

TREES AND SHRUBS ARE IMPORTANT TO POLLINATORS

Pollinating insects (bees, flies, butterflies, moths, and beetles) are very important to the production of food crops and to the sustainability of the natural environment. Loss and fragmentation of habitat (sources of food and water; places to lay eggs and to shelter for nesting and overwintering) have led to a decline in the number and diversity of many pollinating insects.

A diversity of woody plants (trees and shrubs) are a key element in natural or designed landscapes that provide quality habitat for pollinators. As described below, both living and dead woody plants offer resources to sustain pollinators. When choosing a tree or shrub to plant on your property remember that native woody plants support more pollinators than non-native species. The chart overleaf lists native trees and shrubs that are particularly beneficial to pollinators in southern Ontario especially as sources of food.



S. Seahra

FOOD

Depending on their life-cycles, pollinators may need access to food during spring, summer or fall. Food may come from flowers (pollen and nectar) or be in the form of leaves eaten by the larvae (caterpillars) of butterflies and moths.



V. Macphail

Nectar and Pollen

Early in spring, when few other flowering plants are in bloom, native trees and shrubs are an essential source of nectar and pollen for pollinators. Spring blooming trees and shrubs are relied upon by:

- early emerging bees, such as bumblebees, mason and mining bees.
- butterflies and moths (Lepidoptera) that overwinter here at various life stages, or migrate back early in the season such as Painted Lady and Red Admiral (pictured above).

Nectar is a source of carbohydrates (sugars) and water. Pollen is a source of protein and contains fats, carbohydrates, minerals and vitamins. Nectar and pollen can be combined to form "bee bread" used by native bees to feed their offspring (pictured below).



H. Holm

Leaves

The leaves of native woody plants are an important food source for the larvae (caterpillars) of butterflies and moths (pictured below). Many of these insects prefer leaves from certain types of trees and a few feed exclusively on a single type of tree or shrub.



S. Seahra

NESTING SITES

30% of native bees nest above ground. The majority make use of pre-existing cavities or holes, such as those made by beetle larvae, within standing dead trees (pictured below). A minority excavate cavities in fallen logs and soft woody branches. Cavity Nesters include Carpenter, Mason and Leaf Cutter Bees.



Other parts of woody plants are used by some bees in nest-making. Resin (e.g. Pine sap), pith from excavated stems, chewed leaves and plant hairs may be used to line, waterproof and partition nests to form brood cavities.

OVERWINTERING SITES

Pollinators such as bumble bee queens and species of butterflies and moths that do not migrate need sheltered places to safely overwinter. Butterflies and moths may overwinter as eggs, caterpillars, pupae, or adults. Leaf litter (pictured below) and rotting logs provide shelter for these overwintering pollinators.



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Examples of Spring Flowering Native Trees and Shrubs that Support Pollinators of Southern Ontario

Common Name	Genus (Latin)	Flowering Time	Species Supported
Oak	<i>Quercus</i>	May – June	Leaves feed caterpillars of hundreds of species of Lepidoptera including polyphemus, io, saddleback, tussock moths, and hairstreak butterflies.
Willow	<i>Salix</i>	Early April – mid-May	Variety of bees and overwintering butterflies (such as mourning cloak) are attracted to flowers. Leaves are food for butterfly caterpillars such as mourning cloaks, viceroy, comma, hairstreak.
Cherry & Plum	<i>Prunus</i>	May – mid-June	Variety of bees attracted to flowers and leaves are forage for butterflies such as red spotted purple & tiger swallowtail.
Hawthorn	<i>Crataegus</i>	Late May – early June	Blooms attract bees and butterflies. Leaves are forage for moths such as sphinx and dagger.
Maple	<i>Acer</i>	Late March – mid-May	Flowers attract a variety of bees. Leaves are forage for caterpillars of a wide variety of forest dwelling Lepidoptera including rosy maple moth.
American Basswood	<i>Tilia</i>	Mid-June – August	Flowers attract bumble bees and small sweat bees. Many species of Lepidoptera feed on <i>Tilia</i> leaves including tiger swallowtail butterfly, and imperial and polyphemus moths.
Eastern Redbud	<i>Cercis</i>	April – mid-May	Variety of bees are attracted to flowers. Forage for Henry's elfin butterfly. Leafcutter bees use leaves to line nests.
Dogwood	<i>Cornus</i>	June – July	Variety of bees are attracted to flowers. Leaves are forage for spring azure butterfly.
Serviceberry	<i>Amelanchier</i>	April – mid-May	Flowers attract mining and small sweat bees.