

Water Conservation and Drought-tolerant Landscaping



Municipalities depend on local aquifers and rivers to supply water for all our local needs and while there may seem to be a never-ending supply, treated, drinkable water is becoming a valued resource that needs to be conserved. Using municipal treated water for our landscaping needs is not the best use for this energy-intensive process and faith communities may want to consider lowering the water demand of their properties. Faith communities can be leaders in their local neighbourhoods and lead by example through their *Care for Creation* outdoor actions such as using rain barrels, switching to xeriscape landscapes and changing some of their maintenance practices.

Native drought tolerant landscapes are a great option to consider for many different types of landscapes. Native plants are adapted for the climatic zone and local conditions and are more resilient to changes. They will stay green and colourful longer than exotic plants that can have high water demands and/or are not adapted to long hot, dry summers. They offer a lower-maintenance option for both small and large properties to help save water, money and or staff/volunteer time.

Xeriscaped landscapes are not just rock garden with some grasses. Succulents, flowers and even some shrubs and trees are drought tolerant. These types of landscape designs can be chosen for garden beds close to a faith building, around the outskirts of a property (to eliminate the need for watering), for landscaped areas of a cemetery or other ceremonial grounds, on higher areas on the property or in large swaths where you'd like to eliminate traditional grass that requires watering and mowing.

Water Conservation 101:

- Create healthy soil that supports healthy plants that can tolerate drought by adding manure or compost. Mix it into your current gardens and top up annually.
- Use mulch in gardens to lessen evaporation (see details tips on mulch below) and switch from overhead sprinklers to drip irrigators or soaker hoses installed under the mulch. This is a healthier way to water plants and can save up to 50% of the water from evaporation and misdirected watering.

search current garden plants and relocate plants that require high soil moisture together so as not to overwater other plants. When creating new garden beds keep in mind the water needs of plants and group similar ones together.

- Newly planted flora will need extra watering but once established, encourage your foliage (perennial flowers, shrubs and trees) to develop deep roots to survive fluctuating water levels by watering slowly, deeply (so water soaks in ground) but less frequently. A general rule is to water once a week to the level of 2.5 cms.
- Many lawns are composed of ornamental turf grass rather than native species which requires much more water than native grasses. If you have turf grass, allow your lawn to go dormant in the summer (which is a natural cycle for grass).
- Water trees during droughts rather than lawns. While trees do not show signs of stress during droughts many do need extra care. Damage due to drought shows up in trees in the next year, so watering (even if they do not seem to need it) ensures their long-term survival.

There are three garden items that are beneficial for all yards but especially for smaller landscapes and gardens close to buildings. They are a water gauge to determine how much rain water has fallen and how much extra watering needs to be done, a drip irrigator on a timer which is an easy investment if you have a small property or if you want to focus on one garden bed that may need extra watering and a rain barrel which keeps water on the property and allows rain water to be used for watering rather than treated potable municipal water.

- Group plants according to water needs. Re-

Different options for drought-tolerant landscaping can be chosen for your specific site and your garden maintenance requirements.

Add some drought-tolerant natives to current garden beds.

Choose a flower bed that you know has a few drought-tolerant plants already or a bed that has space at one end or another for three to four new native plants. Consider transplanting some water-loving plants out of certain garden beds to make some room for your new xeriscape foliage especially those that are found on a higher level where runoff is an issue. See Primer for planting tips.

Create or Replace a Garden Bed.

When locating a new garden bed, identify what soil type it is before choosing native drought-tolerant plants. There are also some hardy plants that will tolerate various soils (clays and sands) if it is difficult to determine. Some drought-tolerant plants like full sun but you will also find flora for shady areas. Get advice from your local nursery on the best plants. See Primer for planting tips.

No-Mow Grasses and Groundcovers.

Low maintenance drought-tolerant options include groundcovers and no-mow grasses. Native groundcovers will stay green longer during times of drought and don't need to be cut like traditional lawns. If choosing a no-mow native fescue grass, they are well suited for low-traffic areas and make a nice ground cover under a grouping of trees or around shrubs. They do well with some shade but can also flourish under sun. See the Sustainable Lawns, Ground covers and Alternatives Fact Sheet for other tips on groundcovers and no-mow grasses.

Urban Meadows.

Some meadow flowers are drought-tolerant and a unique garden bed or back property area could be converted to an urban meadow if there are some resources and volunteers. An oval or lima-bean shaped garden bed could be designated for meadow flowers such as Yarrow, Daisy, Goldenrod, Black-eyed Susan, Coneflowers and Asters. To ensure success, use seeds but also plant some as seedlings and include a few mature plants. Do

not use "meadow flowers in a packet" from large stores as these can have unwanted exotic plants. Know your identification for invasives that may already be in the soil such as ragweed, burdock, dog strangling vine and garlic mustard and eliminate these seedlings as they sprout up before they take a firm hold. Review the Urban Meadow Fact Sheet for more details.

Rock gardens

Rock gardens can be an attractive landscape feature, using large stones and small boulders interspersed with groundcover, flowers and some grasses. Research plants before you introduce them, as they can be hard to eliminate once the roots have taken hold between rocks. Rocks act as heat sinks, taking in the sun's rays and then radiating it back out once the sun sets which creates a micro-climate for the garden. Some plant suggestions include: Pussytoes, Prairie Smoke, Harebell, Lanceleaf Coreopsis, Moss Phlox, Common Bearberry, Ivory Sedge and Creeping Juniper. Some of these may need a soil that is on the acidic side.

Other Sacred Spaces

Memorial spaces, cemeteries and other sacred spaces such as a meditation garden can be an ideal testing ground for drought-tolerant landscaping. Not all areas need to be high-maintenance garden beds or lawns.

- Identify areas of the property that would benefit from water-saving initiatives. Work with natural features such as drier elevated areas and lower areas where water accumulates and plant appropriate native plants.
- Determine how much lawn is really necessary. Is there another more drought tolerant plant or other material that could replace it. Use pea-gravel or other permeable pavement options for gathering places instead of grass (as its water needs are high) that can stand up to high traffic or convert to a ground cover if there is no foot traffic.
- Consider pea-gravel or other inorganic permeable material for current impermeable surfaces that are creating run-off issues – such as when they are close to municipal roads.





- Consider drought-tolerant native (xeriscape) landscape features in far corners and/or higher grounds or along hilly, sloped surfaces or other difficult places to mow. There are drought-tolerant groundcovers, grasses and even shrubs.
- Add some native, perennial plants and shrubs along edges where weeds typically accumulate which will provide a natural but purpose-designed edge. Add signage to educate visitors to the benefits of native plants for sustainable gardening and pollinators.
- Identify areas that could be low maintenance areas where you could shift to native fine fescue grass to provide a more peaceful, natural looking space. These areas would require less weeding, twice a year mowing and no watering once the grasses are established. The best areas for fine fescues are low-traffic, shady areas. Add some colour and early season delight by sprinkling in spring bulbs and some other pollinator-friendly plants throughout the fescues.
- If fine fescues work for your space, consider providing a seating area that overlooks plots or has a great vista that is also situated under a tree for shade. This way visitors can spend more time visiting in a comfortable spot close to grave sites but not have to walk on the grass.
- Determine whether certain areas can renaturalize if a cut lawn is not necessary, such as in more historic areas of a burial ground. Pollinators will be attracted to these areas and there will be no watering requirements. Signage in these areas could also help educate visitors.

Mulch is a great way to save water

Mulches can be either organic or inorganic and are applied in gardens to act as a protective layer above the soil. Mulches can help retain moisture in the soil, suppress plant growth where it is unwanted, shade root zone areas and protect soil from erosion. If they are organic they can also biodegrade and add nutrients to the soil. Inorganic mulches include rock, stone and gravels and other materials. Organic mulches include chipped bark or wood, shredded leaves, coconut coir and others.

Depending on the number of garden beds on your property and your garden resources (volunteers vs landscaping company), consider creating mulches from organic materials readily available on your property including fallen leaves and grass clippings. This saves money and is much more sustainable than using packaged mulches.

Some tips when using mulch:

- Wet mulch right after spreading to encourage good micro-organisms to thrive and to give it some weight to stay in place.
- Add around five centimeters of mulch and top up when needed (yearly or every second year). If you are using mulch that doesn't break down quickly, your garden beds will need some extra compost every year to replenish nutrients.
- When mulching around new trees, do not create "mulch volcanoes" that supposedly help direct water towards the tree. Mulch should not be touching the trunk of trees (leave 13 cms or so) as trees breathe through their root flare and roots and too much moisture could encourage rot.
- If possible, add mulch around trees as far as the drip line or add a ground cover or fine fescue that won't compete for water with your trees.

Other watering tips to help with water conservation:

- Rain barrels provide free water for your landscaping needs. This stored water will help alleviate the demand for municipal water during drought periods and can be used with a timed drip irrigation systems if you have an electric plug nearby.
- Early mornings between 6:00 am – 9:00 am is the best time to water as there will be minimal evaporation from the hot sun during mid-day. Watering in the evenings keeps plants damp and cold and adds unnecessary stress.
- When possible, rethink and convert annuals, container gardens and exotic plants to native garden beds. Native perennial plants require less water, as they can develop a more exten-

sive root system over the years.

- If hand watering patches of lawn or specific garden beds, use shut-off nozzles on your hoses so that you are not wasting water walking back to turn off the water at the source.
- Ensure that hoses and watering equipment are in working order so that no water is lost through faulty equipment or leaks.

Links / Further Info:

Landscape Ontario – *Xeriscaping: Drought Resistant Gardening* :

www.landscapeontario.com/xeriscaping-drought-resistant-gardening

Ontario Invasive Plants Council – *Ontario Grow Me Instead* brochure :

Lists some drought tolerant native plants.

www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/GMI-Booklet_FINAL-FOR-WEB_May132016.pdf

