

# Kualiti Air Sungai

## *River Water Quality*





## KUALITI AIR SUNGAI RIVER WATER QUALITY

### PENGAWASAN KUALITI AIR SUNGAI

Pengawasan Kualiti Air Sungai Jabatan Alam Sekitar (JAS) meneruskan program pengawasan kualiti air sungai pada tahun 2017 bagi menentukan kualiti air sungai dan mengesan perubahan ke atas kualiti air sungai. Sampel-sampel air sungai diambil daripada stesen-stesen yang telah ditetapkan dan diukur kualitinya secara *in-situ* serta dihantar ke makmal untuk dianalisis bertujuan menentukan kriteria dari segi fizik-kimia dan biologi. Indeks Kualiti Air (IKA) digunakan untuk mengukur tahap pencemaran dan kesesuaian jenis guna air seperti yang digariskan oleh Standard Kualiti Air Negara (**ANNEX**). IKA telah mengambil kira parameter Oksigen Terlarut, Keperluan Oksigen Biokimia, Keperluan Oksigen Kimia, Ammonia Nitrogen, Pepejal Terampai dan pH. Pada tahun 2017, kualiti air sungai telah dinilai berdasarkan sejumlah 5,697 sampel air sungai yang telah diambil daripada sejumlah 891 stesen pengawasan manual yang merangkumi 477 sungai. Stesen-stesen tersebut adalah terdiri daripada 801 stesen ambien dan baseline, 55 stesen di hulu muka sauk terpilih, dan 35 stesen bagi projek *River of Life* (RoL).

### RIVER WATER QUALITY MONITORING

*The Department of Environment (DOE) continues the river water quality monitoring programme in 2017 to determine the status of river water quality and to detect changes in river water quality. Water samples were collected at regular intervals from designated stations for in-situ and laboratory analysis to determine its physic-chemical and biological characteristics. The Water Quality Index (WQI) is used to indicate the level of pollution and the corresponding suitability in terms of water uses according to the National Water Quality Standards for Malaysia (NWQS) (**ANNEX**). The WQI takes into consideration parameters including Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Ammoniacal Nitrogen (NH<sub>3</sub>-N), Suspended Solids (SS) and pH. In 2017, river water quality was assessed based on a total of 5,697 samples taken from a total of 891 manual monitoring stations covering 477 rivers. The stations comprised of 801 ambient and baseline stations, 55 stations located at upstream of selected water intakes, and 35 stations for River of Life (RoL) project.*



## STATUS KUALITI AIR SUNGAI

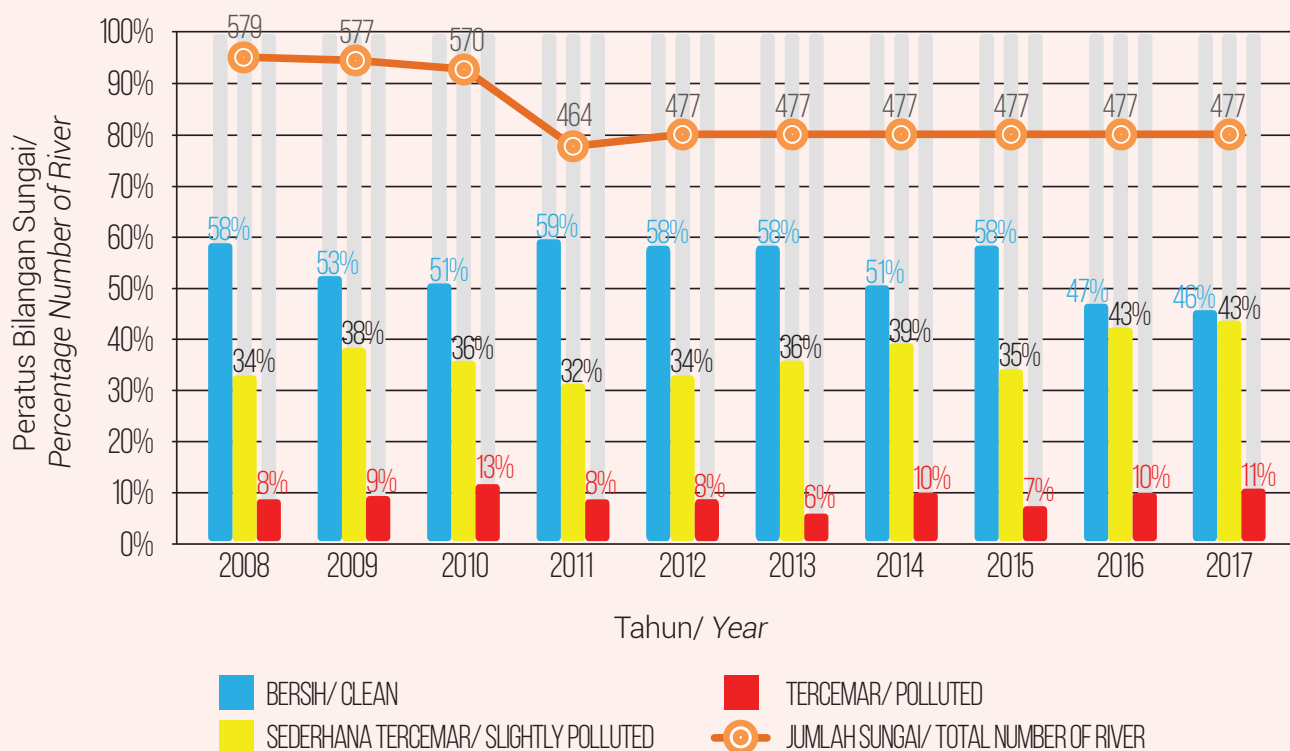
Sejumlah 219 (46%) sungai daripada 477 sungai yang diawasi telah menunjukkan indeks kualiti air bersih, 207 (43%) adalah sederhana tercemar dan 51 (11%) adalah tercemar (**Rajah 2.1**). Status kualiti air bagi sungai-sungai yang diawasi adalah seperti dalam **Jadual 2.1**, **Jadual 2.2** dan **Jadual 2.3**.

Keperluan Oksigen Biokimia (BOD), Ammonia Nitrogen (NH<sub>3</sub>-N) dan Pepejal Terampai (SS) masih menjadi punca kepada pencemaran sungai. BOD yang tinggi kerap kali dikaitkan dengan pengolahan sisa kumbahan yang tidak mencukupi, atau akibat pelepasan effluen daripada industri-industri pengilangan dan berasaskan pertanian. Punca utama NH<sub>3</sub>-N pula boleh dikaitkan dengan aktiviti penternakan dan kumbahan domestik manakala punca utama SS adalah kerja-kerja tanah yang tidak teratur dan aktiviti pembukaan tanah.

## RIVER WATER QUALITY STATUS

Out of the 477 rivers monitored, 219 (46%) were found to be clean, 207 (43%) slightly polluted while 51 (11%) polluted (**Figure 2.1**). The monitored rivers and their overall quality status are as in **Tables 2.1**, **Table 2.2** and **Table 2.3**.

Biochemical Oxygen Demand (BOD), Ammoniacal Nitrogen (NH<sub>3</sub>-N) and Suspended Solids (SS) remained to be significant in terms of river pollution. High BOD can be attributed to inadequate treatment of sewage or effluent from agro-based and manufacturing industries. The main sources of NH<sub>3</sub>-N were animal farming and domestic sewage. While the sources for SS were mainly due to improper earthworks and land clearing activities.



Rajah 2.1 Malaysia: Tren Kualiti Air Sungai, 2008-2017  
Figure 2.1 Malaysia: River Water Quality Trend, 2008-2017

Jadual 2.1 Malaysia: Status Kualiti Air bagi Sungai Bersih, 2017  
 Table 2.1 Malaysia: Water Quality Status of Clean Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Sg. Perlis	Sg. Wang Kelian	1	89	B/C	II	89	B/C	II
		Sg. Jarum	1	82	B/C	II	81	B/C	II
		Sg. Pelarit	1	88	B/C	II	89	B/C	II
		Sg. Jernih	1	82	B/C	II	82	B/C	II
Kedah (Langkawi)	Sg. Kisap	Sg. Kisap	1	90	B/C	II	91	B/C	II
	Sg. Melaka	Sg. Melaka	5	78	ST/SP	II	81	B/C	II
		Sg. Petang	1	91	B/C	II	92	B/C	II
Kedah	Sg. Kedah	Sg. Janing	1	91	B/C	II	91	B/C	II
		Sg. Pedu	1	88	B/C	II	88	B/C	II
		Sg. Padang Terap	3	84	B/C	II	84	B/C	II
	Sg. Merbok	Sg. Tupah	1	91	B/C	II	91	B/C	II
Kedah/ P.Pinang	Sg. Muda	Sg. Chepir	1	89	B/C	II	86	B/C	II
		Sg. Karangan	1	84	B/C	II	81	B/C	II
		Sg. Muda	4	84	B/C	II	81	B/C	II
		Sg. Ketil	2	85	B/C	II	83	B/C	II
		Sg. Sedim	1	78	ST/SP	II	81	B/C	II
		Sg. Pegang	1	76	ST/SP	III	81	B/C	II
P.Pinang	Sg. Pinang	Sg. Air Terjun	1	89	B/C	II	92	B/C	II
P.Pinang/ Kedah/ Perak	Sg. Kerian	Sg. Kechil	1	86	B/C	II	84	B/C	II
		Sg. Kerian	4	81	B/C	II	81	B/C	II
Perak	Sg. Bruas	Sg. Rotan	1	89	B/C	II	87	B/C	II
		Sg. Bruas	3	82	B/C	II	83	B/C	II
		Sg. Dandang	1	87	B/C	II	88	B/C	II
	Sg. Kurau	Sg. Ara	2	89	B/C	II	88	B/C	II
	Sg. Perak	Sg. Chepor	1	90	B/C	II	90	B/C	II
		Sg. Chenderiang	1	87	B/C	II	87	B/C	II
		Sg. Kuang	1	79	ST/SP	II	83	B/C	II
		Sg. Klah	1	86	B/C	II	89	B/C	II
		Sg. Kinjang	1	90	B/C	II	92	B/C	II
		Sg. Kampar	2	85	B/C	II	86	B/C	II
		Sg. Batang Padang	3	82	B/C	II	82	B/C	II
		Sg. Kangsar	1	73	ST/SP	III	81	B/C	II
		Sg. Sungkai	2	86	B/C	II	85	B/C	II
		Sg. Bidor	3	85	B/C	II	82	B/C	II
		Sg. Raia	2	81	B/C	II	81	B/C	II
		Sg. Perak	8	82	B/C	II	85	B/C	II
		Sg. Nyior	1	92	B/C	II	93	B/C	I

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 Table 2.1 Malaysia: Water Quality Status of Clean Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Perak	Sg. Sepetang	Sg. Jana	1	93	B/C	I	84	B/C	II
		Sg. Limau	1	87	B/C	II	86	B/C	II
		Sg. Trong	1	86	B/C	II	89	B/C	II
		Sg. Batu Tegoh	3	85	B/C	II	83	B/C	II
Perak	Sg. Wangi	Sg. Temerloh	2	87	B/C	II	89	B/C	II
Selangor/ Perak	Sg. Bernam	Sg. Inki	1	90	B/C	II	91	B/C	II
		Sg. Bernam	4	84	B/C	II	82	B/C	II
		Sg. Slim	2	86	B/C	II	85	B/C	II
		Sg. Trolak	1	88	B/C	II	88	B/C	II
Selangor	Sg. Selangor	Sg. Kerling	1	89	B/C	II	86	B/C	II
		Sg. Kanching	1	88	B/C	II	85	B/C	II
		Sg. Serendah	1	87	B/C	II	86	B/C	II
		Sg. Batang Kali	1	84	B/C	II	82	B/C	II
Selangor/ WPKL	Sg. Klang	Sg. Penchala	1	85	B/C	II	82	B/C	II
Selangor/ Putrajaya/ N.Sembilan	Sg. Langat	Sg. Lui	1	89	B/C	II	89	B/C	II
		Sg. Chuau	2	86	B/C	II	87	B/C	II
Melaka/N. Sembilan	Sg. Melaka	Sg. Tampin	1	89	B/C	II	86	B/C	II
		Sg. Batang Melaka	2	81	B/C	II	81	B/C	II
		Sg. Dusun	1	80	ST/SP	II	86	B/C	II
		Sg. Kemunting	1	81	B/C	II	85	B/C	II
	Sg. Linggi	Sg. Batang Penar	1	89	B/C	II	82	B/C	II
		Sg. Kundur Besar	1	86	B/C	II	86	B/C	II
		Sg. Pedas	1	87	B/C	II	84	B/C	II
		Sg. Rembau	2	86	B/C	II	85	B/C	II
Melaka	Sg. Kesang	Sg. Chohong	2	86	B/C	II	84	B/C	II
		Sg. Gapam	1	84	B/C	II	82	B/C	II
Johor	Sg. Batu Pahat	Sg. Bantang	1	92	B/C	II	92	B/C	II
		Sg. Chaah	1	82	B/C	II	81	B/C	II
	Sg. Johor	Sg. Pelepah	2	89	B/C	II	89	B/C	II
		Sg. Telor	1	88	B/C	II	86	B/C	II
		Sg. Johor	4	83	B/C	II	81	B/C	II
		Sg. Linggiu	1	85	B/C	II	84	B/C	II
		Sg. Layang	1	87	B/C	II	87	B/C	II
		Sg. Remis	1	87	B/C	II	85	B/C	II
		Sg. Semangar	1	87	B/C	II	84	B/C	II
		Sg. Sayong	4	84	B/C	II	83	B/C	II



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				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Johor	Sg. Johor	Sg. Santi	1	80	ST/SP	II	82	B/C	II
		Sg. Layau Kiri	1	83	B/C	II	82	B/C	II
		Sg. Belitong	1	81	B/C	II	81	B/C	II
	Sg. Sedili Besar	Sg. Dohol	1	82	B/C	II	84	B/C	II
Johor/N. Sembilan/ Pahang	Sg. Muar	Sg. Air Panas	1	90	B/C	II	91	B/C	II
		Sg. Juasseh	1	88	B/C	II	90	B/C	II
Pahang/ Johor	Sg. Endau	Sg. Jasin	1	90	B/C	II	91	B/C	II
		Sg. Tamok	1	80	ST/SP	II	82	B/C	II
		Sg. Selai	1	88	B/C	II	88	B/C	II
		Sg. Endau	3	83	B/C	II	84	B/C	II
		Sg. Kahang	1	83	B/C	II	84	B/C	II
Pahang/N. Sembilan	Sg. Pahang	Sg. Teranum	1	91	B/C	II	92	B/C	II
		Sg. Teras	1	90	B/C	II	91	B/C	II
		Sg. Jempol	2	83	B/C	II	83	B/C	II
		Sg. Telang	1	87	B/C	II	87	B/C	II
		Sg. Maran	1	84	B/C	II	85	B/C	II
		Sg. Teris	3	82	B/C	II	82	B/C	II
		Sg. Chini	1	81	B/C	II	81	B/C	II
		Sg. Benus	2	89	B/C	II	89	B/C	II
		Sg. Kelau	1	89	B/C	II	89	B/C	II
		Sg. Lipis	3	88	B/C	II	89	B/C	II
		Sg. Tembeling	1	87	B/C	II	87	B/C	II
		Sg. Perting	1	86	B/C	II	87	B/C	II
		Sg. Tahan	1	86	B/C	II	87	B/C	II
		Sg. Kundang	1	83	B/C	II	82	B/C	II
		Sg. Pahang	8	82	B/C	II	84	B/C	II
		Sg. Tanglir	1	86	B/C	II	85	B/C	II
		Sg. Koyan	1	85	B/C	II	85	B/C	II
		Sg. Lepar	3	85	B/C	II	86	B/C	II
		Sg. Luit	1	85	B/C	II	85	B/C	II
		Sg. Bentong	1	84	B/C	II	82	B/C	II
		Sg. Tasik Chini	1	77	ST/SP	II	87	B/C	II
		Sg. Semantan	4	84	B/C	II	82	B/C	II
		Sg. Tekal	1	84	B/C	II	83	B/C	II
		Sg. Kertam	1	83	B/C	II	81	B/C	II
		Sg. T. Paya Bungor	1	83	B/C	II	84	B/C	II
		Sg. Triang	2	83	B/C	II	82	B/C	II
		Sg. Jelai	2	82	B/C	II	84	B/C	II
		Sg. Berkapor	1	81	B/C	II	81	B/C	II

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				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Pahang	Sg. Bertam	Sg. Habu	1	87	B/C	II	89	B/C	II
		Sg. Lenggok	1	85	B/C	II	88	B/C	II
		Sg. Burung	1	90	B/C	II	91	B/C	II
		Sg. Ringlet	1	84	B/C	II	82	B/C	II
		Sg. Tringkap	1	87	B/C	II	86	B/C	II
		Sg. Terla	1	83	B/C	II	86	B/C	II
		Sg. Telom	2	82	B/C	II	81	B/C	II
	Sg. Cherating	Sg. Cherating	1	82	B/C	II	82	B/C	II
	Sg. Kuantan	Sg. Kenau	1	82	B/C	II	81	B/C	II
		Sg. Pandan	1	82	B/C	II	83	B/C	II
	Sg. Rompin	Sg. Pukin	1	85	B/C	II	83	B/C	II
		Sg. Pontian	1	85	B/C	II	85	B/C	II
		Sg. Aur	1	80	ST/SP	II	83	B/C	II
Terengganu	Sg. Besut	Sg. Besut	2	86	B/C	II	86	B/C	II
	Sg. Dungun	Sg. Dungun	4	85	B/C	II	85	B/C	II
	Sg. Kemaman	Sg. Cherul	1	81	B/C	II	81	B/C	II
		Sg. Kemaman	2	81	B/C	II	82	B/C	II
	Sg. Setiu	Sg. Setiu	2	82	B/C	II	83	B/C	II
	Sg. Terengganu	Sg. Berang	1	89	B/C	II	88	B/C	II
		Sg. Nerus	1	84	B/C	II	81	B/C	II
		Sg. Pueh	1	87	B/C	II	88	B/C	II
		Sg. Telemong	1	87	B/C	II	88	B/C	II
		Sg. Terengganu	3	84	B/C	II	83	B/C	II
Kelantan	Sg. Golok	Sg. Golok	5	86	B/C	II	88	B/C	II
		Sg. Lanas	1	84	B/C	II	88	B/C	II
	Sg. Kelantan	Sg. Ber	1	91	B/C	II	88	B/C	II
		Sg. Pergau	6	89	B/C	II	90	B/C	II
		Sg. Belatop	2	87	B/C	II	87	B/C	II
		Sg. Tuang	1	88	B/C	II	89	B/C	II
		Sg. Lebir	3	84	B/C	II	83	B/C	II
		Sg. Nenggiri	3	83	B/C	II	84	B/C	II
		Sg. Berok	3	84	B/C	II	85	B/C	II
		Sg. Galas	5	84	B/C	II	85	B/C	II
		Sg. Betis	1	87	B/C	II	88	B/C	II
		Sg. Kerilla	1	84	B/C	II	87	B/C	II
		Sg. Nal	2	83	B/C	II	84	B/C	II
		Sg. Relai	1	82	B/C	II	84	B/C	II
		Sg. Sokor	1	79	ST/SP	II	82	B/C	II
	Sg. Kemasin	Sg. Semerak	2	79	ST/SP	II	81	B/C	II

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				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Sabah	Sg. Apas	Sg. Apas	1	83	B/C	II	83	B/C	II
	Sg. Balung	Sg. Balung	1	83	B/C	II	83	B/C	II
	Sg. Bongawan	Sg. Bongawan	1	76	ST/SP	III	82	B/C	II
	Sg. Bengkoka	Sg. Bengkoka	2	82	B/C	II	86	B/C	II
	Sg. Bingkongan	Sg. Menggaris	2	86	B/C	II	89	B/C	II
		Sg. Bandau	1	85	B/C	II	88	B/C	II
		Sg. Bingkongan	2	85	B/C	II	88	B/C	II
		Sg. Tandek	1	85	B/C	II	87	B/C	II
	Sg. Kalabakan	Sg. Kalabakan	3	78	ST/SP	II	82	B/C	II
	Sg. Brantian	Sg. Brantian	1	82	B/C	II	85	B/C	II
	Sg. Kedamaian	Sg. Kedamaian	1	88	B/C	II	89	B/C	II
		Sg. Wariu	1	87	B/C	II	88	B/C	II
		Sg. Tempasuk	2	85	B/C	II	87	B/C	II
	Sg. Kinabatangan	Sg. Koyah	1	87	B/C	II	86	B/C	II
		Sg. Menanggul	1	85	B/C	II	83	B/C	II
		Sg. Kinabatangan	3	81	B/C	II	82	B/C	II
		Sg. Karamuak	1	86	B/C	II	89	B/C	II
	Sg. Labok	Sg. Kinipir	2	89	B/C	II	89	B/C	II
		Sg. Liwagu	2	88	B/C	II	89	B/C	II
		Sg. Maliau	1	88	B/C	II	90	B/C	II
		Sg. Labok	1	85	B/C	II	85	B/C	II
		Sg. Tungud	1	84	B/C	II	86	B/C	II
	Sg. Lakutan	Sg. Lakutan	1	86	B/C	II	87	B/C	II
	Sg. Likas	Sg. Menggatal	2	85	B/C	II	85	B/C	II
	Sg. Lingkungan	Sg. Lingkungan	1	84	B/C	II	88	B/C	II
		Sg. Bukau	1	86	B/C	II	88	B/C	II
	Sg. Menggalong	Sg. Menggalong	2	87	B/C	II	88	B/C	II
	Sg. Merotai	Sg. Merotai	3	85	B/C	II	86	B/C	II
	Sg. Mounad	Sg. Mounad	2	86	B/C	II	86	B/C	II
	Sg. Moyog	Sg. Moyog	4	87	B/C	II	88	B/C	II
	Sg. Padas	Sg. Bunsit	1	90	B/C	II	92	B/C	II
		Sg. Liawan	1	88	B/C	II	90	B/C	II
		Sg. Padas	3	78	ST/SP	II	82	B/C	II
		Sg. Pegalan	3	87	B/C	II	88	B/C	II
		Sg. Tandulu	1	87	B/C	II	90	B/C	II
	Sg. Paitan	Sg. Paitan	1	78	ST/SP	II	82	B/C	II
	Sg. Papar	Sg. Papar	3	85	B/C	II	85	B/C	II



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				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Sabah	Sg. Sapi	Sg. Sapi	3	79	ST/SP	II	81	B/C	II
		Sg. Sualong	1	87	B/C	II	88	B/C	II
	Sg. Segama	Sg. Segama	3	87	B/C	II	85	B/C	II
	Sg. Segaliud	Sg. Segaliud	2	80	ST/SP	II	81	B/C	II
	Sg. Silabukan	Sg. Silabukan	2	87	B/C	II	87	B/C	II
	Sg. Sugut	Sg. Merali	1	92	B/C	II	92	B/C	II
		Sg. Bongkud	1	91	B/C	II	91	B/C	II
		Sg. Lohan	1	91	B/C	II	92	B/C	II
		Sg. Sugut	3	89	B/C	II	89	B/C	II
	Sg. Tawau	Sg. Tawau	4	86	B/C	II	85	B/C	II
	Sg. Tenghilan	Sg. Tenghilan	1	83	B/C	II	87	B/C	II
	Sg. Tingkayu	Sg. Tingkayu	2	86	B/C	II	83	B/C	II
	Sg. Tuaran	Sg. Tuaran	2	87	B/C	II	88	B/C	II
		Sg. Song Sai	1	87	B/C	II	87	B/C	II
		Sg. Damit	2	78	ST/SP	II	82	B/C	II
	Sg. Tungku	Sg. Tungku	2	83	B/C	II	86	B/C	II
Sarawak	Sg. Baram	Sg. Tutuh	1	82	B/C	II	81	B/C	II
	Sg. Lawas	Sg. Lawas	3	82	B/C	II	83	B/C	II
	Sg. Lupar	Sg. Ai	2	87	B/C	II	86	B/C	II
	Sg. Miri	Sg. Padang Liku	1	88	B/C	II	82	B/C	II
	Sg. Rajang	Sg. Binatang	1	85	B/C	II	83	B/C	II
		Sg. Julau	1	79	ST/SP	II	81	B/C	II
		Sg. Kanowit	1	82	B/C	II	82	B/C	II
	Sg. Sarawak	Sg. Semadang	1	88	B/C	II	87	B/C	II
		Sg. Sarawak	6	80	ST/SP	II	81	B/C	II
		Sg. Sarawak Kanan	1	81	B/C	II	81	B/C	II
	Sg. Trusan	Sg. Trusan	1	82	B/C	II	83	B/C	II
	Sg. Semunsam	Sg. Semunsam	1	83	B/C	II	84	B/C	II
	Sg. Limbang	Sg. Limbang	5	81	B/C	II	81	B/C	II
	Sg. Saribas	Sg. Layar	2	84	B/C	II	82	B/C	II

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted

Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Sg. Perlis	Sg. Ngulang	1	79	ST/SP	II	79	ST/SP	II
		Sg. Perlis	1	70	ST/SP	III	69	ST/SP	III
Kedah	Sg. Kedah	Sg. Kedah	1	68	ST/SP	III	66	ST/SP	III
		Sg. Tekai	1	77	ST/SP	II	80	ST/SP	II
		Sg. Pendang	1	72	ST/SP	III	74	ST/SP	III
	Sg. Merbok	Sg. Merbok	1	70	ST/SP	III	71	ST/SP	III
		Sg. Tok Pawang	1	88	B/C	II	80	ST/SP	II
		Sg. Petani	1	54	T/P	III	60	ST/SP	III
		Sg. Bongkok	1	68	ST/SP	III	61	ST/SP	III
Kedah/ P.Pinang	Sg. Muda	Sg. Jerong	1	71	ST/SP	III	71	ST/SP	III
P.Pinang	Sg. Bayan Lepas	Sg. Tiram	2	72	ST/SP	III	69	ST/SP	III
		Sg. Bayan Lepas	1	68	ST/SP	III	65	ST/SP	III
	Sg. Jawi	Sg. Machang Bubok	1	77	ST/SP	II	71	ST/SP	III
		Sg. Junjong	1	90	B/C	II	70	ST/SP	III
	Sg. Juru	Sg. Kilang Ubi	4	69	ST/SP	III	63	ST/SP	III
		Sg. Pasir	1	63	ST/SP	III	62	ST/SP	III
	Sg. Kluang	Sg. Relau	1	67	ST/SP	III	69	ST/SP	III
		Sg. Ara	2	84	B/C	II	80	ST/SP	II
P.Pinang/ Kedah	Sg. Pinang	Sg. Dondang	1	69	ST/SP	III	69	ST/SP	III
		Sg. Air Itam	5	65	ST/SP	III	67	ST/SP	III
P.Pinang/ Kedah/ Perak	Sg. Perai	Sg. Jarak	3	74	ST/SP	III	68	ST/SP	III
		Sg. Kulim	2	79	ST/SP	II	79	ST/SP	II
		Sg. Keladi	1	71	ST/SP	III	70	ST/SP	III
Perak	Sg. Kerian	Sg. Selama	2	76	ST/SP	III	76	ST/SP	III
	Sg. Kurau	Sg. Kurau	4	79	ST/SP	II	80	ST/SP	II
	Sg. Perak	Sg. Pelus	2	72	ST/SP	III	79	ST/SP	II
		Sg. Kerdah	1	78	ST/SP	II	70	ST/SP	III
		Sg. Kinta	6	74	ST/SP	III	74	ST/SP	III
		Sg. Kepayang	2	73	ST/SP	III	72	ST/SP	III
		Sg. Pinji	2	66	ST/SP	III	61	ST/SP	III
		Sg. Pari	1	63	ST/SP	III	66	ST/SP	III
		Sg. Seluang	1	65	ST/SP	III	65	ST/SP	III
		Sg. Tumboh	1	65	ST/SP	III	62	ST/SP	III
	Sg. Raja Hitam	Sg. Manjong	2	71	ST/SP	III	74	ST/SP	III
	Sg. Sepetang	Sg. Sepetang	2	69	ST/SP	III	73	ST/SP	III
	Sg. Wangi	Sg. Deralik	1	71	ST/SP	III	65	ST/SP	III

Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Selangor	Sg. Selangor	Sg. Sembah	1	74	ST/SP	III	69	ST/SP	III
		Sg. Selangor	4	83	B/C	II	79	ST/SP	II
	Sg. Tenggi	Sg. Tenggi	3	74	ST/SP	III	77	ST/SP	II
	Sg. Sepang	Sg. Sepang	2	81	B/C	II	77	ST/SP	II
Selangor/ Putrajaya/ N.Sembilan	Sg. Langat	Sg. Semenyih	1	76	ST/SP	III	76	ST/SP	III
		Sg. Anak Chuau	1	74	ST/SP	III	70	ST/SP	III
		Sg. Jijian	1	76	ST/SP	III	76	ST/SP	III
		Sg. Pajam	1	72	ST/SP	III	67	ST/SP	III
		Sg. Batang Nilai	1	64	ST/SP	III	62	ST/SP	III
		Sg. Langat	7	64	ST/SP	III	64	ST/SP	III
Selangor/ WPKL	Sg. Klang	Sg. Batu	4	75	ST/SP	III	75	ST/SP	III
		Sg. Anak Air Batu	1	74	ST/SP	III	72	ST/SP	III
		Sg. Semelah	1	80	ST/SP	II	80	ST/SP	II
		Sg. Keroh	2	73	ST/SP	III	71	ST/SP	III
		Sg. Gombak	3	72	ST/SP	III	72	ST/SP	III
		Sg. Damansara	2	70	ST/SP	III	64	ST/SP	III
		Sg. Ampang	2	63	ST/SP	III	62	ST/SP	III
		Sg. Jinjang	3	63	ST/SP	III	61	ST/SP	III
		Sg. Klang	8	63	ST/SP	III	60	ST/SP	III
		Sg. Rasau	1	72	ST/SP	III	72	ST/SP	III
		Sg. Toba	1	62	ST/SP	III	61	ST/SP	III
		Sg. Untut	1	61	ST/SP	III	60	ST/SP	III
Melaka	Sg. Duyong	Sg. Duyong	3	67	ST/SP	III	64	ST/SP	III
	Sg. Kesang	Sg. Kesang	3	76	ST/SP	III	75	ST/SP	III
	Sg. Melaka	Sg. Rembia	1	57	T/P	III	61	ST/SP	III
		Sg. Durian Tunggal	1	73	ST/SP	III	73	ST/SP	III
		Sg. Melaka	1	71	ST/SP	III	69	ST/SP	III
Melaka/N. Sembilan	Sg. Linggi	Sg. Kepayong	1	80	ST/SP	II	72	ST/SP	III
		Sg. Siput	1	84	B/C	II	79	ST/SP	II
		Sg. Simin	1	80	ST/SP	II	77	ST/SP	II
		Sg. Linggi	5	76	ST/SP	III	74	ST/SP	III
Johor	Sg. Batu Pahat	Sg. Amran	1	74	ST/SP	III	67	ST/SP	III
		Sg. Bekok	5	73	ST/SP	III	76	ST/SP	III
		Sg. Batu Pahat	1	66	ST/SP	III	61	ST/SP	III
		Sg. Lenik	1	80	ST/SP	II	77	ST/SP	II
		Sg. Merpo	1	64	ST/SP	III	72	ST/SP	III
		Sg. Simpang Kiri	3	66	ST/SP	III	61	ST/SP	III
		Sg. Merek	1	85	B/C	II	79	ST/SP	II
		Sg. Berlian	1	69	ST/SP	III	70	ST/SP	III

Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Johor	Sg. Benut	Sg. Ulu Benut	1	72	ST/SP	III	74	ST/SP	III
		Sg. Parit Hj. Yassin	1	71	ST/SP	III	74	ST/SP	III
		Sg. Pinggan	1	64	ST/SP	III	65	ST/SP	III
		Sg. Benut	4	68	ST/SP	III	69	ST/SP	III
	Sg. Air Baloi	Sg. Air Baloi	3	57	T/P	III	61	ST/SP	III
	Sg. Johor	Sg. Anak Sg. Sayong	1	77	ST/SP	II	68	ST/SP	III
		Sg. Seluyut	1	77	ST/SP	II	76	ST/SP	III
		Sg. Tiram	4	73	ST/SP	III	73	ST/SP	III
		Sg. Panti	1	80	ST/SP	II	79	ST/SP	II
		Sg. Penggeli	2	79	ST/SP	II	80	ST/SP	II
		Sg. Lebam	1	71	ST/SP	III	71	ST/SP	III
		Sg. Papan	1	69	ST/SP	III	70	ST/SP	III
		Sg. Bukit Besar	1	89	B/C	II	75	ST/SP	III
		Sg. Sebol	1	69	ST/SP	III	65	ST/SP	III
		Sg. Temoh	1	61	ST/SP	III	62	ST/SP	III
	Sg. Jemaluang	Sg. Jemaluang	2	79	ST/SP	II	77	ST/SP	II
	Sg. Mersing	Sg. Mersing	2	77	ST/SP	II	77	ST/SP	II
	Sg. Pontian Besar	Sg. Air Hitam	1	66	ST/SP	III	64	ST/SP	III
		Sg. Pontian Besar	5	62	ST/SP	III	60	ST/SP	III
	Sg. Pontian Kecil	Sg. Pontian Kecil	2	72	ST/SP	III	72	ST/SP	III
	Sg. Pulaui	Sg. Pulaui	2	68	ST/SP	III	64	ST/SP	III
	Sg. Paloi	Sg. Paloi	1	84	B/C	II	78	ST/SP	II
	Sg. Rambah	Sg. Rambah	2	65	ST/SP	III	66	ST/SP	III
	Sg. Sedili Besar	Sg. Ambat	1	83	B/C	II	79	ST/SP	II
		Sg. Temubor Kanan	1	81	B/C	II	75	ST/SP	III
		Sg. Pasir Panjang	1	75	ST/SP	III	75	ST/SP	III
		Sg. Sedili Besar	5	75	ST/SP	III	77	ST/SP	II
	Sg. Sedili Kecil	Sg. Sedili Kecil	2	72	ST/SP	III	73	ST/SP	III
		Sg. Bahan	2	67	ST/SP	III	67	ST/SP	III
Johor/N. Sembilan/ Pahang	Sg. Muar	Sg. Labis	1	80	ST/SP	II	79	ST/SP	II
		Sg. Gemencheh	1	80	ST/SP	II	80	ST/SP	II
		Sg. Segamat	1	79	ST/SP	II	79	ST/SP	II
		Sg. Muar	8	81	B/C	II	80	ST/SP	II
		Sg. Meda	1	75	ST/SP	III	77	ST/SP	II



Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Pahang	Sg. Anak Endau	Sg. Anak Endau	2	79	ST/SP	II	80	ST/SP	II
	Sg. Balok	Sg. Balok	2	72	ST/SP	III	71	ST/SP	III
		Sg. Panjang	1	71	ST/SP	III	69	ST/SP	III
	Sg. Bebar	Sg. Merba	1	78	ST/SP	II	78	ST/SP	II
		Sg. Bebar	1	75	ST/SP	III	73	ST/SP	III
		Sg. Serai	2	72	ST/SP	III	74	ST/SP	III
	Sg. Bertam	Sg. Bertam	1	74	ST/SP	III	80	ST/SP	II
	Sg. Kuantan	Sg. Talam	1	79	ST/SP	II	79	ST/SP	II
		Sg. Kuantan	5	77	ST/SP	II	79	ST/SP	II
		Sg. Belat	1	77	ST/SP	II	79	ST/SP	II
		Sg. Riau	1	75	ST/SP	III	77	ST/SP	II
	Sg. Merchong	Sg. Merchong	1	82	B/C	II	77	ST/SP	II
Pahang/ Johor	Sg. Rompin	Sg. Keratong	2	82	B/C	II	80	ST/SP	II
		Sg. Rompin	4	79	ST/SP	II	80	ST/SP	II
	Sg. Tonggok	Sg. Tonggok	1	74	ST/SP	III	73	ST/SP	III
	Sg. Endau	Sg. Lenggor	1	80	ST/SP	II	80	ST/SP	II
		Sg. Paloh	1	76	ST/SP	III	76	ST/SP	III
		Sg. Semberong	5	59	T/P	III	77	ST/SP	II
		Sg. Mamai	1	77	ST/SP	II	79	ST/SP	II
		Sg. Singol	1	57	T/P	III	61	ST/SP	III
		Sg. Mengkibol	3	72	ST/SP	III	70	ST/SP	III
		Sg. Pamol	1	66	ST/SP	III	61	ST/SP	III
Pahang/N. Sembilan	Sg. Pahang	Sg. Tasik Bera	1	74	ST/SP	III	78	ST/SP	II
		Sg. Tekam	2	78	ST/SP	II	78	ST/SP	II
		Sg. Mentiga	1	74	ST/SP	III	78	ST/SP	II
		Sg. Jengka	2	80	ST/SP	II	80	ST/SP	II
		Sg. Charu	1	77	ST/SP	II	80	ST/SP	II
		Sg. Bera	2	76	ST/SP	III	79	ST/SP	II
		Sg. Serting	2	76	ST/SP	III	74	ST/SP	III
Terengganu	Sg. Chukai	Sg. Ibok	1	79	ST/SP	II	79	ST/SP	II
		Sg. Chukai	1	77	ST/SP	II	79	ST/SP	II
		Sg. Bungkus	1	75	ST/SP	III	76	ST/SP	III
		Sg. Ruang	1	71	ST/SP	III	71	ST/SP	III
	Sg. Kluang	Sg. Kluang	1	74	ST/SP	III	75	ST/SP	III
	Sg. Merang	Sg. Merang	1	71	ST/SP	III	68	ST/SP	III
	Sg. Merchang	Sg. Merchang	1	70	ST/SP	III	71	ST/SP	III
	Sg. Ibai	Sg. Ibai	3	70	ST/SP	III	70	ST/SP	III
	Sg. Kemaman	Sg. Ransan	1	68	ST/SP	III	68	ST/SP	III

Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Terengganu	Sg. Kertih	Sg. Kertih	1	79	ST/SP	II	78	ST/SP	II
	Sg. Marang	Sg. Marang	1	73	ST/SP	III	75	ST/SP	III
	Sg. Paka	Sg. Paka	1	76	ST/SP	III	79	ST/SP	II
		Sg. Rasau	1	73	ST/SP	III	72	ST/SP	III
	Sg. Setiu	Sg. Chalok	2	77	ST/SP	II	79	ST/SP	II
Kelantan	Sg. Kelantan	Sg. Kelantan	3	79	ST/SP	II	79	ST/SP	II
	Sg. Kemasin	Sg. Kemasin	2	73	ST/SP	III	76	ST/SP	III
	Sg. Pengkalan Chepa	Sg. Raja Gali	1	79	ST/SP	II	78	ST/SP	II
		Sg. Pengkalan Chepa	2	76	ST/SP	III	70	ST/SP	III
		Sg. Keladi	1	74	ST/SP	III	76	ST/SP	III
	Sg. Pengkalan Datu	Sg. Pengkalan Datu	3	77	ST/SP	II	77	ST/SP	II
Sabah	Sg. Sembulan	Sg. Sembulan	2	65	ST/SP	III	67	ST/SP	III
	Sg. Membakut	Sg. Membakut	1	80	ST/SP	II	80	ST/SP	II
	Sg. Kalumpang	Sg. Kalumpang	3	81	B/C	II	79	ST/SP	II
	Sg. Padas	Sg. Pangatan	1	73	ST/SP	III	78	ST/SP	II
	Sg. Umas- Umas	Sg. Umas-Umas	1	76	ST/SP	III	80	ST/SP	II
	Sg. Kimanis	Sg. Kimanis	1	73	ST/SP	III	77	ST/SP	II
	Sg. Likas	Sg. Inanam	3	77	ST/SP	II	79	ST/SP	II
		Sg. Likas	2	69	ST/SP	III	72	ST/SP	III
	Sg. Telipok	Sg. Telipok	2	86	B/C	II	79	ST/SP	II
Sarawak	Sg. Balingian	Sg. Balingian	2	80	ST/SP	II	78	ST/SP	II
	Sg. Kayan	Sg. Kayan	3	80	ST/SP	II	79	ST/SP	II
	Sg. Kemena	Sg. Kemena	3	77	ST/SP	II	77	ST/SP	II
		Sg. Sibiu	1	76	ST/SP	III	76	ST/SP	III
	Sg. Kerian	Sg. Kerian	2	80	ST/SP	II	79	ST/SP	II
		Sg. Seblak	1	78	ST/SP	II	79	ST/SP	II
	Sg. Lupar	Sg. Seterap	1	83	B/C	II	80	ST/SP	II
		Sg. Sekerang	1	80	ST/SP	II	80	ST/SP	II
		Sg. Undup	1	77	ST/SP	II	80	ST/SP	II
		Sg. Lupar	3	81	B/C	II	78	ST/SP	II
	Sg. Miri	Sg. Lutong	1	78	ST/SP	II	75	ST/SP	III
		Sg. Miri	2	78	ST/SP	II	75	ST/SP	III
		Sg. Adong	1	77	ST/SP	II	74	ST/SP	III
		Sg. Dalam	1	75	ST/SP	III	75	ST/SP	III
	Sg. Mukah	Sg. Mukah	4	79	ST/SP	II	76	ST/SP	III
	Sg. Niah	Sg. Niah	2	81	B/C	II	80	ST/SP	II
		Sg. Sekaloh	1	74	ST/SP	III	74	ST/SP	III

Jadual 2.2 Malaysia: Status Kualiti Air Sungai bagi Sungai Sederhana Tercemar, 2017  
 Table 2.2 Malaysia: Water Quality Status of Slightly Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Sarawak	Sg. Oya	Sg. Oya	3	80	ST/SP	II	77	ST/SP	II
	Sg. Rajang	Sg. Rajang	11	78	ST/SP	II	77	ST/SP	II
		Sg. Baloi	1	80	ST/SP	II	79	ST/SP	II
		Sg. Meradong	1	79	ST/SP	II	77	ST/SP	II
		Sg. Sarikei	2	82	B/C	II	80	ST/SP	II
		Sg. Salim	1	73	ST/SP	III	72	ST/SP	III
	Sg. Sarawak	Sg. Semenggoh	1	71	ST/SP	III	68	ST/SP	III
		Sg. Kuap	1	77	ST/SP	II	77	ST/SP	II
		Sg. Sarawak Kiri	1	79	ST/SP	II	80	ST/SP	II
		Sg. Tabuan	1	74	ST/SP	III	73	ST/SP	III
		Sg. Samarahan	2	81	B/C	II	79	ST/SP	II
		Sg. Maong Kiri	1	66	ST/SP	III	64	ST/SP	III
	Sg. Saribas	Sg. Saribas	1	79	ST/SP	II	74	ST/SP	III
	Sg. Sibuti	Sg. Kabuloh	2	68	ST/SP	III	67	ST/SP	III
		Sg. Satap	1	81	B/C	II	78	ST/SP	II
		Sg. Sibuti	2	82	B/C	II	80	ST/SP	II
	Sg. Sadong	Sg. Sadong	4	82	B/C	II	79	ST/SP	II
		Sg. Karangan	2	81	B/C	II	77	ST/SP	II
	Sg. Baram	Sg. Baram	4	79	ST/SP	II	79	ST/SP	II
	Sg. Sibuti	Sg. Kejapil	1	80	ST/SP	II	80	ST/SP	II
	Sg. Tatau	Sg. Tatau	1	81	B/C	II	80	ST/SP	II
	Sg. Similajau	Sg. Similajau	2	78	ST/SP	II	79	ST/SP	II
	Sg. Suai	Sg. Suai	1	77	ST/SP	II	76	ST/SP	III

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted

Jadual 2.3 Malaysia: Status Kualiti Air bagi Sungai Tercemar, 2017  
 Table 2.3 Malaysia: Water Quality Status of Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
P.Pinang	Sg. Jawi	Sg. Jawi	1	47	T/P	IV	44	T/P	IV
	Sg. Juru	Sg. Juru	2	58	T/P	III	53	T/P	III
		Sg. Rambai	1	55	T/P	III	49	T/P	IV
P.Pinang/ Kedah	Sg. Pinang	Sg. Jelutong	1	44	T/P	IV	49	T/P	IV
		Sg. Pinang	1	56	T/P	III	57	T/P	III
	Sg. Perai	Sg. Perai	2	58	T/P	III	57	T/P	III
		Sg. Kereh	2	55	T/P	III	50	T/P	IV
		Sg. Pertama	1	49	T/P	IV	49	T/P	IV
Perak	Sg. Perak	Sg. Nyamok	1	57	T/P	III	55	T/P	III
		Sg. Serokai	1	62	ST/SP	III	58	T/P	III
	Sg. Wangi	Sg. Wangi	1	63	ST/SP	III	56	T/P	III
	Sg. Raja Hitam	Sg. Raja Hitam	2	63	ST/SP	III	49	T/P	III
Selangor/ WPKL	Sg. Klang	Sg. Air Busuk	1	57	T/P	III	56	T/P	III
		Sg. Belongkong	1	56	T/P	III	55	T/P	III
		Sg. Kuyoh	1	50	T/P	IV	48	T/P	III
		Sg. Bunos	3	57	T/P	III	57	T/P	III
		Sg. Kerayong	2	53	T/P	III	52	T/P	III
Selangor	Sg. Buloh	Sg. Buloh	4	61	ST/SP	III	58	T/P	III
Melaka	Sg. Merlimau	Sg. Merlimau	2	60	ST/SP	III	53	T/P	III
	Sg. Seri Melaka	Sg. Seri Melaka	1	58	T/P	III	56	T/P	III
Johor	Sg. Pulai	Sg. Ulu Choh	1	58	T/P	III	49	T/P	IV
	Sg. Batu Pahat	Sg. Simpang Kanan	2	58	T/P	III	56	T/P	III
		Sg. Semberong	2	78	ST/SP	II	59	T/P	III
	Sg. Skudai	Sg. Skudai	9	60	ST/SP	III	59	T/P	III
		Sg. Melana	2	50	T/P	IV	52	T/P	III
	Sg. Johor	Sg. Chemangar	1	64	ST/SP	III	58	T/P	III
		Sg. Semenchu	1	44	T/P	IV	54	T/P	III
	Sg. Danga	Sg. Danga	2	46	T/P	IV	44	T/P	IV
	Kawasan Pasir Gudang	Sg. Lato	1	57	T/P	III	52	T/P	III
		Sg. Perembi	1	51	T/P	IV	49	T/P	IV
		Sg. Masai	1	48	T/P	IV	48	T/P	IV
		Sg. Buluh	1	35	T/P	IV	34	T/P	IV
		Sg. Tukang Batu	1	33	T/P	IV	30	T/P	V



Jadual 2.3 Malaysia: Status Kualiti Air bagi Sungai Tercemar, 2017  
 Table 2.3 Malaysia: Water Quality Status of Polluted Rivers, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	BILANGAN STESEN/ NUMBER OF STATIONS	2016			2017		
				IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Johor	Sg. Kempas	Sg. Kempas	2	47	T/P	IV	47	T/P	IV
	Sg. Kim-Kim	Sg. Kim-Kim	2	58	T/P	III	57	T/P	III
	Sg. Sedili Kecil	Sg. Anak Sedili Kecil	1	69	ST/SP	III	53	T/P	III
	Sg. Muar	Sg. Sarang Buaya	1	55	T/P	III	57	T/P	III
	Sg. Pontian Besar	Sg. Ayer Merah	1	49	T/P	IV	43	T/P	IV
	Sg. Sanglang	Sg. Sanglang	1	54	T/P	III	57	T/P	III
	Sg. Segget	Sg. Segget	5	47	T/P	IV	46	T/P	IV
	Sg. Tebrau	Sg. Bala	1	48	T/P	IV	48	T/P	IV
		Sg. Sebulung	1	48	T/P	IV	49	T/P	IV
		Sg. Plentong	1	46	T/P	IV	46	T/P	III
		Sg. Tebrau	4	35	T/P	IV	41	T/P	IV
		Sg. Pandan	1	44	T/P	IV	42	T/P	IV
		Sg. Tampoi	1	40	T/P	IV	41	T/P	IV
		Sg. Sengkuang	1	39	T/P	IV	40	T/P	IV
Pahang/ Johor	Sg. Endau	Sg. Melatai	1	61	ST/SP	III	58	T/P	III
		Sg. Jebong	1	56	T/P	III	58	T/P	II
Kelantan	Sg. Pengkalan Chepa	Sg. Alor Lintah	1	56	T/P	III	58	T/P	III
		Sg. Alor B	1	50	T/P	IV	52	T/P	III

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted

**Jadual 2.4** menunjukkan sebanyak 24 daripada 51 sungai tercemar masih tergolong dalam Kelas III, 26 sungai adalah dalam Kelas IV, manakala satu sungai adalah Kelas V. Berdasarkan BOD, satu sungai diklasifikasikan sebagai Kelas III, 24 sungai sebagai Kelas IV manakala 26 adalah Kelas V. Dari segi NH<sub>3</sub>-N pula, dua sungai tergolong dalam Kelas I, satu sungai dalam Kelas III, 23 sungai Kelas IV, dan 25 sungai adalah Kelas V. Dari segi SS, sebanyak dua sungai telah diklasifikasikan sebagai Kelas I, 24 sungai Kelas II, dan 24 adalah Kelas III manakala satu adalah Kelas IV.

**Table 2.4** shows that out of the 51 polluted rivers, 24 rivers were classified as Class III, while 26 rivers as Class IV, and one river as Class V. In terms of BOD, one river was classified as Class III, 24 rivers were classified as Class IV and 26 rivers as Class V. In terms of NH<sub>3</sub>-N, two rivers were classified as Class I, one river as Class III, 23 as Class IV and 25 rivers as Class V. In terms of SS, two rivers were classified as Class I, 24 rivers as Class II, 24 rivers as Class III while one rivers as Class IV.

Jadual 2.4 Malaysia: Sungai Tercemar dan Kelas Kualiti Air Berdasarkan BOD, AN dan SS, 2017  
Table 2.4 Malaysia: The Polluted Rivers and Classes Based on BOD, AN and SS, 2017

BIL./ NO.	NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STATUS 2017		KELAS BERDASARKAN:/ CLASS BASED ON:		
				IKA/ WQI	KELAS/ CLASS	BOD	AN	SS
1	P.Pinang	Sg. Jawi	Sg. Jawi	44	IV	V	V	III
			Sg. Juru	53	III	IV	V	III
		Sg. Rambai		49	IV	IV	V	II
2	P.Pinang/Kedah	Sg. Pinang	Sg. Pinang	57	III	IV	IV	II
			Sg. Jelutong	49	IV	V	IV	III
		Sg. Perai	Sg. Perai	57	III	IV	IV	III
			Sg. Kereh	50	IV	IV	IV	III
			Sg. Pertama	49	IV	IV	IV	III
3	Perak	Sg. Perak	Sg. Nyamok	55	III	IV	IV	III
			Sg. Serokai	58	III	IV	IV	III
		Sg. Wangi	Sg. Wangi	56	III	IV	IV	II
		Sg. Raja Hitam	Sg. Raja Hitam	49	IV	V	IV	III
4	Selangor/WPKL	Sg. Klang	Sg. Air Busuk	56	III	V	V	III
			Sg. Belongkong	55	III	V	V	II
			Sg. Bonus	57	III	V	V	II
			Sg. Kerayong	52	IV	V	V	II
			Sg. Kuyoh	48	IV	V	V	II
5	Selangor	Sg. Buloh	Sg. Buloh	58	III	IV	IV	II
6	Melaka	Sg. Merlimau	Sg. Merlimau	53	III	IV	IV	II
		Sg. Seri Melaka	Sg. Seri Melaka	56	III	V	V	II
7	Johor	Sg. Batu Pahat	Sg. Simpang Kanan	56	III	III	IV	I
			Sg. Semberong	59	III	IV	IV	I
		Sg. Skudai	Sg. Skudai	59	III	IV	IV	III
			Sg. Melana	52	IV	V	IV	II
		Sg. Pulai	Sg. Ulu Choh	49	IV	V	V	III
		Sg. Danga	Sg. Danga	44	IV	V	V	III

Jadual 2.4 Malaysia: Sungai Tercemar dan Kelas Kualiti Air Berdasarkan BOD, AN dan SS, 2017  
 Table 2.4 Malaysia: The Polluted Rivers and Classes Based on BOD, AN and SS, 2017

BIL./ NO.	NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STATUS 2017		KELAS BERDASARKAN:/ CLASS BASED ON:		
				IKA/ WQI	KELAS/ CLASS	BOD	AN	SS
8	Johor	Kawasan Pasir Gudang	Sg. Latoh	52	IV	IV	V	III
			Sg. Perembi	49	IV	V	V	II
			Sg. Masai	48	IV	IV	V	II
			Sg. Buluh	34	IV	V	V	III
			Sg. Tukang Batu	30	V	V	V	III
		Sg. Endau	Sg. Melatai	58	III	IV	IV	III
			Sg. Jebong	58	III	IV	IV	III
		Sg. Johor	Sg. Semenchu	54	III	V	IV	III
			Sg. Chemangar	58	III	IV	V	II
		Sg. Kempas	Sg. Kempas	47	IV	V	V	III
		Sg. Kim-Kim	Sg. Kim-Kim	57	III	IV	IV	II
		Sg. Pontian Besar	Sg. Ayer Merah	43	IV	V	IV	III
		Sg. Sanglang	Sg. Sanglang	57	III	IV	II	IV
		Sg. Sedili Kecil	Sg. Anak Sedili Kecil	53	III	IV	III	II
		Sg. Segget	Sg. Segget	46	IV	V	V	II
		Sg. Tebrau	Sg. Bala	48	IV	V	V	II
			Sg. Sebulung	49	IV	V	IV	II
			Sg. Pandan	42	IV	V	V	II
			Sg. Plentong	46	IV	IV	V	III
			Sg. Tebrau	41	IV	V	V	III
			Sg. Tampoi	41	IV	V	V	II
			Sg. Sengkuang	40	IV	V	V	II
9	Johor/ N. Sembilan	Sg. Muar	Sg. Sarang Buaya	57	III	V	II	III
10	Kelantan	Sg. Pengkalan Chepa	Sg. Alor Lintah	58	III	IV	IV	II
			Sg. Alor B	52	IV	IV	IV	II

## PENGAWASAN KUALITI AIR SUNGAI AUTOMATIK

**Rajah 2.2** menunjukkan lokasi 10 stesen pengawasan sungai automatik serta takat pengambilan air yang disenaraikan seperti dalam **Jadual 2.5**.

Oksigen terlarut adalah salah satu penunjuk kepada kehadiran BOD yang disebabkan oleh bahan pencemar organik. Berdasarkan oksigen terlarut, 80.4 % daripada bacaan yang direkodkan di stesen automatik di Sg. Perak adalah berada dalam Kelas II, diikuti oleh Sg. Semenyih (51.5%), Sg. Langat (Cheras) (44.3%), Sg. Labu (28.8%), Sg. Selangor (20.5%), Sg. Skudai (18.1%), Sg. Putat (16.6%), Sg. Langat (Dengkil) (15.8 %), Sg. Linggi (13.7%), manakala

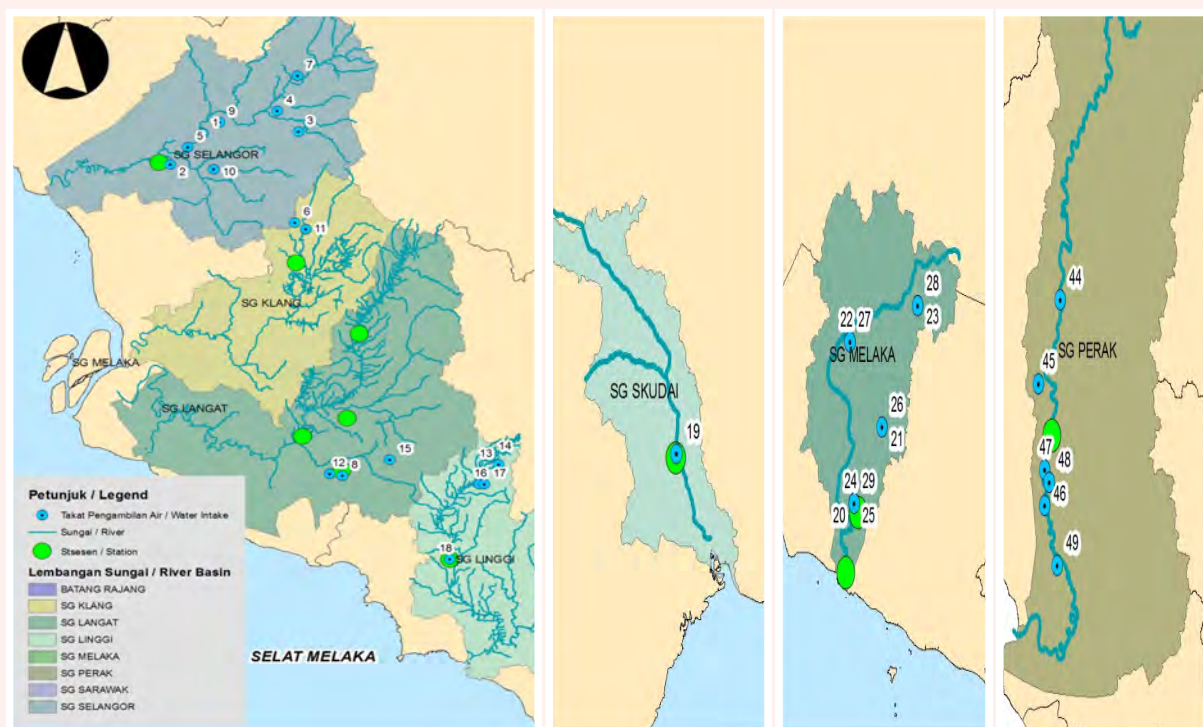
## CONTINUOUS RIVER WATER QUALITY MONITORING

**Figure 2.2** shows the location of the 10 continuous river monitoring stations and subsequent water intakes as listed in **Table 2.5**.

The dissolved oxygen is one of indicators of BOD strength exerted by organic pollutants. In terms of dissolved oxygen level, about 80.4% of the data recorded at Sg. Perak were within the Class II of the NWQS, followed by Sg. Semenyih (51.5%), Sg. Langat (Cheras) (44.3%), Sg. Labu (28.8%), Sg. Selangor (20.5%), Sg. Skudai (18.1%), Sg. Putat (16.6%), Sg. Langat (Dengkil) (15.8 %), Sg. Linggi (13.7%). Meanwhile, only 3.3% of the dissolved oxygen

hanya 3.3% bacaan oksigen terlarut di Sg. Melaka adalah berada dalam Kelas II (**Rajah 2.3**).

*recorded at Sg. Melaka were within the Class II limit (Figure 2.3).*



Rajah 2.2: Stesen Pengawasan Kualiti Air Sungai Automatik dan Takat Pengambilan Air  
Figure 2.2: Continuous Water Quality Stations and Water Intakes

Jadual 2.5 Senarai Takat Pengambilan Air dalam Kawasan Tadahan Seperti Dalam Rajah 2.2  
Table 2.5 Water Intake List within catchments as in the Figure 2.2

NO	NEGERI/ STATE	SUNGAI/ RIVER	SKIM PERBEKALAN/ SUPPLY SCHEME
1	Selangor	Sungai Selangor	SSP 2, Bukit Badong
		Sungai Selangor	Rantau Panjang
		Sungai Batang Kali	Batang Kali
		Sungai Selangor	Rasa
		Sungai Selangor	SSP 3, Bukit Badong
		Sungai Rangkap	Sungai Rangkap
		Sungai Kubu	Kuala Kubu Bharu
		Sungai Labu	Sungai Labu
		Sungai Tenggi	Sungai Tenggi
		Sungai Darah	Sungai Buaya
		Empangan Batu	Sungai Batu
		Sungai Labu	Salak Tinggi
		Sg Batang Penar	Pantai
2	N. Sembilan	Sg. Ngoi-Ngoi	Ngoi-ngoi
		Sg Mahang	Mahang
		Sg Batang Penar	Sungai Terip
		Empangan Sg. Terip	Terip
		Sg. Linggi	Sg. Linggi
		Sg. Skudai	Johor Bahru
3	Johor	Sg. Skudai	Johor Bahru



Jadual 2.5 Senarai Takat Pengambilan Air dalam Kawasan Tadahan seperti dalam Rajah 2.2  
 Table 2.5 Water Intake List within catchments as in the Figure 2.2

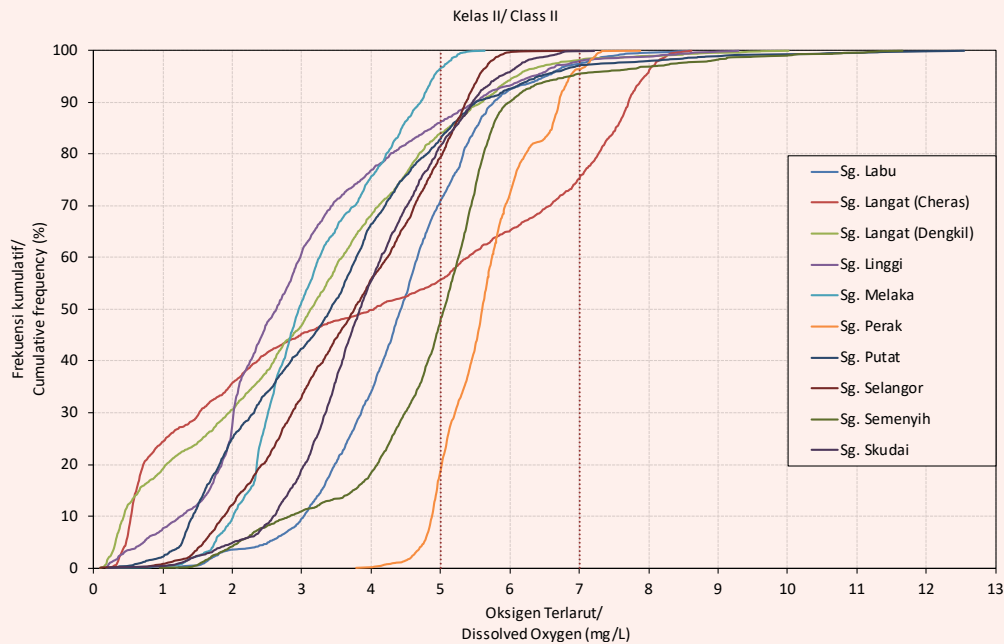
NO	NEGERI/ STATE	SUNGAI/ RIVER	SKIM PERBEKALAN/ SUPPLY SCHEME
4	Melaka	Sg. Melaka	Jasin, Melaka Tengah dan Alor Gajah
		Empangan Durian Tunggal	Melaka Tengah, Alor Gajah dan Jasin
		Sg. Melaka (Bunded Storage)	Melaka Tengah, Alor Gajah dan Jasin
		Sg. Kesang	Jasin dan Merlimau
		Sg. Muar	Melaka Tengah, Alor Gajah dan Jasin
		Sg. Melaka	Jasin, Melaka Tengah dan Alor Gajah
		Empangan Durian Tunggal	Melaka Tengah, Alor Gajah dan Jasin
		Sg. Melaka (Bunded Storage)	Melaka Tengah, Alor Gajah dan Jasin
		Sg. Kesang	Jasin dan Merlimau
		Sg. Muar	Melaka Tengah, Alor Gajah dan Jasin
5	Perak	Sg. Perak (dalam kawasan tadahan LPA Kg. Gajah)	Kota Lama Kiri
		Sg. Guar	Manong
		Sg. Perak (dalam kawasan tadahan LPA Kg. Gajah)	Teluk Kepayang
		Sg. Perak (dalam kawasan tadahan LPA Kg. Gajah)	Kampung Paloh
		Sg. Perak (dalam kawasan tadahan LPA Kg. Gajah)	BB Seri Iskandar
		Sg. Perak	Kampung Gajah

Ammonium adalah satu bentuk ammonia yang telah terion. Pengukuran ammonium memberi petunjuk kepada potensi kehadiran pencemar ammonia atau ammonia nitrogen dalam air sungai apabila pH dan suhu air berubah. Sebanyak 54.2% daripada bacaan ammonium yang direkodkan di Sg. Perak adalah dalam Kelas II berdasarkan julat ammonia nitrogen diikuti dengan Sg. Langat (Dengkil) (52.6%), Sg. Melaka (17.3%), Sg. Langat (Cheras) (13.5%), Sg. Putat (3.4%), Sg. Selangor (1.4%), manakala tiada bacaan ammonium yang direkodkan di Sg. Skudai, Sg. Labu, Sg. Linggi, dan Sg. Semenyih berada dalam Kelas II tersebut (**Rajah 2.4**).

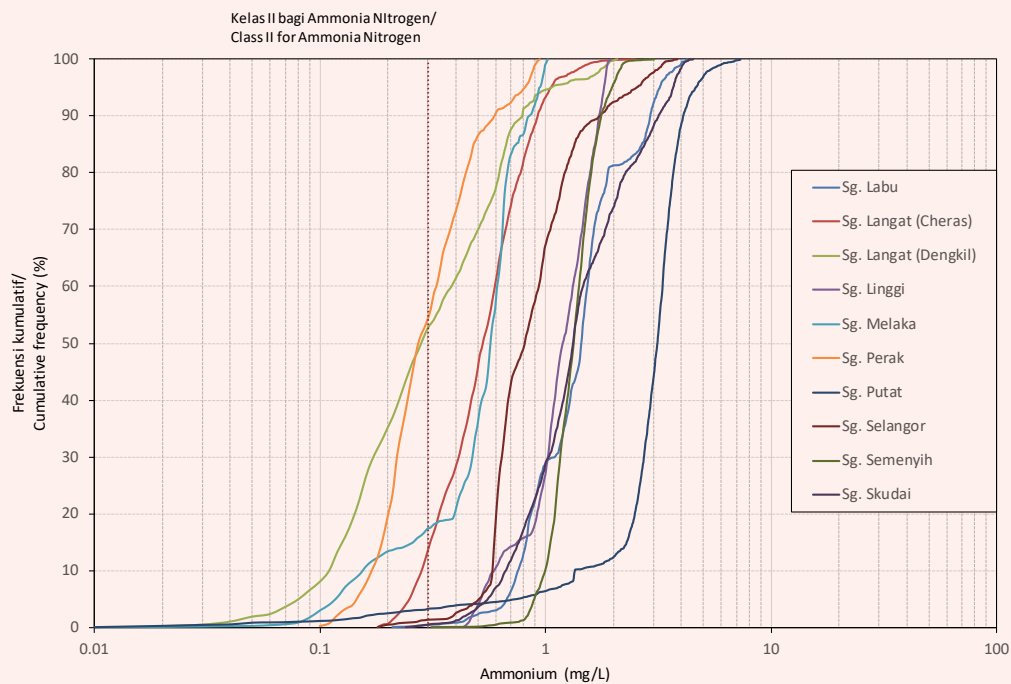
Kekeruhan digunakan sebagai penunjuk kehadiran pepejal terampai di dalam sungai. Sebanyak 35.6% daripada keseluruhan data kekeruhan yang direkodkan di stesen automatik Sg. Perak adalah berada dalam julat Kelas II diikuti Sg. Langat (Dengkil) (33.3%), Sg. Selangor (25%), Sg. Labu (24.2%), Sg. Skudai (10.1%), Sg. Linggi (7.3%), Sg. Semenyih (6.6%), Sg. Langat (Cheras) (4.3%), Sg. Putat (2.9%), manakala hanya 1.7% daripada bacaan kekeruhan di Sg. Melaka berada dalam julat tersebut (**Rajah 2.5**).

*The ammonium is an ionized form of ammonia. The measurement of ammonium indicates the potential to form ammonia or ammoniacal nitrogen pollutants in rivers when pH and temperature changes. It is about 54.2% of the ammonium levels recorded at Sg. Perak were within Class II limit based on ammoniacal nitrogen followed by Sg. Langat (Dengkil) (52.6%), Sg. Melaka (17.3%), Sg. Langat (Cheras) (13.5%), Sg. Putat (3.4%), Sg. Selangor (1.4%). Meanwhile, none of the recorded ammonium at Sg. Skudai, Sg. Labu, Sg. Linggi, and Sg. Semenyih were within the Class II limits (**Figure 2.4**).*

*Turbidity is used as an indicator of suspended solids in a river. Of all data recorded at automatic river water quality monitoring stations, 35.6% of turbidity data for Sg. Perak were within the Class II followed by Sg. Langat (Dengkil) (33.3%), Sg. Selangor (25%), Sg. Labu (24.2%), Sg. Skudai (10.1%), Sg. Linggi (7.3%), Sg. Semenyih (6.6%), Sg. Langat (Cheras) (4.3%), Sg. Putat (2.9%). Meanwhile, only 1.7% of the turbidity recorded at Sg. Melaka were within the Class II limit (**Figure 2.5**).*



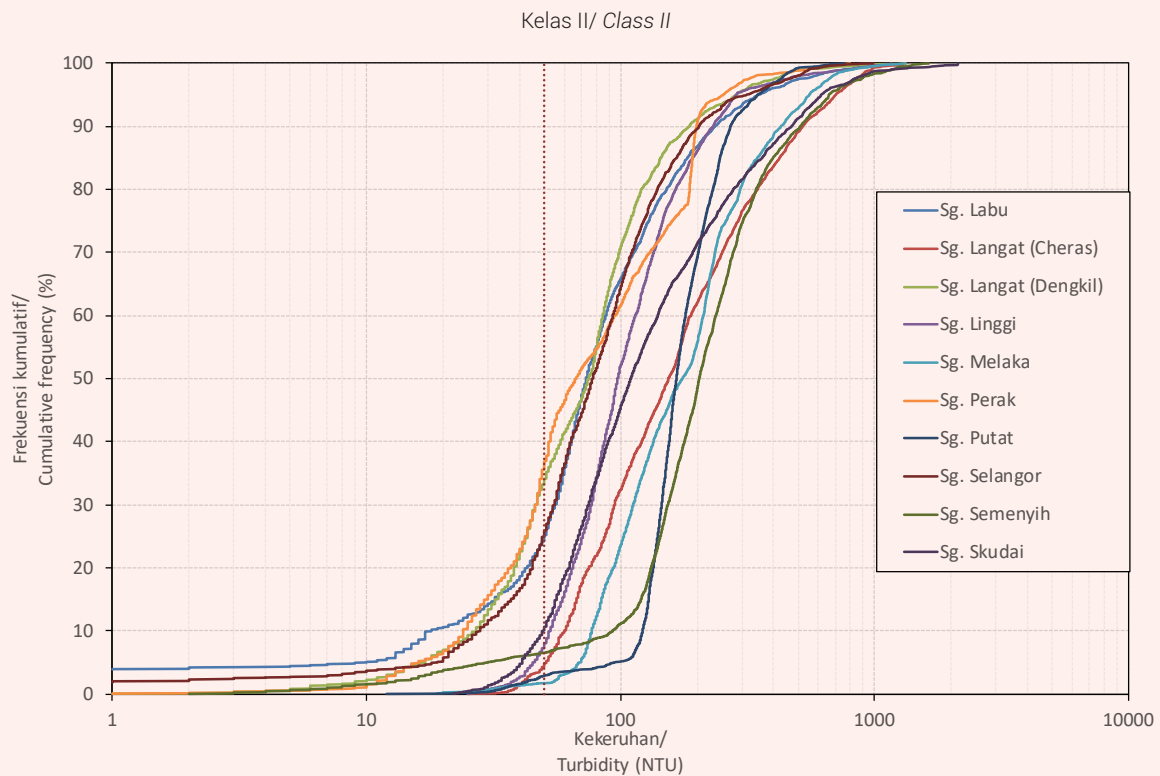
Rajah 2.3 Perbandingan Frekuensi Kumulatif Bagi 10 Stesen-Stesen CWQM Untuk Oksigen Terlarut, 2017  
 Figure 2.3 Comparison of Cumulative Frequency for 10 CWQM Stations for Dissolved Oxygen, 2017



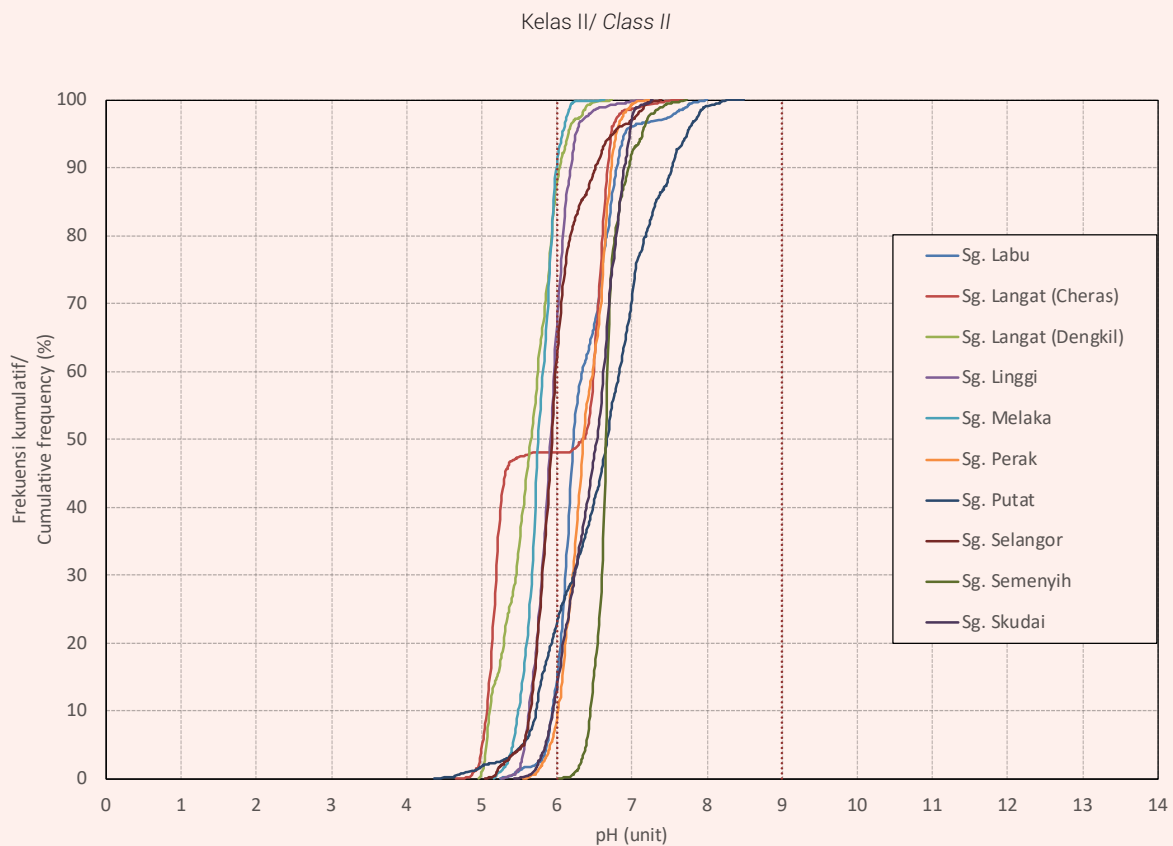
Rajah 2.4 Perbandingan Frekuensi Kumulatif Bagi 13 Stesen-Stesen CWQM Untuk Ammonium, 2017  
 Figure 2.4 Comparison of Cumulative Frequency for 13 CWQM Stations for Ammonium Concentration, 2017

pH adalah ukuran bagi keasidan dan kealkalian mengikut skala pH. Kesemua bacaan pH yang direkodkan di stesen Sg. Semenyih adalah berada dalam julat Kelas II diikuti oleh Sg. Perak (91.2%), Sg. Skudai (86.9%), Sg. Labu (85.4%), Sg. Putat (77%), Sg. Langat (Cheras) (52%), Sg. Selangor (37.9%), Sg. Linggi (33.3%), Sg. Langat (Dengkil) (12%), dan Sg. Melaka (9.6%), (**Rajah 2.6**).

*pH is a measurement of acidity and alkalinity based on pH scale. All of the data recorded at automatic river water quality monitoring stations in Sg. Semenyih were within Class II followed by Sg. Perak (91.2%), Sg. Skudai (86.9%), Sg. Labu (85.4%), Sg. Putat (77%), Sg. Langat (Cheras) (52%), Sg. Selangor (37.9%), Sg. Linggi (33.3%), Sg. Langat (Dengkil) (12%), dan Sg. Melaka (9.6%), (**Rajah 2.6**).*



Rajah 2.5 Perbandingan Frekuensi Kumulatif bagi 10 Stesen-Stesen CWQM untuk Kekeruhan, 2017  
Figure 2.5 Comparison of Cumulative Frequency for 10 CWQM Stations for Turbidity, 2017



Rajah 2.6 Perbandingan Frekuensi Kumulatif bagi 10 Stesen-Stesen CWQM untuk pH, 2017  
Figure 2.6 Comparison of Cumulative Frequency for 10 CWQM Stations for pH, 2017

## TREN PENCEMARAN AIR SUNGAI

Kualiti air sungai yang ditentukan dari segi IKA telah menunjukkan sedikit penurunan pada tahun 2017. Peratus bilangan sungai yang dikategorikan sebagai bersih telah sedikit menurun kepada 46% pada tahun 2017 berbanding 47% pada tahun sebelumnya. Peratus bilangan sungai yang dikategorikan sebagai tercemar telah sedikit meningkat daripada 10% pada tahun 2016 kepada 11% pada tahun 2017. Trend ini adalah ditunjukkan oleh **Rajah 2.1**.

Berdasarkan sub-indeks BOD, tiada sungai yang dikategorikan sebagai bersih pada tahun 2017 (**Rajah 2.7**). Bilangan sungai yang tercemar dari segi sub-indeks BOD telah menurun daripada 404 pada tahun 2016 kepada 336 sungai pada tahun 2017. Kerosotan kualiti air sungai dari segi BOD ini adalah disebabkan oleh pelepasan bahan buangan yang bersifat organik daripada pelbagai punca seperti air sisa industri, serta aktiviti komersil dan domestik.

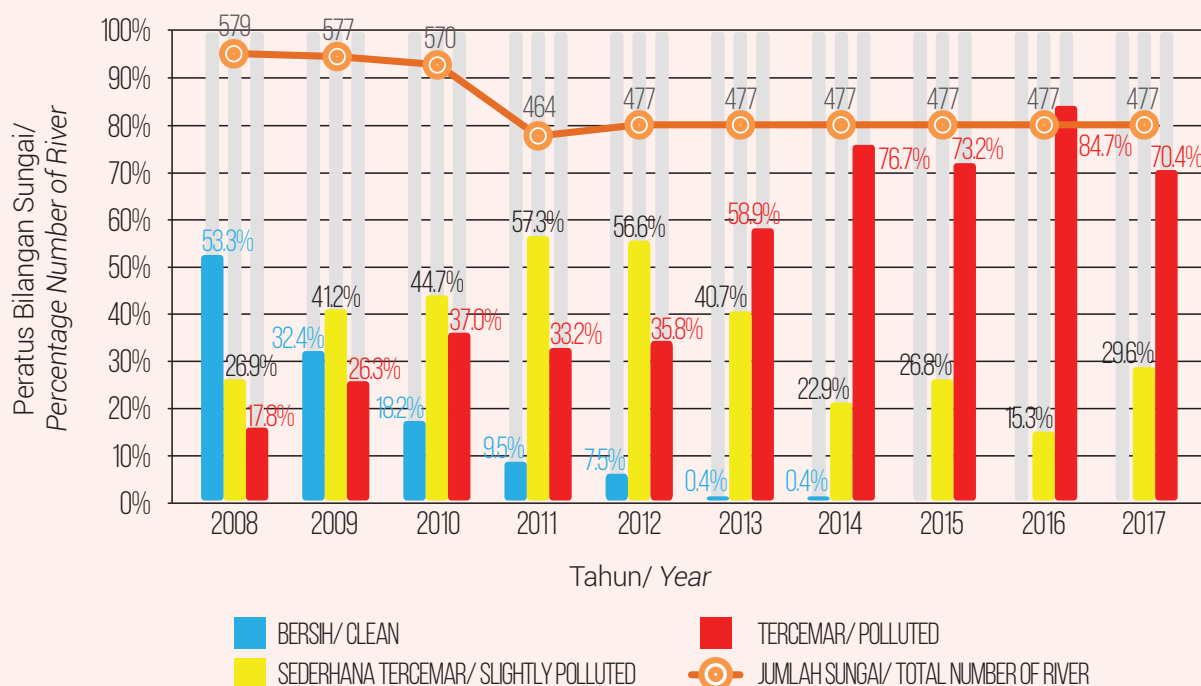
Dari segi sub-indeks  $\text{NH}_3\text{-N}$  pula, bilangan sungai bersih telah menurun daripada 115 pada tahun 2016 kepada 87 pada tahun 2017 (**Rajah 2.8**). Bilangan sungai yang tercemar dari segi sub-indeks  $\text{NH}_3\text{-N}$  telah meningkat daripada 149 pada tahun 2016 kepada 158 sungai pada tahun 2017. Kerosotan kualiti air sungai yang disebabkan oleh  $\text{NH}_3\text{-N}$  boleh dikaitkan dengan pelepasan air sisa kumbahan manusia dan haiwan yang tidak diolah dan diolah ke dalam air sungai secara berterusan.

## TREND IN RIVER WATER POLLUTION

The river water quality in terms of WQI had shown a slight decrease in 2017. The percentage of clean rivers has slightly decreased to 46% in 2017 compared to 47% in the previous year. The percentage of polluted river has slightly increased from 10% to 11% in 2017. These trends are shown in **Figure 2.1**.

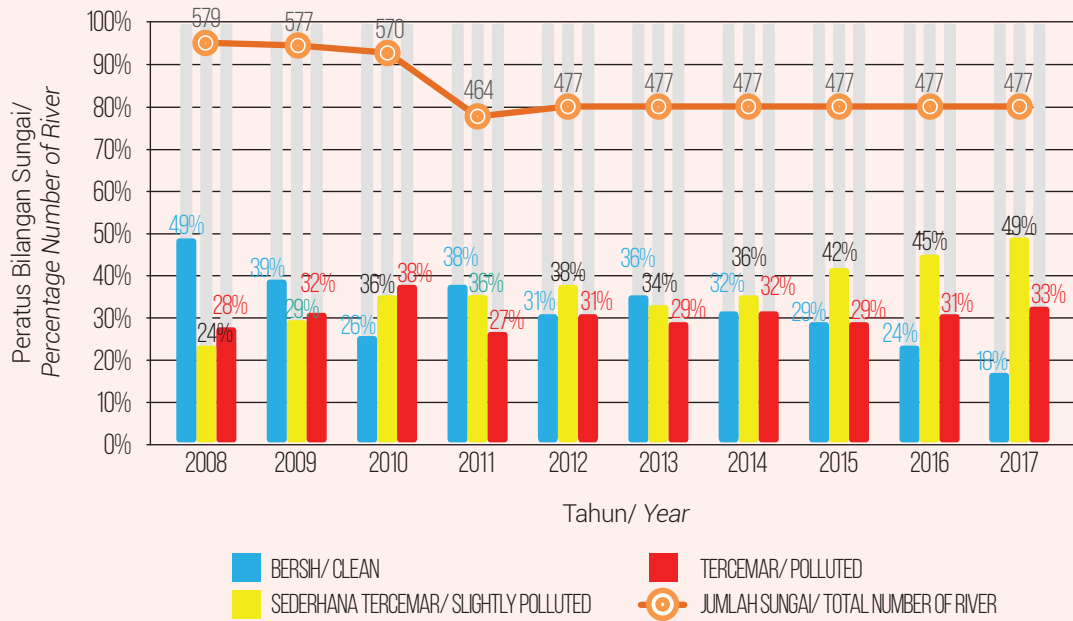
In terms of BOD sub-index, none of the monitored rivers has been categorized as clean in 2017 (**Figure 2.7**). The number of polluted rivers in terms of BOD sub-index has decreased from 404 in 2016 to 336 rivers in 2017. The degradation of river water quality in terms of BOD may have been continuously attributed to various sources of organic pollutants including wastewater from industrial, domestic and commercial activities.

In term of  $\text{NH}_3\text{-N}$  sub-index, the number of clean rivers has decreased from 115 in 2016 to 87 rivers in 2017 (**Figure 2.8**). The number of polluted rivers in terms of  $\text{NH}_3\text{-N}$  has increased from 149 in 2016 to 158 rivers in 2017. The degradation of river water quality caused by  $\text{NH}_3\text{-N}$  can be associated with the continuous discharge of treated and untreated sewage into the rivers.



Rajah 2.7 Malaysia: Tren Kualiti Air Sungai Berdasarkan Sub-Indeks BOD (2008- 2017)  
Figure 2.7 Malaysia: River Water Quality Trend Based on BOD Sub-Index (2008-2017)

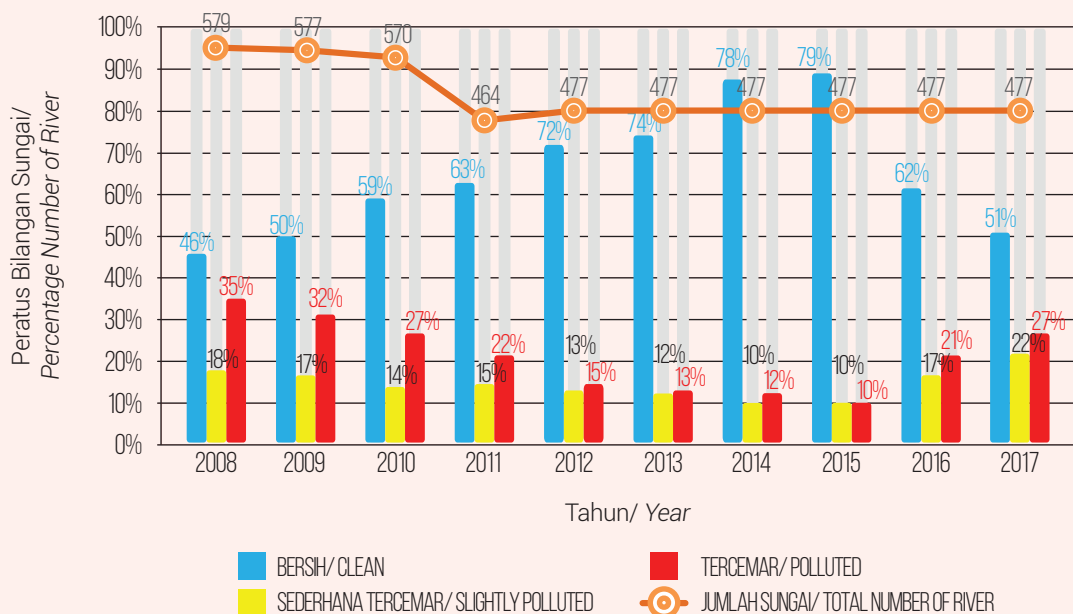




Rajah 2.8 Malaysia: Tren Kualiti Air Sungai Berdasarkan Sub-Indeks AN (2008- 2017)  
 Figure 2.8 Malaysia: River Water Quality Trend Based on AN Sub-Index (2008-2017)

Dari segi sub-indeks SS pula, bilangan sungai yang dikategorikan bersih telah menurun daripada 296 pada tahun 2016 kepada 245 pada tahun 2017 (**Rajah 2.9**). Bilangan sungai yang dikategorikan sebagai tercemar dari segi sub-indeks SS pula telah meningkat kepada 127 berbanding 99 sungai pada tahun lepas. Kemerostan kualiti air sungai dari segi pepejal terampai tersebut boleh disebabkan oleh ketidakcekapan kawalan ke atas aktiviti kerja tanah dan pembukaan tanah di kawasan-kawasan tertentu.

*In term of SS sub-index, the number of clean rivers has decreased from 296 in 2016 to 245 in 2017 (**Figure 2.9**). The number of polluted rivers in terms of SS sub-index has increased to 127 compared to 99 rivers in the previous year. The deteriorations in river water quality due to the suspended solids pollution can be attributed by inefficient control against improper earthworks and land clearing activities in certain areas.*



Rajah 2.9 Malaysia: Tren Kualiti Air Sungai Berdasarkan Sub-Indeks SS (2008- 2017)  
 Figure 2.9 Malaysia: River Water Quality Trend Based on SS Sub-Index (2008-2017)

## LOGAM BERAT DALAM SUNGAI

Analisis kandungan beberapa jenis logam berat dalam air sungai telah dilakukan ke atas Raksa (Hg), Arsenik (As), Kadmium (Cd), Kromium (Cr), Plumbum (Pb), and Zink (Zn). Pada tahun 2017 kesemua sampel air sungai telah menunjukkan kandungan logam Cd pada tahap Kelas II. Sebanyak 99.98% daripada sampel air sungai yang diuji telah menunjukkan kandungan Zn dalam Kelas II, diikuti dengan Cr (99.95%), Pb dan Hg masing-masing 99.89%, dan As (98.16%).

## KUALITI AIR SUNGAI DI HULU MUKA SAUK

Pada tahun 2017, 45 (82%) daripada 55 stesen pengawasan kualiti air di hulu muka sauk telah menunjukkan indeks kualiti air bersih sementara 10 (18%) stesen dikategorikan sebagai sederhana tercemar. Berdasarkan IKA juga, lima (9%) stesen telah dikategorikan sebagai kelas I dan 42 (76%) adalah Kelas II, tujuh (13%) adalah Kelas III, manakala satu (2%) adalah Kelas IV. **Jadual 2.6** menunjukkan status kualiti air di stesen hulu muka sauk terpilih berdasarkan IKA.

## HEAVY METALS IN RIVERS

Heavy metals were analysed for Mercury (Hg), Arsenic (As), Cadmium (Cd), Chromium (Cr), Plumbum (Pb), and Zinc (Zn). In 2017, all of the water samples have shown that the concentration of Cd was within Class II limit. About 99.98% of water samples have shown that the concentrations of Zn were within Class II limit followed by Cr (99.95%), Pb and Hg 99.89 respectively, and As (98.16%).

## RIVER WATER QUALITY UPSTREAM WATER INTAKES

In 2017, 45 (82%) from 55 monitoring stations upstream of water intakes have shown clean water quality while 10 (18%) other stations were categorized as slightly polluted. Based on overall WQI, five (9%) stations were categorized as Class I, 42 (76%) were Class II, seven (13%) were Class III, while one (2%) was Class IV. **Table 2.6** shows the water quality of the selected water intake stations based on WQI.

Jadual 2.6 Malaysia: Status Kualiti Air di Hulu Muka Sauk, 2017  
Table 2.6 Malaysia: Water Quality Status of Upstream Water Intakes, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Perlis	Sg. Terusan Mada	2PS13	Loji Rawatan Air Arau Fasa IV	74	T/P	IV	83	B/C	III
			2PS14	Loji Rawatan Air TTPC, Sg. Baru	77	T/P	IV	83	B/C	III
Kedah (Langkawi)	Melaka	Sg. Melaka	2LG05	Ulu Melaka	83	B/C	II	85	B/C	II
		Sg. Saga	2LG06	Padang Saga	80	ST/SP	II	85	B/C	II
Kedah	Kedah	Sg. Ahning	2KD11	Padang Sanai	83	B/C	II	87	B/C	II
		Sg. Padang Terap	2KD12	Kuala Nerang	90	B/C	II	89	B/C	II
		Sg. Temin	2KD10	Changloon	80	ST/SP	II	88	B/C	II
	Muda	Sg. Muda	2MD16	Jeneri	84	B/C	II	85	B/C	II
			2MD17	Jeniang	85	B/C	II	83	B/C	II
			2MD18	Bukit Selambau	86	B/C	II	82	B/C	II
			2MD20	Pinang Tunggal	80	ST/SP	II	80	ST/SP	II
	Muda	Sg. Nami	2MD21	Nami	88	B/C	II	83	B/C	II
		Sg. Sedim	2MD19	Bikan	86	B/C	II	83	B/C	II
P.Pinang	Pinang	Sg. Satu	2PG12	Batu Feringgi	91	B/C	II	88	B/C	II

Jadual 2.6 Malaysia: Status Kualiti Air di Hulu Muka Sauk, 2017  
 Table 2.6 Malaysia: Water Quality Status of Upstream Water Intakes, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Perak	Bernam	Sg. Gelinting	1BM15	Loji Rawatan Air Ulu Slim	90	B/C	II	88	B/C	II
		Sg. Trolak	1BM14	Loji Rawatan Air Trolak Timur	91	B/C	II	90	B/C	II
	Kurau	Sg. Air Hitam	2KU07	Loji Rawatan Air Jelai	92	B/C	II	83	B/C	II
	Perak	Sg. Manong	2PK62	Loji Rawatan Air Manong	93	B/C	I	92	B/C	II
		Sg. Sauk	2PK61	Loji Rawatan Air Sauk	95	B/C	I	92	B/C	II
		Sg. Tesong	2PK64	Loji Rawatan Air Sg. Klah	93	B/C	I	91	B/C	II
		Sg. Woh	2PK63	Loji Rawatan Air Kuala Woh	91	B/C	II	92	B/C	II
	Sepetang	Sg. Batu Tegoh	2SP18	Loji Rawatan Air Bukit Larut	75	T/P	IV	95	B/C	II
Selangor	Klang	Sg. Gombak	1K53	Loji Rawatan Air Gombak	93	B/C	I	94	B/C	I
	Langat	Sg. Batang Labu	1L26	Loji Rawatan Air Salak Tinggi	68	ST/SP	III	64	ST/SP	III
		Sg. Semenyih	1L09	Loji Rawatan Air Semenyih	73	ST/SP	III	67	ST/SP	III
Johor	Batu Pahat	Sg. Semberong Dam	3BP27	Semberong Dam	83	B/C	II	83	B/C	II
	Benut	Sg. Machap Dam	3BN10	Machap Dam	87	B/C	II	82	B/C	II
	Endau	Sg. Kahang	3ED38	Jalan Felda Kahang Timur, Kluang	82	B/C	II	86	B/C	II
	Muar	Sg. Jelai	1MN23	Loji Rawatan Air Dangi	82	B/C	II	85	B/C	II
		Sg. Jementah	3MR39	Loji Rawatan Air Jementah	90	B/C	II	93	B/C	I
		Sg. Muar	3MR38	Loji Rawatan Air Gombang	74	ST/SP	III	78	ST/SP	II
	Pulai	Sg. Pulai Dam	3PU04	Pulai Dam	84	B/C	II	91	B/C	II
Melaka	Kesang	Sg. Chin-Chin	1KA08	Muka sauks Loji Rawatan Air Chin-chin	76	T/P	IV	69	ST/SP	IV
Pahang	Bertam	Sg. Bertam	2CH15	Loji Rawatan Air Habu	90	B/C	II	96	B/C	I
		Sg. Terla	2CH14	Loji Rawatan Air Kuala Terla	85	B/C	II	90	B/C	II
		Sg. Ulong	2CH16	Brinchang Dam	92	B/C	II	93	B/C	I
	Pahang	Sg. Gapoi	4PH95	Muka sauks Loji Rawatan Air Gapoi	91	B/C	II	93	B/C	I

Jadual 2.6 Malaysia: Status Kualiti Air di Hulu Muka Sauk, 2017  
 Table 2.6 Malaysia: Water Quality Status of Upstream Water Intakes, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS	IKA/ WQI	KATEGORI/ CATEGORY	KELAS/ CLASS
Pahang	Bertam	Sg. Jempol	4PH96	Loji Air Sg Jerik	88	B/C	II	74	ST/SP	III
			4PH97	Loji Air Jengka 3	87	B/C	II	84	B/C	II
		Sg. Mentiga	4PH98	Loji Air Chini	80	ST/SP	II	88	B/C	II
		Sg. Triang	4PH93	Loji Rawatan Air Sg. Triang	79	ST/SP	II	88	B/C	II
Terengganu	Terengganu	Sg. Terengganu	4TE14	Loji Air Serada	85	B/C	II	84	B/C	II
Kelantan	Golok	Sg. Jeduk	4GL10	Syarikat Air Kelantan	80	ST/SP	II	86	B/C	II
	Kelantan	Sg. Chiku	4KE66	Felda Ciku 2	89	B/C	II	87	B/C	II
		Sg. Kelantan	4KE68	Loji Air Kelar, Pasir Mas	81	B/C	II	77	ST/SP	II
		Sg. Pehi	4KE67	Loji Air Pahi	82	B/C	II	84	B/C	II
Sabah	Padas	Sg. Padas	72PD04	Water Intake Jabatan Air Beaufort	83	B/C	II	84	B/C	II
	Papar	Sg. Papar	75PP04	Sekolah Kebangsaan Mandalipau	90	B/C	II	92	B/C	II
			75PP05	Water Intake Kogopon	92	B/C	II	89	B/C	II
Sarawak	Kerian	Sg. Selalang	55SG01	Selalang Water Intake	88	B/C	II	85	B/C	II
	Mukah	Sg. Mukah	58MH05	Mukah Water Intake	80	ST/SP	II	80	ST/SP	II
	Rajang	Sg. Daro	56DR01	Daro Water Intake	82	B/C	II	70	ST/SP	III
		Sg. Jemoreng	56JG01	Jemoreng Water Intake	84	B/C	II	84	B/C	II
		Sg. Pakan	56PN01	Pakan Water Intake	81	B/C	II	82	B/C	II
		Sg. Pila Parit	56PL01	Igan Water Intake	80	ST/SP	II	74	ST/SP	III

Nota/Note:

B/C : Bersih/ *Clean*

ST/SP. Sederhana tercemar/ *Slightly polluted*

T/P : Tercemar/ *Polluted*

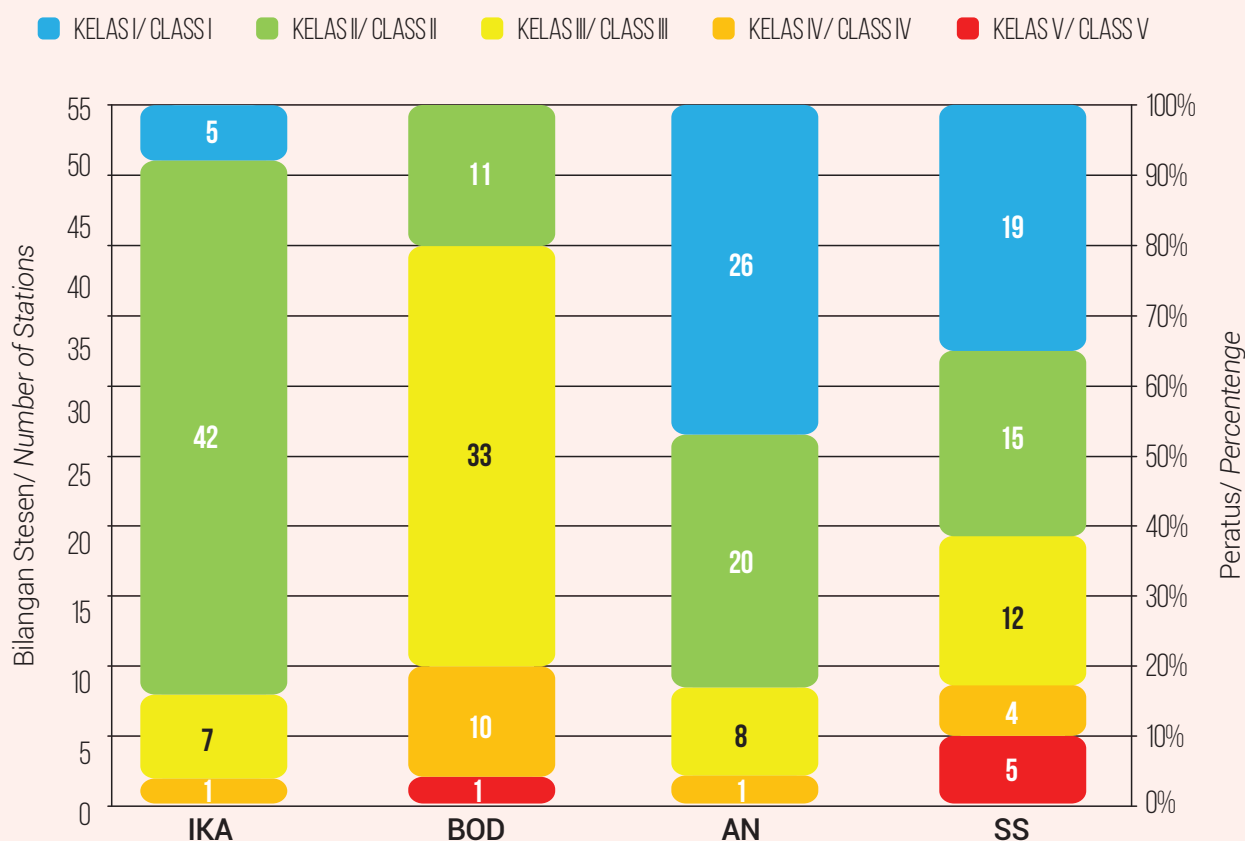
Dari segi BOD, 11 (20%) stesen telah menunjukkan kualiti air pada Kelas II, 33 (60%) stesen Kelas III, 10 (18%) stesen Kelas IV, manakala satu (2%) stesen Kelas V. Berdasarkan NH<sub>3</sub>-N pula, sebanyak 26 (47%) stesen menunjukkan kualiti air Kelas I, 20 (36%) Kelas II, lapan (15%) stesen Kelas III, dan satu stesen (2%) adalah Kelas IV. Dari segi SS, 19 (35%) stesen telah dikategorikan sebagai Kelas I, 15 (27%) stesen Kelas II, 12 (22%) stesen Kelas III, empat (7%) stesen Kelas IV manakala 5 (9%) stesen Kelas V.

**Rajah 2.10** menunjukkan peratusan stesen hulu muka sauk berdasarkan kelas kualiti air dan parameter utama. **Jadual 2.7**, **Jadual 2.8** dan **Jadual 2.9** menunjukkan kualiti air sungai di stesen di hulu muka sauk masing-masing berdasarkan sub-indeks BOD, AN dan SS.

*In terms of BOD, 11 (20%) station have shown Class II water quality, 33 (60%) stations as Class III, 10 (18%) stations as Class IV, and one (2%) as Class V. In terms of NH<sub>3</sub>-N, 26 (47%) stations showed water quality of Class I, 20 (36%) as Class II, eight (15%) as Class III, and one (2%) station as Class IV. Meanwhile in terms of SS, 19 (35%) stations were categorized as Class I, 15 (27%) as Class II, 12 (22%) as Class III, four (7%) as Class IV, and five (9%) stations as Class V.*

*Figure 2.10 shows the percentage of water quality upstream of intake stations in term of classes based on main pollutant parameters. Table 2.7, Table 2.8 and Table 2.9 show the water quality of stations upstream of water intake points based on BOD, AN and SS sub-indexes respectively.*

Rajah 2.10 Kualiti Air Sungai di Stesen di Hulu Muka Sauk, 2017  
Figure 2.10 River Water Quality at Stations Upstream of Water Intakes, 2017





Jadual 2.7 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks BOD, 2017  
 Table 2.7 Malaysia: Water Quality Status of Upstream Water Intakes Based on BOD Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Perlis	Sg. Terusan Mada	2PS13	Loji Rawatan Air Arau Fasa IV	74	T/P	IV	78	T/P	III
			2PS14	Loji Rawatan Air TTPC, Sg. Baru	77	T/P	IV	79	T/P	III
Kedah (Langkawi)	Melaka	Sg. Melaka	2LG05	Ulu Melaka	76	T/P	IV	86	ST/SP	III
		Sg. Saga	2LG06	Padang Saga	76	T/P	IV	79	T/P	III
Kedah	Kedah	Sg. Ahning	2KD11	Padang Sanai	67	T/P	IV	79	T/P	III
		Sg. Padang Terap	2KD12	Kuala Nerang	85	ST/SP	III	80	ST/SP	III
		Sg. Temin	2KD10	Changloon	78	T/P	III	88	ST/SP	II
	Muda	Sg. Muda	2MD16	Jeneri	75	T/P	IV	74	T/P	IV
			2MD17	Jeniang	76	T/P	IV	73	T/P	IV
			2MD18	Bukit Selambau	76	T/P	IV	78	T/P	III
			2MD20	Pinang Tunggal	69	T/P	IV	77	T/P	III
		Sg. Nami	2MD21	Nami	80	ST/SP	III	83	ST/SP	III
		Sg. Sedim	2MD19	Bikan	80	ST/SP	III	82	ST/SP	III
P.Pinang	Pinang	Sg. Satu	2PG12	Batu Feringgi	76	T/P	IV	77	T/P	III
Perak	Bernam	Sg. Gelinting	1BM15	Loji Rawatan Air Ulu Slim	84	ST/SP	III	77	T/P	III
		Sg. Trolak	1BM14	Loji Rawatan Air Trolak Timur	83	ST/SP	III	76	T/P	IV
	Kurau	Sg. Air Hitam	2KU07	Loji Rawatan Air Jelai	84	ST/SP	III	84	ST/SP	III
	Perak	Sg. Manong	2PK62	Loji Rawatan Air Manong	86	ST/SP	III	82	ST/SP	III
		Sg. Sauk	2PK61	Loji Rawatan Air Sauk	88	ST/SP	III	77	T/P	III
		Sg. Tesong	2PK64	Loji Rawatan Air Sg. Klah	84	ST/SP	III	78	T/P	III
		Sg. Woh	2PK63	Loji Rawatan Air Kuala Woh	79	T/P	III	80	ST/SP	III
	Sepetang	Sg. Batu Tegoh	2SP18	Loji Rawatan Air Bukit Larut	75	T/P	IV	76	T/P	IV

Jadual 2.7 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks BOD, 2017  
 Table 2.7 Malaysia: Water Quality Status of Upstream Water Intakes Based on BOD Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Selangor	Klang	Sg. Gombak	1K53	Loji Rawatan Air Gombak	83	ST/SP	III	86	ST/SP	III
	Langat	Sg. Batang Labu	1L26	Loji Rawatan Air Salak Tinggi	67	T/P	IV	59	T/P	IV
		Sg. Semenyih	1L09	Loji Rawatan Air Semenyih	71	T/P	IV	70	T/P	IV
Melaka	Kesang	Sg. Chin-Chin	1KA08	Muka sauks Loji Rawatan Air Chin-chin	76	T/P	IV	78	T/P	III
Johor	Batu Pahat	Sg. Semberong Dam	3BP27	Semberong Dam	68	T/P	IV	67	T/P	IV
	Benut	Sg. Machap Dam	3BN10	Machap Dam	78	T/P	III	75	T/P	IV
	Endau	Sg. Kahang	3ED38	Jalan Felda Kahang Timur, Kluang	74	T/P	IV	80	ST/SP	III
	Muar	Sg. Jelai	1MN23	Loji Rawatan Air Dangi	78	T/P	III	79	T/P	III
		Sg. Jementah	3MR39	Loji Rawatan Air Jementah	80	ST/SP	III	81	ST/SP	III
		Sg. Muar	3MR38	Loji Rawatan Air Gombang	66	T/P	IV	74	T/P	IV
	Pulai	Sg. Pulai Dam	3PU04	Pulai Dam	71	T/P	IV	84	ST/SP	III
Pahang	Bertam	Sg. Bertam	2CH15	Loji Rawatan Air Habu	75	T/P	IV	89	ST/SP	II
		Sg. Terla	2CH14	Loji Rawatan Air Kuala Terla	70	T/P	IV	74	T/P	IV
		Sg. Ulong	2CH16	Brinchang Dam	84	ST/SP	III	79	T/P	III
	Pahang	Sg. Gapoi	4PH95	Muka sauks Loji Rawatan Air Gapoi	82	ST/SP	III	88	ST/SP	II
		Sg. Jempol	4PH96	Loji Air Sg Jerik	80	ST/SP	III	41	T/P	V
			4PH97	Loji Air Jengka 3	79	T/P	III	83	ST/SP	III
		Sg. Mentiga	4PH98	Loji Air Chini	77	T/P	III	83	ST/SP	III
		Sg. Triang	4PH93	Loji Rawatan Air Sg. Triang	69	T/P	IV	88	ST/SP	II

Jadual 2.7 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks BOD, 2017  
 Table 2.7 Malaysia: Water Quality Status of Upstream Water Intakes Based on BOD Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Terengganu	Terengganu	Sg. Terengganu	4TE14	Loji Air Serada	82	ST/SP	III	82	ST/SP	III
Kelantan	Golok	Sg. Jeduk	4GL10	Syarikat Air Kelantan	75	T/P	IV	83	ST/SP	III
	Kelantan	Sg. Chiku	4KE66	Felda Ciku 2	80	ST/SP	III	81	ST/SP	III
		Sg. Kelantan	4KE68	Loji Air Kelar, Pasir Mas	81	ST/SP	III	79	T/P	III
		Sg. Pehi	4KE67	Loji Air Pahi	68	T/P	IV	77	T/P	III
Sabah	Padas	Sg. Padas	72PD04	Water Intake Jabatan Air Beaufort	71	T/P	IV	94	B/C	II
	Papar	Sg. Papar	75PP04	Sekolah Kebangsaan Mandalipau	82	ST/SP	III	88	ST/SP	II
			75PP05	Water Intake Kogopon	84	ST/SP	III	93	B/C	II
Sarawak	Kerian	Sg. Selalang	55SG01	Selalang Water Intake	81	ST/SP	III	92	B/C	II
	Mukah	Sg. Mukah	58MH05	Mukah Water Intake	74	T/P	IV	91	B/C	II
	Rajang	Sg. Daro	56DR01	Daro Water Intake	76	T/P	IV	89	ST/SP	II
		Sg. Jemoreng	56JG01	Jemoreng Water Intake	82	ST/SP	III	86	ST/SP	III
		Sg. Pakan	56PN01	Pakan Water Intake	80	ST/SP	III	87	ST/SP	III
		Sg. Pila Parit	56PL01	Igan Water Intake	71	T/P	IV	89	ST/SP	II

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted

Jadual 2.8 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks AN, 2017  
 Table 2.8 Malaysia: Water Quality Status of Upstream Water Intakes Based on AN Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Perlis	Sg. Terusan Mada	2PS13	Loji Rawatan Air Arau Fasa IV	93	B/C	I	88	ST/SP	II
			2PS14	Loji Rawatan Air TTPC, Sg. Baru	95	B/C	I	81	ST/SP	II
Kedah (Langkawi)	Melaka	Sg. Melaka	2LG05	Ulu Melaka	85	ST/SP	II	90	ST/SP	II
		Sg. Saga	2LG06	Padang Saga	83	ST/SP	II	96	B/C	I
Kedah	Kedah	Sg. Ahning	2KD11	Padang Sanai	94	B/C	I	87	ST/SP	II
		Sg. Padang Terap	2KD12	Kuala Nerang	82	ST/SP	II	90	ST/SP	II
		Sg. Temin	2KD10	Changloon	65	T/P	III	70	T/P	II
	Muda	Sg. Muda	2MD16	Jeneri	88	ST/SP	II	94	B/C	I
			2MD17	Jeniang	80	ST/SP	II	92	B/C	I
			2MD18	Bukit Selambau	95	B/C	I	90	ST/SP	II
			2MD20	Pinang Tunggal	67	T/P	III	91	ST/SP	I
		Sg. Nami	2MD21	Nami	95	B/C	I	98	B/C	I
		Sg. Sedim	2MD19	Bikan	93	B/C	I	89	ST/SP	II
P.Pinang	Pinang	Sg. Satu	2PG12	Batu Feringgi	96	B/C	I	86	ST/SP	II
Perak	Bernam	Sg. Gelinting	1BM15	Loji Rawatan Air Ulu Slim	97	B/C	I	96	B/C	I
		Sg. Trolak	1BM14	Loji Rawatan Air Trolak Timur	92	B/C	I	96	B/C	I
	Kurau	Sg. Air Hitam	2KU07	Loji Rawatan Air Jelai	90	ST/SP	II	75	ST/SP	II
	Perak	Sg. Manong	2PK62	Loji Rawatan Air Manong	99	B/C	I	98	B/C	I
		Sg. Sauk	2PK61	Loji Rawatan Air Sauk	99	B/C	I	91	ST/SP	I
		Sg. Tesong	2PK64	Loji Rawatan Air Sg. Klah	97	B/C	I	98	B/C	I
		Sg. Woh	2PK63	Loji Rawatan Air Kuala Woh	98	B/C	I	98	B/C	I
	Seputang	Sg. Batu Tegoh	2SP18	Loji Rawatan Air Bukit Larut	96	B/C	I	99	B/C	I

Jadual 2.8 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks AN, 2017  
 Table 2.8 Malaysia: Water Quality Status of Upstream Water Intakes Based on AN Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Selangor	Klang	Sg. Gombak	1K53	Loji Rawatan Air Gombak	98	B/C	I	99	B/C	I
	Langat	Sg. Batang Labu	1L26	Loji Rawatan Air Salak Tinggi	54	T/P	III	45	T/P	IV
		Sg. Semenyih	1L09	Loji Rawatan Air Semenyih	72	ST/SP	II	56	T/P	III
Melaka	Kesang	Sg. Chin-Chin	1KA08	Muka sauk Loji Rawatan Air Chin-chin	82	ST/SP	II	63	T/P	III
Johor	Batu Pahat	Sg. Semberong Dam	3BP27	Semberong Dam	96	B/C	I	91	ST/SP	I
	Benut	Sg. Machap Dam	3BN10	Machap Dam	88	ST/SP	II	73	ST/SP	II
	Endau	Sg. Kahang	3ED38	Jalan Felda Kahang Timur, Kluang	87	ST/SP	II	84	ST/SP	II
	Muar	Sg. Jelai	1MN23	Loji Rawatan Air Dangi	92	B/C	I	91	ST/SP	I
		Sg. Jementah	3MR39	Loji Rawatan Air Jementah	96	B/C	I	97	B/C	I
		Sg. Muar	3MR38	Loji Rawatan Air Gombang	86	ST/SP	II	82	ST/SP	II
	Pulai	Sg. Pulai Dam	3PU04	Pulai Dam	68	T/P	III	90	ST/SP	II
Pahang	Bertam	Sg. Bertam	2CH15	Loji Rawatan Air Habu	99	B/C	I	100	B/C	I
		Sg. Terla	2CH14	Loji Rawatan Air Kuala Terla	97	B/C	I	97	B/C	I
		Sg. Ulong	2CH16	Brinchang Dam	98	B/C	I	100	B/C	I
	Pahang	Sg. Gapoi	4PH95	Muka sauk Loji Rawatan Air Gapoi	90	ST/SP	II	98	B/C	I
		Sg. Jempol	4PH96	Loji Air Sg Jerik	94	B/C	I	97	B/C	I
			4PH97	Loji Air Jengka 3	97	B/C	I	96	B/C	I
		Sg. Mentiga	4PH98	Loji Air Chini	90	ST/SP	II	92	B/C	I
		Sg. Triang	4PH93	Loji Rawatan Air Sg. Triang	97	B/C	I	99	B/C	I



Jadual 2.8 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks AN, 2017  
 Table 2.8 Malaysia: Water Quality Status of Upstream Water Intakes Based on AN Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Terengganu	Terengganu	Sg. Terengganu	4TE14	Loji Air Serada	84	ST/SP	II	82	ST/SP	II
Kelantan	Golok	Sg. Jeduk	4GL10	Syarikat Air Kelantan	92	B/C	I	71	ST/SP	II
	Kelantan	Sg. Chiku	4KE66	Felda Ciku 2	98	B/C	I	90	ST/SP	II
Kelantan	Kelantan	Sg. Kelantan	4KE68	Loji Air Kelar, Pasir Mas	79	ST/SP	II	84	ST/SP	II
		Sg. Pehi	4KE67	Loji Air Pahi	98	B/C	I	91	ST/SP	I
Sabah	Padas	Sg. Padas	72PD04	Water Intake Jabatan Air Beaufort	82	ST/SP	II	89	ST/SP	II
	Papar	Sg. Papar	75PP04	Sekolah Kebangsaan Mandalipau	95	B/C	I	91	ST/SP	I
			75PP05	Water Intake Kogopon	97	B/C	I	78	ST/SP	II
Sarawak	Kerian	Sg. Selalang	55SG01	Selalang Water Intake	95	B/C	I	67	T/P	III
	Mukah	Sg. Mukah	58MH05	Mukah Water Intake	87	ST/SP	II	66	T/P	III
	Rajang	Sg. Daro	56DR01	Daro Water Intake	79	ST/SP	II	60	T/P	III
		Sg. Jemoreng	56JG01	Jemoreng Water Intake	81	ST/SP	II	65	T/P	III
		Sg. Pakan	56PN01	Pakan Water Intake	85	ST/SP	II	65	T/P	III
		Sg. Pila Parit	56PL01	Igan Water Intake	82	ST/SP	II	65	T/P	III

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted

Jadual 2.9 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks SS, 2017  
 Table 2.9 Malaysia: Water Quality Status of Upstream Water Intakes Based on SS Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Perlis	Perlis	Sg. Terusan Mada	2PS13	Loji Rawatan Air Arau Fasa IV	75	ST/SP	II	59	T/P	III
			2PS14	Loji Rawatan Air TTPC, Sg. Baru	79	B/C	II	61	T/P	III
Kedah (Langkawi)	Melaka	Sg. Melaka	2LG05	Ulu Melaka	72	ST/SP	II	53	T/P	IV
		Sg. Saga	2LG06	Padang Saga	71	ST/SP	III	75	ST/SP	II
Kedah	Kedah	Sg. Ahning	2KD11	Padang Sanai	73	ST/SP	II	67	T/P	III
		Sg. Padang Terap	2KD12	Kuala Nerang	82	B/C	II	86	B/C	I
		Sg. Temin	2KD10	Changloon	71	ST/SP	III	83	B/C	II
	Muda	Sg. Muda	2MD16	Jeneri	68	T/P	III	36	T/P	V
			2MD17	Jeniang	81	B/C	II	50	T/P	IV
			2MD18	Bukit Selambau	72	ST/SP	III	39	T/P	IV
			2MD20	Pinang Tunggal	75	ST/SP	II	32	T/P	V
		Sg. Nami	2MD21	Nami	77	B/C	II	34	T/P	V
		Sg. Sedim	2MD19	Bikan	69	T/P	III	59	T/P	III
P.Pinang	Pinang	Sg. Satu	2PG12	Batu Feringgi	94	B/C	I	92	B/C	I
Perak	Bernam	Sg. Gelinting	1BM15	Loji Rawatan Air Ulu Slim	80	B/C	II	65	T/P	III
		Sg. Trolak	1BM14	Loji Rawatan Air Trolak Timur	90	B/C	I	83	B/C	II
	Kurau	Sg. Air Hitam	2KU07	Loji Rawatan Air Jelai	95	B/C	I	77	B/C	II
	Perak	Sg. Manong	2PK62	Loji Rawatan Air Manong	93	B/C	I	90	B/C	I
		Sg. Sauk	2PK61	Loji Rawatan Air Sauk	95	B/C	I	96	B/C	I
		Sg. Tesong	2PK64	Loji Rawatan Air Sg. Klah	97	B/C	I	86	B/C	I

Jadual 2.9 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks SS, 2017  
 Table 2.9 Malaysia: Water Quality Status of Upstream Water Intakes Based on SS Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Perak	Sg. Tesong	Sg. Woh	2PK63	Loji Rawatan Air Kuala Woh	95	B/C	I	88	B/C	I
	Sepetang	Sg. Batu Tegoh	2SP18	Loji Rawatan Air Bukit Larut	95	B/C	I	97	B/C	I
Selangor	Klang	Sg. Gombak	1K53	Loji Rawatan Air Gombak	95	B/C	I	92	B/C	I
	Langat	Sg. Batang Labu	1L26	Loji Rawatan Air Salak Tinggi	62	T/P	III	56	T/P	III
		Sg. Semenyih	1L09	Loji Rawatan Air Semenyih	53	T/P	IV	52	T/P	IV
Johor	Batu Pahat	Sg. Semberong Dam	3BP27	Semberong Dam	90	B/C	I	84	B/C	II
	Benut	Sg. Machap Dam	3BN10	Machap Dam	92	B/C	I	79	B/C	II
	Endau	Sg. Kahang	3ED38	Jalan Felda Kahang Timur, Kluang	69	T/P	III	80	B/C	II
	Muar	Sg. Jelai	1MN23	Loji Rawatan Air Dangi	59	T/P	III	62	T/P	III
		Sg. Jementah	3MR39	Loji Rawatan Air Jementah	93	B/C	I	90	B/C	I
		Sg. Muar	3MR38	Loji Rawatan Air Gombang	81	B/C	II	73	ST/SP	II
	Pulai	Sg. Pulai Dam	3PU04	Pulai Dam	94	B/C	I	86	B/C	I
Melaka	Kesang	Sg. Chin-Chin	1KA08	Muka sauks Loji Rawatan Air Chin-chin	82	ST/SP	II	57	T/P	III
Pahang	Bertam	Sg. Bertam	2CH15	Loji Rawatan Air Habu	94	B/C	I	93	B/C	I
		Sg. Terla	2CH14	Loji Rawatan Air Kuala Terla	75	ST/SP	II	81	B/C	II
		Sg. Ulong	2CH16	Brinchang Dam	97	B/C	I	93	B/C	I

Jadual 2.9 Malaysia: Status Kualiti Air di Hulu Muka Sauk Berdasarkan Sub-Indeks SS, 2017  
 Table 2.9 Malaysia: Water Quality Status of Upstream Water Intakes Based on SS Sub-Index, 2017

NEGERI/ STATE	LEMBANGAN SUNGAI/ RIVER BASIN	SUNGAI/ RIVER	STESEN ID/ ID STESEN	MUKA SAUK/ WATER INTAKE	KUALITI AIR, 2016/ WATER QUALITY 2016			KUALITI AIR, 2017/ WATER QUALITY 2017		
					SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS	SUB- INDEKS BOD/ BOD SUB- INDEX	KATEGORI/ CATEGORY	KELAS/ CLASS
Pahang	Pahang	Sg. Gapoi	4PH95	Muka sauk Loji Rawatan Air Gapoi	97	B/C	I	96	B/C	I
		Sg. Jempol	4PH96	Loji Air Sg Jerik	92	B/C	I	84	B/C	II
			4PH97	Loji Air Jengka 3	90	B/C	I	70	ST/SP	III
		Sg. Mentiga	4PH98	Loji Air Chini	84	B/C	I	85	B/C	I
		Sg. Triang	4PH93	Loji Rawatan Air Sg. Triang	61	T/P	III	56	T/P	III
Terengganu	Terengganu	Sg. Terengganu	4TE14	Loji Air Serada	86	B/C	I	81	B/C	II
Kelantan	Golok	Sg. Jeduk	4GL10	Syarikat Air Kelantan	81	B/C	II	93	B/C	I
	Kelantan	Sg. Chiku	4KE66	Felda Ciku 2	87	B/C	I	76	B/C	II
		Sg. Kelantan	4KE68	Loji Air Kelar, Pasir Mas	62	T/P	III	35	T/P	V
		Sg. Pehi	4KE67	Loji Air Pahi	77	B/C	II	62	T/P	III
Sabah	Padas	Sg. Padas	72PD04	Water Intake Jabatan Air Beaufort	42	T/P	IV	36	T/P	V
	Papar	Sg. Papar	75PP04	Sekolah Kebangsaan Mandalipau	86	B/C	I	91	B/C	I
			75PP05	Water Intake Kogopon	89	B/C	I	90	B/C	I
Sarawak	Kerian	Sg. Selalang	55SG01	Selalang Water Intake	94	B/C	I	96	B/C	I
	Mukah	Sg. Mukah	58MH05	Mukah Water Intake	81	B/C	II	71	ST/SP	III
	Rajang	Sg. Daro	56DR01	Daro Water Intake	85	B/C	I	89	B/C	I
		Sg. Jemoreng	56JG01	Jemoreng Water Intake	84	B/C	I	84	B/C	II
		Sg. Pakan	56PN01	Pakan Water Intake	82	B/C	II	84	B/C	II
		Sg. Pila Parit	56PL01	Igan Water Intake	71	ST/SP	III	76	B/C	II

Nota/Note:

B/C : Bersih/ Clean

ST/SP: Sederhana tercemar/ Slightly polluted

T/P : Tercemar/ Polluted