

# TREATING WATER

By GORP Hiking Expert Karen Berger

Here's the scoop on water: It's no longer safe to drink water straight out of a river, a stream, or even a pond. That's because in recent years, backcountry parasites such as *Giardia lamblia* and *Cryptosporidium* have set up shop in our wild places, travelling from mammalian intestines to pristine-looking streams through feces. Other potential contaminants include pesticides and herbicides.

The simple fact is this: If you don't treat backcountry water, you're risking spending your vacation in intestinal distress. Here's how to stay out of trouble:

## **BOILING:**

This is the tried and true method of killing microscopic beasties, but it takes a lot of fuel. Fires work, but they're not exactly minimum impact, plus your water ends up tasting like wood smoke. If you do use a fire, decant the water from one bottle to another to get rid of the sour burnt taste. Or throw in a couple of herbal tea-bags.

There is a lot of disagreement over just how long you need to boil water for. Some agencies recommend five minutes or even longer, especially at higher altitudes. Others say that a strong rolling boil at any altitude will kill the cooties. The Center for Disease Control recommends three minutes to make sure everything is really and truly dead, including hardy viruses (more a problem in developing countries than in the American backcountry).

## **IODINE:**

Iodine has some compelling advantages: it's lightweight, reliable, and trouble-free. But it does not kill the most recent arrival on the microbial scene: *Cryptosporidium*, which causes giardia-like symptoms and has no cure (the disease runs its course in 7 -10 days). Iodine is available in liquid, crystals, or tablets. Read the directions for how much to use and how long to wait. More iodine and longer waiting times are required in cold or especially dirty water. To mask the flavor, you can drop in tablets made by Potable Aqua. Or stick a piece of lemon peel in your water bottle; it will freshen several liters. Note: it's not a good idea to use iodine for days on end, but it is an excellent idea to carry a few tablets, even if you plan to mostly filter or boil your water. That way, even if you don't feel like filtering or boiling (say it's terrible weather and you're exhausted), you'll still be able to drink.

## **FILTERS:**

Few pieces of backpacking equipment are as vilified as water filters. Think of filters as microscopic strainers. They give you clean water with no bad taste and no residue of fugglies floating in your canteen. To choose a filter, first look at the "absolute" pore size, which should be 1 micron or less for hiking in North America: That'll take care of both *Giardia* and *Cryptosporidium*. For hiking abroad, you may also need a filter that can handle viruses.

**Fuss-free filtering.** Clogging is the main filter problem. You can help prevent it by keeping the filter element as clean as possible. Start by using clear water. If that's not an option, let clouded water sit for a while so that the gunk settles on the bottom. You can also pre-filter water through a bandanna or use the prefilter that comes with some filter systems. If you're filtering directly from the water source, use a float to keep your intake tube off of the river or lake bottom.

**Unclogging.** Filters clog because they do their job: The gunk that clogs them is gunk you'd otherwise be drinking. Make sure you take your filter's directions into the field with you. Some ceramic filters can be cleaned by scrubbing the element with an old toothbrush. Others can be wiped clean. Some filters can be backwashed, which is a temporary solution. Reverse the intake and output tubes, then pump backwards so the water flushes the gunk out of the filter element. After backwashing, you must run clean water that has been treated with iodine or bleach through the filter and its hoses.