



## CEDAR TAKEOVER

Imagine an ocean of waist-high grass unfolding before you. You see only a few trees like Ashe juniper (cedar) and oaks, mostly growing in drainages or along canyon seeps. Does that sound like the Hill Country that you see around you today? Probably not.



Today, the Hill Country is known for swaths of Ashe juniper trees and “cedar fever” allergies. It wasn’t always like this. Large mammals like bison and mammoths once roamed this area, feasting on tall grasses. Their heavy hooves also trampled the grass, but then they moved on—allowing the grass to grow back. When prehistoric people

first traveled through this area, about 12,000 years ago, they found an open grassland. Lightning strikes periodically torched these grasslands, preventing trees and shrubs from taking hold. Native Americans also used fire as a land management tool, understanding how it renewed the landscape.

European settlers arrived in the Hill Country in the mid-1800s and the grassland looked like a perfect place to raise cattle. Here, nature provided their animals with what seemed like an unlimited supply of grass. Families like the Trammels and the Wilsons settled and built homes, stone walls, and fences. As ranches grew, the settlers suppressed any fire that started, and didn’t light any on their own.

With intense grazing and without fire to renew the grasslands, Ashe junipers and other shrubs flourished. They grew unchecked for nearly 100 years, resulting in the cedar-choked landscape you see at Pedernales Falls State Park now. Texas Parks and Wildlife is working to restore the grasslands of the park with prescribed fire and removing cedar trees, but we still have a long way to go.



## A RAGING RIVER

On most days, you can hear the Pedernales Falls rushing over old limestone as you hike toward the river. The water is blue as it reflects the sky above. But all it takes is rain somewhere upstream for the Pedernales River to flip from tranquil to tumultuous in minutes. Even if the sun is shining at the park, the river can flash flood.

As the name suggests, flash floods happen very quickly. The headwaters of a flash flood are filled with debris—branches, logs, trash, and whatever else the river can pick up as it rushes downstream. If you’re at the Falls and you see the river start to turn brown, or you suddenly see debris, head up the trail to higher ground immediately. It only takes six inches of fast-moving water to knock over a person.

Although flash floods can be frightening, they are vital to this landscape. Raging waters are powerful enough to carve the limestone beneath your feet. Over time, water shaped the hills, valleys, and cliffs that surround us today. Without rain or flooding, this area wouldn’t look like the Hill Country that you love.

Birds like painted buntings thrive where brushy forest meets grassland.



## TAKE A CLOSER LOOK

Take in Pedernales Falls from an overlook, or head down the trail to get a look at the park’s rock foundation. The dark gray limestone that makes up the base of the falls is over 300 million years old, and the lighter limestone on top is younger—about 90 million years old. These layers were once the bottom of oceans that were filled with ancient animals. Swimming marine reptiles like mosasaurs would have glided through the warm water, eating fish, birds, and ammonites. Corals and plants would have lined the sea floor, much like they do in our oceans today. You can still find many reminders of this underwater world if you know what to look for.



Crinoid (left) and fossils



Crinoid fossils are common. They are sometimes called “sea lilies,” though crinoids were animals, not plants. The crinoid fossils you might find are usually cross sections of stems, which looks like a handful of Cheerios. Or you could spot a long section of the stem.



Bivalve fossil

Just like in the Gulf of Mexico today, oysters and other bivalves lived here and piled up, creating oyster reefs. The ocean floor eventually buried these reefs and they fossilized.

There’s more to find than limestone, crinoids, and oyster fossils at the falls. You may see springs, snakes, and waterfowl, too! Be sure not to remove or disturb anything you find, including the fossils, so that the next park visitor can enjoy the hunt, too.