



“Think Like a Caterpillar, Bloom Like a Butterfly”

Deb Ellis

Leader Essex Chapter of NPSNJ

Master Gardener, Essex County

May 8, 2024

HOW CAN WE HELP AT EACH STAGE OF LIFECYCLE?

EGG -- CATERPILLAR -- CHRYSALIS -- BUTTERFLY



Workshop Plan

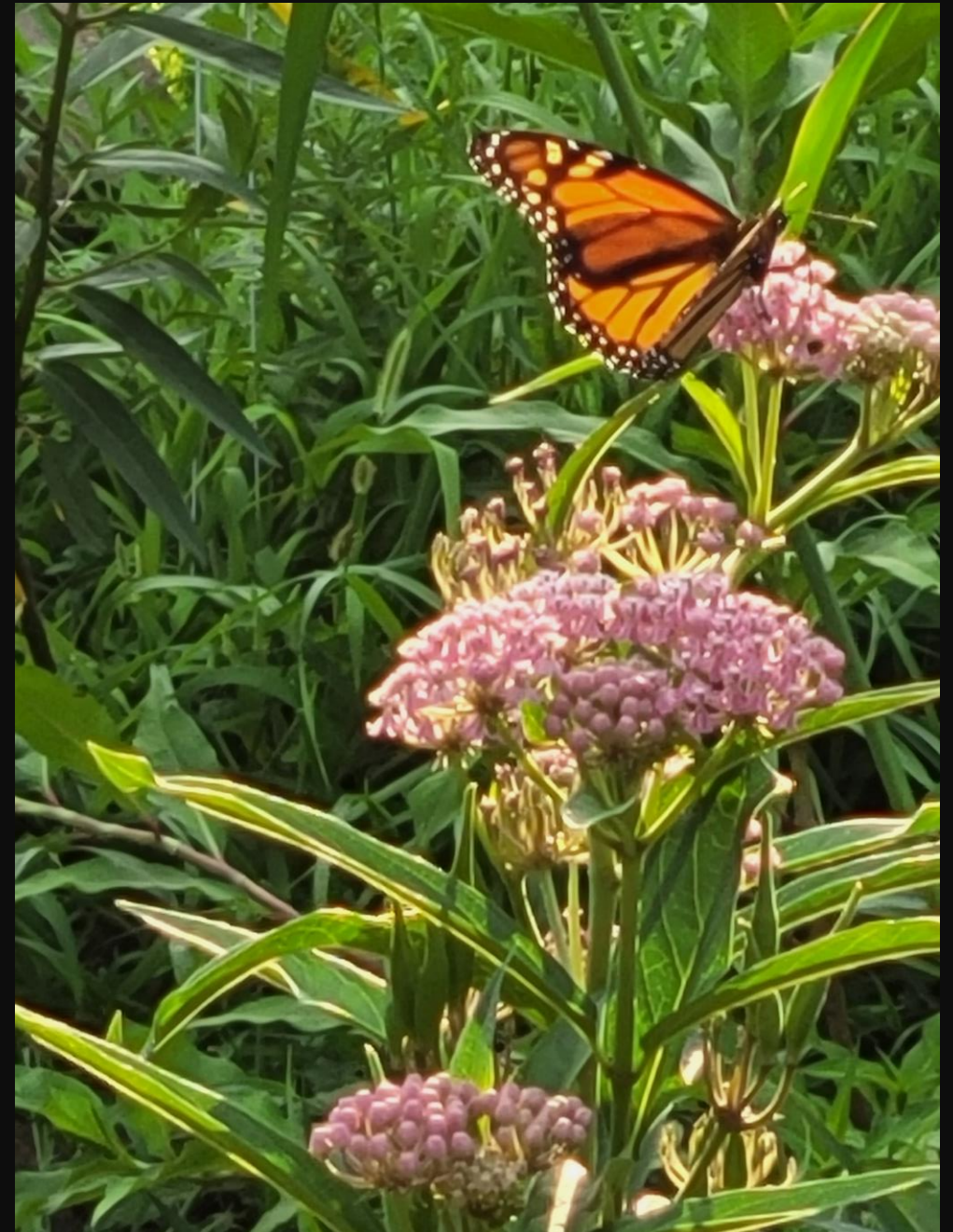
Why should we care about caterpillars?

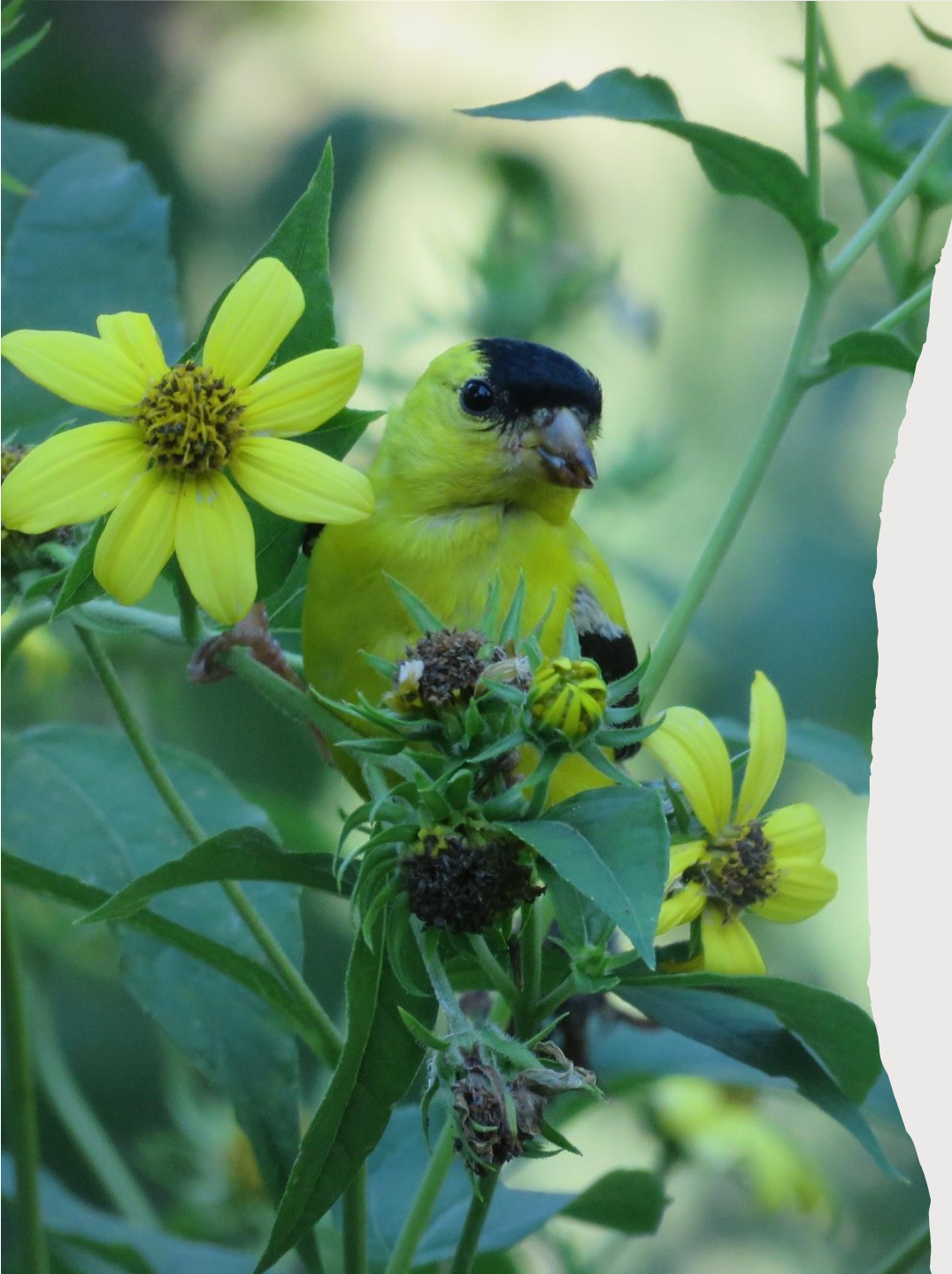
What is a host plant?

Stage #1: Egg & Caterpillar – host plants

Stage #2: Chrysalis – modernizing fall clean-up

Stage #3: Butterfly – nectar plants





Definitions

Native: here before colonists. Ex: violets

Introduced but not invasive. Ex: daffodils

Invasive: Introduced species that invade natural areas, crowding out native plants. Ex: English Ivy, Barberry Bush

Natives can never be invasive



Insects are the little things that run the world. If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago.

If insects were to vanish, the environment would collapse into chaos.

E.O. Wilson



A Fun Quiz

What is your favorite butterfly?

What is a host plant?

What is the host plant for monarch butterflies?

What is frass?

Where do butterflies go in winter?



WHY SHOULD WE CARE? 6TH EXTINCTION

**Biodiversity is declining faster than any time
in human history**

- **3 billion decline of birds** in North America from 1970-2019 – *Science*, Sept. 2019
- **90% of Monarchs** have disappeared in last 20 years; eastern population slowly rising
- **Insect apocalypse:** extinction risk for 25% of North America's 47 bumble bee species

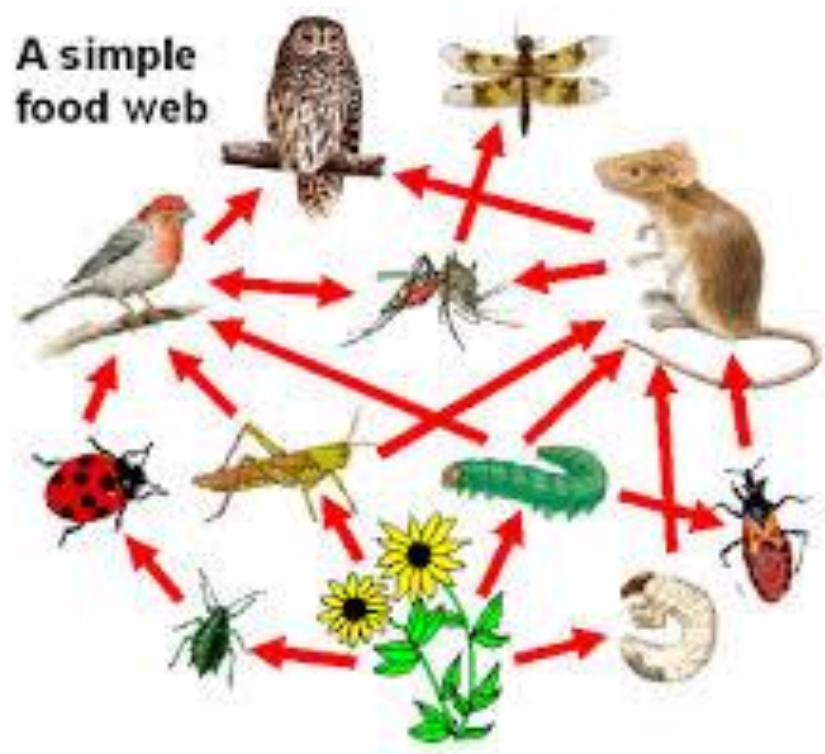
**“The big three” — all human-created:
Development, pesticides and pollution, and rising temperatures.
Humans are the cause; we can be the solution!**





PLANTS ENABLE ANIMALS TO EAT SUNLIGHT!

Insects = 37% of animals : best at turning plants into animals

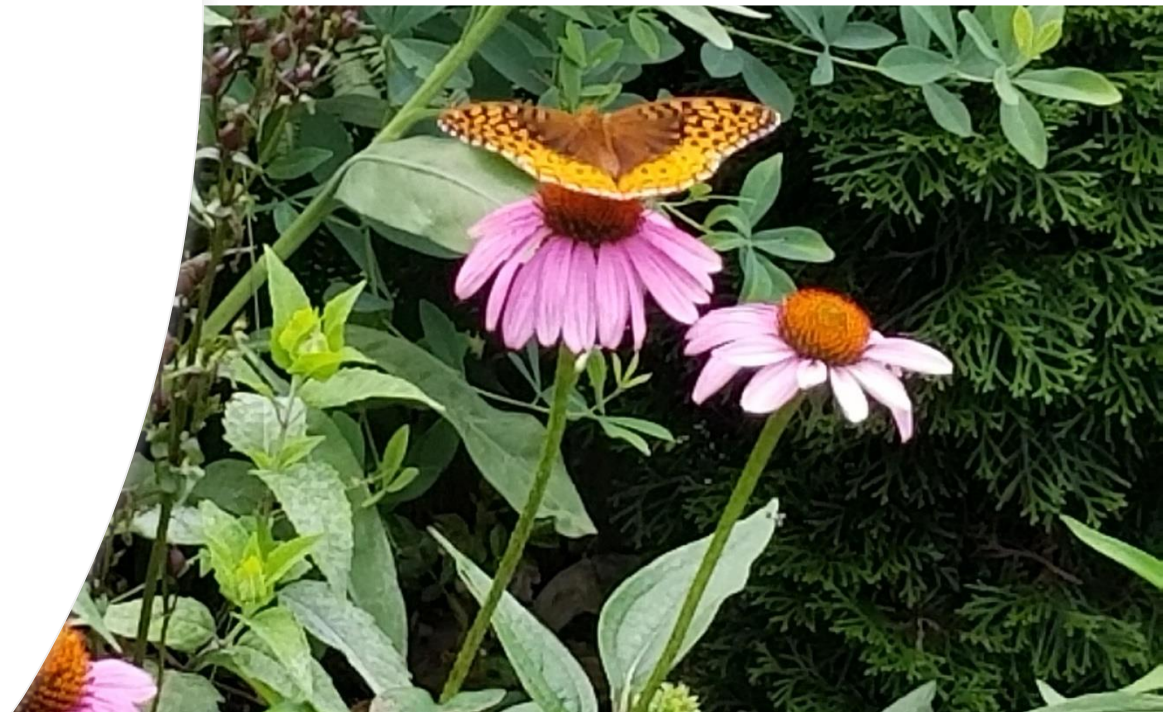


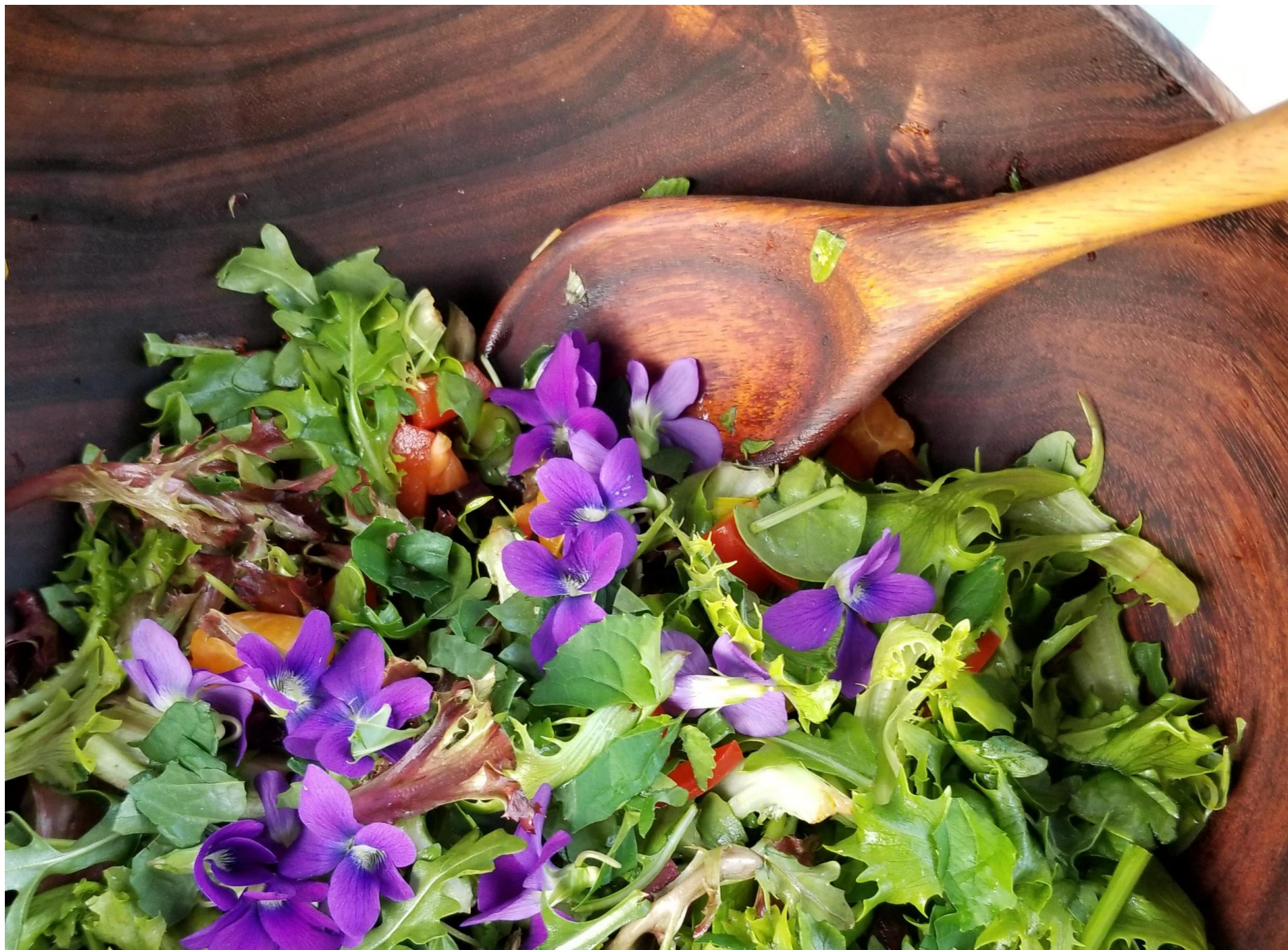
WHAT IS A HOST PLANT?

Plants where butterflies or moths deposit their eggs, usually under the leaves.

Caterpillars then eat the host plant leaves.

Violet, *Viola sororia*—
supports 29 species of
butterflies. Primary host
for Great Spangled
Fritillary!





Why Focus On Caterpillars? 1. Caterpillars -> songbirds

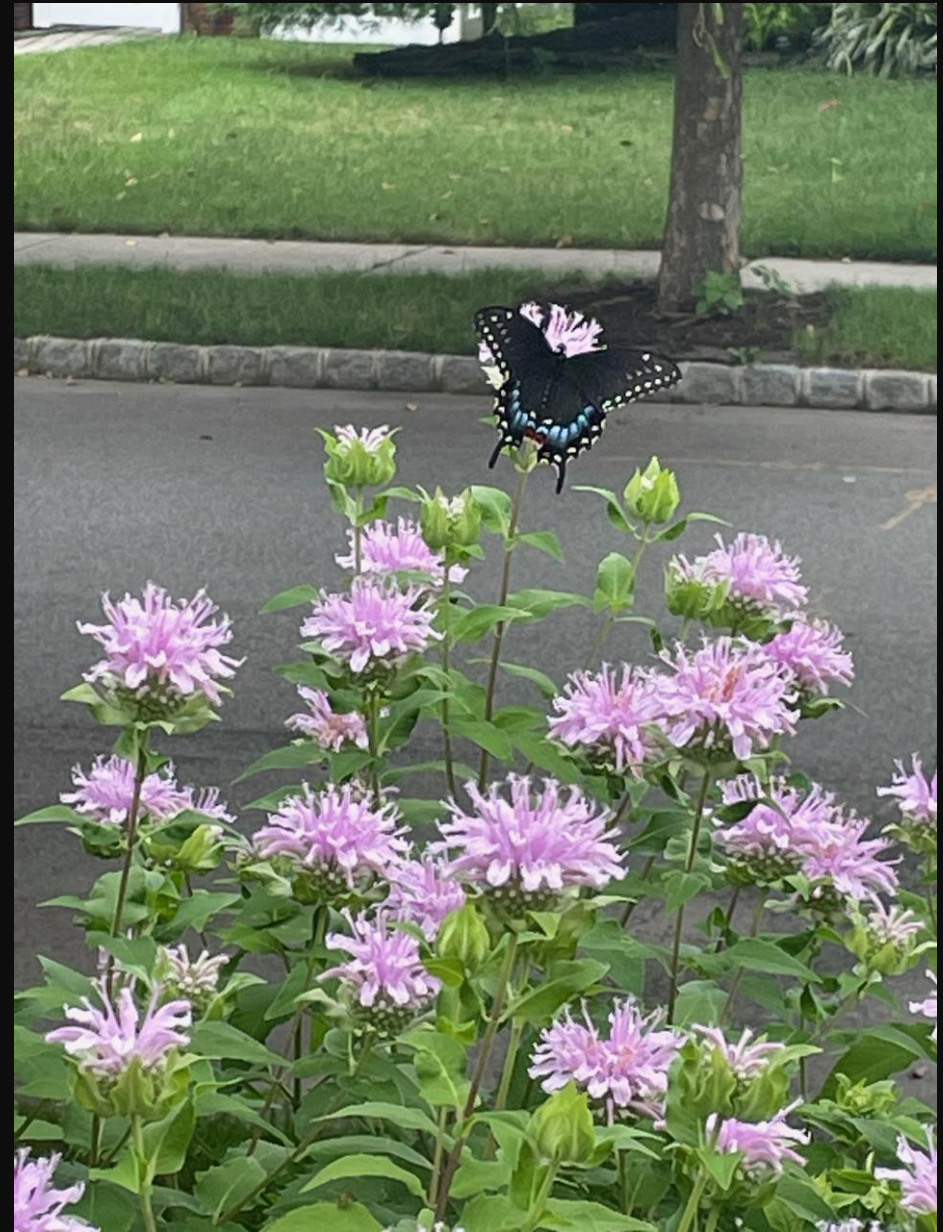
96% of songbirds feed insects to their young

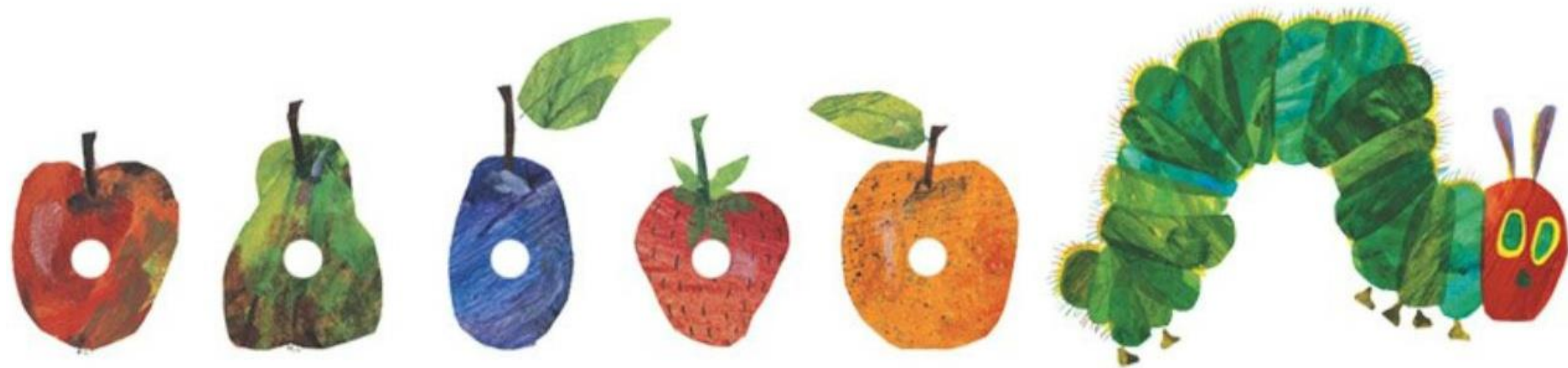
1 nest of chickadees:

390-570 caterpillars/day x 17days = 6,000-9,000 **caterpillars!**



Life stage
#1: Egg &
Caterpillar –
host plants





THE VERY HUNGRY CATERPILLAR™



PROBLEM:
90% of insects are "specialists" and only
will eat 1 type of plant



***No milkweed,
no monarchs.***

Plants don't
want to be
eaten: insects
need to
circumvent
defenses





Keystone Species for Lepidoptera

5% of natives host 75% of lepidoptera!



TOP MID-ATLANTIC KEYSTONE WOODY PLANTS FOR BIODIVERSITY

Genus	Common	Lep #
Quercus	oak	534
Prunus	black cherry	456
Salix	willow	455
Betula	Birch	413
Populus	poplar	368
Malus	crabapple	311
Vaccinium	blueberry	288
Rosa	rose	139

***Golden Alexander, *Zizia* sp.**

Zizia aptera, Heart-leaf – more delicate

Zizia aurea spreads rapidly – right



Blooms: April - June

Light: Full sun - shade

Soil: moist-moderate

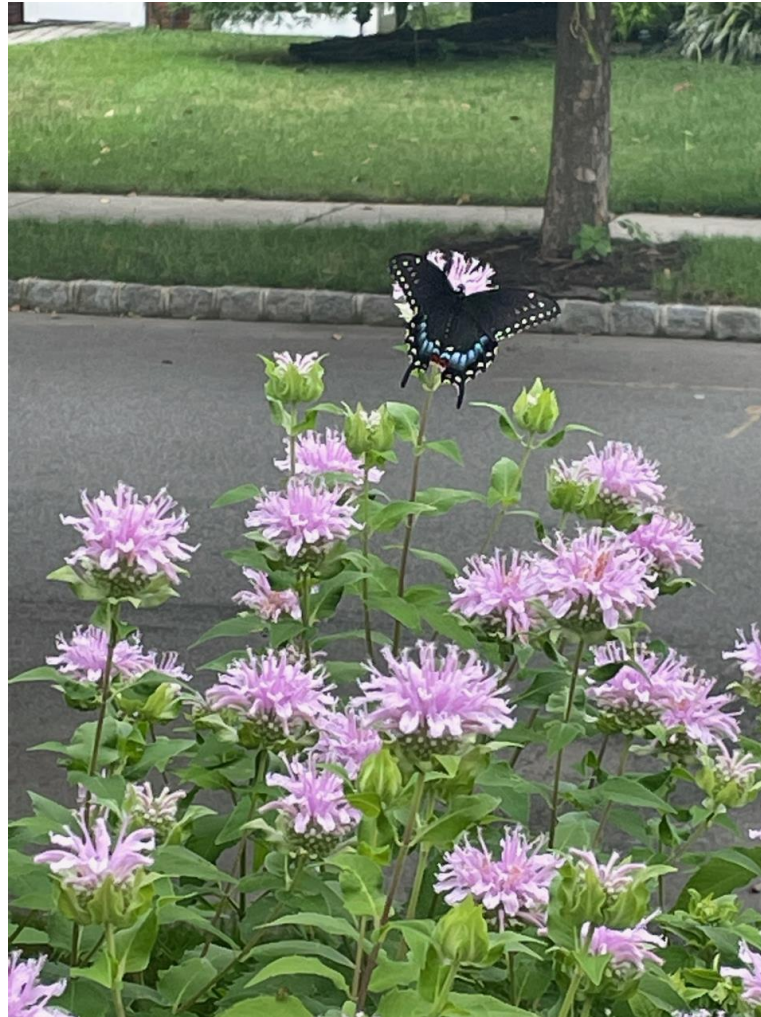
Size: 1-2'

Value: host for the Black Swallowtail; nectar for azure butterflies; specialist bees

Deer Resistant

Other Host Plants for Swallowtails:

Parsley, Dill, Carrots, Queen Anne's Lace





Pussytoes, *Antennaria plantaginifolia*



Blooms: April-May; **Semi-evergreen**

Light: Sun to part shade

Soil: well-drained

Size: less than 12"

Value: Host to American Lady Butterfly

High deer resistance

Related: Pearly Everlasting, *Anaphalis margaritacea*

Butterfly
Milkweed,
*Asclepias
tuberosa*

Blooms: July – Sept; 90+

Light: full sun

Soil: likes poor, dry soils; does not like wet soil; can be hard to establish

Size: 1-3'

Value: only host plant for Monarchs

Tip: slow to emerge in spring, so mark location

Deer resistant



Swamp Milkweed, *Asclepias incarnata*

Blooms: June - July

Light: sun to part shade

Soil: tolerates wet to very dry

Size: 2-4'

Value: milkweeds are only host plant for Monarchs

Deer Resistant



3rd STAGE: CHRYSALIS





MODERNIZING FALL CLEAN-UP

Leaves are Cozy Homes

Some caterpillars wrap themselves in the leaf of their host plant during winter.

These make-shift cocoons are hard to spot but the caterpillar stays protected in a state of deep sleep, until the warm days of spring arrive.

Leave the Leaves --

They decompose into rich soil and free fertilizer
and provide homes for creatures in winter



Comma Butterfly March 3. Phaedra Singelis

A North American Beauty: The Cecropia Moth

*Its cocoon
looks like a dried, autumn leaf*

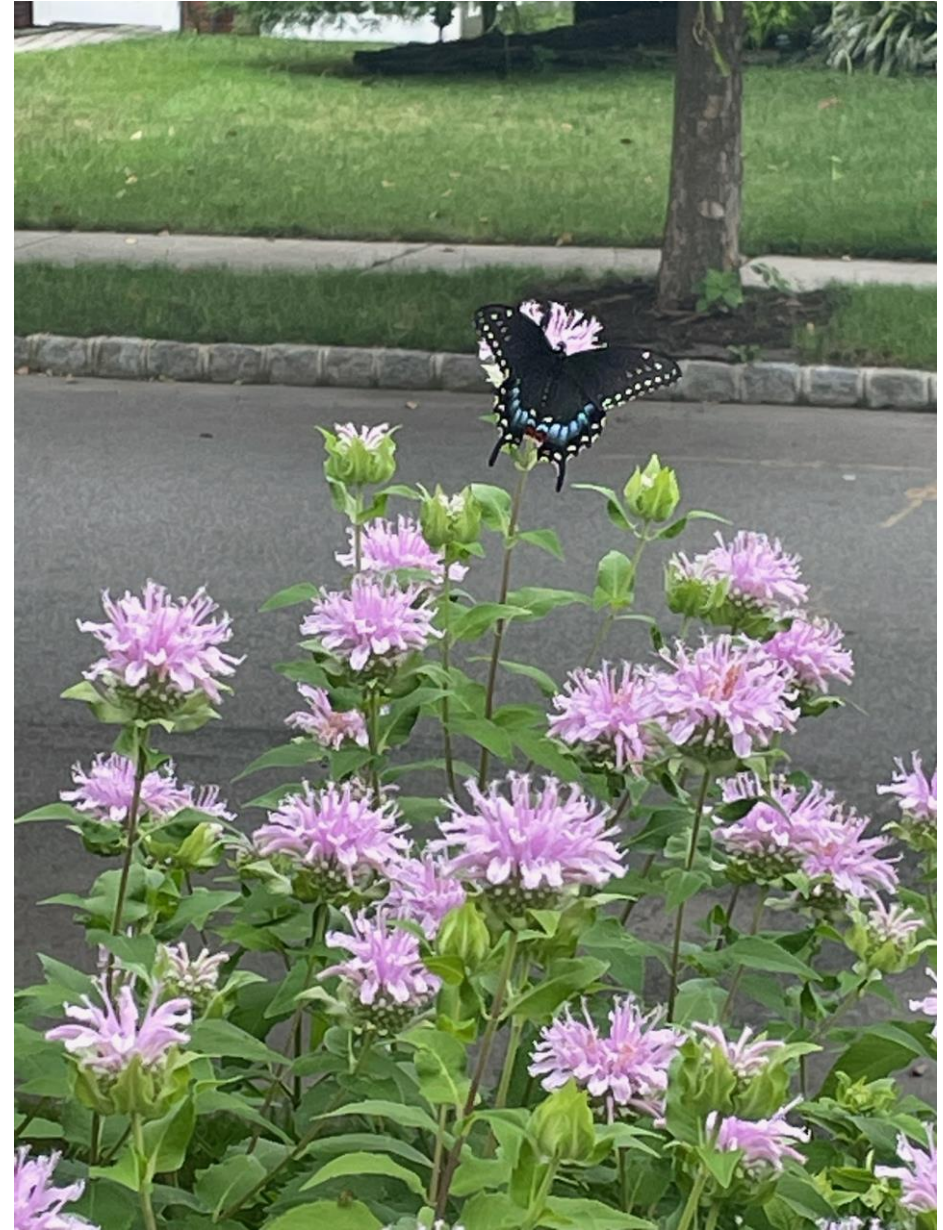


Cocoon

LEAVE THE LEAVES!

pollinator friendly yards
on facebook

Life stage #3:
Butterflies need
nectar plants
Spring - fall



SPRING NECTAR – Most Challenging

Gardens full of crocuses, daffodils, tulips

Can we: Substitute or add natives?



Wild Geranium, *Geranium macalatum*

Blooms: May-June

Light: Shade to part sun

Soil: Moist in spring; very adaptable

Size: 1-2'

Value: Host for 23 species of small butterflies, such as the Spring Azure. Nectar for skippers. Specialist bees.

DEER RESISTANT





Coral Honeysuckle Vine, *Lonicera sempervirens*



Blooms: mid-May – June and then in pulses til Dec.

Light: sun to part sun

Soil: average to moist

Size: 10- 20': woody vine

Value: attracts **hummingbirds**. **Host** for Spring Azure butterflies and Snowberry Clearwing moths.

Deer Resistant

Purple coneflower,
Echinacea purpurea



Blooms: July-Sept;
deadhead for longer
bloom

Light: Sun to light
shade

Soil: thrives in
average-poor

Size: 2-3'

Value: Goldfinches
love seeds!



“If you plant it, they will come”

Photo by Janet Markham



Wild Bergamot, *Monarda fistulosa*

Silver Spotted Skipper



Blooms: July – August

Light: sun to light shade

Soil: moist but tolerates drought

Size: 3-4'

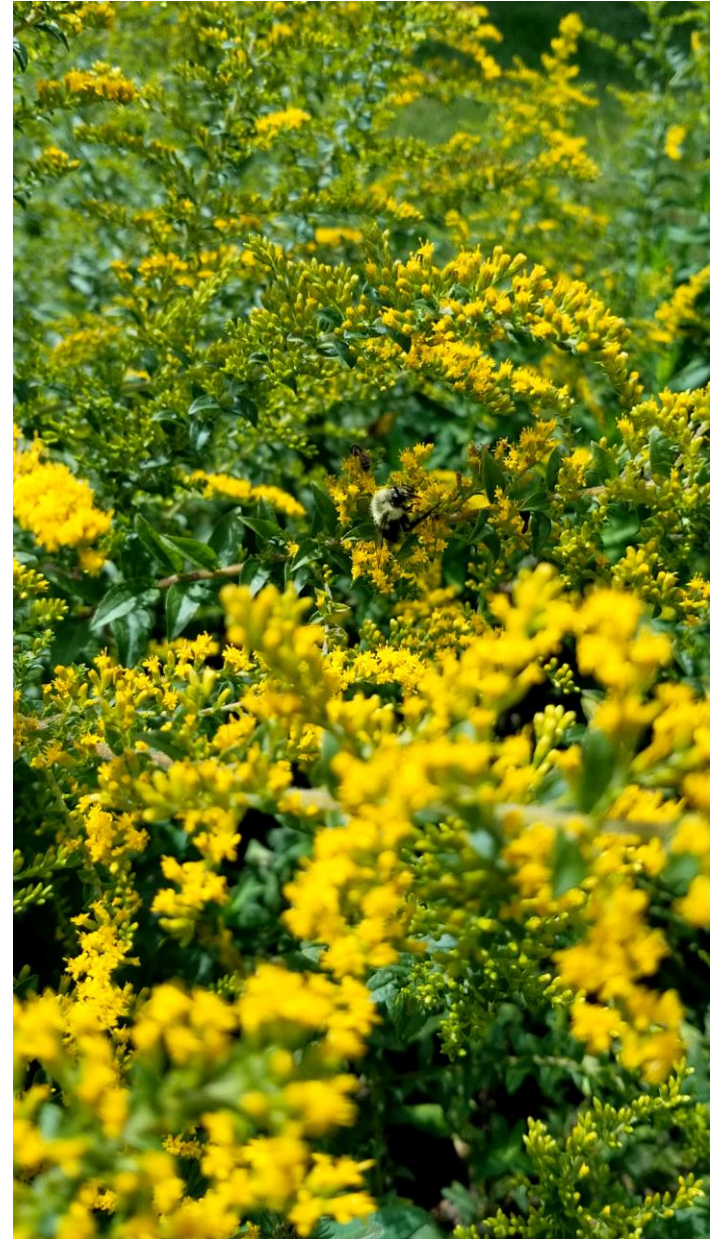
Value: premiere nectar plant. Attracts soldier bees, beneficial insects that feed on aphids, fly larvae, etc.

Edible: Leaves & flowers for tea

Deer Resistant



Does goldenrod
cause allergies?



Nectar for Migration or Hibernation

Wreath Goldenrod or Blue-stemmed, *Solidago caesia*

Bloom: August – October

Sun to part shade; 18-36"

Soil: dry to medium; wide range of soils,
including clay

Deer Resistant



Photo by
Jessica Miller





New England Aster, *Aster novae-angliae*

Blooms: fall: Sept – October

Light: sun- part sun;

White Wood - shade

Soil: moist to dry

Size: 2-6' (cut in ½ in June to shorten)

Value: KEYSTONE: Asters are #2 flower for insects – hosts 112 species of Lepidoptera





DO	AVOID
Add keystone host plants: oaks, goldenrod, asters	Pesticides
Ensure blooms from April - October	Introduced plants, especially invasives
Leave the leaves for overwintering caterpillars	Leafblowers, especially gas-powered
Add a sign to your yard or project	Large lawns –reduce if possible

*"Great fleas have little fleas upon their backs to bite 'em,
And little fleas have lesser fleas, and so on ad infinitum."* Victorian
mathematician Augustus De Morgan

TEACH A FRIEND! GIVE A MILKWEED

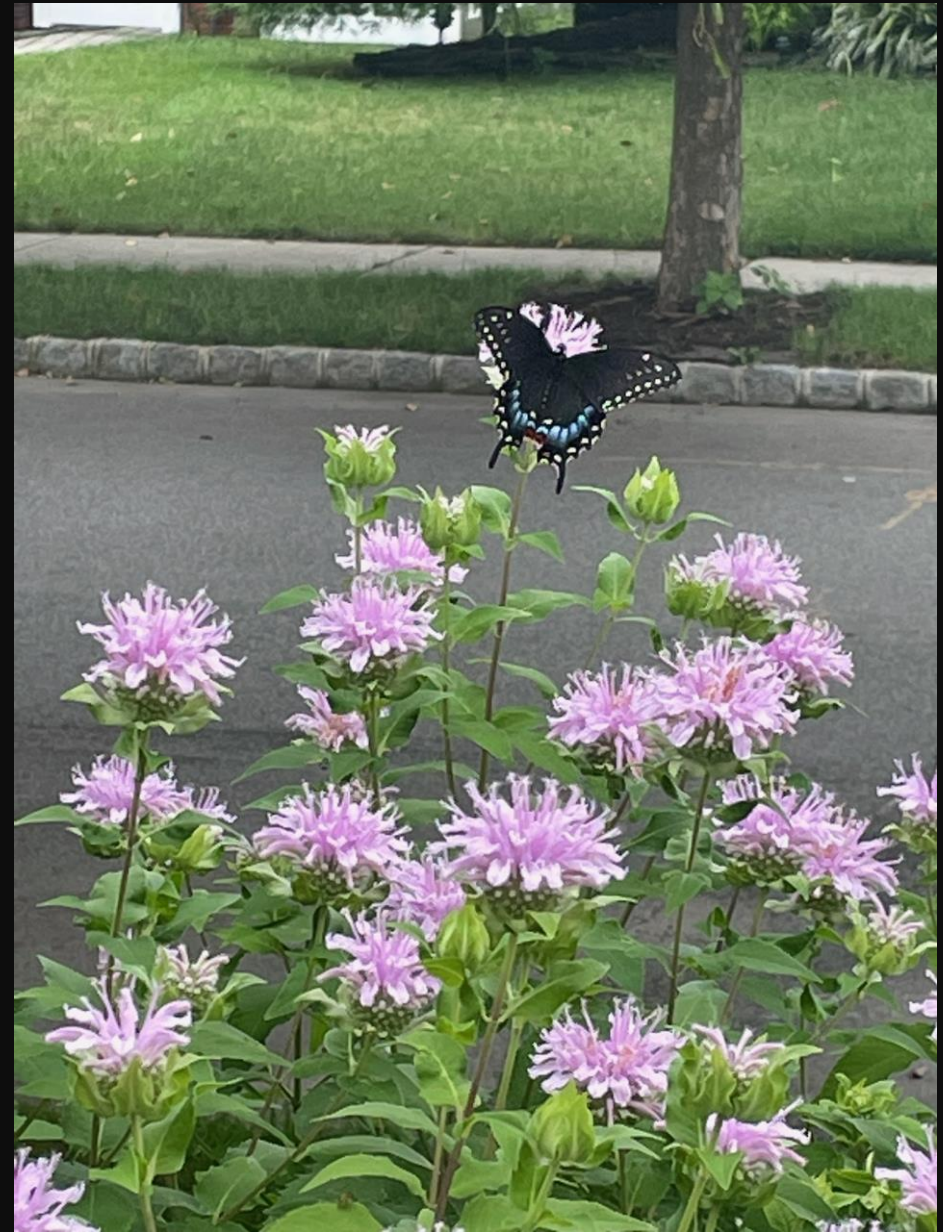
Host Plant quiz

Fritillary Butterfly?

Monarch?

Painted Lady?

Swallowtail?



WHERE TO BUY?

Consider plugs – great roots and easier to transplant

Exclusively Native, mostly mail order:

Izel Native Plants – large selection of plugs

The Pollen Nation – plugs only

Pinelands Direct – plugs and more

Toadshade Wildflower Farm – mail order

Wild Ridge Plants, mail order or pick-up in Pohatcong

Exclusively Native nurseries, no mail order:

Bowman's Hill Wildflower Preserve—New Hope, PA

Gino's Nursery, Newton, PA – Great variety incl. trees & bushes





NPSNJ
www.npsnj.org



NPSNJ EVENTS

Free 3rd Wednesdays
Zoom Webinars
Must register at
www.npsnj.org

5/15, 7 p.m. – Connecting
Kids to Nature

Join Us! \$25 per year

Learn More



Native Plant Society of NJ, www.npsnj.org

Jersey Friendly Yards, www.jerseyyards.org/plant

National Wildlife Federation, www.nwf.org/habitats

Brandes, K. Native Plants for the Small Yard,

https://lgnc.org/pdfdocs/brandes_book.pdf

BOOKS

Clausen & Tepper, *Deer Resistant Native Plants for the Northeast* (2021)

Dove & Woolridge, *Essential Native Trees & Shrubs* (2018)

Lorimer, *The Northeast Native Plant Primer: 235 Plants for the Earth-Friendly Garden*

Tallamy, *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants* (2009)

6th Extinction: “Need All Hands On Deck!”

Wendy Caldwell, Monarch Joint Venture

CARE FOR CATERPILLARS AND BUTTERFLIES WILL
BLOOM

We can each be an ECO-STEWARD

Caring for the web of life brings much joy!



**TOGETHER,
WE CAN HEAL MOTHER
EARTH
ONE GARDEN
AT A TIME**

Deb Ellis
debellisnj@gmail.com
© 2024

