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COVERUPS

How to pick a campsite you can leave without a trace.

BY DR. DAVID COLE AND JIM BENEDICT

We're certainly *using* our wilderness these days. In 1982, our National Forests were used more than 11 million "visitor days" (a 12-hour stay by one person), an increase of more than 20 percent over 1980. Visitation in the National Parks is a whopping two to three million overnight stays per year. When you think about it, the news might not be all good; suppose we eventually "love" America's wilderness areas to death?

Our impact is particularly pronounced on campsites, and backcountry managers are encouraging us to adopt minimum impact camping techniques, as well as strictly regulating what we can do at the campsites, and even issuing visitor quotas.

Nobody likes these, of course, but they're better than the alternatives: trampled vegetation, blackened rocks, charcoal, and ash in firerings, used up firewood, litter, sometimes even excrement.

Introduce grazing packhorses, popular among outdoorsmen, and the damage—defoliation, trampling, and equine wastes—is greatly intensified.

When it gets worse, much of the vegetation disappears, and the surviving plants are very different from those that grew under undisturbed conditions. Soil is compacted by trampling, restricting the movement of air and water in it as well as the growth of plant roots. Consequently, less rain and snowmelt percolate into the soil, so surface runoff increases, and in turn invites erosion. The organic top elements of the soil (duff, humus, decomposing leaves, needles, and the like) disintegrate under this stress and are eroded away, exposing bare mineral soil beneath.

In a study of highly impacted campsites in the Eagle Cap Wilderness in northeastern Oregon, we found that over 90 percent of the tree seedlings and a similar percentage of the ground vegetation had been destroyed by trampling. Over 95 percent of the overstory trees (trees that create the forest canopy) had been damaged by people collecting firewood, as well as from thoughtless or malicious acts. We found it particularly disturbing that over one-third of the trees had actually been *cut down*. Because so many seedlings are trampled and eliminated, most of these sites will remain forested only until the present generation of trees dies.

Campsites can deteriorate to this point very rapidly, maybe in the first few years after a site is opened. Recovery takes a *very* long time: progress can be expected in 10 or even 15 years.

The most intelligent options for minimizing campsite damage include spreading people so widely that no site is used more than one or two nights per year, or to convince people to camp over and over again on the same small number of sites, recognizing that these will be significantly impacted. And the option of utilizing a large number of lightly impacted sites isn't even realistic because such sites are vulnerable to rapid deterioration with only minor use.

But something *can* be done. Regularly used campsites are affected far more by what you *do* when you're there, than by how many *times* you're there. In several areas we studied in Montana, horse camps were ten times larger than backpacker camps; they had much more bare ground and many more damaged trees. Fortunately, about 90 percent of wilderness users are hikers, and parties of fewer than five persons are two to three times as common as larger parties, which are hard on the environment. For this vast majority of users, campsite damage can be reduced greatly by following these minimum impact camping procedures:

- Go without a campfire. This practice obviously saves wood and you can avoid leaving signs of charcoal, ash, and blackened rocks. It's particularly crucial to areas with no evidence of previous use.

- If you must build a campfire, try to select a site with an existing firering. *Avoid building new ones.* Where rings don't exist, choose a fire site free of vegetation and, if possible, without humus. Dig a shallow pit to contain the fire—away from stones that might be blackened. Burn only small pieces of dead and downed wood that you can break by hand. Larger pieces store moisture critical to maintaining the water and nutrient balance during dry periods. Besides, they don't burn to ash easily. When through with the fire, completely burn all wood, make sure the fire is out, fill in the pit, and camouflage it with pine needles or other natural materials.

- Pack out all garbage and use biodegradable soaps only—in small quantities and always away from water sources.

- Never flatten a site, trench a tent, or build rock walls as windbreaks. Engineering isn't appropriate in the wilderness, and shouldn't even be necessary if sites are carefully selected.

- When leaving your campsite, make sure that it is at least as clean and attractive as you found it. Remember—you want to encourage others to use your site rather than damage a new area. On the other hand, be especially mindful of leaving pristine areas *pristine*. After all, you want to make it unlikely that the site will be used again for a year or two when the effects of your stay have vanished.

Although the widespread adoption of minimum impact camping procedures could greatly cut back on damage to overstory trees, and on the ecological and aesthetic pollution of campsites, those damages associated with trampling—loss of ground vegetation and disturbance of the soil—won't vanish. Take care where you step and where you pitch your tent. Avoid trampling delicate tree seedlings, so that we can enjoy forested campsites in the future. Of course, unless you own a flying carpet to keep you suspended, some trampling damage is inevitable. (Sleeping in hammocks is a realistic partial solution, provided care is taken not to damage trees.) The best you can do is keep it to a minimum.

What are appropriate campsites, and how do you identify them?

When selecting a campsite, first obey

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existing regulations about where not to camp. Once you've determined your site is legal, know this: The location of the campsite often has more of an effect on site conditions than the amount of use the site actually receives. Certain ecosystems are more resistant, and can absorb much more use, than fragile sites that quickly deteriorate with any use at all.

In lightly used areas—where you sel-

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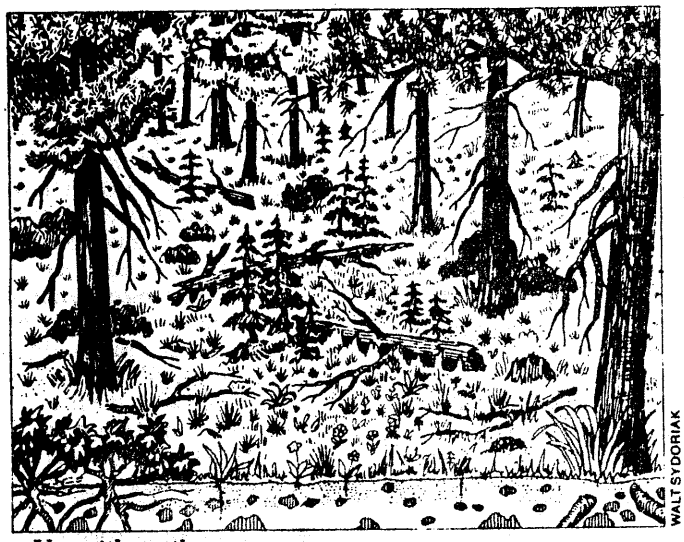
PICKING CAMPSITES: *The Rules at a Glance*

1. PRISTINE



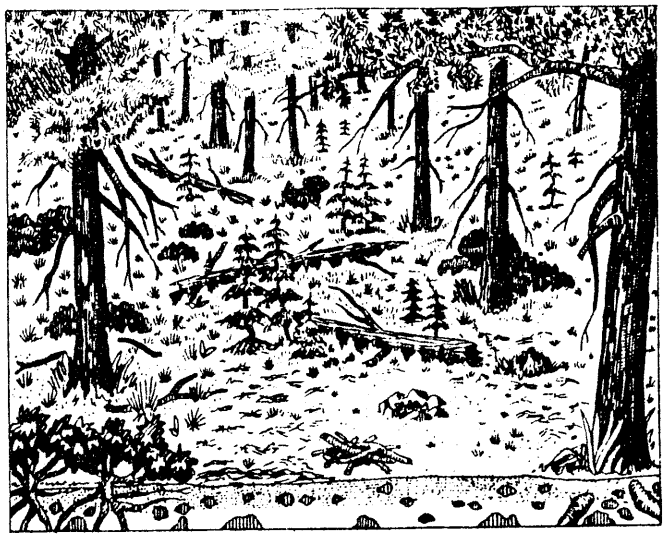
WALT SYDORIAK

Use with caution.

The site appears never to have been used before.

The keys to proper use are minimum impact, selection of resistant sites, and no repeat use. These are ideal sites in lightly used areas *if* you are careful to minimize impact. In high-use areas, it's preferable to select a moderately impacted site instead unless your party is small, has no packstock, uses a stove, is highly experienced in low-impact camping, and chooses a resistant site away from more popular locations.

2. LIGHTLY IMPACTED



Use only if necessary.

Ground vegetation worn away around the fireplace or center of activity.

Unless these sites are particularly resistant (e.g., sandy beaches, rocky outcrops, dry meadows, or grasslands), they will deteriorate rapidly if use increases. Moderately impacted sites are always preferable. In low-use areas, pristine sites are preferable.

3. MODERATELY IMPACTED

Use where possible.

Ground vegetation worn away on most of the site, but humus, decomposing leaves, and needles are usually present on much of the site. Not highly susceptible to further damage. Site retains most of its desirable attributes, and site impact is not irreversible. Avoid trampling seedlings.

4. SEVERELY IMPACTED

Do not use.

Soil erosion is obvious. Exposure of tree roots and rocks is pronounced and widespread. Trees may be unhealthy or dead. Individual campsites may coalesce to create large disturbed areas with multiple firerings. Firewood is scarce for a considerable distance around the campsite.

Unless managing agencies require the use of such sites, they should never be used. Damage is already almost irreversible.

dom encounter other parties and there are numerous potential campsites—it's best for parties to spread out among a large number of resistant campsites so that no site is used too often. Select campsites that show no evidence of use, and leave no trace of your stay.

How? Contrary to popular belief, we have found that grassland and meadow vegetation are more resistant to trampling than forest floor growth—*if* the soils are dry. As a general rule of thumb then, select a dry, flat site and, if possible, a site with no vegetation at all. Where trampling can't be avoided, it's better to select sites with grass and grasslike plants than sites with understories of shrubs or lush wildflowers. Avoid using grass-covered sites for more than one night.

In popular places—where campsite impact is already widespread and you frequently encounter other parties—it's best to camp on already well-worn sites. If you're careful, the additional effects will be negligible. (In these areas, choosing an ecologically resistant location is generally less important than choosing a location where your impact won't be highly visible.) Particularly fragile sites (slopes that are prone to erosion, or moist areas) should definitely be avoided. But, the truth of the matter is that there isn't a lot you can do about damage in popular areas, regardless of ecological resistance, so the best you can do is decrease the *number* of damaged areas by camping over and over again on a few sites, and to select ones that are not visually obtrusive.

Still confused? Then take a look at the illustrations on p.44. Dr. Sidney Frissell at the University of Montana has developed a simple classification of campsites based on their degree of deterioration. We have made slight modifications to his system, which permits you to quickly evaluate the condition and advisable use, if any, of a potential campsite.

Remember the basic rationale behind all of these suggestions is to steer you either to pristine sites that recover quickly and don't invite quick repeat use, or to moderately impacted sites that are unlikely to deteriorate further.

Campsite selection is a task left to the end of the day when you are often rushed, tired, and in the worst condition to make good choices. Remind yourself to allow sufficient time and energy to find a resistant site that you will not damage. Sometimes not pushing quite as far, taking a break, stashing your pack, and exploring a little, will produce a multitude of benefits—a nicer campsite, a better feeling for the lay of the land—and much less impact on it, so that it can be enjoyed by generations to come.