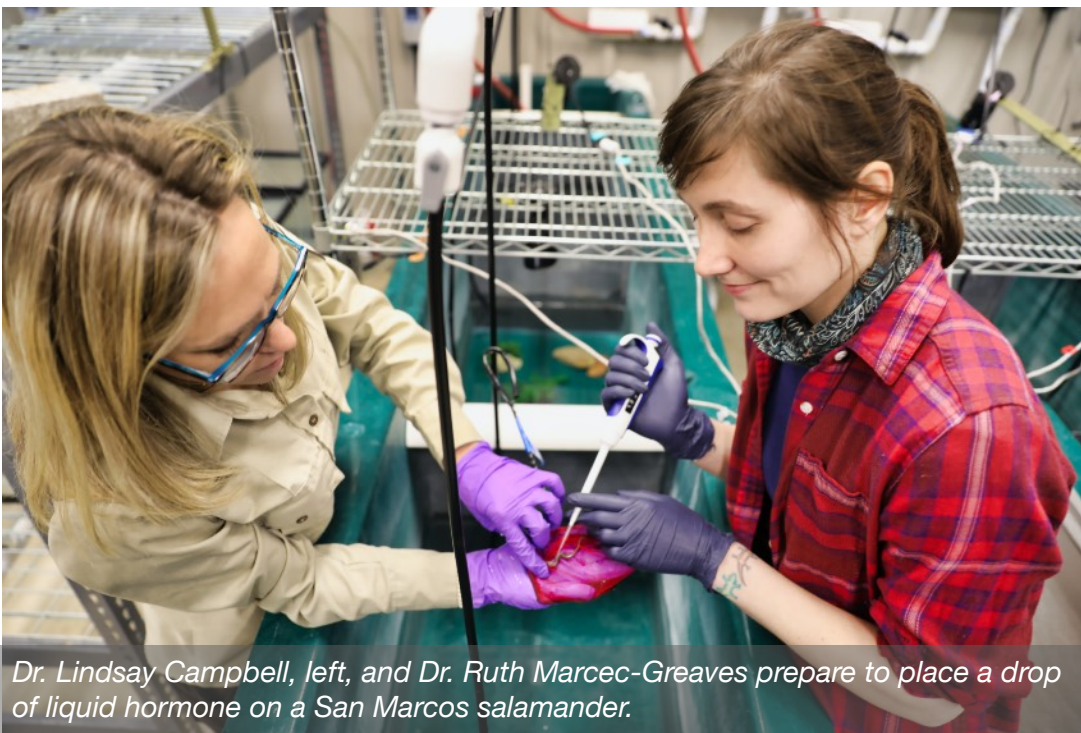


EAHCP STEWARD

News from the Edwards Aquifer Habitat Conservation Plan - March 2020

More Amor for San Marcos Salamanders

Researcher finding new ways to increase reproduction rates of threatened and endangered salamander populations



Dr. Lindsay Campbell, left, and Dr. Ruth Marcec-Greaves prepare to place a drop of liquid hormone on a San Marcos salamander.

“I am a salamander aficionado.”

Needless to say, that was quite the unique introduction to Dr. Ruth Marcec-Greaves, who visited the Edwards Aquifer Habitat Conservation Plan (EAHCP) refugia at San Marcos in late February. She is the director of the Detroit Zoo’s National Amphibian Conservation Center and an expert in helping salamanders find their special

someones a little more often in order to produce captive salamander populations.

“One newspaper referred to me as the ‘Salamander Love Doctor,’ and so I’m running with that,” Marcec-Greaves said with a lighthearted smile. “You have to admit, salamanders are definitely adorable. Not only that, but many species of amphibians all over the world are threatened and endangered. So, I think it’s time we show them a lot of love. And that’s what I’m focused on doing for them.”

Marcec-Greaves said her fascination with amphibians came at an early age. She loved turning over rocks to see what kinds of frogs, lizards or other animals would scurry about. Her passion for salamanders grew when she was in college. That led her to add a second doctoral degree focused on salamanders and reproductive physiology to her doctorate of veterinary medicine in zoo medicine and ecosystem health.

San Marcos Salamander Research - Continued

At the National Amphibian Conservation Center, which is a 12,000 square-foot facility integrated into a two-acre wetland area, Marcec-Greaves applies her research-based reproductive technologies to assist the captive breeding programs there. She is also a first-call consultant in helping other scientists around the world in their amphibian population development work.

“As part of the EAHCP comprehensive program, one of our jobs is to grow the population of the Edwards Aquifer endangered species in our refugia so we will have plenty of animals to reintroduce into the wild in the event some sort of disaster decimates those species now living in their natural habitats,” said Dr. Lindsay Campbell, a U.S. Fish and Wildlife Service supervisory biologist and point person on the EAHCP refugia program. “So, as we have been studying the San Marcos salamander, I started looking for a scientist who might have some expertise with salamander breeding. All roads led to Ruth, and so we were very pleased when she agreed to come to San Marcos to work with us on our salamanders.”



Campbell explained that one of the things her team learned in trying to produce a large enough standing stock in the refugia is that there are many details you have to know before you ever get to the point of being able to successfully reintroduce a species. “We have been successful at breeding the various salamanders in our refugia, but it is critically important that we be able to produce them when we need to and that’s what this research and work with Ruth is all about,” Campbell reiterated. “We do have a few actively reproducing female salamanders in the refugia, but when you go to reintroduce the species

back into nature, they can’t all be from the same genetic group. So, we are looking for ways to expand the numbers of clutches we get from many different females. We are focusing on the San Marcos salamander now because we have the most history with them. But, what we learn from our research on this species, we will be looking to apply to the others as well.”

“Like most animals, salamanders don’t just reproduce on cue,” Marcec-Greaves said. “But we have discovered various means of helping them be a little more predictable through understanding their typical mating habits and then by adding distilled hormones to the mix. Essentially, we will put a drop of the hormone solution on the salamander’s nose, which is where we’ve learned they absorb the most pheromones. We will leave that on them for about 10 seconds before putting them back in the water. Those pheromones help trigger reproductive behaviors and that gets us a lot closer to being able to have the species reproduce on demand, which is what you need to be able to do in a refugia like this.”

When asked about her growing reputation as the salamander love doctor, Marcec-Greaves said, “I just embrace it. If it can help generate some awareness about amphibians like the San Marcos salamander and what we are doing to preserve them, then having some fun with it is a good thing. Now, rumors have it that we’ll put on some Barry White or Marvin Gaye in the lab to create the right mood for our salamanders, but the truth is we think that the scientifically-prepared hormones are a little more effective for these guys. But, you never know where our research might lead.”

Spoken like a true aficionado.



EAHCP STEWARD SHORT TAKES

2020 Great Texas River Clean-Up Celebrates Success

The Great Texas River Clean-Up was another great success this year! Special thanks to the City of San Marcos for organizing this event and all the volunteers who dedicated their Saturday morning for the protection of the San Marcos River.

Hundreds of volunteers showed up to gather thousands of pounds of trash from the San Marcos River and its tributaries.

[You can watch a short video here.](#)

You can like the [Great Texas River Clean-Up Facebook page](#) so you can help with the next event.



Sessom Creek Workday Set for Saturday, March 21

The next Sessom Workday is scheduled for Saturday, March 21, from 9-11 a.m. Tasks include removing invasive ligustrum, constructing contour terracing, dragging small brush to be chipped, pulling invasive seedlings, broadcasting native seed and removing trash. The group will meet at the Vie Lofts parking lot at 817 Chestnut St. Parking or you can park along street. Dress appropriately for the morning and make sure you wear closed toed shoes. Tools will be supplied so just bring yourself and friends. Pizza will be provided afterwards. RSVP by Wednesday, March 18 to eweeks@sanmarcostx.gov.

San Marcos Sustainability Fair Set for April 4

On Saturday, April 4th, the San Marcos Discovery Center will be hosting the 2nd Annual Sustainability Fair and Native Plant Sale. Address: 430 Riverside Dr. San Marcos, Texas 78666.

Don't Miss the Headwaters at the Comal Earth Day Event - April 18

On Saturday, April 18th, the Headwaters at the Comal will be hosting the 3rd Annual Earth Day Celebration. For more information, please visit <https://www.headwatersatthecomal.com/event/earthday2020/>

2020 Officers for EAHCP Committees

Many thanks to those serving on the 2020 EAHCP committees. The Implementing Committee officers include: Chair, Roland Ruiz; Vice-Chair, Mark Enders; Secretary, Robert Mace. The Science Committee officers are: Chair, Jacquelyn Duke and Vice Chair, Chad Norris.