



Gardens that Give Back

Small Changes, Big Benefits

Claudette Sims
April 14, 2025



Brooklyn Museum Garden
Before & After Transformation





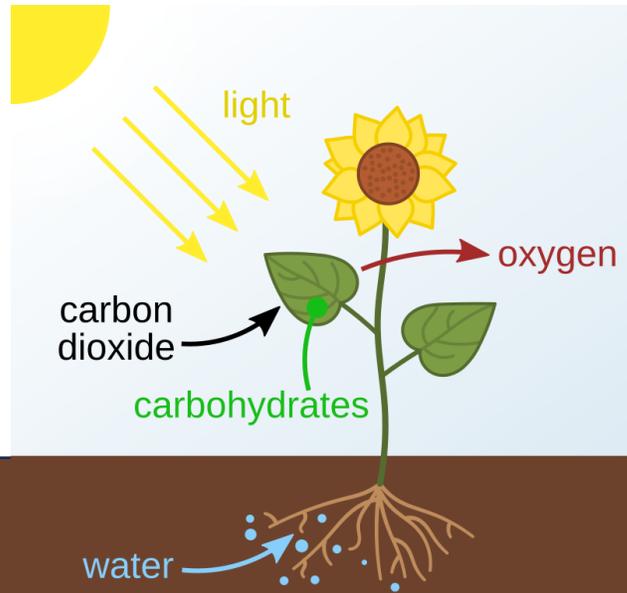
Small changes
can bring big
benefits

**A garden isn't just a
backdrop, it's an
ecosystem that can
nourish you,
support wildlife,
and help the planet**

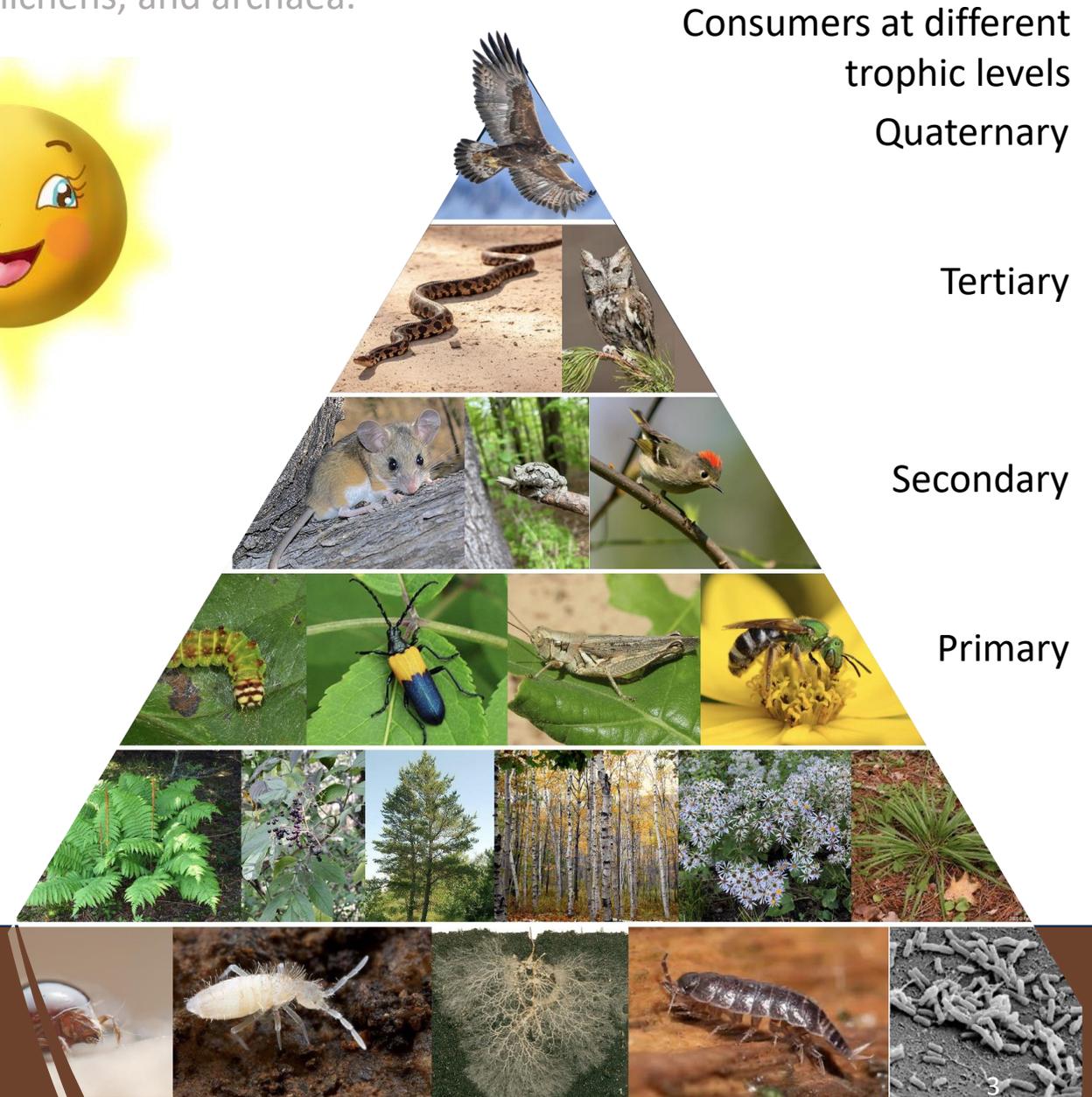
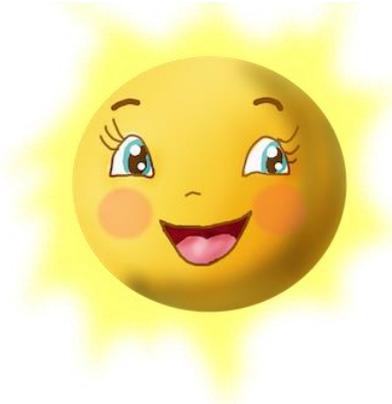
Autotrophs are primary producers, converting energy into organic matter. They include plants, plant-like protists, some bacteria, some lichens, and archaea.

Plants are the foundation of life

- Powered by sunlight, plants convert solar energy into chemical energy
- Plants are the basis of complex **food webs**



Photosynthesis.gif: CC BY-SA 4.0



Consumers at different trophic levels
Quaternary

Tertiary

Secondary

Primary

One teaspoon of healthy soil



holds more creatures than
there are people on the planet!



Small but mighty

- We are small specs on a giant planet in a universe beyond our ken
- Yet each of us can contribute to how life evolves on our planet





Hamilton Red River Valley: Municipal World

What we do to the Earth, we do to ourselves.

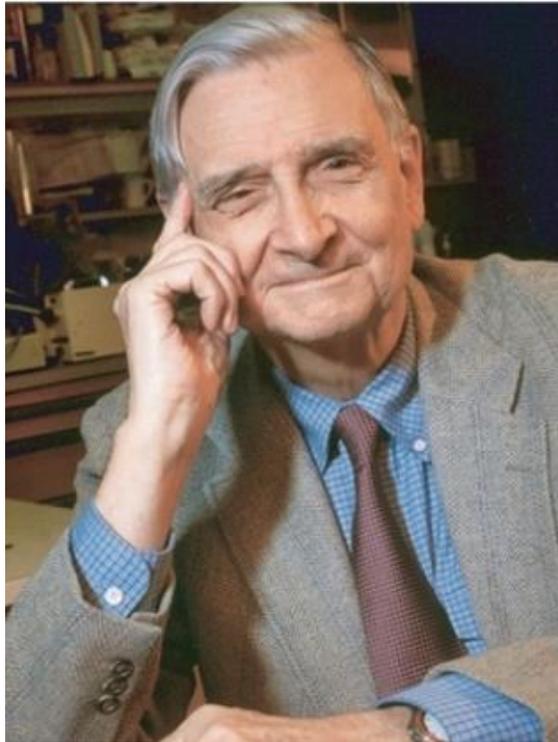


Life is disappearing

- Almost half the planet's species are experiencing rapid population declines (WWF - Living Planet Report 2022)
- The variety of life is diminishing (The Intergovernmental Science-Policy Platform (IPBES), "Global Assessment on Biodiversity and Ecosystem Services," 2019)

Canada- 135 Species Disappeared (Wildlife Report, 2020)
Ontario- 2,752 Species are at Risk (Auditor General, 2021)

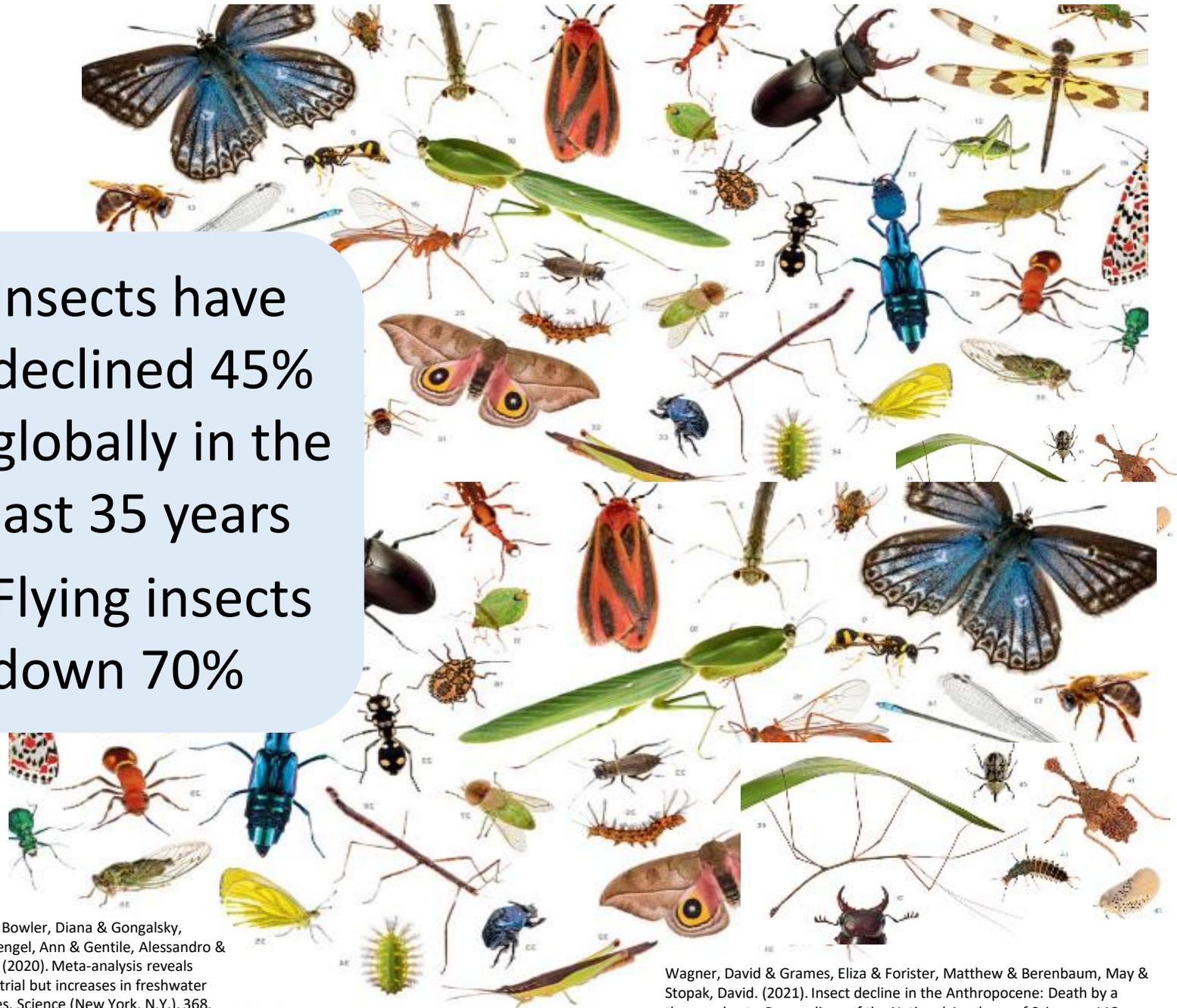
'Insect Apocalypse'



"...little things that run the world..."

Harvard Biologist E.O. Wilson

- Insects have declined 45% globally in the last 35 years
- Flying insects down 70%



van Klink, Roel & Bowler, Diana & Gongalsky, Konstantin & Swengel, Ann & Gentile, Alessandro & Chase, Jonathan. (2020). Meta-analysis reveals declines in terrestrial but increases in freshwater insect abundances. *Science* (New York, N.Y.). 368. 417-420. 10.1126/science.aax9931.

Wagner, David & Grames, Eliza & Forister, Matthew & Berenbaum, May & Stopak, David. (2021). Insect decline in the Anthropocene: Death by a thousand cuts. *Proceedings of the National Academy of Sciences*. 118. .2023989118. 10.1073/pnas.2023989118.



Karner Blue

Between 2000 and 2020, total butterfly abundance fell by 22% across the 554 recorded species

Rapid butterfly declines



Edwards, et al., "Rapid butterfly declines across the United States during the 21st century," 2025
<https://www.science.org/doi/10.1126/science.adp4671>



Green Comma
↓72%



Eastern Pine Elfin
↓52%



Hackberry Emperor
↓42%



Greenish Blue
↓35%



Data from Buffalo, N.Y. [NYT](#)



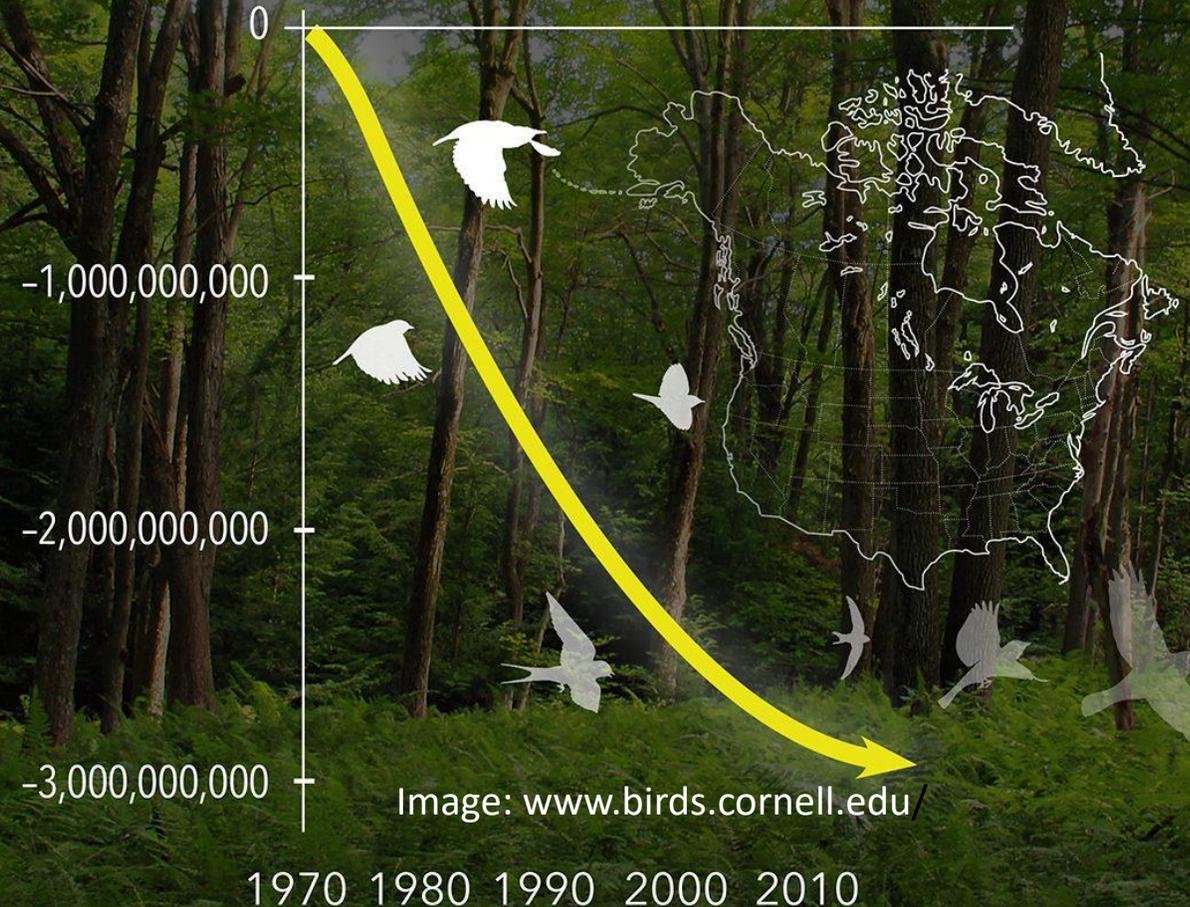
North American birds have dramatically declined

We have lost almost 3 billion birds since 1970

- 60,000,000 per year!
- 164,000 per day

2.9 billion

birds gone since 1970



You can be a
superhero



- Through the simple act of gardening





What you plant can help

- Clean air
- Clean water
- Reduce heat islands
- Reduce flooding
- Reduce tension
- Improve your health & the health of our planet

So, let's make life better



I'll be referring to this throughout the presentation.

Plants of the World Online

Native

Introduced

Native (Indigenous)

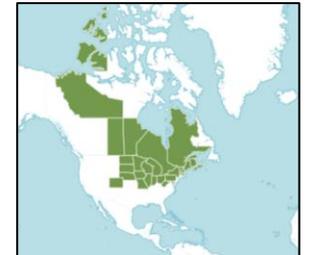
- Plants **occurring naturally** in a **particular region** or **ecosystem** that have **evolved in concert** with other naturally occurring **species**



Rosa blanda

Smooth Rose

Photo: Go Botany



Non-native (Introduced, Alien, Exotic)

- Non-native plants introduced **outside their normal distribution** or with no natural distribution.

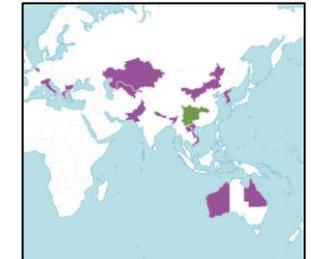


Rosa chinensis

Photo: Wikipedia

Photo: Wikipedia

Sakurai Midori - Own work, CC BY-SA



Some parts of China

Invasive (Invasive Alien Species-IAS)

Non-native plants whose introduction or spread **threatens** the environment, the economy, or society, including human health.

(Government of Canada, 2004).



Rosa multiflora

Photo: Phil Lucas

Rootstock or natural hedge



East Asia, China, Japan, Korea



Many invasive plants are still sold

Ontario Auditor General Do not Sell List

- Amur maple
- Burning bush
- Creeping jenny
- English ivy
- Goutweed
- Non-native honeysuckles
- Japanese barberry
- Miscanthus
- Pachysandra
- Lily of the valley
- Periwinkle

These are just some...



What do you mean this is invasive?



Many lists of plants to avoid

- Canadian Council on Invasive Species
- Invasive Species Centre
- Ontario Invasive Plant Council
- Credit Valley Conservation Authority
- Upper Thames Conservation Authority
- CCIPR.ca



Invasive Plants

Rank #	Ecological Rank Definitions
1	This category includes species that exclude all other species and dominate sites indefinitely. Plants in this category are a threat to natural areas wherever they occur because they tend to disperse widely.
2	This category includes species that are highly invasive but tend to dominate only certain niches or do not spread rapidly from major concentrations. Many spread by vegetative means or seeds that drop close to the parent plant. Most persist in dense populations for long periods.
3	This category includes species that are moderately invasive but can become locally dominant given certain conditions (eg. Soils, recreational impacts, or disturbances).
4	This category includes species that do not pose an immediate threat to natural areas but do compete with more desirable native species. Once established, many can reproduce aggressively and become difficult to eradicate. Some are similar to native species and are often substituted by nurseries.
	This category includes species that have the potential to become invasive in Ontario. They can reproduce aggressively on occasion but have not yet been shown to be a serious threat to natural areas in Ontario. Some are very similar to indigenous species and may therefore be difficult to identify.
	These species are not yet present in the watershed. These are on a 'watch list' of species that have the potential to impose significant impacts on natural systems should introduced.



WHAT'S YOUR SUPERPOWER? STOPPING THE SPREAD OF INVASIVE PLANTS!



Invasive plants harm our environment and cost us all money to manage!

Join the
Canadian Coalition
for Invasive Plant
Regulation
CCIPR.ca

Friends Don't Gift Friends Invasive Plants

Please share only garden plants that do not pose a threat to our environment*

Help us build our natural community!

Refrain from posting or sharing invasive species

*Invasive species are invading our local parks and green spaces reducing food and habitat available for our local animals AND making forest ecosystems weaker and more susceptible to disease.

Many plants spread due to seeds scattered by the wind and birds.

If unsure, please refer to the Priority List created by the Credit Valley Conservation Authority or volunteers identified in your group.

Common invasives that may be in your garden:



Periwinkle



Lily of the Valley



Goutweed



Squill/Scilla



Bugleweed



Ditch Lily



[Ottawa South Eco-Action Network - OSEAN](#)

More on Native Plants

- *Hydrangea arborescens*
 - Native 'Wild hydrangea'
 - **Ecosystem** function
 - >**Decorative** value
- A **nativar** is a selection of a **native plant**.
 - Naturally occurring or bred by humans
 - Cloned for reproduction
- A **cultivar** is any plant **selectively bred by humans**
 - Shape, habit, disease resistance etc



Hey where's the pollen?



'Annabelle'



'Haas Halo'
credit Native Beauties



Hydrangea arborescens
credit John Lynch GoBotany



Decorative value is often marketed by nurseries...

“stands out in a crowd”



Strawberry & Cream Coneflower



-
- 'Piccolino' Piccolino
Double Coneflower –
 - Photo: Darwin Perennials



Esthetics over Ecosystem Function

- Plants selected for their appearance
- Country of origin not considered
- Often planted individually or as an 'accent'
- Often no common soil, moisture, preferences
- "Maintenance" driven by appearance (leaves, stems, mulch)
- Significant resource inputs (water, pesticide, fertilizer)





Gardening with Native Plants

- **Community** of plants chosen for their **ecosystem functions**
 - Minimum resource inputs
 - Fertilizer, water
 - ‘Management’ that works with nature:
 - Not esthetics
- **Pollen, nectar, foliar, fruit resources, seeds**
- Host plants for moths and butterflies → birds
- Support **native** bees, insects, animals and birds



Gardening for honeybees doesn't save wild bees, any more than keeping backyard chickens saves wild birds.

A Mining Bee (subgenus Melandrena) on Yellow Rocket
Image: Bob Noble

Co-evolved Functional Relationships

“Native plants are species that **evolved in association** with all the **features of a place** and developed **specific** and **important functional relationships and interactions** that contribute to the specificity and identity of that place.”

• *Lorraine Johnson*

Let's take a closer look at what this means....



Monarch butterfly
+
Milkweed spp.

*'Native plants
are species that
evolved in
association'*

Let's think beyond iconic individuals...



Image: Brainerd Dispatch

Nectar, leaves, seedpods, stems



Search “plant” + “faunal associations”

- *short-tongued bees*
- *long-tongued bees*
- *wasps*
- *predatory wasps*
- *flies*
- *skippers*
- *butterflies*
- *various milkweed plant bugs*
- *moths, including Sphinx moths*
- *Monarch Butterfly*
- *Milkweed Tiger Moth*
- *Unexpected Cynia*
- *Delicate Cynia*
- *katydids*
- *weevils*
- *Beetles*
- *Seed bugs*
- *galls*



Delicate Cynia

Milkweed tussock moth

Adult red milkweed beetle

Milkweed galls

Large milkweed bug + nymphs

Ants and aphids

Above images [University of Wisconsin-Madison](https://www.wisc.edu/)

Stem from
Butterfly
Milkweed





- Birds strip the filaments from the milkweed to build nests!
- “Functional relationships”
- Cultural practices matter
 - Leaves stems and leaves

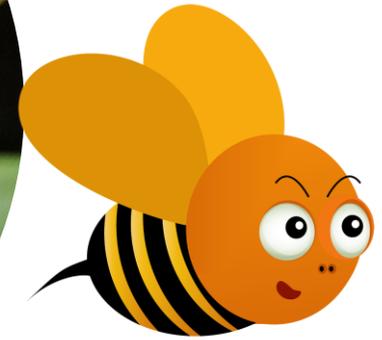


Native plants support native wildlife

- About **half of all insects** are herbivores
- **70% of all herbivores** are **specialists** capable of feeding on a narrow range of plants
- About **25% of bees** are pollen specialists
'specific and important functional relationships'



Fragile Miner Bee
Andrena fragilis
Photo: CWWood



Did you know several species of bees require **dogwood** pollen?



Mining Bee
Andrena integra
Photo: D Burnham

Evening Primrose
Sweat Bee
(*Lasioglossum oenotherae*)



Evening Primrose
(*Oenothera biennis*)

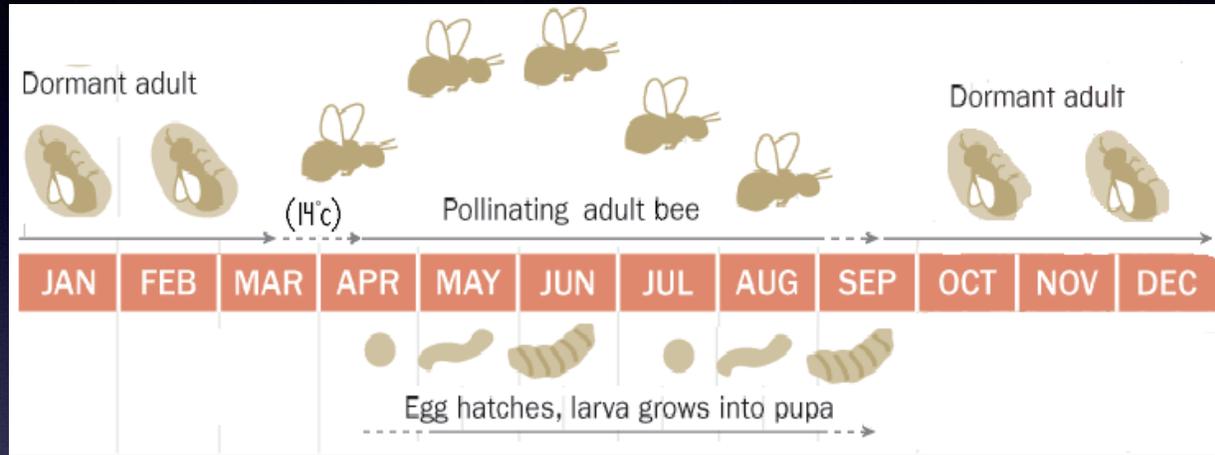
**'specific and important
functional relationships'**





“Co-evolved Functional Relationships”

The lives of specialists are tied to KEY plants



SPECIALIST	MONTHS ACTIVE												REQUIRED PLANT(S)	
	J	F	M	A	M	J	J	A	S	O	N	D		
Andrena														
<i>A. accepta</i>								X	X	X				Sunflower
<i>A. arabis</i>			X	X	X									Spring Beauty*
<i>A. erythronii</i>				X	X	X								Trout lily
<i>A. fragilis</i>						X	X	X						Dogwood



Photo: Conrad Vispo

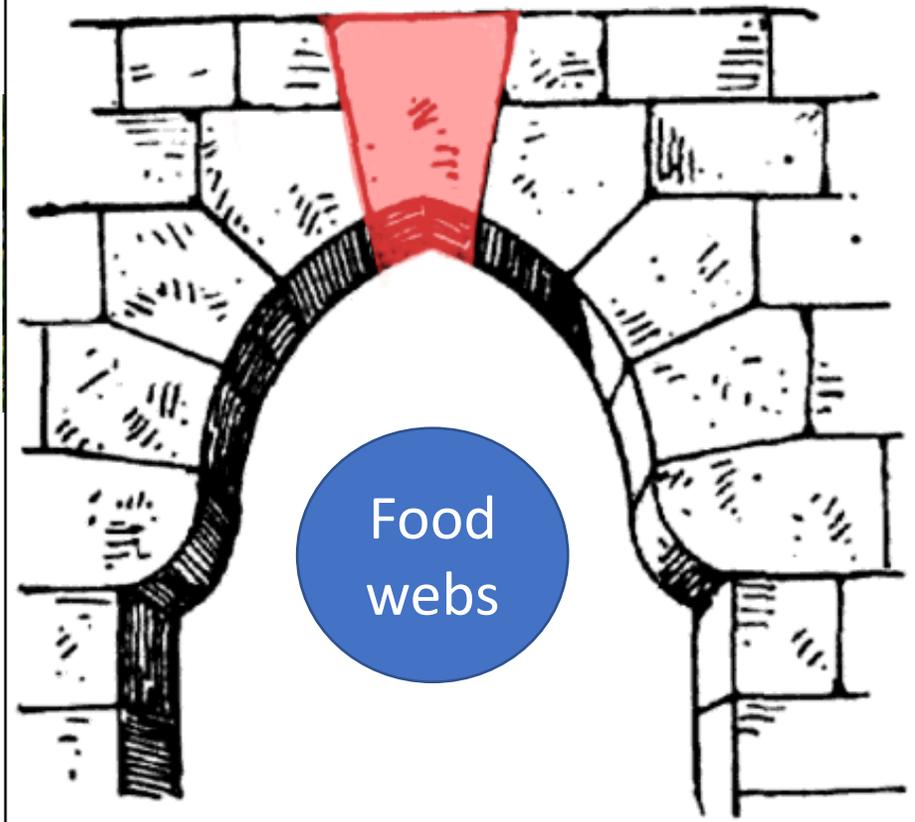
Excerpt from Fowler & Droege, “Pollen Specialist Bees of the Eastern United States,” 2020. * *Arabis*, *Cardamine*

~150 of 350 bee species in Southern Ontario are specialists

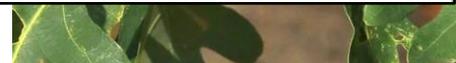
The illustration of the solitary bee’s life cycle is from Bee Friendly.

Stubbs C. S., et al. 1992. Technical Bulletin 148: Alternative forage plants for native (wild) bees associated with lowbush blueberry, *Vaccinium* spp., in Maine. University of Maine Cooperative Extension, Orono, ME.

Doug Tallamy's List of Best Plant Genera for Supporting Moths and Butterflies



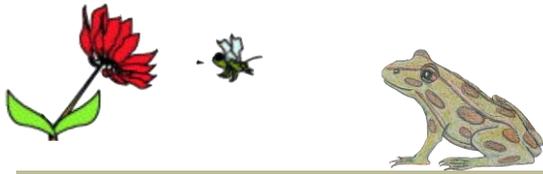
Genus	Common Name	# Moths Supported	Sun	Soil	Bloom Time
Solidago	Goldenrods	125	Full Sun	Medium	August - October
Asters	Asters	99	Full Sun	Medium	August - September
Fragaria	Strawberries	71	Full Sun to Part Shade	Medium	May - August
Helianthus	Sunflowers	60	Part Shade	Medium	July - September
Lactuca	Wild Lettuce	52	Full Sun to Part Shade	Medium	August - September
Eupatorium	Joe Pye	42	Full Sun to Part Shade	Medium	July - September
Quercus	Oaks	462	Full Sun	All	April - May
Prunus	Wild Black Cherry	390	Full Sun	All	April - May
Salix	Willows	371	Full Sun	Wet, Moist	April - May
Betula	Birches	354	Full Sun to Part Shade	Medium to Wet	April - May
Populus	Poplars	315	Full Sun	Medium	April
Acer	Maples	276	Full Sun to Part Shade	Medium to Wet	March - April
Vaccinium	Blueberries	276	Full sun to part shade	Medium to Wet	May
Alnus	Alder	222	Full sun to part shade	Medium to Wet	March
Carya	Hickory	218	Full sun to part shade	Medium	April - May
Ulmus	Elm	193	Full sun	Medium	March - April
Pinus	Pines	160	Full sun to part shade	Medium	null
Tilia	Basswood	151	Full sun to part shade	Medium	June
Crataegus	Hawthorn	140	Full sun	Medium to wet	May - June
Fraxinus	Ash	131	Full sun	Medium	April - May
Fagus	Beech	129	Full sun to part shade	Medium	April - May



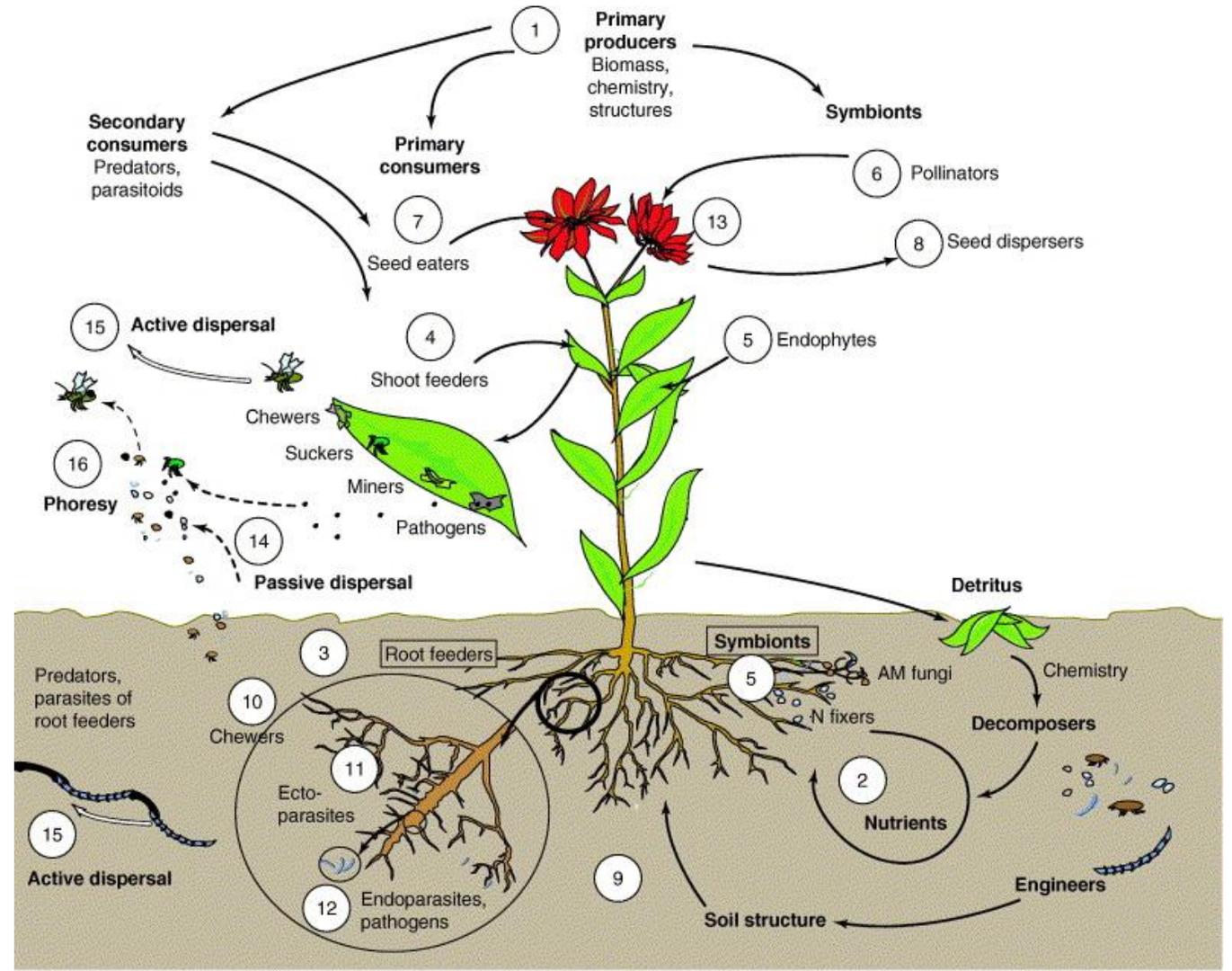
<https://www.pollinator-pathway.org/tallamy-keystone-plants>

Native plant gardening is all about co-evolved relationships and community.

- Plants support species above and below ground
- And those species support other species and those species ...



The interconnected nature of life



TRENDS in Ecology & Evolution

Gardens have the potential to **hinder** or **support** biodiversity...

INVASIVE

NON-NATIVE

CULTIVARS

NATIVE

KEYSTONE



Dead Zone



Hey where's the pollen?





Keystones are critical



A few (14%) Key Native Plant groups (genera) support 90% of butterflies and moths



Without these powerhouse plants that support caterpillars, the food web is doomed

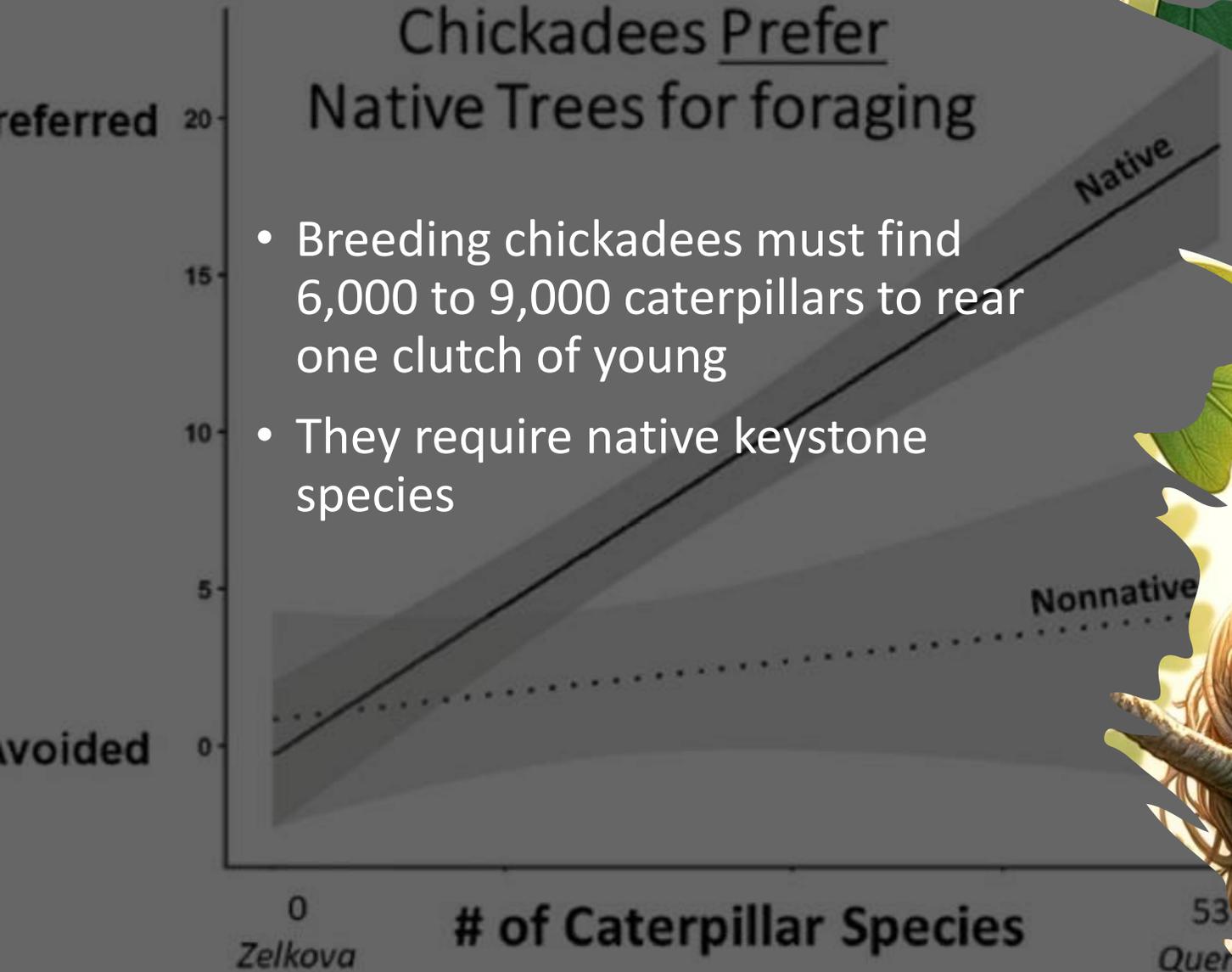
Doug Tallamy



A keystone species support ecosystems

Chickadees Prefer Native Trees for foraging

- Breeding chickadees must find 6,000 to 9,000 caterpillars to rear one clutch of young
- They require native keystone species





Search “faunal associations” + plant name

104



42



Goldenrod (*Solidago* spp.)

Faunal Associations: A wide variety of insects visit the flowers for pollen or nectar, including long-tongued bees, short-tongued bees, wasps, flies, beetles, and a few butterflies and moths. Cross-pollination by these insects is required in order to set fertile seeds. The caterpillars of many moths feed on the foliage and other parts of this goldenrod and others (see [Moth Table](#)). A common insect that forms spherical galls on the stems is *Eurosta solidaginis* (Goldenrod Gall Fly). Other insects that feed on this goldenrod include *Epicauta pensylvanica* (Black Blister Beetle), *Lopidea media* (Goldenrod Scarlet Plant Bug), *Lygus lineolaris* (Tarnished Plant Bug), and various leaf beetles and leafhoppers. Among mammals and birds, the Prairie Chicken, Eastern Goldfinch, and Swamp Sparrow eat the seeds, while the White-Tailed Deer and Eastern Cottontail Rabbit occasionally eat the foliage (although it is not a preferred food source). In overgrazed pastures, there have been reports of a rust fungus on the leaves of goldenrod poisoning livestock during the fall. Sometimes beavers and muskrats use the stems in their dams or dens.

www.illinoiswildflowers





Search “faunal associations” + plant name

Periwinkle (*Vinca minor*)

Faunal Associations: According to Müller of 19th century Germany, the nectar of the flowers attract bumblebees, Anthophorine bees (*Anthophora spp.*), mason bees (*Osmia spp.*), and bee flies (including *Bombylius major*). In Illinois, such **insect visitors appear to be few**. The seeds are too small to be of any interest to birds, and the foliage is toxic to mammalian herbivores. **This plant appears to have little ecological value to fauna.**

www.illinoiswildflowers

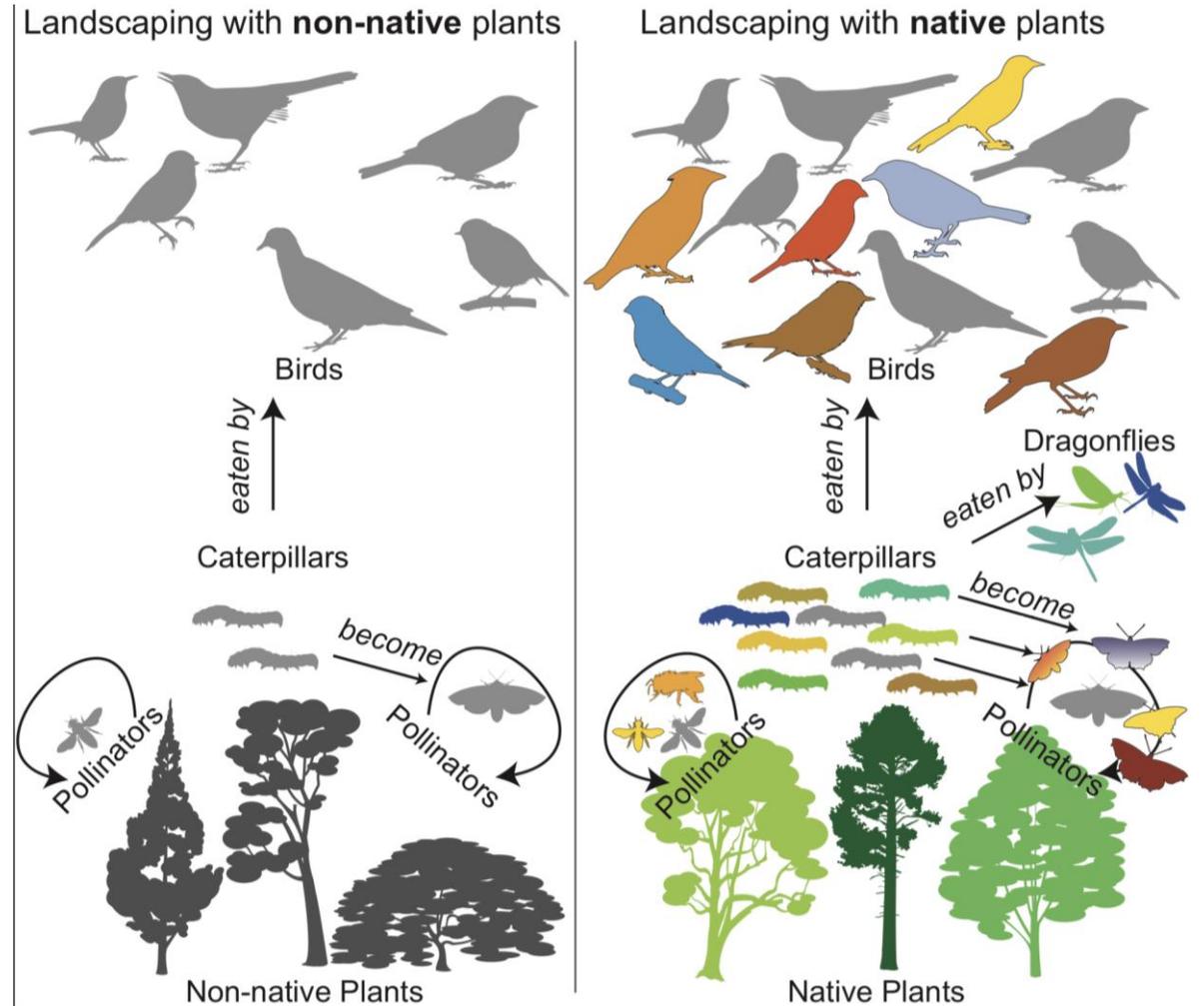
This plant appears to have little ecological value



Vinca minor
Photo: <https://pixnio.com/>

Native plants bring birds & butterflies

- 50% higher abundance of native birds
- 9x higher abundance of rare birds
- 3x more butterfly species
- 2x higher abundance of native bees





Birds are the secret
to happiness



Greater bird biodiversity
can bring greater joy
than more money



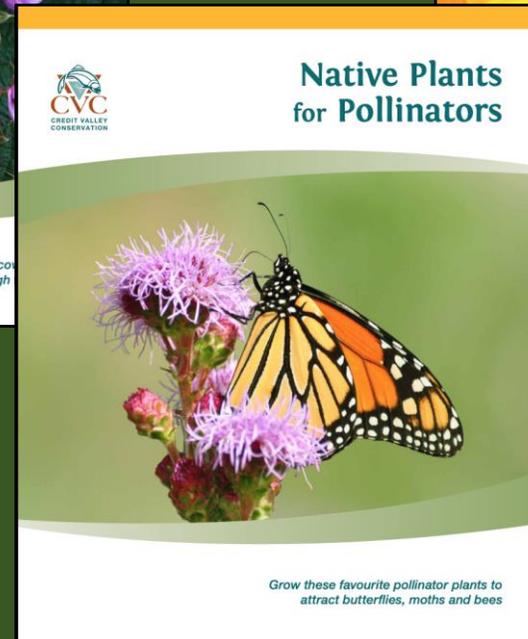
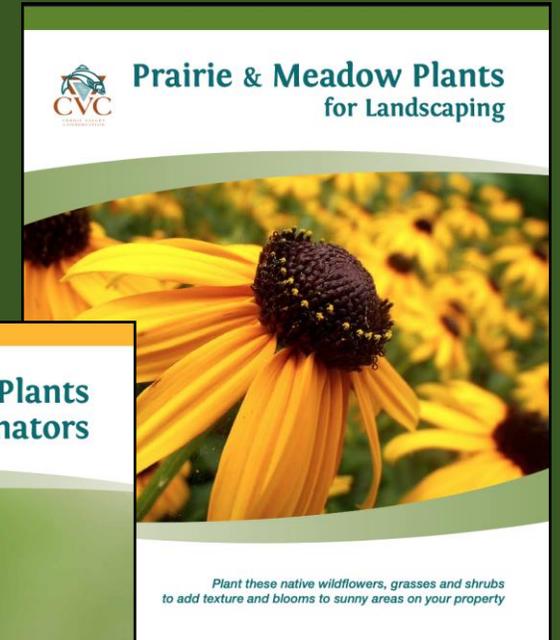
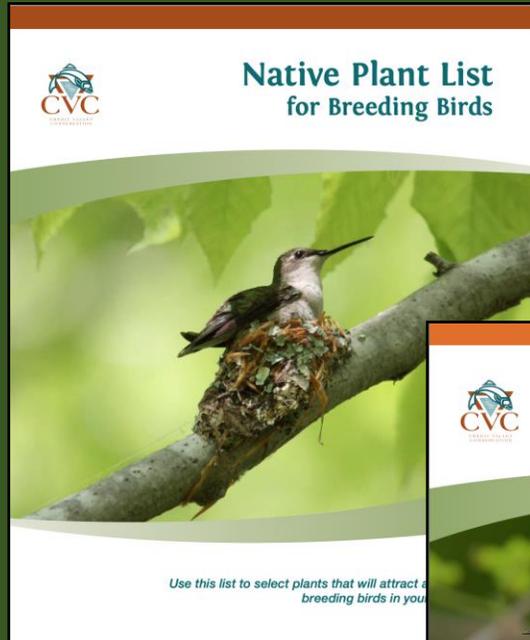
Methorst et al, "The importance of species
diversity for human well-being in Europe, [2020](#).

Annie Krug, Chirp ([2022](#))





How do we start? Many great resources



A great series from Credit Valley Conservation Association



Pollinator Gardens – Diversity supports Biodiversity

Long tongue
bees



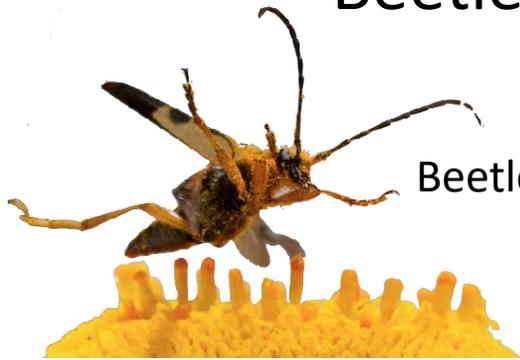
Short tongue
bees



Flies



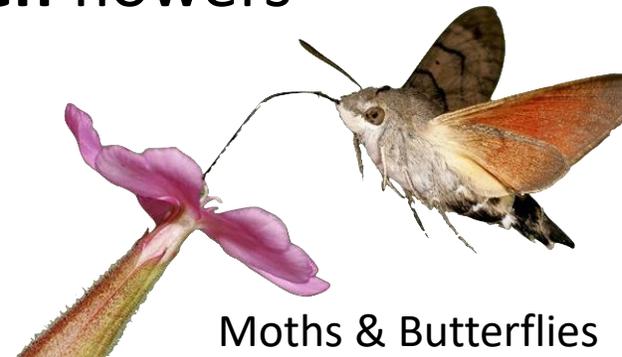
Beetles



- Bees - **Bright colours** (not red)
- Butterflies - Bright colours including **red** with fair sweet scents and a **landing pad**
- Moths - Night blooming flowers (typically **white**) with strong, thick sweet smells
- Flies - All of the above plus flowers with resembling of rotting fruit or dung or carrion
- Beetles - Strongly **fruity white or green** flowers



Moths & Butterflies

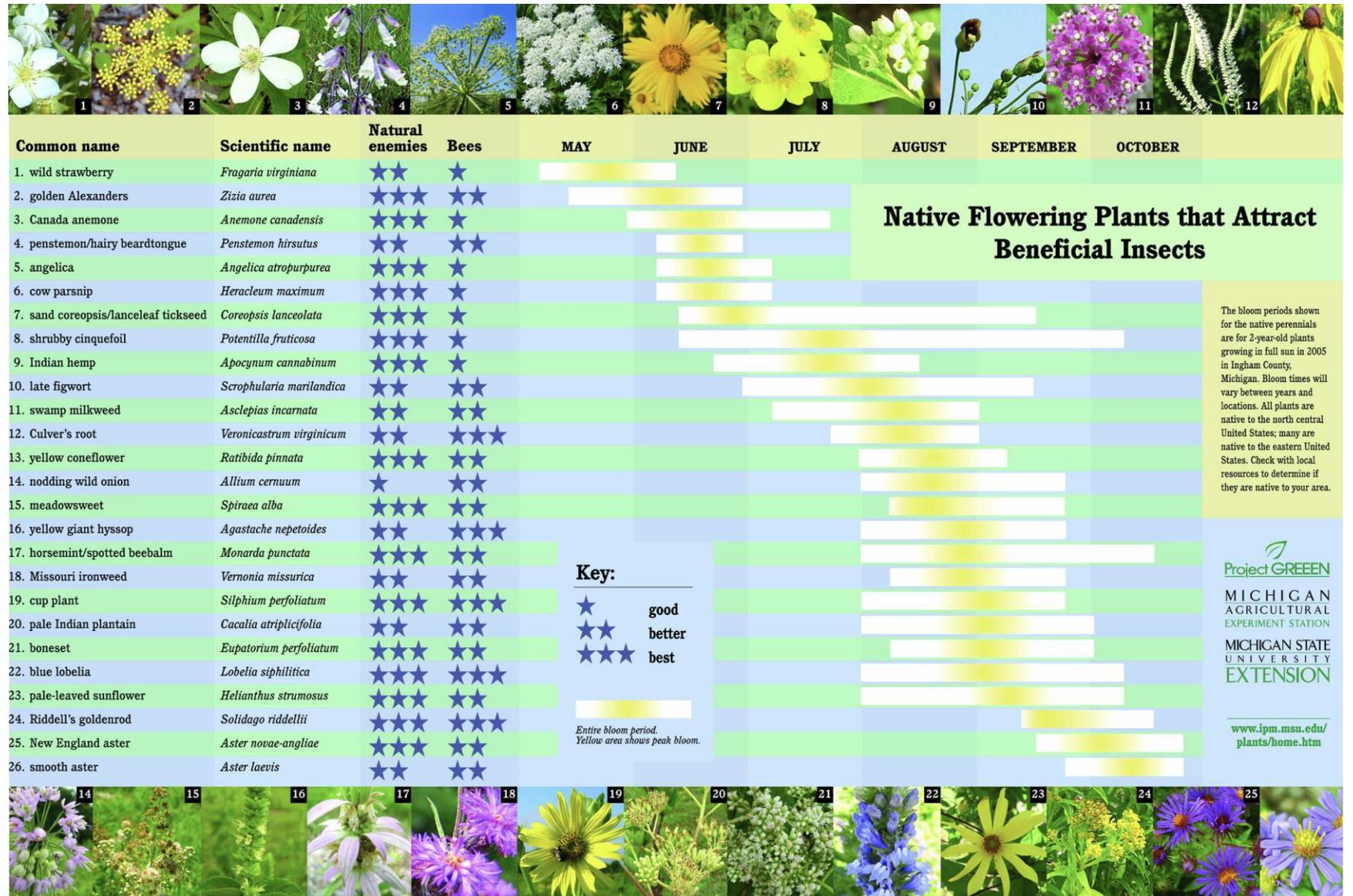


These native plants were the best for attracting **beneficial** insects.

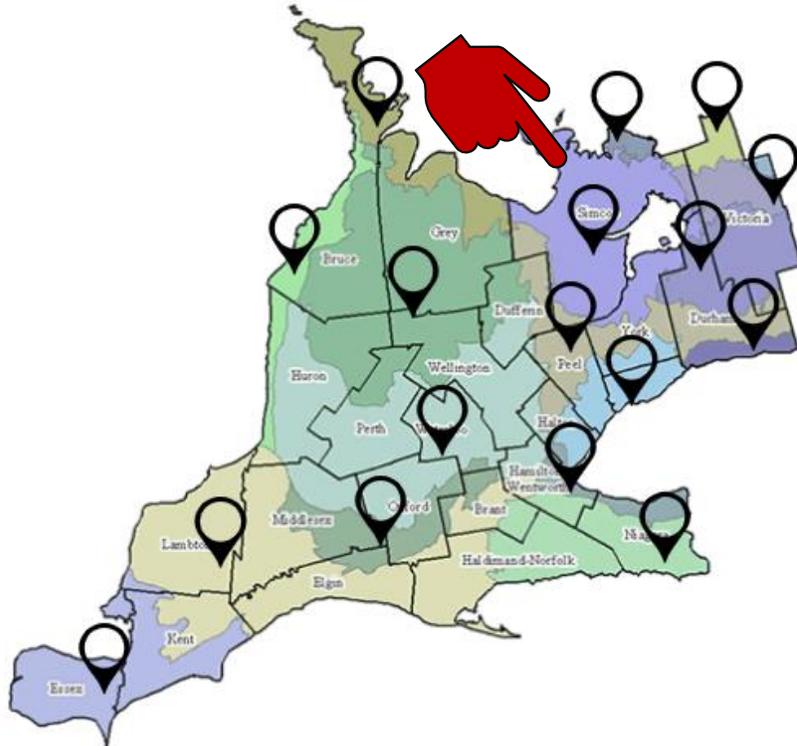


- Golden Alexanders
- Swamp Milkweed
- Culver's Root
- Yellow Coneflower
- Goldenrods
- Asters

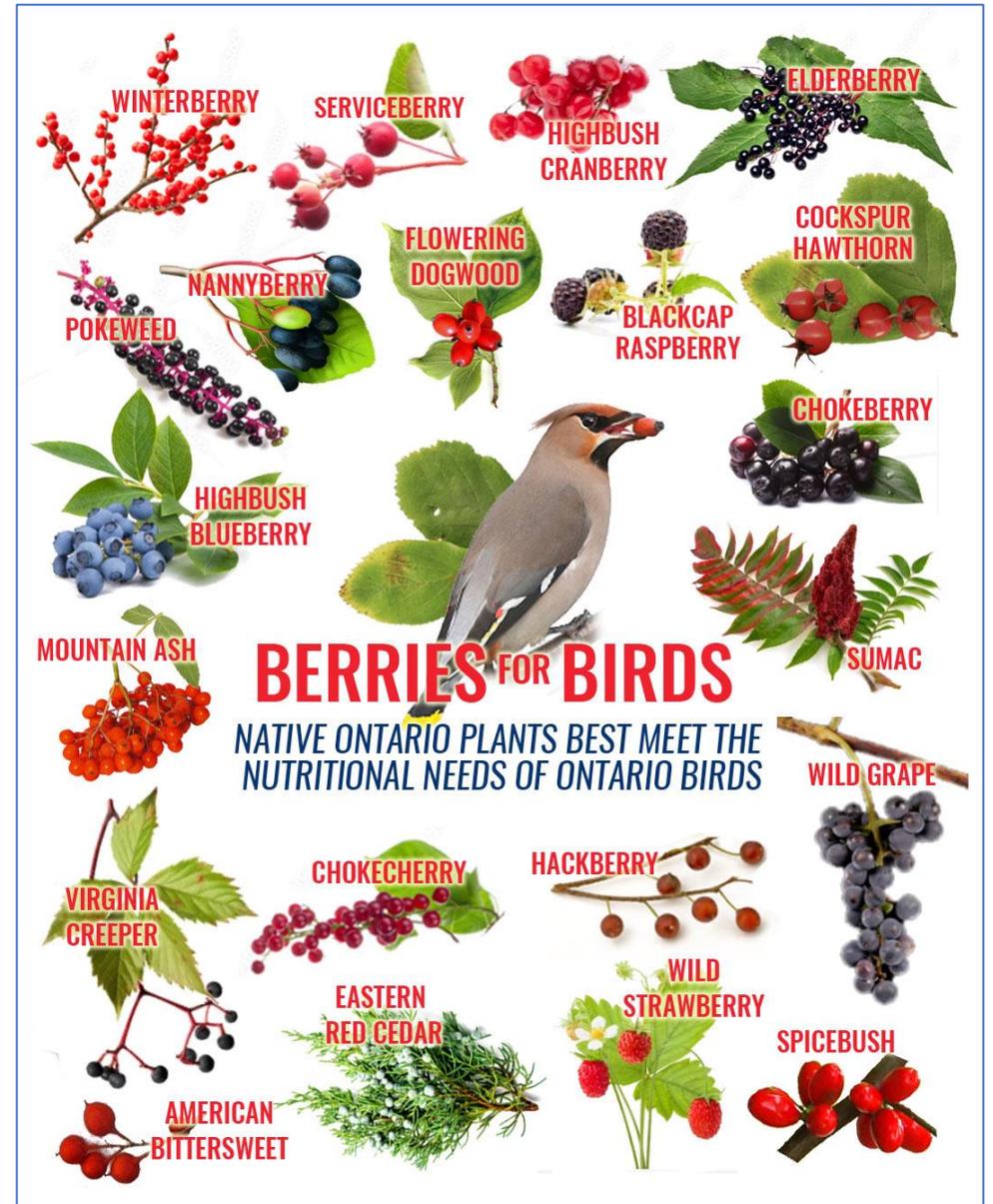
Blooms from May to October



Click on your specific growing region on the map below to launch a PDF list of native species growing in your region. The colored sections on the map represent the Eco-Districts and the bold lines are the Counties.



<https://fgca.net/species-conservation/native-species-learn/south/>



Poster by Justin Lewis



Garden Conditions and Features

- (30) Plants for **Wet Areas** and Ponds
- (27) Plants for **Boulevard Gardens**
- (21) **Groundcovers**
- (21) **Dry Shade**
- **Shade** by seasons + Ferns/sedges/grasses
- **Clay** soils
 - (12) Prairie
 - (12)Wetland
 - (9) Woodland
- (6) Milkweed (4) Sunflowers, (8) Goldenrods, (10)Asters
- (9) **Berry producing** shrubs for birds
- (21) Plants for **hummingbirds** (nectar, insect, nest)

Inournature.ca



Search Filters

Light, moisture,
soil, **special**
features, growing
zone

- Sun/dry/clay/shrub/zone

Oro-Medonte Zone 5A-5B

Shade plants selected for beautiful foliage and spring to fall blooms.

Shade Garden for Pollinators

These are great native plant options for a shady spot. The plants featured here are also selected for their beautiful foliage as well as continuous bloom from spring to fall.

A grass-like woodland ground-cover, **Pennsylvania sedge** provides habitat for nesting pollinators and larva. Low growing and fine textured.

PS 9 plants



Spring ephemerals, **Yellow Violets** emerge and bloom before the other plants in the garden, providing valuable early food for pollinators.

YV 7 plants



A low-growing native coral bell, **Alumroot** provides early blooms, nectar and season-long foliage interest in a shady garden.

AR 5 plants



Solomon's Seal gracefully adds texture to a shady garden. It is pollinated by bumblebees and other native bees. Its blue berries in late summer provide food for other wildlife.

SS 3 plants



Pagoda Dogwood, a sculptural small tree, produces copious flowers in late spring. Violets planted beneath it will flower before Pagoda Dogwood leaves out. Prune lower branches to allow space for other plants.

PG 1 plant



Wild Geranium is a beautiful scented, spreading powerhouse. It is easy to transplant and share its shallow rhizomes with your neighbors or your other gardens when it outgrows its space.

WG 4 plants



Ohio Spiderwort flowers in the morning and closes its buds during the heat of day. It looks great planted in front of textured foliage plants like Solomon's seal and Spikenard. *won't survive in deep shade.

OS 3 plants



Common Yarrow attracts bees and butterflies and blooms in the hottest time of the summer when pollinator foods are sometimes scarce. Beautiful lacy foliage.

CY 5 plants

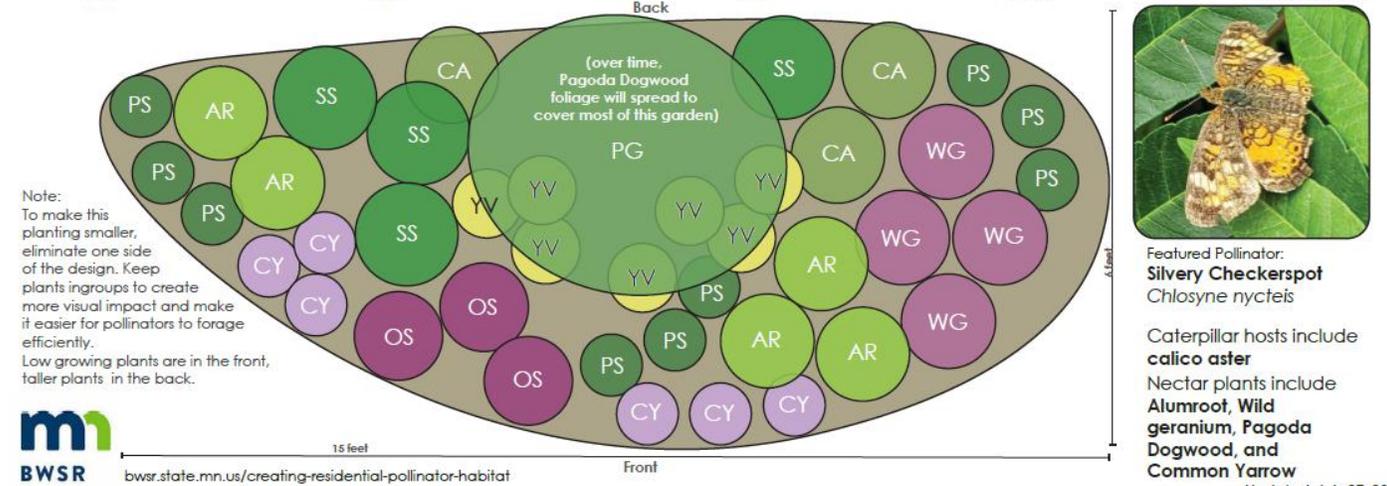


Callico Aster's lacy flowers look best supported by other plants. It is a host plant for Silvery Checkerspot larva. Blooms last from summer into late fall. Fluffy seed heads add winter interest.

CA 3 plants



Bloom Time: May, June, July, August, September-Oct.



Featured Pollinator:
Silvery Checkerspot
Chlosyne nycteis

Caterpillar hosts include **calico aster**
Nectar plants include **Alumroot, Wild geranium, Pagoda Dogwood, and Common Yarrow**

Updated: July 27, 2024





There are many beautiful native plants for sun



Aromatic aster



Blue grama



Blazing star



Purple prairie clover



Prairie smoke

DRY SUN



Aromatic aster

Blue grama

Butterfly weed

Dotted blazing star

Prairie phlox

Prairie smoke

Purple prairie clover

Pearly everlasting

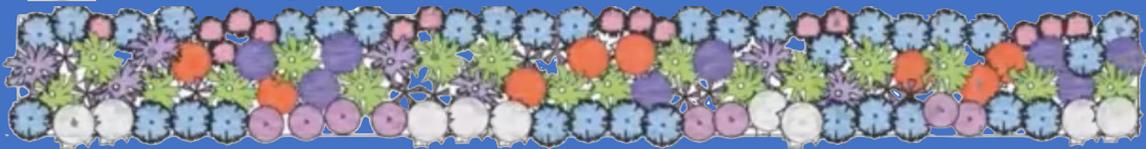
Side oat grama



Side-oats grama



Pearly everlasting



Jen Ehlert, Co-Director of Design,
Metro Blooms Design+Build



and many beautiful native plants for shade



Foam flower



Solomon seal



Nanny bush



Zigzag goldenrod



Christmas fern



Threatened

White wood aster



Cinnamon fern





PLANTS ARE LISTED IN ORDER OF BLOOM TIME, SPRING TO FALL.
Please hover and click on image to see species name, info and helpful link.

Blooming Boulevards

- A - BEST FOR BOULEVARDS (low height, drought- and salt-tolerant, infertile soil)
- B - BEST FOR SUNNY AREAS (various heights, dry-average soil moisture)
- C - BEST FOR SUN/PART SHADE AREAS (various heights, dry-average soil moisture)
- D - BEST FOR SHADE/WOODLAND GARDENS (average-moist rich organic soil)
- E - BEST FOR SUNNY DAMP AREAS AND RAIN GARDENS (moist-wet soil)



Golden alexander



Canadian Columbine



Bowman's root



Blue-eyed grass



Foxglove beardton...



Hairy beardtongue



Lead Plant



Butterfly Milkweed



Blue Vervain



Hoary vervain



Showy Tick Trefoil



Spotted Joe Pye ...



Wild bergamot Mo...



Swamp Milkweed



Adding onions All...



Pale Purple Conefl...



Purple coneflower ...



Anise Hyssop



Dotted Mint



Virginia Mountain ...



Evening Primrose



Woodland Sunflower



White Snakeroot



Pearly everlasting



Blackeyed Susan



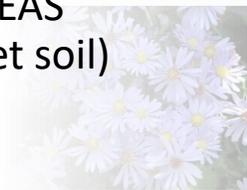
Blue Lobelia



Bigleaf Wood Aster



Upland White



Smooth Aster



Sky-Blue-Aster_Sy...



Heath Aster



Blue Stem Golden...



Grey Goldenrod



Stiff Goldenrod



Zigzag goldenrod



Pollen for bees from spring to fall



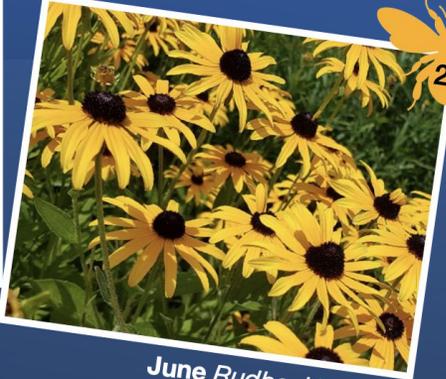
March *Salix discolor*



April *Cornus alternifolia*



May *Erigeron philadelphicus*



June *Rudbeckia hirta*



Menu for



July *Oenothera biennis*



August *Helianthus divaricatus*



Sept *Symphyotrichum novae-angliae*



October *Solidago sp.*



Keystone species for Zones 4+

Numbers are for the general Eastern Temperate Region - not all species occur in all regions

Keystone Plants by Ecoregion - National Wildlife Foundation <https://www.nwf.org/Garden-for-Wildlife/About/Native-Plants/keystone-plants-by-ecoregion>

Where do I start?



I don't want to lose my delphiniums.



Golden Alexanders



Spring blooms
Beneficial insects



Black Swallowtail

Ironweed



Colour
Structure



American Painted Lady





Flowers & Food

- Interplant your vegetables with flowering plants
- Attracts pollinators and increases pollination services
- Adding **native plants** is even more effective!



Rose Garden



Butterfly milkweed
Asclepias tuberosa

Tufted hair grass
Deschampsia cespitosa

OUTER...
Asclepias tuberosa
North Carolina
Pumpkin...

Perennial Border



Pale coneflower
Echinacea pallida

Adding Ecologically Productive Plants to your Garden

- Choose plants that fit your growing conditions.
- Consider adding “keystone” plants
- Aim for 70% native plants by biomass
- Here are some of my favourites...



Culver's Root

Goldenrods are Great!



Zigzag Goldenrod
Solidago flexicaulis

Bluestem Goldenrod
Solidago caesia



M. J. Raupp



Stiff Goldenrod
Solidago rigida



Showy Goldenrod
Solidago speciosa



Grey Goldenrod
Solidago nemoralis



Upland White Goldenrod
Solidago ptarmicoides



Grass-leaved Goldenrod
Euthamia graminifolia



Silverrod
Solidago bicolor



115



Camouflaged looper



Bluestem Goldenrod



Pollen specialists



Andrena erythronii on Trout Lily *Erythronium americanum* Photo: Conrad Vispo

Plants that support the highest number of specialist species

Common Name	Genus (Species)	Specialist Bees
Goldenrod	<i>Solidago & Euthamia</i>	28
Black-eyed susan	<i>Rudbeckia</i>	17
Aster	<i>Symphiotrichum</i>	16
Willow	<i>Salix</i>	12

U.S. National Wildlife Federation bee numbers for Eastern Temperate zone



New England Aster

Rudbeckia spp

Black-Eyed Susan

Rudbeckia hirta Zones 4+



- Photo: Donna Bos MGOI FB





Tall Thimbleweed
Anemone virginiana
Zones 3-8
Images: A Cultivated Art Inc



Pearly Everlasting
Asteraceae





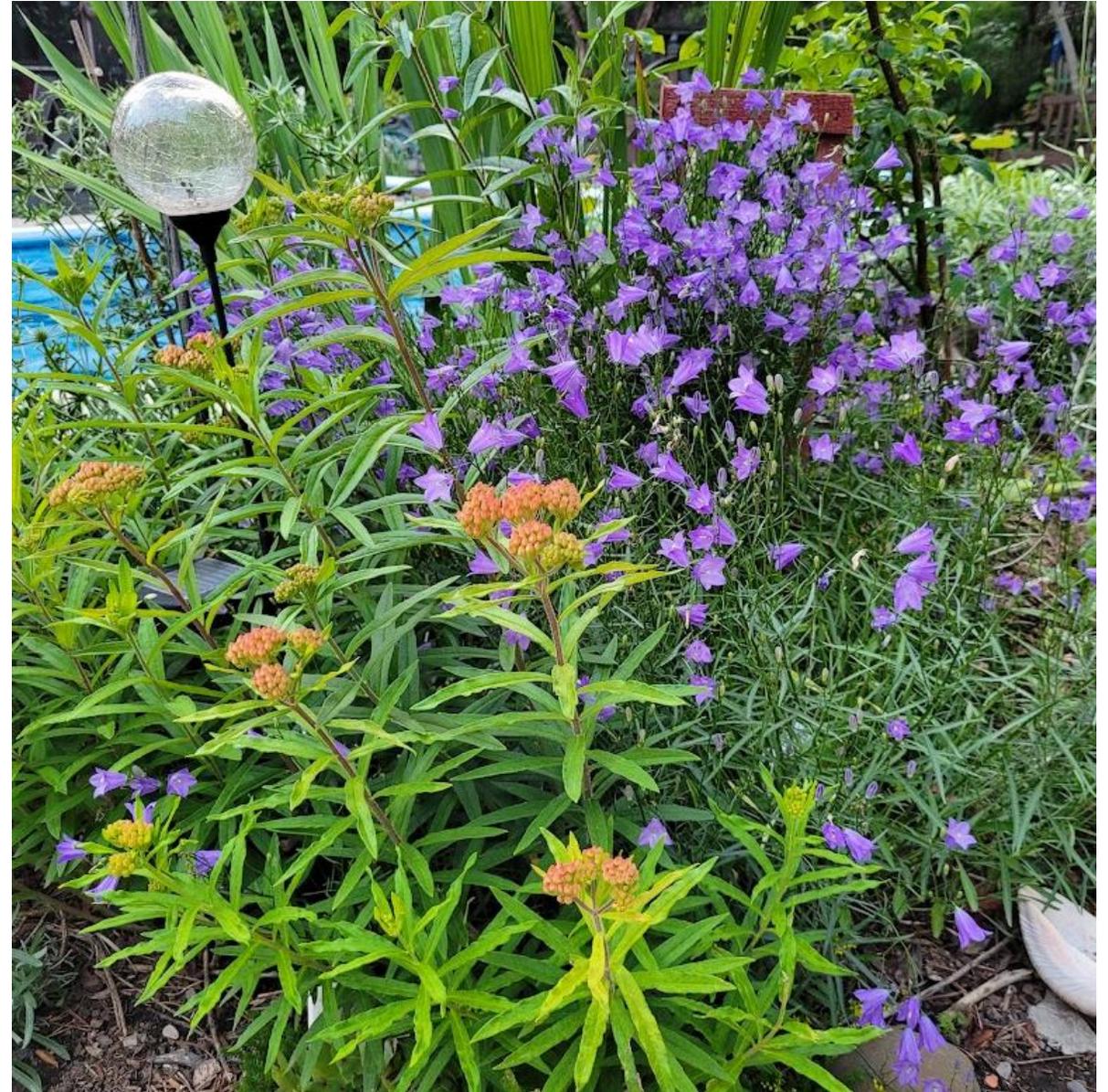
Culver's Root & Rudbeckia



Geranium maculatum
Jack in the pulpit



Butterfly milkweed



Harebells (*Campanula rotundifolia*)



Create 'Soft Landings' under trees

- Replace lawn with groundcovers or shrubs
- Allows insects to fall to the ground and complete their life cycle
- Fireflies, bumble bees, beetles and lacewings



Heather Holmes www.pollinatorsnativeplants.com/



Wild Ginger



*Phlox
stolonifera*

Creeping Phlox



Trilliums

5 native species in Ontario

- Nodding Trillium
- White Trillium
- Red Trillium
- Painted Trillium
- Drooping Trillium





Skipper
Bugguide



Brown Eyed
Wikipedia

Native Sedges

- **Rain garden**
 - *Carex crinita*, full sun to part shade (moist)
 - *Carex grayii*, part sun to part shade, (moist)
- **Moist to wet**
 - *Carex sprengei*, part sun or shade
 - *Carex vulpinoidea*, full sun to part shade
 - *Carex bromoides*, part sun to shade (moist)
 - *Carex grisea*, sun to shade
- **Medium**
 - *Carex albicans*, part shade to full
 - *Carex eburnea*, sun to shade
- **Dry to medium**
 - *Carex pensylvanica*, full sun to shade
 - *Carex plantaginea*, part sun to shade





Cinnamon
Fern

Cinnamon fern
Osmunda cinnamomea
Common
North and South America



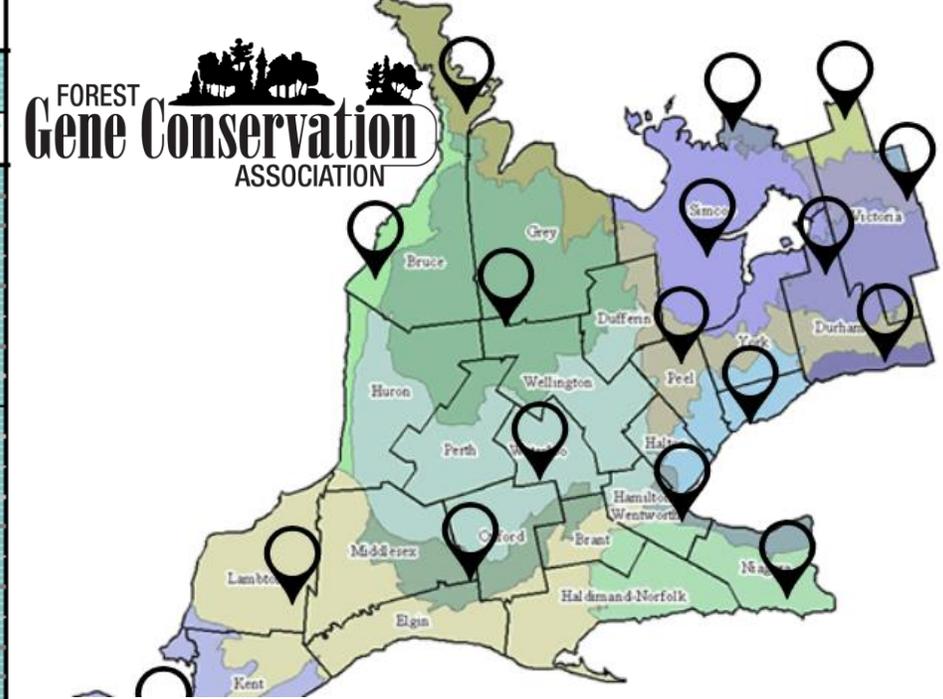
Use shrubs and trees to build structure and provide shelter

Ecodistrict 6E - 6 (Dane)

Described on last page

R - naturally rare, very rare and extremely rare

	Your Check List	Species	Scientific name	Eco region	Eco district	Exceptions to Ecodistrict Occurrence	
				6E	6E - 6	+ - OCCURS in these Counties	* - NOT FOUND in these Counties
Evergreen trees		Balsam Fir	<i>Abies balsamea</i>	U	U		
		Eastern Red Cedar	<i>Juniperus virginiana</i>	C	U*		16
		Black Spruce	<i>Picea mariana</i>	C	C*		37
		White Spruce	<i>Picea glauca</i>	U	C*		16
		Eastern White Pine	<i>Pinus strobus</i>	C	C		
		Red Pine	<i>Pinus resinosa</i>	C	U		
		Eastern White Cedar	<i>Thuja occidentalis</i>	C	C		
		Eastern Hemlock	<i>Tsuga canadensis</i>	C	C		
Deciduous trees		Black Maple	<i>Acer saccharum</i> spp <i>nigrum</i>	U	U		
		Red Maple	<i>Acer rubrum</i>	C	C		
		Silver Maple	<i>Acer saccharinum</i>	C	C		
		Sugar Maple	<i>Acer saccharum</i>	C	C		
		White Birch	<i>Betula papyrifera</i>	C	C		
		Yellow Birch	<i>Betula allegheniensis</i>	C	C		
		Bitternut Hickory	<i>Carya cordiformis</i>	C	U*		16
		Shagbark Hickory	<i>Carya ovata</i>	U	U*		37
		Hackberry	<i>Celtis occidentalis</i>	U	U*		37
		Dotted Hawthorn	<i>Craetagus punctata</i>	C	C		
		American Beech	<i>Fagus grandifolia</i>	C	C		
		Black Ash	<i>Fraxinus nigra</i>	C	C		
		Red (green) Ash	<i>Fraxinus pennsylvanica</i>	C	C		
		White Ash	<i>Fraxinus americana</i>	C	C		
		Butternut	<i>Juglans cinerea</i>	U	U		
		Tamarack	<i>Larix laricina</i>	U	R		
		Ironwood	<i>Ostrya virginiana</i>	C	C		
		Balsam Poplar	<i>Populus balsamifera</i>	C	C		
		Large-toothed Aspen	<i>Populus grandidentata</i>	C	C		
		Trembling Aspen	<i>Populus tremuloides</i>	C	C		
	Black Cherry	<i>Prunus serotina</i>	C	C			
	Bur Oak	<i>Quercus macrocarpa</i>	C	C			
	Red Oak	<i>Quercus rubra</i>	C	C			
	White Oak	<i>Quercus alba</i>	C	C			
	Sassafras	<i>Sassafras albidum</i>	U	U			
	Basswood	<i>Tilia americana</i>	C	C			
	Rock Elm	<i>Ulmus thomasii</i>	U	U*		16	
	White Elm	<i>Ulmus americana</i>	C	C			
Ev. Shrub		Common Juniper	<i>Juniperus communis</i>	C	C		
		Creeping Juniper	<i>Juniperus horizontalis</i>	C	C		
		American Yew	<i>Taxus canadensis</i>	C	C		
	Mountain Maple	<i>Acer spicatum</i>	C	C			
	Striped Maple	<i>Acer pennsylvanicum</i>	C	C*		37	
	Speckled alder	<i>Alnus incana</i>	C	C			



FOREST
Gene Conservation
ASSOCIATION

	Your Check List	Species	Scientific name	Eco region	Eco district	Exceptions to Ecodistrict Occurrence	
				6E	6E - 6	+ - OCCURS in these Counties	* - NOT FOUND in these Counties
		Downy Hawthorn	<i>Craetagus mollis</i>	C	C		
		Fanleaf Hawthorn	<i>Craetagus flabellata</i>	C	C		
		Fireberry Hawthorn	<i>Craetagus chrysocarpa</i>	C	C		
		Fleshy Hawthorn	<i>Craetagus succulentata</i>	C	C		
		Bush Honeysuckle	<i>Diervilla lonicera</i>	C	C		
		Leatherwood	<i>Dicra palustris</i>	C	C		
		Burning-bush Euonymus	<i>Euonymus atropurpurea</i>	R	R*		16
		Witch-hazel	<i>Hamamelis virginiana</i>	C	C*		16
		Winterberry	<i>Ilex verticillata</i>	C	C		
		Spicebush	<i>Lindera benzoin</i>	U	U*		16
		Fly Honeysuckle	<i>Lonicera canadensis</i>	C	C		
		Glaucous Honeysuckle	<i>Lonicera dioica</i>	C	C		
		Swamp Fly Honeysuckle	<i>Lonicera oblongifolia</i>	C	C		
		Mountain holly	<i>Nemopanthis mucronata</i>	C	C		
		Ninebark	<i>Physocarpus opulifolius</i>	C	C		
		Shrubby cinquefoil	<i>Potentilla fruticosa</i>	C	C		
		Canada plum	<i>Prunus nigra</i>	C	C		
		Chokecherry	<i>Prunus virginiana</i>	C	C		
		Pin Cherry	<i>Prunus pennsylvanica</i>	C	C		
		Sandcherry	<i>Prunus pumila</i>	C	C		
		Alder-leaved buckthorn	<i>Rhamnus alnifolia</i>	C	C		
		Fragrant sumac	<i>Rhus aromatica</i>	C	C		
		Poison Sumac	<i>Rhus vernix</i>	U	U		
		Smooth Sumac	<i>Rhus glabra</i>	C	C		
		Staghorn Sumac	<i>Rhus typhina</i>	C	C		
		Prickly wild rose	<i>Rosa acicularis</i>	C	C		
		Smooth wild rose	<i>Rosa blanda</i>	C	C		
		Swamp rose	<i>Rosa palustris</i>	C	C		
		Sweetbrier	<i>Rosa eglanteria</i>	C	C		
		Autumn Willow	<i>Salix serissima</i>	C	C		
		Bebb's Willow	<i>Salix bebbiana</i>	C	C		
		Black Willow	<i>Salix nigra</i>	C	C		
		Blue-leaved Willow	<i>Salix myricoides</i>	C	+	16	

Deciduous shrubs cont'd



Set location



Search result
(1 of 1)

Bird Gardening Zone Information

Find your current location by using the "location" button, or use the search bar to type in an address or postal code.

Oro-Medonte, ON, CAN



Show results within (Kilometers)

0

< Bird Gardening Zones

Eastern Great Lakes-St. Lawrence Valley Lowland Forests

Zone Name	Eastern Great Lakes-St. Lawrence Valley Lowland Forests
Zone Number	17
Full Plant List	More info





Basic search



Trees search



Shrubs search



Herbs search



Vines search



Search



Reset filters

BIRD GARDEN ZONES ?

- 2
 3
 4
 5
 6
 7
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22

SUN

- Full
 Partial
 Shade

SOIL

- Clay
 Coarse
 Loam
 Organic
 Sand

MOISTURE

- Dry
 Moist But Well Drained

SIZE ?

- Small Tree
 Medium Tree
 Large Tree
 Large Shrub

EVERGREEN OR DECIDUOUS

- All
 Deciduous

WILDLIFE FEATURES

- Cones/Cone-Like Structures
 Fall/Winter Berries/Drupes
 Flowers - Insect Pollinators
 Flowers - Nectar For Birds
 Small Seeds
 Spring/Summer Berries/Drupes

FLOWERING SEASONS

- Spring



PLANT SELECTOR - TREES



Basic search



Trees search



Shrubs search



Herbs search



Vines search



Search



Reset filters

BIRD GARDEN ZONES ?

- | | | | |
|-----------------------------|-----------------------------|--|-----------------------------|
| <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> 9 | <input type="checkbox"/> 10 |
| <input type="checkbox"/> 11 | <input type="checkbox"/> 12 | <input type="checkbox"/> 13 | <input type="checkbox"/> 14 |
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| <input type="checkbox"/> 19 | <input type="checkbox"/> 20 | <input type="checkbox"/> 21 | <input type="checkbox"/> 22 |

SUN

- Full Partial Shade



Downy Serviceberry
(*Amelanchier arborea*)



Shadblow Serviceberry
(*Amelanchier canadensis*)



Smooth or Alleghany Serviceberry
(*Amelanchier laevis*)



Cocksaur Hawthorn
(*Crataegus crus-galli*)



Fanleaf Hawthorn
(*Crataegus flabellata*)



Downy Hawthorn
(*Crataegus mollis*)



Frosted Hawthorn
(*Crataegus pruinosa*)



Dotted Hawthorn
(*Crataegus punctata*)



Fleshy Hawthorn
(*Crataegus succulenta*)



Choke Cherry
(*Prunus virginiana* var. *virginiana*)



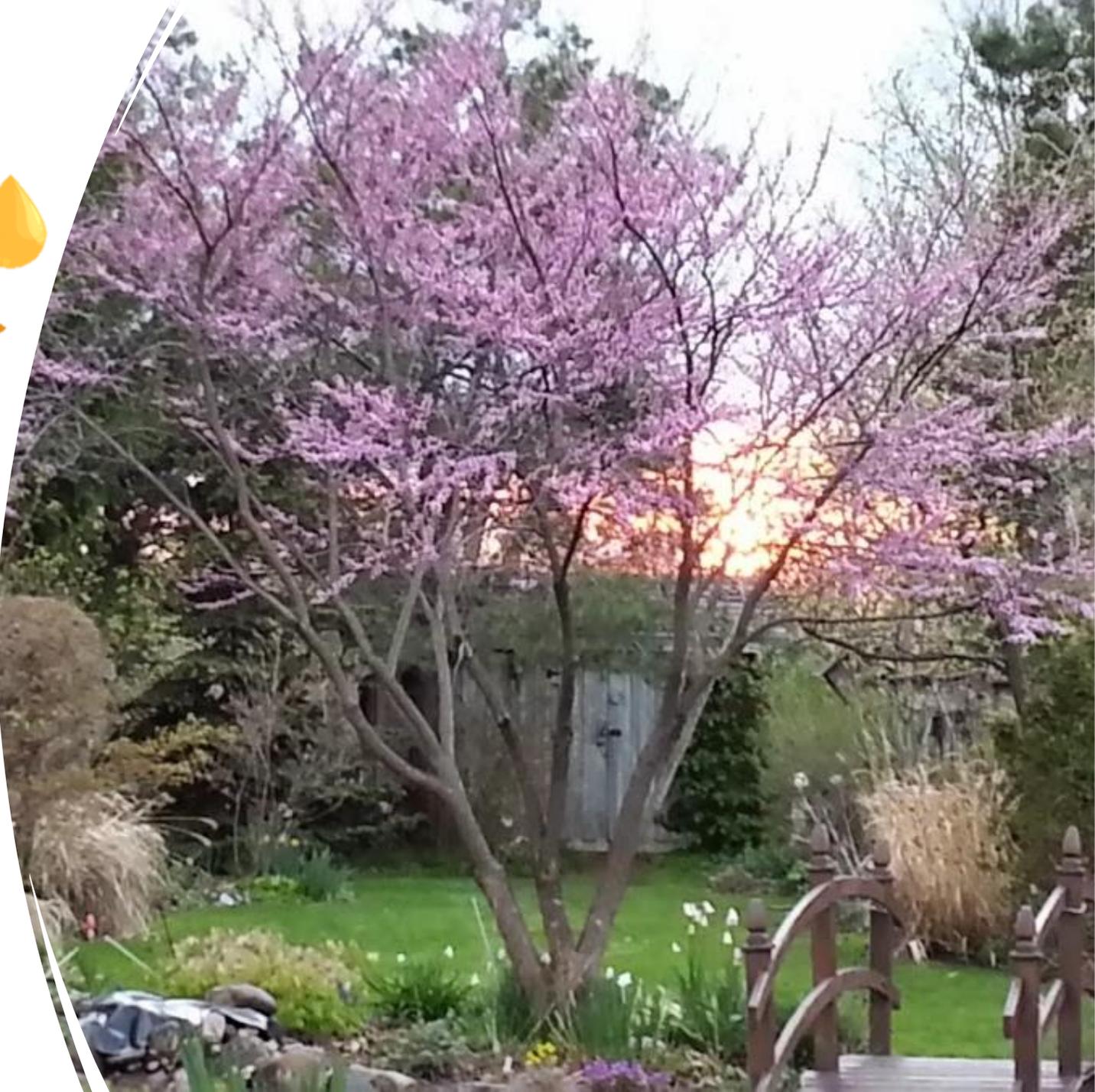


Eastern Redbud

- *Cercis canadensis*



<https://www.countrybeehoney.ca/>





Summer Azure

Spring Azure



New Jersey Tea
Ceanothus americanus



**Mottled
Duskywing**

Hover Fly



Images: www.wildflower.org



Eastern Tiger Swallowtail



www.audubon.org



Lindera benzoin

Images: www.wildflower.org



Spicebush Swallowtail

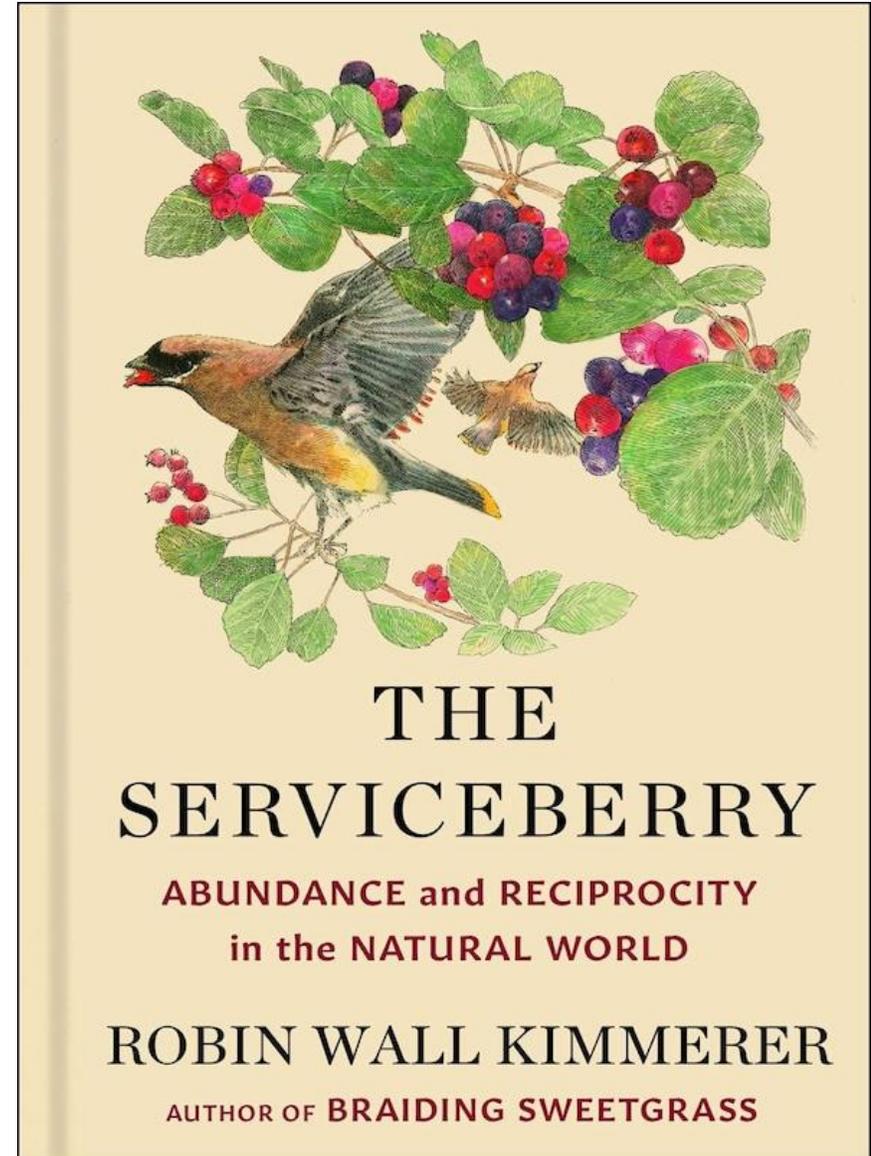


Promethea Silkmoth



Serviceberry
Amelanchier spp.







Buttonbush
Cephalanthus occidentalis



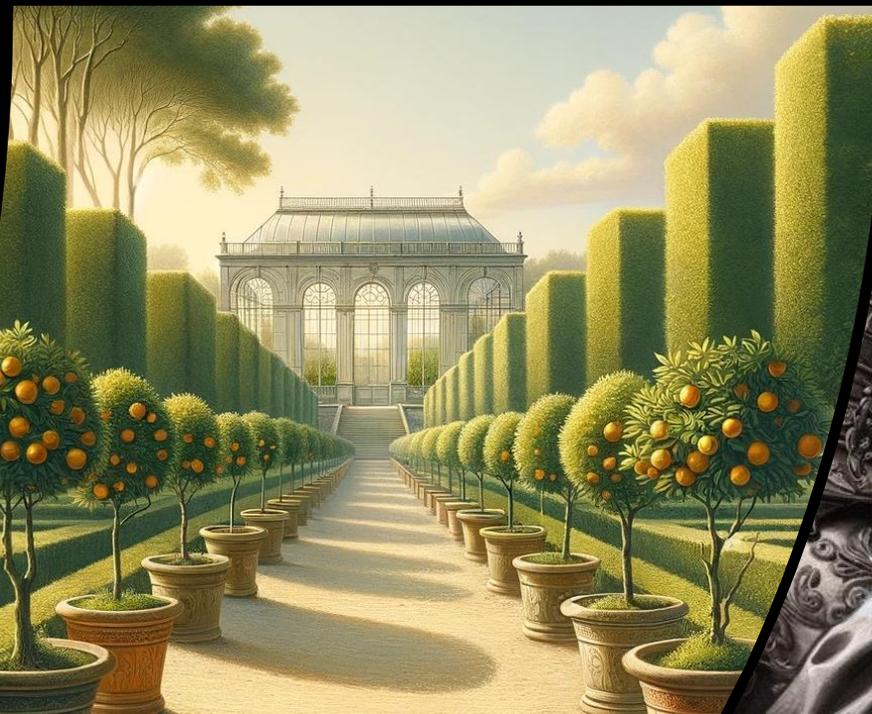




Management not maintenance

**Manicured
landscapes reflect
old ideas**

Traditional garden
maintenance should
shift to eco-friendly
management that
works with nature, not
against it.





Comma Butterfly
Fall 2018



LEAVES ARE NOT LITTER

THEY 'RE FOOD AND SHELTER FOR
BUTTERFLIES, BEETLES, BEES, MOTHS, AND MORE.
TELL FRIENDS AND NEIGHBORS TO JUST

LEAVES ARE NOT LITTER



Firefly on my patio

- Build **soil health**
- Insulate **tree roots**
- Reduce water loss
- Shelters **overwintering species**
- Supports **mycorrhizal** associations
- Protects spring ephemerals



Be creative with leaves

- Use leaves as mulch between plants
- Use mulching mowers to increase the rate of leaf decomposition
- Create an attractive compost area in your landscape design
- Store leaves in leaf bags to make leaf mold





Big or small, it all counts

Both big and small gardens provide services

Provide food

Support wildlife

Improve air quality

Spark joy

...

How to Start a Balcony Vegetable Garden: An Easy Guide to Green Living
<https://www.bulksgo.com/home-improvement>





Even tiny gardens can make a difference

“Monarchs can find the milkweed, wherever the milkweed is, even if it’s in planters on balconies and rooftops.”

Klinger KR, Hasle AF and Oberhauser KS (2024) *Characteristics of urban milkweed gardens that influence monarch butterfly egg abundance*. *Front. Ecol. Evol.*

Connolly, "Urban milkweed gardens help monarch populations, study shows" [2024](#)



Xerces Pollinator Garden Kit



Planter on a condominium roof had five large caterpillars Keller Science Action Center at the Chicago Field Museum



Keep your Garden Buzzing!

- Choose plants **native to your region**
- Match plants with your **growing conditions**
- Include a **diversity** of species
- Prioritize **trees and shrubs**
- Perennials spp that bloom from **early spring to late fall**
 - Variety of flower shapes, colours, sizes
- Native **grasses and sedges**
- **Plant 'aggressive' native species last**
- Aim for >70% native plants
- **Remove** invasive plants!

Native bee 'buzz' pollinating blueberries



No holes = no life



No holes

No life



No holes

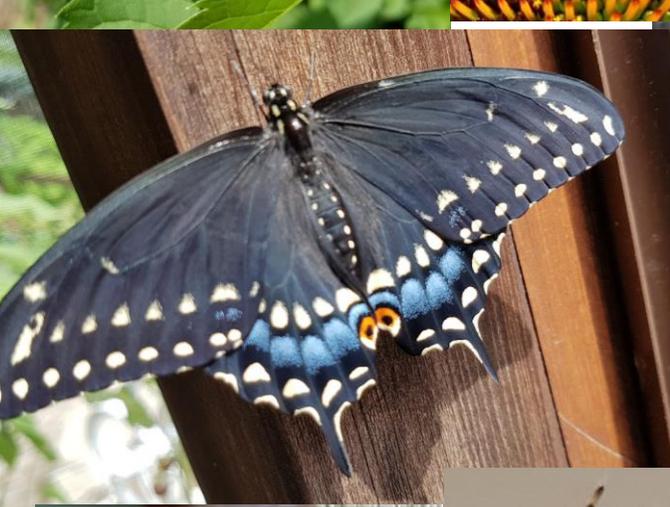
No life



No holes

No life







Canadian Coalition for Invasive Plant Regulation

CCIPR.ca@gmail.com

Home Get Involved Blog Stories Improving Regulations Resources Search



Melinda Young Steward (CC BY-NC-ND 2.0)

Peter Waycik (CC BY 4.0)



Join the Coalition

Invasive Species do harm to our health, environment and economy

They should not be sold in Canada.



Canadian Coalition for Invasive Plant Regulation (CCIPR)



+ Invite



Minden & District Horticultural Society



Midland Garden Club



Peterborough Horticultural Society



Est. 1861

Together we can make a difference



MGOI.ca



ccipr.ca

Thank you!
Questions ?



WHAT'S YOUR SUPERPOWER?
I'M A MASTER GARDENER!

