



Krista M. McDermid

Biologist/Project Manager

General Qualifications

Krista holds a Master's degree in Wildlife Ecology from Texas State University in San Marcos, where she studied the Common Musk Turtle, *Sternotherus odoratus*, and a bachelor's degree in Evolution, Ecology and Behavior from The University of Texas at Austin, where she worked on behavioral and genetic development of the zebra fish, *Danio rerio*. Krista has worked as a biologist for Texas Parks & Wildlife Department monitoring white-winged dove migration and population, and the City of Austin assisting with a mark-recapture study on the Jollyville Plateau Salamander, *Eurycea tonkawae*. Krista is a GIS technician; she received her certification in ArcView 3.x in 2005, and completed the post baccalaureate certification program in geographic information systems through Penn State University in 2010. She has worked with Zara since 2007 and in that time has participated in numerous karst fauna surveys. She has conducted karst feature surveys on 500 acres in central Texas since 2007. She has also conducted aquatic macro-invertebrate habitat and presence/absence surveys for aquifer species in Hays, Bexar, Uvalde and Medina Counties.

In addition to the project-specific experience outlined below, Krista has experience with the development and implementation of Habitat Conservation Plans, Environmental Impact Statements, Environmental Assessments, Biological Assessments, and Section 7 consultations.

Zara Experience

Edwards Aquifer Well and Cave Sampling for Aquifer Biota: Comal, Bexar, Medina and Uvalde Counties, Texas, 2008-current. *Edwards Aquifer Authority*. Project Manager, Scientist. Responsibilities include project design, management oversight, right of access coordination with landowners, field collections and assessments, and extensive lab and field work with the aquatic fauna of the Edwards Aquifer. This project includes habitat surveys and presence/absence surveys at more than twelve sites with the potential to contain listed aquatic macro-invertebrate and two fish species that have been proposed for listing.

Fauna inventory of Jacob's Well, Hays County, Texas, 2009-current. *River Systems Institute*. Project Manager. Scientist. Responsibilities include project design and execution for a complete survey of Jacob's Well, an underwater cave in Wimberley, Texas, and the surrounding stream habitat. This includes collection and identification of aquifer adapted and stream dwelling aquatic invertebrates and salamanders. This site may have the potential to contain listed aquatic macro-invertebrate or undescribed species.

Karst Fauna Mapping, Hays County, Texas, 2009. *Hays County*. Scientist. Responsibilities include field work for the evaluation of Hays County caves for the presence of karst invertebrates and karst invertebrate collection management. This project involves the identification and collection of arachnid and insect species that have the potential to become listed species based on their narrow habitat parameters.

Escarpment to Manchaca, Hays and Travis Counties, Texas, 2007-2008. *Lower Colorado River Authority*. Oversight. Responsibilities include providing environmental oversight and reporting for clearing activities on City of Austin water quality protection lands.

Years at Zara:	3
Previous Experience:	3
Education	
M.S., 2009, Wildlife Ecology, Texas State University	
Certification, 2010, G.I.S., Pennsylvania State University	
B.S., 2004, Biology, University of Texas	
Certifications	
USFWS endangered species permit TE192229-0	
TPWD Scientific Research Permit SPR-0608-082	
OSHA confined space, cave rescue, CPR training	

Golden-Cheeked Warbler Survey, Bexar County, Texas, 2009. *Majestic Arts Ranch.* Scientist. Zara performed territory surveys and habitat assessments relating to the occupation of a 500+ acre tract of land by the federally listed Golden-Cheeked Warbler. Responsibilities included point counts, call counts and territory mapping.

Yosemite Caves Bio-Inventory, Mariposa County, California, 2009. *National Park Service.* Scientist. Zara surveyed caves in Yosemite National Park, California. Activities included identifying, collecting, and preserving invertebrates, and creating a comprehensive report. A large component of this project was the collection and identification of arachnid and other invertebrate species, both epigeal and subterranean.

Karst Assessment for DPS Training Facility, Williamson County, Texas, 2008. *URS Corporation, Austin Branch.* Karst Technician. Zara performed a full karst survey and karst assessment in addition to all aspects of a geological assessment.

Camp Bullis Karst Management, San Antonio, Bexar County, Texas, 2007-current. *Department of Defense.* Scientist. Responsibilities include project design, and execution. Zara has an ongoing contract to monitor endangered species, evaluate karst habitat and caves, and evaluate the hydrogeology of Camp Bullis. This includes managing over 70 caves, more than 20 of which are known endangered species habitat, as well as identifying population trends, threats, newly found caves, or additional cave habitat. This project includes regular monitoring of salamander populations known from caves and springs base as well as the collection and identification of numerous arachnid and insect species.

Texas Department of Transportation, San Antonio, Bexar County, Texas, 2008 *Texas Department of Transportation, Environmental Affairs Division.* Scientist. Responsibilities include scientific support. Zara was awarded a 4 year IDIQ contract in 2008 to perform karst services in Texas. These services include: conducting surveys and habitat assessments for protected karst invertebrate species, conducting biological analysis to support Section 7 consultation and preparation of ESA biological assessments or Section 10.a permits, initiating coordination with state and federal resource agencies, and other services related to the foregoing scientific services.

Lakeline Mall Habitat Conservation Plan, Travis and Williamson Counties, Texas, 2007-2009 *Texas Cave Management Association.* Project Manager, Scientist. Responsibilities include project management oversight and field work. Zara has an ongoing contract to survey mitigation preserves for listed karst species. This includes evaluating presence/absence of karst invertebrates including arachnids and insects, and monitoring subterranean salamander populations multiple times per calendar year.

Government Canyon State Natural Area San Antonio, Bexar County, Texas, 2007-2009 *Texas Parks and Wildlife Department.* Scientist. Responsibilities included scientific support. Zara has an ongoing contract to perform invasive species control, including semi-annual fire ant control at established endangered species caves. In 2007, Zara also performed a year-long study comparing the impacts of urbanization on cave species populations. Select caves at Government Canyon State Natural Area were monitored and compared to highly impacted caves in urban settings.

City of Austin Water Treatment Plant 4, Austin, Travis County, Texas, 2007-2009. *Carollo Engineers.* Scientist. Responsibilities included scientific support. Zara examined caves and karst features on several proposed locations for COA Water Treatment Plant 4. This included determining if endangered species habitat existed, excavation if necessary for scientific studies, and searching for endangered karst species when likely habitat was found.

Selected Publications and Presentations

Fotinos, Timothy A., Andrew Blair, S. Ben Harnden, **Krista McDermid**, and Arjun Adhikari. 2007. Small-scale patterns of plant species richness: implications for biodiversity and exotic invasion. Southwestern Association of Naturalists (SWAN) Poster Presentation.

McDermid, Krista. 2006. Landscape Gradients and Their Effect on Vegetative Patterns and Diversity. Dept. of Biology, Texas State University. 13 pp.

McDermid, Krista. 2007. An Overview of Central Texas Cave Ecology. Presented at first annual TPWD Wildlife Diversity Conference, Houston, Texas.

McDermid, Krista. 2007. Differential aggression in sexually dimorphic lizards. Dept.of Biology, Texas State University. 4 pp.

McDermid, Krista and Andrew Gluesenkamp. 2009. Salamanders of the genus *Eurycea* at Camp Bullis, Bexar County, Texas. Proceedings of the 15th International Congress of Speleology, Kerville, Texas.

McDermid, Krista. 2009. Food habits of the common musk turtle (*Sternotherus odoratus*) in lentic and lotic habitats, Spring Lake, Hays County, Texas. MS thesis: Texas State University-San Marcos. 47 pp.

Weckerly, Floyd and **Krista McDermid.** 2010. Addendum-Karst invertebrate species survey protocol and trend analyses at Balcones Canyonlands Preserve. Reprot prepared for the City of Austin.