





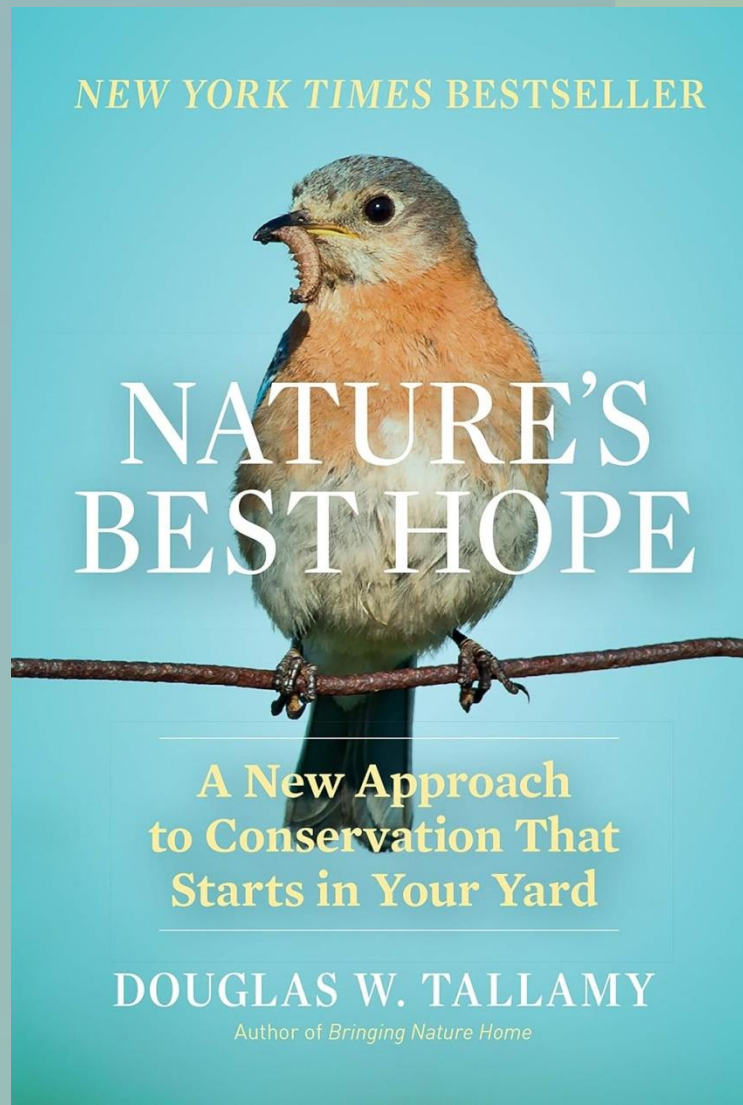
A NEW APPROACH TO
CONSERVATION

DOUG TALLAMY

This presentation was not created by Tallamy, but largely inspired by teachings in his book.

Nature's Best Hope

Homegrown National Park



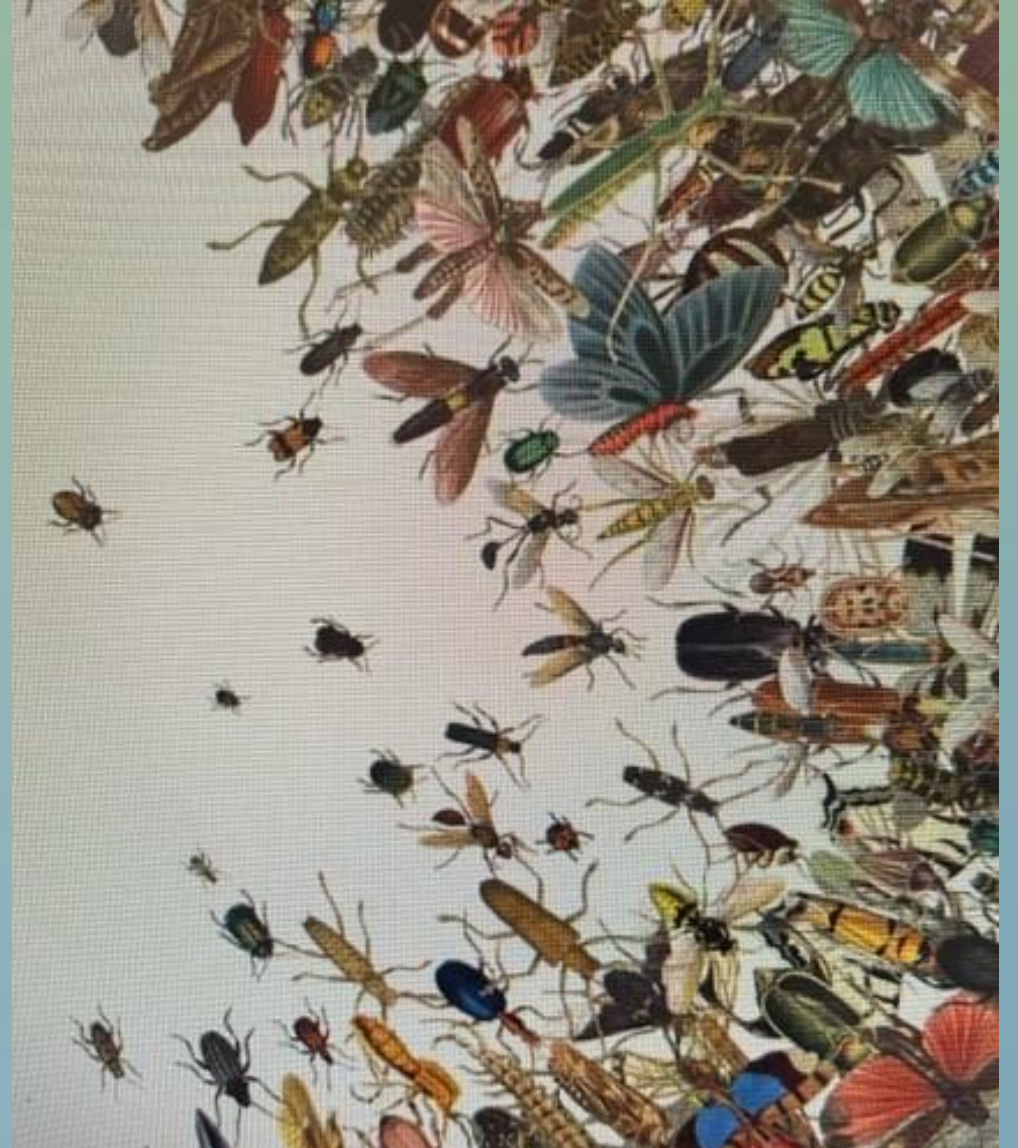
NATIVE PLANTS BRING LIFE

INSECTS

The little things that
run the world

87-90% of all plants on earth
require pollination by some
animal (bees, butterflies,
moths, bats, others)

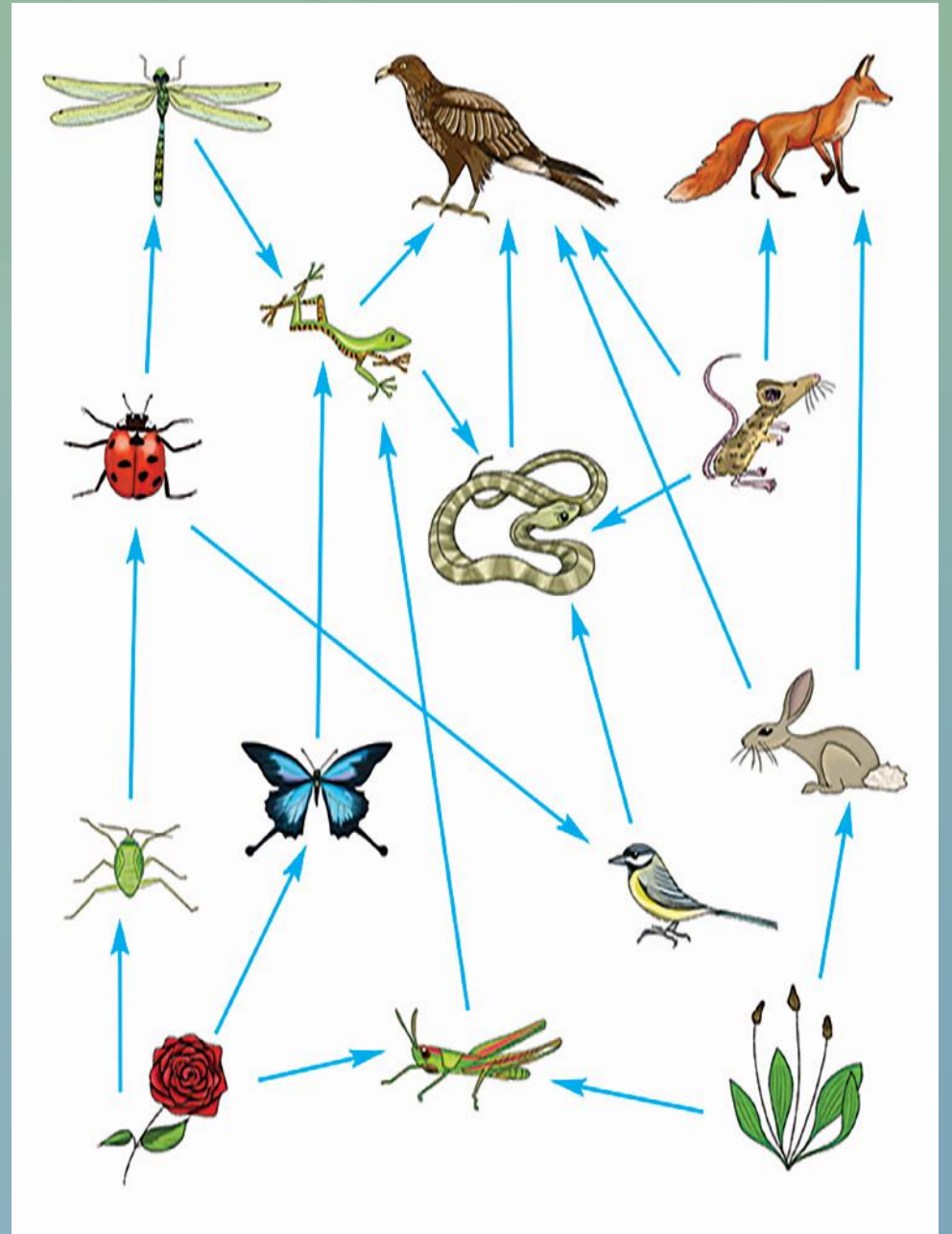
Without plants humans would
not exist



WHY ARE HEALTHY ECOSYSTEMS IMPORTANT?

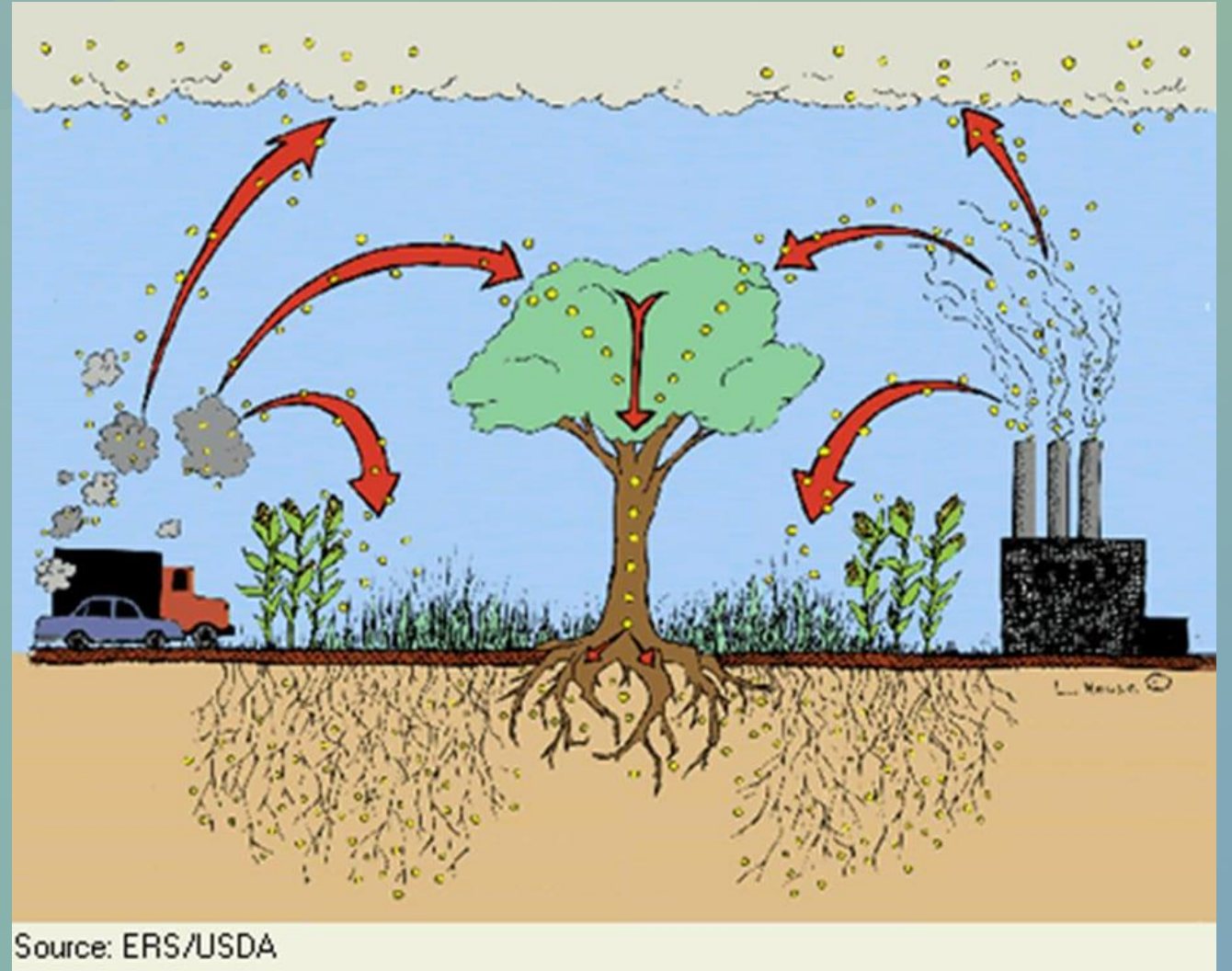
They provide ecosystem services:

- Support food webs
- Sequester carbon (enhances microbial biomass)
- Regenerate soil
- Clean waterways



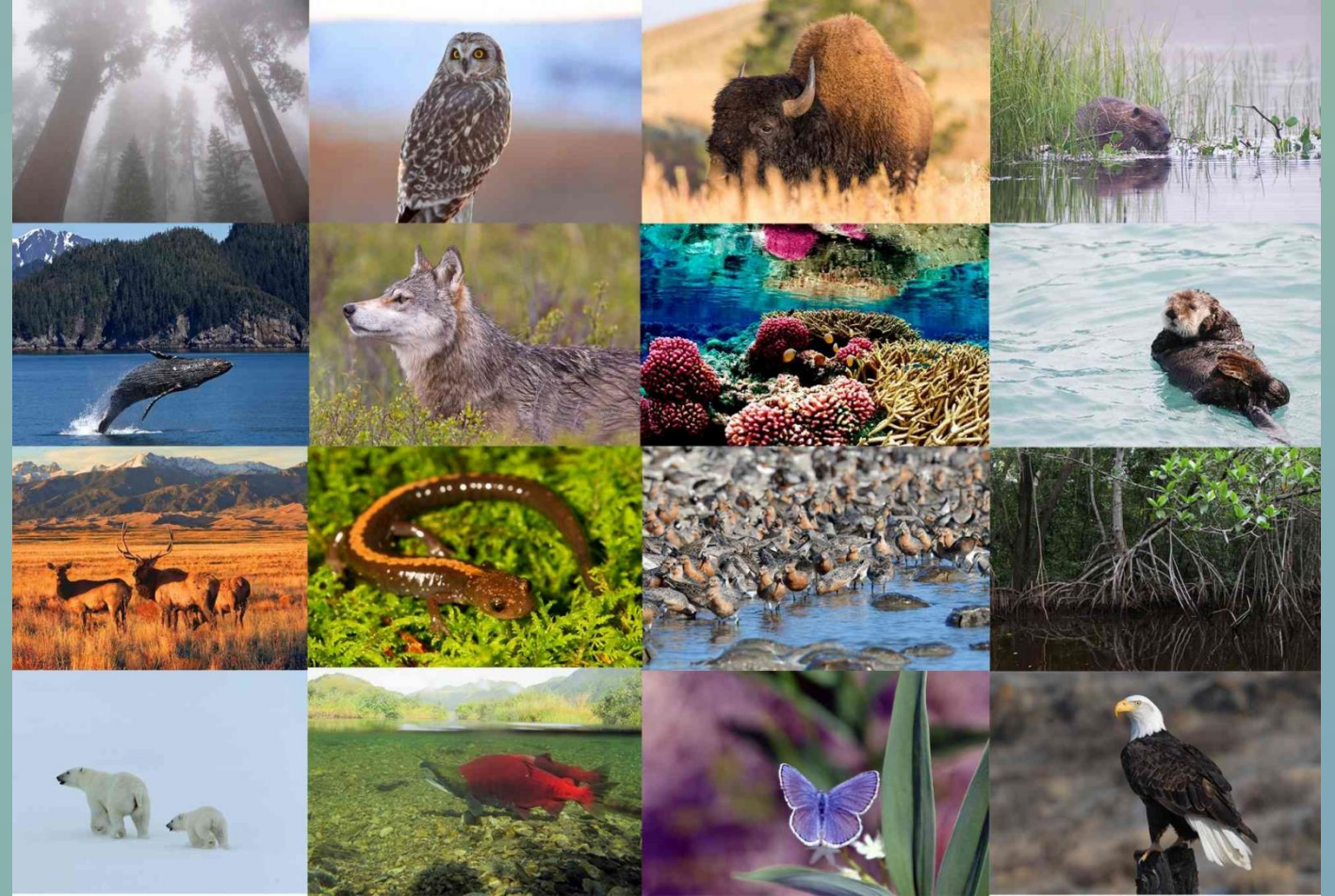
CARBON SEQUESTRATION

- Native plants' complex root systems are ideal for storing carbon in the soil.
- Root structures stabilize the soil, increase moisture levels, and retain nutrients.



WHAT IS A HEALTHY ECOSYSTEM?

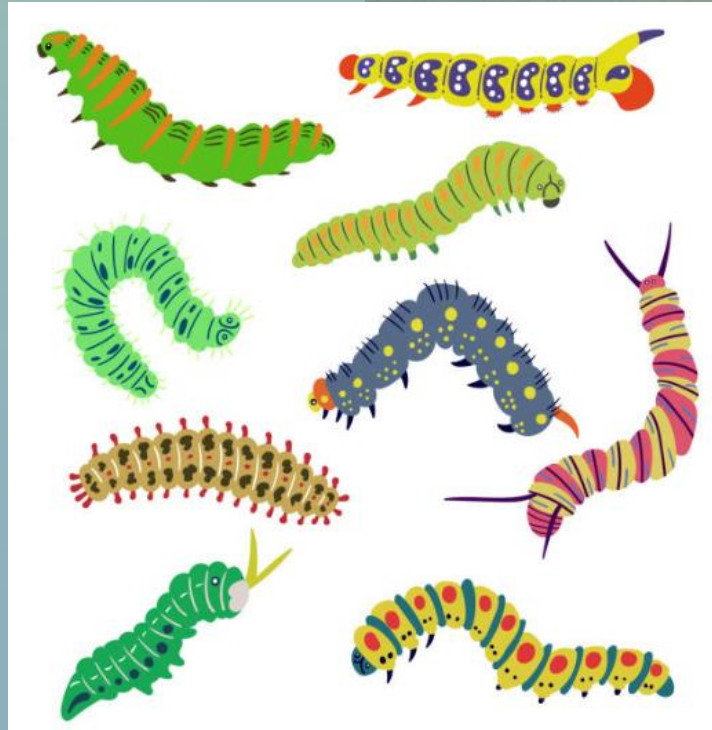
- Strong carrying capacity
- Biodiversity of native plants and animals
- Absence of pesticides
- Healthy soil
- Clean waterways



FOOD WEBS

DID YOU
KNOW?

It takes
6,000-9,000
caterpillars to
bring one
songbird clutch
of chicks to
from hatching
to fledging (16
days)



FOOD WEBS



FOOD WEBS



NATIVE PLANTS

What is a native plant?

- Plant that has evolved within the context of a local ecosystem
- One that has not been introduced from an ecosystem outside of the evolutionary homeland



Beebalm and Butterfly Milkweed
Native to Southeast USA

NATIVE PLANTS

Why does it matter?

- Introduced plants do a poor job at supporting native insects (and insectivores), and complex food webs
- Introduced plants displace native plants due to their lack of evolutionary control (lack of corresponding evolutionary pests and diseases) in new regions



NATIVE PLANTS

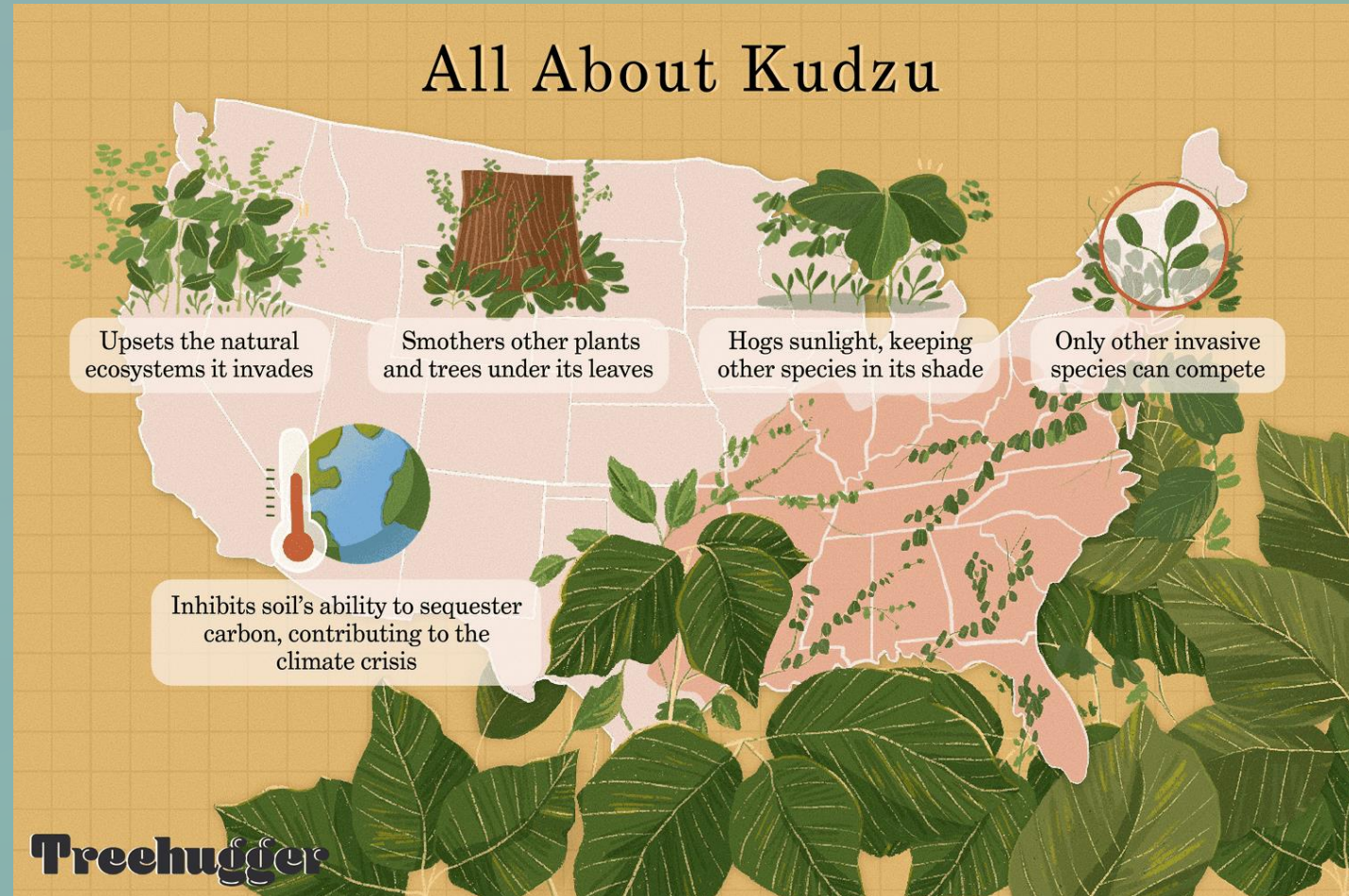
Why are introduced plants a threat?

- With no natural enemies to keep them in check, introduced plants gain a distinct advantage over native plants and choke them out of ecosystems that depend on them

NATIVE PLANTS

Examples of Invasive Plants common to Southeast:

- Privet
- Mimosa
- Kudzu
- English Ivy
- Bamboo
- Japanese Honeysuckle



NATIVE VS. INTRODUCED

Bradford Pear (China)

Pennsylvania, South Carolina, and Ohio have banned the sale of these trees because “they displace native plants, which reduces the number of caterpillars available for birds looking feed their young, and which has a snowball effect as it moves up the food chain.”



NATIVE VS. INTRODUCED

Common Reed (Europe)

Displaced native wetland vegetation along the entire Atlantic coast.

In Europe it supports 170 insect species

in North America it supports only 5 insect species

It has been in North America for 100's of years



NATIVE VS. INTRODUCED

Paperbark tree (Australia)

Displaced native vegetation in
Florida and Hawaii.

In Australia it supports 409 insect
species

in North America it supports only
8 insect species.

It has been in Florida for 130
years.



NATIVE VS. INTRODUCED

Eucalyptus tree (Australia)

Only 1 insect species has
adapted to it

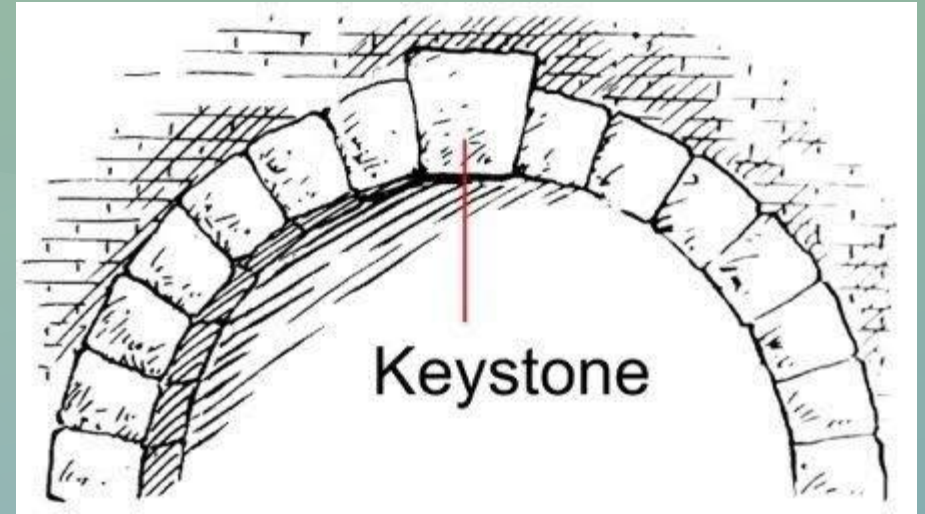
110 years in California



NATIVE KEYSTONE PLANTS

What are keystone plants?

- Have a disproportionately large positive effect on the abundance and diversity of an ecosystem
- Support 80% of the insect species in the locality
- They are the MOST productive plants for the MOST productive insects!
- Support a wide variety of butterflies, moths, and specialist bees.



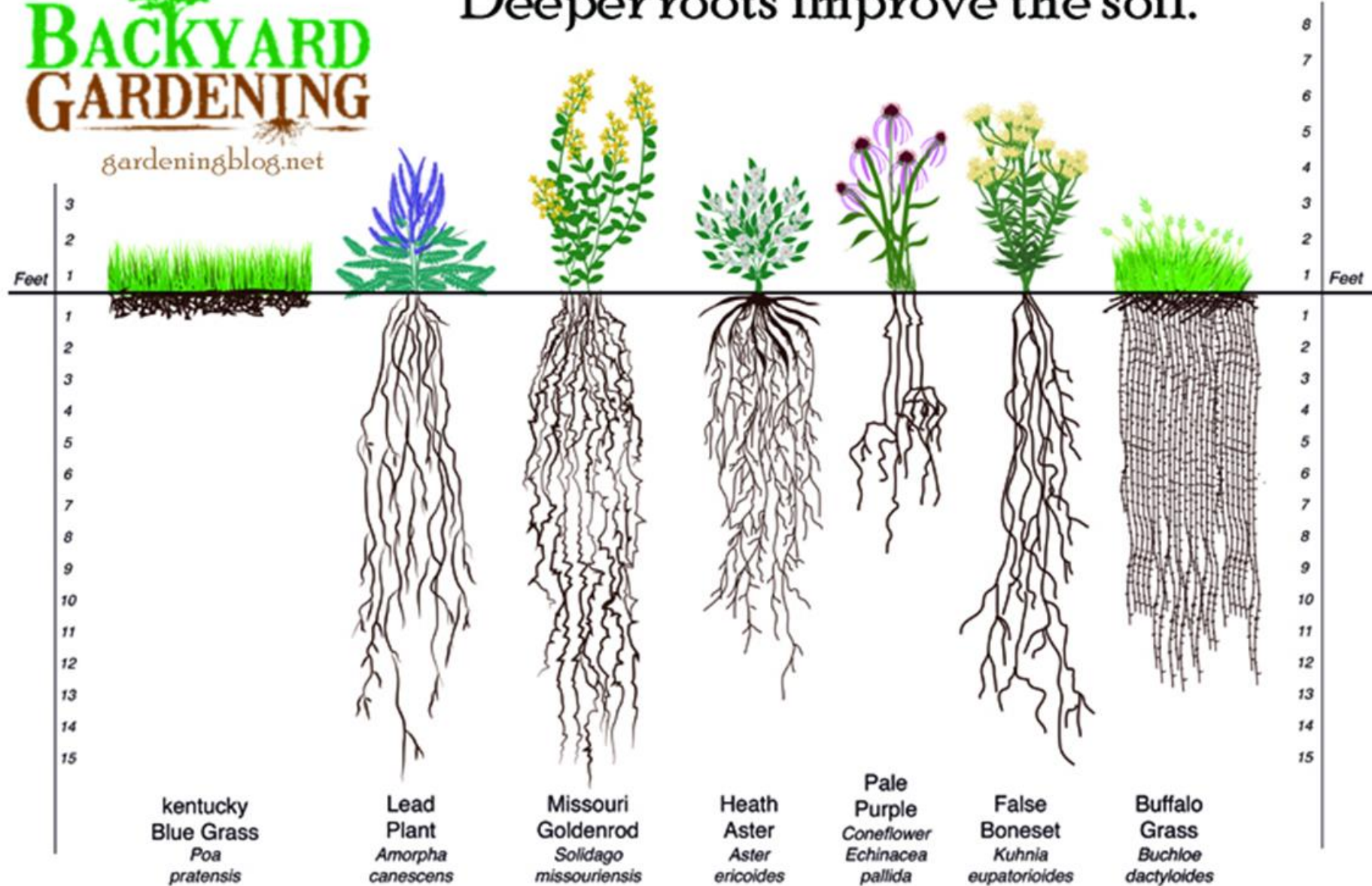
A species whose absence
makes an ecosystem
collapse

NATIVE PLANTS

Superior Root Systems

These plants include warm season grasses and a wide range of erect forbs, such as aster, beebalm, blazing star, coneflower, goldenrod, and native sunflower.

Deeper roots improve the soil.



NATIVE KEYSTONE PLANTS

5 Superstars for the Southeast

Oak tree
Goldenrod
Aster
Coneflower
Sunflower

NATIVE KEYSTONE PLANTS

Oak Tree

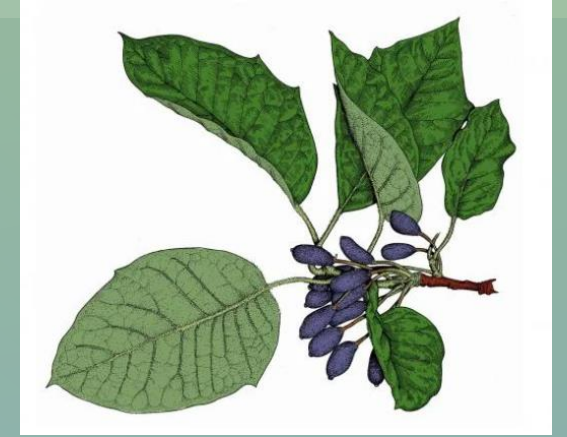
- Sequesters massive amounts of carbon and in its wood and in its roots
- Stalls rainfall's rush to the stream and rivers
- Prevents soil erosion (roots extend to 3 times the canopy)
- Supports 558 species of caterpillar!



NATIVE KEYSTONE PLANTS

Look at the oak tree
insect support as
compared to other
native trees:

- Oak 558
- Sycamore 45
- Sweet Gum 35
- Black Gum 26
- Tulip Poplar 21



Goldenrod

- Not the cause of pollen allergies! Its pollen grains are large and sticky and do not float on wind

Ragweed

- Ragweed, which blooms at the same time, is the allergy culprit (its pollen is carried by wind)



Ragweed



Goldenrod



Ragweed



Goldenrod

NATIVE KEYSTONE PLANTS

Goldenrod

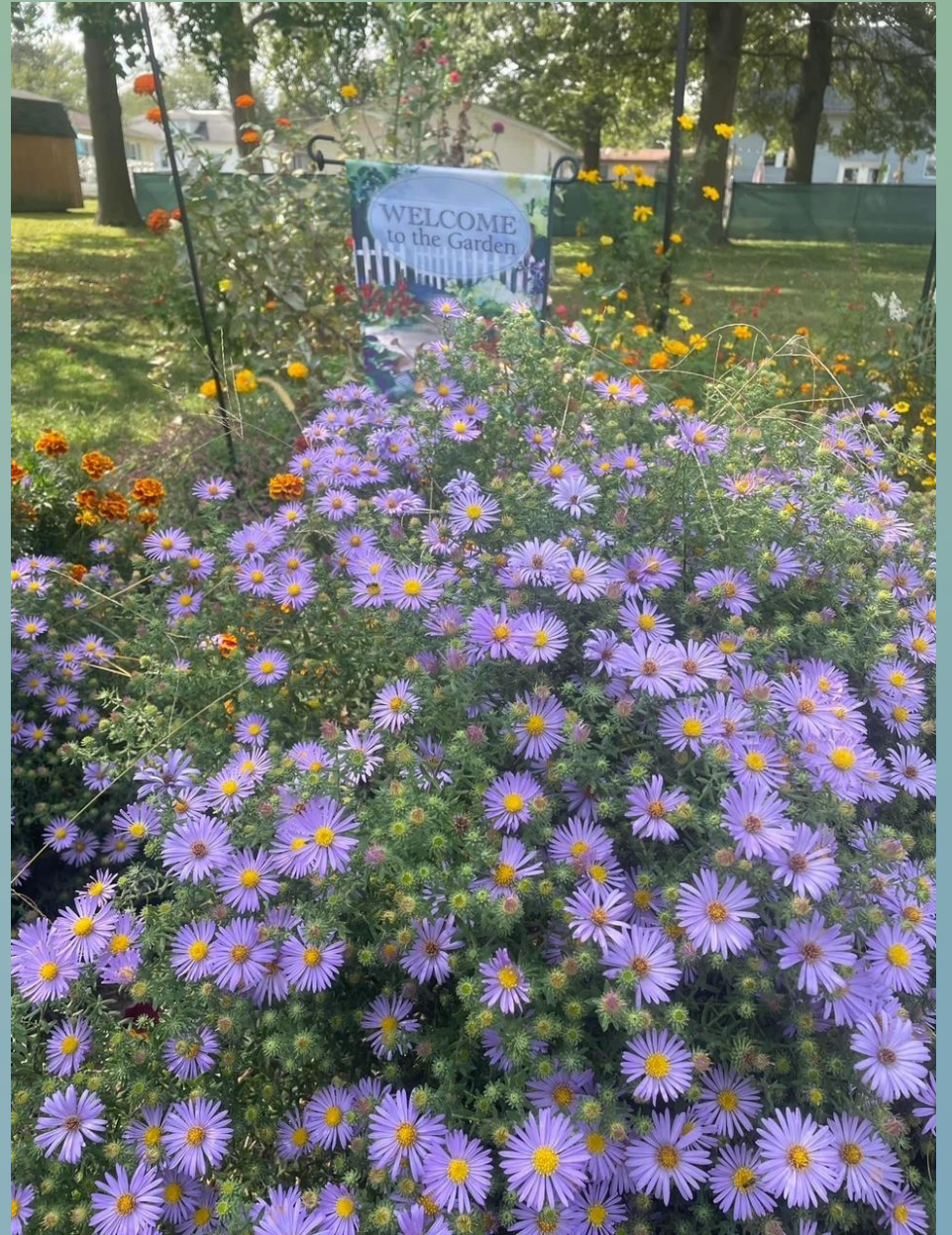
- Supports 181 insect species
- Has thick, intertwined roots, encouraging water infiltration and preventing erosion



NATIVE KEYSTONE PLANTS

Aster

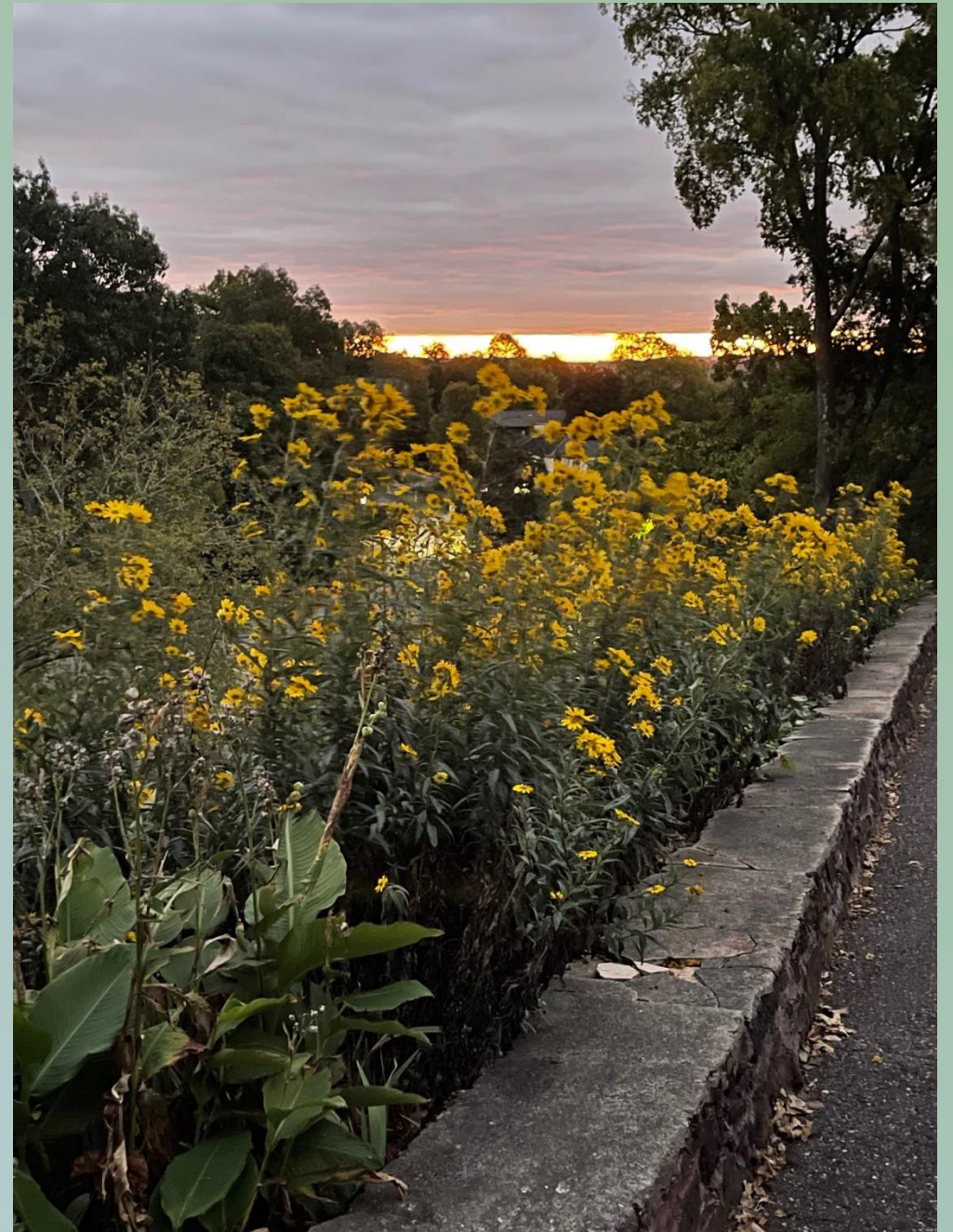
- Along with Goldenrod, often one of the few remaining source of nectar for fall-migrating monarchs and other late season pollinators
- Supports 109 insect species



NATIVE KEYSTONE PLANTS

Sunflower

- North America is home to over 50 species of native sunflower that support over 66 species of caterpillars that use them as host plants, and 50 specialist pollinators that use their pollen.
- The seeds are high in the fats and proteins needed to feed migrating birds



NATIVE KEYSTONE PLANTS

Coneflower

- The common Black-Eyed Susan
- It supports 20 species of caterpillars and 29 species of specialist pollinators.
- Purple Coneflower is also a strong pollinator host



AS INDIVIDUALS, WHAT CAN EACH OF US DO?

- Begin to see your personal landscape not as purely ornamental, but as an opportunity to provide a service to the local ecosystem
- Create a landscape that allows caterpillars and other insects to complete their lifecycles

DID YOU KNOW?

instead of being *decoration*,
your yard can be a:



biodiversity regenerator



air + water cleaner



CO₂ carbon storer



birdfeeder



rainwater capturer



pest + flood controller



nature connector



(just add native plants!)

WHAT YOU CAN DO

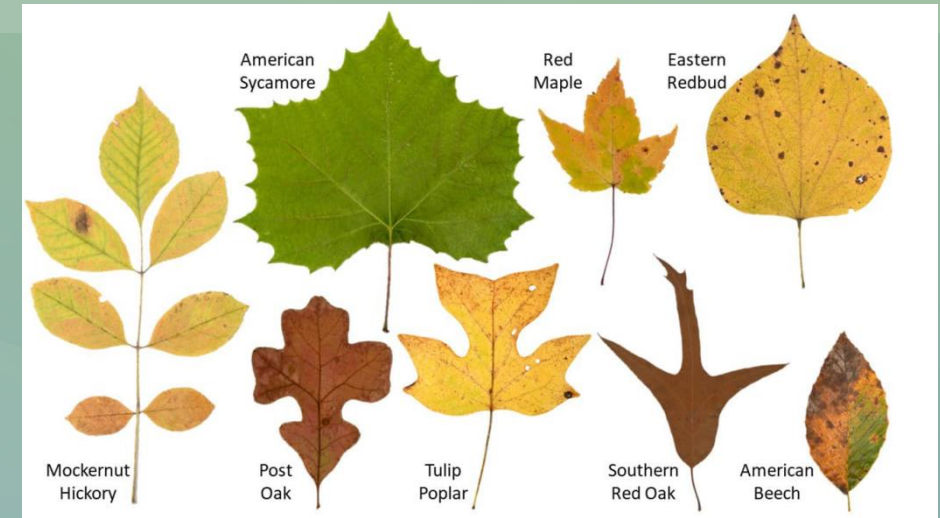
LEAVE THE LEAVES



Maintaining host plants (such as trees and flowers) for caterpillars throughout the warm months, only supports half of their lifecycles. Once the caterpillar larva eat their fill of leaves from an oak tree 94% of these caterpillars fall to the ground, and either spin their cocoons in leaf litter or burrow into the soil to pupate underground.

WHAT YOU CAN DO

LEAVE THE LEAVES



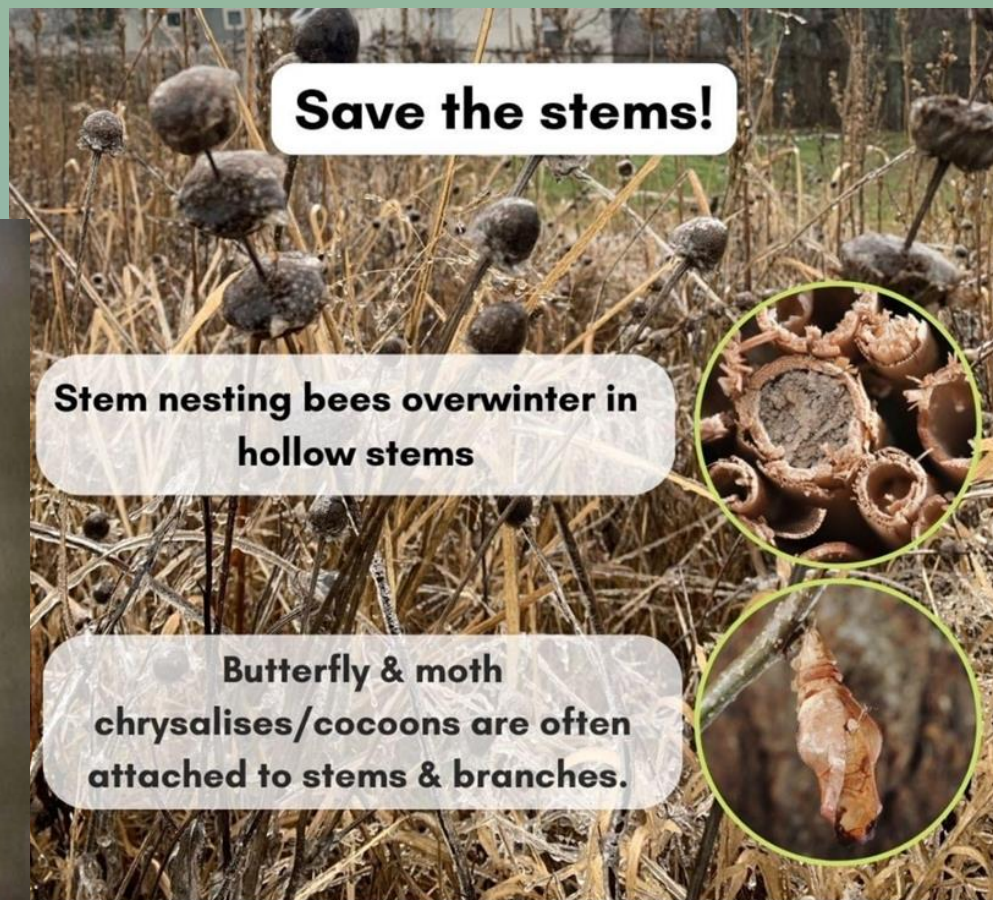
By covering the ground under the tree canopy with mulch or grass it makes the soil too compact for the caterpillars to penetrate.

And by removing leaf litter we are further disrupting the lifecycle of these very important creatures; ending their lives.

In addition to moths and butterflies, leaf litter also provides crucial habitat for bumble bees and fireflies.

WHAT YOU CAN DO

REFRAIN FROM TIDYING THE FALL GARDEN



WHAT YOU CAN DO

ADD SIGNAGE TO SHOW INTENT



WHAT YOU CAN DO

ADD SIGNAGE
TO SHOW INTENT

This garden features

NATIVE PLANTS



for birds, bees and butterflies

How do we care for this garden?

LEAVE THE LEAVES IN THE FALL

LEAVE STALKS AND SEEDHEADS

NO PESTICIDES OR LAWN CHEMICALS

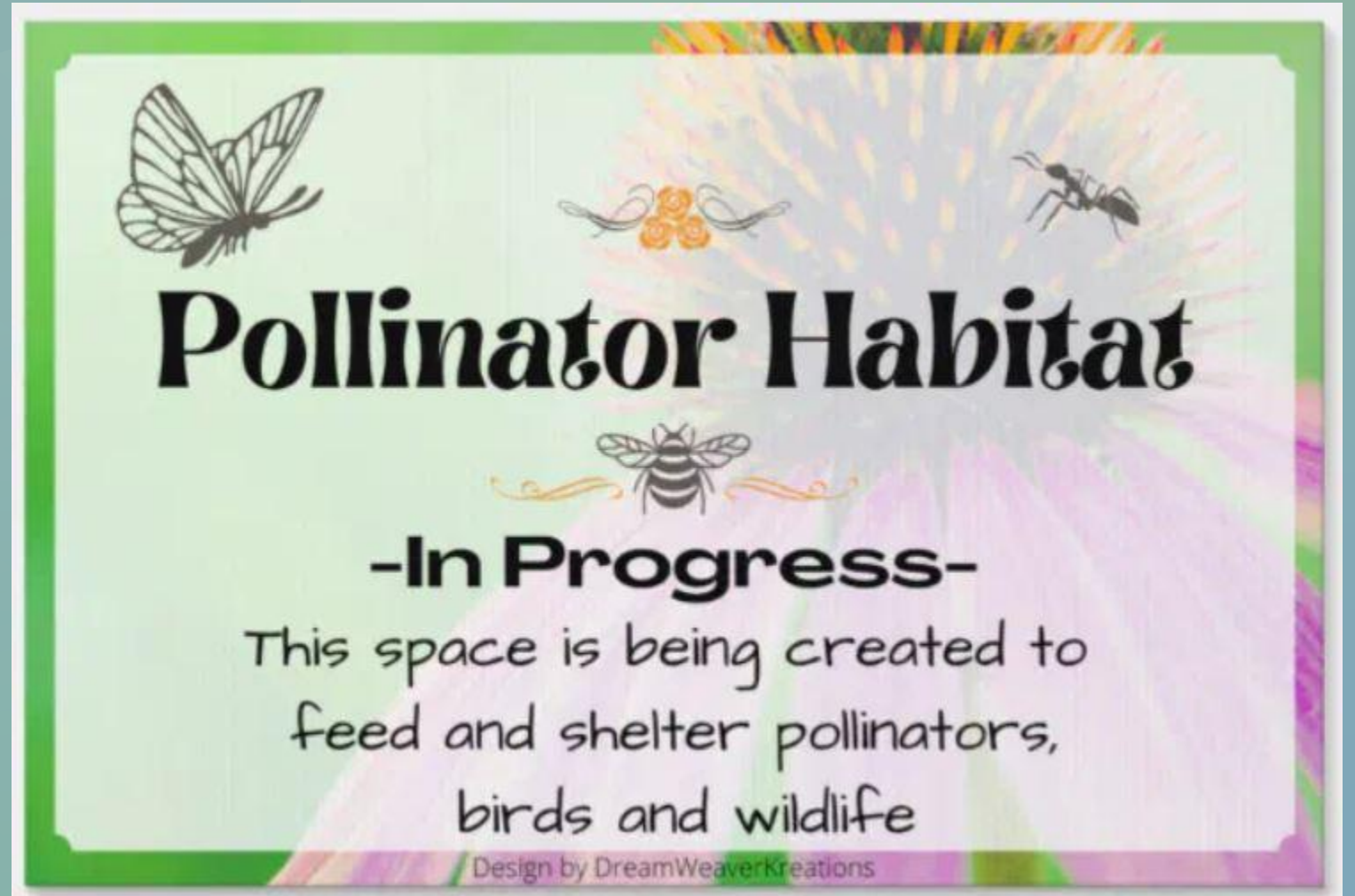


If something is eating the plants,
we created a healthy ecosystem!



WHAT YOU CAN DO

ADD SIGNAGE
TO SHOW INTENT



WHAT YOU CAN DO

REDUCE LEAF BLOWING



WHAT YOU CAN DO

REMOVE INVASIVE PLANTS

- Privet
- Bradford Pear
- Mimosa



WHAT YOU CAN DO

REMOVE INVASIVE PLANTS

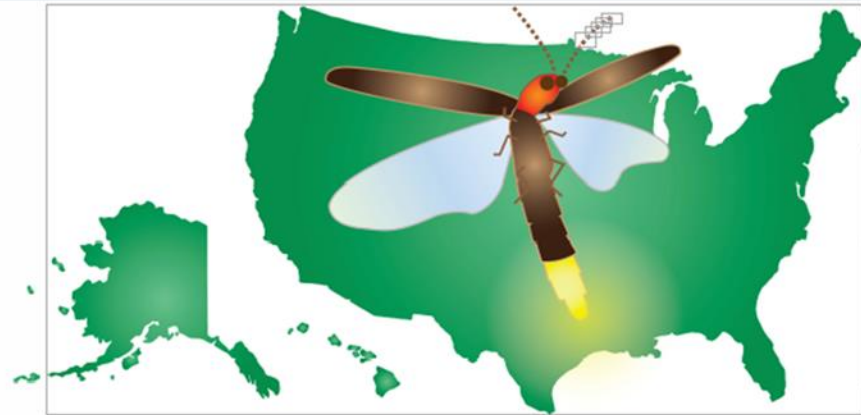
- Kudzu
- English Ivy
- Bamboo
- Japanese Honeysuckle



WHAT YOU CAN DO SHRINK YOUR LAWN

- If each of us would replace half of our lawn with native plants it would equal more acreage than all the national parks put together!
- Get your property on the map, at HomegrownNationalPark.org

Get on the Map



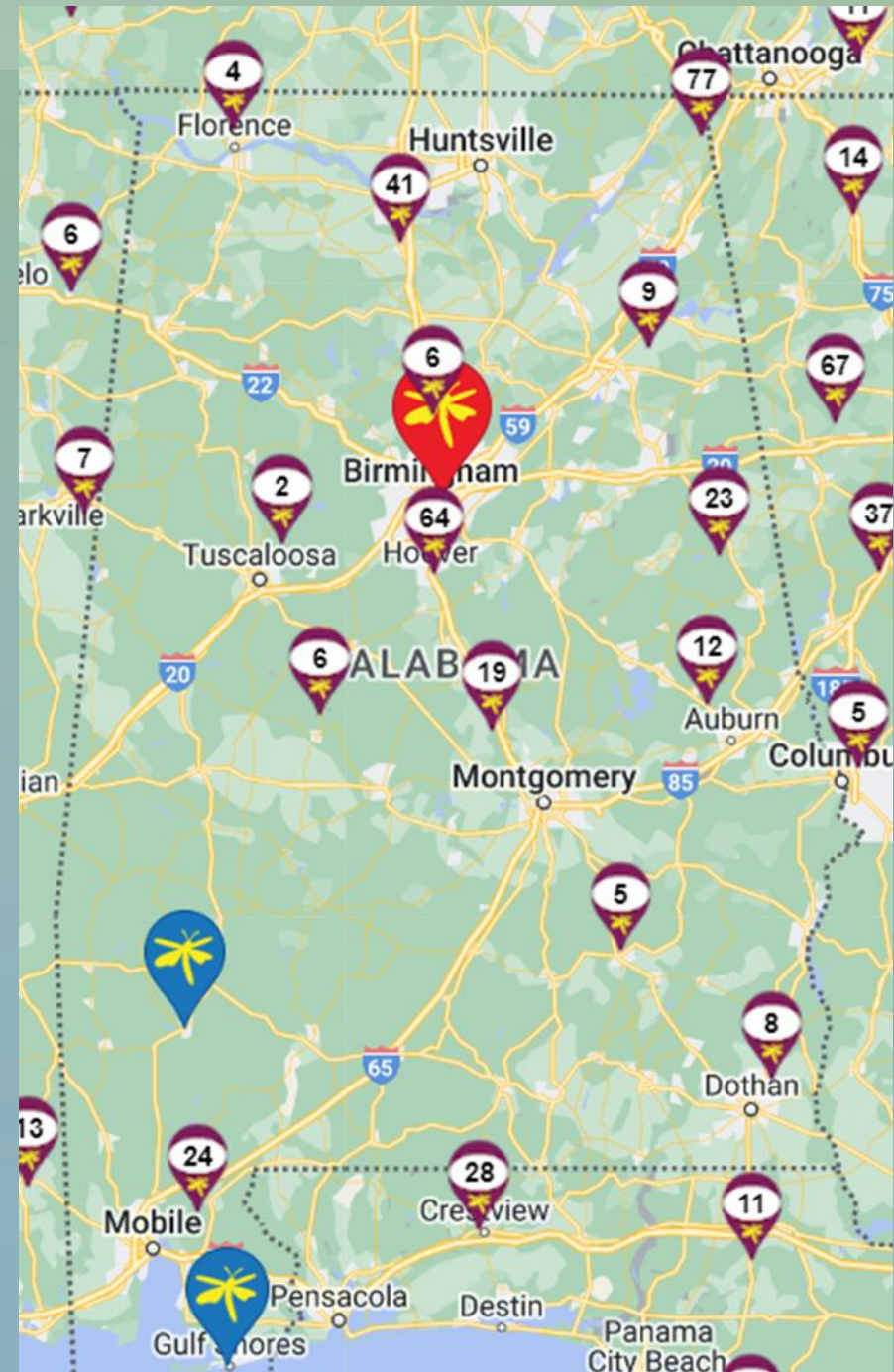
**PLANT
NATIVE**

Regenerate Biodiversity – one person at a time!



WHAT YOU CAN DO SHRINK YOUR LAWN

- Alabama is on map!
- 104 participants as of March 2023!



WHAT YOU CAN DO REDUCE/ELIMINATE THE USE OF PESTICIDES

- Don't be fooled by false marketing claims that your pesticide service uses poison that is selective and only kills mosquitos
- Use alternate forms of mosquito control, such as Mosquito Dunks.

**WE'RE ALL PART OF THE SAME
ECOSYSTEM
PLEASE DON'T SPRAY PESTICIDES IN
YOUR GARDEN**



WHAT YOU CAN DO

TURN OFF OUTDOOR LIGHTS AT NIGHT

Light pollution has a huge impact on insect decline.

- Use amber bulbs where needed
- Use motion-activated lighting instead of steady burning



This little light

Nearly 100 percent of the flash's energy is given off as light; in a standard lightbulb, 10 percent of the energy is light and the other 90 percent is given off as heat.

How it works
The firefly's light is produced during a chemical reaction. The light-emitting organ consists of three layers:

- Reflector
- Light cells, where reaction takes place
- Transparent exoskeleton

Photinus pyralis, the "Big Dipper Firefly"

Distinctive flash patterns of five North American fireflies:

- Photinus pyralis, the most common of 1,900 species of fireflies, is distinguished by its J-shaped flash pattern.
- Photinus marginellus
- Photinus consimilis
- Photinus granulatus
- Photinus collustrans

WHAT YOU CAN DO

ENCOURAGE HOA'S TO
REFORM REGULATIONS

Wow, your yard is
so MESSY
with the dead tree,
the brush pile,
the plants that
have gone to seed...

Thanks,
it's called
habitat.



START THE CHANGE IN YOUR NEIGHBORHOOD

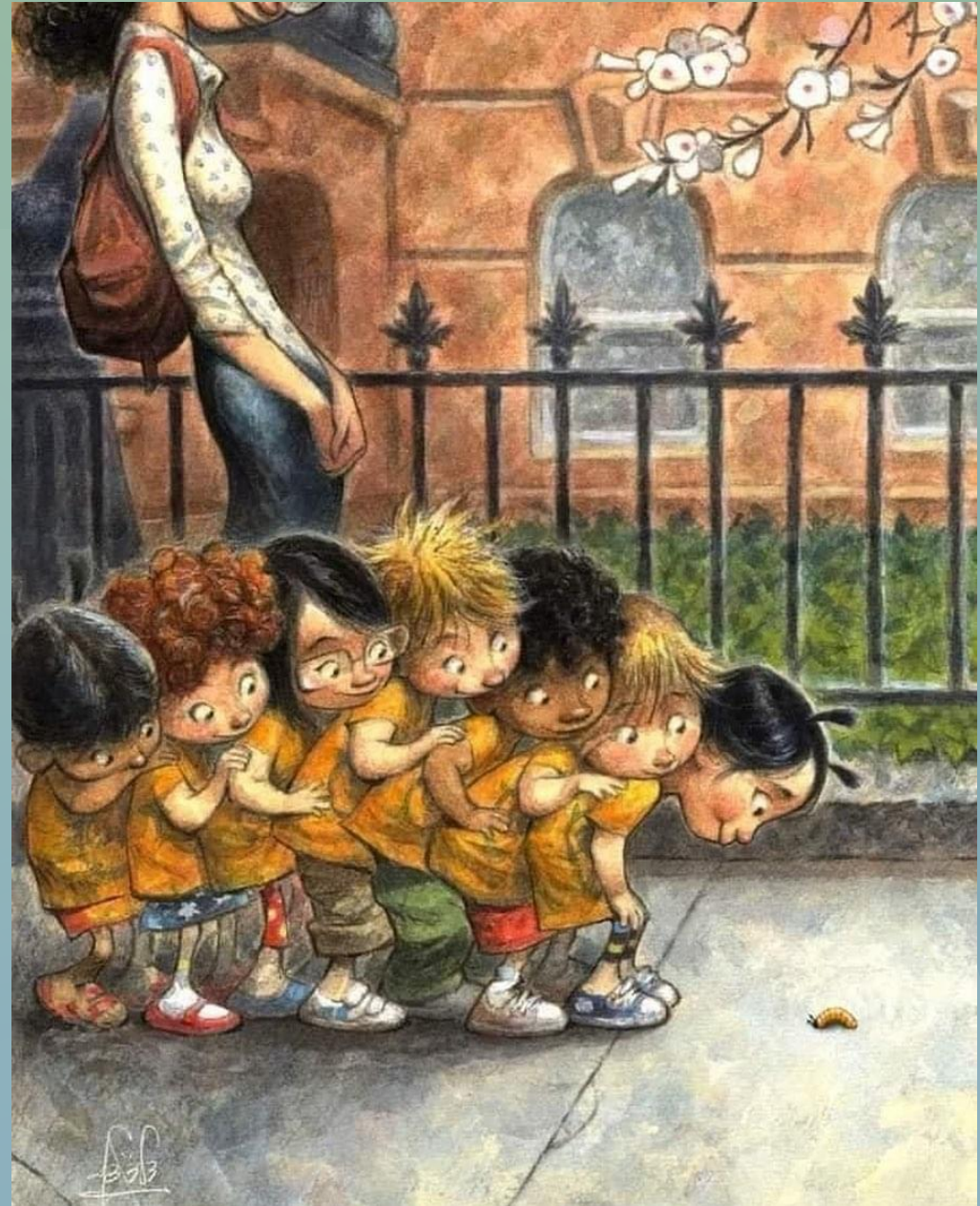


STOP SPRAYING POISONS IN YOUR YARD |
SHRINK THE LAWN | PLANT NATIVES



WHAT YOU CAN DO TEACH YOUR CHILDREN & GRANDCHILDREN RESPECT AND ADMIRE INSECTS

Don't step on the
caterpillar!

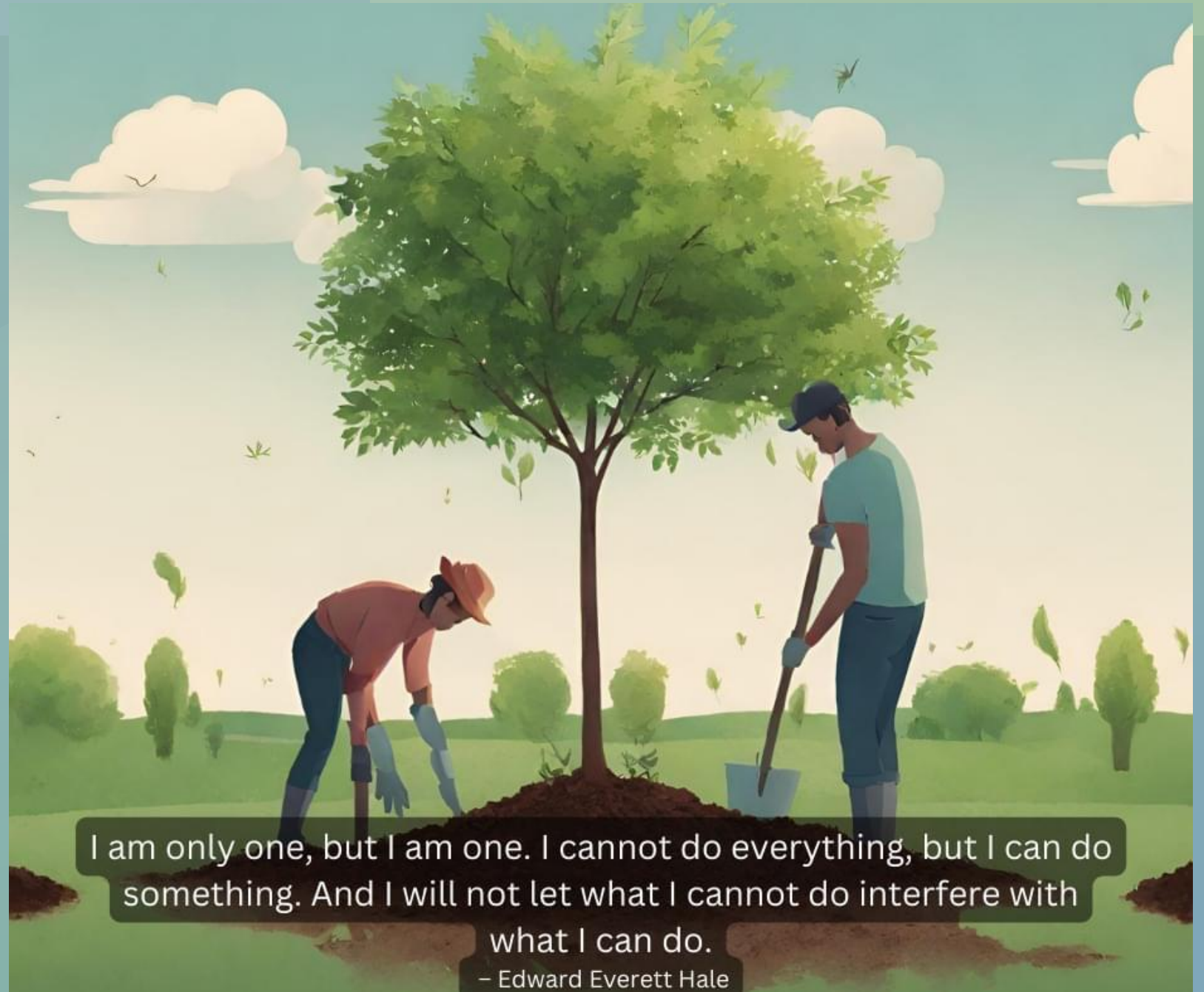




***Your garden can be a thriving
ecosystem full of biodiversity***

Avoid pesticides and poisons in your yard and garden

We cannot continue to preserve nature only in places where there is a lack of human habitation... It must also be in our homes and workplaces.



I am only one, but I am one. I cannot do everything, but I can do something. And I will not let what I cannot do interfere with what I can do.

– Edward Everett Hale

“There are many things I’d like to change
in the world but feel powerless to do so.
By planting native plants in my garden,
I can make an immediate impact.”

– John Janick

