Greening Sacred Spaces

Native Plant Garden Guide

Tips for Native Plant Gardening at your Faith Community



Photos courtesy of Credit Valley Conservation Authority



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Faith & the Common Good

In partnership with the North American Native Plant Society

North American Native Plant Society

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Introduction

This guidebook is designed to help faith communities plan and maintain a successful native plant community garden. It is designed to accompany the Pollinator Habitat Guide, produced by the Toronto Regional Conservation Authority. The Pollinator Habitat Guide is an excellent source of information about how to create a pollinator habitat; one that will protect bees, butterflies and hummingbirds. This Guide can be downloaded for free: http://trca.on.ca/dotAsset/150579.pdf

We are very grateful for the assistance that the North American Native Plant Society has given, in editing this guide and providing garden design drawings. It would not have been possible without their expertise. Their website is a great resource for native plant gardening: http://nanps.org/

Setting up a Native Plant Garden

Good gardens need good bones and this can easily be accomplished by carefully planning what type of garden makes sense, within both a spiritual and practical context.

There are key factors to consider, when planning a garden.

1. Factors in Determining the Scope

An underlying feature of planting a native garden is the belief that we are stewards. Native plant gardens help us to take care of the earth; whether helping mitigate and adapting to climate change, providing food and shelter for pollinators and other native species, or creating a sense of social bonding with each other.

Function: Each community will have its own rationale for planting a garden, and it is helpful to determine beforehand what these are. Have a discussion about why your group wants to create a native plant garden; it will help solidify the purpose for doing it, and in turn, it will motivate participation and engagement. Ask the group about the definition and benefits of native plants; if they don't know them, this will provide a teaching moment, in order to help set the stage.

Definition & Benefits: A native plant is a plant that grew in a region, prior to the arrival of European settlers. Native plants are local indigenous, and therefore, they are much more resilient.

Why are native plants good for the environment? There are three key reasons; they may require less watering, they provide pollen and nectar for pollinators (bees, insects, butterflies and birds), who are in turn, are responsible for 70% of the fruit and vegetables we eat. Lastly, they provide valuable habitat

and shelter. This is becoming increasingly important, with the development and degradation of the natural world.

According to native plant expert Lorraine Johnson, there is a complex, symbiotic relationship between plants and insects. “When you garden with native plants, you are automatically gardening for wildlife too”. One example of this: monarch butterfly larvae will eat only milkweed as their host food. There are numerous other examples of insects, butterflies, bees and birds that rely on certain plants for their food source, pollen and nectar.

Habitat and Soil: Habitat is a place where nature thrives. It provides food, shelter and nesting possibilities. The most common types of habitat for an urban garden are: Woodland, Prairie and Meadow. A bit of research will help you identify the right plant for your location.

Woodland plants prefer to grow in a tree canopy habitat and they prefer rich soil. Prairie plants are found in wide open spaces and can grow in a variety of soil types. Meadow plants also grow in various types of soil, and do well in urban habitat, where trees have been cut down to build homes.

Soil chemistry can sometimes have a significant role in gardening. Determine if your soil is composed of sand or clay. Adding compost and/or leaves will help aerate the soil and retain moisture.

Sun and Moisture: Not surprisingly, woodland plants grow best in the shade, and meadow and prairie plants grow best in full sun. Prairie plants require at least 6 hours of sun a day. Many native plants will grow in either sun or shade, or variations of either.

Typically, native plants are adapted to local environmental conditions, and thus generally require less watering when established; 1 to 2 times a week for Year 1, and once weekly/bi-monthly, depending on the amount of rainfall in Year 2 and beyond.

It is a good idea to buy a watering hose that can reach the garden, or a rain barrel, especially in Year 1, when the roots are being established.

Budget: For Year 1, a good rule of thumb is 80% of the budget for seedling or plants, soil, manure and mulch, and the remaining 20% for hard goods such as stakes and garden tools. A budget can help prioritize the work to be completed, organizing it into phases, if need be.

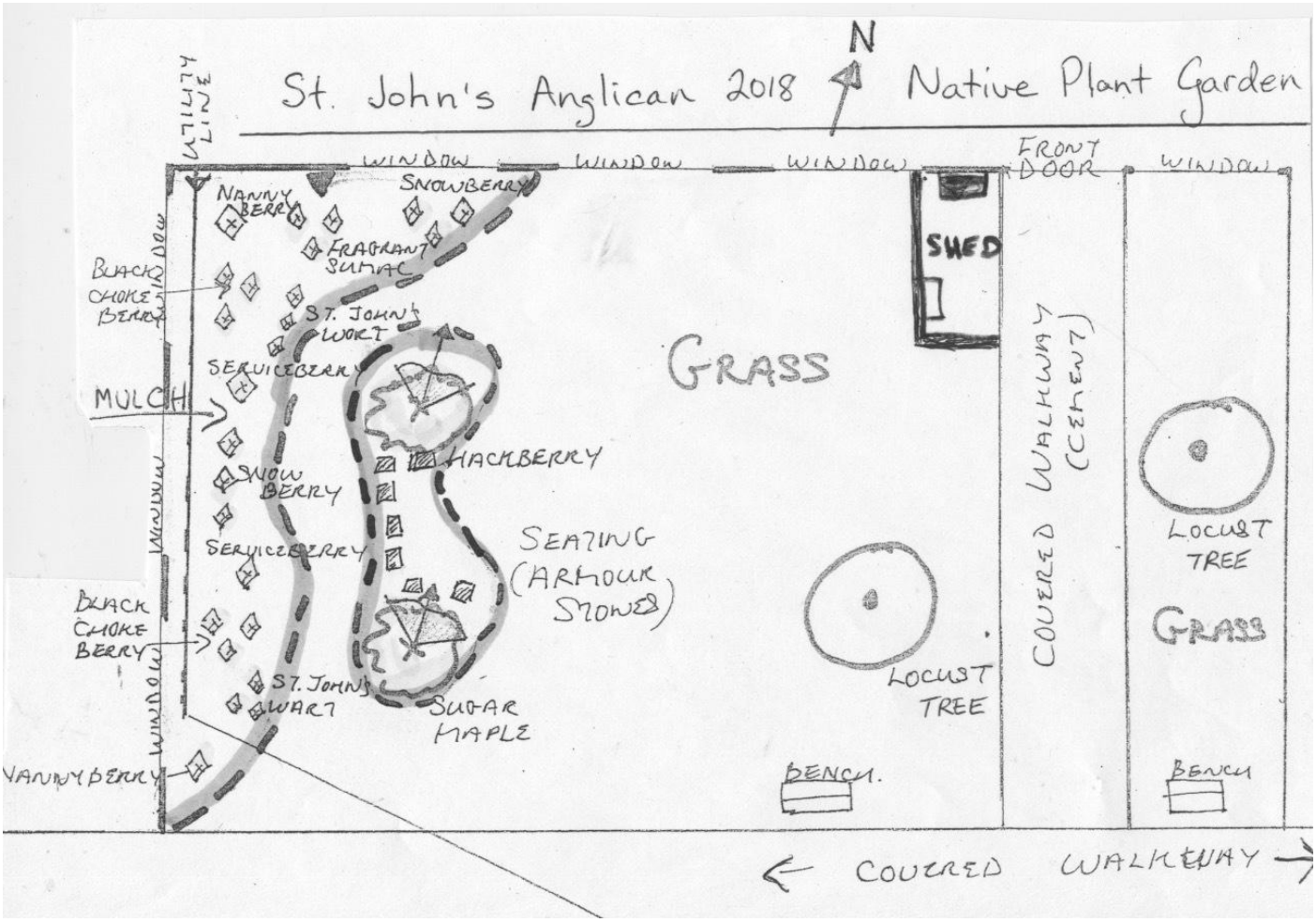
Time Commitment: A small garden needs approximately 2 hours of weeding and 2 hours of watering each week. Find out the number of hours your volunteers are willing to contribute. Ask them if they will volunteer for at least 2 years? This will help determine if you have a solid maintenance plan for success. One of the key ingredients for a garden’s success: the ongoing commitment of people to care for and maintain the garden over time.

Size: Both budget and time will help you to decide the size of the garden. It’s best to start small and then add on in subsequent years. If you already have a garden, with non-native flowering plants, you may wish to add native plants, or replace non-native ones with native ones, if they die. If you are creating a new garden, then you can have any type of design.

2. Mapping

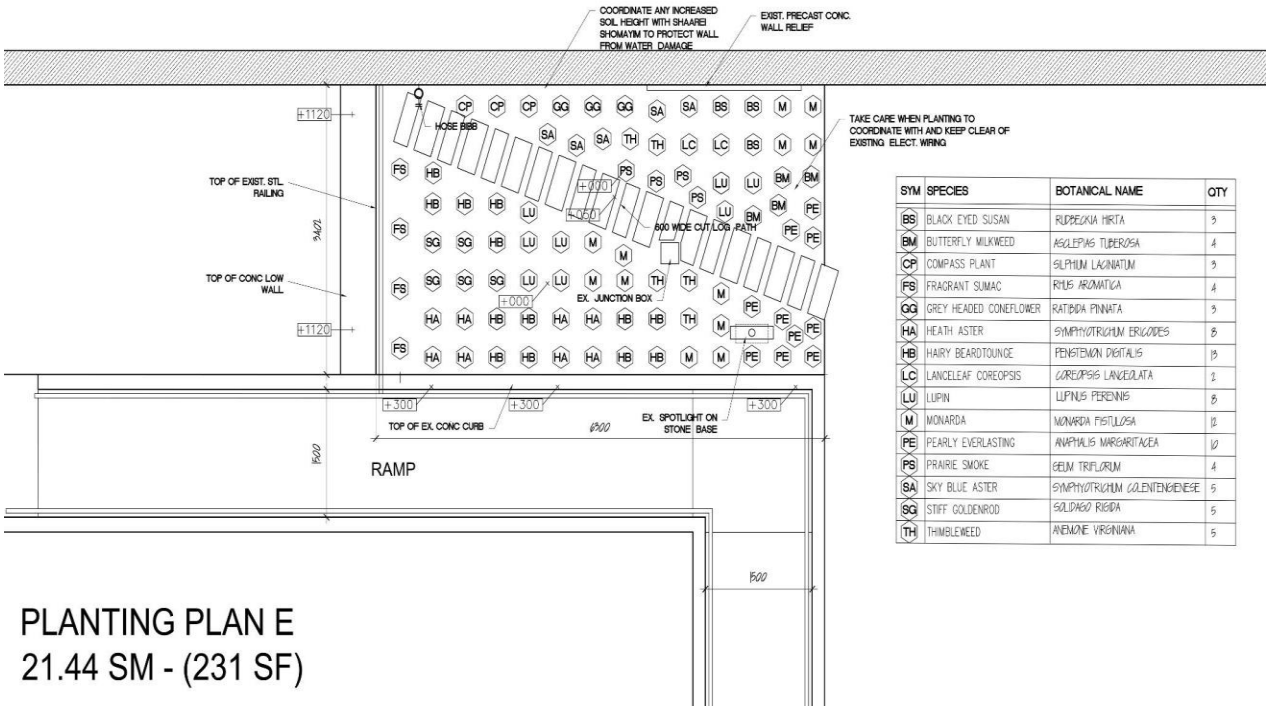
Take photographs of the proposed garden area from as many angles as possible. Then begin to sketch the features of the garden, using a view from above, in order to help better visualize it. After you have done this, draw a plan to scale, using graph paper – See page 7 of this guide. Be sure to draw in all vertical elements such as fences, buildings, trees; as well as hoses, paving stones and parking access.

Build a three –dimensional garden, with small plants in front and tall ones in the back.



Don't worry about how professional your drawing looks. Think of your drawing as a way to help others in your group appreciate both the functionality and the aesthetic details, including garden size, location, and plant selection.

2017 Shaarei Shomayim Congregation Native Plant Garden Sketch



SYM	SPECIES	BOTANICAL NAME	QTY
BS	BLACK EYED SUSAN	RUDBECKIA HIRTA	3
BM	BUTTERFLY MILKWEED	ASCLEPIAS TUBEROSA	4
CP	COMPASS PLANT	SILPHIUM LACINIATUM	3
FS	FRAGRANT SUMAC	RHUS AROMATICA	4
GG	GREY HEADED CONEFLOWER	RATIBIDA PINNATA	3
HA	HEATH ASTER	SYMPHYOTRICHUM ERICOIDES	8
HB	HAIRY BEARDTOUNGE	PENSTEMON DIGITALIS	13
LC	LANCELEAF COREOPSIS	COREOPSIS LANCEOLATA	2
LU	LUPIN	LUPINUS PERENNIS	8
M	MONARDA	MONARDA FISTULOSA	12
PE	PEARLY EVERLASTING	ANAPHALIS MARGARITACEA	10
PS	PRAIRIE SMOKE	GEUM TRIFLORUM	4
SA	SKY BLUE ASTER	SYMPHYOTRICHUM COLENTENSENESE	5
SG	STIFF GOLDENROD	SOLIDAGO RIGIDA	5
TH	THIMBLEWEED	ANEMONE VIRGINIANA	5

Regardless of your design skill, it is a good idea to make a list of plants that you want to grow and show these on the map. If you are planting border gardens, make them as wide as possible, in order to have as many native plants are possible.

Plant selection should be diverse, in order to establish a variety of flowering types and bloom times. Try to decide where to store garden tools and supplies. Perhaps there is already an outdoor shed which can be locked. If not, consider storing supplies inside the building for safe keeping.



Garden Grid

Use the grid on this page to sketch the layout of your garden, recording locations of key features, hard scaping (driveway, sidewalk, parking space), and existing and new plant beds.

GARDEN GRID SKETCH DRAWING

Forming a Volunteer Team

This is the people part and its importance can't be underestimated. You can have a solid plan and a good map, but you need a team of volunteers, with lots of enthusiasm and commitment, to make it all happen.

Volunteers give "thumbs up" at IMO (International Muslim's Organization), Toronto

Strategy: When looking to recruit volunteers, it is easiest to start with those who belong to your faith community. Reach out to other groups that may lease space from you. Members and partners may spread the word to new people, who may also offer to volunteer.

Some existing groups within a faith community or congregation include Environmental, Property, Social Justice, Outreach, Hospitality, Youth and Elder's groups. Other groups to approach include those who rent space in your building; Brownies, Guides, Beavers, Scouts, AA, OA, Fitness, Yoga, and any other organizations that use your space.

Building strong partnerships within the community can also to attract volunteers. Some of these include Senior's Homes, Schools, Master Gardener Clubs, service organizations such as Kiwanis, Lions or Business Improvement Areas (BIA's), and other local faith communities.

After you have formed the team, have an in person meeting. Present your plan to the team, and outline the proposed scope and outcomes of the garden. If you already have a drawing, show it to your team and ask them for their feedback. Find out if there are any native plants that they would like to substitute; this will increase buy-in and help them feel that this is "their community garden". If the team wants to substitute butterfly milkweed for wild bergamot, don't hesitate to revise your plan.

If you do not already have a garden drawing, ask someone on your team to do one, and present it to the group. Ask the team for their feedback; revise it, if required. Remember to put the garden drawing in a plastic sleeve and attach it to a solid surface in the garden; it will serve to motivate and guide the gardening team.

Jacob, youth leader at Shaarei Shomayim native garden, giving encouragement to younger ones

Skill Set: It is important to have a project leader from your faith community. This person is responsible for recruiting the volunteer team and for the overall deliverables or outcomes of the project. This person must have strong planning and people skills. Previous project management experience is also very helpful.

The project leader needs to decide what the required skill sets of the volunteer team are and who he or she wants to approach to be a volunteer. One person will be needed to help plan and do a drawing of the garden; artists, landscape designers, architects, or engineers may be good candidates. Another person will be needed for communication, and this person will be responsible for informing and updating the gardening group, the faith community and the community at large.

It is helpful if there are people on the team with previous gardening experience, but "newbies" are also welcome, as they add to the excitement and enthusiasm. It is also fun to have young and old, people of different cultural and religious backgrounds; this adds to the spirit and diversity of the volunteer team.

Doing the Ask: Always ask someone to volunteer in person, rather than by telephone or in an email. This is much more personable and it is always delivers the best results. Remember to tell the person why you want them to join your team. "I would love to have you on our team- as you have the communication background we are looking for, and we need someone who can update the community on our progress, keep track of community involvement and help us showcase our garden".

Planting a Garden

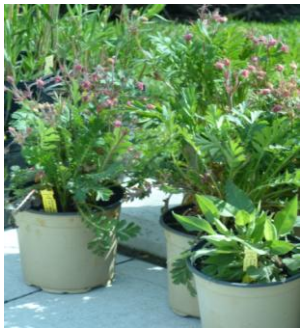
When to plant: A general rule of thumb is to plant seedlings and plants in spring, after the frost warnings are over. However, if you are planting seeds, pot them up in the late summer or early fall and plant them in the ground in the spring, after the necessary cold dormancy period. The exception is with plants that have fleshy berries; it is best to plant these when they are fresh, before the seed dries out.

Plant Selection: Plants should be selected according to habitat, sun, soil and moisture requirements. For example, if you select Ontario White Trillium or "Trillium Grandiflorum", make sure that you plant in a shaded woodland area, with rich, humus soil and plenty of moisture.

When sourcing plants, it's best to find a nursery that can guarantee that its plants have been grown locally, as they are more likely to be hardy and be able to adapt to the soil and moisture conditions. Ask the staff where the plants are grown and do your research. If they are imported from hundreds or even thousands of kilometres away, then don't buy them.

It is also a good idea to do your research and to avoid confusion, try to use the Latin name or "binominal" of a plant. It is composed of two words; the first one is the genus and the second one is the name. This will come in handy when purchasing, as some nurseries will refer only to the first name and you could end up buying a different plant than intended, or a non-original native plant, such as a cultivar or hybrid.

Here is an example of why the Latin name is of importance. If you wish to plant Monarda, there are two types of plants to choose from: "Monarda didyma" (bright red flower) or "Monarda fistulosa" (lavender/pink flower). Common names for monarda are bee balm, Oswego tea or wild bergamot. The popular name bee balm is used for both types of monardas, whereas Oswego tea refers to "Monarda didymia", and wild bergamot refers to "Monarda fistulosa". For a complete guide of what to plant and where, go to http://nanps.org/native-plant-database or https://nativeplants.evergreen.ca/



Depth: Most roots will naturally penetrate to a depth of 12 - 18 inches (30 -45 cm) or more, seeking moisture and nutrition. It is a good idea to use a spade to dig a hole to a depth of at least 1 foot (30 cm). If you are fortunate enough to see good brown topsoil down to that depth, you are starting out well.

More likely you will find, in an area not previously gardened, perhaps 2 to 6 inches (5-15 cm) of topsoil, and underneath, varying degrees of sand, clay and shale.

Drainage: Drainage refers to the garden's ability to pass water into the subsoil, thus preventing water logging; it ties in closely with depth. Many root systems do not develop properly if they are forced to exist for long periods of time in heavy mud. Good drainage encourages quicker soil warm-up, prevents erosion of topsoil in heavy downpours, and provides the right conditions for bacteria to convert organic matter into readily available nutrients.

If you have an area that has poor drainage, consider plants that don't mind having "wet feet".

Soil Amendments: No matter what the PH level is, your garden will flourish if you add leaves and compost. Before starting, accumulate as much leaf matter or mulch as you can. Leaves help create a healthier garden in four ways; they provide free soil, free nutrients, and free weed control, when used as a mulch. Leaves also help your garden retain moisture, so you can water less. It is important to keep the ground covered with mulch, to maintain moisture and increase absorption from watering or rainfall. There is lots of information on leaf composting, and you will find it is easy to do. Some cities, such as Toronto, offer free leaf compost earth every year and it is very good. https://www.toronto.ca/services-payments/recycling-organics-garbage/community-environment-days

You can also use organic kitchen scraps and plant leftovers from the composter, leaves and grass. There are no rules about how much to use. Be as generous as possible, keeping in mind that you want to try to divide what matter you have available, equally into the area you plan to dig. You can't overdue it, when it comes to adding organic materials to your garden. The more you put in, the happier your garden will be. It all adds to richer and better drained soil. Good soil/good drainage/good roots = healthy plants.

Tools Required: Some of the basic tools include spades, hand fork, trowel, rake, pruners and hoes. Spades and forks are needed for digging and preparing the soil; spades are good for light soils and forks for heavier soils. Trowels are useful for planting and for weeding small areas. Rakes are handy for covering the garden with a thin layer of soil while planting, or in cleaning up the garden.

Some other supplies that you will want include poles that can be used as climbing aids, and natural fiber binding string. Old nylon stockings cut into strips will also work extremely well.


Digging holes with shovels, at Shaarei Shomayim Synagogue and Manor Road United, in Toronto

Container Gardening: Container and roof top gardening are becoming increasingly popular, especially in urban areas, where land is scarce. The benefit of container gardening is that you can plant on hard surfaces, and move plants around, if their original location isn't ideal.

Large containers 2 ft X 2 ft (60 cm X 60cm) or greater, are recommended, as they will require less watering. Use containers with drainage holes. You'll find that you need to water plants more often than with an in-ground garden, especially during heat waves. Water until you see it come out of the drainage holes at the bottom of your pot. Container plants also require light weight soil. Garden soil is usually too heavy, so buy potting soil or make yourself a batch of soil, using peat moss and top soil. For optimum growth, manure tea is recommended; it will build up the organic content of your soil.

Roof top gardening: Rooftop gardens make use of the same planting structures, as those of container gardens, with the exception of rigorous green-roof code structural and drainage requirements. Beds with open bottoms, will improve the reduction of load and proper drainage. Amazingly, only 10"-1' (25 cm - 30 cm) of soil is required to grow roof top native plants. Consult the Toronto municipal green roof code guide for specific instructions. https://www.toronto.ca/city-government/planning-development/official-plan-guidelines/green-roofs/


Youth at Manor Road United pose for a photo after planting their native garden

Maintaining a Garden

A successful garden is the result of a dedicated team of community volunteers for multiple years. Commitment to maintaining a garden (weeding, watering, pruning, keeping out invasive species) is the most important factor of the overall success of the garden.

Watering: It is best to water in the morning before 9 am or after 7 pm in the evening. This will help prevent evaporation and also keep your water costs down. Be sure to give the plants a thorough dousing and remember to water at the base of the plant, so the water goes straight to the roots. Let the water soak in before applying more. Don't water too lightly; the water won't penetrate the soil and it will be wasted.

Most native gardens can be watered weekly, especially if there has been rainfall. You will be able to tell if your plants need watering; the leaves will appear wilted, and the soil will be dry around the roots.

A simple hose and a sprinkler are most often used to water a native garden. Seep hoses are good on the soil surface, especially if plants have been recently transplanted or if it has been a particularly hot day. Conservation of water is important, especially since the cost of water continues to increase. One of the best ways to conserve water is to use a rain barrel. The water will collect the rain water and then you can use the water later.

Weeding: A hoe can be used to weed more open areas. If weeding is in a small area, then a trowel works better to dig out the weeds, without damaging the surrounding plants. Weeding should be done at least once a week.

Weeding and watering are tedious tasks, but without them, the garden will not succeed. A helpful tip is to create a weekly schedule and assign people for each task. If someone can't make their commitment on any given week or day, then it is best if they are responsible for finding another person to take their shift.

Pest Control:

Do not apply chemicals, such as herbicides, pesticides or man-made fertilizers. Native plants exhibit a higher tolerance to pests than many non-natives. As a result, native gardens can often thrive without the use of pesticides. In fact, a native garden might even attract "beneficial" insects that are predators of other pest species.

The most common garden pests are mites and aphids. They can be eliminated by spraying with dish detergent mixed with water. White-tailed deer are also considered to be pests, because they sometimes will eat native plants.

Also increasing in number and problematic, are Japanese beetles. They have a copper coloured back, and green thorax and green head. Although they prefer roses, hydrangea, birch and elder bushes, they are poor fliers, and often end up near other plants. The best way to remove them is to flick them with your fingers into a large glass container with a bit of dish detergent on the top, so that they fall to the bottom of the container and drown. They are most often seen in late June and throughout the months of July and August. It is important to get them before they lay their eggs and multiply.

Garden Resources

Monitoring and Chronicling the Crop: It is helpful to monitor the outcome of the garden. A weekly produce journal will chronicle the successes and failures and provide a sense of accomplishment and pride among the team. Comments and reasons for success or lack of success will help you improve your garden the following year.

Native Plant Database List:

The North American Native Plant Society http://nanps.org/native-plant-database

Evergreen Community Greening https://nativeplants.evergreen.ca/

TRCA Pollinator Guide and Tree Planting http://www.trca.on.ca/

Container Gardening http://www.container-gardening-for-food.com/

Rooftop Gardening http://www.greenroofs.com/

Rainbarrel https://rainbarrel.ca/

Photos courtesy of Faith & the Common Good and North American Native Plant Society

Greening Sacred Spaces

There are 1200 faith communities in Toronto. Faith & the Common Good and their program Greening Sacred Spaces, has helped over 300 faith communities do environmental events, energy efficient retrofits, solar installations and edible and native plant community gardens .

We acknowledge this land as the territory of the Huron-Wendat and the Petun First Nations, the Seneca, and most recently the Mississaugas of the Credit River. Today the meeting place of Toronto is still home to many indigenous peoples. We are grateful to have this opportunity to take care of this land.



We wish to thank TD Friends of the Environment Foundation

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TD Friends of the Environment Foundation