

EVALUATION OF POPULATION SIZE AND MOVEMENT BEHAVIOR OF LARGEMOUTH BASS IN PAR POND RESERVOIR

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Contamination of aquatic environments and their inhabitants is of great concern worldwide due to the role of water as a coolant in nuclear power plants. Research concerning the effects of radiation on fish in the United States dates back to 1930. Par Pond is a 2,640 acre cooling reservoir that served as source of water for P and R reactors from 1958 to 1988 on the Savannah River Site in Aiken, South Carolina. Cesium contamination of the reservoir occurred throughout this time, with the highest levels leaking from R reactor in 1965. Largemouth bass, *Micropterus salmoides*, have been a species of research focus in Par Pond since the early 1970s. However, no estimate on population size or contaminant loads has been conducted on the largemouth bass in Par Pond since 1991. The purpose of our study is to estimate population size and assess movement behaviors of *Micropterus salmoides* in Par Pond in order to develop baseline data for future radionuclide and heavy metal investigations of bass in this reservoir. Short term objectives include fish marking and attempted recapture. By angling, largemouth bass were marked in July 2015. Fish were marked with PIT tags embedded in Hallprint® plastic tipped dart tags. Length, weight, sex, GPS



Morgan on Par Pond.

location, and a categorical assessment of body condition were record for each fish. Fish were released within the original capture inlet after data collection. Results show a 3:2 male to female sex ratio among marked individuals (N=156) with an average length of 416.07 mm (SD=45.08) and an average weight of 0.89 kg (SD=0.38). Of marked individuals, 1 was recaptured and 14.10% were categorized as being of poor body condition. We expect that largemouth bass are well established throughout the reservoir. However, work is ongoing to mark a total of 3,000 largemouth bass by the spring 2016.