

REPORT ON 1979 RESEARCH ACTIVITIES

A Study of Backcountry Use
Within Yellowstone National Park

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Submitted to
Cooperative Parks Research Program
University of Wyoming
National Park Service Research Center

January 10, 1980

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Objective

The objective of our 1979 research activities in Yellowstone National Park was to obtain photoelectric trail counts of hikers and backpackers using backcountry trails included in our 1978 backcountry trail use study. In the design of the 1978 study, the Park Service was to furnish 14 photoelectric trail counters. The counts from these trail counters were to be the base for the estimates of total backcountry use. The number of users recorded by the trail counters for each trail was to be correlated with the number of trail users recorded on the trailhead registration forms to develop expansion ratios for the various trails. With these ratios, estimates of total backcountry use could be ascertained in future years by multiplying the number of trail users recorded on the registration forms by the appropriate expansion ratios.

As part of our study agreement, the Park Service was to furnish 14 photoelectric trail counters for our use during the summer of 1978. The counters were ordered but the manufacturer did not send the counters until the summer use season was essentially over. This phase of the study could not be completed although all other work elements were completed as planned. A decision was made jointly by the principal investigator and the Park Service to continue the study during the summer of 1979 to obtain the photoelectric trail counts.

Results

The photoelectric trail traffic counters performed well. There were two mechanical failures and two instances of tampering during approximately 650 counter operating days. The revised form used in the self-registration stations was easier to understand and yielded more complete information than the form used in 1978.

While analysis of all of the data has not yet been completed, a few observations have already been made. The decrease in the number of visitors coming to the Park during 1979 did not result in a corresponding decrease in the number of hikers. Certain popular short hikes showed the greatest reductions in use, but some trails seemed unaffected and a few showed increased use.

Analysis of observation data on party registration behavior did not reveal the striking differences in registration rates associated with particular party characteristics that have been noted in other studies. Estimated registration rates for trails within the study are fairly uniform in spite of a varying mix of user types. Most major user groups are not underrepresented by the estimates obtained using a single registration rate.

Work to be Completed

The data collected in 1979 will be used together with the data previously collected to examine trends and levels of backcountry use. All of the analyses and results will be presented together in the final report.