



# INDEPENDENCE CREEK PRESERVE

*Protecting the Lower Pecos River Watershed*

## conservation profile

**Ecoregion:** Chihuahuan Desert

**Conservation Elements:** The lower Pecos River, riparian corridor habitats, mesa-top and alluvial valley grasslands, lower Pecos tributary streams, black-capped vireo, proserpine shiner, headwaters catfish, Rio Grande darter, Trans Pecos river cooter, Trans Pecos copper-head, plateau loosestrife, Warnock's coral root.

**Stresses:** Invasive and exotic species, both terrestrial and aquatic, overabundant white-tailed deer population, fire suppression, the possible degradation of inactive oil and gas well casings.

**Strategies:** Implement conservation strategies, continued land and water stewardship, research to determine the restoration potential of the terrestrial and aquatic habitats, encourage best management practices at upstream oil and gas operations, build community conservation ethic, collaborate with local landowners to manage wildlife populations.

**Partners:** Robert N. McCurdy II, Sul Ross State University, Texas State University, Natural Resource Conservation Service, National Fish and Wildlife Foundation, Texas Parks & Wildlife Department, private landowners.



Independence Creek (© Jason Wrinkle)

At the Conservancy's Independence Creek Preserve in Terrell County, land and water combine to create some of the most spectacular and varied terrain in the state. Flat-top mesas are dissected by dramatic canyons and the preserve is marked by woodlands, desert scrub and honey-colored prairie grasses. Along the eight mile-long creek, the banks are lined with scattered stands of large Plateau live oaks, ancient remnants of the vegetation that grew in this area thousands of years ago.

The diverse landscape is due to the fact that the nearly 20,000-acre preserve lies in the transition zone between the Chihuahuan Desert, Edwards Plateau and Tamaulipan Thornscrub ecoregions.

In 1991, The Nature Conservancy of Texas made its first investment in Independence Creek by permanently protecting 702 acres of the watershed through a conservation easement with the Chandler Family. The 1998 purchase of the Bailey Tract on the Pecos River added nearly 1,400 acres to the conservation area.



Independence Creek Preserve (© Jason Wrinkle)

In 2000 and 2001 respectively, the Oasis and Canon ranches were purchased, creating a 19,740-acre preserve adjacent to the existing holdings.

The following year, the Conservancy entered into a lifetime lease with conservationist Robert McCurdy. As a conservation partner, Mr. McCurdy is active in the ongoing stewardship of the land and water, as well as the restoration efforts. Through these deals, seven miles of the spring-fed creek have been protected.

Independence Creek is the most important of the few remaining freshwater tributaries of the lower Pecos River, which flows into Amistad Reservoir, a key source of water for agricultural users and residents of the Lower Rio Grande Valley of Texas and in Mexico.

Caroline Springs, located at the preserve headquarters, produces 3,000 to 5,000 gallons per minute of freshwater and comprises about 25 percent of the creek's flow. The spring flows within the creek occur through vertical fractures in the Edwards limestone formation with the water upwelling from the deeper

Trinity Sands formation under artesian pressure.

Independence Creek's contribution of 27 million gallons a day of freshwater increases the Pecos River water volume by more than 40 percent at the confluence and vastly improves the river's water quality. These pristine waters are vital to the Pecos River watershed. The land and water sustain diverse and abundant flora and fauna including several rare, declining and threatened or endangered species.

The canyon oak shrub community around Independence Creek provides nesting habitat for the black-capped vireo, a federally listed endangered songbird. Other birds found on the property include vermilion flycatcher, three species of kingfisher, indigo, painted and varied bunting, scissor-tailed flycatcher, osprey, golden eagle, zone-tailed hawk, wood duck and great blue heron.

Many different fish species inhabit the creek. The most threatened aquatic inhabitant is the proserpine shiner, a conservation element with limited and declining distribution. The proserpine shiner and several

other small fish species are disappearing from the Pecos River, the result of the vanishing spring-fed stream habitat, as well as declining water quality and quantity. For native fishes, Independence Creek is an important refuge during stressful river conditions. Following periods of low water quality and toxic algal blooms on the Pecos River, Independence Creek fish populations help to repopulate the river.

The Conservancy is in the midst of a multi-year study to determine what sustains the river and what might threaten its health in the future. In addition, Mr. McCurdy and staff are in the process of establishing eight acres of wetlands on the property and converting non-native bermuda pastures back to native prairie grasses.

This conversion is an arduous process that involves hand-seeding fields until native grasses can take hold. These native grasses will be more water efficient and nutritionally beneficial to wildlife. Eventually, seeds from these fields will be collected and banked for use on the preserve and with our neighbors in the lower Pecos River area.

Conservancy staff also diligently control brush and wildlife populations on the preserve to maintain a healthy, balanced ecosystem. All of these combined efforts are crucial to the ongoing stewardship of the land and water of the Independence Creek Preserve.

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