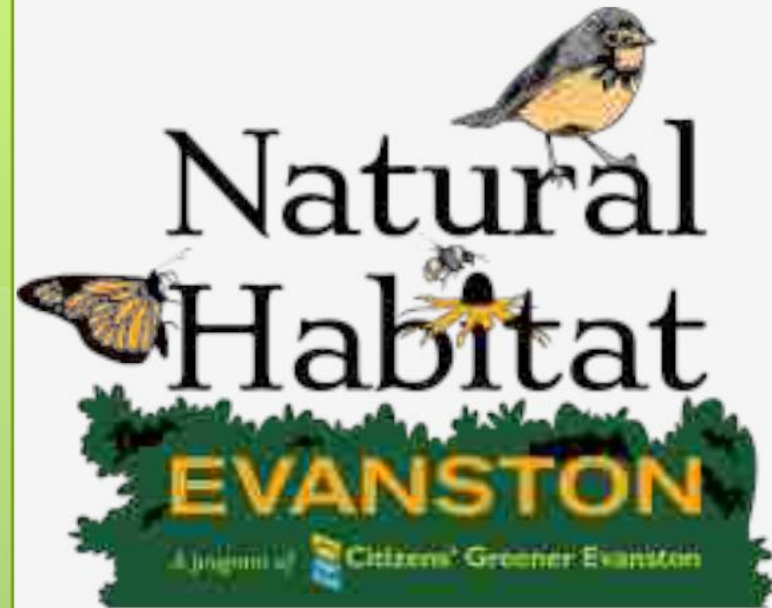


Natural Habitat Evanston is an all-volunteer effort to educate about, to advocate for, and to encourage Evanston pollinator gardens, bird habitat and natural landscapes.

We aim to change the culture of lawns.

We are a program of Citizens' Greener Evanston



FLOW - Converting Yard Turf to Native Plants

January 2023

Leslie Shad
Lead, Natural Habitat Evanston



Why?

It's only one Lawn

Turf = More land use than *corn, wheat and fruit trees combined.*

-- NASA.



Climate, Health: Lawn Maintenance

- ▮ **Water waste:** 7 billion gals/day. Overwater by @50%. 30-60% municipal fresh water supplies.
- ▮ **Toxins:** \geq 10x average farm rate
- ▮ **Lawn Equipment**
 - ▮ **Air pollution:** Fuels, particulates, smog (sulfur, nitrogen dioxides).
 - ▮ **Hearing Damage:** pitch as well as volume.



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What is Turf Grass?

- ❖ **Emblem of Privilege:**
Wealthy European estates originated the concept.
- ❖ **Ecological Dead Zones.**
No seeds, nectar, pollen.
- ❖ **Species Native to Europe and Asia.**
- ❖ **Displaces native plants**
that insects and birds rely on.

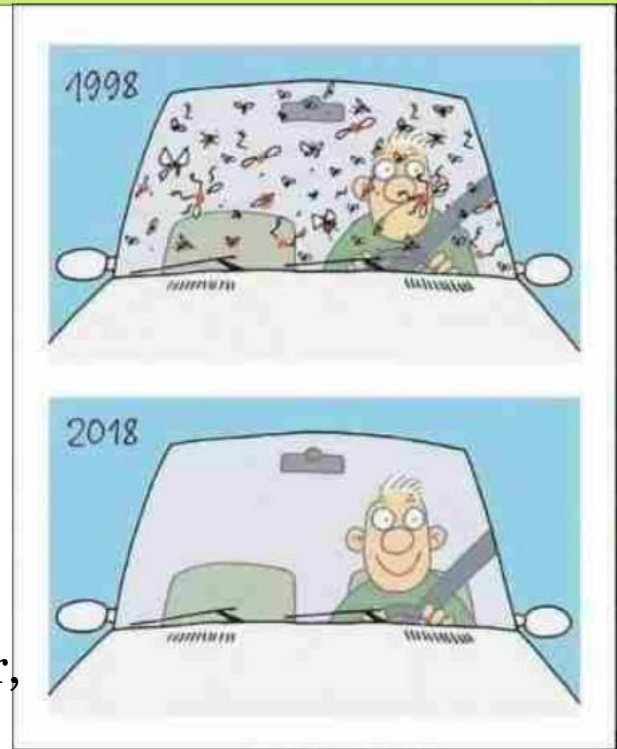


...whole insect world might be quietly going missing

- ❖ **Rusty-patched bumblebee:** ↓ 87% (vs 2000)
- ❖ **Monarchs:** ↓ 90% (vs 2000). 900 million bugs.
- ❖ **Mayflies:** ↓ 50% (vs 2012).

Globally

- ❖ **75% ↓ insect biomass** in 27 years. In summer, 82% less. German study 2015.
- ❖ **Caddisflies:** 63% of species threatened. Lay eggs in water, more vulnerable to pollution and development.
- ❖ 50% of surveyed **moth, butterfly** and **beetle** species in decline; 1/3 threatened with extinction.



Insects and Wildlife Value

3 billion fewer birds today compared to 1970—that's more than 1 in 4 birds.

To feed birds, encourage insects. 96% of land nestlings eat insects.

Clutch of 5 chickadees eat **6,000-9,000 caterpillars** to fledge.



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Why do we Care?

Fellow species that humans are causing to decline.

Indicator species of pesticides, habitat loss, climate disruption.

Community Health and Welfare: Seed germination and pest control

Beauty, music, belong in our ecosystem, link us to something bigger than us, wild and familiar.



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Solutions? DO LESS

- ❖ Mow less often.
- ❖ No Mow grasses.
- ❖ Reduce lawn area.
- ❖ Keystone native plants.
- ❖ Leave Leaves.
- ❖ No Pesticides, Fertilizers.
- ❖ Dim lights.
- ❖ Protect birds from windows.



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No Mow Mix sun-shade



Oak Sedge sun-shade
Carex pensylvanica



Buffalo Grass sun-pt sun
Bouteloua dactyloides



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**FROM
PACHYSANDRA**



TO NATIVE

**Layering for
Birds**

**Garden of Nancy
Bradt and Laury
Lewis**



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Turn lawns into habitats: Boost Biodiversity



Parkway of Nancy Bradt
and Laury Lewis



Replace lawn with shrubs, trees and wildflowers. No-mow:

- **Native ‘Turf’:** Buffalo grass, Oak, James or Ivory sedge.
- **Native Groundcovers:**
 - Shade: Wild Ginger, ferns, strawberry.
 - Sun/Part Sun: sedum ternatum, sedges.
- **Non-native No Mow mixes:**
PrairieNursery.Com, PrairieMoon.com, others.



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Let's get started!



From April to
August 2020



Nectar, Pollen, Seeds, Berries/Nuts ...across seasons



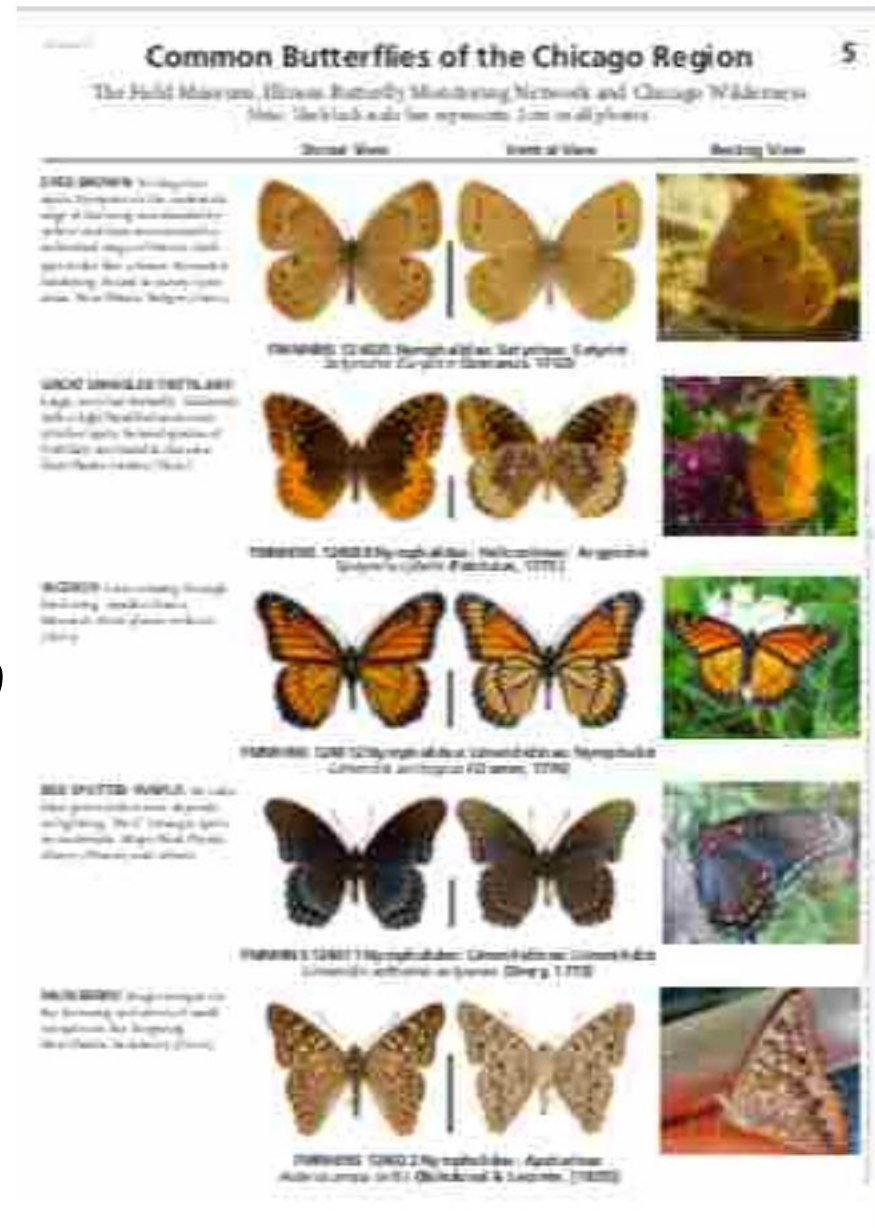
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Host Plants: Field museum field guides

Host plants. 90% plant-eating insects need them.

Enzymes to digest certain plants.
Shared history. Evolved together.

- Violet fritillary. **Violets.**
- Pearl Crescent: **asters** (*Aster*)
- Eastern Comma: **elms** (*Ulmus*) and **nettles** (*Urtica*).
- Red Admiral: **nettles** (*Urtica*).
- Spicebush Swallowtail: **Spicebush** (*Lindera*) and **Sassafras**.



Solutions: Add Keystone Plants

Native Trees

□ Oaks	456
□ Cherries	345
□ Willows	299
□ Birches	274
□ Aspens	262
□ Maples	255
□ Crabapple	245
□ Hickory	234



Morningglory prominent

Wildflowers

□ Goldenrods	112
□ Asters	107
□ Sunflowers	77
□ Strawberry	64
□ Indigo/Lead Plant	35
□ Joe Pye Weed	33
□ Violet	28



Food: Host plants and Nectar

Native plant layouts

- **Grow Native**
<https://grownative.org/learn/native-landscape-plans/>
- **Wild Ones**
<https://nativegardendesigns.wildones.org>



Canadian Clearweed

Native plant search functions

- **Audubon** www.audubon.org/plantsforbirds
- **NWF Tallamy** nwf.org/NativePlantFinder
- **LadyBird Johnson**
<https://www.wildflower.org/plants/>
- **Prairiemoon.com**



Pennsylvania Pellitory



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CRITTERS IN LEAVES AND TOP SOIL



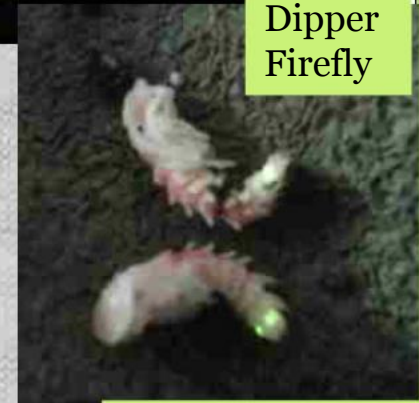
Big
Dipper
Firefly



Seven-spot ladybird
beetle



Woolly bear-
Isabella Tiger Moth



Project Noah,
NJ compost pile



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CRITTERS IN LEAVES AND TOP SOIL



Tawny mining bee



Queen common eastern bumble bee



Brilliant Jumping Spider



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Leave Plant Stalks And Seed Heads. Who is affected

Carolina mantis – with ootheca



Chinese mantis ootheca



Luna moth



Madison County Conservation Board



Giant swallowtail



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Leave Plant Stalks and Seed Heads Who is affected



Tawny Emperor
hibernacula. Photo by
Donald W. Hall,
University of Florida



Goldenrod gall fly



A goldenrod gall in midsummer.



Viceroy caterpillar
willow hibernacula
@ Edith Smith 2007

Larval host plants:

Tawny Emperor: hackberry

Viceroy: cottonwoods, willows, aspen, cherry, plum

Goldenrod gall fly: Canada, late, giant goldenrod

Banded Hairstreak

how long to leave leaves

Overwinter as Eggs

- ❖ Females lay their eggs on oak, walnut, hickory, ash and boxelder.
- ❖ Emerge after warm weather, as larvae.
- ❖ Weeks as caterpillar in leaf litter or debris.
- ❖ ~ JUNE!

Host plants: oaks and hickories



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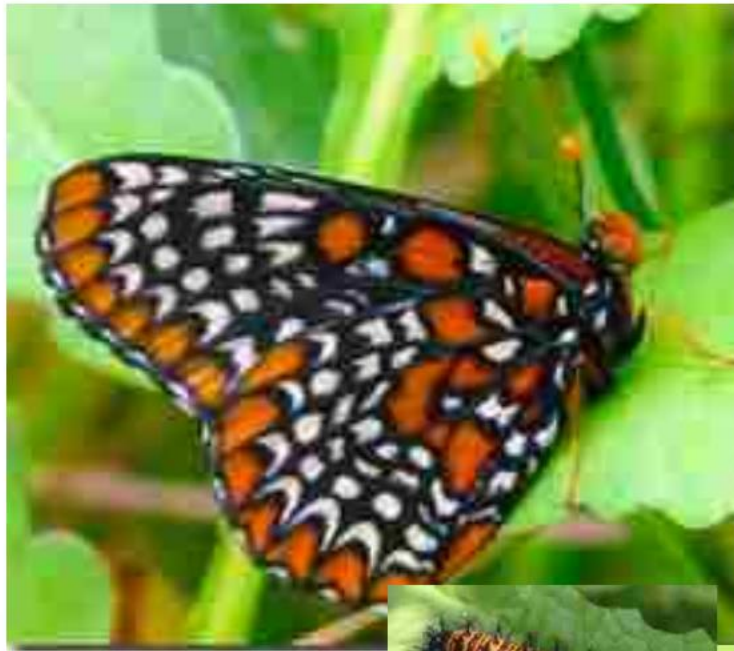


Great spangled fritillary

Overwinter as Caterpillar

Hatch and burrow next to your favorite food source.

- Baltimore Checkerspot: white turtlehead
- Great spangled fritillary: violets



Baltimore checkerspot



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Question mark

Overwinter as Adult – diapause

- Adults Feed up - rotting fruit
- Crawl into wood piles



Mourning Cloak



Eastern Comma



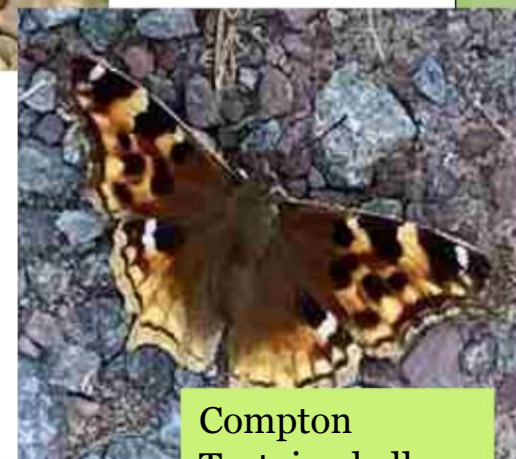
Larval Host plants:

Question Mark: elm, hackberry

Mourning Cloak: willow, elm, poplar, cottonwood, hackberry, birch

Eastern Comma: elm, nettle

Tortoiseshell: birch, poplar, willow



Compton
Tortoiseshell



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Solutions: Pesticides

**Ask Vendors to Avoid
“NEONICS”
Neonicotinoids.**

Systemic. Persists.

Imidacloprid Clothianidin

Thiamethoxam Dinotefuran

Acetamiprid

❖ **Common brands:
Ortho, Bayer.**



Lighting

Use light **IF**,
WHEN, and
WHERE you need
it, and keep it
orange-red and
minimized.

Brighter isn't
safer.



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Lighting

Turn off unnecessary lights.

Lights off by 11pm, especially in migration.



**When Light
is
Necessary:**

Shades,
blinds,
dimmers,
motion
sensors,
timers, phone
flashlights,
amber-red
bulbs.



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Aim light
where you

Lighting

Safety: Eyes slow to adjust.

Human Health: Obesity, depression, sleep disorders, diabetes, breast cancer.

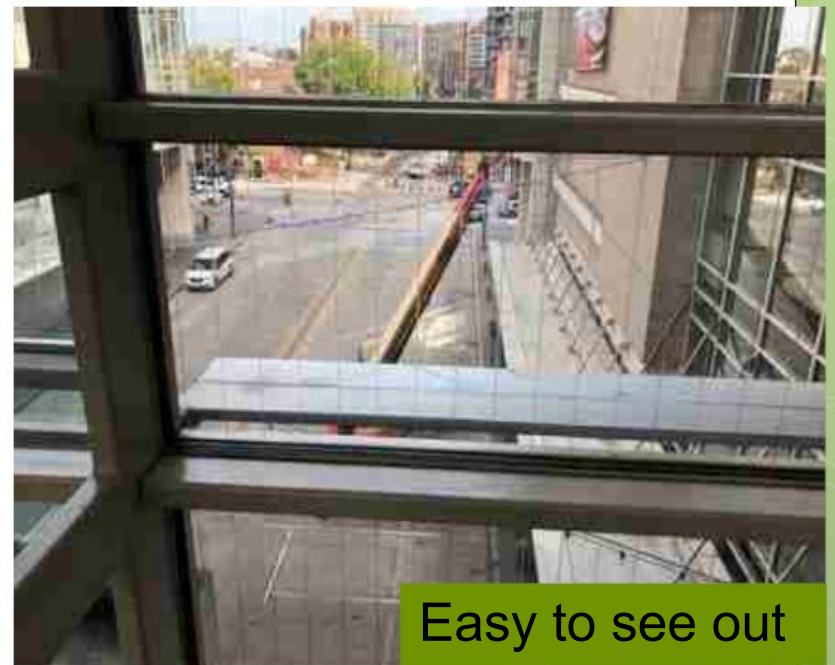
Animal Behavior: Impacts hunting, hiding, mating, nesting, navigating, and communicating.



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Ways to Amplify

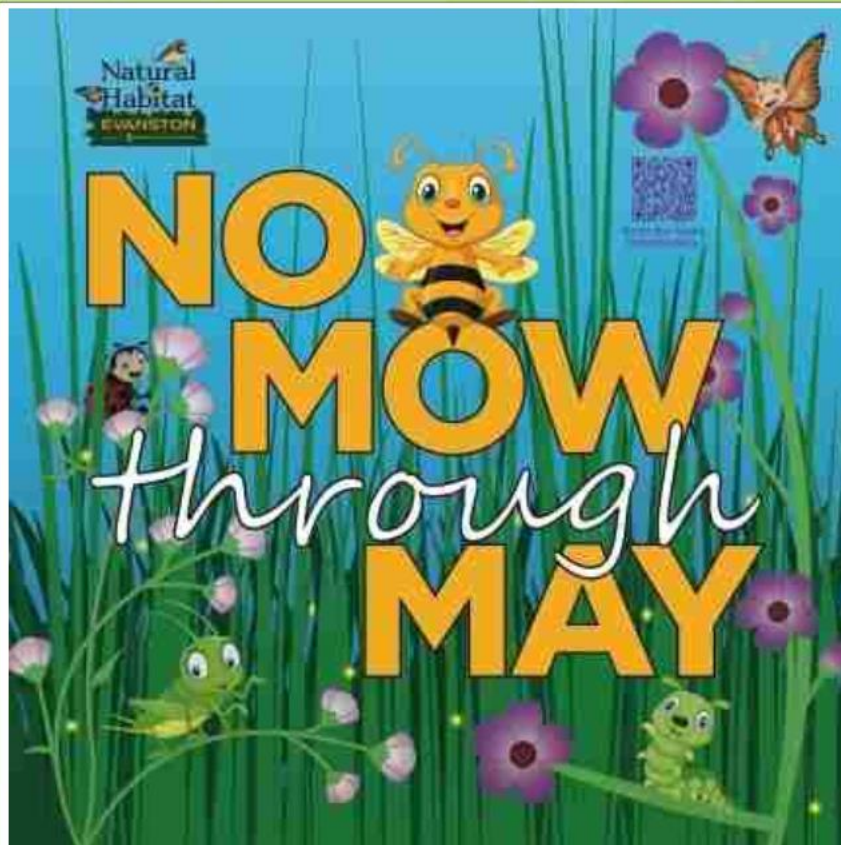
- ❖ DO LESS at your apartment bldg, workplace, club, place of worship, school (try a Pilot/Demo):
 - ❖ Mow less or no mow
 - ❖ Leave leaves, plant stalks
 - ❖ Keystone plants
- ❖ Vendors—ask about natives, neonics
- ❖ [Ask Janitorial staff: where birds hit windows \(photos\)](#)
- ❖ Join, Host or Support
 - ❖ Native Plant Sale or Sustainable Yard Tour
 - ❖ Signs: Pollinator or Bird Pledge



Easy to see out



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Natural Habitat EVANSTON

Pledge to protect pollinators and birds

- Leave the leaves in the fall
- Leave plant stalks and seedheads
- No pesticides or lawn chemicals
- Native plants for year-round forage
- Mow less
- Reduce light pollution

Join us:
greenerevanston.org/pollinatorpledge

Nature likes things a little messy.

The graphic has a brown background with various flowers (yellow, white, pink, purple) and insects (butterflies, a bird) scattered throughout.

Resources

NaturalHabitatEvanston.Org
evanstonhostplants.org
Savebellbowlprairie.org
iNaturalist.org

Host Plants

- ❖ Field Museum Guide to Chicago Butterflies
https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/butterflyguide_new.pdf
- ❖ Tallamy Wildlife Values: <https://drive.google.com/file/d/1-IocRxop4q0433Oi7LyouJsr-EfhEqOl/view>

Plant Selection

- ❖ **Rusty Patched Bumble Bee** Host plant list:
<https://www.fws.gov/midwest/Chicago/endangered/rpbb/pdf/RPBBMidwestPlantGuide.pdf>
- ❖ **Audubon's** Plants for Birds: www.audubon.org/plantsforbirds
- ❖ **Overall pollinator gardens** - Xerces: pollinators:
<https://xerces.org/publications/plant-lists/pollinator-plants-midwest-region>
- ❖ **Good sources:** PossibilityPlace.com,
shadygrovewildflowerfarm.square.site/s/shop (Evanston),
prairiemoon.com, prairienursery.com



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More Resources

Neonicotinoids

- ❖ **Bees** <https://xerces.org/publications/scientific-reports/how-neonicotinoids-can-kill-bees>
- ❖ **Birds** <https://abcbirds.org/neonics>
- ❖ **Brands** https://www.centerforfoodsafety.org/files/bee_toxic_fact_sheet_73518.pdf
- ❖ **Most common active ingredients:**
Imidacloprid Clothianidin Thiamethoxam Dinotefuran Acetamiprid

Bird Collisions. <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/buildings-and-glass.php>

- ❖ Ceramic pens <https://www.youtube.com/watch?v=UC9xQkUtQ98>
- ❖ Tempera paint <https://www.youtube.com/watch?v=jP7K7hdJKYo>
- ❖ Tapes <https://www.featherfriendly.com/residential?hsLang=en>
 - ❖ <https://www.collidescape.org/clear>
- ❖ Strings <https://www.birdsavers.com>



Questions?

LESLIE SHAD

Habitat@NaturalHabitatEvanston.Org



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