

Cypress Creek Restoration

Harris County, Texas



top: Initial conditions; bottom: After restoration

The Cypress Creek watershed, a 320 square mile basin in Harris and Waller Counties, is the second largest and the second most undeveloped watershed in Harris County, Texas. At approximately 45 miles in length, the headwaters of the watershed are relatively undeveloped but transition into the developed urban landscape of Houston's

outer suburbs. Cypress Creek drains into Spring Creek northeast of Houston and ultimately makes its way to the Galveston Bay.

The Harris County Flood Control District (HCFCD) is developing a Watershed Management Plan for Cypress Creek. As part of the management plan, HCFCD contracted

One of the few remaining bayous in Houston that has not been channelized with concrete is restored using a natural channel design approach.

Biohabitats to develop a conceptual stream restoration design for 6,400 linear feet of Cypress Creek. A complete restoration design was developed for approximately 2,000 linear feet of Cypress Creek adjacent to Elizabeth Kaiser Meyer Park where the channel was actively eroding near a park's playground. This subsection restoration is intended to serve as a demonstration project that will showcase the use of the natural channel design approach in addressing channel instability.

In support of the management plan, Biohabitats conducted a geomorphic and ecological assessment of the Cypress Creek mainstem. Based on these findings of existing conditions and ongoing stream adjustments, a combination of restoration approaches were selected to address pronounced bank erosion

and channel instability. These approaches were integrated in a channel and riparian restoration concept design, and, through coordination with HCFCD and its stakeholders, brought to full design. The channel geometry was developed to provide critical flood storage and account for sediment supply in this flashy, sand-dominated system. For the mainstem channel beyond the limits of the demonstration project, a set of design guidelines was developed to provide a framework for undertaking natural channel design, riparian and wetland restoration, and habitat enhancement strategies.

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