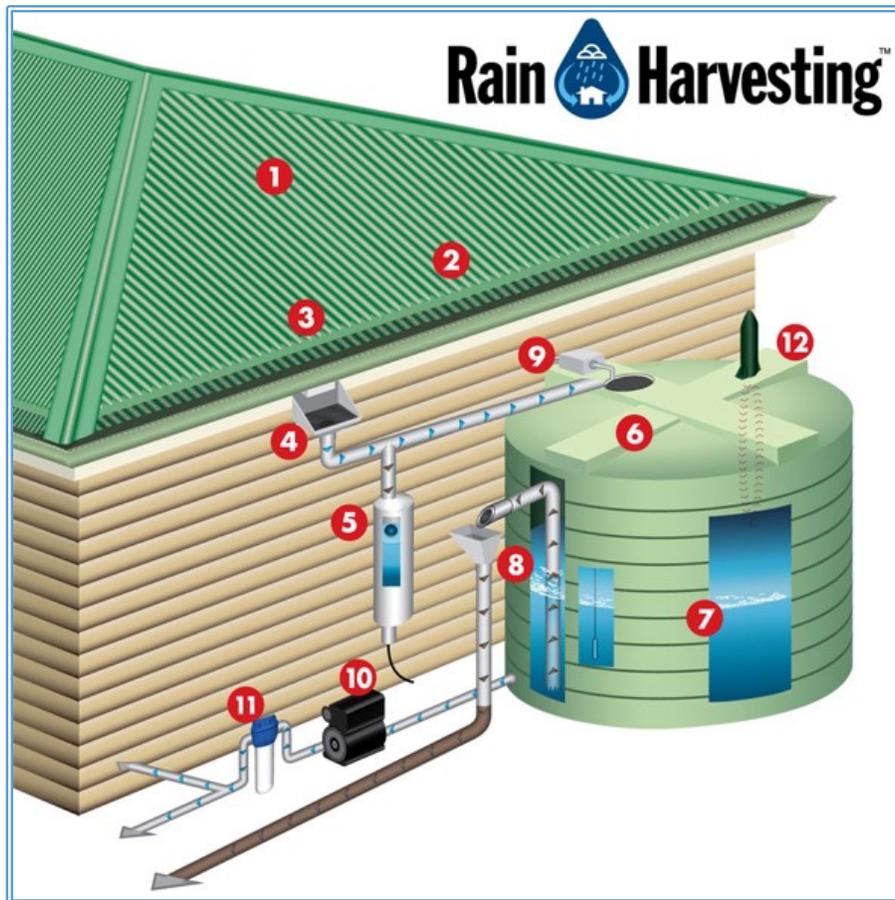


# RAINWATER HARVESTING WORKSHOP

May 25, 2013

## FINAL REPORT



Prepared by:



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Photos by John Borst and Bob Burgess

## RAINWATER HARVESTING WORKSHOP

### 1. Introduction

All of our freshwater on Salt Spring Island relies on rainfall to recharge our lakes, streams and groundwater. Community concerns over limits to supply, water quality and the likely effects of climate change have prompted more attention on rainwater as a supplementary source for residents and businesses on the island for both irrigation and potable use in residences and businesses.

Rainwater harvesting is the practice of collecting rainwater for beneficial use. Usually this refers to collection of rainwater from a rooftop and storing it in tanks and cisterns for later use in or near the point of collection. The use of rain barrels is a simple form of rainwater harvesting, although larger storage systems are required to serve most purposes.

In the Gulf Islands, where reliable surface water or groundwater supplies are not always available, several homes and businesses rely on rainwater harvesting as their only source of water. Rainwater harvesting is emerging as one of many sustainable development strategies to reduce the ecological impacts of development.



Organised as an open house, the Rainwater Harvesting workshop was one of many events around the province to celebrate Drinking Water Week in BC, designated by the BC Water and Waste Association from May 20 to 26 in 2013.

## **2. Applications and Benefits of Rainwater Harvesting** (from CRD website)

Harvested rainwater may be used for virtually any purpose, provided suitable collection, storage and treatment for the desired use. Although rainwater may be treated for use as drinking water, the most cost-effective applications of rainwater harvesting in areas served by local community water systems are usually outdoor uses such as irrigation or vehicle washing, and indoor uses that do not require potable water.

Rainwater used outdoors usually needs no treatment, although screens in the collection system are necessary to protect pumps and prevent accumulation of debris in tanks. Fine screens or filters may be required for micro-drip or spray irrigation applications. Screened, untreated rainwater (non-potable water) may also be used for toilets and laundry where buildings are fitted with dedicated non-potable water supply plumbing. Treatment, such as filtration and ultraviolet radiation, is typically required for indoor uses, and may also be required for irrigation of fruits or vegetables.

The collection of rainwater offers many benefits to residential and commercial/industrial users:

- Rainwater harvesting can serve as a supplement to piped water. In times of low water availability, water held in catchments/cisterns may be used for gardening or other non-potable needs.
- Using harvested rainwater contributes to water conservation and reduces water demands.
- Rainwater harvesting can reduce storm drainage load.
- Rainwater harvesting technologies are flexible and can be built to meet almost any requirements. Construction, operation, and maintenance are not labour intensive.
- Some buildings divert rainwater to help with functions such as toilet flushing.

## 2. Workshop Program

Over 60 people attended the SSI Water Council workshop to hear from experts and to see a selection of rainwater system products.

Bob Burgess of The Rainwater Connection opened the presentations with a comprehensive talk about using “sky water” for gardening and indoor potable water use. He acknowledged the rapid growth in the demand for rainwater catchment with local government support and legislation. Bob showed how to calculate the amount of rain falling on a roof and the various components needed to build a catchment system – for both simple and complex designs.



The benefits of collecting rainwater were noted by Bob for those on groundwater wells and on community piped water systems:

- reduced volume of groundwater during summer helps to sustain stream water levels and prevent saltwater intrusion,
- stored rainwater can be used to top up tanks at night,
- reduced peak hour summer demand can delay the need for costly water utility expansion,
- significantly reduces stormwater flow rates in high density areas.

Finally, examples of a broad range of rainwater harvesting systems were shown.

Ken Nentwig, from the newly established Canadian Association for Rainwater Management (CANARM) explained their role in promotion and training for rainwater system installations and maintenance.

The Capital Regional District provided copies of a Discussion Paper on a Cross Connection Control program.

Local suppliers Windsor Plywood and Slegg Lumber were on hand to display samples of a wide range of products for storing, piping, filtering and treating rainwater as well as offering advice to prospective buyers.



Their participation in the workshop demonstrated that rainwater harvesting is a growing business and that most of the necessary components for a rainwater harvesting system are available on Salt Spring Island.

### **3. Survey of Participants**

The feedback from those attending the workshop who completed the evaluation and survey form was generally very positive. Ninety-one percent said that they found the event informative or very/exceptionally informative, seventy-three percent said that they would change their behaviour as a result of this event and some now plan for a rainwater catchment system in the near future.

The presentations were well received and many found the display tables with local product suppliers worthwhile. See Attachment B for details of the survey responses.

June 4, 2013

**SPEAKERS**

**Bob Burgess: The Rainwater Connection**  
***“Design and benefits of rainwater harvesting systems”***

**Bob Burgess** – President of Rainwater Connection, established in 2001 after 30 years’ experience in Community Planning and Housing consulting and residential/commercial development. The company provides design, installation, consulting, and engineered solutions for potable and outdoor rainwater harvesting systems.

He has worked on feasibility studies for the GVRD and the Islands Trust, and demonstrations projects in Vancouver, Tofino and Salt Spring Island. He recently wrote the Rainwater Harvesting Guide for the Regional District of Nanaimo.

**Ken Nentwig** – Ken is Governor, BC jurisdiction, working to promote awareness, education, training and certifications in Rainwater Management. His background is landscape architecture and education, and currently responsible for development of the national training program for CANARM. Ken took early retirement from University of Guelph and recently relocated with his wife to Vancouver Island where he is consulting and teaching for local colleges and industry groups, alongside the CANARM programs.

CANARM’s mission is to provide awareness, education and conduct research on Best Practices for Rainwater and Stormwater management. This includes the safe collection, storage and uses of Rainwater harvesting across Canada.

## SURVEY RESULTS

Over sixty people attended the event and eleven surveys were completed.

1) Were you aware that it's Drinking Water Week in BC?

Yes= 5      No= 6

2) How informative did you find the event you attended?

1 = not informative    2 = OK    3 = informative    4 = very informative    5 = exceptional

OK= 1

Informative= 1

Very informative= 8

Exceptional= 1

3) Will you change your behaviour as a result of attending this event?

Yes= 8

- Importance of water conservation
- Will get rain barrel sooner than planned
- It gave me the tools to change
- Adding rainwater collection to garden infrastructure is now a higher priority
- Preserve more and more cognizant of maintenance of well filters.
- Possibly – live on a lake and use water pump to provide water – would be good used for toilets & watering gardens.
- The technology is more advanced than I thought it was.

No= 2

- I live in a strata
- I am on good piped water and do not garden

4) What did you like about the event?

- Variable presentations, good resources
- Display tables and Bob's Burgess's presentation
- Clarity of presentation
- Bob Burgess's knowledge
- Well set up – very informative. Good to see the equipment / trade show
- Useful, practical information, esp. about water volumes
- Information – equipment available
- Clear visual explanations – knowledgeable speakers
- Bob Burgess knows his stuff
- Displays and Bob Burgess' talk

**Attachment B**  
(continued)

5) Name one area of improvement for future events:

- More storage ideas
- Rain garden information
- Publish schedule of talks on website so people know to come for the beginning
- Types of filter systems. How to maintain for well and collection systems
- More local government involvement

6) Have you heard of BC Water & Waste Association?

Yes= 2

No= 7

7) Do you currently have a rainwater catchment system?

Yes= 3

Capacity:

- 10,000 gallons
- small – 3 x 45 gallon drums. I plan to increase & this workshop helped.

No= 8

- Finding I can start for less than I'd thought
- Strata rules
- I am planning to now.
- I have previously had one in the Okanagan
- If it's economical to install
- Financial incentives such as tax free equipment

8) Where did you hear about this event?

- Windsor Plywood
- Driftwood
- Email from Water Council
- Poster & newspaper
- SSI Water Council
- SSI exchange (3 responses)
- Word of mouth
- Transition email
- Water Council meeting

PROMOTIONAL MATERIAL

The workshop was advertised on the Water Council website, on a poster, in the Gulf Islands Driftwood, Salt Spring Exchange and in two local radio interviews as well as the Public Service Announcement supplied by BCWWA. Notices were also sent to Water Council members and to local community groups. A full page feature was also included in the May 22 issue of the Driftwood.

Poster

Salt Spring Island Exchange Website

REFERENCE DOCUMENTS/WEBSITES

Documents

*Canadian Climate Normals 1971-2000*. National Climate Data and Information Archive, Environment Canada. Accessed at [http://www.climate.weatheroffice.ec.gc.ca/climate\\_normals/index\\_e.html](http://www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html), February 7, 2007

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Hughes-Adams, Ken and Bob Burgess. *Rainwater Availability and Household Water Consumption for Mayne Island*. Islands Trust Fund, 2006. Accessed at <http://www.islandstrust.bc.ca/poi/gwater.cfm>, February 6, 2007

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Regional District of Nanaimo. *Rainwater Harvesting Best Practices Guidebook*. September, 2012  
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Stubbs, Dick. *Rainwater Harvesting on the Gulf Islands – Guide for Regulating the Installation of Rainwater Harvesting Systems – Potable and Non-Potable Systems*. Islands Trust Fund, 2006. Accessed at <http://www.islandstrustfund.bc.ca/initiatives/privateconservation/land-stewardship/rainwater-harvesting.aspx>, February 6, 2007

**Websites**

Salt Spring Island Water Council Society  
<http://www.ssiwatercouncil.com>

BC Water and Waste Association  
<http://www.bcwwa.org>

Capital Regional District Water Services  
<http://www.crd.bc.ca/water>

Vancouver Island Health Authority  
<http://www.viha.ca>

Canadian Association for Rainwater Management  
<http://www.canarm.org>

Windsor Plywood  
<http://www.windsorssi.com>

Slegg Lumber  
<http://www.slegglumber.ca>

Mouat's Trading  
<http://www.mouatstrading.com>

The Rainwater Connection (Bob Burgess)  
<http://www.rainwaterconnection.com>