

BACK COUNTRY SANTITATION



Land and water-based recreation is becoming more popular every year. As human use of the back country increases, so does the occurrence of water-borne disease. Over-use and improper camping techniques have become a significant cause of human illness. If this trend continues, we risk losing the very qualities that attract us to the outdoors each year.

To retain the high quality of our back country experiences, we all must accept responsibility for minimizing our impact.

This brochure outlines some basic sanitation procedures for the back country. By adopting these, we can protect ourselves and others from disease, while also protecting the beauty of our favourite camping areas.

WATER, WATER, EVERYWHERE...



Water plays an important role in any outdoor recreation venture. Clean and potable water supplies are needed to maintain good health and can be critical to a person suffering from dehydration. But while water may save a life during a trip, polluted water may also cause unneeded suffering.

GIARDIASIS



The incidence of giardiasis (gee-ar-die-assis) - popularly known as beaver fever - is on the increase, and there are now areas of the province that have earned a reputation as giardiasis hot spots. Giardiasis is an internal infection caused by a parasite, *Giardia lamblia*. The parasite travels via

water that has been contaminated by the feces of infected animals (including dogs) and people.

Any or all of the following symptoms may be experienced: mild to severe diarrhea, nausea, flatulence, abdominal cramps, weakness, and loss of appetite.

Symptoms and accompanying weight loss may persist for several weeks. These symptoms are most common in children. Sometimes the infected person experiences no symptoms at all but may act as a carrier infecting other members of a group.

Anyone drinking from a stream, river or lake that has been polluted by human and animal feces runs the risk of being infected with *Giardia*.

Since the number of reported incidents of giardiasis is increasing, the need for greater public awareness of the problem is now a matter of concern. Nor is giardiasis the only infection that can be transmitted through water. There are many more intestinal diseases that can be passed on this way.

OBTAINING SAFE DRINKING WATER



The higher up the source of running water, the less likely it is to be contaminated. But don't assume that all flowing water is safe to drink. If the water source is a lake, choose water from the inflow rather than the outflow or lake itself.

Drinking water should be from a clear and flowing source and away from the shore. A large collapsible container will minimize the number of trips to your water source.

TREATING WATER



Boiling: Boiling water for one minute is the most effective way of killing dangerous micro-organisms. Though less convenient than filters, boiling is cheap and dependable.

Water Filters: The most convenient method of treatment is a filtration system. A small hand pump is used to pass water through filters which physically remove micro-organisms. Some systems use activated charcoal filters while others use extremely fine ceramic mesh. The filtered water can be consumed immediately, and the pumps are small, light, and easily packed. Filters are the most expensive option, but they are easy to maintain, and work reliably for many years. Outdoor equipment stores carry several models, that vary considerably in price.

Iodine: Water can be treated with iodine, which comes in tablet form or as a solution called *tincture of iodine*. Add 4 drops of iodine tincture per litre of water or 8 drops per litre if the water is murky or warm. Shake well. Allow ONE HOUR for the iodine to purify the water before drinking. Iodine is effective and inexpensive, but it leaves a poor taste, and repeated use can cause health problems.

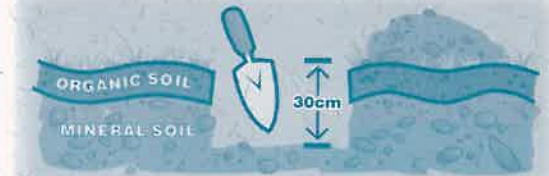


DISPOSAL OF CAMP WASTE



Streams and lakes should never be used as a bath, toilet, or sink! There are several ways to keep a clean camp without polluting local water.

Water used for dishes and personal hygiene should be properly disposed of in a sumphole. A sumphole is a small pit you dig, for the disposal of liquid waste (see illustration below).



- ◆ **The sumphole should be at least 100 metres from a river, stream or lake.** This intervening distance will allow water to be absorbed and filtered through the soil before draining back into the water source.
- ◆ Dig the sumphole 25 to 30 cm deep, removing the sod intact, and piling the dirt to the side of the hole.
- ◆ Wash dishes after each meal in a pot or basin with hot water. Soap is not necessary, and even "biodegradable" soap may take too long to degrade. Use sand or gravel to scrub dishes clean.
- ◆ After final use of the sumphole, replace the soil in the hole and tamp the sod lightly back into place.

Try to create as little waste (food, garbage, dirty water) as possible. Planning ahead is necessary to achieve this. In order to minimize waste, careful selection of equipment, food and containers is necessary. Carry out even biodegradable items as some of these can take months to degrade.

Remember the most important and basic rule of the wilderness code:

If you pack it in - pack it out.

DISPOSAL OF HUMAN WASTE



THIS IS THE MOST IMPORTANT SANITATION TECHNIQUE OF THEM ALL! Improper disposal of human waste is a serious threat to your own health, and the health of others.

Depending on your degree of commitment to the ideal of preserving the outdoors in its natural state, you may or may not be willing to carry out human waste from your campsite, hike, river trip, etc. Some dedicated outdoor recreationists do pack out their own waste, using sealed plastic or foil bags. If this method of disposal is not acceptable, then follow these basic rules:

- ◆ NEVER urinate or defecate directly into the water, either in camp or when traveling.
- ◆ If a toilet facility is provided, use it.

If there are no existing toilet facilities, then build your own. No one should go into the backcountry without knowing how to bury human waste. Here are some guidelines for making a cat-hole (latrine).

- ◆ **Make the cat-hole at least 100 metres from open water.** River travelers camping on small islands should locate the cat-hole in the central part of the island using the methods described below.
- ◆ Dig a small hole 10 - 15 cm deep, removing the sod intact. Make sure the depth does not exceed the dark coloured, biologically active layer of top soil where decomposition will occur. Soil removed from the cat-hole should be placed nearby in a pile.
- ◆ After each use, spread a light layer of soil in the cat-hole.
- ◆ After final use, fill the hole with the remaining loose soil and tamp the sod lightly back into place.
- ◆ Vary the *size* of the cat-hole, *not the depth*, according to the number of people using it.
- ◆ One latrine per group is suggested rather than one latrine per person. Toilet paper should be used only if absolutely necessary. Dispose of

toilet paper and feminine hygiene products by burning or packing out.

- ◆ It is difficult to make a cat-hole in frozen or snow-covered ground. However, whenever possible dig down to the soil surface and chop up the top soil in blocks to a depth of up to 15 cm. Replace the chips of soil when completed.
- ◆ In areas of high snowfall where digging down to the top soil is impractical, carry plastic bags with which to carry out human waste.

WHAT TO DO IF YOU GET SICK DURING OR AFTER YOUR TRIP



If symptoms are very mild you may feel able to complete your outdoor trip as planned, but be sure to see a doctor on your return. Be doubly careful about sanitation to avoid contaminating other water.

If the symptoms resemble any of those described earlier **BE SURE** to tell your doctor that you have recently made a trip into the back country and that there is a possibility that you contracted an intestinal infection from drinking polluted water.

Be sure to report this to the land manager for the area you were visiting.

YOUR NO-TRACE CAMPING EXPERIENCE



Campsite selection

- ◆ Camp more than 60 metres from water.
- ◆ Camp off the trail, but don't trample live vegetation. Instead, camp on needles, bare spots, snow, or gravel.

Garbage

- ◆ Pack out ALL garbage.

Toilet

- ◆ Use facility if one is provided.
- ◆ Defecate in hole **100 metres** away from water.
- ◆ Burn or carry out toilet paper.

Washing

- ◆ Wash body, clothes, and dishes **100 metres** away from water, and dispose of waste-water in a sumphole.

When leaving camp

- ◆ Pick up any litter.
- ◆ Do something extra to restore the site, such as packing out the garbage of others.
- ◆ Fill in your sumphole and cat-hole.

EQUIPMENT LIST FOR BACK COUNTRY SANITATION



One of the following means of water treatment:

- ◆ Stove and pot (for boiling water).
- ◆ Water filtration system.
- ◆ Iodine in 2.5% tincture or tablet form.

Other sanitation equipment:

- ◆ Water containers (including a large collapsible container for around camp).
- ◆ Trowel, short spade or ice axe to dig sumphole and cat-hole.
- ◆ Matches for burning toilet paper.
- ◆ Aluminum pouches and/or plastic sealable bags for carrying out waste.

FURTHER READING



Books:

- ◆ Soft Paths. Hampton, B. and D. Cole.
- ◆ How to Shit in the Woods. Meyer, K.

To order more copies of this and other brochures:

- ◆ Outdoor Recreation Council of B.C.:
- Phone: (604) 737-3058 Fax: (604) 737-3666
Email: orc@intergate.bc.ca

Equipment information:


MOUNTAIN EQUIPMENT CO-OP
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