Water Quality Monitoring and Assessment of Factory Creek in Sumter County, Alabama

Factory Creek is listed under section 303(d) of the Clean Water Act for exceeding acceptable levels of “Organic Enrichment and Nutrients” (organic matter, nitrogen, and phosphorus). This designation is based on data collected by ADEM in 2001 indicating excessive phosphates in the lowest 1.86 miles of Factory Creek. No watershed planning document exists for Factory Creek. A watershed planning document based on current scientific data is required in order to apply for Federal funds from section 319 of the Clean Water Act for addressing water pollution issues. A partnership was formed in 2010 between the Sumter County Soil & Water Conservation District (SCSWCD), the Alabama Department of Environmental Management (ADEM), and the University of West Alabama (UWA) for the purpose of collecting current scientific water quality data from Factory Creek. The majority of readings at all sites were within acceptable levels for air temperature, water temperature, dissolved oxygen, pH, conductivity, turbidity, ammonia, nitrate and nitrite, total Kjeldahl nitrogen, and reactive phosphate. Extremely low flow conditions resulted in elevated levels of turbidity, ammonia, reactive phosphate, and total phosphate at the embayment of the Tombigbee River. Closer inspection revealed no perceptible consistent downstream flow at this site during low flow conditions. Extremely high flow (flood stage) conditions resulted in high reactive phosphate and fecal coliform counts at throughout the watershed. Closer inspection detected elevated turbidity, conductivity, ammonia, nitrate and nitrite, and reactive phosphate in retention and catfish farming ponds in the uppermost reaches of the creek. E. coli collected from the catfish farming ponds matched 44% of the E. coli in Factory Creek.

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