

**PROPAGATION AND REINTRODUCTION OF THE WOUNDED DARTER,
ETHEOSTOMA VULNERATUM,
TO THE CHEOAH RIVER, NORTH CAROLINA**



Adult male wounded darter at CFI 4/21/08; adult tagged propagated darter in Cheoah River 10/1/09

Summary of Activities 2008-2009

Twelve wounded darters (*Etheostoma vulneratum*) were collected from Little Tennessee River, North Carolina, on May 1, 2007 from the bend below Wiggins Branch (Little Tennessee River Mile [LTRM] 92.3). Additionally, on August 13, 2007 two males were collected from near the mouth of Tellico Creek (LTRM 99.2), and another male and female was collected from above Dean Island (LTRM 101.2). These fish were used for propagation efforts in 2008 and 2009. Details of propagation methods will be presented in a completed final report.

On August 19, 2008, the first propagated wounded darters were reintroduced to the Cheoah River. A total of 332 juveniles were released at three sites: just below the dam above the flume crossing (~123), adjacent to Santeetlah Church (~120), and at the pull-off ~0.1 mi above Cochran Creek (~99). These were the oldest and largest individuals, but were mostly too small (~20-40 mm TL) to safely tag with visible elastomer implants (VIE). The remaining individuals were held over winter to grow larger and were released at two new sites on April 28, 2009 after receiving red VIE tags: ~73 at the lowest bridge above the TAPOCO lodge, and ~79 at the mouth of Yellow Creek. A pre-release snorkel survey at the latter site detected only one darter species, *Etheostoma chlorbranchium*, the greenfin darter, which was observed spawning. River chubs and warpaint shiners were also breeding, on pebble nests constructed by the chubs with the introduced gravel.

The first monitoring to search for released darters was conducted on July 23rd at the lowest bridge site, in a brief survey while returning from a trip to Cherokee. A lone male wounded darter was observed, with tag still visible, released in April. Additional monitoring and releases were conducted October 1st, when 138 darters were stocked at the Santeetlah Church site and 250 at the mouth of Yellow Creek. These were all VIE tagged green. A snorkel survey detected no wounded darters at the upper flume crossing site and habitat conditions were deemed unsuitable for any further releases there. A pre-release survey at Yellow Creek located a large, robust female wounded darter released in April (photo above). Both fish were located in what we consider fast glide mesohabitat, peripheral to the thalweg, with an abundance of cobble, boulders, and slab rocks over finer gravel and sand (depositional rather than erosive areas). This habitat is not common at this time in the areas we have snorkeled in the Cheoah River. Young greenfin darters were syntopic with the wounded darters—adult greenfins were more typically found in deeper, swifter water.

Additional brood stock was collected from the Little Tennessee River in August, but more will be needed prior to 2010 efforts to increase production and diversify genetic representation. Documentation of survival of stocked fish over winter will be a critical benchmark next year, with wild reproduction and recruitment observations not expected before 2012 or 2013 (based on our experience with the closely related boulder darter). Locating two tagged fish out of only 150 released earlier in the year in a river this size is more remarkable than most realize.