

Quarterly Report: Monitoring Potential Cadmium Levels in Avian Tissues Associated with the Savannah Harbor Expansion Project – March 2015 (1st Quarter)

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In the first quarter of 2015, we collected the final, late season samples as part of the winter period of the initial year of avian cadmium sampling (as a reminder, our sampling year spans portions of two calendar years). This sampling occurred during the following periods: 12-14 January and 2-4 March. The success of the January sampling period was impacted by rainy/windy weather (which severely limited the effectiveness of mist nests). Of the winter sentinel species, we captured only one Northern Mockingbird and one Brown Thrasher. We also live-captured and collected blood samples from four American Coots with the NetBlaster, as a potential surrogate for the Northern Shoveler.

During the March period, we lethally-collected 8 Northern Shovelers and also collected blood samples from three Eastern Towhees, one Brown Thrasher and three Northern Cardinals, the latter species being a potential surrogate species. The lethal collections occurred due to our difficulty in live-capturing the sentinel duck species, but does allow for the comparison of cadmium concentrations in blood with concentrations in kidney and liver tissues.

Our final tally of avian blood samples collected for cadmium analyses for the first year of monitoring related to SHEP are presented in Table 1.

Table 1. Sentinel and Alternative Birds Captured and Sampled (Blood) on the Savannah Dredge Material Containment Areas (DMCA) in the Summer (S) and Winter (W) Periods.

Sentinel Species	Sentinel		
	Season	Spring-Summer	Fall-Winter
Black-necked Stilt ^a	S	10	-
Brown Thrasher	Both	6	4
Eastern Towhee	Both	6	6
Mourning Dove	S	10	-
Northern Mockingbird	Both	13	13
Red-winged Blackbird	S	13	-
Mottled Duck ^a	S	0	-
Savannah Sparrow	W	7 ^a	13
House Wren	W	1 ^a	-
American Avocet ^a	W	-	0
Northern Shoveler ^a	W	-	8
Song Sparrow	W	-	11
<u>Alternative Species</u>			
Common Ground Dove	S	5	-
Northern Cardinal	Both	8	8
Swamp Sparrow	S	7	7
Yellow-rumped Warbler	W	-	12
American Coot ^a	W	-	4

^aThese species are typically associated with wet conditions/aquatic habitats, although all species utilize edge habitat between aquatic and terrestrial habitats. The shovelers were collected lethally.

^bWinter sentinel species captured in early Spring.