

Adventurer's MK

WATER

INTRODUCTION

Water is one of your most urgent needs in a survival situation. You can't live long without it, especially in hot areas where you lose water rapidly through perspiration. Even in cold areas, you need a minimum of 2 litres of water each day to maintain efficiency. When out in the wilderness, it is not always possible to have a ready-made water supply close at hand, therefore knowing where to look or generate your own drinking water is a skill that could save your life or the lives of others.

We have to be careful of the water we drink – even water in remote wilderness areas can be unsafe. Drinking water can contain hazards that are either natural or a result of pollution by human activity. Water is essential to survival. If there is no safe drinking water available to you, you will have to find your own. No matter where you have collected your water in the wilderness, bring water to a rolling boil, then cool, before drinking.

Finding drinking water

We have to be careful of the water we drink – even water in remote wilderness areas can be unsafe. Drinking water can contain hazards that are either natural or a result of pollution by human activity. Water is essential to survival. If there is no safe drinking water available to you, you will have to find your own.

To find safe drinking water, collect rainwater or clean ground water (from a spring or a fast moving stream) in order to avoid large hazards like silt and debris. For other sources of ground water like lakes, ponds and swamps, you may need to filter out visible hazards with a cloth or screen. Brown or green water can be somewhat cleaned by adding a small amount of white ash from a fire to the water, stirring or gently shaking for 5 minutes, allowing it to settle, then filtering through a cloth. This step doesn't purify the water, but will make it easier and cleaner for the purifying process. No matter how clean water looks, there could be microscopic hazards as well. These smallest hazards are called "pathogens" (disease-causing micro-organisms)

Solar Still

You can make a small solar still out of tarp and a water collection vessel in the middle of the pit. Dig a hole, and place grass, leaves or any other moisture-containing things in the bottom and secure a collection vessel above the mass of vegetation but remaining below ground level, and cover the hole with clear plastic and secure it in place. You will need to put a rock in the centre of the tarp so that it angles downwards creating a dip above your collection vessel.

The idea behind the solar still is that, as the sun shines through the plastic cover, it will cause moisture to evaporate from the hole and the things in it. The water vapour will go upwards, hit the tarp, and cool down. This will create a greenhouse effect and cause condensation to form on the bottom of the tarp. The drops of condensation will drip down into the collection vessel.

Dew Collecting

You can simply press a piece of absorbent material onto the ground in the morning or at night when there is lots of dew present. Then wring out your cloth into your water filter bottle.

Plant Condensation Bags

This is a good option for very dry climates where there isn't any dew in the morning. Tie a plastic bag around a leafy tree branch. Leave the bag there all day. This works in the same way as the solar still and the leaves will release their water into the bag. Collect the water at night.

Purify Water

Always purify your water from outdoor or unknown sources even if the water itself looks clean. Un-purified water can carry a host of contaminants which causes a variety of side effects – the main ones being

- Giardia Intestinalis
- Cryptosporidium
- Salmonella
- E.coli
- Shigella
- Enterovirus
- Hepatitis A

Sickness and Diarrhoea both of which can KILL YOU as they will cause your body to further dehydrate and also limit your mobility.

Water found near urban and agricultural environments also carry the risk of contaminants from:

- Pesticides
- Herbicides
- Faeces
- Chemical run offs and many, many more.

Methods of purifying water

Boiling

- This is the best method of purifying water if you do not carry a water purification kit. Simply boil the water for a minimum of 20 minutes.

Water Filter

- There are a few different ways to build a water filter, which work on the same basic principle: The water goes through various layers of grass, gravel/sand, and you charcoal. During each stage, impurities in the water are removed. It is really important that you use charcoal as this is what will absorb the harmful bacteria, protozoa, and viruses. The other materials are more for filtering out big pieces of dirt.

Bleach

- In urban emergency situations where you are without clean water, bleach will likely be the best way to purify water. Although bleach will kill most disease causing microorganisms, it will not remove chemical contaminants. Let the water and bleach sit for 30 minutes. The water should smell of chlorine. If it doesn't then repeat the dosage and let it stand for a further 15 minutes.

Using the ground to filter water

- With this method, you are digging a well about 2 feet from the water source like a pond. You will have to dig DEEP until you hit water, and keep digging. The deeper you go, the cleaner the water will be. The idea is that the ground will filter out most of the contaminants which are at the surface of the water or in the water source.

Boiling with stones

- In an emergency the camper may want to boil water to either sterilise it to some degree or to cook food, but have no water-holding vessel available. A shallow hole can be scraped in the ground and lined with a groundsheet, newspaper (if it is available), bark, or any material in fact that will hold liquid. Build a hot fire and heat a number of small stones in it. Fill the lined hole with water and when the stones are almost red hot lift them from the fire one at a time with a pair of improvised bush tongs and put them gently into the water-filled hole.

If the operation is carried out carefully the stones will not burn the cloth, paper or bark and a litre or slightly more of water can be brought to the boil in a few minutes. The water can be maintained at the boil by placing new stones in the water as the ones that have lost their heat are removed.

Purification Tablets

- Add water to a water bottle and add treatment tablets according to directions. Set aside and let it stand for the indicated time (usually 30 minutes).

Water Purification Filter

- An alternative to boiling is a water filter and purifier system. These mechanical and chemical devices filter and clean drinking water. Each water filter/purifier is designed to eliminate up to a certain size of hazard (stated by the manufacturer) – some systems require the use of iodine or other chemicals to make water completely safe. All filters have limits in the amount of water that can be processed during a period of time, and in the lifetime of the parts.