

Presentation Outline: Surviving Without Running Water

Introduction:

In America, and the Flathead Valley especially, we really take water for granted (especially clean drinking water)...but water is absolutely essential to survive. Tonight we will talk about two main functions of water for survival: hydration and hygiene. Doug will begin by discussing the different methods of purifying water for consumption; Chelsey will discuss storing and conserving water for personal hygiene and sanitation.

Doug's presentation: Purifying & Filtering Water

See [Water Purifying & Filtering Chart](#).

Chelsey's presentation: How to Survive at Home Without Running Water

I want to begin by encouraging you to have water storage available and on hand should an emergency arise. I also want to teach you how to use your limited water wisely in those circumstances.

Storing Water:

- 1) Always have drinking water on hand in case you cannot gather water for unseen reasons
 - a) Ideally, store at least 72 hours worth of clean drinking water for the entire family, 1 gallon per person per day + a few extra gallons for dishes.
 - b) Store it in PETE (#1) plastic juice bottles for durability, no bigger than 1.5 gallons per bottle to limit contamination.
 - c) Bleach is optional. Instead, check the bottles every few months and wash and replace the water yearly. Other alternatives: silver, chlorine dioxide
- 2) Storing unfiltered water for general cleaning, waste disposal etc
 - a) Plain water can be stored in a large drum, an outdoor water barrel or stackable 5 gallon buckets. Keep it covered to avoid insect larva and debris!
 - b) Check more frequently for algae growth etc, wash them well and replace the water as needed.
 - c) Some sources recommend to have as much as 10 gallons of general purpose water per person per day. Our family of four used no more than 100 gallons total in a week

Conserving Water:

Physically hauling water is such difficult labor. You want to use as little as possible to perform your daily tasks.

- 1) Priorities: Clean water to drink and for first aid and to brush teeth, water for waste disposal, bathing, cooking, doing dishes, laundry, watering plants, cleaning the house.
- 2) Sanitize water using passive methods like putting water bottles in sunlight, or gravity filter. You can also always boil water first thing and let it cool.
- 3) Hot water for daily use:
 - a) You'll need a heat source, a large pot, and a pumpable hot pot or an insulated thermos with a spigot. One in the kitchen, one in the bathroom.

- b) First thing, fill a large pot with water and heat it up. If you need to sanitize your water bring it to a boil, otherwise almost to a boil is fine.
- c) Fill your insulated containers: Use this water for dish washing, teeth brushing, hand washing, sponge bathing, anything you need warm water for through the day
- d) Refill them as needed...I filled them first thing in the morning, after I did dishes and late afternoon.

Waste disposal:

Composting waste is a way to use less water, or to take care of human waste in a responsible way without a traditional septic system available. See also [Homemade Composting Toilet Setup](#) (pdf file).

- 1) Do NOT simply seal your waste in plastic garbage bags...it becomes a toxic biological hazard! The microbes that safely decompose human waste require oxygen to perform. This is KEY
- 2) You can purchase composting toilets...though they are expensive. Here is our "poor man's" version (see handout)
- 3) You'll need two buckets, with handles and lids, and two camp toilet seats, also a good scrub brush and rubber gloves
- 4) Designate one bucket to liquid waste and one to solid waste. It is OK if some liquid occasionally gets into the "poo bucket"
- 5) Liquid waste bucket.....
 - Fill a 5 gallon bucket 1/3 of the way full with water or ½ of the way with snow. Empty morning and night, clean lightly every time you dump it and sanitize it completely twice a week.
 - Do not put toilet paper in the liquid waste bucket. Put it in a waste basket or in the solid waste bucket instead.
 - Some fancier composting toilets are made to feed the liquid directly outside rather than hauling the water so frequently. In warmer weather and in the right place you can simply go outside if you wish.
 - Lightly clean the liquid waste bucket every time you empty it. Give it a good sanitizing clean at least twice a week.
- 6) Solid waste bucket.....
 - Put dry organic material into the bottom of the solid waste bucket ...Chainsaw shavings has exactly the right size particle and texture, but you can also use dry crumbled moss, pine needles, mulched dead wood and bark, pine shavings from a pet store. ...powdered organic material like flour covers too well. It does not work because it does not allow enough air.
 - Keep a bucket full of this dry organic material in the bathroom. As you use the bucket sprinkle the material over your waste. The bucket should not smell. If it does, just add more dry organic material. It is fine to use regular toilet paper, though not scented.
 - Empty the bucket when it's almost full. About every 3 weeks for a family of four. Many people continue to compost it into "humanure" which can be used as fertilizer for trees or animal feed... If you do not wish to compost it you can bury it lightly. However you choose to dispose of it, be sure to keep it away from flies!
 - Sanitize the solid waste bucket every time you empty it.
- 7) To sanitize the buckets take them outside. Use boiling hot water and an all natural bathroom cleaner (Some containing thyme oil work well) and a scrub brush. Occasionally scrub the buckets with baking soda and essential oil to limit odors. Clean the seats weekly or as you prefer.

Bathing:

- 1) Thoroughly bathe twice a week, maybe less, depending on your level of activity and unique body chemistry.
- 2) Use natural, biodegradable soap for the environment and to help your skin and hair transition better to less frequent baths
- 3) You need a heat source, a large pot with a handle, a little pot with a long handle, two or three 5 gallon buckets and a bath tub or large storage tub, about 2 gallons of water per person..it is possible to bathe a family of four with only 10 gallons of water.
- 4) Heat the large pot of water to almost to boiling, then pour some into a bucket. Add cold water to this to adjust the temperature (leaving a bit hotter than comfortable, because it loses heat fast) When you've emptied your big pot into the plastic buckets, heat another as a backup.
- 5) The person who uses the least amount of water goes first. Here is Doug's method for "tabo bathing" he learned in the Philippines:
 - a) Use a small container to scoop water from a bucket (I prefer one with a handle, that can hold at least a pint, and no more than a quart.)
 - b) While standing over a drainage area, pour the water onto your body
 - c) I only use about a pint in the beginning; start at your head, and wipe the water all over
 - d) Once you're wet, suds up!
 - e) Rinse by pouring water over yourself, start at your head so the water continues to rinse on the way down. You may need to repeat a few times to get fully rinsed.
 - f) Take sponge baths in-between with a wash cloth to clean any parts that require extra care. Brushing your hair frequently and using "dry shampoo" or baking soda can help with greasiness.

Cooking:

There are ways to conserve water in how you cook

- 1) Steam veggies, boil less, bake often
- 2) If you do use water to boil noodles or potatoes re-use the water in bread, soup etc.
- 3) Make "one pot" meals to avoid wasting water on too many dishes

Laundry:

- 1) You may keep a separate set of clothes or use coveralls for outdoor chores so your indoor clothes stay clean longer.
- 2) In a survival situation keeping your undergarments clean is more essential than cleaning the outer clothing. Wash all your underwear, socks, wash rags and a couple towels regularly.
- 3) Hand crank washers such as the "wonder wash" use little water and are sufficient to wash a full load of underwear, and one or two towels or pairs of jeans at a time. It uses about 10 gallons per load. Not durable for long term use. Perhaps there are more durable brands or one could be home made out of a good plastic drum and a good rubber seal.
- 4) I have also seen instructions for a plunger washer which involves a toilet plunger with holes cut in it and a large bucket with a hole in the lid. Then there is always the wash board method.

- 5) Wring out your laundry well to help it dry quickly.
- 6) If you needed to wash cloth diapers like I do now, expect to do 2-3 more loads in a week and wash each one twice.

General cleaning water.

- 1) If you wish, use a different pot to heat non-sanitized water.
- 2) Utilize greywater...used water that is still relatively clean... I would use my leftover laundry water or bath water to fill and clean the "toilets" Note: greywater should be treated as "blackwater" after 24 hours, use it or dump it before then.

Watering plants and animals:

- c) Dishwater is fine to water plants, follow up with rainbarrel water to avoid building up a film. (note: this may attract bears, use your best judgement)
- d) Water usage goes way up with animals. Be certain they're worth it! However, you do not need to sterilize their water.