

Fish Tales



Traveling to the Texas Gulf Coast is a fond memory for many Texas children. Making sandcastle, playing in the waves and, let us not forget, looking at all the wildlife that have made the gulf their home.

For Allison Pease Ph.D., that was also her childhood memory, but likely different than most children. Her father, a biologist, would take his daughter seining, dragging a net across the bottom of the sea floor, for fish to study. This changed her life. As she got older and discovered that she could make her fascination her career, she knew exactly what she wanted to do. She just never dreamed of doing it as a professor.

On her road to this goal, Pease received her Bachelor of Science in Ecology and Evolutionary Biology at The University of Texas at Austin, her Master of Science in Ecology and Evolutionary Biology at The University of New Mexico and her Doctor of Philosophy in Wildlife, Fish and Wildlands Science and Management at Texas A&M University. Pease also did postdoctoral research at the University of Missouri.

Pease's research has varied from climate change impacts on fish populations, to ecology of larval fishes in the Rio Grande, to environmental influences on fish assemblages. Since taking up an assistant professorship at Texas Tech in 2012, Pease has her research set on one, main problem: human impacts on aquatic environments.

Humans change aquatic environments by way of building structures near bodies of water, agricultural use, urban use, and oil and gas production. These impacts change the landscape and flow of rivers, according to Pease research. Pease focuses on how those things change aquatic habitats and as result change aquatic ecosystems. She also researches how the rivers change, not only naturally, such as from upstream in the mountains to downstream to the coast, but also change as a result of what humans do like building dams, withdrawing water for irrigation, and introducing non-native species and how that effects what kind of fish we find where.

For the last couple of years, Pease has been focusing on the Pecos River in New Mexico and Texas. She has also done work in southern Mexico in Chiapas and Tabasco, near the border of Guatemala, where the rivers and tropical areas in that region face the same kinds of threats and some additional threats that the rivers here do. She has also studied the wetlands near Roswell, New Mexico.

"I came back to this region because I'm really interested in the southwest and the conservation issues in this region. Working in aquatic systems in the southwest is a tough field but it's really interesting and an exciting place to work," Pease says.

Being a fish ecologist in Lubbock can be difficult for Pease.

"For the things I do, it's hard to find a place to go to for an afternoon and come back. We have to make a full day of

it but it's well worth it."

The Pecos River has had some pretty significant, negative effects due to human impacts.

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The flow regime, the cycle of water moving down a river seasonally and over time, had been changed because of the multiple dams built along it.

"The Pecos River runs through areas where we pull a lot of the water out for agriculture. It also runs through a lot of areas of the Permian Basin where we don't have a lot of big cities, but we've altered the landscape a lot for oil and gas development," Pease explains. "We see big changes where there's not a lot of water is coming in, and what water that is coming in is returned from irrigation, so it comes back kind of salty. Now we have a very low flowing river that dries for longer period of time than it would have historically. I feel pretty confident that these changes are caused by human impacts."

Heading down river on the Pecos River, there is hope for Pease. In the Edward's Plateau region where there is less development, there we have spring water present, groundwater is coming in and bringing freshwater in. This allows the river to have a healthy diversity of fish and invertebrates when Pease gathers samples.