



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4

Science and Ecosystem Support Division  
980 College Station Road  
Athens, GA 30605-2720

June 2, 2011

**R4-SESD-EAB**

**MEMORANDUM**

**SUBJECT:** Ogeechee River Fish Kill  
EPA Project ID: 11-0480

**FROM:** Bobby Lewis *RL*  
Life Scientist

**THRU:** Bobbi Carter, Chief *BC*  
Aquatic Biology Section

**THRU:** Archie Lee, Chief *AL*  
Enforcement & Investigation Branch

**TO:** Jose Negro, On Scene Coordinator  
Region 4, Superfund

On May 23 and 24 the Science & Ecosystem Support Divisions (SESD) Ecological Assessment Branch (EAB) received fish collected as part of the Ogeechee River fish kill. EAB was tasked to process the fish for chemical analysis.

All fish samples were homogenized as whole body samples (except for sample OR02FI03) in accordance with SESD's Operating Procedure for *Tissue Sample Handling and Processing* (SESDPROC-714-R0) using dry ice and pre-cleaned glass blenders with stainless steel blades. Since it was unclear what may be causing the acute toxicity in the fish, it was decided that whole body analysis would be the best way to evaluate the dead fish.

Due to its larger size, the head and back bone of the bowfin sample (OR02FI03) were excised and not include in the sample. The sample only consisted of the right and left fillets (with skin and scales on), gills, and the internal organs. This was done for two reasons, one, the large bowfin would be very difficult to completely homogenize because of the thick boney head. Secondly, the calcium in the bones of the bowfin may cause potential interferences during the inorganic analysis. Therefore it was decided by the EAB fish processing team, to not include the boney parts of the bowfin in the homogenized

sample. This simplified the homogenization process and reduced the potential interferences from calcium during the inorganic analysis. Although the other fish species collected also contain bones, it was concluded the amount of calcium within these smaller fish were less of a concern for potential interferences, and therefore, their whole bodies were homogenized.

The table below presents the length and weight of each fish used for analysis. Three of the 6 samples were composite samples.

All homogenized fish samples were sent to SESD's Analytical Support Branch for chemical analysis.

Station	Sample ID	Fish	Length (mm)	Weight (g)
02	OR02FI01	Largemouth bass	309	390
02	OR02FI02	Brown bullhead catfish	196	89
02	OR02FI03	Bowfin	507	1330
02	OR02FI04 (Comp.)	Largemouth bass	140	31
		Redbreast sunfish	145	51
		Redbreast sunfish	130	42
		Redbreast sunfish	147	59
05	OR05FI05 (Comp.)	Redbreast sunfish	205	151
		Redbreast sunfish	205	166
		Redbreast sunfish	112	22
		Redfin Pickerel	242	67
06	OR06FI06 (Comp.)	Redbreast sunfish	151	57
		Redbreast sunfish	175	141