

## Minimum-Impact Travel

Wilderness lands are special places. Accordingly, they require special treatment from human visitors in order to preserve the qualities that make them so attractive.

Human intrusions and carelessness can alter a natural landscape for generations. One of the most valuable skills you can learn is the ability to "tread lightly" as you explore our planet's mountains, coastlines, grasslands and deserts.



Several articles in the Camp/Hike section of REI's Learn & Share amplify the leave-no-trace principles of wilderness travel endorsed by the National Outdoor Leadership School. We summarize those points, and mention a few others, in this list:

- **Pack out what you pack in.** It's not a cliché; it's the first commandment of responsible backcountry travel. Please don't leave litter behind, not even an orange peel. Please.
- **Behave like you're a guest** in a good friend's home. You wouldn't leave used tissue paper on the floor of a friend's house; likewise, pick up after yourself in the backcountry. Don't snap off branches of living things; don't make a racket; don't trample the flowers. Make it your goal to disturb your surroundings as little as possible.
- **Stay on established trails.** When traveling cross-country (off trail), choose to walk on rock or snow rather than soil. Spread out so you don't wear a groove in trail-less terrain. **Never cut switchbacks** on trails.
- **Avoid hiking on muddy trails.** If you encounter mud, walk through it, not around it. Your boots are built to handle it.
- If you visit the desert, **learn to identify cryptobiotic soil.** It looks like dark crust, but it's very valuable to a desert ecosystem. Avoid stepping on it. In seconds one footprint can destroy a natural soil-stabilizing process that involves years of imperceptible growth.
- **Camp in established campsites** whenever possible. Choose a location that conceals your presence from the sight of others.
- Dispose of **human waste** far (at least 200 yards) from water sources and trails.
- **Use a camp stove** rather than building fires.
- **Keep your food away from wildlife**, and never feed animals intentionally; it alters their natural foraging habits.
- **Take responsibility for your actions.** Think of the overall good of the area, and those who will follow you. Your decisions will impact how others are able to enjoy the area you are visiting.

- **Take time to do it right.** Minimum-impact backpacking techniques can take a little extra time and effort. Just keep reminding yourself that the payoff—a more enjoyable wilderness experience for everyone—is worth it. Make it your goal to Leave No Trace.

## Backcountry Health Topics

This brief list of common outdoor health problems, preventative measures and possible remedies is intended to help you stay healthy while you explore the backcountry.

### Sunburn

Sunburn, caused when our skin is exposed to too much of the sun's ultraviolet light, is the most common problem experienced by backpackers.

- **Prevention:** All wilderness travelers, regardless of skin color, should wear sunscreen with an SPF (sun protection factor) of at least 15. The American Academy of Dermatology and the Skin Cancer Foundation recommend an application of sunscreen every two hours, even on cloudy days. The groups also offer these tips:
  - Within the continental United States, minimize your exposure to the sun between 10 a.m. and 4 p.m. Potential for skin damage is greatest at noon (or 1 p.m. during daylight savings time). At these peak-intensity hours, a fair-skinned person could suffer skin damage in less than 15 minutes.
  - Always shade your head, neck, ears and eyes, particularly at high elevations, where a thinner atmosphere allows more UV rays to reach your skin. Sand, brightly colored clothing and snow can all intensify the sun's impact. Some outdoor clothing comes with SPF ratings. Fabrics with tighter weaves help keep the sun off your skin.
  - Lenses of sunglasses should block both UVA and UVB rays. Examine product information tags or spec sheets to verify that the lenses offer this protection.
  - Check with your doctor to determine if any medications you are taking increase your susceptibility to sunburn.
- **Remedy**—If you do get burned, soothe damaged areas with an aloe-based skin cream, and keep them covered for the remainder of your trip (either with clothing or with a strong sunscreen) to avoid further damage. If sunburn is serious and you experience persistent nausea, chills or fever, seek professional medical attention.



### Blisters

One little blister, the product of friction that rubs skin back and forth in a concentrated area, can ruin an otherwise wonderful backpacking journey.

- **Prevention**—Blisters are easier to avoid than they are to fix. Make sure you start every backpacking trip with footwear that is broken in and fits you well. Also wear clean, properly sized socks. Consider wearing two pairs of socks—a lightweight wicking liner and a thicker cushioning sock—to lessen the chance of abrasion.

**Tip:** On the trail, address foot discomfort as soon as it develops. A quick response can often stop a blister before it becomes serious. At the first sign of irritation, put a small patch of protective material—moleskin, 2nd Skin or even duct tape—over the affected area to minimize abrasion.

- **Remedy**—If you're undertaking your first backpacking season and know you are prone to blisters, consider applying moleskin to your typical "blister zone" before you hit the trail.

If a blister develops and walking becomes too painful, you could drain the blister by lancing it along its base with a clean razor blade or knife. Once this is done, soothe the area with some antibacterial ointment, then cover it with a patch of 2nd Skin (or similar product) plus a small adhesive bandage to keep the blistered area clean.

If the area is still sensitive, cut a doughnut-shaped cushioning patch out of Molefoam or duct tape and encircle the injured area. You may need to bulk up your circular pad with a number of layers to hold your sock and boot out away from the damaged area. This cushion will protect the area from further damage.

## General Aches and Pains

General aches and pains (sore muscles, headaches, joint pain) are a common factor of many beginning backpacking trips.

- **Prevention**—After a modest warm-up (say, 10 minutes of walking), take time to stretch. Stretch after your hike, too. Your muscles and joints will thank you.

**Tip:** Don't attempt to exceed your physical limits early in your hiking season.

- **Remedy**—Most muscle aches can be fixed with a little rest and gentle massage. For headaches, take a couple of pain reliever tablets— aspirin, ibuprofen or acetaminophen—and a short rest. Joint pain is typically caused by overuse, though it can be the result of twists or unusual compressions. Again, rest is usually the best remedy. Elevating the sore joint might help alleviate pain. Taking glucosamine, a cartilage-repairing nutritional supplement, can also help joint pain and expand your range of motion.

## Poison Ivy, Oak, Sumac

Wherever you travel, you may run into troublesome plants.

- **Prevention**—Learn how to recognize the dangerous plants that are common in the area you'll be exploring. Remember that poison oak and ivy leaves grow in clusters of three, so if you see "leaves of three, let it be." Be wary of touching anything foreign to you. Keep in mind that the oily rash-causing resin found in poison oak and ivy, urushiol, remains present in the plants even during dormant winter months. Contact with a leafless stem in January can still spawn an itchy rash. Pre-exposure lotion can be helpful. If traveling in unfamiliar territory, consider carrying a lightweight, compact field guide to help you recognize plants.
- **Remedy**—Carry a small supply of hydrocortisone cream or another soothing, anti-inflammatory lotion to lessen the discomfort caused by skin irritations. Fluid from a rash-induced blister will not spread the rash. However, if the resin is not cleaned from clothing, boots, skin or tools, you can re-infect yourself or another person. It's the resin, not the rash, that spreads infection. A good first-aid manual will provide other useful tips on limiting the spread of the rash.

## Biting Insects

Mosquitoes, flies and other biting insects are an unavoidable part of many backpacking trips. Happily, bug bites are usually more of a nuisance than a health hazard.

- **Prevention**—The easiest way to deal with bug bites is to avoid them altogether. This means identifying and avoiding the worst locations and times of year for bugs. It also means packing the right kinds of clothing (light-colored long-sleeve shirts, long pants, bug shirts, bug-net hats and so on) and using some form of topical repellent if necessary.

DEET-based products are effective, though natural alternatives are available for individuals who prefer to avoid synthetic chemicals. DEET is not recommended for pregnant women or small children, especially those less than 1 year old. DEET will not hurt cotton, wool or nylon, but it can damage plastics, synthetic fabrics, furniture, walls, watch crystals, and eyeglass frames.

- **Remedy**—First-aid products like After Bite help relieve the swelling and itching caused by bug bites.

**Tip:** Some people are allergic to certain insect stings. If you are, protect yourself by avoiding risky situations as much as possible and by carrying whatever medicines you need to counteract the reactions. Make sure everyone in your backpacking group knows about your allergy and what to do if you get stung/bit.

## Stinging Insects

Bees, wasps, hornets and yellow jackets are additional winged threats a backpacker may encounter.

- **Prevention**—If you come upon a beehive or wasps' nest, leave the area quickly and quietly. In campgrounds, avoid brightly colored clothing, shiny jewelry or belt buckles, and scented cosmetics. If you or someone in your group is allergic to bee or wasp stings, make sure to visit a health care professional for preventative injections.
- **Remedy**—For a normal reaction to a sting (itching, redness and slight swelling) the following first-aid items may be useful: ice, baking soda, oral antihistamines (such as Chlortrimeton and Dimetane), epinephrine inhaler (such as Primatene), topical steroids (such as Cortaid or Lanacort), and local anesthetics (such as Benzocaine, Lanacaine or Solarcaine).

## Ticks

Not all ticks transmit Lyme disease. Check with rangers about potential danger before you explore an area unfamiliar to you.

- **Prevention**—Lyme disease is one of a number of potentially serious conditions that can be passed to humans through tick bites. The best way to avoid trouble is to avoid bites altogether by avoiding areas where ticks are prevalent and by checking your hair and skin for ticks frequently. Permethrin-based insect repellents can be applied to clothing to repel or kill some ticks.
- **Remedy**—If a tick is discovered, remove it immediately by pinching the skin just below the head of the tick with tweezers and lifting the tick straight up and out. You may lose a small piece of skin in the process. Be careful not to squeeze the tick body or twist it during removal, since this may cause the tick to regurgitate more bacteria into the wound. For similar reasons, burning or covering a tick in cooking oil is not recommended as a method of removal.

## Snakebites

While many snakes are harmless, some have potentially lethal bites.

- **Prevention**—Avoid areas prone to snakes. Check your trail guide or ask a local forest ranger or guide. Stay in well-groomed, open areas. Watch where you're going and listen. If you see a snake, don't antagonize it.
- **Remedy**—If bitten by a snake such as a rattlesnake (a pit viper), first back away from the snake. Calm yourself or the person bitten. Rinse the wound. Apply a mechanical extractor pump for three minutes following the bite. Make no additional incisions. Mark the time so you can check the progress of swelling. Remove jewelry. Get to the hospital as quickly as possible for an anti-venom serum. Try to identify the offending snake to help medical personnel.

## Hantavirus

Hantavirus is spread by the droppings and saliva of contaminated rodents, particularly the deer mouse, cotton rat, rice rat and the white-footed mouse. Hantavirus, a relatively new backcountry malady, can cause severe sickness and even death. Early symptoms include fatigue, fever, muscle aches and headaches. Severe coughing and shortness of breath may follow in four to 10 days.

- **Prevention**—Stay away from any areas with excessive rodent activity: barns, old cabins, or dusty, enclosed trail shelters. If you see any rodent droppings, cover your mouth and leave. Don't attempt to sweep an area where rodents have left droppings. The disease can be carried in the dust.
- **Remedy**—If you suspect that you or someone in your party has been infected with hantavirus, seek professional health care immediately. Treatment usually includes antibiotics, oxygen and other treatments for respiratory problems.

### Altitude Illness

Altitude illness is a state of unease a wilderness explorer feels when traveling at high elevations. Traditionally, 10,000 feet is regarded as the height where altitude symptoms—a sluggish sensation often accompanied by a headache—kick in for most people, but they can afflict others as low as 6,000 feet. Acute cases of this illness can be debilitating, even fatal.

- **Prevention**—Avoid abruptly changing elevations from one day to the next. If you're spending your pre-hike day in a low-lying valley, you could be asking for trouble if you take aim at a 9,000-foot pass the next day. It is better to acclimatize, meaning you gain elevation gradually, or you camp at a high elevation for a day or two before undertaking your hike. A general rule: Ascend no more than 1,000 feet per day.
- **Remedy**—Descend. If you sense the symptoms are overtaking you, seek out lower elevation quickly before your condition deteriorates and you are unable to walk unassisted. Aspirin can be beneficial for any head pain you experience.

## How to Stay Clean in the Outdoors

Staying clean is an important part of staying healthy in the wilderness. Good personal hygiene protects you from sickness and infection, and it makes you far more popular with your traveling companions!

### Soap in the Backcountry

All soaps, even biodegradable ones, can damage fresh water supplies, so keep your soap use to a minimum whenever you visit the wilderness. Be sure to follow the general rules below whether you're bathing, washing dishes or washing clothes:

- Make sure that any soap you use is biodegradable. Biodegradable products break down into non-toxic substances and are easier on the environment.
- Be sure to use your soap sparingly.
- Do all of your washing at least 200 feet away from all fresh water supplies. This will limit the amount of soap (and other debris) that makes it into the water. Pour soapy waste water out where you wash, so the ground can filter it before it returns to the water supply.
- Consider your alternatives - unscented baby wipes can be great alternative to cleaning up with regular soap. They're also lightweight, compact and easy to pack out with other garbage. Rinsing with water alone may also work in some situations.

## Bathing

On short trips, focus on keeping your hands, face and feet clean to stay comfortable and keep germs at bay.

- **Hands**—dirty hands can transfer germs to your food and to your mouth. A quick wash before every meal will lower the risks considerably.
- **Teeth**—For your traveling companions' sake, as well as your own, use a toothbrush and toothpaste on every trip.
- **Feet**—Keeping your feet clean reduces the risk of blisters and bacterial and fungal growth (which can occur quickly inside your warm, moist boots). Make sure your feet (and your socks!) are clean each morning before you put your boots on, and each night before you go to bed. If you prefer sleeping in socks, pack a clean pair just for sleeping.

## Washing Dishes

- Wash all dishes at least 200 feet away from fresh water supplies to keep contamination to a minimum and use as little soap as possible.
- If your waste water contains food particles, either strain it with a fine cloth (pantyhose works well) and pack the food residue out with your other trash or pour the waste water into a 4-6-inch-deep cat hole and cover it well.
- Rinse your pots and utensils thoroughly after each meal and leave them to dry in your kitchen area. Remember to use treated water when washing your dishes.

## Washing Clothes

Chances are, you won't have to wash any clothes on your first several backpacking trips. But if you choose to, wash them well away from the water's edge (like your dishes). Just a few drops of soap should be enough for a handful of items.

## A Note on Disposing of Human Waste

Use established latrines whenever they're available. When they aren't, dig a small "cat hole" (at least 6 inches deep) no less than 200 feet away from all water sources, campsites and trails. Be sure to cover these holes up completely and pack them down tight. The practice of burning toilet paper, performed carelessly, has sometimes resulted in wildfires and is thus not recommended. In popular areas that attract frequent visitation, toilet paper should be packed out in doubled plastic bags that feature a "lockable" closure.

NOTE: A few wilderness areas now require that visitors pack out all solid human waste. Check with the ranger or wilderness manager in the area you are visiting.

## Keeping your campsite clean

Don't forget to keep your campsites clean during every backpacking trip. Think about things like:

- **Visual impact**—Keep your gear and clothing off of branches, bushes and rocks, and keep your equipment organized and packed away as much as possible. When you can, choose gear items that use natural, subdued colors rather than bright, easy to spot ones. Keep all trash stored in refuse bags.

- **Auditory impact**—For the sake of other campers (and any wildlife in your area), keep noise to a minimum, especially after sunset. Talk in a normal voice at all times and leave your radios at home. If you're camping near a lake or river, remember that noise carries very well across water.