

FCSal Funding Update

Grant Recipient

Center for Conservation and Research at San Antonio Zoo
kamryn.richard@sazoo.org

Date Funding Awarded

March 2022

Date of Update

October 12, 2022

Photos

Please insert a few pictures of your project here, or include them as attachments when you submit this report via email. Pictures of researchers, salamanders, and/or study site are best.



Project Title:	Development of Novel Breeding Enclosures for Groundwater Salamanders
Principal Investigator (PI) name:	Dr. Danté Fenolio and others (*denoted below), the organizer is Dr. Andy Gluesenkamp
Job title:	Vice President of Center for Conservation and Research
Institution:	San Antonio Zoo
Address:	3903 N Saint Mary's St, San Antonio, TX 78212
Phone:	(210) 734-7184, ext.1600
Fax number:	
Email address:	Dante.Fenolio@sazoo.org
Amount of Grant Award:	\$1400
Collaborator name:	*Matt Niemiller (assisted in tank design)
Collaborator name:	*Dr. Danté Fenolio, Bekky Muscher-Hodges, Kamryn Richard, Brittany Nunn, Ariana Duffey, Dr. Andy Gluesenkamp
Job title:	Vice President, Manager, Technicians and Director
Institution:	Center for Conservation and Research at San Antonio Zoo
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Project Description

The Center for Conservation and Research at San Antonio Zoo has proposed to refine a breeding tank design (BDT) for groundwater salamanders, that we have been working on for over a decade. The novel BDT will (1) provide greater observation potential, (2) offer the opportunity to record and document breeding and egg laying behavior and (3) simulate the natural conditions under which egg-laying is thought to occur. Refinement, with the goal of establishing husbandry protocols, will hopefully lead to more consistent and predictable captive breeding success for groundwater salamanders. This is critical to the conservation and research of these species since captive breeding is key to both captive assurance colonies and laboratory studies.

Progress Report to Date

We have made significant progress in the construction of our novel breeding encloses. We have ordered custom acrylic bases (to keep tanks stable), redrilled tank openings to fit standard plumbing equipment, purchased necessary plumbing equipment, customized and rust-proofed a wire rack shelf to hold the tanks, and acquired a collection of limestone pieces appropriately sized for the tanks. We have pieced together all the necessary parts, added water, and have done a test run to ensure plumbing functions properly. We are currently working on sealing loose parts to prevent leaking.

Budget Allocation

Budget Category	Item/Amount	Amount spent	Monies remaining
Tank Setup:	Tank stands (4): \$689.64* Plumbing supplies: \$343.80	\$1033.44	--
Cameras:	<i>not yet purchased</i>	--	--
Total		\$1033.44	\$366.56
<i>*Unbeknown to us, tank stands were outsourced to a different organization and cost more than we initially budgeted for</i>			

Next Steps and Future Directions

We have constructed the first tank and moved it to the temperature-controlled room we will be conducting the study in. We have cleaned/disinfected all parts and are working on sealing/securing all plumbing attachments. Once this is done, we will fill the tank with water and conduct another test run, ensuring there are no leaks. The next step would be to outfit the tank with limestone rocks and/or fake plants (depending on the species we house in the tank) and test water quality. Then, we will order cameras and test out the video quality. Once plumbing is functioning properly, water chemistry is correct/stable, and cameras are in place, we will add salamanders and begin monitoring their behavior. Eventually, we will use the same methods to complete the construction of the remaining three tanks, and possibly try with other species of groundwater salamanders.