



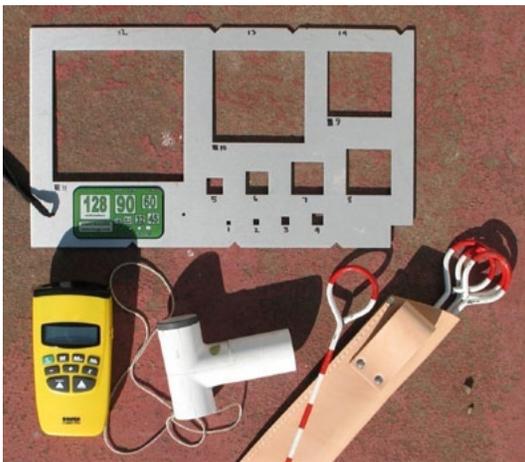
Monitoring Riparian Habitat and Wetlands

Pinnacles National Park

Resource Brief

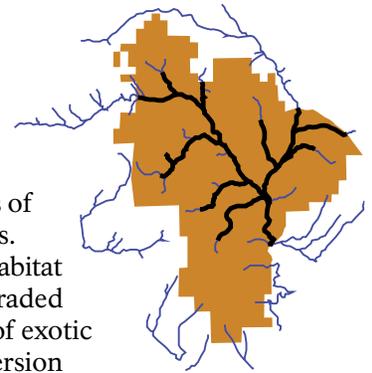
Above: West Fork Chalone Creek is among the several streams where wetlands, characterized primarily by their unique plant communities, are monitored at Pinnacles National Park. Wetlands found in stream channels are the most common kind of wetlands in Pinnacles. Photo by Jessica Weinberg McClosky.

Below: Some of the equipment used for Pinnacles riparian habitat monitoring. Gravelometer (top) for measuring stream bed soil type/substrate size; Rangefinder (bottom left) for measuring stream channel width; Densitometer (bottom center) for measuring tree/shrub canopy cover; Chain pins and carry pouch (bottom right) for marking off 25m and 100m stream sections for wetland abundance and vegetation community monitoring. NPS Photo.



Why is Riparian Habitat Important?

Riparian habitats, found along streams and lakes, typically support verdant stands of water-loving plants. Particularly in arid Western states, these habitats provide refuge and forage for many species of birds, mammals, amphibians, fish, and invertebrates. Throughout the San Francisco Bay Area, riparian habitat and associated wetlands have been altered and degraded for a variety of reasons including the introduction of exotic species, channelization of streams, direct fill (conversion to uplands), and urbanization of watersheds. Altered precipitation patterns associated with climate change may further degrade riparian areas.



■ Pinnacles National Park
— Streams in & around Pinnacles National Park
— Streams with riparian habitat monitoring

Why Do We Monitor Riparian Habitat?

Monitoring riparian habitat provides early warning of ecosystem change. Specific goals are:

- To detect changes in stream-side, or riparian, plant communities
- To identify trends in stream width and stream bed soil type
- To determine trends in the number of wetlands associated with streams in Pinnacles National Park

How Do We Use the Monitoring Data?

- To improve understanding of surface and near-surface water availability in the park and improve management of species that depend on that water
- To help the park identify and respond to potential threats to wetland habitats such as invasive plants, climate change, or changes in upstream land use that could reduce or contaminate the water supply

What Have We Learned?

The San Francisco Bay Area Network Inventory and Monitoring Program collected pilot monitoring data on a handful of stream sections at Pinnacles National Park in 2009 and completed its first full year of wetlands monitoring in 2012. While it is too early to detect any trends or changes, the first years of monitoring will soon result in baseline measures of wetland abundance, stream channel characteristics, and plant community diversity.

To learn more, visit www.sfnps.org/rivers_streams
Summary by Jessica Weinberg McClosky, updated February 2016.

For More Information

Ecologist
Marie Denn
marie_denn@nps.gov

SF Bay Area National Parks Science and Learning
http://www.sfnps.org/rivers_streams

San Francisco Bay Area Network
<http://science.nature.nps.gov/im/units/sfan/>

