

IV. CONCLUSION

Water quality data from 11 monitoring stations at Perlis River has been statistically analyzed. Temporal trend analysis using Mann-Kendall's trends test revealed that Cr manifests the most variation in all the stations studied. No trend of Cr is observed at Station 2PS02 and 2PS11 whereas the other stations showed strong Cr upward trends. The increment of Cr concentration at Perlis River incidents within the study period is pretty unclear. This parameter needs to investigate on the next research. It is also observed that coliform exhibit temporal upward trend throughout the study period. High variation of coliform at Perlis River may be ascribed to the surface runoff of municipal sewage or domestic waste. Urban areas such as Kangar and various agriculture activities are expected to contribute strongly to this problem.

In a nutshell, the methods applied in this study are successful in the assessment of water quality trends and pollution sources of the Perlis River. In the Malaysian scenario, the abundance of historical data should be taken into consideration in future research or in any planned monitoring program. The knowledge obtained from these data will help in designing new sampling strategies, which local authorities or government in developing a better river basin management. The use of statistical methods and trend analysis should be encouraged in the analysis of the data, which can bring about additional information and will prove to be useful in reducing cost and time of sampling. Thus, this method demonstrated would help tremendously in the future river water quality monitoring program.

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