

Legal Tools

A. 'Hard' Conservation Measures

I. Federal and Provincial Initiatives

1. Legal Tools

"Hard" conservation measures are those initiatives which are more demanding or restrictive in their approach to water use efficiency. Hard measures include legal, economic and financial tools, as well as operations and management tools.

"Legal Tools" presented in this and the two following sections include: provincial legislation and regulations, building codes and standards, bylaws, mandatory restrictions, and licensing.

Water, Land and Air Protection, Ministry of — Water, Air and Climate Change Branch

Legislation

· Fish Protection Act (1997)

The Fish Protection Act (1997) administered in conjunction with the Water Act, can provide for water conservation to be licensed specifically. The development of Water Management Plans, authorized under the Water Act and amended through the Fish Protection Act, may require the inclusion of water use efficiency objectives in its terms of reference. On sensitive streams (regulated under section 6 of the Fish Protection Act), the regional water manager may require conservation measures as a condition to ensure that adequate flows are maintained for fish and aquatic habitat.

Community, Aboriginal and Women's Services, Ministry of

Legislation

· In 1993 the Union of BC Municipalities (UBCM) passed a resolution in response to

"continuing growth and increased per capita consumption of water" which requested that the Building Standards Branch (MMA) amend the B.C. Building and Plumbing Code to require the use of water conservation devices in all new construction. In partial response to these requests the Code was amended to include the following specifications in September 1995:

1. Restricted flows were set for supply water to fixtures in *new construction for group residential, office and mercantile* type construction.
2. Maximum flush cycles of 13.25 litres for toilets and 5.7 litres for urinals were established. These specifications pertain only to installation occurring in new construction.

Municipal Water Reduction Branch

Regulations

· Proposed Municipal Sewage Regulations

The proposed "Municipal Sewage Regulations" are encouraging the use of reclaimed water to address the issues of water shortages, the use of reclaimed water will decrease supply needs from, and discharges to fish bearing streams.

The Branch has identified a potential water savings of 35% with the implementation of water reclamation and re-use technologies.

II. Regional and Municipal Initiatives

1. Legal Tools

"Hard" conservation measures are those initiatives which are more demanding or restrictive in their approach to water use efficiency. Hard measures include legal, economic and financial tools, as well as operations and management tools.

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100 Mile House, District of

Standards

- Keys to Success AWWA and CSA standards are implemented

Mandatory Restrictions — Sprinkling Restrictions

- Even/odd address sprinkling restrictions are in effect from May through September.
- Costs: \$200
- Potential Savings: \$14,612

- Potential Water Savings: 7,305,822 litres

Capital Regional District — Water Department

Bylaws

- Drafted outdoor water use bylaws for local municipalities (1994)
- Constraints: require local approval

Mandatory Restrictions

- Implemented in drought conditions only

Central Kootenay, Regional District of

Mandatory Restrictions — Sprinkling Restrictions

- Implement if required during drought periods

Chilliwack, District of

Bylaws

- The Waterworks Rate and Regulation Bylaw is a bylaw to fix the rates and terms under which water may be supplied to and used by inhabitants of the Municipality.
- A sewer bylaw provides for the regulation, connection and use of sanitary sewers and provides for the imposition of a charge against the owner of real property for the use of the Sanitary Sewer System. Sewer flows are an intrinsic part of water conservation, therefore sewer billings are based on water consumption.

Standards

- The District has a Subdivision Development Control Bylaw, which is based on the Master Municipal Specifications. These specifications set out material and construction practices that developers/contractors adhere to.

Regulations

- The District uses the "Canadian Safe Water Guidelines" as its regulatory body.

Licensing

- The District of Chilliwack pays the province a licensing fee for its water sources.

Mandatory Restrictions

- The District will evoke restrictions during high demand periods (i.e. summer).

Columbia Shuswap Regional District

Bylaws and Mandatory Restrictions

- Actual Water Savings: there are three separate systems; savings are approximately 35% day demand in summer
- Keys to Success: effective enforcement

Coquitlam, City of

Bylaws

- A water conservation bylaw governs sprinkling restrictions.
- Keys to Success: public awareness, enforcement, and fines

Mandatory Restrictions — Sprinkling Restrictions

- Costs: \$20,000 per year
- Actual Savings: \$150,000 per year (revenue \$5,000 per year in fines)
- Actual Water Savings: 1 x 1 x 10⁹ litres

Courtenay, City of

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling restrictions are in effect June 1 through September 30.

Cowichan Valley Regional District

Bylaws

- Allots volume according to customer classification; rates double if allocation is exceeded
- Keys to Success: water usage is metered

Mandatory Restrictions — Sprinkling Restrictions

Creston, Town of
Pursuant to the Water Rates and Regulations By-law, Council may impose water restrictions when deemed necessary. The stages of the water Restrictions policy are outlined below:

Stage 1:

1. There shall be no watering of lawns or gardens except between the hours of 6:00 pm to 10:00 pm
2. Citizens are requested to repair leaks in their plumbing systems.

Stage 2:

1. Water of lawns or gardens may be done only during the hours of 6:00 pm to 10:00 pm on the following schedule:
 - a) odd house number addresses may water on Sundays, Tuesdays, and Fridays.
 - b) even house number addresses may water on Mondays, Tuesdays, and Fridays.
2. There shall be no watering whatsoever on Wednesdays in order to replenish the Reservoirs.
 - a) swimming pools shall not be filled

Stage 3:

1. There shall be no irrigation or watering of lawns whatsoever. Gardens may be watered between the hours of 6:00 pm to 10:00 pm on the following basis:
 - a) odd house number addresses may water on Sundays, Tuesdays and Fridays.
 - b. even house number addresses may water on Mondays, Thursdays and Saturdays.
2. Residents are requested to cut down on the use of water-using appliances such as washing machines and dishwashers.

Stage 4:

1. There shall be no outside watering.
 2. Complete shut down of water to industries.
 3. Complete shut down of water to large commercial users, (i.e. laundromats, carwashes, etc.) on Tuesdays, Wednesdays and Thursdays.
- Before this policy is implemented — in times of a potential shortage — citizens are requested to voluntarily cut down on the use of water. Residents have always responded voluntarily; the mandatory restrictions have never had to be implemented.

Delta, Corporation of

Bylaws and Mandatory Restrictions

- **Sprinkling Violation Enforcement (1997)**

A team of four Water Conservation Officers enforced the lawn sprinkling ban by responding to reports by residents and touring neighbourhoods to view violations on their own. Water Conservation Officers patrolled neighbourhoods at random in the early mornings (6 am — 9 am), days (9 am — 4 pm), evenings (6 pm — 8 pm) and on weekends (8 am — 5 pm).

Information sheets and violation notices were published in English, Cantonese and Punjabi. During the summer, approximately 800 English notices, 70 Punjabi notices and 50 Cantonese notices were distributed.

The lawn sprinkling ban was lifted on August 27 and regular biweekly watering restrictions were in effect until September 30.

Please refer to Greater Vancouver Regional District — Regulations — for additional information.

Enderby, City of

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling restrictions will be implemented for the first time in 1998.
- Odd and even address sprinkling restrictions will be in effect from June to the end of September.

Gold River, Village of

Other

- Restrictions are implemented by Council resolution during hot weather.
- Potential Water Savings: 18 x 106 litres per day (estimated savings in hot weather)

Golden, Town of

Mandatory Restrictions — Sprinkling Restrictions

- Keys to Success: public cooperation

Granisle, Village of

Mandatory Restrictions — Sprinkling Restrictions

- In the summer, watering is restricted to alternate days in order to reduce pumping hours.

Greater Vancouver Regional District — Water District

Outside of emergency situations, generally the Water District does not set bylaws. However, the Water District does *recommend* to the member municipalities, or otherwise encourage, the creation of relevant bylaws or other regulatory or legal actions.

Regulations

· **Twice Weekly Lawn Sprinkling Regulations**

The GVWD coordinates lawn sprinkling regulations to ensure consistency and a sufficient supply of water. Since 1993, twice-weekly lawn sprinkling regulations have been implemented. Lawn sprinkling regulations are effective June 1 — September 30; sprinkling is allowed from 4 am to 9 am and 7 pm to 10 pm on Wednesday and Saturday for even numbered addresses, and on Thursday and Sunday for odd numbered addresses. These lawn sprinkling regulations are Stage 2 of the Water Shortage Response Plan described below. All GVWD member municipalities participate in the twice weekly lawn sprinkling regulation.

Bylaws

· The legal authority for sprinkling regulations is retained within a bylaw of each member municipality.

Other

· **Water Shortage Response Plan**

A Water Shortage Response Plan was developed in the early 1990s with District members. The Plan consists of a four stage situation-response sequence in which increasing degrees of water shortage are addressed with regulatory measures.

1. Stage 1 — includes the dissemination of information pertaining to the need to conserve water and provides the public with advance warning of subsequent stages of the response plan. Target savings: 5%
2. Stage 2 — restricts lawn sprinkling from 4 am to 9 am and 7 pm to 10 pm two days per week. Target savings: 10%.
3. Stage 3 — limits sprinkling to one day per week. Target savings: 15% to 25%.
4. Stage 4 — measures include a complete ban on lawn sprinkling and restrictions on other outdoor water uses. Target savings: 30%. A Stage 4 situation was declared in some member municipalities in 1997 for a short period, following the rupture of a major water main underneath the Fraser River.

Statistics show peak day per capita consumption is 24 percent lower, on average, since inception of the lawn sprinkling regulations than during the six year period prior to the implementation of the Plan.

The Water District *supports Provincial legislation* to require the installation of low flow shower heads, faucets and toilets in all new construction and renovations.

Highlands, District of

Bylaws and Standards

- There is no piped water in the Highlands. Standards for water wells are defined in bylaws.

Invermere, District of

- Keys to Success: public education; having adequate staff time and technical knowledge

Bylaws

- Invermere has bylaws pertaining to sprinkling restrictions.
- Keys to Success: political will, ensuring adequate enforcement capability

Mandatory Restrictions — Sprinkling Restrictions

- Keys to Success: cooperation of users; bylaw enforcement capability

Kamloops, City of

Bylaws

- The city has been working with the local homebuilders' association to consider a bylaw requiring the installation of low water-use plumbing fixtures in all new construction.

Mandatory Restrictions — Sprinkling Restrictions

- Odd-numbered houses are allowed to water on odd days and even houses water on even days
- Keys to Success: cooperation of users
- Costs: advertising: \$1,500/year

Bylaws

Kelowna, City of

- Costs: \$500

Other Bylaw Activity

- In 1995 a bylaw was passed requiring that all new single family residential construction be metered.
- In 1994, prior to the implementation of the revisions to the British Columbia Plumbing code, the City of Kelowna passed bylaws mandating the installation of low-flow fixtures in all new construction that would be connected to the City's utility.
- In 1992, the City of Kelowna passed a bylaw which required that all new construction include a "shunt pipe" which facilitated the later addition of meters.
- A bylaw governs standards for installation and construction of water mains.

Keremeos, Village of

Bylaws

- The Village has, within its Building Bylaw, the means of enforcing all new renovations or newly constructed units to install low-flow water conservation fixtures.
- Costs: \$500
- Actual Water Savings: 240,000 litres

Lumby, Village of

Bylaws

- Through the Building Bylaw, low-flow toilets and other fixtures, and metre setters for future metering are installed in all new residences.

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling restrictions are instituted when demands exceed 500,000 imperial gallons per day.

Merritt, City of

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling restrictions are in effect April 15 — October 15.
- According to civic address, sprinkling is restricted to odd or even days within specified hours.

Mission, District of

Mandatory Restrictions — Sprinkling Restrictions

- The implementation and enforcement of mandatory sprinkling restrictions is an important water conservation measure in Mission.
- The regulations are in place from May 1 to September 30 of each year. Lawn and garden sprinkling by hose connected sprinkler or automatic in-ground sprinklers is restricted to even numbered addresses on Wednesday and Saturday and odd numbered addresses on Thursday and Sunday between the hours of 5:00 am and 8:00 am, and 7:00 pm and 10:00 pm Irrigation by hand held hoses is not restricted. Hand watering of flowers, shrubs, and vegetables is permitted at anytime, as is car washing with a hose that has a spring loaded shut-off device. The bylaw is enforced, including

issuance of warnings and fines, by employees of the municipality.

Dayton and Knight reports on the effectiveness of these regulations on an annual basis. In 1996 it was recommended that the sprinkling restriction program continue.

- Keys to Success: public acceptance is dependent on public education and enforcement
- Costs: \$10,000 per year

Nakusp, Village of

Mandatory Restrictions — Sprinkling Restrictions

- Water conservation sprinkling restrictions are imposed from May 15 to September 15 of each year. They are enforced by a bylaw officer.

Mandatory Restrictions — Sprinkling Restrictions

- Keys to Success: enforcement
- Costs: \$250
- Actual Water Savings: 20 — 50%
- Potential Water Savings: 59%

Montrose, Village of

Bylaws North Okanagan, Regional District of

- A new bylaw will be implemented. As of July 1, 1999, all new residential construction must install 6 litre per flush toilets and low-flow shower heads and aerators.
- Keys to Success: bylaws should be practical

Mandatory Restrictions — Sprinkling Restrictions

- The three area water utilities enforce permanent alternate day sprinkling regulations.

The regulations have served to reduce system peak demands in the summer months and have created heightened public awareness of water supply issues in the area.

- Keys to Success: enforcement and education
- Constraints: consistency: year to year and inter-jurisdictional

Parkville, City of

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling regulations are in effect during the summer.
- Costs: \$2,000
- Keys to Success: enforcement

Port Alice, Village of

Mandatory Restrictions — Sprinkling Restrictions

- Summer restrictions have been implemented occasionally in the past.

Port Hardy, District of

Bylaws, Standards, Regulations, and Mandatory Restrictions

- The District of Port Hardy is moving towards a water conservation program in 1998.
- Costs: \$10,000 (estimated)
- Potential Water Savings: an estimated 15% reduction in the amount of water consumed

Bylaws, Standards, Regulations, and Mandatory Restrictions

- The District of Port Hardy is moving towards a water conservation program in 1998.
- Costs: \$10,000 (estimated)
- Potential Water Savings: an estimated 15% reduction in the amount of water consumed

Port Moody, City of

Mandatory Restrictions — Sprinkling Restrictions

- Sprinkling restrictions through the Greater Vancouver Regional District are in effect during the summer.

Pouce Coupe, Village of

Bylaws and Mandatory Restrictions

- There are bylaws in effect to conserve water through restricted usage; these bylaws have only been implemented in the past eight years.
- Keys to Success: the cost of water is high because the Village purchases water from Dawson Creek. As a result of the high cost, residents are motivated to implement conservation techniques
- Potential Water Savings: purchases water from Dawson Creek. As a result of the high cost, residents are motivated to implement conservation techniques

Princeton, City of

Regulations — Sprinkling Regulations

- Odd/even address sprinkling regulations are implemented. Reminders are

published in the newspaper.

Salmon Arm District of

Regulations — Sprinkling Regulations

- Annual sprinkling restrictions within the District are in effect from May 15 to September 15.

Hours when sprinkling is allowed are as follows:

1. 7:00 am to 11:00 am, and
2. 7:00 pm to 11:00 pm

Customers with street addresses ending in an odd number, water on odd days only.

Customers with a street address ending in an even number, water on even days only.

Customers with automatic underground irrigation systems will be allowed and encouraged to water lawns between 11:00 PM and 7:00 am on appropriate days.

Sidney, Town of

Bylaws and Sprinkling Regulations

- are only put into effect during drought

Sunshine Coast Regional District

Bylaws and Mandatory Restrictions

- **Sprinkling Restrictions — Bylaw 422**

Sprinkling restrictions are in effect year round unless otherwise posted. If water

consumption readings are high, sprinkling times may have to be reduced or banned. In the event of a total ban, hand watering of gardens would be allowed.

Odd numbered houses:

Monday, Wednesday and Friday 7 am — 10 am

Monday and Wednesday 7 PM — 9 PM

Even numbered houses:

Tuesday, Thursday and Saturday 7 am — 10 am

Tuesday and Thursday 7 PM — 9 PM

No sprinkling is permitted on Friday or Saturday evenings, or on Sundays. Only one watering device is permitted at a time. Soaker hoses are permitted during sprinkling times. A Sprinkler Patrol is on duty to enforce sprinkling restrictions.

Surrey, City of

Mandatory Restrictions

- Water restrictions are the same as for the Greater Vancouver Regional District.
- Keys to Success: public education

Terrace, City of

Mandatory Restrictions — Sprinkling Restrictions

- Year-round odd and even sprinkling restrictions are in place.

Vancouver, City of

Bylaws and Mandatory Restrictions

· Water Shortage Response Plan (WSRP)

Through the WSRP, sprinkling violations are identified and offenders are notified. In all 539 warning letters were sent (compared to 441 in 1995) with 21 being issued with double registered letters (20 in

1995). As in previous years, less than 5% of offenders offend a second time, once their infraction has been pointed out to them. Of the remaining few, many are new homes that are unoccupied and the sprinklers are placed on timers by the landscapers. Only on very rare occasions do people intentionally, repeatedly offend.

- Keys to Success: publicity
- Constraints: enforcement

Vanderhoof, District of

Mandatory Restrictions

- no runoff water or sump waste to be drained into the water system
- Keys to Success: resident cooperation; implementing a follow-up inspection
- Actual Water Savings: 100 m³/d
- Potential Water Savings: 500 m³/d

Vernon, City of

Bylaws

- As of July 1, 1998 all new residential construction must install 6 litre/flush toilets and low-flow shower heads and aerators.

Mandatory Restrictions — Sprinkling Restrictions

- Permanent alternate day sprinkling regulations are enforced. The restrictions have served to reduce system peak demands in the summer months, and have created heightened public awareness of water supply issues in the area.

III. Irrigation and Improvement Districts' Initiatives

1. Legal Tools

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Black Mountain Irrigation District

Regulations — Domestic (Sprinkling)

- One sprinkler per lot.
- Underground systems are allowed 38 litres per minute per zone.
- Night sprinkling permitted on a timer only.
- Backflow prevention required (according to Kelowna Joint Water Committee standards and District bylaws).

Regulations — Irrigation

- Flow controls on sprinkler heads
- Maximum of 500 gallons per minute per acre

Kaleden Irrigation District

Mandatory Restrictions

- The number of gallons of water per minute supplied to each property is dependent on property size.

Osoyoos Irrigation District

Bylaws

- govern watering restrictions

Mandatory Restrictions

- For residential users, a two gallon per minute restriction is enforced. Agricultural users must use dole or flow control valves.
- Seasonal watering restrictions are in place for lawns and orchards. In 1997 the restrictions were in place from April 15th through October 8th.
- "Open hoses" are not permitted.

Rutland Waterworks District

Regulations — Domestic (Sprinkling)

- Even/odd day sprinkling regulations.
- One sprinkler per lot.
- Maximum flow of 38 litres per minute.
- Underground sprinklers to operate at night only.
- Backflow preventors to be used.
- Automatic timers for underground systems.

Regulations — Irrigation

- 38 litres per minute

Southeast Kelowna Irrigation District

Bylaws

the District has two bylaws that incorporate conservation measures and empower the District to conserve water

Bylaw #471 governs irrigation water use and enables the District to take action against users that are deemed to be wasting water.

Bylaw #535 governs domestic sprinkling and restricts the time and amount of water that can be used for that purpose.