RAINWATER HARVESTING

Collect it Today, Use it Tomorrow!

Rainwater:

- Harvesting has been carried out by humans for over 5,000 years.
- Is one of the purest sources of water.
- Falls for free!
- Can be used for potable and non-potable use.
- Can green your landscape and lessen your environmental footprint.
- Promotes self-sufficiency and helps conserve existing water supplies.

Island-wide demand for clean water is growing while supply diminishes.

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Water, too precious to waste.

Uses of collected rainwater

Rainwater can be used for nearly any purpose that requires water:

- **Landscape irrigation and outdoor use at home**
- **Stormwater control**
- **Livestock watering**
- **Toilet flushing**
- **Potable water source (with appropriate filtration and design)**
- **Fire suppression and emergency preparedness**

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real estate foundation BRITISH COLUMBIA

ALBERNI-CLAYOQUOT REGIONAL DISTRICT

ACRD What's on your fork?

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Rainwater harvesting is an ancient method of collecting rainwater and storing it for later use.

Traditionally, this involves harvesting rain from a roof, although in Asia it is common to harvest surface water. Rain collected from a roof is typically sent to the gutters, which then directs the water into a network of piping eventually leading to a cistern or other storage devices.

Benefits of rainwater collection and storage

- **Reduces storm water runoff from homes and businesses and reduces wear and tear on taxpayer funded infrastructure (ditches and storm pipe).**
- **Reduces rainwater run off and increases groundwater infiltration by storing and slowly releasing into the soil.**
- **Flexible and modular options exist, allowing expansion, reconfiguration, and even relocation. Systems can easily be retrofitted to an existing structure.**
- **Conserves ground water supplies by reducing peak summer water demands.**
- **Rainwater is the perfect temperature for plants when stored in a tank.**
- **The highest quality water for your landscape: Community water systems use disinfectants which have a negative effect on soil organisms. Rainwater is the best source of water for new seedlings and any landscape application.**
- **In Port Alberni an average size roof (2,000 ft^2) will have over 93,000 US gallons of rainfall collection potential in an average rainfall year.**

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Types of rainwater harvesting

1 ACTIVE

Collecting rainwater from rooftops and storing the water within barrels, underground tanks or lined ponds.

Key components of an active system:

- **Roof surface:** A wide variety of roof surfaces can work well with a rainwater harvesting strategy. Metal roofs offer the highest quality water harvesting potential with cedar shake being the lowest quality choice.
- **Gutters:** Most gutters work well in a rainwater harvesting system, but ensure the gutter has been sized appropriately to handle potential flows from the roof.
- **Downspouts and conveyance pipe:** New conveyance pipe, which is potable rated, is incorporated into the system to transport water from the gutter and downspout to the cistern or storage vessel.
- **Filtration:** A critical component that removes coarse and finer materials before the water enters the cistern. Proper filtration ensures good storage and quality of your water.
- **Storage:** Choices range from small, 50 gallon rain barrels to those over 10,000 gallons and made from polyethylene, concrete, fiberglass and other materials.
- Often a pump is used to deliver the stored water to its destination.

2 PASSIVE

The practice of intercepting and storing water directly in the soil rather than passing it through a storage tank first. Passive structures are porous earthen vessels formed by making depressions in the soil - low tech and no moving parts!

Filter facts

Rainwater collected from roofs contains a wide range of dust, particulates, and other contaminants. The best way to ensure that your water is kept as clean as possible is to provide filtration prior to the water entering the cistern. For drip irrigation, filter your rainwater down to at least 200 microns. Options include:

- Primary debris filters, which remove large debris such as leaves.
- Self cleaning Vortex type pre-filters, which should be inspected annually.
- Tank mounted filters, such as a basket filter which sits inside the cistern lid with a 40 micron 'Tuffy' filter for improved performance.