Little Cahaba River at Elliott Lane SW Jefferson County (33.52444, -86.57528)

BACKGROUND
The Little Cahaba River (LC-1) is one of a network of 94 ambient sites monitored annually by the Alabama Department of Environmental Management (ADEM) to identify long-term trends in water quality and to provide data for the development of Total Maximum Daily Loads (TMDL) and water quality criteria. In addition, LC-1 was part of the 2012 Black Warrior Cahaba Basin Assessment Monitoring.

WATERSHED CHARACTERISTICS
Watershed characteristics are summarized in Table 1. Little Cahaba River at LC-1 is a Fish and Wildlife stream located in Jefferson County. Based on the 2006 National Land Cover Dataset, landuse within the watershed is a mix of deciduous forest, agriculture and light development. As of September 1, 2012, 120 NPDES permit outfalls are located within this watershed.

REACH CHARACTERISTICS
General observations (Table 2) and a habitat assessment (Table 3) were completed during the macroinvertebrate assessment. In comparison with reference reaches in the same ecoregion, they give an indication of the physical condition of the site and the quality and availability of habitat. Little Cahaba River at LC-1 is a low gradient stream with predominantly gravel and cobbles substrate. The watershed lies within the Southern Limestone/Dolomite Valleys and Low Rolling Hills subecoregion. Overall habitat quality was categorized as optimal.

BIOASSESSMENT RESULTS
Benthic macroinvertebrate communities were sampled using ADEM’s Intensive Multi-habitat Bioassessment methodology (WMB-I). The WMB-I uses measures of taxonomic richness, community composition, and community tolerance to assess the overall health of the macroinvertebrate community. Each metric is scored on a 100 point scale. The final score is the average of all individual metric scores. Metric results indicate the macroinvertebrate community to be in poor condition (Table 4).
WATER CHEMISTRY RESULTS

Results of water chemistry analyses are presented in Table 5. In situ measurements and water samples were collected monthly and metals were collected quarterly through 2012 to help identify stressors to the biological community. Median values for some physical parameters, nutrients, chlorides, cadmium and copper were higher than values expected based on reference reach data collected in ecoregion 67f.

SUMMARY

Bioassessment results indicated the macroinvertebrate community to be in poor condition. Water chemistry results indicated higher than expected concentrations of nutrients, chlorides, cadmium and copper.