

# WaterSource

Spring 2009

## Water Management Plan

In 2008, Urban Systems Ltd. worked with the City of Castlegar to create its Water Management Plan, which provides a comprehensive assessment of the City's water source and treatment and distribution systems. This study was commissioned to help identify the short-, medium- and long-term capital improvements necessary for reliable water provision. Recommendations arising from the plan

were developed with a focus on water conservation and fiscal sustainability, which are essential to maintaining a high level of service for safe, reliable, and affordable drinking water for City customers.

Among other things, the plan recommends infrastructure upgrades, expanded water metering, and the development of a source protection plan.

To view a copy of the Water



Management Plan, visit the City of Castlegar website at [www.castlegar.ca](http://www.castlegar.ca) and look under Notices. ■

You're invited!

## WATER FAIR

Saturday, May 2nd  
10 am – 2 pm

Castlegar Community Complex

It's a day to celebrate water! The City of Castlegar encourages you to come and view the displays and ask any questions you might have about water conservation. The fair features information about the City's water system and proposed City works, and also the following:

- Rain barrels
- Water-conscious turf management
- Water metering
- Leak detection
- Xeriscaping
- Children's water education.

Landscape architect Eric Clough will host a xeriscaping workshop. Additionally, local retailers have been invited to display water-conscious products they carry. Residents who have pre-purchased their rain barrels can pick them up at the event.

The City of Castlegar has sponsored a free swim for the day, so bring your swim trunks to the event. Refreshments will be provided.

# Interior Health committed to 'potable water for all'

Interior Health's vision for drinking water is 'potable water for all.' While you should be able to turn on a tap and get water that is safe to drink, there is always some level of risk. But by using a multi-barrier approach to make continuous improvements, you can reduce that risk and increase protection.

The multi-barrier approach is an integrated system of procedures, processes, and tools



that collectively prevent or reduce the contamination of drinking water from source to tap, thereby reducing the risks to public health. They include, but are not limited to, legislative and policy

frameworks; guidelines, standards, and objectives; source water protection; drinking water treatment; water management and monitoring; and public awareness. No single precaution or barrier can be trusted to provide 100 percent protection 100 percent of the time against all possible drinking water hazard. Instead, a multiple-barrier approach is required, so that if one barrier underperforms others can compensate.

The first step and cornerstone to a multiple-barrier approach to safe drinking water is selection and protection of a good water source. The watersheds of the BC southern interior are where we live, work, and play. They are also the source of the water we drink. To protect public health, any threats posed by watershed activities must be identified and managed. Interior Health's Public Health Protection services has two primary means for protecting watersheds: collecting information about drinking water sources and supporting healthy land-use practices that support watershed function with a focus on activities occurring in sensitive areas.

## Collecting Information

Information on the location and nature of drinking water sources is needed for effective emergency response and watershed planning to protect public health. As a requirement of Interior Health's

Drinking Water Quality Improvement Program, all larger water systems must undertake source protection planning. Further, all public and private water system owners (including those servicing individual homes) are advised to register their wells and intakes to ensure they are receiving the highest level of protection.



Interior Health

## Supporting Healthy Land-Use Practices

Interior Health promotes healthy, evidence-based land-use management through administration of the Healthy Community Environments Core Program, support of the Southern Interior Regional Drinking Water Team, advocating for local integrated-watershed planning, and investigating threats to drinking water under the *Drinking Water Protection Act*.

For more information, see our Drinking Water Source Protection site at <http://www.interiorhealth.ca/health-and-safety.aspx?id=6256>. More information on multiple barriers can be found by Googling the *Multiple Barriers to Drinking Water Protection Booklet*.

## What is 'safe to drink'?

While there is no definitive answer, Interior Health's viewpoint for 'safe to drink' means:

- Achieving the 4-3-2-1-0 Drinking Water Objective
- Using multiple barriers of protection
- Meeting the microbiological standard of the Drinking Water Protection Regulation
- Achieving the health-based objectives of the Guidelines for Canadian Drinking Water Quality.



The 4-3-2-1-0 Drinking Water Objective is the minimum treatment goal for all water supply systems in Interior Health. To be approved, new systems must be designed and constructed to meet the drinking water treatment objective. Existing systems must plan to meet that objective as a priority component of their multiple barriers. Consumers should be made aware if their water system does not meet the objective so that they can choose to take extra precautions.

# Your soil (and its inhabitants) can help you save water

Improving your soil can dramatically lower your irrigation needs and provide other benefits as well.

Organic matter such as lawn clippings, yard compost, or municipal compost provides a protective layer that shields soil from wind and sun, slowing the rate of evaporation. Apply a thin layer each year in the spring, or leave your lawn clippings in place. The material will gradually break down and improve the soil, increasing its water-holding capacity and permeability, and providing food for small soil animals such as earthworms.

Mechanical aeration helps to get water into the soil, but does not really improve soil structure. Work instead to increase the soil's coarse and fine organic matter content. Like clay, fine particles of organic matter can hold water in the soil against the force of gravity, so water can be stored until needed by plants. Coarse soils have adequate space between

particles to allow water, air, and roots to pass into and through the soil.

The natural structure of clay soils is damaged by mechanical disturbance, particularly when wet. Fine organic material mixed into the soil can help separate clay particles from each other on a microscopic scale, creating small pores to hold water and air. Stems and twigs eventually decompose, creating larger pores that allow water, air, and roots to move through the soil.

## The wonder of worms

There are so many creatures ready to help you build good soil. They eat bits of fallen plants and each other, breaking them up into smaller pieces for microorganisms like bacteria and fungi to decompose further. They build tunnels, improving the soil's permeability. They also mix organic and mineral parts of the soil. But there are no soil creatures better than earthworms, as they:

- eat waste products and



add valuable nutrients to any soil;

- neutralize the material they consume (whether it is acidic or alkaline, the pH will be closer to 7 when they are finished with it)

- consume plant debris, including lawn thatch (you can let lawn clippings lie where they are cut)

- churn the soil and make it porous, improving water infiltration rates.

To experience earthworms' many benefits, you must help them survive and thrive. Your soil's fertility, including its effect on water use, will improve if you do the following:

- Apply organic mulch to the soil surface, thereby providing food and protecting against moisture loss and temperature extremes.

- Reduce the amount of soil disturbance from traffic or cultivation. If you must, use a spade for large fields, a garden fork for small plots. Avoid using rotovators and rototillers, especially on fine-textured soils.

- Stop using pesticides or make spot applications only.
- Reduce the use of chemical fertilizers. Choose non-acidifying nitrogen sources like calcium nitrate.

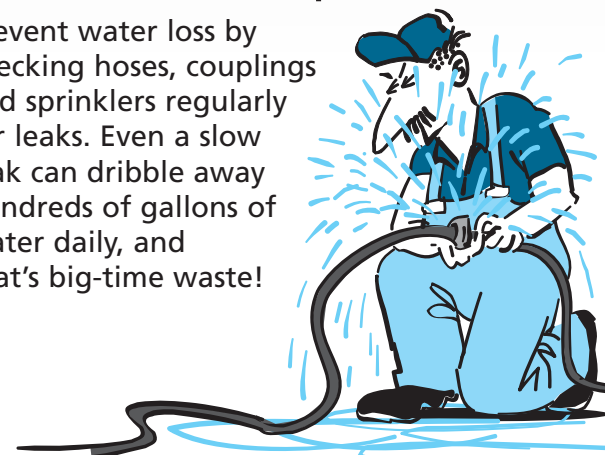
- Maintain a soil pH of 6.5 to 7.

- Keep soil well drained, yet not be allowed to dry out completely (e.g., apply less water less often). ■

Courtesy of Joe Fitzpatrick, P.Ag.

# Don't be a drip...

Prevent water loss by checking hoses, couplings and sprinklers regularly for leaks. Even a slow leak can dribble away hundreds of gallons of water daily, and that's big-time waste!



Courtesy of the Kelowna Joint Water Committee

# Summer water conservation tips

- ✓ Use a broom or rake to clean your driveway – DO NOT use water for sidewalks, driveways or gutters
- ✓ Adjust watering schedule with weather
- ✓ Water between midnight and 10 am
- ✓ Maintain your irrigation system – check for leaks, clogs or misdirected sprinklers or emitters
- ✓ Repair leaky faucets
- ✓ Cover the pool to eliminate evaporation
- ✓ Don't overwater landscaping – 2/3 cm of water per week is adequate
- ✓ Use low-angle or pulsating sprinklers that produce large fat droplets of water

- ✓ Make sure sprinklers water the lawn, not sidewalks and driveways
- ✓ Be sure hoses have automatic shutoff nozzles to ensure water is not wasted when the hoses are left unattended
- ✓ Use water-wise plants – native and adaptive plants will use less water and be resistant to local plant disease and pests.
- ✓ Collect rainwater in an old barrel – use this water to for plants, etc. (keep barrel covered to prevent mosquitoes from breeding and for safety reasons).

# Boating green...

Don't dump anything overboard! Bring home whatever you take out!

- Large amounts of organic waste can overwhelm lake organisms' ability to decompose it. Gather organic waste in a container and then transfer it to your home compost.
- Fishing line, plastics, styrofoam, cigarette butts, and other forms of waste are harmful to seabirds and other marine creatures. Separate recyclables from trash. Take recyclables home and dispose of trash at home or in specified containers at marinas or parks.
- Waste gas, oil, and bilge water pollute lake waters and are toxic to marine creatures. Dispose of these pollutants at approved dumping facilities.

Join the new wave of informed boaters who protect our lakes while enjoying them.



# Spring Cleanup Underway

Just like residents of Castlegar, civic works crews are busy spring cleaning. Street sweeping, boulevard maintenance, tree trimming, and park fertilization are just some of the seasonal tasks presently underway. When it comes to the water system, there are some spring projects that must be undertaken.

## Hydrant Maintenance

Winter is hard on almost everything, including fire hydrants. Civic works crews maintain every hydrant in the city at least once during the year. Each hydrant is tested for operation and flowed to ensure it is operational when needed. Every second year, or as needed, each hydrant is completely disassembled and all replaceable seals are replaced.



## Water Main Flushing

Yearly watermain flushing prevents bacterial regrowth and algae growth on the interior of

the mains. Areas with lower flows benefit from flushing by eliminating stagnant water and

removing any sediment in the pipe.

Water flushed from the main is diffused and dechlorinated before it is directed into storm mains. Whenever possible, flushed water is collected by truck and reused for dust abatement or construction purposes.

Both hydrant flushing and main flushing “shake up” the local water distribution system. Both can and will cause localized areas of cloudy water. If you notice your water is cloudy, please run your cold water tap until the water clears. ■



# Let it rain!

The City of Castlegar sourced 150 rain barrels and is offering them to City of Castlegar residents at half price (\$22.50 plus GST).

Rain barrels are an easy and very effective way to conserve water in the yard by capturing rain water for later use. The barrels hold 52 gallons and come with a tap and overflow line.

When installing your rain barrel, try to position it above the ground. This will allow you to be able to fit a watering can under the spigot. By using an aftermarket downspout diverter such as The Garden Watersaver Kit, your rain barrel can be placed in a non-conspicuous place. Your existing downspout can remain in its current location and only a hose to your rain barrel will be seen. Otherwise, you can connect your downspout directly into the barrel.

To purchase a rain barrel, payment of \$23.62 must be made at City Hall (460 Columbia Avenue). With proof of purchase, your barrels can be picked up at the Castlegar Community Complex on May 2nd between 11am and 2pm as part of the City's 2009 Water Fair. After that date, rain barrels can be



Shown are two interconnected rain barrels. An aftermarket diverter is used to divert rainwater from the existing downspout to the rain barrels where it can be stored for hand watering.

picked up from the Civic Works Yard at 4500 Minto Road.

For more installations ideas, or to find out where to purchase a rainwater diverter kit, visit [www.gardenwatersaver.com](http://www.gardenwatersaver.com) ■

## Water For People

More than 880 million people around the world do not have access to safe drinking water, and 2.5 billion are without adequate sanitation facilities. Every day, nearly 6,000 people die from water-related illnesses, and the vast majority are children.

These stats are taken from the Water for People website. It drives home the fact that we are lucky to have the water source we do. Abundant and clean, our drinking water is the envy of many around the world.

Water for People and its volunteer program, World Water Corp, are international organizations whose aim is to provide access to

safe drinking water and sanitation to all areas of the world. This is done in a sustainable way by working with local groups and governments to help them construct the required infrastructure.



and provide the necessary education. Currently, Water for People and World Water Corp are working in Honduras, Malawi, Bolivia, Guatemala and India.

If you are interested in learning more about Water for People or to donate or volunteer, please visit [www.waterforpeople.org](http://www.waterforpeople.org).

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**CASTLEGAR**  
CITY HALL

460 Columbia Avenue  
Castlegar, B.C. V1N 1G7

For questions and comments  
E-mail: [civicworks@castlegar.ca](mailto:civicworks@castlegar.ca)

Website: [www.castlegar.ca](http://www.castlegar.ca)