



Figure 1. Spring outflow pond at Independence Creek Preserve.

Potential National Natural Landmark Brief

Name:

Independence Creek Preserve

Location:

Terrell County, Texas

Description:

Independence Creek is a unique freshwater tributary of the lower Pecos River in southwest Texas. The creek and its tributaries are ephemeral and intermittent for much of its 60-mile reach but receive spring discharge supporting perennial flow in the up to eight miles of reach upstream of the Pecos River. Its perennial flow is largely sustained by spring flow from Caroline Spring, located about 5 miles above the creek confluence with the Pecos River, and which discharges about 3,000 to 5,000 gallons per minute. The spring has about 12 groundwater discharge points or outlets. Discharge from the outlets flows through small ponds, channels, and wetlands before discharging to the creek. Spring flow contributes up to 30-percent of the discharge in the creek downstream of Caroline Spring and is a source of freshwater to the Pecos River, changing the otherwise alkaline nature of the river. The Independence Creek drainage is mostly undeveloped without dams or impoundments, including only a few minor diversions and an undeveloped road crossing.

Independence Creek Preserve, owned by The Nature Conservancy, is located about 15 miles south of the town of Sheffield and includes the spring and the part of the perennial reach of lower Independence Creek. The presence of a sustained, aquifer-supplied water source in a desert environment makes the creek a key habitat for three vulnerable native fish species: the Proserpine shiner (*Cyprinella proserpina*), the Rio Grande Darter (*Etheostoma grahami*), and the Headwater catfish (*Ictalurus lupus*).



This 20,691-acre preserve supports characteristic examples of Chihuahuan desert flora and fauna and provides habitat for several rare species, including the formerly federally-listed endangered black-capped vireo (*Vireo atricapilla*). Canyon hillsides and mesa tops are characterized by juniper woodlands dominated by Ashe's juniper (*Juniperus ashei*) and Chihuahuan desert scrub dominated by creosote bush (*Larrea tridentata*) and honey mesquite (*Prosopis glandulosa*). Significant relict stands of large Texas live oak (also called plateau live oak, *Quercus fusiformis*) are along the creek banks despite periodic flooding.

Significance:

Independence Creek Preserve provides an outstanding and illustrative example of a spring-fed stream that ensures perennial river discharge in an arid environment. The high-discharge rate spring complex supports habitat for three vulnerable native fish species and provides habitat for nesting and migratory birds. Land surrounding Independence Creek includes characteristic examples of Chihuahuan Desert flora and fauna, as well as habitats for rare species in a landscape dominated by mesa topography.



Figure 2. Overview of Independence Creek Preserve.

Ownership:

Private

Evaluation:

August 2023, Karin Decker and Tom Baldvins, Colorado Natural Heritage Program, Fort Collins, Colorado.

General Location and Proposed Boundary:

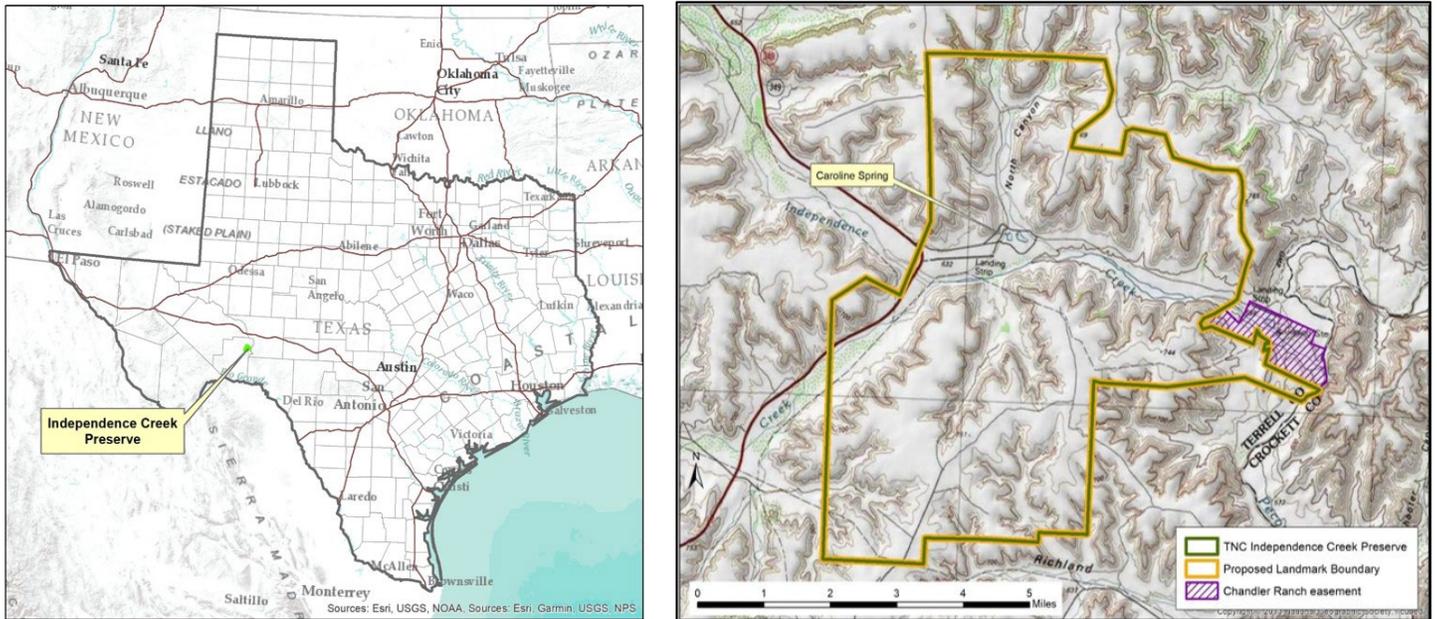


Figure 3. (Left) Location of Independence Creek Preserve in Texas and (right) proposed NNL boundary.

