

Quarterly Management Summary – May 2014

Identifying and Evaluating the Distribution of Fish in the Savannah River Estuary

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The contract supporting this work was executed in January 2014, and work on this project began in early February 2014. Initially, the project needed to be staffed with a Post-doctoral Research Associate and two Research Professionals. Position descriptions were created and advertised, potential employees were interviewed, and staffing selections for the project began in February 2014. Given the January 2014 official start date of the project and the need for staffing and other preparatory activities, field sampling was to be initiated in May 2014 and continue quarterly (i.e., August 2014, November 2014, and February 2015) until the first year's sampling was completed. This schedule was approved per conversations with Ms. Margaret McIntosh, who served as the Corps of Engineers point of contact for the project. Field preparation began with two preliminary field trips (end of April and early May 2014) organized to select a total of seven sampling sites at the Savannah River Estuary (SRE). Three sites in the Front River, two sites in Middle River, and two sites in Back River were chosen as sampling locations. Those chosen sites represent three salinity ranges (0 to 0.5 ppt, 0.5 to 5 ppt, and 5 to 15 ppt). Two replicates (i.e., two different seine sets) in each of the seven sites were planned to be used. In each site, two pair of 5-cm diameter, 3-m long, polyvinyl chloride (PVC) pipes were driven about 0.5 m into the substrate. A hand-held global positioning system was used to determine latitude and longitude, which were recorded for each replicate. The first quarterly samples in the SRE with a tide-assisted seine method were collected during the period May 13-17, 2014. At the time of arrival to each of the sites, water quality conditions were measured. On each sampling occasion, the seines (0.63-cm mesh, 15.2-m in length x 1.8-m in height) were set parallel to the shoreline at slack high tide in 0.5–2.0 m water depth and allowed to fish for about 2.0–5.0 h. Juvenile and

adult fishes, crabs, and shrimp were trapped behind the seine as the tide ebbed and water level dropped 1–2 m. The seine was retrieved by detaching the lead and float lines from the PVC posts and pulling the lead line to shore (usually < 0.5 m). The seine was then stretched out on shore or onboard a boat, and fauna were removed by hand. A few larger specimens of common fishes and crabs were identified, measured, and released. All other fishes, shrimp, and crabs were euthanized in alcohol per the University's animal use protocols, preserved in 10% formalin, and returned to the laboratory at the University of Georgia for identification and enumeration. In the laboratory, preserved specimens were identified and enumerated. Data were digitalized and stored on Microsoft EXCEL spreadsheets and then checked for mistakes by project personnel. In May 2014, specimen collection totals were as follows: fishes - 474 individuals from 26 species; crabs - 51 individuals from 4 species; shrimp - 1,253 individuals from 2 species. Four shrimp were only identified at the genus level (*Palaemonetes*). A voucher specimen for each shrimp and crab species was retained.