

WATER QUALITY ASSESSMENT AT KERTEH RIVER USING
WATER QUALITY INDEX METHOD

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**DEPARTMENT OF MARINE SCIENCE
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**DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:
Water quality assessment at Kerteh River using Water Quality Index Method by Senoliza Semuin with Matric No.UK16998 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of Bachelor of Science (Marine Science) Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATION

BOD	-	Biochemical Oxygen Demand
COD	-	Chemical Oxygen Demand (COD)
DO	-	Dissolved Oxygen
DOE	-	Department of Environment
EPA	-	Environmental Protection Agency
H ⁺	-	hydrogen ions
H ₂ O	-	water
mg/L	-	milligram per liter
NH ₃ -N	-	Ammoniacal Nitrogen
NSF	-	National Sanitation Foundation (NSF)
NTU	-	Nephelometric Turbidity Units
NWQS	-	National Water Quality Standards for Malaysia (NWQS)
OH ⁻	-	hydroxide ions
pH	-	Potential of hydrogen
SI	-	sub index (SI)
TSS	-	Suspended Solids (SS) and
WQI	-	Water quality index

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ABSTRACT

This study was conducted to assess the water quality in Kerteh River. The healthy of Kerteh River was determine using water quality index method. Two sampling were conducted in April and October. Six sampling stations were selected along the Kerteh River. Water quality parameters analyzed were total suspended solids (TSS), turbidity, dissolved oxygen (DO), ammoniacal nitrogen (AN), biochemical oxygen demand (BOD), chemical oxygen demand (COD), pH and total fecal coliform. Total coliform distribution at Kerteh river was 88 count/100ml(Class I) for first sampling and 299 count/100ml(Class IIA) for second sampling. Classification according to Water Quality Indices shows that the average WQI for first sampling was 81 (Clean) and 73 (Slightly polluted) for the second sampling. The condition of Kerteh river is still under control and conventional treatment should be done for water use sustainable.

ABSTRAK

Kajian ini dilaksanakan untuk menilai indeks kualiti air (IKA) di sungai Kerteh. Kerja persampelan dilaksanakan sebanyak dua kali iatu pada bulan April dan bulan Oktober. Enam stesen telah dipilih di sepanjang sungai Kerteh. Parameter-parameter kualiti air yang dikaji adalah suhu, jumlah pepejal terampai (SS) , kekeruhan, oksigen terlarut (DO), nitrogen ammonia (AN), permintaan oksigen biokimia (BOD), permintaan oksigen kimia (COD), dan bilangan jumlah coliform. Taburan jumlah coliform di sungai Kerteh pada kerja persampelan pertama ialah 88 count/100ml (Kelas I) manakala pada kerja persampelan kedua ialah 299count/100ml(Kelas IIA). Sungai Kerteh diklasifikasikan dalam kategori bersih iatu IKA 81 pada kerja persampelan pertama dan sedikit tercemar iatu IKA 73 pada kerja persampelan kedua. Sungai Kerteh masih dalam keadaan yang terkawal dari segi kualiti air dan kerja pemulihan dan pemuliharaan sungai perlu dimulakan untuk mengekalkan kualiti air.