

**MOVEMENT AND MICROHABITAT ASSOCIATIONS OF GUADALUPE BASS *MICROPTERUS
TRECULII* IN TWO TEXAS RIVERS**

TCAFS members at Texas State University-San Marcos radio tracked Guadalupe bass in the Pedernales River and South Llano River during 2008 in order to determine movement patterns and suitable microhabitats for the imperiled state fish of Texas.

2007 article in Texas State University Star newspaper:

http://www.txstate.edu/news/news_releases/news_archive/2007/11/GuadalupeBass112907.html

2008 article in Houston Chronicle:

http://www.beaumontenterprise.com/sports/outdoors/news/researchers_track_guadalupe_bass_to_learn_more_about_their_habits_10-10-2008.html

2009 article in Bassmaster magazine:

http://sports.espn.go.com/outdoors/bassmaster/news/story?page=b_bm_mag_slam_other_dest

Abstract for talk presented at 2009 Texas Chapter AFS meeting in Fort Worth, TX:

Movement among ecologically essential habitats is vital for the persistence of stream-dwelling micropterids. Quantifying movement patterns and habitat associations is therefore an important component of imperiled black bass conservation initiatives. Guadalupe bass *Micropterus treculii* is a Texas endemic black bass threatened by introgression with introduced smallmouth bass and because of habitat degradation. This study described and quantified movement and habitat associations of Guadalupe bass in order to assess potential factors influencing current populations. Adult Guadalupe bass were tracked in the Pedernales ($n = 12$) and South Llano ($n = 12$) rivers from January through August 2008. Available microhabitats were measured and modeled in terms of depth, velocity, substrate and cover for over 1 km of each river. Individuals moved small distances (<1 M) during winter and greater distances (>5 M) during spring and summer. Guadalupe bass were positively associated with instream cover throughout the tracking period. During diel observations, Guadalupe bass shifted from undercut banks, woody debris, or root wads during the day to open water during the night. Nest site selection occurred within cover of woody debris and boulder crevices. Guadalupe bass habitat associations were similar to those of the introduced smallmouth bass *Micropterus dolomieu*, which might explain the high levels of introgression between the two congeners. In addition, loss of instream cover, as observed in streams that no longer support Guadalupe bass, might be a limiting factor in Guadalupe bass persistence in highly modified river reaches.

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TCAFS G-bass Figure 1

TCAFS members responsible for Guadalupe bass radio tagging, January 2008 (Junction, Texas). Left to right: Tim Bonner, Josh Perkin, Kristy Kollaus, Tom Heard, Zach Shattuck, Casey Williams, Chad Thomas, and Preston Bean.



TCAGS G-bass Figure 2

Guadalupe bass outfitted with internal radio transmitter and external antenna, recaptured from South Llano River near Junction, TX March 2008.



TCAFS G-bass Figure 3

Radio-tagged adult Guadalupe bass recaptured at end of the study, September 2008. TCAFS members and Texas State University graduate students (left to right) Zach Shattuck, Josh Perkin, and Robby Maxwell.