

# Savannah Harbor Expansion Project

SHEP Progress Report December 30th 2013 - January 30th 2014

**Task 1:** SC DNR would acquire and insert 10 sonic transmitters per year into Atlantic Sturgeon in the Savannah River Estuary and an additional 10 sonic transmitters into shortnose sturgeon. These fish should be collected and transmitted within or as close as possible to estuary. The goal would be a 50/50 split between adults/sub-adults and juvenile fish. All sturgeon collected will be weighed, measured, passive Integrated Transponder (PIT) tagged, and have a fin clip taken for genetic analysis before being released.

**Overview 1:** No sturgeon were captured during this reporting period. However, 23 Atlantic and 6 shortnose were captured previously. Considerable effort will be put towards capturing and transmitting both Atlantic and shortnose sturgeon in February. Data for all fish previously captured are provided in Table 1.

**Task 2:** Acquisition, operation and maintenance of 23 receivers per year are included in the statement of work. Receivers would be concentrated in the estuary, where the impacts of harbor deepening are anticipated.

**Overview 2:** Twenty-three receivers have been deployed from the South Channel of Savannah River to Front River rkm50. These are included in a comprehensive table showing all receiver locations (Table 2). Permission has been requested to deploy more receivers on Coast Guard channel marker buoys in the King Island Turning Basin (Figure 1). Locations of receivers and transmitted fish (residency master list) are included as supplemental attachments (xls files).

**Task 3:** To allow identification of fish movement upstream of the NSBLD (between the L&D and Augusta Shoals); the contractor should locate 5 receivers between NSBL&D and the Augusta Shoals.

**Overview 3:** Jason Moak (Southeastern Natural Sciences Academy) is contracted by SCDNR to deploy and download receivers from NSBL&D to the shoals in Augusta, GA. Savannah River water levels have been unusually high and this has prevented Jason Moak from downloading and deploying some receivers. However, four receivers have been deployed above the New Savannah Bluff Lock and Dam (rkm 301) to the Augusta shoals (rkm 331) (Figure 2).

**Task 4:** Manual tracking of instrumented fish will occur monthly July – September and at least quarterly for the remainder of the year.

**Overview 4:** Manual tracking will continue in February and water quality parameters will be recorded. Temperature, salinity, oxygen, and conductivity at 1-meter intervals will be determined at the location of at least five telemetered Atlantic Sturgeon and five shortnose sturgeon during each manual tracking event.

Table 1: Sturgeon capture data for the Savannah River SHEP project.

<u>Date</u>	<u>Species</u>	<u>PIT#</u>	<u>Fork Length(mm)</u>	<u>Total Length(mm)</u>	<u>Weight(g)</u>	<u>Genetics</u>	<u>Transmitter Code</u>
11/5/2013	A.oxy	4A73115815	638	744	1380	MS-245	12748
11/5/2013	A.brev	4A0E18502E	438	501	300	MS-246	12759
11/7/2013	A.oxy	4A0D4F704C	505	578	675	MS-247	12749
11/7/2013	A.oxy	4A0E00482D	497	582	700	MS-248	12754
11/13/2013	A. oxy	4A3F2A4F36	486	552	600	MS-249	12750
11/14/2013	A. oxy	4A0E260F25	889	1030	8000	MS-250	26324
11/14/2013	A. oxy	4A0D5B5B7E	330	389	90	MS-251	12758
11/14/2013	A. oxy	4A0E1D2325	439	502	357	MS-252	12753
11/14/2013	A. oxy	4A0E142F3A	477	555	635	MS-253	12752
11/21/2013	A. oxy	0A13675E5E	540	637	900	MS-254	No transmitter
11/21/2013	A. oxy	0A13675E35	536	632	960	MS-255	No transmitter
11/21/2013	A. oxy	0A13675E1C	322	377	30	MS-256	No transmitter
11/21/2013	A. brev	0A13675E58	584	683	1340	MS-257	12747
11/21/2013	A. brev	0A13675E61	499	569	685	MS-258	12746
11/22/2013	A.oxy	0A13675E22	505	572	725	MS-259	No transmitter
11/22/2013	A.oxy	0A13674a63	504	579	695	MS-260	No transmitter
11/22/2013	A.oxy	0A13674A61	538	629	940	MS-261	No transmitter
11/22/2013	A.oxy	0A13674A79	528	602	820	MS-262	No transmitter
11/22/2013	A.oxy	0A13674B1D	503	571	675	MS-263	No transmitter
11/22/2013	A.brev	0A13675A75	554	641	1040	MS-264	12751
12/5/2013	A. oxy	0A1367FB19	383	441	280	MS-265	No transmitter
12/5/2013	A. oxy	0A13675A77	842	967	6350	MS-266	45672
12/11/2013	A. oxy	0A13674A60	407	463	200	MS-267	No transmitter
12/11/2013	A. oxy	0A13675A7A	364	421	100	MS-268	No transmitter
12/11/2013	A. oxy	0A13674B21	355	416	120	MS-269	No transmitter
12/11/2013	A. oxy	0A13674B23	373	433	130	MS-270	No transmitter
12/11/2013	A. oxy	0A13674B08	415	479	280	MS-271	No transmitter
12/11/2013	A.brev	0A13674B22	559	647	1100	MS-272	26322
12/11/2013	A.brev	0A13674B1B	492	562	620	MS-273	12745

Table 2: GPS coordinates of Savannah River receiver locations.

Receiver #	Station Name	GPS coordinates	
		Latitude	Longitude
111321	RM 0	32°02.248'N	80°53.990'W
111717	RM 3	32°04.274'N	80°57.289'W
111316	RM 6	32°04.616'N	80°57.394'W
111293	RM 9	32°05.390'N	81°01.173'W
111292	RM 15	32°04.972'N	81°05.615'W
111654	RM 18.5	32°08.699'N	81°08.416'W
111652	RM 21.5	32°09.647'N	81°09.256'W
111648	RM 22.5	32°10.971'N	81°09.368'W
111655	RM 24	32°11.816'N	81°09.259'W
111659	RM 27.5	32°14.164'N	81°09.012'W
111333	MR RM 0	32°08.794'N	81°07.974'W
111326	MR RM 1.5	32°09.523'N	81°08.253'W
111650	MR RM 2.5	32°10.342'N	81°08.150'W
111653	MR RM 4	32°11.602'N	81°08.252'W
111647	MR RM 5	32°12.613'N	81°08.289'W
111305	BR RM 4	32°06.673'N	81°06.471'W
111325	BR RM 7	32°08.704'N	81°07.236'W
111657	BR RM 9.5	32°10.068'N	81°07.790'W
111651	BR RM 13.5	32°11.574'N	81°07.096'W
111658	BR RM 16.5	32°13.280'N	81°08.598'W
111766	RM 31.5	32°16.141'N	81°08.052'W
111755	Abercorn RM 0	32°14.952'N	81°09.191'W
111754	Abercorn RM 1	32°15.127'N	81°10.057'W
111753	RM 39	32°20.490'N	81°07.932'W
111825	RM 45	32°22.882'N	81°10.856'W
111818	RM 53	32°27.582'N	81°11.424'W
111824	RM 61.5	32°31.723'N	81°16.084'W
111764	RM 68	32°33.678'N	81°18.593'W
111826	RM 74	32°35.544'N	81°22.437'W
111813	RM 79.5	32°38.516'N	81°24.591'W
111759	RM 85.5	32°41.699'N	81°24.622'W
111756	RM 89.5	32°43.956'N	81°24.958'W
111758	RM 94.5	32°46.322'N	81°25.766'W
111814	RM 100.5	32°48.034'N	81°25.761'W
111757	RM 105	32°50.435'N	81°26.475'W
111763	RM 110.5	32°52.905'N	81°27.962'W
111762	RM 115.5	32°54.521'N	81°28.952'W
111752	RM 119	32°56.234'N	81°30.159'W

Receiver #	Station Name	GPS coordinates	
		Lattitude	Longitude
111815	RM 123	32°58.508'N	81°29.767'W
111820	RM 125.5	33° 0.318'N	81° 29.688'W
111819	RM 133	33° 2.616'N	81° 33.402'W
111821	RM 137	33° 4.368'N	81° 35.502'W
111823	RM 147	33° 6.942'N	81° 41.910'W
111812	RM 153	33° 10.578'N	81° 46.152'W
111716	RM 157	33° 13.044'N	81° 46.080'W
111817	RM 161.5	33° 13.542'N	81° 49.014'W
111715	RM 168	33° 15.810'N	81° 50.166'W
111721	RM 173	33° 17.946'N	81° 51.054'W
111718	RM 177.5	33° 18.258'N	81° 52.902'W
111816	RM 182	33° 19.656'N	81° 54.594'W
111720	RM 186	33° 21.540'N	81° 56.298'W
111719	RM 187	33° 22.302'N	81° 56.670'W
111822	RM 187.5	33° 22.308'N	81° 56.232'W
	RM 190 (Jason's Dock)	33.384196°	-81.931071°
	Rm 199.7 (Marina)	33.476885°	-81.959857°
123597	Lower Shoals	33.512515	-82.001596
123601	Upper Shoals	33.548185	-82.035944

Figure 1: Savannah River Estuary receiver locations.

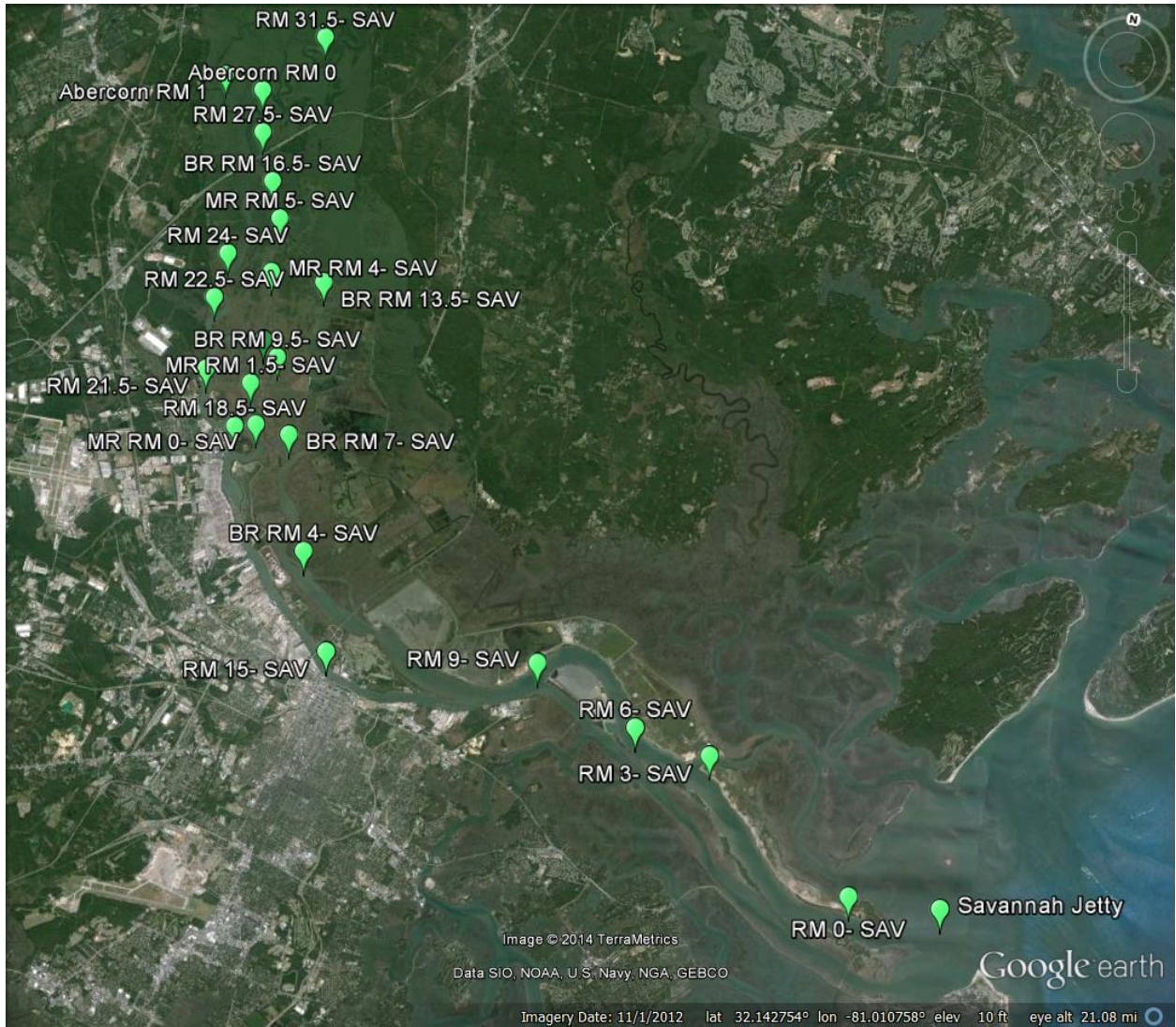


Figure 2: Receivers located above New Savannah Bluff Lock and Dam.

