

## **Influence of land use on total suspended solid and dissolved ion concentrations: Baton Rouge, Louisiana area**

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**Abstract** Past studies in the Baton Rouge, Louisiana area considered streamwater quality during storm events but ignored water quality during low flow periods. This study includes determination of streamwater quality during low flow time periods for nine watersheds in East Baton Rouge Parish, Louisiana. These samples were collected during dry-low flow periods as indicated by water levels at USGS stream gauging sites for each stream. Chemical analysis for ions was completed using colorimeters and gravimetric analysis for total dissolved solids (TDS) and total suspended solids (TSS). Land use appears to impact concentrations of ions, TDS and TSS in a variety of ways during periods of low flow. The two most rural watersheds, which are mainly underdeveloped, have higher concentrations of Fe and Mn. By contrast the three most urban watersheds, that are mainly commercial, industrial or residential, have higher concentrations of Si, SO<sub>4</sub> and TDS.

**Key words** land use; ion concentrations; TDS; TSS