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

North Shore Senior Center’s Tuesday Club
Gardening that Matters – Transitioning from Turf
March 2023

Leslie Shad
Lead, Natural Habitat Evanston
Typical Maintenance for a Lawn, Rose or other Non-Native Garden

❖ Mow every other week
❖ Fertilize
❖ Water during growing season
❖ Broadleaf herbicide
❖ Herbicide walkways
❖ Insecticides for non-native plants
❖ Blow leaves and dust away from plants
❖ Mulch leaves and plant stalks, and haul them away.
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.
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.
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.
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.
Buffalo Grass sun-pto sun
Bouteloua dactyloides

No Mow Mix sun-shade

Oak Sedge sun-shade
Carex pensylvanica
Layering for Birds
Garden of Nancy Bradt and Laury Lewis
Turn lawns into habitats: Boost Biodiversity

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.
Let’s get started!

From April to August 2020
Nectar, Pollen, Seeds, Berries/Nuts
...across seasons
Host Plants: Field museum field guides

**Host plants.** 90% plant-eating insects need them. Doug Tallamy, U of Delaware. 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**.
Doug Tallamy, U of Del., NWF
Native Plant Finder

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

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

Morning glory prominent
## Food: Host plants and Nectar

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**Images:**
- [Canadian Clearweed](#)
- [Pennsylvania Pellitory](#)
Redefine Garden Success: TEAM BIODIVERSITY!
Landscaping tips

Pollinators need Host plants + Nectar plants
Straight natives, not cultivars (altered petals, color). no quotations “xx”.
Group species for effect + to attract pollinators
Save spots of Bare Soil: native bees
nest/overwinter at the base of favorite plants.
NO Insecticides. Herbicides
Height toward the back, shorter in front.
Know your sun, moisture, soil requirements.
Leave Leaves and plant stalks.

In-Ground
Sedge or Grass on outer edge to avoid plants flopping into walkways.
Plant Densely. Reduces weeds, gives insects hiding places.
Focus Points
  Path or stepping stones for your own access and visual interest.
  Fountain, birdbath, trellis or arbor too?
  Rocks add diversity, and focus dog pee away.
Sign – explain what you are doing
How much space do you need?

**Containers:** Think vertically!

**Deeper** the better. (12” +)

**Metal, Plastic, glazed ceramic** evaporate more slowly than unglazed. All need drainage.

**Consider weight.**

**Water:** Lots

**Winter:** will it crack? Insulate?
**Container Plants**

**Perennials for medium pots**
- Ferns, Lady fern  foliage (larva)
- Solomon’s seal or false Solomon seal  *nectar, pollen*, foliage (larva), *seeds*
- Cranesbill geranium,  *nectar, seeds*
- Baneberry –  *nectar, berries*
- Columbine  *nectar, pollen, foliage (larva)*
- Jacob’s ladder  *nectar, pollen, foliage (larva), sap*
- Blue lobelia  *nectar, pollen, foliage (larva)*
- Cardinal flower  *nectar, pollen, foliage (larva)*
- Wood asters  *nectar, pollen, foliage (larva)*

**Small perennials for window boxes or small pots**
- Woodland stonecrop  *nectar, pollen*
- Alum-root  *nectar, pollen, foliage (larva), sap oligophagous* beetles, aphids
- Violet  foliage (larva), *seeds*
- Wood phlox  *nectar, foliage (larva)*
CRITTERS IN LEAVES AND TOP SOIL

Tawny mining bee

Wooly bear-Isabella Tiger Moth
Plant Stalks And Seed Heads.
Who lives there?

- Carolina mantis – with ootheca
- Chinese mantis ootheca
- Luna moth
- Giant swallowtail
Leave Plant Stalks and Seed Heads
Who lives there?

Larval host plants:
Tawny Emperor: hackberry
Viceroy: cottonwoods, willows, aspen, cherry, plum
Goldenrod gall fly: Canada, late, giant goldenrod
HOW LONG TO LEAVE LEAVES?
Nature lives Year-Round in Garden Debris

Seven-spot ladybird beetle

Big Dipper Firefly

Project Noah, NJ compost pile
Banded Hairstreak
A Poster Child for Leave your 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
Overwinter as Caterpillar

Hatch and burrow next to your favorite food source.

- Baltimore Checkerspot: white turtlehead
- Great spangled fritillary: violets
Overwinter as Adult – diapause

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

**Larval Host plants:**
- **Question Mark**: elm, hackberry
- **Mourning Cloak**: willow, elm, poplar, cottonwood, hackberry, birch
- **Eastern Comma**: elm, nettle
- **Tortoiseshell**: birch, poplar, willow
Rake leaves into garden beds, around trees & shrubs

Avoid Blasting Nature: Leaf blowers blow insects, soil biodiversity and habitat into oblivion at speeds of up to 200 miles per hour.

Human Health

- Not just about carbon monoxide, and fuel.
- Every hour @ 5lbs fine dust, animal feces, mold, fungi, pollen, heavy metals and pesticides.
- Conventional blowers Dirtier than a car: Smog of 1 hour leafblower = a car driving 1,100 miles at 55 mph. (Calif Air Resources Board)

Noise pollution and vibrations have real health impact.
Can raise stress levels, increase blood pressure, cause headaches, and permanently damage hearing.

Yard crews are most impacted, but so are we all.
Solutions: Pesticides

At Nurseries, Avoid “NEONICS” Neonicotinoids. Systemic. Persists. Imidacloprid Clothianidin Thiamethoxam Dinotefuran Acetamiprid

❖ Common brands: Ortho, Bayer.

At Nurseries, asking the question plants a seed:
“Do you sell plants or seeds treated with neonics?”
Lighting

Use light IF, WHEN, and WHERE you need it, and keep it orange-red and minimized. Brighter isn’t safer.
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.

Aim light where you need it.
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.
Ways to Amplify the Ideas

- **Ask** your apartment building, workplace, club, place of worship, school (try a Pilot/Demo):
  - Mow less or no mow
  - Leave leaves, plant stalks
  - Add Keystone plant/s
- **Nurseries**—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](image-url)
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: greener Evanston.org/pollinatorpledge

Nature likes things a little messy.
Lawn/Landscape Service Contracts

❖ Mow less often.
❖ No Mow grasses.
❖ Add a native garden or Keystone native plants.
❖ Leave Leaves. *Rake* into gardens, under trees & shrubs
❖ No Pesticides or Fertilizers.

And if you invite nature in:
❖ Dim lights.
❖ Protect birds from windows.

Easy to see out
Resources

Host Plants
- Tallamy Wildlife Values: https://drive.google.com/file/d/1-IocRxop4q0433Oi7LyouJsr-EfhEqOl/view

Plant Selection
- 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

NaturalHabitatEvanston.Org
evanstonhostplants.org
Savebellbowlprairie.org
iNaturalist.org
More Resources

Neonicotinoids
- Bees [https://xerces.org/publications/scientific-reports/how-neonicotinoids-can-kill-bees](https://xerces.org/publications/scientific-reports/how-neonicotinoids-can-kill-bees)
- Birds [https://abcbirds.org/neonics](https://abcbirds.org/neonics)
- Most common active ingredients:
  Imidacloprid Clothianidin Thiamethoxam Dinotefuran Acetamiprid

- Ceramic pens [https://www.youtube.com/watch?v=UC9xQkUtQ98](https://www.youtube.com/watch?v=UC9xQkUtQ98)
- Tempera paint [https://www.youtube.com/watch?v=jP7K7hdJKYo](https://www.youtube.com/watch?v=jP7K7hdJKYo)
  - [https://www.collidescape.org/clear](https://www.collidescape.org/clear)
- Strings [https://www.birdsavers.com](https://www.birdsavers.com)
Questions?

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