

## Surface Water Pollution by Open Refuse Dumpsite in North Central of Nigeria

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**Abstract :** Water is a vital resource that is important in ensuring the growth and development of any country. To sustain the basic human needs and the demands for agriculture, industry, conservational and ecosystem, enough quality and quantity water is needed. Contamination of water resources is now a global and public health concern. Hence, this study assessed the water quality of Ndawuse River by measuring the physicochemical parameters and heavy metals concentrations of the river using standard methods. In total, 16 surface water samples were obtained from five locations along the river, from upstream to downstream as well as samples from the dumpsite. The results obtained were compared with the standard limits set by both the World Health Organization and the Federal Environmental Protection Agency for domestic purposes. The results of the measured parameters indicated that biological oxygen demand (85.88 mg/L), turbidity (44.51 NTU), Iron (0.014 - 3.511 mg /L) and chromium (0.078 - 0.14 mg /L) were all above the standard limits. The results further showed that the quality of surface water is being significantly affected by human activities around the Ndawuse River which could pose an adverse health risk to several communities that rely on this river as their primary source of water. Therefore, there is a need for strict enforcement of environmental laws to protect the aquatic ecosystem and to avoid long term cumulative exposure risk that heavy metals may pose on human health.

**Keywords :** Abuja, contaminants, heavy metals, Ndawuse River, Nigeria, surface water

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