ST. Catherine Creek National Wildlife Refuge

November 2015 Telemetry Download and Overview

On Monday November 30th, 2015, Glenn Constant and Kayla Kimmel with Baton Rouge Fish and Wildlife Conservation Office, LA, downloaded the stationary VR2W receiver array on St. Catherine Creek National Wildlife Refuge (SCC NWR). These receivers and corresponding tagged alligator gar are part of a continued effort to increase our knowledge of floodplain dependent species movement, site fidelity of alligator gar, and spawning habitat use on SCC NWR.

The Mississippi River stage at Natchez was at 34.48 feet on November 30th, so water levels allowed us access to all receivers either by boat, kayak or truck. We downloaded eight receivers in the field. Two receivers were picked up by SCCNWR staff in October because they were high and dry with low water conditions. Those two were downloaded in the office. One receiver was unable to be located and may be missing. These ten receivers, distributed from the connection to the Mississippi River all the way up to the northernmost areas on the refuge floodplain, recorded fish movements throughout the year.

Out of the 17 alligator gar tagged in March 2013, 16 fish (94%) are still active and utilizing the refuge in 2015. The one fish (5.8%) that is missing was last detected on April 28, 2013 on the private property that is juxtaposed to the North property line. Out of the remaining active fish, 13 (81.2%) were detected within 2 days of the download and of the remaining 3 fish, 2 of them (12.5%) were detected within 30 days and 1 fish (6.2%)within 90 days of the November 30 download. In addition to those fish, two alligator gar that were tagged in the January 2012 effort were also detected on the refuge in 2015. One fish was last detected on January 5, 2015 and the other was last detected on October 27th, 2015. It is tremendous to have collected data on these two fish for over three years, considering battery life on their transmitter was projected to end in fall 2014.

Fish Name	Date Tagged	Last Detection Date	Last Detection Location
Slimer	1/18/2012	1/15/2015	Bluehole
Rosanne	1/19/2012	10/27/2015	Butler Lake
Henry	3/13/2013	11/30/2015	Bluehole
Catherine	3/13/2013	11/30/2015	Bluehole
Maggie	3/13/2013	11/29/2015	Butler Lake
Bob	3/13/2013	11/30/2015	Butler Lake
Bayou Lena	3/13/2013	11/30/2015	Butler Lake
Curt	3/13/2013	10/31/2015	Bluehole
Mr. Gypsy	3/13/2013	8/14/2015	Long Lake North
Zachary	3/13/2013	11/30/2015	Butler Lake
Edgar	3/13/2013	11/28/2015	Butler Lake
Jimbo	3/13/2013	11/30/2015	Butler Lake
Ralph	3/13/2013	4/28/2013	Private Property 1
Brutus	3/13/2013	11/30/2015	ATV Trail
Columbo	3/13/2013	11/30/2015	Butler Lake
Hollywood	3/13/2013	11/30/2015	Butler Lake
Baby Got Back	3/14/2013	11/30/2015	Bluehole
Si	3/14/2013	11/03/2015	Butler Lake
Heather	3/14/2013	11/30/2015	Bluehole

Table 1. In 2015, 18 tagged alligator gar utilized the refuge and were detected with active transmitters.

Transmittered alligator gar not only exhibited extremely high site fidelity for SCCNWR but for specific habitats within the refuge. Extended high water conditions allotted alligator gar ample opportunity in 2015 to exit the refuge via direct channel connectivity to the Mississippi River. When the Natchez gage is above 30ft water levels typically inundate the weir at Butler Lake allowing an uninterrupted connection to the river channel. The river was above 30 feet at the Natchez gage for 194 days (57%) so far this year out of 336 days (December 2). Out of the 17 most recently detected fish, 58.8% of gar were last detected in Butler Lake while 29.4% were last detected in the Bluehole and only 11.7% were last detected in a location other than Butler Lake or the Bluehole.

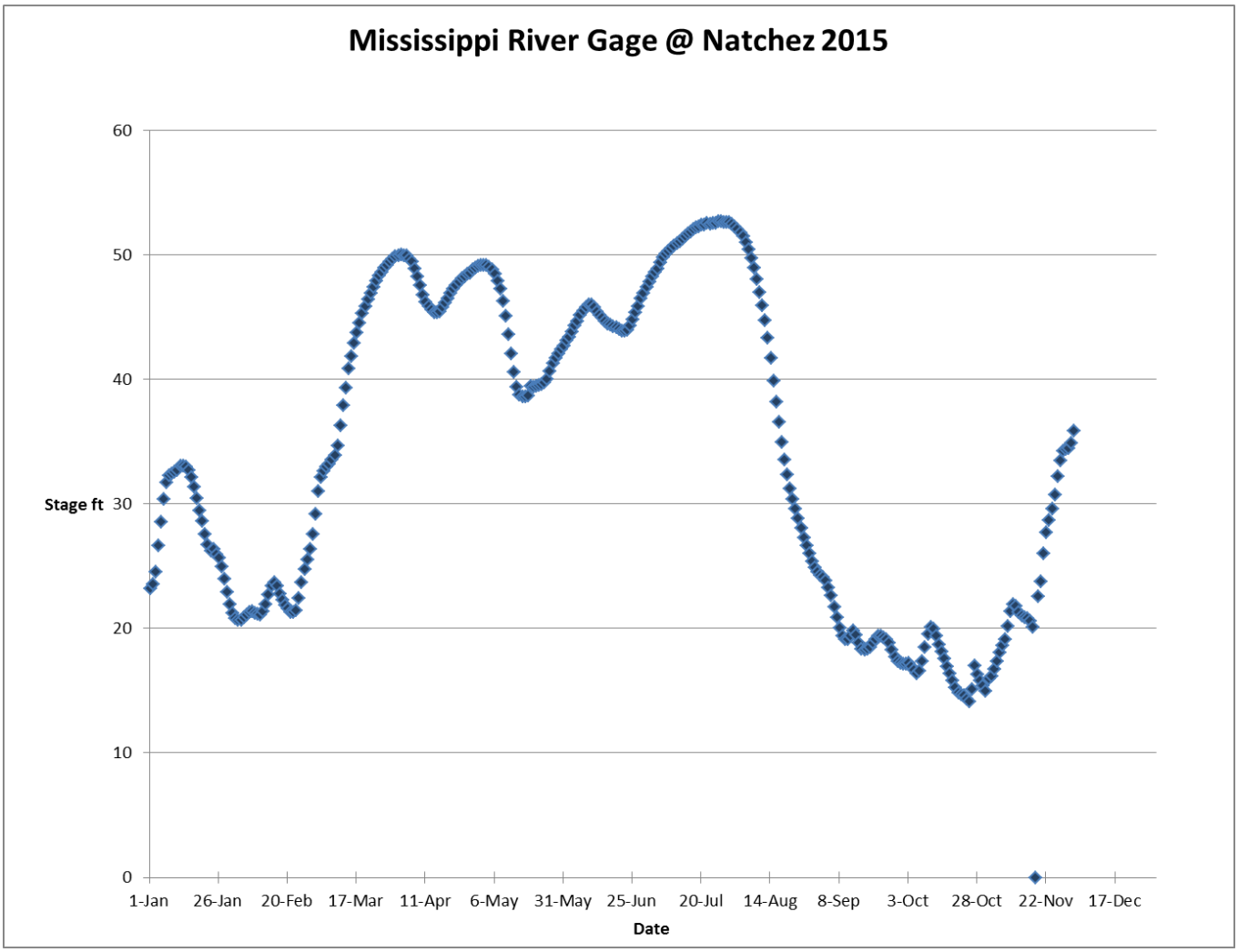

Figure 1. Mississippi river stage in feet at the Natchez gage through December 2, 2015.

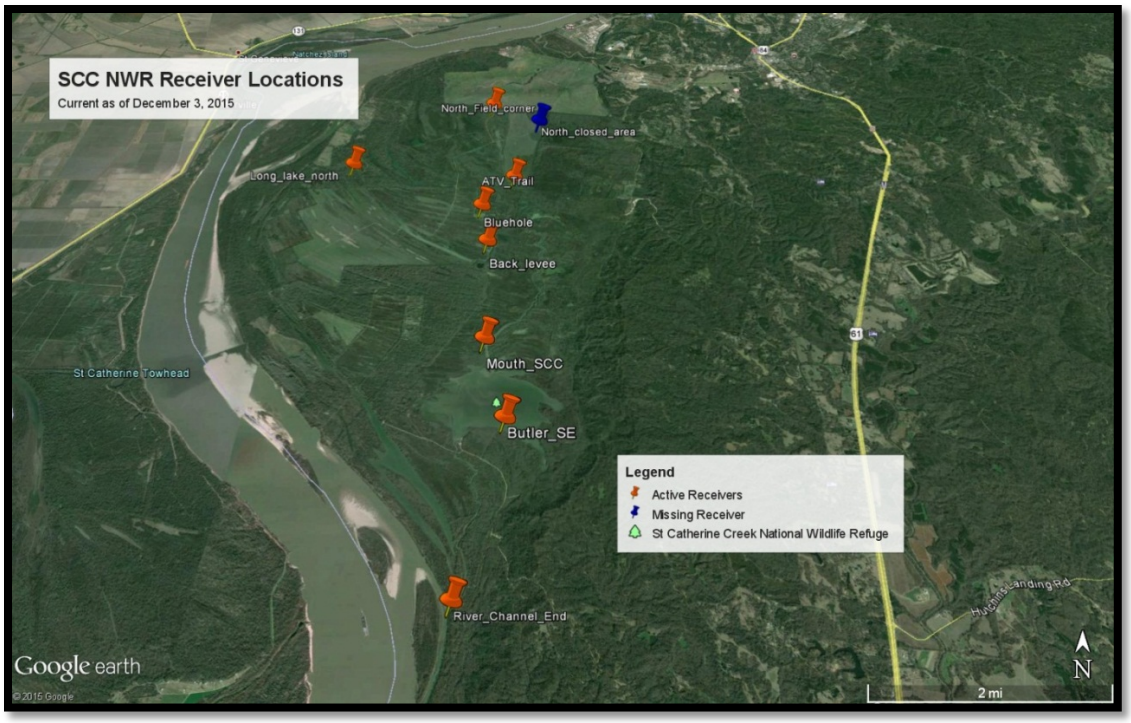

Figure 2. Map of currently deployed receiver array on St. Catherine Creek National Wildlife Refuge. The blue pin indicates the receiver that could not be located and may be missing in the surrounding area.

In addition to detecting our transmittered alligator gar the receiver closest to the Mississippi River (river channel end) had detections from an unknown transmitter. After investigation it was determined the transmitter was deployed in a female shovelnose sturgeon on 3/8/2015 near river mile 315. She traveled north about 30 miles to reach the secondary channel on the refuge where our receiver was deployed. Working cooperatively with partners and others researchers with telemetry arrays increases the probability of detecting your fish in areas you aren't able to have receivers. In 2013, our array detected a silver carp that traveled all the way down the Mississippi from above lock and dam 26 near St. Louis Missouri.

Figure 3. Location shovelnose sturgeon was tagged and where it was detected with the SCCNWR receiver array.

Late fall is a beautiful and very active time for the aquatic and terrestrial critters that inhabit the refuge. The floodplain habitat is a combination of dry land and shallow water but only temporarily as the river continues to rise and resumes the transition to aquatic habitat. The trees still show the high water marks from months prior with a pop of colorful leaves only near the top. We look forward to many more seasons following the movements of these alligator gar as our deployed transmitters are predicted to last till August 2019.