

# Delta Rain Gardeners Program

## Maintenance Manual



Corporation of Delta Engineering Department  
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Delta

*Prepared by the Corporation of Delta  
in cooperation with  
Cougar Creek Streamkeepers (North Delta/ Surrey BC)*

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# Welcome to Rain Gardening



Congratulations! You are now a steward of one of Delta's growing number of rain gardens. Not only are you helping to make our community more attractive, but you're also doing your part to conserve water and to protect and improve our natural environment, especially our salmon streams.

Your rain garden is designed to look natural rather than formal, so that it doesn't need a lot of upkeep. It may include native plants that are ideally suited to our local growing conditions. It may also include ornamental garden plants that have interesting foliage (leaves) or colourful flowers, and can tolerate the special conditions in a rain garden, such as summer drought on higher ground and flooding in the low areas.

Yet even rain gardens need a little care! Follow the simple steps in this manual to keep your garden functional and beautiful all year round. At the same time, you'll have many opportunities for hands-on learning and getting outside into your community. Passersby will stop to admire your garden and thank you for your efforts. You may even make new friends in the neighbourhood, and inspire others to become "green" volunteers too.

If you have questions, or you run into any difficulties while maintaining your rain garden, contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca)

Enjoy taking care of your rain garden!

## Getting Organized



Your rain garden is meant to be fun and beautiful, but it's also an important part of Delta's stormwater management system. It has some serious jobs to do:

- receive rainwater and snowmelt from a parking lot, street and/or rooftop
- soak up as much water as possible, while filtering out litter and pollutants
- allow any excess water to go down an overflow drain or other safe overflow route

***Maintenance has to be regular and reliable, not just "hit and miss". At a bare minimum, give your garden a "checkup" at least once a month and also after any heavy rainfall. Ideally, visit your garden more frequently – every week or two. Frequent light maintenance will keep it looking and functioning at its best all the time!***

### **IF YOU HAVE ADOPTED A RAIN GARDEN THROUGH DELTA'S "ADOPT-A-RAIN-GARDEN" PROGRAM, and do not wish to have student helpers ...**

It's simple! Set your own schedule and work at your own pace -- keeping in mind that frequent short sessions are best. ***Skip to page 4 of this manual.***

### **IF YOU ARE A PRINCIPAL, VICE PRINCIPAL OR TEACHER ORGANIZING MAINTENANCE FOR YOUR SCHOOL RAIN GARDEN ...**

Just 3 steps will put you on the right track:

1. Select a Rain Garden Team Captain (teacher, aide, parent or Delta-vetted rain garden adopter who is willing to work with students).
2. Create one or more Rain Garden Teams of up to 4 students each.

3. Schedule a regular weekly or bi-weekly time for checking the garden.

### **IF YOU ARE A RAIN GARDEN TEAM CAPTAIN (that is, an adopter working with student helpers)**

- You're a trusted adult or very responsible secondary or post-secondary student.
- You have some gardening experience and your own gardening equipment.
- You have time to visit the garden on a weekly or bi-weekly basis with students, even if it's for just a few minutes.
- You feel comfortable supervising the 4-student Rain Garden Team(s).

### **STUDENT RAIN GARDEN TEAM(S)**

- have 4 members each, or fewer, minimum age Grade 4.
- work in the garden one-team-at-a-time.
- are best drawn from one particular class, or from an organized green club or gardening club.

### **YOUR REGULAR WEEKLY OR BI-WEEKLY MAINTENANCE SESSION**

- might last only a few minutes.
- might last as long as 30 minutes, if there's a lot to do.

#### **DO SOMETHING EVERY WEEK OR TWO!**

Don't wait for your garden to become a big mess,  
and then feel too overwhelmed to tackle it.

Read "We're in the Garden, Now What?" p. 8-9  
for tips on prioritizing your tasks.  
If you schedule regular short sessions,  
your garden will always look great  
and you'll have more time to enjoy it.

## Rain Garden Maintenance Equipment



### FOR ADOPTERS WORKING ON YOUR OWN, WITHOUT STUDENT HELPERS

We ask that you use your own personal gardening tools such as trowel, shovel, rake, pruning shears, etc. See below for suggested equipment. Delta can provide some small supplies as needed, such as work gloves and litter bags. Contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) if you need these.

### FOR TEAM CAPTAINS WORKING WITH STUDENTS (4 at a time)

The Corporation of Delta provides a maintenance kit for your student helpers to use. (We ask that you provide your own tools for yourself.) You may store the kit in a convenient location at school or at home, but it remains the property of Delta. Here's what it contains:



#### 4 PAIRS OF GLOVES

When these get dirty, hand wash in warm water with mild soap. Hang to dry; do not put in dryer.



#### 4 PRUNING SHEARS

To keep blades sharp, use only to trim plants. Do not attempt to cut metal, paper or concrete! Wipe clean with soft rag; oil moving parts occasionally with a drop of 3-in-one oil.



#### **4 TROWELS**

For weeding and planting – **not** for sword fighting, bashing chainlink fences, or other creative play!



#### **2 SMALL LIGHTWEIGHT RAKES**

For raking up fallen autumn leaves.



#### **2 SHORT D-HANDLE SHOVELS**

Excellent for digging planting holes for larger plants, also for loosening soil in order to pull larger or more deeply-rooted weeds.



#### **4 MULTI-PURPOSE GARDENING BAGS**

Use & re-use these bags to collect litter or weeds, spread mulch, etc. If they get really dirty, hand wash in warm water and hang to dry.



#### **1 MULTI-PURPOSE GARDENING BIN**

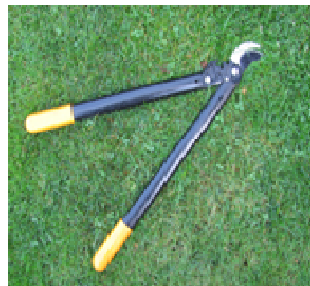
Maintenance kit storage bin can double as a watering can or a container for green waste, compost or woodchips.

You may occasionally want to use equipment not included in the maintenance kit, such as a broom, wheelbarrow or long-handled pruning shears. You'll have to borrow these – for example from the school custodian or a friendly neighbour. Be sure to clean and return what you borrow!



#### **BROOM**

If your garden is directly alongside a sidewalk or other paved surface, you'll sometimes need to sweep that surface clean. To sweep efficiently, remember to hold the broom as upright as possible and press down on it a bit as you sweep.



#### **LONG-HANDLED PRUNING SHEARS**

These large pruning shears should be used only under the supervision of an experienced gardener who knows exactly what to cut and why. It's easy to ruin a tree or shrub, with a single unwise cut. Contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) for advice or assistance.

**Note that pruning of boulevard street trees must be done by  
the Corporation of Delta's Department of Urban Forestry.**

## Safety Guidelines



Please work safely at all times!

Review the area where you'll be gardening and make a mental note of any potential dangers, such as sloping terrain, tripping hazards, etc.

If gardening near traffic, wear a safety vest and watch out for vehicles. Remember, drivers may not expect you to be there!

Wear gloves at all times.

Use caution when working around thorny plants such as roses or berberis.

Use caution when picking up litter; look before you touch!

Use litter tongs to pick up any sharp objects such as broken glass.

Do not handle hazardous items that may contain corrosive or infectious material – such as car batteries, dead animals, syringes, etc. Contact the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) to arrange for safe disposal of these items..

## We're in the Garden, Now What?



You've put on your gloves, picked up your tools and headed out to the garden. After taking a few moments to enjoy the scene, you start to notice things that need doing – a piece of litter here, some weeds over there, a groundcover plant rambling out over the imitation streambed, a little pile of dead leaves right where rainwater is supposed to flow into the garden from the pavement.

Where should you begin? What's most important? If you have only a bit of time, what's the fastest way to get the garden looking good? ***Here's your list of priorities:***

### **PRIORITY #1: Clear the intake(s) and overflow(s)**

Make sure that the rainwater intake zones are clear of litter, dead leaves, sediments or anything else that could block the flow of water into the garden.

Also make sure that the overflow drain or other overflow route is clear, so that any excess water not absorbed by the garden can flow safely away.

***Your garden is a functioning part of Delta's "stormwater management system", so the top priority is to keep it in good working order! It's particularly important to do this after any heavy rainfall.***

### **PRIORITY #2: Pick up litter**

Pick up all litter, even cigarette butts. Litter makes a garden look uncared for, which attracts more litter. A litter-filled garden is also more likely to be vandalized. **Please read Safety Guidelines p. 7.**

### **PRIORITY #3: Remove worst of weeds**

Look for weeds that are tall and/or flowering and/or going to seed. Pull or dig them out right away, before they have a chance to spread their seeds throughout the garden. You'll be preventing a lot of

future weeds – and also quickly making the garden look a lot tidier (since mature weeds are usually messier-looking than small young ones).

Not sure what's a weed? Send a photo of the mystery plant to Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca)

## **PRIORITY #4: Tidy up garden edges**

Tidy up the edges of your garden – for example, where the garden meets the sidewalk, pavement or imitation streambed. When passersby see tidy edges, they're much less likely to notice a few weeds still lurking elsewhere in the garden.

How do you make tidy edges? Remove any weeds there, and trim back any plants that are straying messily over the sidewalk, pavement or imitation streambed. A bit of overhang can sometimes be pretty of course – so use your common sense and your aesthetic sense!

## **PRIORITY #5: Weed and trim everywhere**

Weed and trim as needed in the rest of the garden.

## **SPECIAL PROJECTS**

Always take care of Priorities 1 and 2. After that, sometimes you'll just need to ignore the rest of the priorities, in order to do a special project. Go for it!

### **Examples of special projects:**

- \* Rake up fallen autumn leaves and put into compost or green waste bin.
- \* Remove a plant that has died and put into green waste bin.
- \* Plant one or more new plants in an area that looks empty.
- \* Trim off dead sword fern fronds in spring, just before new fronds emerge.
- \* Mulch any bare soil with woodchips, to hold moisture and prevent erosion. This is especially useful in late spring to prepare the garden for dry summer weather, and in autumn to protect the soil from pounding winter rains. Contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) to arrange a supply of woodchips.

To learn more about how to keep your garden looking great all year round, see **Gardening Like a Pro** (p. 11-14) and **Through the Seasons** (p. 15-16).

## When It's Raining



A rainy day is a perfect day to make sure that your rain garden is working the way it's supposed to -- so put on your jacket and work gloves, grab a trowel or rake just in case you need to clear a blocked inflow zone or overflow drain, and head out to have a good look at the garden.

**1. Does rainwater flow easily off the street, parking lot or rooftop and into the rain garden, or is it blocked by debris?**

Clear away any blockages, such as tree needles, leaves, sand, soil or litter. The needles, leaves, sand and soil are good for plants, so spread them underneath trees and shrubs.

**2. Is water spreading nicely around the garden so that it has lots of places where it can soak into the ground?**

Again, clear away any blockages.

**3. Is the overflow route and/or overflow drain clear?**

Make sure that if there's more water than the garden can handle, the excess water can drain away safely so that the garden won't overflow onto the sidewalk, parking lot or street. Again, clear away any blockages.

**4. Is there water pooling in the garden?**

That's good! As long as the water doesn't get too deep, and as long as it soaks into the ground within 1 to 3 days after the rainfall or snowmelt has ended, then your garden is working just right.

Rainy day mission accomplished! Now head back indoors, hang up your wet jacket and enjoy the pleasure of a job well done!

# Gardening Like a Pro



Gardening is just like learning a sport or a musical instrument. With a little bit of regular practice, you can master all the basic skills, do things quickly and easily, and have fun at the same time.

**Here are all the basic skills you need to know. You don't have to read all of this right now, just read the bold titles, and then refer back to it when the need arises.**

## **DECIDING WHAT IS A WEED**

Your rain garden was designed with specific plants. Other plants are sure to start growing on their own.

Many of these “volunteer” plants will be common garden weeds such as dandelions, clover, snapweed or buttercup. You'll want to pull or dig these out, because they look messy and also tend to take over the garden.

But what about other “volunteers”, such as a soft carpet of bright green moss that soaks up water like a sponge? Or a tall fireweed with its vivid pink flowers that bees love? Or the slender spikes of the common rush, a plant that does well in damp places?

It's **your** garden, so you get to decide which volunteer plants are weeds, and which ones you'd like to keep. You might even choose to dig up a volunteer plant and plant it somewhere else in the garden where you think it will look better.



## **WEEDING**

Some weeds have shallow roots and can be pulled up very easily. Just grab the base of the weed between your thumb and index finger, as close to the soil as possible, and give it a tug. Out it comes! Shake any dirt off the roots (dirt is plant food, not to be wasted). Put the weed in your gardening bag.

Other weeds, like dandelions and horsetails, have deep roots and should be dug up. Here's how to dig them without making a great big messy hole in the garden:

Push your trowel or small shovel **straight down** into the soil (not sideways), right next to the weed and as deep as you think the roots go. Rock the trowel slowly back and forth in the ground, to loosen the soil near the roots. Using your free hand, grab the base of the weed between your thumb and index finger, as close to the soil as possible, and pull. Keep working the trowel slowly back and forth, while you steadily pull on the weed until it comes out, roots and all. Shake any dirt off the roots, and put the weed in your gardening bag.

When full, your gardening bag can be emptied into a compost pile or green waste bin.

## DEADHEADING

“Deadheading” means removing dead flowers from a plant. Many gardeners do this because it makes the plants look tidier, and it also encourages them to keep producing more flowers.

Other gardeners like to leave the dead flowers on the plants, where they will produce seeds that birds might enjoy eating. Some of the seeds may end up in the ground and grow into new plants. (This often happens with Spanish lavender, for example.)

Deadheading can be done either by snapping the dead flowers off with your thumb and index finger, or – for flowers with stronger stems – snipping them off with your pruning shears. Put them in your gardening bag.

When full, your gardening bag can be emptied into a compost pile or green waste bin.

## PRUNING

Be careful with the pruning shears, as they can be very sharp. Here are some of the jobs that pruning shears are good for:

- deadheading flowers with tough stems, such as lavenders and roses
- removing dead twigs and branches from shrubs
- trimming groundcover plants to make a neat edge along a path or sidewalk



Try to make your pruning invisible. Plants with many very small leaves and stems (such as heathers, lavenders, boxwood and kinnikinnick) can be “sheared”, which means that you grab many little stems together in one hand, and with the pruning shears in your other hand, you cut all these little stems at once, to the same length.

Shearing is **not** good for plants with thicker stems and fewer, larger leaves. These plants will look better and be healthier if you trim one stem at a time. Always cut back to a leaf or leaf bud, or to another stem or branch, so that the plant looks natural. Don’t leave stubby bare bits of branch sticking out all over.

Soft prunings can be placed in a compost pile; woody prunings must go into the green waste bin.

**Note that pruning of boulevard street trees must be done by the Corporation of Delta's  
Department of Urban Forestry.**

## **RAKING**

A layer of dead leaves and needles on the soil can help your rain garden to absorb more water. Dead leaves and needles also protect plant roots from heat and cold, and as the leaves and needles decompose, they add nutrients to the soil. So ... it's best not to rake all dead leaves and needles away.

On the other hand, you'll want your garden to look somewhat tidy and well cared for. You can do this by raking dead leaves and needles out of your garden's imitation streambed, and putting them on the ground underneath your shrubs. Also, if large amounts of dead leaves and needles have fallen right on top of shorter plants, gently rake those off, or brush them off with your gloved hands.

If you have a very large amount of leaves and needles, more than you can spread neatly underneath shrubs, then you can put them in the compost or the green waste bin.

## **COMPOSTING**

Do you have a compost pile or box? If so, after you've filled your gardening bag with weeds, dead flowers, etc, empty it into the compost. (Do not put woody trimmings into the compost.) Keep the compost slightly moist, either by letting rain fall on it or by sprinkling it if necessary. Within a year, worms and other small creatures will have turned your weeds and soft trimmings into rich soil that you can put back into the garden.

*Note: If weed flowers are already producing seeds (such as dandelion fluff), put them in your green waste bin for pickup. Same thing goes for woody materials that may not break down in your compost bin. Green waste facilities can compost these items properly.*

## **PLANTING**

Sometimes a rain garden plant will die and you'll notice a bare spot in the garden that you'd like to fill in. Contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) to inquire about getting a replacement plant or plants.

Alternatively, you or a friend or neighbour may have extra plants such as divisions of perennials, that you can put into that bare spot. Just remember that gardens tend to look best if you stick to the same types of plants that are already there, or if you plant at least three individuals of a new species. To avoid planting any invasive species, visit [www.invasiveplantcouncilbc.ca](http://www.invasiveplantcouncilbc.ca)

**To plant:** Dig a hole with your trowel or small shovel. As you dig, place the dirt carefully to one side of the hole because you're going to need it again for backfilling. (Don't put the dirt on the gravelly imitation streambed!) Your hole should be the same depth as the rootball of the plant, and about twice as wide. Make sure that the bottom of your hole is flat rather than pointy, so that the plant sits comfortably there.

If your new plant is in a plastic pot, here's how to get the plant out: Squeeze the plastic pot all around, or roll it carefully on the ground while pressing firmly, until the plant's root ball comes loose from the pot. Ease the plant gently out of the pot, then loosen the plant roots a little with your fingertips. Set the plant in the hole, adjust the size of the hole if necessary, and then backfill the hole with the soil that you dug out.

Now use both hands to pack the soil firmly around the plant, so that it's nice and snug in its new home. Water the plant deeply, unless the soil is already very moist.



## MULCHING

One of the very best things you can do for the health of your rain garden is to mulch it – which means, to cover the soil with a layer of organic matter such as compost, woodchips, straw, dead leaves, or tree needles.

Mulch helps the garden soak up water, discourages weeds, and protects against soil erosion (washing or blowing away of soil by water or wind). Mulch also keeps plant roots moist and cool in summer, and protects them from freezing in winter.

Woodchips from tree prunings are the most frequently-used mulch in Delta's rain gardens. Contact Cougar Creek Streamkeepers [inielsen@dccnet.com](mailto:inielsen@dccnet.com) or the Corporation of Delta's Engineering Department [engineering@delta.ca](mailto:engineering@delta.ca) if you need mulch for your rain garden.

## WATERING

Rain gardens generally do not need watering, once they are 2 or 3 years old, as long as you keep a good layer of mulch on top of the soil. Mulch helps the soil to absorb rainwater, and also prevents that water from evaporating back out into the air.

The only time you may need to water is when plants are still young, or during an extended dry spell. In these cases, water deeply once every week or two; do **not** sprinkle lightly and often.

## SWEEPING

Whether you've been weeding, deadheading, pruning, raking, composting, planting or mulching, you may have spilled some dirt and bits of plants on the sidewalk, parking lot or street next to your rain garden. This takes away from the beauty of the garden, and can even send out a message to passersby that they can drop their garbage right into the garden!

So be sure to sweep or rake away any messy bits when you're done. When sweeping, hold the broom as upright as possible and press down a bit, in order to push the dirt efficiently.

Dirt, fallen leaves and tree needles are good for the garden, so sweep them right in, being careful not to bury any plants! Excess leaves, needles, weeds, prunings and dead flower heads should be put into the compost or green waste bin, and of course litter in a litter bag or bin.

# Through the Seasons



Each season in the garden has a special feel to it, as well as special tasks that need to be done. Here are a few things to look for and activities to do. All the gardening skills you'll need are described in **Gardening Like a Pro** (p. 11-14).



## Fall Activities

- Autumn leaves & late-flowering plants bring a mellow beauty to the garden. Rake fallen leaves gently out of shrubs and off the imitation streambed and the sidewalk, but leave a nice layer of them on the soil, for winter protection.
- Spiders have spun their webs in some amazing locations – what engineers!
- Time to “winterize” the garden, which includes weeding, trimming back dying flowers and foliage, and mulching the soil to protect it from pounding rains and freezing temperatures.
- Do leave some seedheads for hungry birds to nibble through the winter.



## Winter Activities

- The garden is resting, perhaps under a blanket of snow.
- Even the weeds are taking a break, thank goodness.
- Yet some plants are already forming flowers, such as viburnums, rhododendrons and heathers.
- It's a great time to see the rain garden in action, and make sure that it's working properly. Just follow the steps in **When It's Raining** (p. 10).
- Enjoy the peaceful beauty of winter, and look forward to the energetic new growth of the coming spring.



### Spring Activities

- The garden is fresh and growing! Including the weeds ... Time to get out the trowels.
- Trim off old seedheads that were left for winter birds.
- Trim off any dead twigs or branches. Remember, a bare branch may still be alive, it just hasn't grown new leaves yet. If you scratch it with your fingernail and see a bit of green under the bark, it's alive.
- If there are ferns in your garden, trim off old fronds and look for new curled-up fronds to start emerging from the soil.
- If there are mugo pines in your garden, trim each "candle" (new growth) to ½ its length, to keep the plants compact.
- Look for worms, bugs, slugs, birds and bees, living or feeding in your garden.
- In late spring, mulch the soil to keep plant roots cool and moist when summer weather arrives.



### Summer Activities

- Aaah, the garden is full of lush foliage, flowers and delicious scents.
- Look for lots of bees visiting the lavenders and other flowers.
- Cool mornings and late afternoons are ideal for some weeding, deadheading, and light trimming. Neighbours and passersby might stop to chat.
- Long dry spell? Give a deep drink to any new or struggling plants, once every week or two.
- Rain Garden Adopters and Team Captains: If you're going on holiday, please ask a friend or neighbour if they would check up on the rain garden while you're away.

## ENJOY YOUR RAIN GARDEN!

... and whenever you go for a walk along one of Delta's many salmon streams  
(Blake, Collings, Cougar, McAdam, Nelson View, Norum, Sunbury, Watershed and more!)  
give yourself a pat on the back.

Your volunteer work in the rain garden is helping to  
protect and improve the health of these natural habitats.