teluk Brunei 3	5053903	MMSC003	69.26	73.19	85.93	67.49	65.95	Sederhana/Moderate
		Pantai Teluk Brunei 4	5053904	MMSC004	73.17	75.80	86.68	66.44	69.83	Sederhana/Moderate
		Pantai Teluk Brunei 5	5053905	MMSC005	73.94	71.05	85.90	65.83	69.58	Sederhana/Moderate
		Pantai Teluk Brunei 6	5053906	MMSC006	74.56	80.37	83.74	67.28	70.41	Sederhana/Moderate
		Borneo Golf Seawater	5355901	MMSC007	79.01	80.38	79.00	68.17	68.42	Sederhana/Moderate
		Pantai Manis Papar	5555901	MMSC008	81.64	81.01	83.86	66.82	69.47	Sederhana/Moderate
		Pantai Melinsung	5565902	MMSC009	78.52	77.45	83.08	67.71	73.23	Sederhana/Moderate
		Pantai Tanjung Aru (Roll Skating)	5656902	MMSC010	76.46	70.13	67.09	63.82	86.27	Baik/Good
		Pantai Tanjung Aru (No. 3)	5656903	MMSC011	65.33	67.59	66.39	67.11	82.97	Baik/Good
		Pantai Lok Kawi	5656904	MMSC012	67.48	59.14	69.30	62.71	85.57	Baik/Good
		Pantai Dalit Tuaran	6161901	MMSC013	70.89	85.15	70.73	64.08	74.07	Sederhana/Moderate
		Mangrove Paradise	6161902	MMSC014	77.51	86.21	67.12	68.23	86.68	Baik/Good
		Pantai Sabandar	6161903	MMSC015	72.57	83.07	68.84	67.87	71.41	Sederhana/Moderate
		Pantai Bak-Bak Kudat	6665901	MMSC016	81.06	85.11	65.47	63.48	70.55	Sederhana/Moderate
		Pasir Putih Sandakan	5580901	MMSC017	73.89	83.49	84.12	67.92	66.71	Sederhana/Moderate
		Pantai TLDM	5580902	MMSC018	75.20	81.66	87.84	69.45	69.50	Sederhana/Moderate

Jadual 4.3 Malaysia: Status Kualiti Air Marin Kawasan Pantai
 Table 4.3 Malaysia: Marine Water Quality Status for Coastal

NEGERI / STATE	KLASIFIKASI STESEN / STATION CLASSIFICATION	KAWASAN / AREA	NOMBOR STESEN LAMA / OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM / MWQI VALUE					KATEGORI (2017) / CATEGORY (2017)
					2013	2014	2015	2016	2017	
Sabah	Pantai/Coastal	Pantai Batu Sapi	5580903	MMSC019	74.90	83.05	84.66	67.58	51.55	Sederhana/Moderate
		Pantai Ulu Tungku	5085901	MMSC020	72.82	83.94	84.70	68.32	69.98	Sederhana/Moderate
		Pantai Sarina Kunak	4481901	MMSC021	72.77	83.69	82.82	69.83	68.64	Sederhana/Moderate
		Pantai Kg. Lamak	4581902	MMSC022	71.67	-	82.64	67.95	49.35	Tercemar/Poor
		Pantai Tinagat	4473901	MMSC023	74.51	83.50	82.05	69.28	70.68	Sederhana/Moderate
		Pantai Tanjung Aru (Rest Lido)	5656901	MMSC024	77.54	82.39	68.15	68.12	86.72	Baik/Good
Labuan	Pantai/Coastal	Pulau Papan	5151905	MMLC001	65.92	51.08	76.37	75.30	73.85	Sederhana/Moderate
		Kiamsam	5151906	MMLC002	61.69	67.74	77.30	76.16	73.74	Sederhana/Moderate
		Sungai Pagar	5151907	MMLC003	63.05	79.75	77.91	78.88	71.99	Sederhana/Moderate
		Layang-Layangan	5251902	MMLC004	62.22	79.49	76.44	77.98	73.04	Sederhana/Moderate
		Tanjung Aru	5251903	MMLC005	66.59	75.93	78.49	72.34	73.12	Sederhana/Moderate

Nota/ Note:

* (Stesen baharu/ New station)

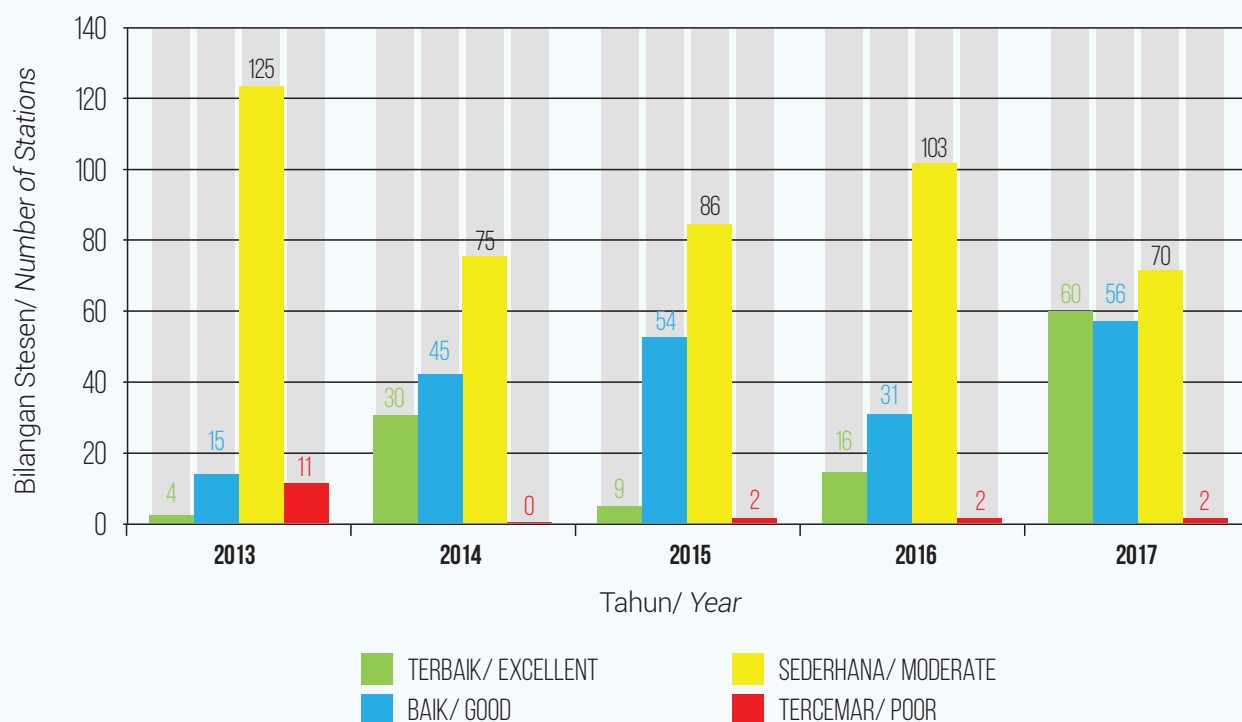
** (Stesen tutup/ Station closed)

- (Tiada data/ No data)

NA (Tidak berkenaan/ Not applicable)

Tren Indeks Kualiti Air Marin (IKAM) mulai tahun 2013 hingga 2017 adalah seperti yang ditunjukkan dalam **Rajah 4.1**. Berdasarkan **Rajah 4.1**, didapati bilangan stesen kategori **Terbaik** dan **Baik** meningkat manakala bilangan stesen kategori **Sederhana** menurun berbanding tahun 2016. Bilangan stesen kategori **Tercemar** pula didapati tidak berubah sejak tahun 2015

*The trend in terms of Marine Water Quality Index (MWQI) from 2013 to 2017 is shown in **Figure 4.1**. Based on **Figure 4.1**, the number of **Excellent** and **Good** stations had increased while the number of **Moderate** stations had declined compared to 2016. The number of **Poor** stations has remained unchanged since 2015*



Rajah 4.1 Malaysia: Tren Status Kualiti Air Marin Kawasan Pantai Di Malaysia, 2013-2017
 Figure 4.1 Malaysia: The trend of Marine Water Status for Coastal Area in Malaysia, 2013-2017

STATUS KUALITI AIR KUALA

Pada tahun 2017, sebanyak 88 stesen Kuala telah dipantau dan dianalisis serta dilaporkan sebagai Indeks Kualiti Air Marin. Hasil program pengawasan yang telah dijalankan menunjukkan 15 stesen (17.1%) dikategorikan sebagai **Terbaik**, 23 stesen (26.1%) sebagai **Baik**, 47 stesen (53.4%) sebagai **Sederhana** dan 3 stesen (3.4%) sebagai **Tercemar**. (Jadual 4.4)

COASTAL WATER QUALITY STATUS

In 2017, a total of 188 coastal stations were monitored, analysed and reported in terms of the Marine Water Quality Index. The monitoring results indicated that 60 stations (31.9%) as **Excellent**, 56 stations (29.8%) as **Good**, 70 stations (37.2%) as **Moderate** and 2 stations (1.1%) as **Poor**. (Table 4.3).

Jadual 4.4 Malaysia: Status Kualiti Air Marin Di Kawasan Kuala
 Table 4.4 Malaysia: Marine Water Quality Status for Estuary

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	NOMBOR STESEN LAMA/ OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Perlis	Kuala/Estuary	Kuala Sungai Perlis	6401901	MMRE001	48.76	59.25	53.96	61.90	64.53	Sederhana/ Moderate
		Kuala Sungai Baru	6201902	MMRE002	55.87	76.48	56.12	60.52	64.02	Sederhana/ Moderate
Kedah	Kuala/Estuary	Kuala Kedah	6102908	MMKE001	84.21	53.46	50.46	77.55	62.41	Sederhana/ Moderate
		Kuala Jerlun	6302925	MMKE002	74.29	65.21	59.02	75.28	62.09	Sederhana/ Moderate
		Kuala Segantang Garam*	NA	MMKE003	-	-	-	-	83.78	Baik/Good
		Kuala Sungai Muda*	NA	MMKE004	-	-	-	-	64.39	Sederhana/ Moderate

Jadual 4.4 Malaysia: Status Kualiti Air Marin Di Kawasan Kuala
 Table 4.4 Malaysia: Marine Water Quality Status for Estuary

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	NOMBOR STESEN LAMA/ OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Pulau Pinang	Kuala/Estuary	Kuala Sungai Jawi	5204901	MMPE001	50.49	58.35	49.63	45.56	49.29	Tercemar/ Poor
		Kuala Sungai Juru	5303904	MMPE002	49.72	63.62	59.40	70.61	49.79	Tercemar/ Poor
		Kuala Sungai Kerian	5104901	MMPE003	80.43	61.57	60.38	34.21	56.46	Sederhana/ Moderate
		Kuala Sungai Pinang	5403934	MMPE004	50.97	50.66	47.28	58.39	52.23	Sederhana/ Moderate
		Kuala Sungai Perai	5303908	MMPE005	61.88	53.06	56.22	64.89	52.61	Sederhana/ Moderate
		Kuala Sungai Tengah	5204935	MMPE006	63.34	60.95	67.81	65.19	58.88	Sederhana/ Moderate
		Kuala Sungai Pinang (Balik Pulau)	5202929	MMPE007	37.63	67.78	46.17	60.11	55.53	Sederhana/ Moderate
Perak	Kuala/Estuary	Kuala Sungai Manjung	4205930	MMAE001	60.32	70.13	67.56	78.96	88.70	Baik/Good
		Kuala Sungai Gula	4906926	MMAE002	50.92	68.90	60.95	67.43	82.03	Baik/Good
		Kuala Sungai Kurau	4994919	MMAE003	67.63	56.98	73.47	59.70	61.99	Sederhana/ Moderate
		Kuala Sungai Tanjung Piandang	5003921	MMAE004	52.25	75.74	73.57	57.25	59.37	Sederhana/ Moderate
		Kuala Sungai Sepetang	4806925	MMAE005	32.33	53.51	66.87	56.64	60.85	Sederhana/ Moderate
		Kuala Sungai Perak	4007901	MMAE006	66.08	62.01	70.96	64.94	61.25	Sederhana/ Moderate
Selangor	Kuala/Estuary	Kuala Sungai Sepang	2517922	MMBE001	88.35	71.62	78.04	85.61	92.71	Terbaik/ Excellent
		Kuala Sungai Sepang (Kecil)	2612928	MMBE002	89.61	68.14	92.31	86.56	93.76	Terbaik/ Excellent
		Kuala Sungai Sepang (Kawalan)	2616926	MMBE003	72.81	81.15	86.88	92.35	93.70	Terbaik/ Excellent
		Kuala Sungai Langat (Jugra)	2814925	MMBE004	53.62	69.84	55.07	72.13	82.34	Baik/Good
		Kuala Sungai Klang	3013909	MMBE005	50.83	95.64	67.65	77.34	60.17	Sederhana/ Moderate
		Kuala Sungai Langat (Lumut)	2913903	MMBE006	61.85	93.71	67.50	81.83	60.78	Sederhana/ Moderate
		Kuala Sungai Buloh	3212930	MMBE007	53.82	64.43	66.90	67.08	64.84	Sederhana/ Moderate
		Kuala Sungai Selangor	3312915	MMBE008	51.01	90.87	90.85	74.56	85.03	Baik/Good
		Kuala Sungai Tengi	3311931	MMBE009	47.95	68.06	67.87	72.90	74.28	Sederhana/ Moderate
		Kuala Sungai Bernam	3808924	MMBE010	70.11	67.16	55.15	72.36	56.01	Sederhana/ Moderate
Negeri Sembilan	Kuala/Estuary	Kuala Sungai Linggi	2319901	MMNE001	75.46	93.77	81.80	97.51	75.53	Sederhana/ Moderate
		Kuala Sungai Lukut	2517910	MMNE002	66.78	91.78	68.28	97.91	66.35	Sederhana/ Moderate

Jadual 4.4 Malaysia: Status Kualiti Air Marin Di Kawasan Kuala
 Table 4.4 Malaysia: Marine Water Quality Status for Estuary

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	NOMBOR STESEN LAMA/ OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Melaka	Kuala/Estuary	Kuala Sungai Melaka	2123903	MMME001	35.12	59.64	55.61	56.59	63.85	Sederhana/ Moderate
		Kuala Sungai Sri Melaka	2121914	MMME002	34.00	59.55	52.71	53.65	57.60	Sederhana/ Moderate
		Kuala Sungai Merlimau	2124912	MMME003	35.41	62.57	86.19	71.71	81.07	Baik/Good
		Kuala Sungai Kesang	2186905	MMME004	45.29	68.74	77.06	70.53	83.36	Baik/Good
		Kuala Sungai Sebatu	2186904	MMME005	45.37	61.48	58.62	69.80	86.94	Baik/Good
		Kuala Sungai Melaka 2*	NA	MMME006	-	-	-	-	64.40	Sederhana/ Moderate
		Kuala Sungai Baru*	NA	MMME007	-	-	-	-	84.11	Baik/Good
		Kuala Sungai Lereh	2221922	MMME008	-	-	-	69.62	63.47	Sederhana/ Moderate
Johor	Kuala/Estuary	Kuala Sungai Melayu	1437946	MMJS001	63.73	75.12	66.06	58.46	63.97	Sederhana/ Moderate
		Kuala Sungai Skudai	1437922	MMJS002	60.73	58.88	57.37	65.17	40.94	Tercemar/ Poor
		Kuala Sungai Tebrau	1438943	MMJS003	59.46	61.58	59.96	56.08	62.20	Sederhana/ Moderate
		Kuala Sungai Segget	1437919	MMJE001	61.50	61.62	62.52	47.53	53.64	Sederhana/ Moderate
		Kuala Sungai Kim-Kim	1439965	MMJE002	66.47	64.21	87.73	82.87	61.83	Sederhana/ Moderate
		Kuala Sungai Johor	1440916	MMJE003	83.38	82.71	88.96	85.31	92.09	Terbaik/ Excellent
		Kuala Sungai Batu Pahat	1729930	MMJE004	59.89	51.23	84.41	87.17	90.20	Terbaik/ Excellent
		Kuala Sungai Muar	2024932	MMJE005	49.41	64.89	81.78	88.97	92.86	Terbaik/ Excellent
Pahang	Kuala/Estuary	Kuala Kuantan*	NA	MMCE001	-	-	-	-	66.77	Sederhana/ Moderate
		Kuala Rompin Kecil*	NA	MMCE002	-	-	-	-	89.04	Baik/Good
		Kuala Pahang*	NA	MMCE003	-	-	-	-	92.63	Terbaik/ Excellent
		Kuala Nenas*	NA	MMCE004	-	-	-	-	93.96	Terbaik/ Excellent
		Kuala Sungai Balok*	NA	MMCE005	-	-	-	-	65.56	Sederhana/ Moderate
Terengganu	Kuala/Estuary	Kuala Sungai Besut	5825902	MMTE001	61.30	70.72	64.29	63.08	73.75	Sederhana/ Moderate
		Kuala Sungai Dungun	4734918	MMTE002	49.72	54.17	55.45	53.39	65.42	Sederhana/ Moderate
		Kuala Sungai Ibai	5231949	MMTE003	51.26	70.65	63.70	61.82	90.03	Terbaik/ Excellent
		Kuala Sungai Kerteh	4534922	MMTE004	52.34	58.43	54.87	56.37	91.03	Terbaik/ Excellent
		Kuala Sungai Marang	5232911	MMTE005	70.04	67.68	63.99	72.47	90.14	Terbaik/ Excellent

Jadual 4.4 Malaysia: Status Kualiti Air Marin Di Kawasan Kuala
 Table 4.4 Malaysia: Marine Water Quality Status for Estuary

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	NOMBOR STESEN LAMA/ OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Terengganu	Kuala/Estuary	Kuala Sungai Paka	4634920	MMTE006	59.15	66.24	69.21	72.10	80.97	Baik/Good
		Kuala Sungai Setiu	5627953	MMTE007	61.10	70.04	62.71	75.28	92.97	Terbaik/Excellent
		Kuala Sungai Terengganu	5331907	MMTE008	63.64	57.95	72.33	55.93	66.78	Sederhana/Moderate
		Kuala Sungai Kemaman/Chukai	4234929	MMTE009	49.06	59.64	54.65	56.94	90.29	Terbaik/Excellent
		Tioxide Utara (Kg. Bukit Kuang, Kijal)	4234950	MMTE010	64.84	66.36	63.49	63.54	89.52	Baik/Good
		Tioxide Tengah (Pupuk Semangat, Kijal)	4234951	MMTE011	66.61	70.08	62.99	61.31	90.17	Terbaik/Excellent
		Tioxide Selatan (KSB, T. Kalong)	4234952	MMTE012	66.52	69.01	53.15	-	94.30	Terbaik/Excellent
		Pulau Duyung	5231908	MMTE013	64.80	50.09	48.69	57.06	66.07	Sederhana/Moderate
Kelantan	Kuala/Estuary	Kuala Sungai Golok	6220911	MMDE001	64.02	52.34	57.71	76.75	75.07	Sederhana/Moderate
		Kuala Sungai Kelantan	6222901	MMDE002	53.90	51.26	52.64	74.89	79.74	Sederhana/Moderate
		Kuala Sungai Pengkalan Chepa	6223912	MMDE003	54.67	54.89	63.96	72.07	89.17	Baik/Good
		Kuala Sungai Pengkalan Datu	6123913	MMDE004	51.07	60.40	63.16	61.91	86.66	Baik/Good
		Kuala Sungai Kemasin	5824914	MMDE005	50.90	67.15	58.29	57.49	63.47	Sederhana/Moderate
		Kuala Sungai Semerak*	NA	MMDE006	-	-	-	-	87.51	Baik/Good
Sarawak	Kuala/Estuary	Kuala Sungai Semantan	1898901	MMQE001	55.06	95.23	80.93	90.32	86.49	Baik/Good
		Kuala Sungai Sarawak	1604907	MMQE002	51.47	80.57	62.94	70.29	85.36	Baik/Good
		Kuala Sungai Bako	1704905	MMQE003	53.91	65.94	69.21	66.35	55.39	Sederhana/Moderate
		Kuala Sungai Santubong	1702903	MMQE004	66.57	75.42	87.22	89.35	87.45	Baik/Good
		Kuala Batang Krian (Kabong)	1710922	MMQE005	53.09	79.26	64.72	73.53	64.91	Sederhana/Moderate
		Kuala Batang Rejang	2111909	MMQE006	86.75	82.83	82.31	87.43	83.52	Baik/Good
		Kuala Mukah	2920920	MMQE007	34.57	51.26	70.05	89.46	72.36	Sederhana/Moderate
		Kuala Batang Kemena	3130911	MMQE008	63.94	64.20	77.23	69.10	68.80	Sederhana/Moderate
		Kuala Tanjung Similajau	3431903	MMQE009	63.98	85.68	90.37	92.25	84.40	Baik/Good
		Kuala Sungai Panipah	3332904	MMQE010	88.78	89.47	91.49	92.76	86.56	Baik/Good
		Kuala Pantai Nyalau	3431903	MMQE011	90.10	55.67	93.69	86.88	84.53	Baik/Good
		Kuala Sungai Baram	4539919	MMQE012	64.13	96.20	97.62	66.66	72.37	Sederhana/Moderate

Jadual 4.4 Malaysia: Status Kualiti Air Marin Di Kawasan Kuala
 Table 4.4 Malaysia: Marine Water Quality Status for Estuary

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	NOMBOR STESEN LAMA/ OLD STATION NUMBER	NOMBOR STESEN BARU / NEW STATION NUMBER	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Sarawak	Kuala/Estuary	Kuala Sungai Miri	4349915	MMQE013	64.63	84.73	72.23	68.34	61.55	Sederhana/ Moderate
		Kuala Sungai Trusan*	NA	MMQE014	-	-	-	-	70.53	Sederhana/ Moderate
Sabah	Kuala/Estuary	Kuala Penyu	5453901	MMSE001	77.68	82.00	65.10	66.98	71.36	Sederhana/ Moderate
		Muara Sungai Inanam	5050905	MMSE002	59.15	60.16	88.78	45.03	86.17	Baik/Good

Nota/ Note:

* (Stesen baharu/ New station)

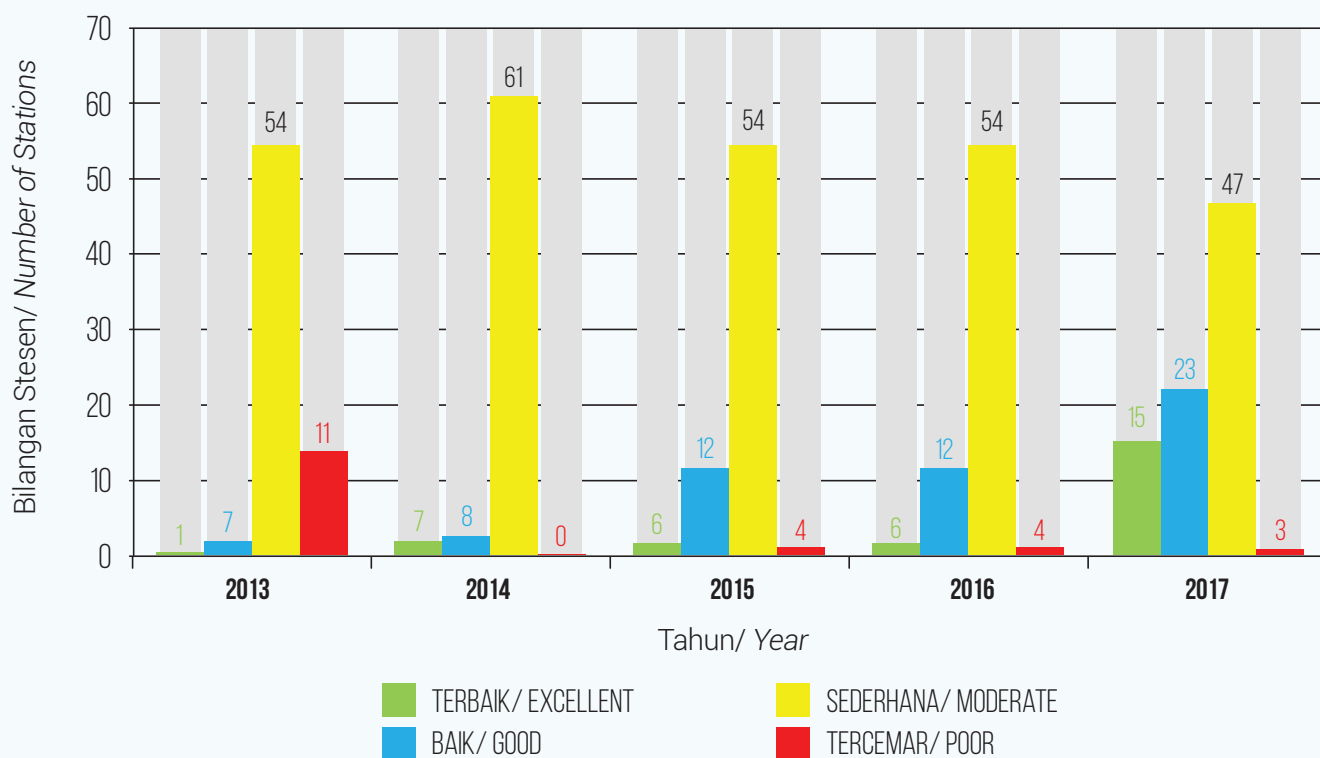
** (Stesen tutup/ Station closed)

- (Tiada data/ No data)

NA (Tidak berkenaan/ Not applicable)

Tren Indeks Kualiti Air Marin (IKAM) mulai tahun 2013 hingga 2017 adalah seperti yang ditunjukkan dalam **Rajah 4.2**. Berdasarkan **Rajah 4.2**, didapati bilangan stesen kategori **Terbaik** dan **Baik** meningkat berbanding tahun 2016. Bilangan stesen kategori **Sederhana** dan **Tercemar** juga didapati menurun berbanding tahun 2016.

The trend in terms of Marine Water Quality Index (MWQI) from 2013 to 2017 is shown in **Figure 4.1**. Based on **Figure 4.2**, the number of **Excellent** and **Good** stations had increased compared to 2016. Meanwhile, the number of **Moderate** and **Poor** stations had decreased compared to 2016.



Rajah 4.2 Malaysia: Tren Status Kualiti Air Marin Bagi Kawasan Kuala, 2013-2017
 Figure 4.2 Malaysia: The Trend Of Marine Water Quality Status for Estuary, 2013-2017

KUALITI AIR MARIN PULAU

ISLAND MARINE WATER QUALITY

Senarai stesen Pulau berdasarkan kategori stesen seperti yang ditunjukkan dalam **Jadual 4.5**.

*The list of island stations by island category is shown in **Table 4.5**.*

Jadual 4.5 Malaysia: Stesen-Stesen Pulau, 2017
Table 4.5 Malaysia: Island Stations, 2017

NEGERI/ STATE	BIL. PULAU/ NO. OF ISLAND	BIL. STESEN/ NO. OF STATION	PULAU/ ISLAND	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	KATEGORI/ CATEGORY
KEDAH	11	1	Singa Besar	7KR01	MMKR001	PERANGINAN/ RESORT
		2	Dayang Bunting	7KR02	MMKR002	PERANGINAN/ RESORT
			Dayang Bunting 2*	NA	MMKR003	STESEN BARU/ NEW STATION
		1	Pulau Perak	7KP01	MMRP001	DILINDUNGI/ PROTECTED
		1	Payar	7KM03	MMKM001	TAMAN LAUT/ MARINE PARK
		1	Kaca	7KM04	MMKM002	TAMAN LAUT / MARINE PARK
		1	Segantang	7KM06	MMKM003	TAMAN LAUT / MARINE PARK
		4	Pantai Kuah	7KD07	MMKD001	PEMBANGUNAN / DEVELOPMENT
			Pantai Chenang	7KD09	MMKD002	PEMBANGUNAN / DEVELOPMENT
			Tanjung Rhu	7KD010	MMKD003	PEMBANGUNAN / DEVELOPMENT
			Teluk Ewa	7KD08	MMKD004	PEMBANGUNAN / DEVELOPMENT
		1	Lembu**	7KM05	NA	TAMAN LAUT / MARINE PARK
		1	Pasir*	NA	MMKP001	STESEN BARU / NEW STATION
		1	Gasing*	NA	MMKP002	STESEN BARU / NEW STATION
1	Dangli*	NA	MMKP003	STESEN BARU / NEW STATION		
PULAU PINANG	7	1	Tanjung Tokong*	NA	MMPP001	STESEN BARU / NEW STATION
		3	Batu Maung	7PD01	MMPD001	PEMBANGUNAN / DEVELOPMENT
			Padang Kota	7PD04	MMPD002	PEMBANGUNAN / DEVELOPMENT
			Teluk Bahang	7PD03	MMPD003	PEMBANGUNAN / DEVELOPMENT
		1	Aman	7PR05	MMPR001	PERANGINAN / RESORT
		1	Jerejak	7PR06	MMPR002	PERANGINAN / RESORT
		1	Kendi	7PR07	MMPR003	PERANGINAN / RESORT

Jadual 4.5 Malaysia: Stesen-Stesen Pulau, 2017
 Table 4.5 Malaysia: Island Stations, 2017

NEGERI/ STATE	BIL. PULAU/ NO. OF ISLAND	BIL. STESEN/ NO. OF STATION	PULAU/ ISLAND	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	KATEGORI/ CATEGORY
PULAU PINANG	7	1	Rimau	7PR08	MMPR004	PERANGINAN / RESORT
		1	Gedong	7PR09	MMPR005	PERANGINAN / RESORT
PERAK	4	2	Pantai Teluk Gedong	7AR01	MMAR001	PERANGINAN / RESORT
			Pantai Puteri Dewi	7AR02	MMAR002	PERANGINAN / RESORT
		1	Pangkor Laut	7AR03	MMAR003	PERANGINAN / RESORT
		1	Sembilan	7AR04	MMAR004	PERANGINAN / RESORT
		1	Tukun Perak	7AP05	MMAP001	DILINDUNGI / PROTECTED
SELANGOR	3	1	Ketam	7BR01	MMBR001	PERANGINAN / RESORT
		1	Angsa	7BR02	MMBR002	PERANGINAN / RESORT
		1	Lumut	7BR03	MMBR003	PERANGINAN / RESORT
NEGERI SEMBILAN	1	1	Arang	7NP01	MMNP001	DILINDUNGI / PROTECTED
MELAKA	3	2	Upeh (Point A)	7MR02	MMMR001	PERANGINAN / RESORT
			Upeh (Point B)	7MR02	MMMR002	PERANGINAN / RESORT
		2	Besar (Point A)	7MR01	MMMR003	PERANGINAN / RESORT
			Besar (Point B)	7MR01	MMMR004	PERANGINAN / RESORT
		2	Undan (Point A)	7MR03	MMMR005	PERANGINAN / RESORT
			Undan (Point B)	7MR03	MMMR006	PERANGINAN / RESORT
JOHOR	8	1	Setindan	7JR01	MMJR001	PERANGINAN / RESORT
		1	Babi Tengah	7JR02	MMJR002	PERANGINAN / RESORT
		1	Dayang	7JM03	MMJM001	TAMAN LAUT / MARINE PARK
		1	Nanga Besar	7JM08	MMJM002	TAMAN LAUT / MARINE PARK
		1	Sibu Tengah	7JM11	MMJM003	TAMAN LAUT / MARINE PARK
		1	Pemanggil	7JM15	MMJM004	TAMAN LAUT / MARINE PARK
		1	Kukup	7JP17	MMJP001	DILINDUNGI / PROTECTED
		1	Pisang	7JP18	MMJP002	DILINDUNGI / PROTECTED

Jadual 4.5 Malaysia: Stesen-Stesen Pulau, 2017
 Table 4.5 Malaysia: Island Stations, 2017

NEGERI/ STATE	BIL. PULAU/ NO. OF ISLAND	BIL. STESEN/ NO. OF STATION	PULAU/ ISLAND	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	KATEGORI/ CATEGORY
PAHANG	9	1	Tioman (Teluk Salang)	7CM02	MMCM001	TAMAN LAUT / MARINE PARK
		1	Tioman (Kg. Nipah)	7CM01	MMCM002	TAMAN LAUT / MARINE PARK
		1	Tulai	7CM05	MMCM003	TAMAN LAUT / MARINE PARK
		1	Labas	7CM07	MMCM004	TAMAN LAUT / MARINE PARK
		1	Cebah	7CM04	MMCM005	TAMAN LAUT / MARINE PARK
		1	Sepui	7CM06	MMCM006	TAMAN LAUT / MARINE PARK
		1	Sembilang	7CM08	MMCM007	TAMAN LAUT / MARINE PARK
		1	Seri Buat	7CM03	MMCM008	TAMAN LAUT / MARINE PARK
		1	Tokong Bahara	7CM09	MMCM009	TAMAN LAUT / MARINE PARK
TERENGGANU	9	1	Gemia	7TR01	MMTR001	PERANGINAN / RESORT
		1	Perhentian Besar (South)	7TM04	MMTM001	TAMAN LAUT / MARINE PARK
		2	Perhentian Besar (West)	7TM05	MMTM002	TAMAN LAUT / MARINE PARK
			Perhentian Kecil	7TM06	MMTM003	TAMAN LAUT / MARINE PARK
		2	Redang (North)	7TM07	MMTM004	TAMAN LAUT / MARINE PARK
			Redang (South)	7TM08	MMTM005	TAMAN LAUT / MARINE PARK
		1	Lang Tengah	7TM11	MMTM006	TAMAN LAUT / MARINE PARK
		1	Pinang	7TM12	MMTM007	TAMAN LAUT / MARINE PARK
		1	Ekor Tebu	7TM13	MMTM008	TAMAN LAUT / MARINE PARK
		1	Lima	7TM14	MMTM009	TAMAN LAUT / MARINE PARK
		1	Kapas	7TM09	MMTM010	TAMAN LAUT / MARINE PARK
KELANTAN	2	1	Panjang	7DP01	MMDP001	DILINDUNGI / PROTECTED
		1	Kundur	7DP02	MMDP002	DILINDUNGI / PROTECTED
		1	Satang	7QP01	MMQP001	DILINDUNGI / PROTECTED
SARAWAK	3	1	Talang-Talang Kecil	7QP02	MMQP002	DILINDUNGI / PROTECTED
		1	Talang-Talang Besar	7QP03	MMQP003	DILINDUNGI / PROTECTED

Jadual 4.5 Malaysia: Stesen-Stesen Pulau, 2017
 Table 4.5 Malaysia: Island Stations, 2017

NEGERI/ STATE	BIL. PULAU/ NO. OF ISLAND	BIL. STESEN/ NO. OF STATION	PULAU/ ISLAND	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	KATEGORI/ CATEGORY
SABAH	16	1	Gaya	7SR01	MMSR001	PERANGINAN / RESORT
		1	Mabul	7SR03	MMSR002	PERANGINAN / RESORT
		2	Sipadan (N)	7SR04	MMSR003	PERANGINAN / RESORT
			Sipadan (W)	7SR05	MMSR004	PERANGINAN / RESORT
		1	Manukan	7SM09	MMSR005	PERANGINAN / RESORT
		1	Tiga	7SR10	MMSR006	PERANGINAN / RESORT
		1	Kapalai	7SR12	MMSR007	PERANGINAN / RESORT
		1	Molleangan Besar	7SR14	MMSR008	PERANGINAN / RESORT
		1	Banggi (South)	7SR15	MMSR009	PERANGINAN / RESORT
		1	Banggi (East)	7SR20	MMSR010	PERANGINAN / RESORT
		1	Balambangan	7SR16	MMSR011	PERANGINAN / RESORT
		1	Mantanani Besar	7SR21	MMSR012	PERANGINAN / RESORT
		1	Sapi	7SM08	MMSM001	TAMAN LAUT / MARINE PARK
		1	Kalampunian Besar	7SM11	MMSM002	TAMAN LAUT / MARINE PARK
		1	Selingan	7SP17	MMSP001	DILINDUNGI / PROTECTED
		1	Gulisan	7SP18	MMSP002	DILINDUNGI / PROTECTED
1	Bakungan Kecil	7SP19	MMSP003	DILINDUNGI / PROTECTED		
LABUAN	4	1	Kuraman	7LM05	MMLM001	TAMAN LAUT / MARINE PARK
		1	Rusukan Besar	7LM07	MMLM002	TAMAN LAUT / MARINE PARK
		1	Rusukan Kecil	7LM06	MMLM003	TAMAN LAUT / MARINE PARK
		4	Pohon Batu	7LD01	MMLD001	PEMBANGUNAN / DEVELOPMENT
			Water Front	7LD02	MMLD002	PEMBANGUNAN / DEVELOPMENT
			Lubuk Temiang	7LD03	MMLD003	PEMBANGUNAN / DEVELOPMENT
			Ranca-Ranca	7LD04	MMLD004	PEMBANGUNAN / DEVELOPMENT

Nota/ Note:

* (Stesen baharu/ New station)

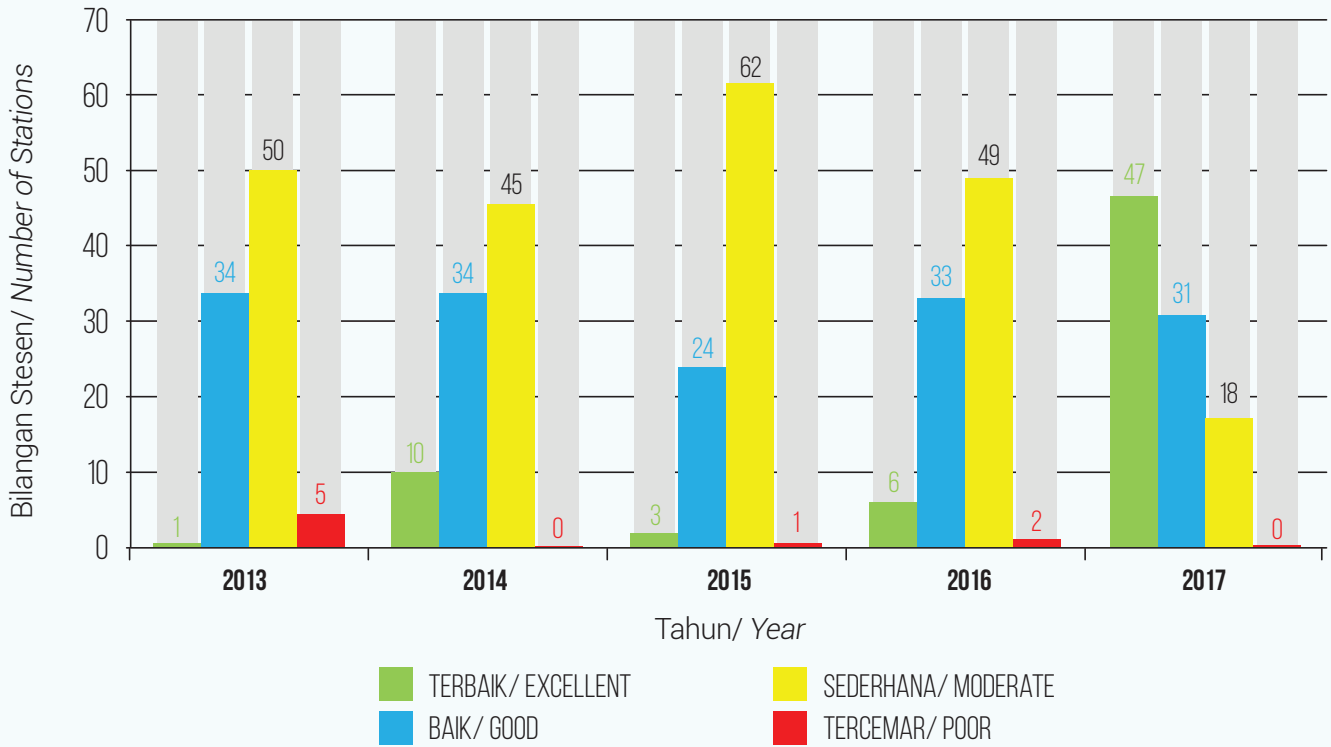
** (Stesen tutup/ Station closed)

- (Tiada data/ No data)

NA (Tidak berkenaan/ Not applicable)

Perairan di sekeliling 80 buah pulau telah dipantau dalam tahun 2017. Sebanyak 95 stesen telah dipantau dan dianalisis serta dilaporkan sebagai Indeks Kualiti Air Marin. Hasil analisis menunjukkan 47 stesen (49.5%) dikategorikan sebagai **Terbaik**, 31 stesen (32.6%) dikategorikan sebagai **Baik**, 18 stesen (17.9%) dikategorikan sebagai **Sederhana** dan tiada stesen dikategorikan sebagai **Tercegar**. (Rajah 4.3)

The waters around 80 islands were monitored in 2017. A total of 95 island stations were monitored, analysed and reported as Marine Water Quality Index. The result indicated that 47 stations (49.5%) as **Excellent**, 31 stations (32.6%) as **Good**, 18 stations (17.9%) as **Moderate** and no station categorized as **Poor**. (Figure 4.3)



Rajah 4.3 Malaysia: Tren Status Kualiti Air Marin Bagi Pulau, 2013-2017
 Figure 4.3 Malaysia: The Trend of Marine Water Quality Status for Island, 2013-2017



Jadual 4.6 Malaysia: Status Kualiti Air Marin Bagi Pulau
 Table 4.6 Malaysia: Marine Water Quality Status for Island

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Kedah	Pulau/Island	Singa Besar	7KR01	MMKR001	74.45	83.28	73.83	61.96	90.72	Terbaik/ Excellent
		Dayang Bunting	7KR02	MMKR002	75.91	89.65	71.27	60.13	91.60	Terbaik/ Excellent
		Dayang Bunting 2*	NA	MMKR003	-	-	-	-	93.37	Terbaik/ Excellent
		Pulau Perak	7KP01	MMRP001	-	-	72.47	56.51	94.49	Terbaik/ Excellent
		Payar	7KM03	MMKM001	83.73	79.74	73.65	75.06	91.75	Terbaik/ Excellent
		Kaca	7KM04	MMKM002	85.84	82.98	75.03	74.98	93.03	Terbaik/ Excellent
		Segantang	7KM06	MMKM003	84.69	84.43	75.09	70.33	91.67	Terbaik/ Excellent
		Pantai Kuah	7KD07	MMKD001	74.45	75.11	69.31	51.54	92.30	Terbaik/ Excellent
		Pantai Chenang	7KD09	MMKD002	83.07	86.55	73.55	63.39	74.80	Sederhana/ Moderate
		Tanjung Rhu	7KD010	MMKD003	69.05	86.38	88.66	67.11	92.68	Terbaik/ Excellent
		Teluk Ewa	7KD08	MMKD004	81.15	67.38	74.22	74.48	92.89	Terbaik/ Excellent
		Lembu**	7KM05	NA	-	85.48	75.82	71.77	-	Stesen tutup/ Close station
		Pasir*	NA	MMKP001	-	-	-	-	93.17	Terbaik/ Excellent
		Gasing*	NA	MMKP002	-	-	-	-	94.15	Terbaik/ Excellent
Dangli*	NA	MMKP003	-	-	-	-	92.32	Terbaik/ Excellent		
Pulau Pinang	Pulau/Island	Tanjung Tokong*	NA	MMPP001	-	-	-	-	63.41	Sederhana/ Moderate
		Batu Maung	7PD01	MMPD001	49.71	70.40	52.83	46.69	64.36	Sederhana/ Moderate
		Padang Kota	7PD04	MMPD002	50.50	51.21	47.21	82.05	52.01	Sederhana/ Moderate
		Teluk Bahang*	7PD03	MMPD003	-	-	-	-	61.53	Sederhana/ Moderate
		Aman	7PR05	MMPR001	83.95	61.84	69.87	72.80	72.53	Sederhana/ Moderate
		Jerejak	7PR06	MMPR002	75.63	54.80	68.19	46.41	57.19	Sederhana/ Moderate
		Kendi	7PR07	MMPR003	73.86	67.01	72.24	76.83	83.90	Baik/Good
		Rimau	7PR08	MMPR004	85.96	61.24	72.27	51.41	85.24	Baik/Good
		Gedong	7PR09	MMPR005	84.97	57.46	66.26	71.97	63.30	Sederhana/ Moderate
Perak	Pulau/Island	Pantai Teluk Gedong	7AR01	MMAR001	54.52	70.80	68.72	56.07	85.18	Baik/Good
		Pantai Puteri Dewi	7AR02	MMAR002	74.58	50.44	68.35	79.63	92.29	Terbaik/ Excellent

Jadual 4.6 Malaysia: Status Kualiti Air Marin Bagi Pulau
 Table 4.6 Malaysia: Marine Water Quality Status for Island

NEGERI/ STATE	KLASSIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Perak	Pulau/Island	Pangkor Laut	7AR03	MMAR003	72.07	66.78	63.63	52.16	89.18	Baik/Good
		Sembilan	7AR04	MMAR004	80.45	70.30	63.31	58.86	93.45	Terbaik/Excellent
		Tukun Perak	7AP05	MMAP001	82.35	73.17	62.43	69.53	93.64	Terbaik/Excellent
Selangor	Pulau/Island	Ketam	7BR01	MMBR001	87.70	93.63	54.29	93.20	88.82	Baik/Good
		Angsa	7BR02	MMBR002	92.07	93.08	59.07	88.90	85.74	Baik/Good
		Lumut	7BR03	MMBR003	56.73	61.03	58.36	87.52	61.79	Sederhana/Moderate
Negeri Sembilan	Pulau/Island	Arang	7NP01	MMNP001	68.56	92.86	94.46	97.94	68.59	Sederhana/Moderate
Melaka	Pulau/Island	Upeh (Point A)	7MR02	MMMR001	43.76	60.28	56.67	58.11	65.07	Sederhana/Moderate
		Upeh (Point B)	7MR02	MMMR002	41.08	57.20	54.93	67.26	82.00	Baik/Good
		Besar (Point A)	7MR01	MMMR003	56.27	64.11	62.65	70.91	89.63	Baik/Good
		Besar (Point B)	7MR01	MMMR004	46.81	58.73	56.93	70.58	90.36	Terbaik/Excellent
		Undan (Point A)	7MR03	MMMR005	47.02	58.74	54.46	77.89	90.34	Terbaik/Excellent
		Undan (Point B)	7MR03	MMMR006	55.18	71.01	56.70	61.70	90.47	Terbaik/Excellent
Johor	Pulau/Island	Setindan	7JR01	MMJR001	85.80	88.51	89.46	89.86	94.45	Terbaik/Excellent
		Babi Tengah	7JR02	MMJR002	86.92	89.74	89.43	89.09	94.18	Terbaik/Excellent
		Dayang	7JM03	MMJM001	87.03	88.76	90.05	88.62	94.53	Terbaik/Excellent
		Nanga Besar	7JM08	MMJM002	86.64	87.65	89.56	90.58	94.50	Terbaik/Excellent
		Sibu Tengah	7JM11	MMJM003	86.35	88.92	89.66	88.66	94.34	Terbaik/Excellent
		Pemanggil	7JM15	MMJM004	85.95	88.68	89.35	90.10	94.09	Terbaik/Excellent
		Kukup	7JP17	MMJP001	82.27	81.08	87.01	83.40	91.62	Terbaik/Excellent
		Pisang	7JP18	MMJP002	84.29	87.52	89.05	86.44	93.66	Terbaik/Excellent
Pahang	Pulau/Island	Tioman (Teluk Salang)	7CM02	MMCM001	71.84	85.77	76.92	78.23	92.90	Terbaik/Excellent
		Tioman (Kg. Nipah)	7CM01	MMCM002	73.89	85.52	83.01	85.39	94.00	Terbaik/Excellent
		Tulai	7CM05	MMCM003	73.99	84.52	88.79	85.73	93.63	Terbaik/Excellent
		Labas	7CM07	MMCM004	73.88	86.44	85.22	86.18	93.87	Terbaik/Excellent
		Cebeh	7CM04	MMCM005	73.90	85.27	85.38	85.91	94.16	Terbaik/Excellent

Jadual 4.6 Malaysia: Status Kualiti Air Marin Bagi Pulau
 Table 4.6 Malaysia: Marine Water Quality Status for Island

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Pahang	Pulau/Island	Sepui	7CM06	MMCM006	73.90	85.63	79.94	83.35	93.20	Terbaik/ Excellent
		Sembilang	7CM08	MMCM007	73.91	85.76	58.56	75.44	93.90	Terbaik/ Excellent
		Seri Buat	7CM03	MMCM008	73.89	86.56	57.06	84.53	94.19	Terbaik/ Excellent
		Tokong Bahara	7CM09	MMCM009	74.00	85.71	75.91	86.71	93.71	Terbaik/ Excellent
Terengganu	Pulau/Island	Gemia	7TR01	MMTR001	61.96	66.94	58.69	64.70	89.29	Baik/Good
		Perhentian Besar (South)	7TM04	MMTM001	69.03	69.42	59.82	63.15	89.80	Baik/Good
		Perhentian Besar (West)	7TM05	MMTM002	67.88	69.18	57.60	62.71	90.21	Terbaik/ Excellent
		Perhentian Kecil	7TM06	MMTM003	64.88	70.52	59.28	61.79	90.51	Terbaik/ Excellent
		Redang (North)	7TM07	MMTM004	66.65	72.94	58.58	78.07	90.34	Terbaik/ Excellent
		Redang (South)	7TM08	MMTM005	68.87	72.14	58.46	64.14	89.98	Baik/Good
		Lang Tengah	7TM11	MMTM006	65.89	69.79	71.52	64.74	90.00	Terbaik/ Excellent
		Pinang	7TM12	MMTM007	68.11	71.15	59.11	63.87	90.12	Terbaik/ Excellent
		Ekor Tebu	7TM13	MMTM008	67.51	69.21	60.70	63.19	90.89	Terbaik/ Excellent
		Lima	7TM14	MMTM009	66.19	73.52	59.12	64.40	90.46	Terbaik/ Excellent
		Kapas	7TP16	MMTM010	67.89	67.29	58.42	76.30	90.26	Terbaik/ Excellent
Kelantan	Pulau/Island	Panjang	7DP01	MMDP001	65.20	67.07	65.49	66.03	88.20	Baik/Good
		Kundur	7DP02	MMDP002	69.22	70.43	63.22	65.72	89.10	Baik/Good
Sarawak	Pulau/Island	Satang	7QP01	MMQP001	58.98	83.36	75.17	90.52	87.58	Baik/Good
		Talang-Talang Kecil	7QP02	MMQP002	70.35	84.70	87.37	77.08	87.83	Baik/Good
		Talang-Talang Besar	7QP03	MMQP003	70.87	84.50	90.76	91.63	87.71	Baik/Good
Sabah	Pulau/Island	Gaya	7SR01	MMSR001	67.05	81.83	85.60	85.50	73.28	Sederhana/ Moderate
		Mabul	7SR03	MMSR002	82.35	53.86	71.43	82.47	87.52	Baik/Good
		Sipadan (N)	7SR04	MMSR003	81.39	58.91	70.70	84.23	88.12	Baik/Good
		Sipadan (W)	7SR05	MMSR004	67.73	79.41	70.87	80.25	85.22	Baik/Good
		Manukan	7SM09	MMSR005	69.13	80.44	84.48	82.77	70.88	Sederhana/ Moderate
		Tiga	7SR10	MMSR006	77.13	81.80	82.56	84.57	85.55	Baik/Good
		Kapalai	7SR12	MMSR007	81.32	81.22	70.17	85.77	85.82	Baik/Good

Jadual 4.6 Malaysia: Status Kualiti Air Marin Bagi Pulau
 Table 4.6 Malaysia: Marine Water Quality Status for Island

NEGERI/ STATE	KLASIFIKASI STESEN/ STATION CLASSIFICATION	KAWASAN/ AREA	ID STESEN LAMA/ OLD STATION ID	ID STESEN BARU/ NEW STATION ID	NILAI IKAM/ MWQI VALUE					KATEGORI (2017)/ CATEGORY (2017)
					2013	2014	2015	2016	2017	
Sabah	Pulau/Island	Molleangan Besar	7SR14	MMSR008	86.61	79.48	83.20	83.19	88.46	Baik/Good
		Banggi (South)	7SR15	MMSR009	84.16	76.84	82.57	84.21	87.35	Baik/Good
		Banggi (East)	7SR20	MMSR010	85.67	79.39	83.43	83.29	88.30	Baik/Good
		Balambangan	7SR16	MMSR011	84.95	77.52	84.44	83.98	88.13	Baik/Good
		Mantanani Besar	7SR21	MMSR012	83.41	83.08	82.18	83.46	85.81	Baik/Good
		Sapi	7SM08	MMSM001	69.67	81.27	84.01	84.42	72.40	Sederhana/ Moderate
		Kalampunian Besar	7SM11	MMSM002	66.79	84.67	83.80	81.75	86.43	Baik/Good
		Selingan	7SP17	MMSP001	68.34	55.98	66.87	84.70	89.04	Baik/Good
		Gulisan	7SP18	MMSP002	81.40	59.89	87.00	85.63	89.72	Baik/Good
		Bakungan Kecil	7SP19	MMSP003	84.07	54.40	50.73	83.33	87.08	Baik/Good
Labuan	Pulau/Island	Kuraman	7LM05	MMLM001	81.63	97.79	68.67	73.50	89.83	Baik/Good
		Rusukan Besar	7LM07	MMLM002	84.15	94.87	66.46	50.99	91.22	Terbaik/ Excellent
		Rusukan Kecil	7LM06	MMLM003	81.68	93.58	66.22	50.93	90.39	Terbaik/ Excellent
		Pohon Batu	7LD01	MMLD001	78.08	97.94	67.65	67.70	63.76	Sederhana/ Moderate
		Water Front	7LD02	MMLD002	72.81	97.65	64.47	76.60	66.09	Sederhana/ Moderate
		Lubuk Temiang	7LD03	MMLD003	79.85	97.79	65.77	74.67	72.79	Sederhana/ Moderate
		Ranca-Ranca	7LD04	MMLD004	88.04	91.44	66.63	52.02	91.81	Terbaik/ Excellent

Nota/ Note:

* (Stesen baharu/ New station)

** (Stesen tutup/ Station closed)

- (Tiada data/ No data)

NA (Tidak berkenaan/ Not applicable)

STATUS STESEN-STESEN KUALITI AIR MARIN

Jadual 4.7 dan Jadual 4.8 menunjukkan senarai stesen Pantai dan Kuala yang mencapai kategori **Terbaik** bagi tahun 2017.

Stesen Pulau yang mencapai Kategori **Terbaik** bagi tahun 2017 adalah seperti di **Jadual 4.9**.

STATUS OF MARINE WATER QUALITY STATIONS

Table 4.7 and Table 4.8 show the list of coastal and estuaries stations that achieved the **Excellent** Category in 2017.

The islands that achieved the **Excellent** Category for Marine Water Quality Index in 2017 are listed in **Table 4.9**.

Jadual 4.7 Malaysia: Senarai Pantai Terbaik, 2017
 Table 4.7 Malaysia: List of Excellent Coastal, 2017

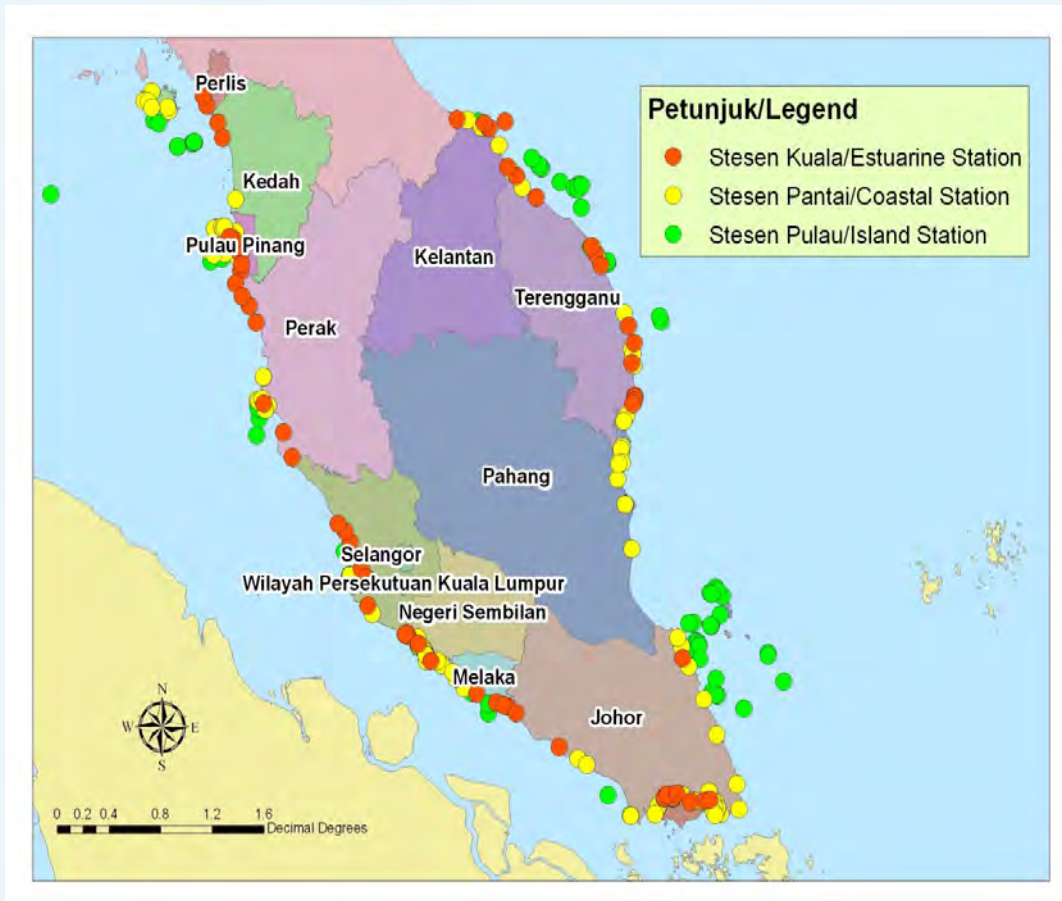
BIL./ NO.	NEGERI/ STATE	LOKASI/ LOCATION
1	Terengganu	Pantai Teluk Kalong
2	Terengganu	Pantai Batu Buruk
3	Johor	Tanjung Resang
4	Terengganu	Pantai Teluk Ketapang
5	Terengganu	Pantai Rhu 10
6	Terengganu	Pantai Sura
7	Johor	Pantai Sri Pantai
8	Johor	Pantai Tanjung Leman
9	Terengganu	Pantai Tok Jembal
10	Terengganu	Pantai Kuala Abang

Jadual 4.8 Malaysia: Senarai Kuala Kategori Terbaik, 2017
 Table 4.8 Malaysia: List of Excellent Estuaries, 2017

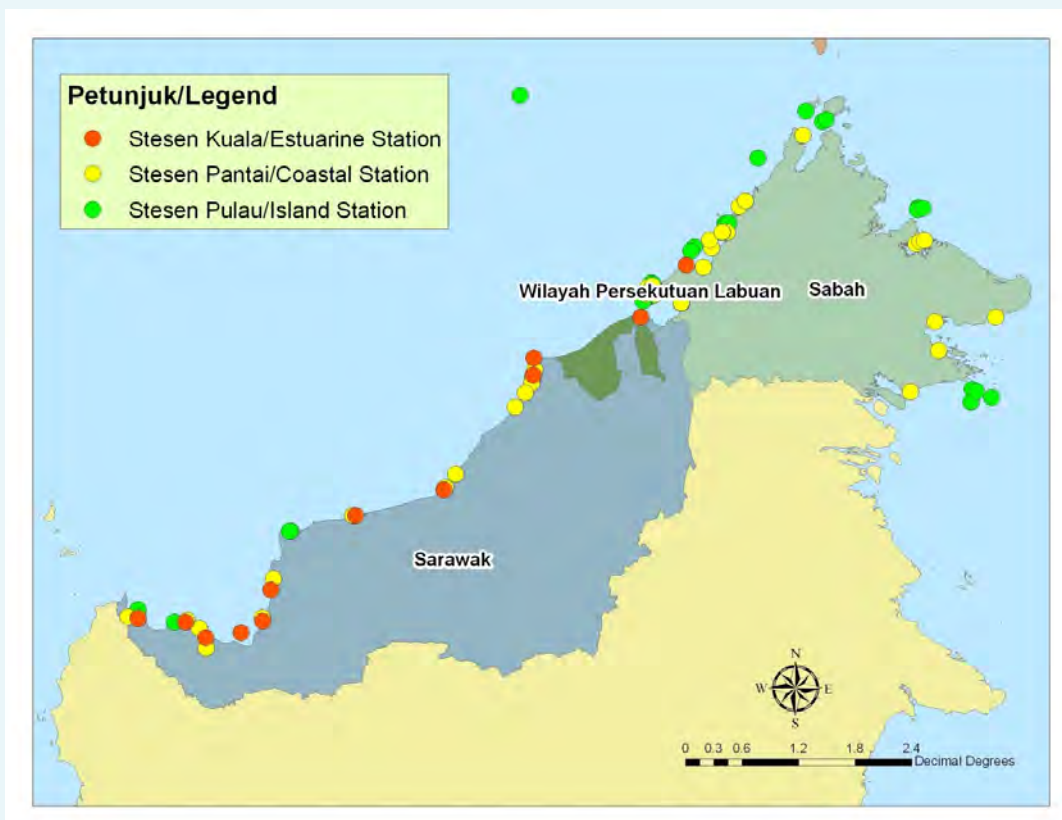
BIL./ NO.	NEGERI/ STATE	LOKASI/ LOCATION
1	Terengganu	Tioxide Selatan (KSB, T. Kalong)
2	Pahang	Kuala Nenas
3	Selangor	Kuala Sungai Sepang (Kecil)
4	Selangor	Kuala Sungai Sepang (Kawalan)
5	Terengganu	Kuala Sungai Setiu
6	Johor	Kuala Sungai Muar
7	Selangor	Kuala Sungai Sepang
8	Pahang	Kuala Pahang
9	Johor	Kuala Sungai Johor
10	Terengganu	Kuala Sungai Kerteh

Jadual 4.9 Malaysia: Senarai Pulau Terbaik, 2017
 Table 4.9 Malaysia: List of Excellent Islands, 2017

BIL./ NO.	NEGERI/ STATE	LOKASI/ LOCATION
1	Johor	Dayang
2	Johor	Nanga Besar
3	Perlis	Pulau Perak
4	Johor	Setindan
5	Johor	Sibu Tengah
6	Pahang	Seri Buat
7	Johor	Babi Tengah
8	Pahang	Cebeh
9	Kedah	Gasing
10	Johor	Pemanggil



Peta: Semenanjung Malaysia: Lokasi Stesen Pengawasan Kualiti Air Marin
 Map: Peninsular Malaysia: Location of Marine Water Quality Stations



Peta : Sabah & Sarawak : Lokasi Stesen Pengawasan Kualiti Air Marin
 Map : Sabah & Sarawak : Location of Marine Water Quality Stations