

EXPERTISE/CAPABILITIES, AND PREVIOUS EXPERIENCE OF C.W. HARGRAVE LAB AT SHSU.

EXPERTISE/CAPABILITIES

Aquatic Habitat

1. Aquatic habitat surveys
2. In-stream flow-dynamics and geomorphology
3. Water quality and chemistry
4. Riparian surveys
5. GIS mapping of in-stream and riparian characteristics

Fish

1. Fish community surveys
2. Fish population estimates and productivity dynamics
3. Endangered species surveys
4. GIS mapping of fish communities
5. Fishery (endangered species) Management Plan

Macroinvertebrates

1. Benthic invertebrate surveys
2. Benthic invertebrate productivity dynamics

Algae

1. Benthic and water column algae community surveys
2. Benthic and water column algae productivity

PREVIOUS EXPERIENCE

1. Fish and invertebrate surveys Ozark National Forest (U.S. Forest Service)
2. Fish, invertebrate and algae surveys in Lake Texoma (E.P.A)
3. Fish, stream morphology and water chemistry surveys in Big Thicket National Preserve (Park Service)
4. Fish, stream morphology and water chemistry surveys in Trans-Pecos and Rio (U.S.D.A)
5. Endangered fish species (population estimates), invertebrates, aquatic habitat and water chemistry surveys in West Texas Springs (U.S. Fish and Wildlife, Bureau of Rec, and TX Parks & Wildlife).

RELEVANT GRANTS

6. Unites States Department of Agriculture, Sustainable Agriculture Water Conservation, Rio Grande Basin Initiative, 2010-2011
Amount: 49,800
Title: *Aquatic Habitat Quality in the Trans Pecos (Big Bend) Ecoregion, Southwest Texas.*
PI: Chad Hargrave
5. Unites States Bureau of Reclamation, 2010-2013
Amount: 150,000
Title: *Conservation of Fish Species in Phantom Spring Lake*
PI: Chad Hargrave

4. Texas Parks and Wildlife Department, 2010-2012
Amount: \$39,884
Title: *Long-term monitoring of the Endangered Pecos Gambusia and Commanche Springs Pupfish.*
PI: Chad Hargrave, Co-PI: P. Raelynn Deaton
3. U.S. Fish and Wildlife Service & Texas Parks and Wildlife Department, 2009-2010 Amount: \$28,000
Title: *Ecosystem-level Conservation of the Endangered Pecos Gambusia and Commanche Springs Pupfish.*
PI: Chad Hargrave, Co-PI: P. Raelynn Deaton
2. United States Department of Agriculture, Sustainable Agriculture Water Conservation Research, 2009-2011
Amount: \$50,376
Title: *Local processes driving fish assemblages in the Rio Grande Basin*
PI: Chad Hargrave
1. Big Thicket Association, 2008-2010
Amount: \$15,330
Title: *Local, Regional, and Temporal Drivers of Fish Communities in the Big Thicket National Preserve*
PI: Chad Hargrave

PUBLICATIONS

15. Chad W. Hargrave, K. David Hambright, and Lawrence J. Weider. 2011. Variation in resource consumption across a gradient of increasing intra- and inter-specific richness. *Ecology*, 92:1226-1235.
14. Chad W. Hargrave, Samuel Hamontree[†], and Kaitlen P. Gary. 2010. Direct and indirect food web regulation of microbial decomposers in headwater streams. *Oikos*, 119:1785-1795.
13. Chad W. Hargrave and Christopher M. Taylor. 2010. Spatial and temporal variation in fishes of the upper Red River drainage (Oklahoma-Texas). *The Southwestern Naturalist*, 55:149-159
12. Chad W. Hargrave, Kaitlen P. Gary[†], Samir K. Rosado[†]. 2009. Potential effects of elevated atmospheric carbon dioxide on benthic autotrophs and consumers in stream ecosystems: a test using experimental stream mesocosms. *Global Change Biology*, 15:2779-2790
11. Keith B. Gido and Chad W. Hargrave. 2009. Fish, Productivity. In Gene E. Likens(Ed.). *Encyclopedia of Inland Waters*, vol. 3, pp. 473-481 Oxford: Elsevier.
10. Chad W. Hargrave. 2009. Effects of fish species richness and assemblage composition on stream ecosystem function. *Ecology of Freshwater Fish* 18:24-32.
9. Chad W. Hargrave. 2006. A test of three alternative pathways for consumer regulation of primary productivity. *Oecologia* 149:123-132.
8. Chad W. Hargrave, Raul Ramirez, Melody Brooks, Michael A. Eggleton, Katherine Sutherland, Raelynn Deaton, and Heather Galbraith. 2006. Indirect food web interactions increase growth of an algivorous stream fish. *Freshwater Biology* 51:1901-1910.
7. Chad W. Hargrave, Katherine Sutherland, Edie Marsh-Matthews, and William J. Matthews. 2005. Multiple interacting factors affect pH in museum storage fluids. *Collection Forum* 19:23-31.

6. Michael A. Eggleton, Raul Ramirez, Chad W. Hargrave, Keith B. Gido, Jason R. Masoner, Gary D. Schnell, William J. Matthews. 2005. Predictability of littoral-zone fish communities through ontogeny in Lake Texoma, Oklahoma-Texas, USA. *Environmental Biology of Fishes* 73:21-36.
5. Chad W. Hargrave and Keith B. Gido. 2004. Evidence of reproduction by exotic grass carp in the Red and Washita Rivers (Oklahoma). *Southwestern Naturalist* 49:89-93.
4. Chad W. Hargrave and James E. Johnson. 2003. Status of Arkansas darter, *Etheostoma cragini*, and least darter, *E. microperca*, in Arkansas. *Southwestern Naturalist* 48:89-92.
3. Keith B. Gido, Chad W. Hargrave, William J. Matthews, Gary D. Schnell, and Darrell W. Poque. 2002. Structure of littoral-zone fish assemblages along physical and chemical gradients in a southern reservoir: local versus system-wide effects. *Environmental Biology of Fishes* 63:253-263.
2. Kerri E. Pratt, Chad W. Hargrave, and Keith B. Gido. 2002. Rediscovery of *Labidesthes sicculus* (Atherinidae) in Lake Texoma (Oklahoma-Texas). *Southwestern Naturalist* 47:112-118.
1. Thomas M. Buchanan, Chad Hargrave, Drew Wilson, Les. G. Claybrook, and Phillip W. Penny, Jr. 1996. First Arkansas records for bigscale logperch, *Percina macrolepida* Stevenson (Pisces: Percidae), with comments on habitat preference and distinctive characters. *Proceedings of the Arkansas Academy of Science* 50:28-35.