

Paducah Gaseous Diffusion Plant

Supplemental Water Quality Sampling

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KRCEE

October 30-31, 2007

Previously Completed

- Water budget for plant

Previously Completed

- Water budget for plant
- Hydrologic model--Bayou & Little Bayou Creek watersheds

Previous Work

- Preliminary analysis
 - Metals concentration
 - Volumetric flows

Previous Work

- Pollutant & discharge measurements
 - Not of even date
 - Not necessarily at low flow

Objective

- Additional water quality data for TMDL development
 - Metals concentration

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 - Volumetric flow rate

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- Additional water quality data for TMDL development
 - Metals concentration
 - Volumetric flow rate
 - Low flow conditions

Areas Involved

- Bayou Creek & Little Bayou Creek
(plant drainage)
- Massac Creek
- (background)

BC5
USGS 3611850

LBC1
USGS 3611900

BC4

**Little Bayou Creek
Watershed**

BC3

BC2

LBC2

BC1
USGS 3611800

**Bayou Creek
Watershed**

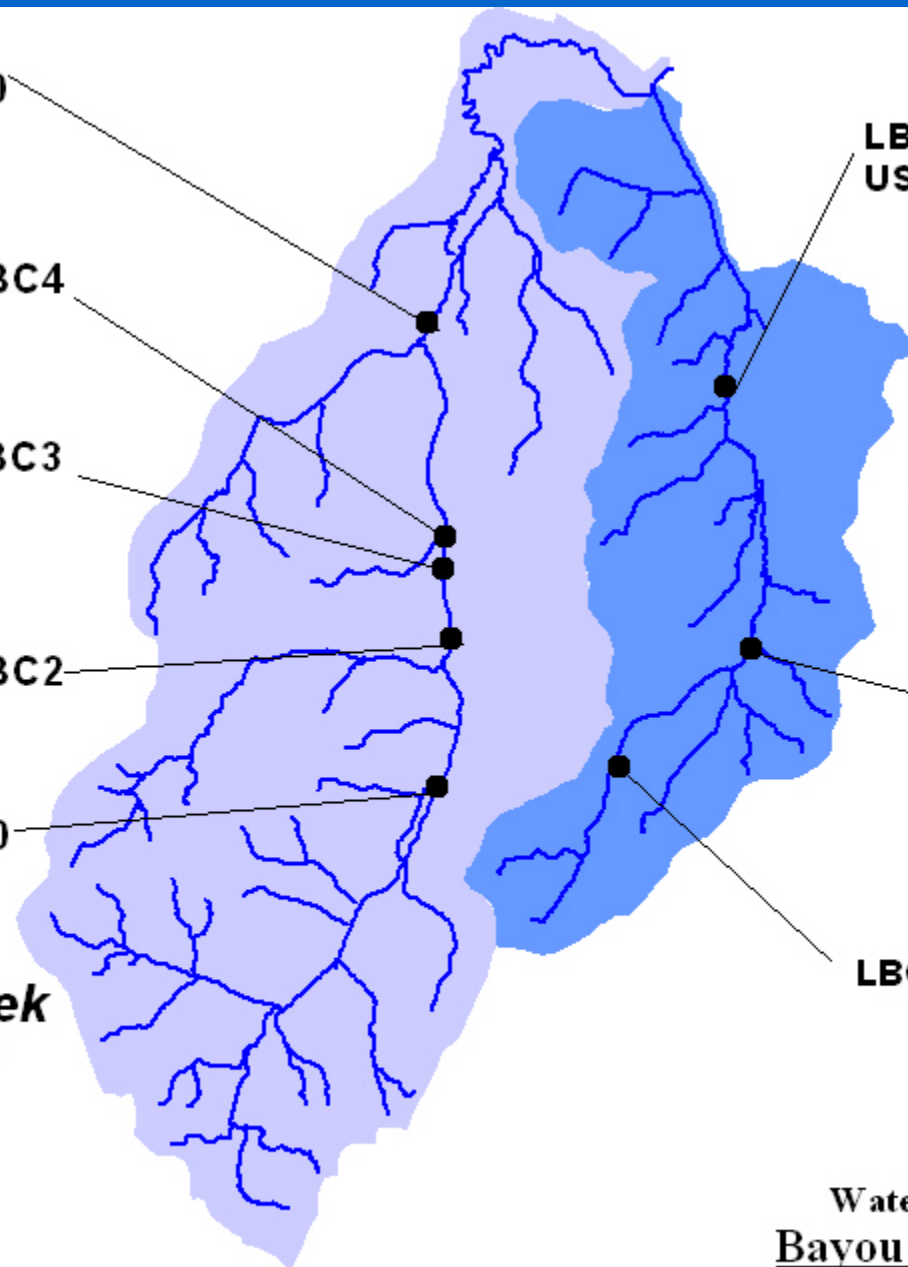
LBC3

**Water Quality Monitoring Locations
Bayou and Little Bayou Creeks**

MSU-KRCEE
Murray State University
Murray, KY 42071

McCracken County, Kentucky

August, 2007



Bayou Creek--BC2



Little Bayou Creek--LBC1

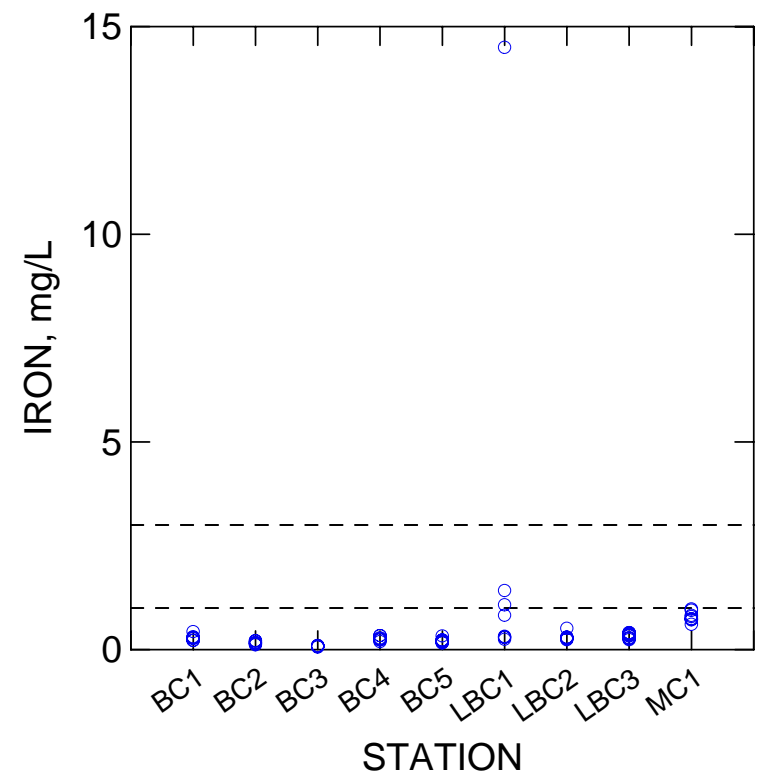
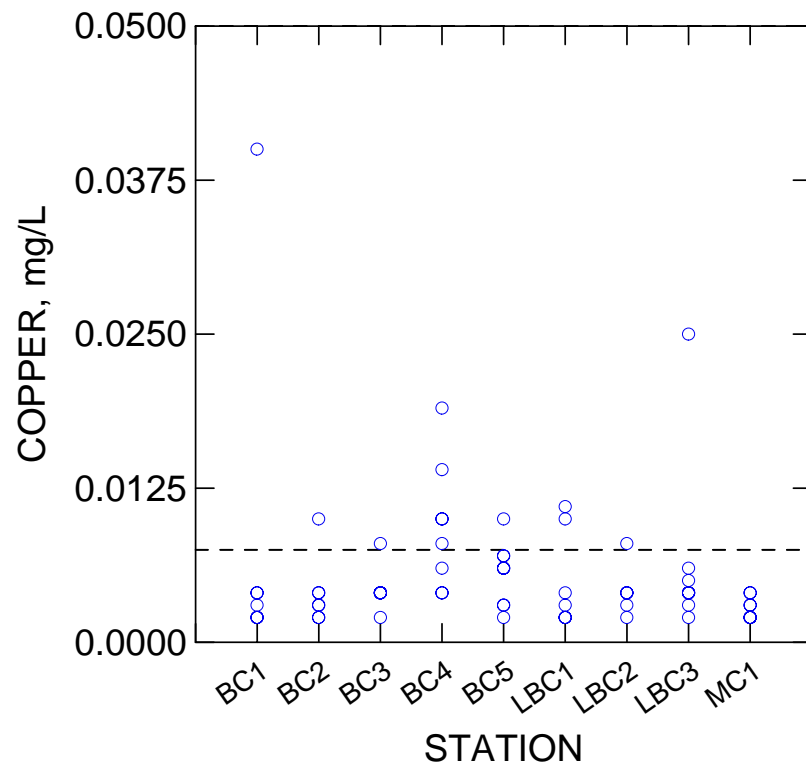


Metals Sampled

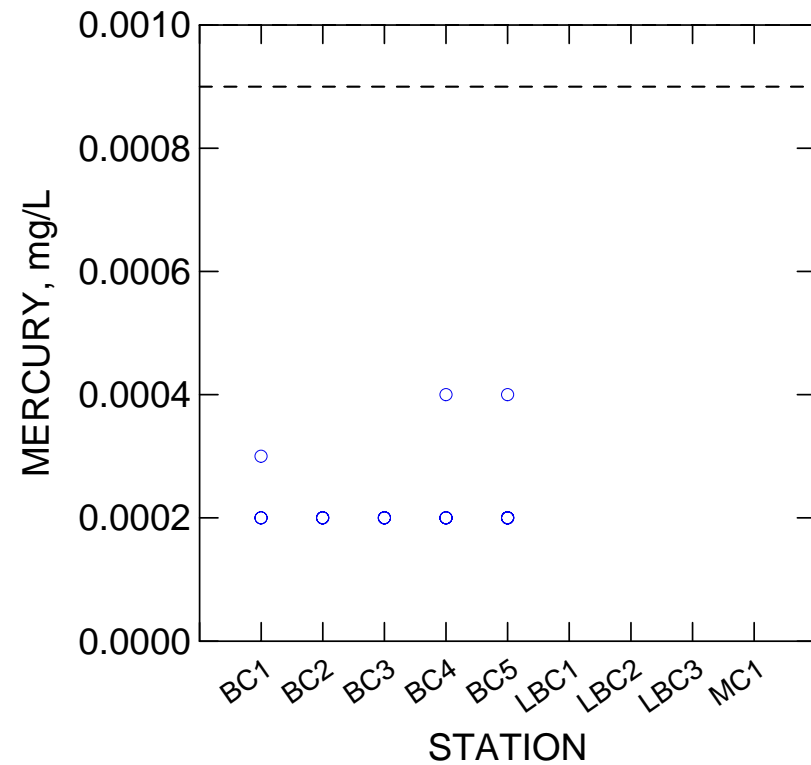
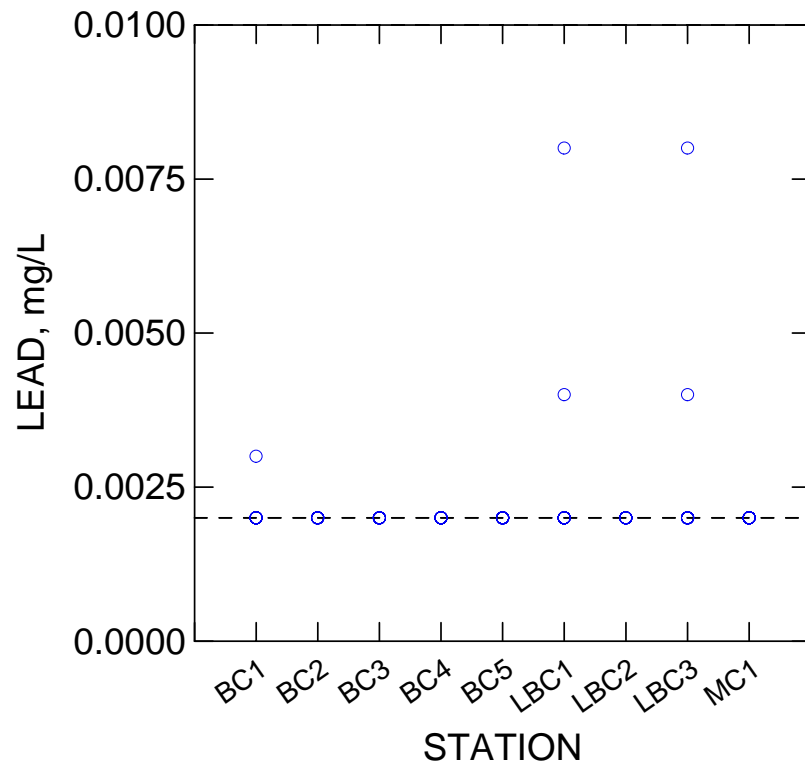
- Copper
- Iron
- Lead
- Mercury
- Hardness

Copper & Iron Concentrations

(through October 15, 2007)



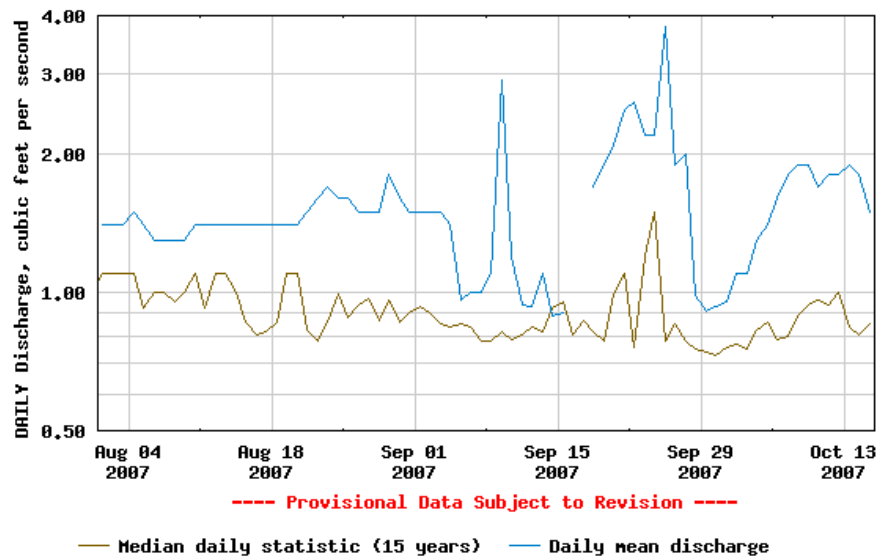
Lead & Mercury Concentrations (through October 15, 2007)



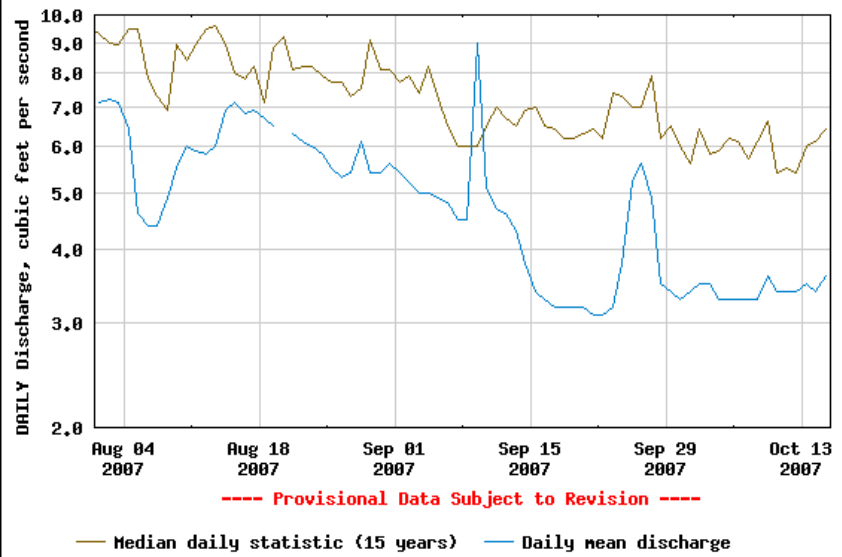
Bayou Creek Hydrographs



USGS 03611900 LITTLE BAYOU CREEK NEAR GRAHAMVILLE, KY



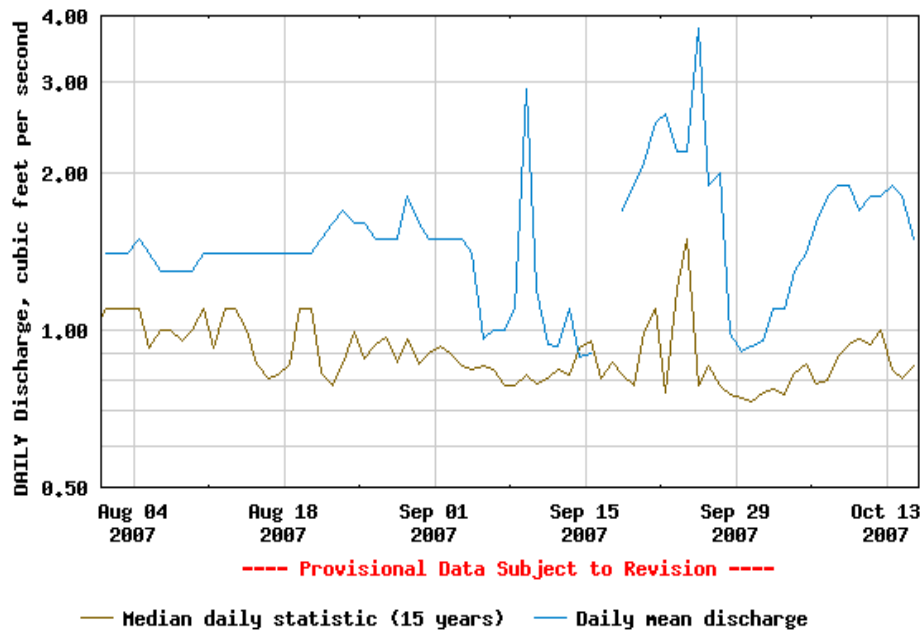
USGS 03611850 BAYOU CREEK NEAR GRAHAMVILLE, KY



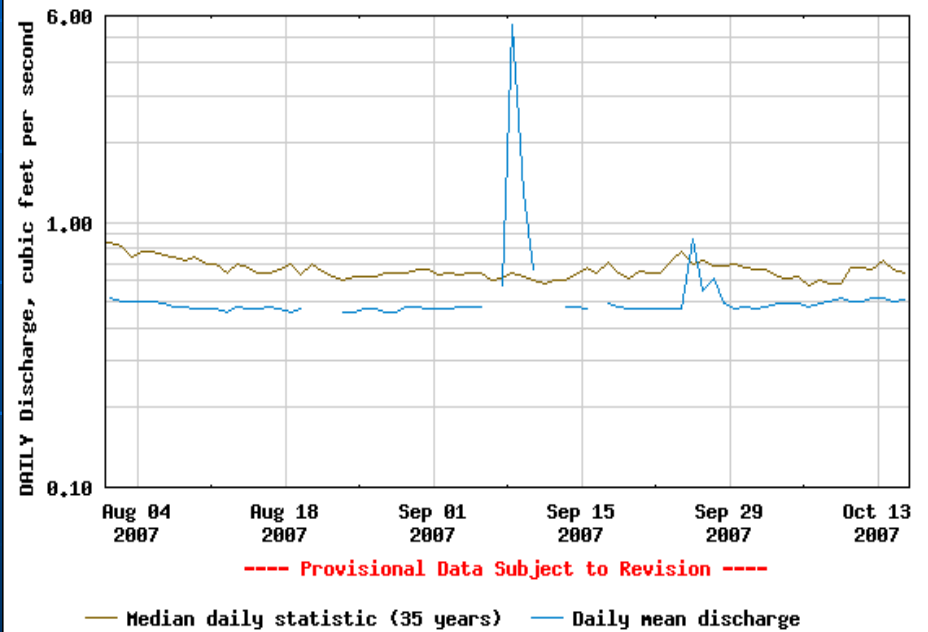
Little Bayou & Massac Creek Hydrographs



USGS 03611900 LITTLE BAYOU CREEK NEAR GRAHAMVILLE, KY



USGS 03611260 MASSAC CREEK NEAR PADUCAH, KY



Work to Date

- 9 monitoring station locations
 - 3 USGS gages
 - 5 KRCEE stations
 - 1 USGS gage on Massac Creek

Work to Date

- 7 measurements of
 - Volumetric flow
 - Hardness
 - Cu, Fe, Hg, Pb concentrations

Further Information...

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