

## **Identification of Water Quality Monitoring Sites on the Kshipra River**

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### **ABSTRACT**

The location of a permanent sampling station is probably the most critical factor in a monitoring network which collects water quality data. If the samples collected are not representative of the water mass, the frequency of sampling as well as the mode of data interpretation and presentation becomes inconsequential.

Besides the economic considerations, there are three levels of design criteria of sampling station location, The macro-location deals with river reaches in the river basin, the micro-location deals with the location of outfalls or other specific features within a river reach and the third level deals with the representative location points within a river's cross section. In the present study only the macro-locations have been identified on Kshipra river. The Sharp's procedure which is widely used for selecting locations is used.

One year monthly water quality data monitored at existing nine sites was available. This data was used to analyse both the temporal and spatial trend in water quality. On the basis of trend analysis, the justification of existing monitoring sites is carried out. Further, as monitoring is a costly affair, it is also studied whether monitoring at some of the sites could be discontinued or may be less frequent.

Further, macro locations for water quality monitoring were identified using Sharp's procedure. Because, the flow data was not available, the pollution loading could not be calculated, the pollution indices were used in the Sharp's procedure, the comparison is made between the existing and proposed water quality monitoring sites. It is found that sampling should be done at site no.9, 3, 4, 5 and 7. and sampling can be discontinued at site no. 1, 2, 6 and 8.