

Yellowstone brochure

promotes low-impact field research practices

Research in national parks is a vital function, providing managers with the information they need to understand and protect important park resources and developing knowledge about our world for the benefit of society. In the national park setting research can inform managers specifically of trends in the health of ecosystems and identify gaps in knowledge that are critical for sound



park management. Park regulations and legislation, such as the 1998 National Parks Omnibus Management Act, remind us of the National Park Service's obligation to encourage, support, and use research: "The Secretary is directed to assure that management of units of the National Park System is enhanced by the availability and utilization of a broad program of the highest quality science and information."

This century, Yellowstone National Park (Wyoming, Montana, and Idaho) has seen an increase in the number of scientific studies concerning the flora, fauna, and microbial life unique to this preserved parkland. Issues such as declining species, climate change and global warming, loss of wildlife habitat, and the push for advancements in biotechnology have increased importance of conducting studies in pristine, natural environments such as national parks. In Yellowstone alone, more than 200 research groups supported by more than 350 field technicians are conducting scientific investigations. This high volume of research activity increases the potential risk of related impacts to these special park environments. As important as it is, the quest for scientific knowledge in national parks must be balanced with the need for park protection. The decision to permit research in national parks hinges on the benefits of what can be learned through the activity compared with any potential risk to park resources or values.

A related concern is the effect of research on park visitors. For example, the use of low-flying aircraft, placement of radio collars on wildlife, deployment of field equipment, and repetitive visits to field research sites have the potential to detract from the experience of a visit to a national park. In Yellowstone we are working to reduce the frequency of such activities and are also encouraging researchers to anticipate and minimize their impacts. We have found that modeling our research philosophy after that of the Leave No Trace recreation education program—very popular for teaching minimal-impact outdoor recreation practices—is helping to change the way scientists view, and subsequently plan, their field activities.

In late 2005, Yellowstone teamed up with the Thermal Biology Institute (Montana State University) to produce a brochure titled "Performing Environmentally Sensitive Field Research in Yellowstone National Park" (see photo of brochure cover). The tenets of this brief, color publication reflect the seven basic principles of the Leave No Trace program and outline best field practices to help researchers leave their study sites appearing untouched. Many of the published recommendations were made by park researchers themselves. The brochure reminds researchers to collect only what their permit authorizes and to reduce the size of samples taken from any one area. That is, sampling should be spread out in study sites where the removal of large specimens might be evident

(such as microbial mats in thermal areas or geologic specimens at prominent rock outcroppings). It also reminds them to police their study areas, taking care to not leave markers, plastic sample collection bags, or other research-related materials upon departure. Guidelines for researcher safety, particularly around thermal areas and wildlife, are another important part of the brochure and are spelled out concretely. Researchers are reminded to make safety their top priority at all times.

We hope this brochure will guide scientists in the development of field research methods that take into account not only scientifically sound techniques but also environmentally friendly research practices that help preserve Yellowstone's resource treasures and their related values. The brochure can be downloaded from the Internet at <http://www.nps.gov/archive/yell/technical/researchpermits/pdfs/LNTBrochure72dpi.pdf>.

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