



Living with Wildlife
Master Gardener Volunteer Training 2024

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- -Soaps in the garden to prevent insects and animals
- -Irish Spring yes or no?
- **pam's answer**
- Soaps do not keep insects and animals away from the garden. While Irish Spring may keep an animal away for a short period of time, once they get used to it and realize that it won't hurt them, they come back.
- In addition, soap sprays are not recommended for plants to kill insects as they are not a labeled pesticide and may cause damage to the foliage. Always use a labeled insecticide to control insects. There are insecticidal soaps available and these are formulated to prevent damage to plants while killing insects.

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Landscaping FOR Wildlife??



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Living with Wildlife



Photo courtesy Jean Moore

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Living with Wildlife

- Land cover changes
- Wildlife are adaptive
- We are providing resources...



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Habitat Creation



- Conservation and creation of natural areas
- Community gardens
- Recreational green spaces
- Landscaping



Landscaping/Gardening for Wildlife

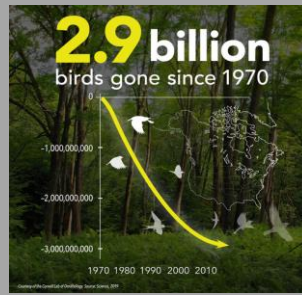


Connecting with Nature



There is a burgeoning public interest in ecological landscaping and gardening to support pollinators, birds, and other urban wildlife that is fueling an active plant movement. (Baker et al. 2020).

www.3billionbirds.org



1 in 4 birds

- 3 in 4 Meadowlarks
 - 53% loss of grassland birds
- 2 in 5 Baltimore Orioles
 - 28% loss of migratory species
- 2 in 5 Barn Swallows
 - 32% loss of aerial insectivores

Wildlife Population Declines

Many native bee pollinators are at risk.



Stephen Ramirez



Monarch butterflies are now a candidate for listing under the ESA.

The Bright Side:



Surprisingly, cities can be critical for native biodiversity conservation. (Ives et al. 2016)

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homegrownpark.org

WE CAN DO THIS!
ONE PERSON AT A TIME
RESTORE BIODIVERSITY

"In the past, we have asked one thing of our gardeners: that they be pretty. Now they have to support life, sequester carbon, limit pesticides and manage water."
— DOUG TALLAMY

Doug Tallamy

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Where Do You Start?

Must provide habitat **throughout the year**, and accounting for **changing needs**.

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What Habitat Means to Wildlife:

FOOD
COVER
WATER
SPACE

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Plants provide the foods birds and pollinators need.

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Landscaping for Wildlife

Add diversity to the landscape:

- Plants play a critical role in providing essential habitat to wildlife around our homes.
- Retention of **native vegetation** is an effective strategy to conserve urban biodiversity (Aronson et al. 2014).

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Provide Plants that Support Healthy Ecosystems

© Jim McCormac

- Diversity is key!
- Aim for a majority of native in targeted areas
- Avoid known non-native, invasive plants
 - Be smart for the wildlife

Bush honeysuckle (Lonicera spp.)

- Tartarian (*L. tatarica*)
- Amur (*L. maackii*),
- Morrow (*L. morrowii*)
- Bella (*L. x bella*)

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Alternative to Non-native, Invasive Plants (from Ohio Invasive Plant Council)



Asian Bush Honeysuckles: Amur, Morrow, and Tatarian (Lonicera maackii, Lonicera morrowii, and Lonicera tatarica)

- Form dense populations in the understory of woods
- Leaf out early and hold leaves late in the fall
- Seeds from red berries are dispersed by birds and deer

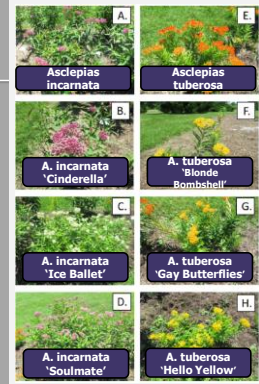
Recommended Alternatives:

- * bottlebrush buckeye (Aesculus parviflora)*-US
- * black chokeberry (Aronia melanocarpa)-OH
- * summersweet clethra (Clethra alnifolia & CVs)-US
- * common winterberry (Ilex verticillata & CVs)*-OH

www.oipc.info/plants-to-replace.html

Native Plant Cultivars

- Cultivated forms selected for modified flowers or foliage, compactness, or other ornamental characteristics.
- Depending on their traits, some native plant cultivars seem to support pollinators, whereas others do not.
 - Baker et al. 2020 –milkweed cultivars support monarchs
- More research is needed on a case-by-case basis (Ricker et al. 2019)



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Bird Habitat



- Plants provide most birds with the food & cover needed

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General Birdscaping Tips:

Look for any combination of these characteristics when choosing your plants:

- Dense growth form
- Evergreen leaves
- Thorns or spines
- Produces fruits, seeds, or nuts
- Nectar-rich flowers
- Shade-tolerance



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Serviceberry (Amelanchier)



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Shrubs for Birds

Red Chokeberry (*Aronia arbutifolia*)



Red Osier Dogwood (*Cornus sericea*)

Winter Berries for Birds



Winter Berry Persistence:

- Chokeberry (*Aronia*)
- Blackhaw (*V. prunifolium*)
- Hawthorn (*Crataegus*)
- Hollies (*Illex*)
- Sumac (*Rhus*)
- Hackberry (*Celtis*)

Top Berries for Birds

- Serviceberry (*Amelanchier*)
- Dogwoods (*Cornus*)
- Elderberry (*Sambucus*)
- Black/Raspberries (*Rubus*)
- Cherries, plums (*Prunus*)
- Crabapple (*Malus*)
- **Viburnum**
- Blackgum (*Nyssa sylvatica*)
- Blueberries (*Vaccinium*)
- Spicebush (*Lindera benzoin*)
- E. Red Cedar (*Juniper virginiana*)
- Chokeberry (*Aronia*)
- Hawthorn (*Crataegus*)
- Sumac (*Rhus*)
- Holly (*Illex*)
- Sassafras (*Asimina triloba*)
- Hackberry (*Celtis occidentalis*)



Top Nut and Seed Producers

Trees

- Oak
- Hickory
- Beech
- Maple
- Birch
- Spruce
- Pine
- Fir

Herbaceous

- Coneflowers
- Asters
- Sunflowers
- Thistles
- Goldenrod
- Bergamot
- Ironweed
- Golden alexanders



Leave those plants standing



"The little things that run the world."

-E. O. Wilson



96% of North American terrestrial bird species rely on insects and other arthropods (Dickinson 1999).

75% of the 100+ birds that breed in Ohio depend on caterpillars.

Choose Caterpillar-Loving Plants



Black-capped Chickadee

go.osu.edu/livinglandscape

The Lepidopterans & Host Plants



Woody Plants for Lepidopterans

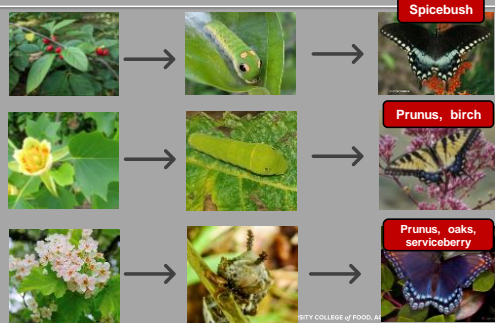
Common Name	Family	Plant Genus	Species Supported
Oak	Fagaceae	Quercus	534
Willow	Salicaceae	Salix	456
Cherry, plum	Rosaceae	Prunus	456
Birch	Betulaceae	Betula	413
Poplar, cottonwood	Salicaceae	Populus	368
Crabapple	Rosaceae	Malus	311

Tallamy, Douglas. Bringing Nature Home: How You Can Sustain Wildlife with Native Plants. Timber Press, London, 2007.

When We Think of Pollinators...



Woody Butterfly Host Plants



Pollinators Need Trees, Too!



- Mason bees and leaf cutter bees use hollow or pithy stems to construct nests
 - Blackberry, raspberry, elderberry, sumac

SPRING

Cut back dead flower stalks leaving stem stubble of varying height, 8 to 24 inches, to provide nest cavities.



Female bees find cut or naturally-occurring open stems, start a nest, then lay an egg on the pollen balls. Larvae eat the pollen.



Butterflies & Host Plants

- Milkweed – Monarch Butterfly



Milkweed's Native to Ohio:
 Common milkweed
 Butterfly-weed
 Purple milkweed
 Sullivant's milkweed
 Swamp milkweed

Viceroy or Monarch?

VICEROY



MONARCH



Herbs for Pollinators & Birds

- Lavender
- Mint
- Parsley
- Basil
- Dill
- Fennel
- Chives
- Lemon balm
- Thyme



Golden Alexander (Zizia aurea)

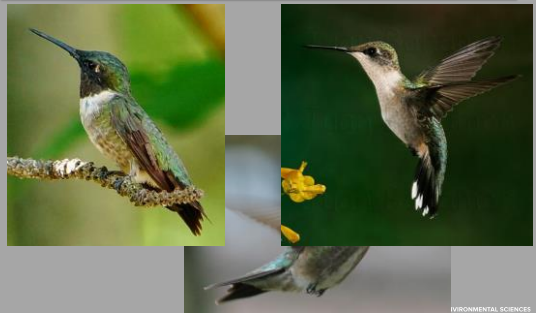
Hummingbird Flower Preference

Hummingbirds visit flowers that are:

- Red (and others!)
- Tubular
- Horizontal
- Room to hover



Hummingbird ID Quiz

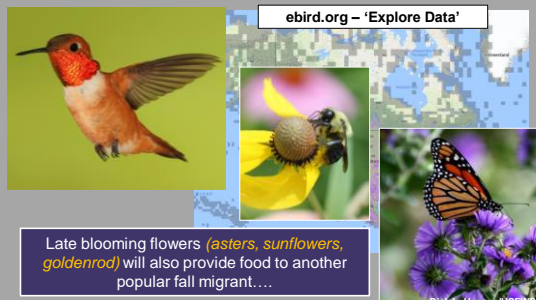


Occasional Visitors



May also get a fall visit from a rufous hummingbirds.

Late-Blooming Plants are VIPs




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Planting for Pollinators


Aim for continuous bloom throughout the growing seasons.

Spring




Hendy Galgwell

Summer



Rick L. Hansen/USFWS

Fall



Barbara Powers

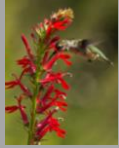
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Common Name	Bloom Time
Columbine (<i>Aquilegia</i> spp.)	Spring
Phlox spp.	Spring
Lupine (<i>Lupinus</i> spp.)	Spring
Blue/White False Indigo (<i>Baptisia</i> spp.)	Spring
Spiderwort (<i>Tradescantia</i> spp.)	Summer
Purple Giant Hyssop (<i>Agastache scrophulariifolia</i>)	Summer
<i>Coreopsis</i> spp. (lanceleaf)	Summer
Blazing star (<i>Liatris</i> spp.)	Summer
Bee balm/bergamot (<i>Monarda</i> spp.)	Summer
Milkweed (<i>Asclepias</i> spp.)	Summer
Stiff or showy goldenrod (<i>Solidago</i> spp.)	Summer-Fall
Cardinal flower (<i>Lobelia</i> spp.)	Summer-Fall
Coneflowers (<i>Echinacea</i> or <i>Ratibida</i> spp.)	Summer-Fall
Boneset (<i>Eupatorium</i> spp.)	Summer-Fall
Aster (<i>Symphotrichum</i> spp.)	Summer-Fall

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Plants for Hummingbirds

- Perennials:
 - Cardinal flower
 - Great blue lobelia
 - Wild columbine
 - Beards tongue
 - Beebalm
 - Butterfly weed
 - Foxgloves
 - Phlox
 - Salvia
 - Jewelweed
- Shrubs/Low-growing Trees
 - Serviceberry, eastern redbud, hawthorn, bottlebrush buckeye
- Vines
 - Native honeysuckle vine (*Lonicera sempervirens*), trumpet creeper (aggressive spreader)
- Trees
 - Buckeye (red), yellow poplar (tulip poplar), black cherry



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Nectar, Pollen, and Host Plants

BIRD-FRIENDLY, TOO!!

- ▶ Serviceberry
- ▶ Eastern redbud
- ▶ Maple
- ▶ Cherry, Plum
- ▶ Hawthorn
- ▶ Sumac
- ▶ Viburnum
- ▶ Oak
- ▶ Willow
- ▶ Birch
- ▶ Tuliptree (yellow-poplar)


- ▶ Crabapple
- ▶ Red buckeye
- ▶ Dogwood
- ▶ Sassafras
- ▶ Asters & Sunflowers
- ▶ Coneflower
- ▶ Bergamot
- ▶ Virginia Mountain mint
- ▶ Milkweed
- ▶ Goldenrod
- ▶ Foxglove beardtongue






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Diversity and Pest Outbreaks





Soldier beetle



Seven-spotted lady beetle

Landscapes with high native plant diversity are more stable (i.e. less pest outbreaks).

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Plants for Insect Predators

Annuals

- Dill (*Anethum graveolens*)
- Coriander (*Coriandrum sativum*)
- Sweet alyssum (*Lobularia maritima*)

Perennials

- Asters (*Aster*)
- Lobelia (*Lobelia*)
- Lupine (*Lupinus*)
- Bergamot (*Monarda*)
- Giant Hyssop (*Agastache*)
- Ironweed (*Vernonia*)
- Goldenrod (*Solidago*)

Green Lacewings

Mary Gardiner

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Plants for Insect Predators



Extrafloral nectar

- Milkweed (*Asclepias*)
- Hawthorn (*Crataegus*)
- Sunflower (*Helianthus*)
- Apple (*Malus*)
- Plum, cherry (*Prunus*)
- Willow (*Salix*)
- Elderberry (*Sambucus*)
- Viburnum (*Viburnum*)
- Hibiscus (*Hibiscus*)
- Pumpkin/Squash (*Cucurbita*)
- Jewelweed (*Impatiens carpersis*)

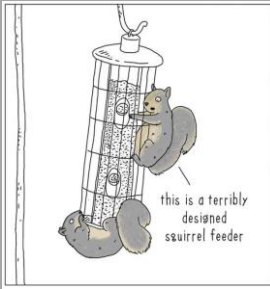
"Nectar is the currency used by plants to pay insects and other animals to do their bidding."

More Info on Insect Predators:



More Wildlife-Friendly Actions

- Rake leaves under shrubs
- Create no-mow zones
- Place nest boxes
- Keep cats indoors
- Remove non-native, invasive plants
- If possible, reduce pesticide use
- Bird baths/water features
- Bird feeders



Songbird Feeders Tips

- **Diversity of feeders**
 - Elevated feeder
 - Chickadees, titmice, finches
 - Bird Table
 - Doves, sparrows, jays
 - Ground feeder
 - Juncos, mourning doves, sparrows
- Place near shrubs or trees
- Wash every 2 weeks
 - 1 part bleach, 9 parts water
- **Variety of food...**



Hummingbird Feeder Tips

- ¼ cup of sugar & 1 cup of water
 - 1/3 cup of sugar during winter
 - No food coloring or honey
- Boil water if storing in fridge
- Replace sugar water every 2-3 days during summer
 - Daily in very hot weather
- Feeder style?
 - At least 1x per week
- Many feeders vs. one
- Place is quiet, shady area

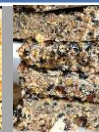


Provide a Variety of Food

Seed Preferences of Common Feeder Birds

	Chickadees	Nuthatches	Finches	Cardinals & Grosbeaks	Sparrows & Blackbirds	Jays	Woodpeckers	Titmice	Pigeons & Doves
Sunflower	✓			✓	✓				
Safflower				✓	✓				
Corn									✓
Millet									✓
Milo									✓
Nyjer (Thistle)									✓
Suet		✓							✓

Results based in part on the Cornell Lab of Ornithology's 1995-1996 Seed Preference Test, a National Science Experiment sponsored by the National Science Foundation. Bird images by Larry McQueen.



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Project Feeder Watch

www.feederwatch.org

Food and Feeder Preferences of Common Feeder Birds

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Bird Bath Tips

Shallow, rough surfaces

Summer

- Trickling feature
- Clean often!

Winter

- Swap out delicate models for winter hardy designs
 - Ice can cause cracks and leaks

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Plant Arrangement for Wildlife

The more a yard reflects the diversity and structure of nature, the better it will support wildlife.

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Plant-by-Numbers

u.osu.edu/plantbynumbers/

Planting for Butterflies and Moths

Use this diagram to plant a small 6'x8' garden plot to attract an assortment of bumble bees to your Ohio garden, landscape, or nearby park.

Use this diagram to plant a small 6'x8' garden plot to support butterflies and moths in your Ohio garden, landscape, or nearby park.

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Avoid Creating an Ecological Trap:

- Decals, Screens, Tempera paint
- Bird tape or blocks (sunlight still comes through window)

abcbirds.org/glass-collisions
birdcast.info/

Up to 1 billion birds die after hitting windows in the U.S. each year, and almost 50% of these hit home windows.

Your Efforts Will Be Worthwhile!

- Pollinators & birds use both disturbed and pristine habitats, from roadsides to gardens.

Photo: Wendy Caldwell

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Plant Lists and More Bird Info!



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News, Education, and Conversations on Ohio Wildlife
u.osu.edu/wildside

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saveohiobees.org



Resources:

- Native plant lists
- Ohio nurseries

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