River Water Quality Assessment : Water Quality Index

Data generated from automatic and manual water quality monitoring stations represent the main parameters of river water quality that are related with water quality in the area around the station. The assessment of water quality status is based on the National Water Quality Standards.

Referring to other countries, the water quality index is also used to assess the status of water quality. The water quality index is a method used to summarize a large number of water quality parameters into one index value that gives an overview of the river's water quality. The water quality index formulated is a general indicator of river water quality.

In Malaysia, the formula for calculating the Water Quality Index (IKA) is as follows:-

WQI=(0.22*SIDO) + (0.19*SIBOD) + (0.16*SICOD) + (0.15*SIAN) + (0.16*SISS) +(0.12*SipH)

The WQI has a scale of 0 - 100. The higher the index, the better the water quality. WQI formulates the specific beneficial uses of water bodies which are referred to classification of river water quality as presented below:

CLASS	USES
CLASS I **(WQI > 92.7)**	Conservation of natural environment. Water Supply I – Practically no treatment necessary. Fishery I – Very sensitive aquatic species.
CLASS IIA **(WQI 76.5 – 92.7)**	Water Supply – Conventional treatment. Fishery – Sensitive aquatic species.

CLASS	USES
CLASS IIB (WQI 76.5 – 92.7)	Recreational use body contact.
CLASS III (WQI 51.9 – 76.5)	Water Supply III – Extensive treatment required. Fishery III – Common, of economic value and tolerant species; livestock, drinking.
CLASS V (WQI 31.0 – 51.9)	Irrigation
CLASS VI (WQI <31.0)	None of the above

For Information

Matters that need to inform :

- Data generated from the CRWQM and MRWQM stations is an ambient water quality data and do not necessarily reflect specific pollution source (s);
- Data displayed from the CRWQM stations is generated every one (1) hour and what is displayed in the portal is the latest at that time;
- Data displayed from the MRWQM stations are based on the latest six (6) times sampling frequency;
- The water quality, as described by the WQI, only provides a general indication of the quality of river water as it is derived from only six (6) water quality parameters. Hence, pollution caused by other water quality parameters will not be reflected by the WQI;

- Data generated is only valid with respect to the location of the monitoring station and at the time of sampling or at the time when measurements are made;

- Water quality is also affected by various pollution factors such as natural factors, river flow and changes of weather.