

Caring for Our Imperiled Pollinators



Pollinator Pathways NH is a grassroots effort to restore habitat one yard at a time, through community partnerships, education and engagement.



You are invite to join in this important mission!

So why do we need to help pollinators?

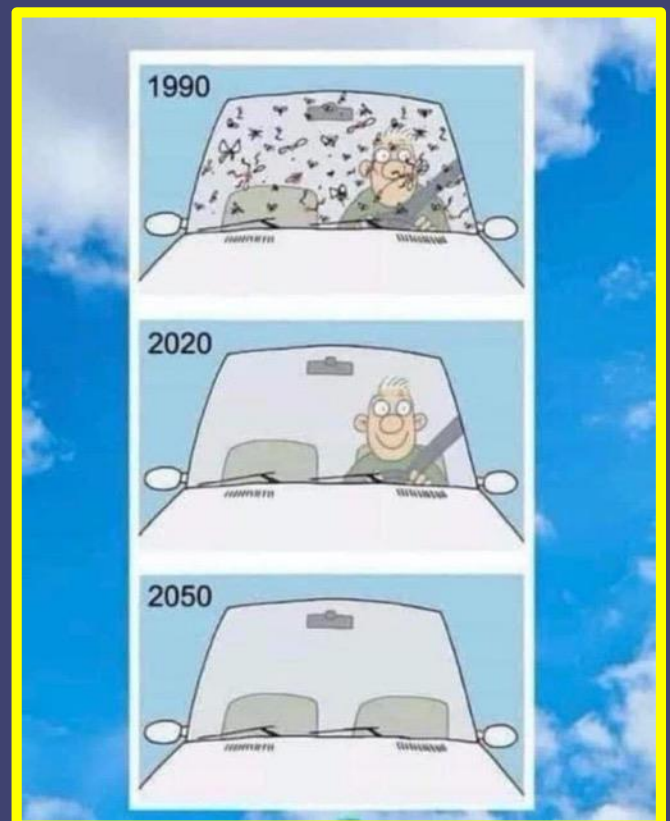
(Aren't there enough bugs??)



Actually...no!

*There aren't enough bugs.
We're losing about 10% of our
insect bio-mass worldwide
every 10 years....*

.... but why worry about it?



Insects are a keystone species in our ecosystem

AND

Because we humans like to eat!

*Pollinators are responsible for 1 out of every 3 bites of food that we eat
75% of all flowering plants rely on animal-assisted pollination to reproduce*



...as go the pollinators.... so go we!

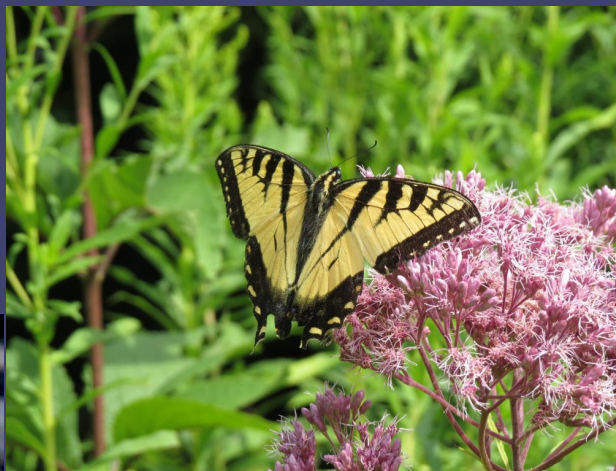
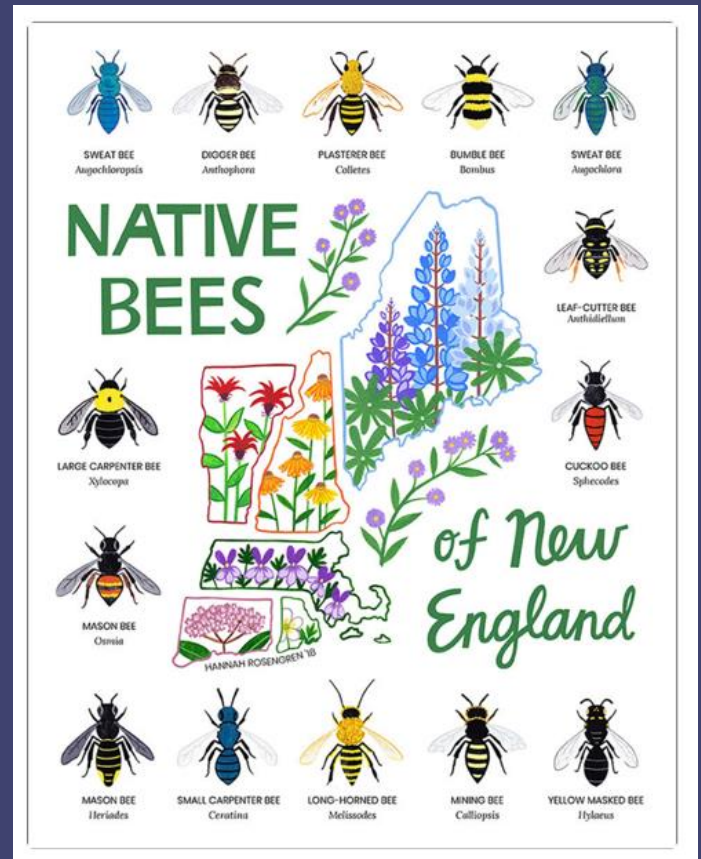
***Who are our
pollinators?***

***Can you name
the “super seven” pollinator groups
in New Hampshire?***

BEES!

We have over
250 species of native bees in NH
4000+ in North America!

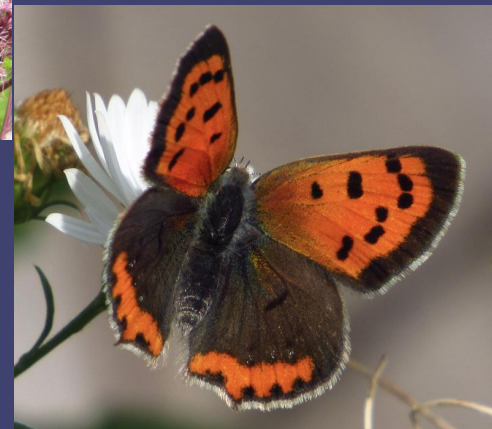
*(Honey bees are important
for commercial agriculture,
but are **not** native)*



← Eastern Swallowtail

Butterflies

*150 species of
in NH*



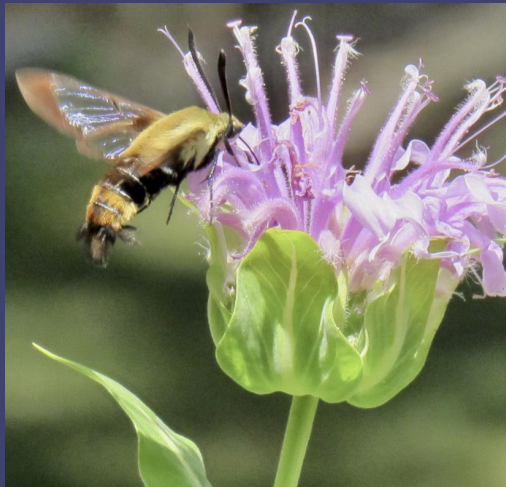
American Copper

Painted Lady

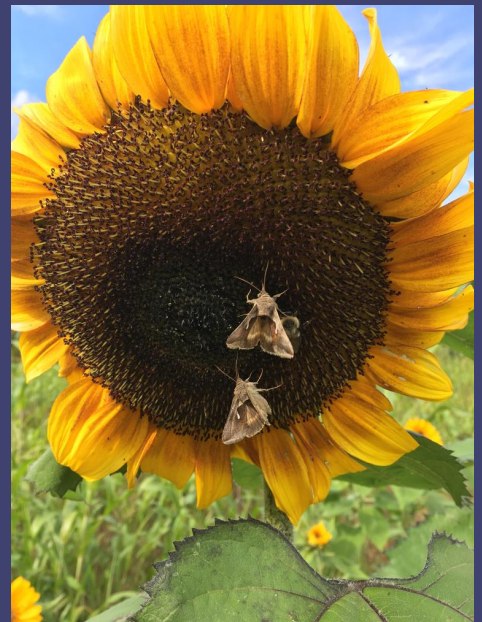




←Luna moth



Hummingbird moth



Celery looper moths

Moths

2500 species in
NH!



Beetles

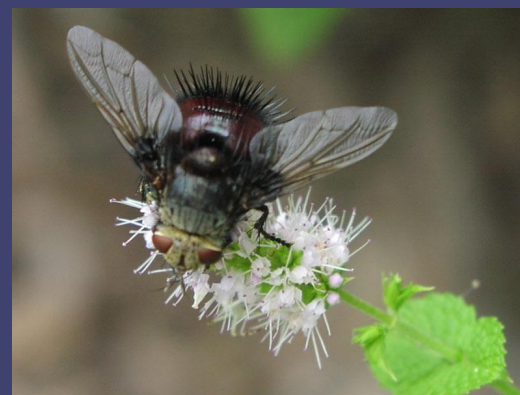
←Firefly

Flies

Wasps->



Golden Digger Wasp



Tachinid Fly

Birds



Ruby-throated hummingbird

Why are they in decline?

5 main reasons...

1.

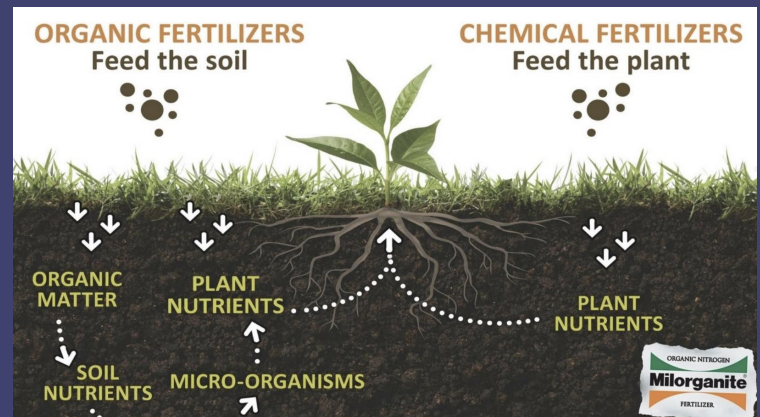


Our obsession with lawns!
Lawns are ecological deserts

2. Chemicals

How Agro-Chemical Giant Monsanto Has Been Destroying Environment, Human Lives for Decades

In 1995, the United States Environmental Protection Agency, EPA, listed Monsanto among the top 5 lethal corporations dumping toxic waste, as it was recorded dumping nearly 37 million tons of toxic waste, through air, water, and land.

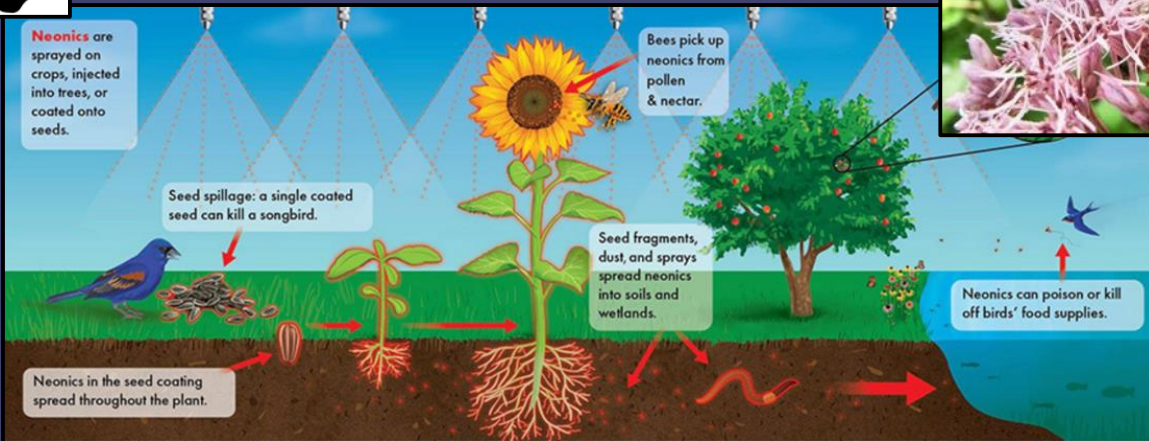


- Pesticides
- Insecticides: “mosquito squads”
- Fungicides

Even chemical fertilizers
can kill or alter
important micro-organisms
in your soil



Neonics!

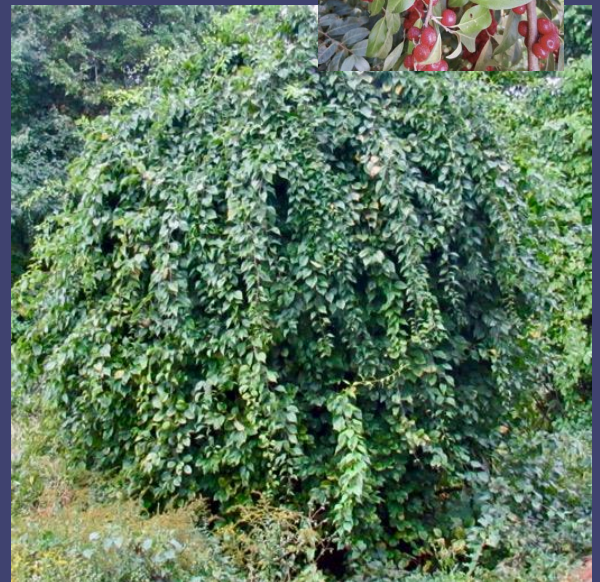


Bayer's pesticides are harming bees

The use of neonicotinoid pesticides, like those produced by Bayer, has helped make much of America's landscape toxic to bees.

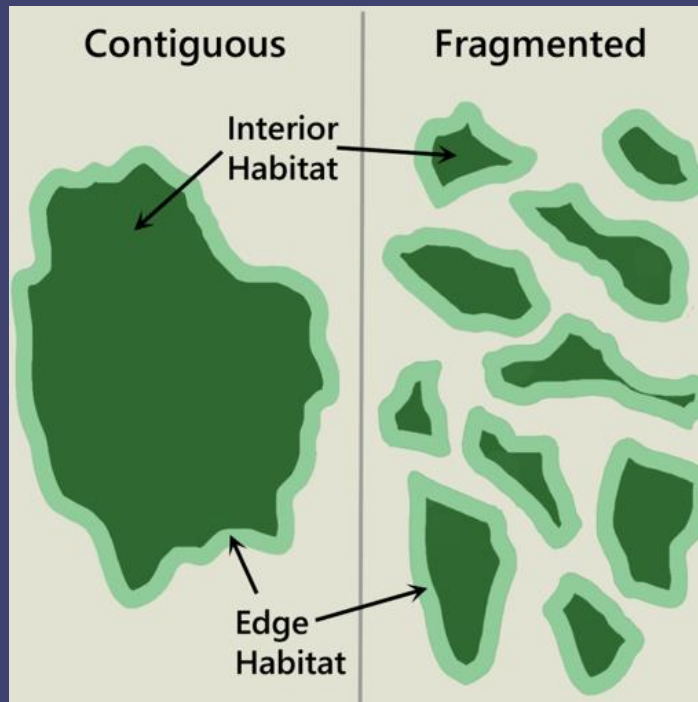
3.

Exotic Invasive Species



4.

Habitat Fragmentation/Loss



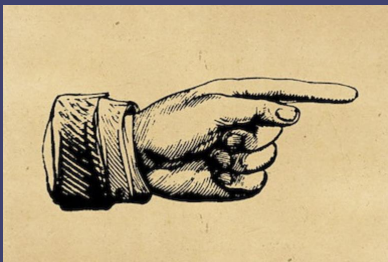
5.

Climate Change



**What are some solutions –
things you can do
in your own yards?**

Three Important Considerations



- rethink the “lawn”
- avoid chemicals
- plant native species

What is a native plant?

*A plant that occurs naturally in the place where it evolved,
and without human intervention*



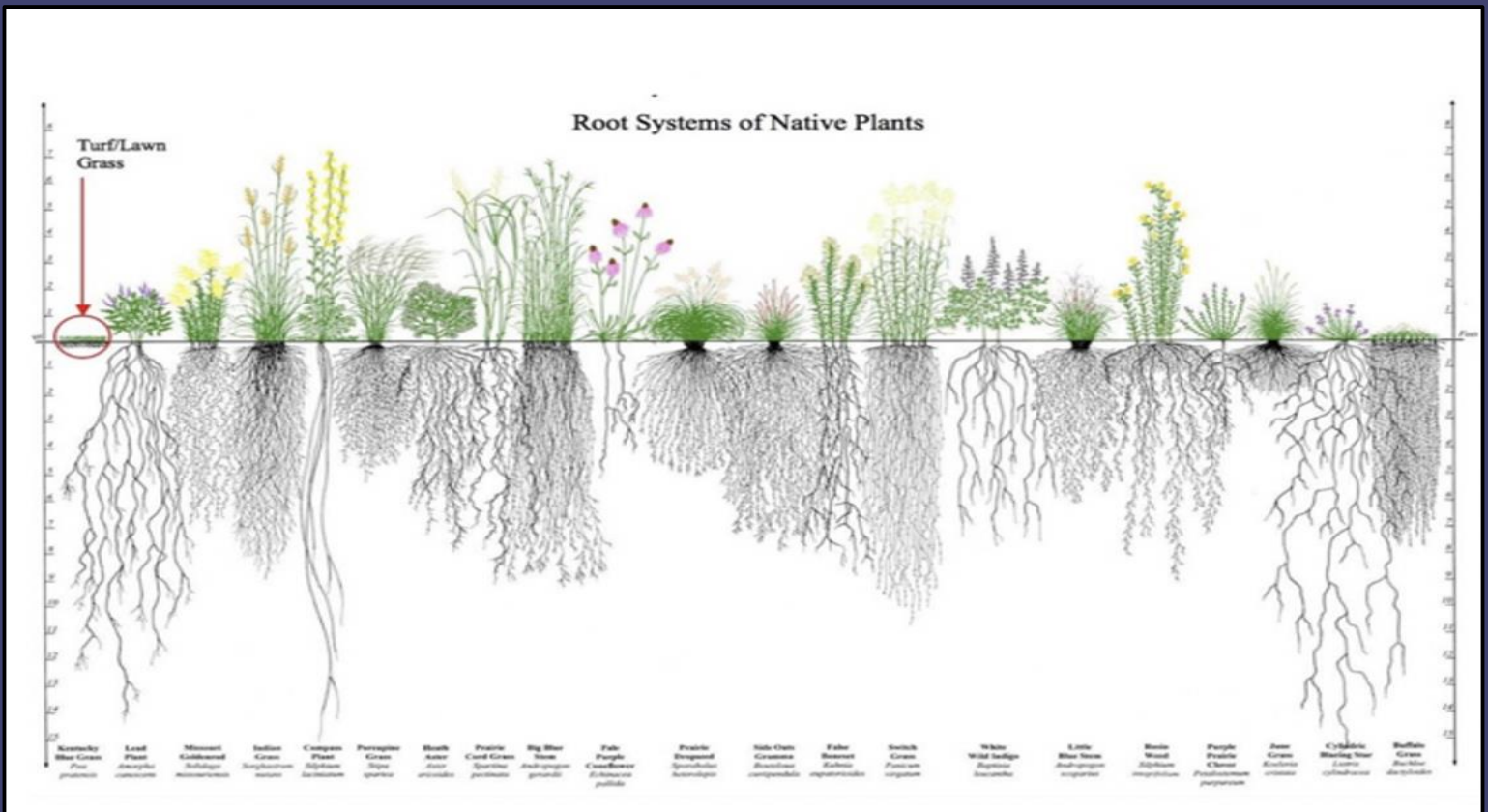
New England Aster



Cardinal Flower



Joe Pye Weed





Find ways to replace part or all of lawns with native species



**EVERY BUG
IN YOUR YARD
IS DINNER
FOR SOMEONE**



So is this your garden?
Hostas and daylilies are
both natives of Asia

*Add native plants into the mix!
Tall phlox, fleabane daisy, violets, asters and ferns.
Your garden will become so much more pollinator friendly!*



If starting from scratch—plant a variety of native plants in groups—
ideally different colors, shapes and bloom times.
Mow less and see what volunteers...

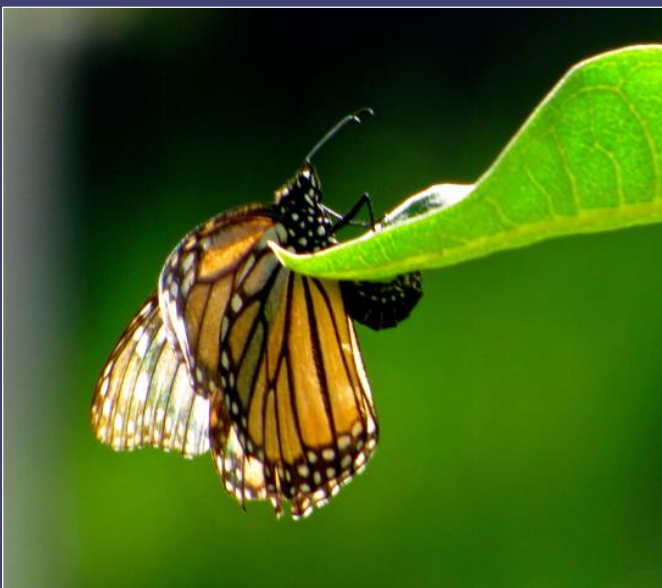


From Lawn to Native plant gardens...



A few more particulars about native plants...

Host plant vs nectar plant, what's the difference?



Host plant: what a species requires for their caterpillars

nectar plant: what the adult needs for pollen and nectar



The problem with cultivars:

- Many cultivars are sterile and/or have no benefit to pollinators



A perfect example



Sunflower Seeds - ProCut White Lite

SIZE	PRICE	SAVINGS	QUANTITY
Packet	\$6.49		0

[Add to Wishlist](#) [ADD TO CART](#)

- Creamy white petals surround light colored disk
- Single blooms on straight, single stalks
- Exquisite, pollenless blooms perfect for indoor use
- Plant en masse along a white picket fence

Sunflower

Sunbright
Heavily branched 3 foot tall plants that bloom profusely through the summer and fall seasons. 3 foot flowers have bright yellow petals around a brown center disc.

 LIGHT	Full sun
 TIMING	Can be sown outdoors after all danger of last frost.
 PLANTING	Plant 1/4-inch deep and 4 inches apart. Seeds germinate in 5-10 days at 65-70°F.
 CARE	Thin to 12-18 inches apart when plants reach 4 inches in height.
 GARDENER'S NOTES	The pollenless flowers are excellent as cut flowers.



The other important host plants are: TREES!



Fall/Spring clean-up....

- *Leaving leaf debris provides “soft landings” and cover for caterpillars*
- *Leave flowerheads and pithy stems. Cut back to 12-18 inches in spring*
- *Do not remove yard debris from your yard*
- *Leaves and other yard debris make up 13% of solid waste in US,—33 million tons a year, which, not being allowed to organically decompose, emits greenhouse gases*
- *Be a “lazy” gardener. Leave the leaves until late spring—consistent highs in the 50s*

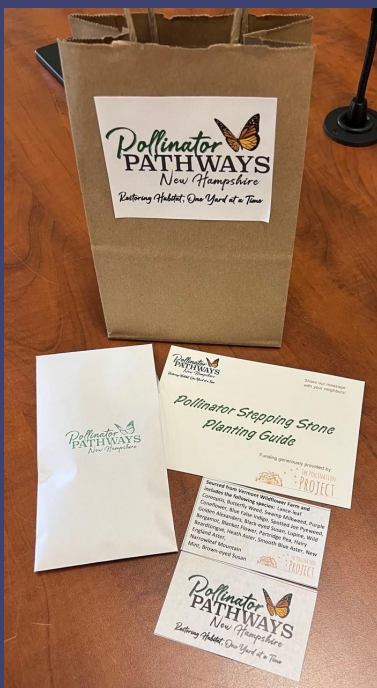


Start where you are –
one yard at a time!

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And... What Can Conservation
Commissions Do?

Create Pollinator Garden Packs or Grow Seedlings for Town
Gardens...



Create & Promote Town Pollinator Gardens...



Remove Invasives, Have Milkweed Seed Giveaways.... & more... What can your commission do to help pollinators?



Questions?



Thank you
Conservation
Commissions!