



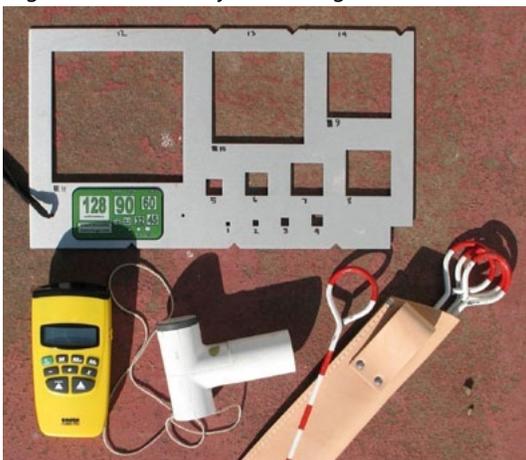
Wetlands Monitoring

Pinnacles National Park

Resource Brief

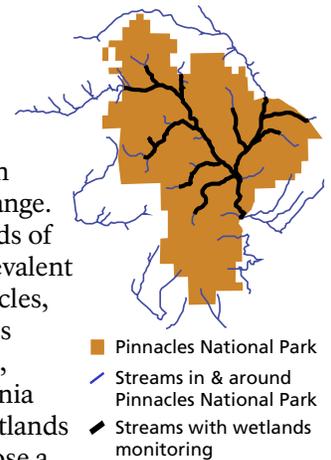
Above: West Fork Chalone Creek is among the several streams where wetlands, characterized primarily by their unique plant communities, are monitored at Pinnacles National Park. Wetlands found in stream channels are the most common kind of wetlands in Pinnacles. Photo by Jessica Weinberg McClosky.

Below: A collection of some of the equipment used for Pinnacles wetlands 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 Are Wetlands Important?

Healthy wetlands perform a variety of key functions wherever they are found. They provide habitat for plants and animals, reduce flooding, cycle nutrients through the ecosystem, and even help sequester carbon dioxide that would otherwise contribute to climate change. California has already lost more than 90% of some kinds of wetlands, including stream-side wetlands, the most prevalent wetland type in Pinnacles National Park. Within Pinnacles, wetlands host a high diversity of native trees and shrubs and harbor many of the parks mammals, birds, reptiles, amphibians (including the federally threatened California red-legged frog), and invertebrates. Possible loss of wetlands or reductions in wetland size and diversity currently pose a great risk to habitats and wildlife in Pinnacles.



Why Do We Monitor Wetlands?

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

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

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, July 2014.

For More Information

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

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