

July 2014

Emergency Preparedness Pointers

Cool, Clear, Water

Water is an essential resource whether it is for surviving a disaster or enjoying a camping trip. Personal water supplies could run out in either situation. Idaho is fortunate to have many rivers, streams and lakes, but is this water safe to drink? Health agencies and survival experts agree that all surface water should be treated before it is considered safe for consumption. Even though the water may look clear, it could be contaminated with a variety of microorganisms or chemicals that will make a person sick. The Environmental Protection Agency (EPA) provides a web-based resource that catalogs water quality. The Idaho Water Assessment Report is available at: http://ofmpub.epa.gov/waters10/attains_state.control?p_state=ID#total_assessed_waters



What's Wrong With The Water?



In nature, water comes in contact with many things, and the further it is from its source, the better the chance it will contain something harmful. The Centers for Disease Control (CDC) state that the following pathogens could be hiding in any untreated or poorly treated water.

Pathogen	Cause	Health Effect
Protozoa - <i>Cryptosporidium</i> <i>Giardia intestinalis</i>	Human and animal fecal waste	Gastrointestinal illness (i.e. diarrhea, vomiting, cramps)
Bacteria - <i>Salmonella</i> , <i>E. coli</i> , <i>Campylobacter</i> , <i>Shigella</i> ,	Human and animal fecal waste	Gastrointestinal illness (i.e. diarrhea, vomiting, cramps)
Viruses - <i>enterovirus</i> , <i>hepatitis A</i> , <i>norovirus</i> , <i>rotavirus</i>	Human and animal fecal waste	Gastrointestinal illness (i.e. diarrhea, vomiting, cramps) hepatitis, meningitis

Water near developed areas runs the risk of even more contaminants. The EPA points out that these potential additional sources include: chemical fertilizers, pesticides, improperly disposed of household chemicals, automobile fluids, road deicing/anti-icing agents, sediments, metals and vehicle emissions. It is vital that water is treated before it is consumed. Whether a person is trying to survive in the backcountry or replenish supplies after a disaster, learning proper water treatment techniques can be a life-saving skill.



Treat It Before You Drink It



The first step in water treatment should be to strain the water through a screen or cloth to remove any large particles. After that is done, the CDC suggests using one or more of the following methods.

- ▶ **Boiling** - Keeping water at a rolling boil for one minute is highly effective against protozoa, bacteria, and viruses. At elevations above 6500 feet, boil for three minutes. Let the water cool before drinking.
- ▶ **Filtration** - Use a NSF Standard 53 or 58 rated "cyst reduction removal" filter with an absolute pore size of 0.3 microns or less. These filters will be highly effective against protozoa, moderately effective against bacteria and not effective against viruses. These may also reduce other chemical contaminants.
- ▶ **Disinfection** - This may be accomplished by using chlorine or iodine. Iodine tablets should be used according to the manufacturer's instructions. Chlorine disinfection can be done with two drops of household bleach per quart of water. Stir the mixture well and let stand for 30 minutes before drinking. Disinfection is highly effective against viruses and bacteria. It is moderately effective against Giardia and not effective against Cryptosporidium.

When boiling water is not an option, a combination of filtration and disinfection is recommended.

For more information on the emergency treatment of drinking water at the point of use, refer to this World Health Organization brochure: https://adacounty.id.gov/Portals/Accem/Doc/PDF/water_treatment_WHO.pdf



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