



# Streams Monitoring at Pecos NHP

## Importance

Riparian habitats constitute less than 2% of the land area in the American Southwest, but support the highest density and abundance of plants and animals of any habitat type, making streams and associated riparian areas critical to the ecological integrity of the region. Riparian areas supply food, cover, and water, and serve as migration routes and habitat connectors for a variety of wildlife. They also help control water pollution, reduce erosion, mitigate floods, and increase groundwater recharge. Riparian systems perform numerous ecosystem functions important to human populations, yet are one of the most endangered forest types in the United States.

## Monitoring Objectives

The goal of this protocol is to detect broad-scale changes in aquatic and riparian ecological condition by observing selected ecological drivers, stressors, and processes. Specific, measurable objectives are to determine status and long-term trends in selected parameters for stream channel morphology, riparian vegetation, core water quality parameters, surface water quantity, aquatic macroinvertebrates, and fish.

## Status of the Effort

At Pecos National Historical Park, streams monitoring was implemented on the Lower Pecos River stream segment in Water Year 2011 (WY11, October 2010–September 2011). This segment runs from the confluence of the Pecos River with Glorieta Creek to the river's downstream boundary. In WY11, staff from the Southern Plains Network (SOPN) surveyed channel slope and 12 channel cross-sections (Figure 1), collected quarterly water quality samples and deployed a multiparameter water quality logger, sampled riparian vegetation, mapped the index reach habitat (Figure 2), sampled macroinvertebrates and sent them to the University of Utah BugLab for analysis, and provided park managers with trip summaries detailing the results of monitoring. SOPN staff will continue to evaluate and adjust the sampling strategy annually. A report on all WY11 SOPN streams monitoring at the park will be completed in 2012.

In WY12, SOPN will continue to monitor water quality and water quantity, and to sample macroinvertebrates. Network staff also plans to work with park staff to install a pressure transducer in the Lower Pecos River segment.

## Contact

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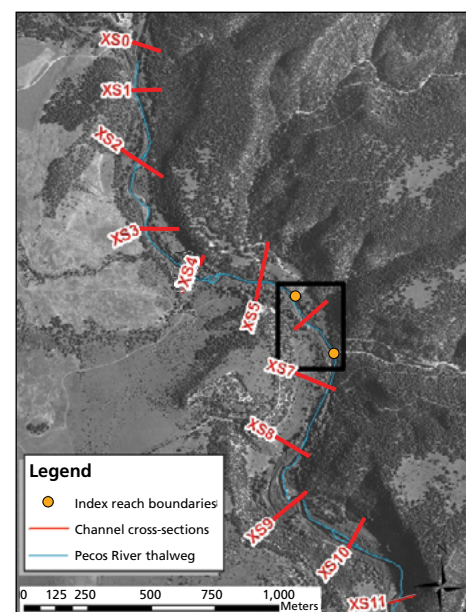


Figure 1. Cross-sections surveyed at Pecos NHP in Water Year 2011.

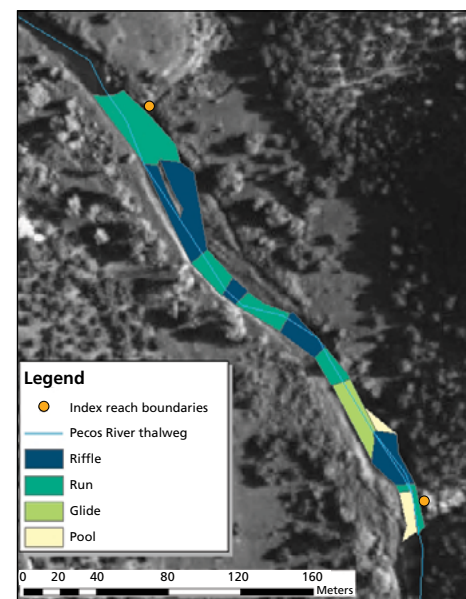


Figure 2. Map of index reach habitat.



Pecos River.