READ THIS FIRST

Baseline Data on Campsites in the San Rafael Wilderness, including Procedures for Repeat Measurements

Aldo Leopold Wilderness Research Institute

This document describes how to access information needed to take future measurements of the number and condition of campsites in the San Rafael Wilderness in California. Measurements were taken in 1999. Refer to **Campsite Condition Monitoring—San Rafael Wilderness—April 1999** in the **Reports** section of this archive for an unpublished report on this study. Future measurements would show trends since 1999.

Orientation to the Study Area: All campsites in the most popular portion of the San Rafael Wilderness were assessed in 1999. Campsites were assessed along about 80 miles of trail, covering the popular Nira Loop trail, as well as much of the Upper Sisquoc River drainage (to Heath Camp) and upper Manzana Creek (to Big Cone Spruce Camp). All but one of the 22 semi-developed camping areas (long-established campsites, with stoves, located on maps of the area) were visited as were informal campsites in places that appeared amenable to camping. A total of 91 campsites were assessed. One semi-developed campsite (Cliff Camp) was missed along the Nira Loop and one popular informal camping area (near Horseshoe Meadows along Manzana Creek) was bypassed. With this trip, the most-popular central portion of the San Rafael Wilderness has been surveyed (with the exception of Hurricane Deck, which probably has few campsites given lack of water).

Orientation to Measurement Procedures: A Rapid Assessment form was filled out for all campsites with permanent impact. Refer to the **Blank Rapid Assessment Form,** in the **Useful Field Information** section of this archive, to see a copy of the form that was used. This was modified slightly in the following ways: (1) a 10th facility category was added for stoves/grates, (2) litter (number of 1 gallon garbage bags) was added under development, (3) the number of toilet paper sites was added at the bottom, (4) the number of human waste sites was added at the bottom, and (5) the condition class was added at the bottom. Sites without permanent impact were mapped but merely assigned a condition class of 1. Each of the semi-developed campsites was also assessed using more detailed measures involving permanent plots (relocatable with a buried nail). Refer to **Blank Forms for Semi-developed Campsites** for a blank copy of the form that was used on these sites.

Orientation to Data: Maps of campsite locations can be found in **Camp Location Maps**. Data from the **CampsiteInfo** Rapid Assessment:

Variable	Definition
Camp#	Unique campsite number (refer to maps of each lake basin)
Veg Type	1=closed forest; 2=open forest; 3=nonforested,densely vegetated; 4=nonforested, sparsely vegetated
Landform	1=Floodplain; 2=Other valley bottom; 3=Cirque basin; 4=Sideslope; 5=Ridgetop
Dist to trailhead	Distance the campsite is from the closest trailhead, in miles
Dist to trail ft	Distance between the trail and the edge of the campsite, in feet
Screening	Screening of trail from campsite 1=complete; 2=partial, 3=none
Dist to water ft	Distance between campsite and a water source, in feet
Water type	1=river/creek; 2=lake; 3=spring; 4=other
Dist to camp ft	Distance between the campsite and the closest other campsite, in feet
Screening	Screening of other camp from campsite 1=complete; 2=partial, 3=none
Camps in ¼ m	Number of other campsites within ¼ mile
Max party size	1=1-2; 2=3-6; 3=7-10; 4=11-15; 5=more than 15
Type of use	1=foot; 2=stock; 3=river; 4=outfitter
Closest firewood	Distance to firewood source 1=on-site; 2=<100 ft; 3=100-300 ft; 4=300 ft-1/4 mile; 5= more than ¼ mile
Facilities	1=present; 2=absent
#Firerings	Number of firerings
#Primitive Seats	Number of primitive seats
#Constr Seats	Number of constructed seats
#Tables	Number of tables
#Meat Racks	Number of meat racks (for hunters)
#Hitchrails	Number of hitchrails
#Corrals	Number of corrals
#Toilets	Number of toilets
Other Fac	Other facilities
#Stoves/grates	Number of stoves, grates
VEG onsite	Campsite vegetation cover rating.1=0-5%, 2=6-25%, 3=26-50%, 4=51-75%, 5=76-100%
VEG offsite	Control vegetation cover rating.1=0-5%, 2=6-25%, 3=26-50%, 4=51-75%, 5=76-100%
Soil onsite	Campsite mineral exposure rating.1=0-5%, 2=6-25%, 3=26-50%, 4=51-75%, 5=76-100%
Soil offsite	Control mineral exposure rating.1=0-5%, 2=6-25%, 3=26-50%, 4=51-75%, 5=76-100%
Veg Rat	Campsite vegetation loss rating.1=No difference in coverage between campsite and control, 2=Difference in one coverage class between campsite and control, 3=Difference in two or more coverage classes between campsite and control
Soil Rat	Campsite mineral soil increase rating.1=No difference in coverage between campsite and control, 2=Difference in one coverage class between campsite and control, 3=Difference in two or more coverage classes between campsite and control
#Damag Trees	Number of trees scarred or felled on campsite
Tree Dam Rat	Campsite tree damage rating.1=No more than broken lower branches, 2=1-8 scarred trees, or 1-3 badly scarred or felled, 3=>8 scarred trees, or>3 badly scarred or felled
#Trees Roots	Number of trees with roots exposed on campsite
RootExp Rat	Campsite root exposure rating.1=None, 2=1-6 tree roots exposed, 3=>6 trees with roots exposed
LITTER	Amount of litter (in 1 gallon bags)
DEVELOP Rat	Development rating.1=None, 2=1 fire ring with or without primitive log seat, 3=>1fire ring or other major development
# FireScars	Number of fire scars.
CLEAN rat	Cleanliness rating.1=No more than scattered charcoal from 1 fire ring, 2=Remnants of >1 fire ring, some litter or manure, 3=Human waste, much litter or manure
# Social Trails	Number of social trails.

SocTrail Rat	Social trail rating.1=No more than 1 discernible trail, 2=2-3 discernible max.1 well-worn, 3=>3 discernible or more than 1 well-worn
Camp Ar sq ft	Area of campsite that has been disturbed, in square feet
CampAr Rat	Campsite area rating. 1= <500 ft^2; 2= 500-2000 ft^2; 3= >2000 ft^2
BarCore sq ft	Area of central portion of campsite devoid of vegetation
BarCore Rat	Barren core area rating. 1= <50 ft^2; 2= 50-500 ft^2; 3= > 500 ft^2
TP Sites	Number of toilet paper piles
Human Waste	Number of human waste piles
ConClass	Condition Class (see *below)

*Each campsite was assigned a condition class rating, modified from Frissell, as follows:
1 – Groundcover vegetation flattened, not permanently damaged, minimal change except perhaps for a rock fireplace.
2 – Ground vegetation worn away around fireplace or center of activity.
3 – Ground vegetation lost on most of site, most humus and litter still present.
4 – Bare mineral spoil widespread over most of site.
Midpoint ratings were allowed.

Scanned copies of the forms that were filled out on the semi-developed campsites are in **Completed Forms for Semi-developed Campsites.** Data from these campsites are in **CampsiteInfo.** Parameters measured were (1) the size of barren and disturbed area, (2) the extent of tree scarring and root exposure, (3) vegetation cover, (4) bare mineral soil exposure and (5) penetration resistance. Analogous data were collected on nearby control sites. Refer to **Monitoring Procedures** for more detail on procedures.

Taking Repeat Measurements: Instructions for repeating measures can be found in **Monitoring Procedures.** The copies of the forms, as filled out in 1999, that are in **Forms for Semi-developed Campsites** can be helpful in repeating measurements.