

ADA COUNTY EMERGENCY MANAGEMENT EMERGENCY PREPAREDNESS POINTER



July 2018

Cool, Clear, Water

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 Idaho Department of Environmental Quality (DEQ) Water Quality Division provides information about the state's surface, ground, and drinking water resources. You can view this information at www.deq.idaho.gov/water-quality/



What's Wrong With the Water?

The Centers for Disease Control (CDC) states 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 (diarrhea, vomiting, cramps)
Bacteria - <i>Salmonella</i> , <i>E. coli</i> , <i>Campylobacter</i> , <i>Chigella</i>	Human and animal fecal waste	Gastrointestinal illness (diarrhea, vomiting, cramps)
Viruses - <i>enterovirus</i> , <i>hepatitis A</i> , <i>norovirus</i> , <i>rotavirus</i>	Human and animal fecal waste	Gastrointestinal illness (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 ft., 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.
- ◆ **Disinfection** - This may be accomplished by using chlorine or iodine. Iodine tablets should be used according to the manufacturers 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 visit the [EPA website](http://www.epa.gov).

