

# Yosemite Monitoring And Mitigating Wilderness Impacts

Nearly 90 percent of Yosemite NP's 1,189 square mile area is Wilderness, containing more than 1,050 miles of travel routes and 5,547 recorded (primarily undesignated) campsites. Although wilderness recreation is a recognized and legitimate activity, most trails and campsites cause denuded stopping points, multiple treads, accelerated erosion, loss of meadows, compacted soils, and more. Thus, the challenge has been (1) determining the extent of the problem, (2) defining justifiable standards for permissible resource damage, and (3) prescribing management actions to mitigate and limit impacts.

To meet this challenge, the park, from 1983 through 1988, completed a wilderness impacts inventory, tested rehabilitation techniques for closed subalpine camping areas and severely impacted meadow trails, and began developing a comprehensive Wilderness Restoration Plan.

**Determining Problem Extent – Impacts Inventory:** Campsites were rated using 11 criteria including size, developments, vegetation composition and density, wood availability, access trails, and visual obtrusiveness. Trails and cross-country routes were rated for width, depth, gullying, associated drainage disruption, and multiplicity. Environmentally descriptive parameters (e.g., vegetation and substrate type, distance to water, trees with exposed roots) were included in the assessment. Hewlett-Packard HP71B handheld computers containing customized data entry and error-checking programs were used for field data collection.

**Defining Permissible Resource Damage:** Park staff developed five opportunity classes: primitive, cross-country, trailed-undesignated campsites, trailed-designated campsites and frontcountry. Each was defined by resource, social, and managerial standards. Data collected on impacts were compared to established standards, and mitigative actions are being prescribed where impacts exceed these standards.

**Prescribed Management Actions:** Data analyses have shown that Yosemite's wilderness is threatened and that specific management direction is possible using the impacts data. For example: 23 percent of the campsites were found to be within 25 feet of water and 56 percent were within 100 feet. This indicates that more than half of the campsites violate a federal regulation. Obliteration and rehabilitation were recommended for 51 percent of all sites because of proximity to water and trails, or visual obtrusiveness. More aggressive campsite removal and minimum impact camping programs are now being conducted. In addition, park managers are examining the enforceability of a 100 feet from water camping restriction, since natural topography and travel routes foster non-compliance in some instances.

Trail work now can be objectively prioritized, based on perhaps the most comprehensive trails database available to a land management agency. The work load is dramatically apparent: some of the more significant impacts include 62 miles of multiple tread, 67 miles of trail erosion gullies more than 4 inches deep, and 329 miles of trail through sensitive meadow vegetation.

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