

When Nature Calls

by Lara Usinowicz

As proponents of Leave No Trace ethics, the American Mountain Guides Association is committed to minimizing impact on the backcountry. As more and more people head into the backcountry, the issue of human waste is a growing problem that must be confronted.

The World Health Organization estimates that the average adult produces about one liter—some 2 pounds worth—of excreta per day, half of that being solid waste.

To put that in perspective, consider that in 2005 Grand Canyon National Park had 238,381 backcountry overnight stays. If most of those visitors stayed in the park for 24 hours, then 120 tons of human feces was defecated in the Grand Canyon backcountry in 12 months.

Similarly, the Great Smoky Mountains National Park reported 3,220 overnight stays, 2,311 of those in the backcountry, in one winter month. That amounts to one ton of excreta in just one off-season month.

There are areas where you can bury your waste. The proper method is to dig a cathole 6 to 8 inches deep at least 200 feet from water, camp and trails. After use, cover and disguise the cathole and pack out all toilet paper and hygiene products. While digging a cathole is a viable option, it is interesting to note a wilderness impact study commissioned by the Sierra Club in the 1970s.

A group of researchers observed the defecation methods of the Sierra Club Outings participants—most of whom were traveling in large groups and using latrines to do their business. The researchers mapped all the latrine sites scattered across the Sierras, then returned one to three years later and uncovered the latrines. The researchers found that the waste, along with the bacteria, was alive and well and had decomposed very little, if at all.

Another study about a decade later in Montana's Bridger Range discovered the same truths, except this time the focus was on catholes rather than latrines. Researchers from Montana State University buried bacteria-rich deposits of human waste in catholes that varied in depth from 2 to 8 inches and were located in six different types of Rocky Mountain soil environments and elevations. When the samples were dug up a year later all the feces remained alive with various disease-causing bacteria (namely *E. coli* and salmonella).

The report, entitled "Potential Health Hazards from Human Wastes in Wilderness" said, "The idea that shallow burial renders feces harmless in a short time is fallacious." It continued, stating, "Site did not make the difference that we expected. The results seemed to apply to all elevations and exposures on the mountain. From our data, it is unrealistic to hope for a rapid die-off of intestinal bacteria in catholes. Pathogens might be transferred to later campers in three ways: direct contact with the feces, by insect, or by water."

Both studies agreed that putting waste in catholes was preferable to a latrine because the smaller the fecal deposit, the greater its contact with surrounding soil, organisms, and air, which are central to the decomposition process.

There are many areas where burying your waste is not an option. These include: heavy use areas; at trailheads and other areas where digging a cathole might entail digging up someone else's waste; in deep river gorges; where it is impossible to travel the required 200 feet away from the river; along any waterway where there is only sandy soil which doesn't have the nutrients to decompose waste; in canyons and high deserts where the soil is also without the microorganisms necessary to biodegrade human waste; above the treeline; and in any mountaineering or climbing venue where the soil is too rocky to dig the required 6-8 inches for a proper cathole.

While any method of carrying out your waste is better than the alternative—whether it is a plastic baggie, a PVC tube, or the "blue bag" that is offered in several mountaineering venues, such as Rainier—compliance remains an important issue; thus removal methods should be as pleasant as possible.

Restop products offer a safe and sanitary means to deal with human waste in the wilderness. The Restop 2 solid waste bag contains the odor as well as the waste. Inside the bag is a powder, a polymer/enzyme blend, which biodegrades and gels the waste, giving it EPA approval to be simply thrown away in the trash after use. Restop provides the user with an inexpensive and effective means to comply with the outdoor ethics of Leave No Trace. For More Information Contact www.whennaturecalls.com



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