

Backcountry Safety: Water & Sanitation

Sequoia National Forest



The backcountry is beautiful place to visit, but also primitive and you will be on your own! We want you to enjoy your backcountry visit, and we want you to venture as safe as possible. These are some tips to remember. First and foremost, tell someone of your planned route and time of return before you travel into the backcountry!

Water Quality

Lakes and streams can be contaminated even if they look and taste pure. An intestinal disorder called GIARDIASIS (gee-ar-dye-a-sis) is a disease that may be contracted from drinking untreated natural water. The disease is caused by a microscopic organism, Giardia lamblia. Although giardiasis can be incapacitating, it is not usually life-threatening. Symptoms usually include diarrhea, gas, and abdominal cramps. Most people are unaware that they have been infected and often returned home prior to the onset of symptoms. Other diseases can have similar symptoms, but if you have taken a drink of untreated water, you should suspect giardia and inform your doctor.

Water Treatment

The most effective treatment to make water safe to drink is to boil it for 5 minutes. A good filter can also remove most harmful organisms present in mountain water. Choose a filter with a pore size less than 0.5 microns. This will effectively remove most harmful bacteria and protozoa (including giardia). For short trips, take a supply of water from home or other domestic source.

Hydration

It's very important to drink water! Common signs of dehydration are dry mouth, chapped lips, dark urine, irritability, fatigue, disorientation, and impaired judgment. Try drinking 8-16 ounces of water before you leave for your hike to hydrate ahead of time. While hiking, drink every 15-30 minutes, for a total of a liter (quart) of water every 2 hours. Stay away from caffeinated beverages as they have a diuretic effect and will dehydrate your body of fluids.

Hyperthermia

Caused by the body's inability to cool in high heat conditions. The body regulates the temperature by sweating and releasing excess heat, but sometimes this is not enough especially when ambient air temperature is high and humid. The best way to cool the body is to stay hydrated and drink plenty of water in high temperatures conditions. If this is not enough, take a break in a shaded area and remove some clothing to allow for more body cooling. There are three forms of heat-related illness that can lead to hyperthermia.

1. **Heat cramps** is the mildest sign of heat-illness where the muscles cramp and spasm due to loss of electrolytes or salts. It can also be a sign of heat exhaustion. Heat rash is a skin irritation caused by excessive sweating and is considered one of mildest form of heat-illness.
2. A progressive level of heat-illness is **heat exhaustion** where the body begins to show signs of heavy sweating, paleness, muscle cramps, tiredness, weakness, dizziness, headache, nausea or vomiting, and fainting. When these signs occur, immediately rest, drink plenty of fluids, cool the body with cool water, and provide cool air to circulate past the victim. Without immediate attention, the symptoms may progress to heat stroke.
3. **Heat stroke** is the most severe form of heat-related illness and is a serious medical condition that warrants immediate attention. Symptoms include: An extremely high body temperature (above 103°F), red, hot, and dry skin (no sweating); rapid, strong pulse; throbbing headache, dizziness, nausea, confusion, and unconsciousness. Immediate evacuation is highly recommended!

Fatigue

Exhaustion occurs because the person may be pushing too hard and is embarrassed to ask the group to slow down. A good principle of backcountry travel is take it slow, rest often, and drink and eat snacks frequently to restore body energy.

Sanitation

The potential health hazards from human waste are becoming greater as more and more people visit the backcountry. To prevent the spread of disease, it is essential that backcountry visitors dispose of their body waste properly. Whenever possible, feces should be completely buried below the surface 6 to 8 inches deep in soil, at least 200 feet (75 paces) from lakes and streams. Studies have shown that intestinal pathogens can live for years even when feces are buried. Complete burial, however, reduces the chance that wildlife or insects will come in contact with the waste and transmit disease. Always wash and sanitize your hands whenever possible.

Thank you for your help in making forest visits enjoyable and safe! Plan ahead by obtaining a National Forest map at one of the following offices:

Hume Lake Ranger District
35860 East Kings Canyon Road
Dunlap, CA 93621
[559-338-2251](tel:559-338-2251)

Kern River Ranger District
11380 Kernville Rd.
Kernville, CA 93238
[760-376-3781](tel:760-376-3781)

Western Divide Ranger District
32588 Hwy 190
Springville, CA 93265
[559-539-2607](tel:559-539-2607)

Forest Supervisor's Office
220 E Morton Ave
Porterville, CA 93257
[559-784-1500](tel:559-784-1500)



Leave No Trace Ethics

The Leave No Trace principles help protect natural resources and help reduce the impacts of sights and sounds of your visit. The Forest Service supports and lends its resources to the Leave No Trace program. We share in, practice and support Leave No Trace skills and ethics and believe in the stewardship of America's public lands. Join us in our work to Leave No Trace by following these seven, simple principles:

- Plan ahead and prepare
- Travel and camp on durable surfaces
- Dispose of waste properly
- Leave what you find
- Minimize campfire impacts
- Respect wildlife
- Be considerate of other



Emergencies

If you become lost, stay calm and don't panic. Use your head and not your legs and "Hug a Tree." In other words, stay where you are until help can find you. Carry a whistle and small mirror for emergency use. Three of any sight or sound (shouts, whistle blasts, flashes of reflected light from a mirror) is a sign of distress. At the first signs of illness start on your way out of the mountains, as a minor illness can become serious at high elevations. Most areas in the mountains do not have cellular telephone service. Call 911 once you can reach a pay phone or drive to a location where you can use your cellular phone.

Conclusion

These are tips and suggestions for traveling into the backcountry and should no way take the place of proper instruction and experience. This list is not an exhaustive list of situations to be aware of, rather they are common concerns to be aware of. For more education about backcountry travel, contact your local college or university and enroll in theory based outdoor courses. Render the services of an experienced guide to teach practical and hands-on skills in outdoor travel. And yet another is to read books, watch videos, and media material to educate yourself about outdoor environments.

As always contact the managing agency of the area you intend to visit and ask about current conditions and issues for backcountry travel.