

FINAL PERFORMANCE REPORT
South Carolina Project USFWS SWG T-33
South Carolina Department of Natural Resources
Wildlife and Freshwater Fisheries
October 1, 2007 – September 30, 2012

OBJECTIVE 1

Conduct radio telemetry tracking of previously tagged fish to locate potential spawning areas where additional robust redhorse may be collected and to collect life history data on upstream and downstream movement and habitat preferences.

Accomplishments

Radio telemetry was conducted for tagged robust redhorse in the Pee Dee River throughout the grant period. In coordination with the NC Wildlife Resources Commission, North Carolina State University and Progress Energy, SCDNR staff monitored movements of robust redhorse before and after spawning. Tracking was conducted from late March through April until all tagged individuals had moved upstream of Cheraw and out of South Carolina. They were tracked again in July and August after spawning when they had moved back into South Carolina waters. Repairs and maintenance were made to an existing SCDNR boat in order to conduct the radio telemetry. An Advanced Telemetry Systems receiver (40.000-41.999 MHz) and antenna was used to find the general location of tagged robust redhorse on the Great Pee Dee River in South Carolina. At each location date, time, water depth (m), surface water temperature (°C), and dissolved oxygen (mg/L) was recorded. Geographic coordinates were obtained using a hand-held GPS unit and a written description of the physical location was recorded.

Tracking was conducted in October, November, and December 2007; February 2008; March, April, July, and August 2010; and March 2011. From March 2008 through July 2009, tracking was not conducted by SCDNR Region 2 because Progress Energy provided funding for a NC State graduate student project investigating habitat usage by robust redhorse in the Pee Dee River. A request was submitted and approved to extend this grant by twelve months to allow for additional tracking time by SCDNR personnel in 2010 and 2011. There was no radio telemetry tracking performed during the fifth year of this grant period due to expected expiration of battery life of the transmitters. In September 2012, a Mercury 9.9HP 4 stroke engine was purchased to replace the boat motor on the jon boat used for tracking on the Pee Dee River.

In eighteen days of tracking over the grant period, twenty-two robust redhorse were located in S.C. The results of those tagged individuals tracked and located are as follows:

Radio Tag Frequency 40.611 was located 7 times during the grant period; once in March 2010, four times in April 2010, once in July 2010, and once in August 2010. This fish was found around large woody debris 5' to 20' from the bank and mid channel.

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Radio Tag Frequency 40.671 was located 2 times during the grant period: once in November 2007 and once in December 2007. This fish was found in an open channel and around woody debris.

Radio Tag Frequency 40.730 was located 6 times: once in March 2010, three times in April 2010, once in July 2010, and once in August 2010. This fish was found in large woody debris along the bank, 10' from the bank in woody debris, and 30' from the bank mid channel.

Radio Tag Frequency 40.810 was located twice: once in March 2010 and once in August 2010. This fish was found in submerged woody debris along a steep bank.

Radio Tag Frequency 41.741 was located once in March 2011 in woody debris along the bank.

Radio Tag Frequency 41.910 was located once in March 2010 and three times in April 2010. This fish was found around brush and hanging trees along the bank as well as 25' – 30' off the bank.

OBJECTIVE 2

Conduct spring electrofishing in cooperation with NC WRC to identify new robust redhorse in the Yadkin-Pee Dee system and radio tag additional robust redhorse for future tracking studies.

Accomplishments

In late April and early May of 2008, Region 2 personnel met with NCWRC, Progress Energy, Duke Energy, South Carolina Aquarium, and North Carolina Natural History Museum to sample the Great Pee Dee River above the South Carolina state line by electrofishing for spawning robust redhorse. Twenty-three robust redhorse were collected between April 22 and May 8 2008, of which seven were recaptures from previous years, two were within year recaptures, and fourteen were newly collected fish. All fish were PIT tagged and ten had new radio tags surgically implanted. The fish ranged from 576 to 766 mm with a weight range of 2630 to 8450 grams. All fish were adult and many were ready to spawn.

Region 2 personnel surveyed the Great Pee Dee River in cooperation with the North Carolina Wildlife Resources Commission, Progress Energy, Duke Energy, South Carolina Aquarium, and North Carolina Natural History Museum in fall 2008 and spring 2009. In October 2008, boat electrofishing was conducted for two days on the Pee Dee River focusing below the South Carolina state line. One robust redhorse was collected. In late April and early May of 2009, the survey was conducted above the South Carolina state line using boat electrofishing. The areas targeted were known robust redhorse spawning grounds and locations where radio telemetered fish were detected. Twenty robust redhorse were collected between April 20 and May 7 2009, of which eight individuals were newly collected fish. All fish were PIT tagged and ten had new radio

tags surgically implanted. The fish ranged from 594 to 740 mm with a weight range of 2986 to 6660 grams. All fish were adult and many were ready to spawn.

Significant Deviations: Spring electrofishing for robust redhorse was not conducted in the Pee Dee River during or after October 1, 2009. At the September 2009 annual meeting of the Yadkin-Pee Dee Technical Working Group of the Robust Redhorse Conservation Committee, it was decided that spring electrofishing would be suspended for 4 to 5 years until minimum flows are established at the Blewitt Falls Hydroelectric Facility.