

WATER SHORTAGE RESPONSE PLAN

Includes amendments approved by the GVWD Board on
November 27, 2015 and
February 26, 2016

February 2016

Preface

The purpose of the Water Shortage Response Plan (WSRP) is to manage demand for drinking water during the summer months, and if necessary during times of emergencies. This is important because:

- rainfall is lowest and demand is highest in the summer
- storage, transmission and distribution system capacities are limited
- continued population and industrial growth have led to increased demand
- water shortages may result from unforeseen emergency situations (e.g. earthquakes, major service disruptions, etc.)

The WSRP focuses on reducing demand for outdoor water use. If persistent drought conditions occur, the WSRP contains actions that will produce significant reductions in daily water demand in the region.

The WSRP uses a staged approach, ranging from an initial standard level of water restrictions combined with timely and effective public notification to be automatically implemented each summer season, through to a highest level of restrictions intended for emergencies affecting the delivery of water.

The WSRP defines water shortage assessment general guidelines which would trigger each stage. However, water supply systems are complex and cannot always be measured by a single set of numbers. For example, a WSRP action may be needed to respond to a deficiency in the supply system such as local transmission capacity limitations, a failure of a major transmission line or other unforeseen problems with water treatment and supply infrastructure. Therefore, if the GVWD Commissioner deems it necessary, any stage of the WSRP may be enacted or delayed at any time or enacted in any order as the Commissioner deems necessary.

In cases where summer drought conditions strain the source water storage capacity of the Capilano and Seymour watersheds, a more restrictive stage of the WSRP may be activated. The factors to be monitored and considered in determining if a WSRP action (e.g., moving from Stage 1 to Stage 2) might be warranted under summer drought conditions include the following:

- storage capacity of Capilano and Seymour watersheds and draw down rates. Most of this information is reflected in the Capilano and Seymour storage graphic;
- forecasts of Capilano and Seymour storage, based on assumptions about; inflows to the watersheds, weather, supply volumes from the Coquitlam source, and GVWD water demand;
- recent trends, and forecasts of the GVWD water demand taking into account customer compliance with current restrictions;
- trends and forecasts of precipitation, snowmelt, and climatic conditions and how they may influence inflows to the source watersheds and source reservoirs;
- current levels, and recent trends in water storage (usable, emergency, total) for the Coquitlam source and how they relate to the GVWD's nominations for Coquitlam water;
- expected reduction in GVWD demand associated with taking a WSRP action.

The WSRP applies only to the use of treated drinking water. The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Stage 1 Water Use Restrictions

Activated automatically on May 15 of each year, or at the discretion of the GVWD Commissioner, and remains in effect until October 15. This end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 1 of the WSRP:

- Municipalities will suspend hydrant flushing except for unscheduled safety or public health reasons. Routine system flushing will be scheduled outside the WSRP time frame.
- Lawn sprinkling will be restricted to three periods a week, mornings only, enforced by the member municipalities. Outdoor sprinkling of lawns using hose-connected or automatic in-ground sprinklers will be permitted only as follows:

Residential Addresses¹;

Even-numbered addresses - Monday, Wednesday and Saturday mornings (4 - 9 am)

Odd-numbered addresses - Tuesday, Thursday and Sunday mornings (4 - 9 am)

Non-residential Addresses¹,

Even numbered addresses – Monday and Wednesday mornings (1 - 6 am)

Odd numbered addresses – Tuesday and Thursday mornings (1 - 6 am)

All non-residential addresses – Friday mornings (4 - 9 am)

Cemetery lawns, ornamental lawns belonging to municipal facilities, and grassed boulevards will not be exempt and may be watered only within the three-weekly times noted above. Operation of sprinklers for children's play will not be exempt from these restrictions. Automated lawn sprinkler systems will not be exempt.

EXEMPTIONS:

- Sports playing fields and school yards, because their size makes them difficult to irrigate within the time limits, they are generally built on sand bases which do not hold moisture, and because replacement costs are high. Some artificial turf also needs to be watered for safety reasons.
- Municipal parks, because their size makes them difficult to irrigate within the time limits. However, municipalities will reduce sprinkling of parks, playing fields, etc. to minimum levels required to maintain these areas in useable condition. E.g. sand-based fields may require more frequent watering.
- Lawns at golf courses and turf farms, because the restrictions are not intended to cause undue economic hardship or disruption to a business for which lawns are the primary product or service being provided. However, municipalities will request that golf course operators cut water use on fairways by as much as possible.
- Artificial turf requiring wetting and outdoor tracks requiring hosing for dust control or safety.

¹ In cases of mixed zoning or mixed use, where commercial or industrial components are included on the same property along with residential and subject to the landscaping being watered by an in-ground sprinkling system, the designation shall then be classified as "Non-residential".

- Newly-planted lawns will be allowed to be watered outside of restricted times, but will be required to obtain a municipal permit to be displayed on the lawn.
 - Watering of flower and vegetable gardens, decorative planters, shrubs and trees will be allowed.
 - Filling of pools, spas, water play parks, and fountains will be allowed.
 - Washing of cars or boats will be permitted, but prudent use of water will be encouraged. Washing must be done using a spring-loaded shutoff nozzle.
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Stage 2 Water Use Restrictions

The GVWD Commissioner has the discretion to enact or delay this stage under different conditions if deemed necessary.

This stage remains in effect until *October 15*. However, this end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 2 of the WSRP:

- Lawn sprinkling will be restricted to one morning a week only, enforced by the municipalities. Outdoor sprinkling of lawns using hose-connected or automatic in-ground sprinklers will be permitted only as follows:

Residential Addresses¹;

Even-numbered addresses - Monday morning only (4 – 9 am)

Odd-numbered addresses - Thursday morning only (4 – 9 am)

Non-residential Addresses¹;

Even-numbered addresses – Wednesday morning only (1 – 6 am)

Odd-numbered addresses – Tuesday mornings only (1 – 6 am)

Municipal parks, cemetery lawns, ornamental lawns belonging to municipal facilities, and grassed boulevards will not be exempt and may be watered only within the once-weekly times noted above.

Hosing of outdoor surfaces (e.g. driveways, sidewalks, roofs) will not be allowed unless required to avoid public health and safety concerns or to prepare a surface for painting/sealing or similar treatment, and must be done using a spring-loaded shutoff nozzle. *Hosing of outdoor surfaces for the purpose of aesthetic cleaning will be allowed if performed by a commercial cleaning service, and must be done using a spring-loaded shutoff nozzle.*

Pressure washing is equivalent to hosing of an outdoor surface, and will not be permitted except to prepare a surface for painting, sealing or similar treatment. Pressure washing for the purpose of aesthetic cleaning will not be permitted, *unless performed by a commercial cleaning service.*

Ornamental fountains must be shut down. This includes residential, commercial, institutional and government fountains.

Only water play parks with user-activated switches will be permitted to operate.

EXEMPTIONS:

- Golf courses may water greens and tee areas normally; fairways may only be watered once weekly. Where applicable, signage indicating the use of non-GVWD water will be encouraged.
 - Sports playing fields, school yards and sand-based playing fields may be watered at minimum levels required to maintain areas in useable condition.
 - Artificial turf requiring wetting and outdoor tracks requiring hosing for health or safety reasons.
 - Newly-planted lawns will be allowed to be watered outside of restricted times, but will be required to obtain a municipal permit to be displayed on the lawn.
 - Watering of flower and vegetable gardens, decorative planters, shrubs and trees and turf at commercial turf farms will be allowed.
 - Washing of cars or boats will be permitted, but prudent use of water will be encouraged. Washing must be done using a spring-loaded shutoff nozzle.
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Stage 3 Water Use Restrictions

The GVWD Commissioner has the discretion to enact or delay this stage under any condition as deemed necessary.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

This stage remains in effect until October 15. However, this end date may be extended by direction of the GVWD Commissioner.

Under Stage 3 of the WSRP:

All forms of lawn watering using treated drinking water will be banned completely, for sprinklers of any type. New lawns, cemetery lawns, ornamental lawns belonging to municipal buildings, and grassed boulevards will not be exempt.

Watering of shrubs and trees, flower and vegetable gardens, and decorative planters will not be permitted unless done by hand using a spring-loaded shutoff nozzle, containers or drip irrigation systems. Watering of gardens and planters using sprinklers or soaker hoses is prohibited.

Pressure washing is equivalent to hosing of an outdoor surface. Only commercial pressure washing to prepare a surface for painting, sealing or similar treatment will be permitted. Pressure washing for the purpose of aesthetic cleaning will not be permitted. Private pressure washing will be prohibited.

Exterior washing of vehicles (e.g. cars, motorcycles, recreational vehicles, trucks, boats and other marine vessels) will be prohibited, except for safety (windows, lights, licenses) and only then if using a spring-loaded shutoff nozzle. This includes residential, commercial, institutional and government vehicles.

Ornamental fountains must be shut down. This includes residential, commercial, institutional and government fountains.

Only water play parks with user-activated switches will operate.

Filling or refilling of garden ponds, hot tubs, or swimming pools will be prohibited.

EXEMPTIONS:

- Watering of turf at turf farms and flowers and vegetable at commercial gardens.
 - Commercial car washes may continue to operate in this stage, as studies have shown that commercial car washes use significantly less water per vehicle than manual washing.
 - Golf courses may water greens and tee areas at minimum levels required to maintain areas in useable condition; fairways may not be watered.
 - Sports playing fields (including sand-based) and school yards may be watered at minimum levels required to maintain areas in useable condition.
 - Artificial turf requiring wetting and outdoor tracks if required for dust control or safety reasons.
 - *Newly-planted lawns or lawns being treated to control for European Chafer Beetle will be allowed to be watered provided the municipal permit was issued prior to the date on which the GVWD Commissioner declared Stage 3 restrictions to be in effect and must comply with municipal lawn sprinkling bylaw requirements.*
 - Hosing of outdoor surfaces (e.g. driveways, sidewalks, roofs) only if required to avoid public health and safety concerns or to prepare a surface for painting/sealing or similar treatment.
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Stage 4 Emergency Water Use Restrictions

The measures listed in this Stage are intended for cases of EMERGENCY water shortages. The GVWD Commissioner has the discretion to enact or delay this stage under any condition as deemed necessary.

This stage remains in effect until *October 15*. However, this end date may be extended by direction of the GVWD Commissioner.

The WSRP restrictions do not apply to the use of rain water, gray water, any forms of recycled water, or other sources of water outside the GVWD/municipal water supply system.

Under Stage 4 of the WSRP:

Restrictions are the same as Stage 3 except for:

- Any form of watering (even if done by hand, containers, soaker hoses or drip irrigation) using treated drinking water will be prohibited for:
 - commercial flower gardens
 - residential flower gardens
 - residential vegetable gardens
 - trees and shrubs
 - golf courses

- turf farms
 - new lawns
 - sports playing fields (including sand-based)
 - municipal parks
 - cemeteries
 - ornamental lawns belonging to municipal buildings, residences or businesses
 - school yards
 - artificial turf
 - outdoor tracks
 - grassed boulevards
- Municipal permits for watering new lawns will be discontinued.
 - Commercial or private pressure washing and hosing of any outdoor surfaces will not be allowed unless ordered by a regulatory authority (e.g. WCB, public health inspectors) for health and safety reasons.
 - Filling or refilling of garden ponds, hot tubs, or swimming pools will be prohibited.
 - Municipal and commercial water parks will be shut down.
 - Municipal outdoor pools will be closed, and winterization of those pools will be deferred until Stage 4 is lifted by the GVWD Commissioner.
 - All commercial car washes will be shut down.
 - Municipalities will shut down faucets in parks and public spaces (does not apply to drinking fountains with spring-loaded shutoff nozzle).
 - In addition to the outdoor water restrictions of this stage, the GVWD will request that industries that consume large amounts of indoor water implement voluntary reductions/postponements in production during Stage 4.
 - Municipalities will increase their respective enforcement and penalties for violations of the water restrictions with each successive stage of the WSRP.
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Communication of the Water Shortage Response Plan:

The GVWD supports the WSRP with region-wide communications initiatives. Advertising in the daily newspapers will be arranged by GVWD; advertising in community papers will be arranged by member municipalities. The GVWD and its member municipalities will coordinate annual public notification in newspapers, radio and other media as appropriate, including information on the frequency and amount of lawn sprinkling.

Public communications and notices by the GVWD and municipalities regarding water restrictions will be carried out in English and other languages as appropriate and increased with each successive stage of the WSRP.

Outdoor and indoor water use efficiency information and resource materials will be produced and distributed by the GVWD on behalf of the municipalities. This information will be in the most appropriate formats and media.

A staffed water conservation information service will be provided by the GVWD. Member municipalities will provide information services for inquiries on matters of enforcement and municipality-specific water issues using telephones and/or other media as appropriate.

Implementation of the Water Shortage Response Plan

The GVWD Commissioner is responsible for activating different stages of the WSRP and will notify member municipalities of the need for implementing or discontinuing each of the successive phases of the plan through the regular WSRP update bulletins.

As much notice will be provided as practically possible.

The WSRP is adopted into bylaws by each GVWD member municipality to enable consistent implementation throughout the region. Municipalities are responsible for enforcement of the WSRP in their communities. Municipalities utilize a variety of measures for enforcement, including advisory letters, ticketing and water supply restrictions.