

Quarterly Report: Monitoring Potential Cadmium Levels in Avian Tissues Associated with the Savannah Harbor Expansion Project – September 2016 (3rd Quarter)

O.E. Rhodes^a, S.B. Wilde^b, John C. Seaman^a & A.L. Bryan^a. ^aUniversity of Georgia-Savannah River Ecology Laboratory (SREL), Aiken, SC, ^bUniversity of Georgia-Warnell School of Forestry, Athens, GA.

In the third quarter of 2016, we collected the late summer samples as part of the summer period of the third year of avian cadmium sampling (as a reminder, our sampling year spans portions of two calendar years). This sampling was impacted by construction activities on the DMCA, which precluded us from sampling within DMCA 14A. Late summer avian sampling occurred during the following periods: 1 July, and 12-15 August, and 13 September. During the July effort, we collected juvenile (pre-flight) stilts.

Our mist netting efforts during the August effort were not very successful, possibly due to trapping in new sites and excessive temperatures. We lethally-collected 7 Mottled Ducks during the August period, completing the summer season sampling for that species.

We returned on September 13th and lethally-collected 6 Mourning Doves, completing the summer season sampling for that species.

Table 1. Sentinel Birds Captured and Sampled (blood) on the Savannah Dredge Material Containment Areas (DMCA) in the Early and Late Portions of the 2016 Summer Sampling Period.

	Early	Late
Spring/Summer		
Black-necked Stilt	5	3
Brown Thrasher	1	1
Eastern Towhee	1	1
Mottled Duck	4*	7*
Mourning Dove	5*	5*
Northern Mockingbird	3	0
Northern Cardinal**	0	7
Red-winged Blackbird	8	1

- Lethal take

** Alternate species

The annual report (Rhodes *et al.* 2016) for the second year was completed and sent to USACE for review. Comments from USACE were addressed and the final project report was submitted in August 2016.

In late August, we held discussions with USACE pertaining to reducing the number of sentinel species sampled. As a reminder, according to the Scope of Work for this project, sampling of sentinel species was to be reduced to two species per season (but with greater sample sizes per species) during the period/year when the contaminated sediments were to be deposited in the DMCAs. An inherent component of our initial years of sampling (“control period”) has been the determination of which sentinel species would be appropriate for the more focused sampling based on capture success and habitat use. Given the preference to include both aquatic and upland/terrestrial species in both sampling seasons and based on previous capture success and the USACE discussions, the reduced listing of sentinel species included:

Summer	Aquatic	Mottled Ducks, Black-necked Stilts
	Upland	Red-winged Blackbirds, Northern Mockingbirds
Winter	Aquatic	Northern Shoveler, American Avocet, Blue-winged Teal*
	Upland	Savannah Sparrow, Song Sparrow

*The teal was added as a potential winter aquatic sentinel species due to difficulties in collecting avocets and will be collected and analyzed in the upcoming winter sampling period.

This range of species should provide for sufficient background data for both aquatic and upland species and allow appropriate selection of a reduced number of sentinel species during and after the period of cadmium-laden sediment deposition.

Literature Cited

Rhodes, O.E., S.B. Wilde, J.C. Seaman, and A.L. Bryan. 2016. Monitoring Potential Cadmium Levels in Avian Tissues Associated with the Savannah Harbor Expansion Project: Year 2 of Monitoring Annual Report. Report to the U.S. Army Corps of Engineers, Savannah District, Savannah, Georgia. Submitted August, 2016.