Recommendations for Pollinator Gardens

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There are many reasons to include a pollinator garden in your yard. Flowering plants require pollination in order to set seed for the next generation. Most pollination is done by insects, especially bees, but also butterflies, moths, and more. If you want to grow fruits or vegetables, pollinators are essential for a good crop. The greater variety of bees you can attract, the more complete pollination you will have. In fact, pollination has a greater impact on crop yield than fertilizer. Some pollinators, such as solitary wasps and predatory flies, are beneficial insects that control pest insects. Flowering plants can also feed birds with the caterpillars they host, as well as seeds and fruits that result from pollination.

However, bees and other pollinators are in decline worldwide. There are many causes to their loss of habitat. They need our attention to give them flowers to feed from and spaces where they can nest. In whatever space you dedicate to pollinators, careful choices can help you maximize its potential for sustaining a diverse population of native bees.

Gardening Practices

The overriding principle is Less is More. These practices will help native bees wherever you are.

Don’t use pesticides. Even insecticides approved for organic use can be toxic to bees, especially spectrum insecticides, such as neem oil, pyrethrins, and insecticidal soap. Fortunately, a garden with a strong pollinator population will also attract beneficial insects, such as ladybugs, greatly reducing the temptation to spray pest insects. While they are not native to North America many herbs such as dill, fennel, cilantro/coriander, oregano, and thyme attract beneficial insects when allowed to flower.

Don’t do any fall "cleanup." About a third of native bees nest inside stems and other cavities. Many butterflies and other beneficial insects overwinter in fallen leaves. Seed heads will also feed birds in winter.

Don’t cover open space with mulch. The majority of native bees nest under ground. They generally prefer bare, sunny spots. Mulch can make it difficult for the bees to access the surface.

Do open the standing stems. In spring, cut standing stems to lengths between 1-2 feet. Stem nesting bees will use both hollow and pithy stems. Since the next generation of bees will emerge the in following years, leave the cut stems alone.

Do make room. If the bees like the plants, the plants will spread. Leave plenty of room between them at first planting. By year three, you should make plans to divide them and hold a plant swap.

Plant Selection

Since Friends of Bees are based in Watertown, MA, the specific plants and pollinators mentioned are native to Massachusetts. For more detail, please consult the Resources at the end of this document.

When selecting plants, make sure you include spring flowers that will help bumblebee queens establish strong colonies, summer flowers that will help bumblebees multiply, fall flowers that will help bumblebee queens grow fat, and native grasses that will provide shelter in winter.

Since most bumblebees are generalists, they will visit a wide variety of flowers. But some bees are specialists who only go to the flowers of certain families of plants. Often the adult bees are active only while their favored plants are flowering. More than half of specialist bees are rare or at risk. For the greatest increase in diversity, plant for specialist bees. The generalist bees, such as bumblebees, will be happy to join them.

It's important to make sure all plants are the original species, not cultivated varieties. For example flowers that have been bred into doubled forms offer no nectar or pollen to bees. Since specialist bees are native to Massachusetts, they will need native plants.

In spring, Bumblebee queens emerge. They need nectar for themselves and pollen for their offspring. Although most early spring bulbs and flowers are not native to our region, they do provide some forage. These include snowdrops (Galanthus), Crocus, grape hyacinth (Muscari), and dandelions (Taraxacum). Some violets (Viola) are native to our region. The bees find much more nectar and pollen in flowering trees such as dogwoods (Cornus), redbuds (Cercis), cherries (Prunus), and serviceberries (Amelanchier). Wind-pollinated trees such as willows (Salix), oaks (Quercus), and maples (Acer) provide ample pollen. Shrubs for bees in spring include blueberries (Vaccinium), chokecherries (Prunus), and meadowsweet/steeplebush (Spirea).

Other trees and shrubs to consider are the host plants for the caterpillars of butterflies and moths, since birds raise their young on caterpillars. To feed the most birds in Eastern Massachusetts, plant trees such as oaks (Quercus), cherries (Prunus), willows (Salix), birches (Betula), poplars (Populus), crabapples (Malus), and maples(Acer).

In spring, the plant families that help the widest varieties of specialist bees are willows (Salix), blueberries (Vaccinium), and dogwoods (Cornus). Violets (Viola) are also host plants for Fritillary butterflies, and Yellow wild indigo (Baptisia tinctoria) are host plants for the Frosted Elfin.

In summer, the plant families for specialist bees are sunflowers (Helianthus), Black-eyed Susans (Rudbeckia), and squashes (Cucubita). Other important summer plants are milkweeds (Asclepias). Monarch butterfly caterpillars can only eat milkweed. Milkweed flowers also feed bees, the plants feed aphids, and the aphids feed beneficial insects.

In late summer to fall, while most other plants are dying down, goldenrods (Solidago), and asters (Symphyotrichum) flower, drawing massive numbers of bees and other pollinators. These flowers support the widest variety of specialist bees. They are also essential for young bumblebee queens to grow fat enough to survive the winter.

In winter, native warm season clumping grasses provide stems and shelter for overwintering insects. During the growing season, some grasses are host plants for skipper butterflies. These include Indian grass (Sorgastrum), Big Bluestem (Andropogon), Little Bluestem (Schizachrium), and Switch grass (Panicum). The clumps provide shelter and seed to small birds and rodents. The nests these animals make may also be used by bumblebees in following years.

Friends of Bees was founded in 2014 to educate about and advocate for native bees and other pollinators. We are a working group in Watertown Citizens for Peace, Justice, and the Environment. For more information, please visit watertowncitizens.org, or contact us at FriendsofBees@watertowncitizens.org.

A Sample Plant List

The following is a suggested list of pollinator plants will do well in full sun, native to eastern Massachusetts.

Early Spring

Highbush Blueberry (Vaccinium corymbosum)

Lowbush Blueberry (Vaccinium angustifolium)

Violets (Viola)

Late spring

Lanceleaf coreopsis (Coreopsis lanceolata)

Yellow wild indigo (Baptisia tinctoria)

Foxglove beardstongue (Penstemon digitalis)

Summer

Oxeye Sunflower (Helianthus helianthoides)

Blackeyed Susan (Rudbeckia Hirta)

Anise Hyssop (Agastache feoniculum)

Butterfly weed (Asclepias tuberosa)

Wild Bergamot (Monarda fistulosa)

Blazing Star (Liatris spicata)

Fall

Showy goldenrod (Solidago speciosa)

Smooth blue aster (Symphyotrichum laeve)

New England aster (Symphyotrichum novae-angliae)

Grasses:

Little Bluestem (Schizachyrium scoparium)

Prairie Dropseed (Sporobolus heterolepsis)

Side-oats grama (Bouteloua curtipendula)

Resources

Pollen Specialist Bees of the Eastern United States

Tables of associations between native pollen specialist bees and native host plants. Includes recommendations for the importance of specialist bees. Based on research conducted and assembled by Jarrod Fowler.

https://jarrodfowler.com/specialist_bees.html

Native Plant Finder

Search by zip code to find plants that host the highest numbers of butterflies and moths to feed birds and other wildlife where you live. Based on research conducted by Doug Tallamy.

https://www.nwf.org/NativePlantFinder/

Bees and their Habitats

Overview of the habitat requirements of the roughly 400 species of bees native to the New England states of Maine, Massachusetts, New Hampshire, and Vermont. Based on research collected and assembled by University of Maine.

https://umaine.edu/mafes/resource/bees-habitats-four-new-england-states/

Tufts Pollinator Initiative

Guides to plants and pollinators. Based on research conducted in Medford and Somerville at Tufts University.

https://sites.tufts.edu/pollinators/guides/

Plants for Pollinators at Risk

Plant lists for regions in Massachusetts to support endangered bumblebees and butterflies. Based on research conducted by Dr. Robert Gegear.

https://gegearlab.weebly.com/plant-list.html

Where to find plants for Pollinators at Risk

https://www.svtweb.org/our-work/metrowest-conservation-alliance/priority-issues/native-pollinators/garden-toolkit/where

Plant A Bumblebee-Friendly Garden

Also links to an article by Dr. Gegear about bumblebees.

https://www.mass.gov/news/plant-a-bumblebee-friendly-garden

Landscape Design and Management to Support Pollinator Species at Risk in Eastern Massachusetts

Plant lists and sample designs for various growing conditions. Draws on Dr. Gegear's research.

https://lincolnconservation.org/wp-content/uploads/2020/04/Landscape-Interactions_BirchesToolkit_web.pdf

Nurseries and Seed Sources, recommended by Grow Native Massachusetts

https://grownativemass.org/Great-Resources/nurseries-seed