

So Many
Options!!



RAIN WATER

Use it or
Lose it!



Questions or need more information?

Contact the Whidbey Island Conservation
District at 1-888-678-4922 or 360-678-4708

www.whidbeycd.org

Rainwater is a valuable (and FREE)
resource – collecting it for
summer watering is a great way
to save money,
protect our drinking water supply,
and have healthy plants!

WHY COLLECT RAINWATER?



Preserve drinking water supply



Nearly 75% of Island County's population gets their drinking water from a well. The more our population increases, the greater the impact on our ground water resources. By using rainwater for irrigation and other non-consumptive uses, you'll preserve ground water for the future.

Residential irrigation and other outdoor uses can account for up to 40% of water consumption.

Water conservation measures, such as collecting rainwater and more efficient watering practices, should be considered to reduce the demand on your personal well or municipal and community water systems. Other ways to reduce your yard's water consumption are to use native and other drought-tolerant plants, and limiting the amount of space devoted to thirsty lawn grass.



Reduce stormwater runoff

By collecting and storing rainwater for later use, you reduce stormwater runoff from your roof which can pick up harmful pollutants and carry them to your local stream and Puget Sound.



Better for plants

Rainwater is un-treated, oxygenated, pH neutral, and naturally free of chemicals. Your plants will love it!



Saves money!

Rainwater is FREE, minus some one-time set up costs for your collection system. Plus, it saves money on utility bills and may conserve energy/electricity to pump well water.



**Look inside
for answers
about:**

HOW MUCH RAIN CAN I COLLECT?
Rain barrels vs. cisterns

USING YOUR COLLECTED RAINWATER
How clean is the water?

HEALTH & SAFETY TIPS

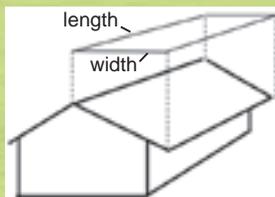
HOW MUCH RAIN CAN I COLLECT?

You are really only limited by the size of your rain barrel(s) or cistern and the roof of your home or existing out-building. The more storage capacity you have, the more you can collect!

Even on the driest parts of our islands, collecting rain from ½ of the roof of a small home could fill more than 75 rain barrels (over 4,000 gallons) in a year. Maximize your capacity to take advantage of this great resource!

How to calculate your rainwater collection volume:

Measure square feet (sf) of catchment area



Length x width of contributing roof area = sf of catchment area

(Note: you do not need to take into account the pitch, or slant, of your roof, but be sure to only include the portion of your roof that is emptying into rain barrels.)

Plug your catchment area number into the formula below.

Square feet (sf) of catchment area x efficiency (0.8 for composite roofing) OR (0.9 for metal)
x rainfall in feet (inches/12)
x 7.48 conversion factor
= gallons of rainwater available annually

AVERAGE ANNUAL RAINFALL

NOTE: These numbers are estimates based on historic rainfall data collected by Washington State University. Rainfall amounts vary from year to year. Further investigation is recommended.
www.island.wsu.edu/weather/weather.htm



Cisterns allow you to capture the THOUSANDS of gallons of water running off your roof annually!

Think about all the things you use water for in the summer and how much you could replace with collected rainwater. This (and your budget, of course) will help you determine how many barrels, or if a cistern is an option. The average cost for rain barrels and cisterns is about \$1/gallon of capacity (i.e. 1,500 gallon cistern costs about \$1,500).

Both cisterns and rain barrels come in many shapes, sizes, and colors...see the insert for where to find them locally. Cisterns can be above ground or below ground. Both may require a pumping system.

USING YOUR COLLECTED RAINWATER

There are several things to consider when setting up your collection system and deciding where and how to use the collected water.

- Tightly cover any barrels or cisterns to keep debris, animals, and children from falling in.
- Locate rain barrels or cistern as close to where you plan to use it as possible.
- Put gravity to work for you! Raise barrels up on cinder blocks, this will also help with hose and bucket access to spigot. Locate the cistern at the highest possible point so you'll have as much downhill flow as possible.
- Irrigation, such as a drip system or soaker hose, can be used but may require a pump because gravity alone may not provide enough pressure.
- Collected rainwater could be beneficially re-used for some non-potable indoor applications, such as cold water clothes washing and toilet flushing. State and local agencies are currently developing regulations for the safe use of this water. Contact Island County Planning and Community Development or the town or city you live in to find out how to get approval.



How clean is the water?

Rainwater is great for plants, but definitely not clean enough for drinking. Birds and animals may deposit feces on the roof, so water from the roof may contain bacteria and other disease-causing organisms found in animal waste.



Many wood (cedar) shingles or shakes are treated against rot, which may make them toxic, so avoid using any roof runoff from a treated roof for vegetable watering purposes. Some asphalt shingle roofs may also be treated, so be careful.

Moss-killing methods, from zinc strips to zinc or copper-based moss killer and copper gutters can leach into roof runoff, potentially affecting the health of the plants.

Watering Your Vegetable Garden

Rainwater is great for watering trees, lawns, and flowers. However, if you are using this water on your vegetable garden, be safety conscious. Use it with drip, furrow, or trickle irrigation, and do not use it for overhead irrigation, particularly with leafy greens. Read "How clean is the water?" to better understand when your rainwater might pose a special risk to vegetable gardening. Always thoroughly wash vegetables with fresh tap water before consuming.

To further reduce the risk of contamination you can divert the "First Flush." The "first flush," or first few minutes of a rain storm, can be diverted away from your collection system. Most literature cites 5-10 gallons of water per 1,000 square feet of roof area should be diverted. This can be accomplished through a manual valve that you open and close, or a diverter tank or receptacle that is plumbed into the line from the downspout prior to the tank or barrel. Diverting the first flush is especially important if a moss removal or other treatment was recently applied to the roof.

Rain barrels vs. cisterns

Long stretches of dry summer days make for thirsty plants. High-water-use plants and lawns can require THOUSANDS of gallons of water each year. Trees and shrubs (especially natives) require less water, but you still might use SEVERAL HUNDRED gallons to keep them thriving.

Depending on the size of your garden (# of plants), one barrel full of water can be depleted quickly, and might not be refilled again over a dry summer.

HEALTH & SAFETY TIPS THERE ARE SEVERAL RULES OF THUMB WHEN IT COMES TO RAINWATER COLLECTION:

- **Permits & Modifications** - The size and complexity of your system may require a building or plumbing permit or modification approval from your local city, town, or county. For example:
 - Above-ground cisterns 5,000 gallons or larger
 - Irrigation systems or excessive pipe runs
 Electrical permits may be required for systems with a permanent pump connected to a 110 volt system, contact Labor & Industries (360-416-3015).

- **DO NOT drink rain water** - Island County Health Department clearly states that collected rainwater is not fit for human consumption and should be used only for non-potable uses such as:
 1. Irrigation – lawn and garden
 2. Car washing
 3. Power washing
 4. General non-potable outdoor usage
 5. House plants

- **Secure the barrel(s) to the house** - When full, a 50 gallon rain barrel can weigh well over 400 pounds. You'll want to make sure they are sitting on top of a strong, safe base, like cinder blocks. Also, make sure that they can't be easily toppled over. One safety precaution is to strap it to the house with metal straps, similar to what you do to make your hot water heater earthquake-proof.

- **Always direct the overflow runoff away from your house foundation!** Use a splash block under the overflow pipe or hose, or route it to a vegetated area.
- **Be sure to use window screening** at the opening to prevent mosquitoes from getting in and out.