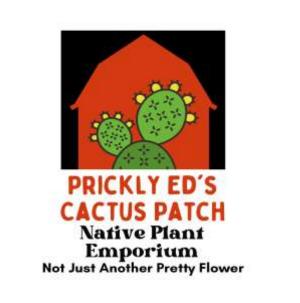


WELCOME! Tonight's session is part of the "Yards Alive" Living Landscapes Learning Series which is being organized by your neighbors at Prickly Ed's Cactus Patch Native Plant Emporium.

#### **Please Note:**

You will be able to access a PDF of tonight's presentation and a resource handout with live links on our website <a href="www.PricklyEds.com">www.PricklyEds.com</a>. Look for it on the "Upcoming Events" Page.

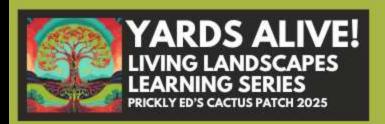


# ABES 12BS

of Creating and Maintaining
Living Landscapes
with Cindy Larson Moura & Ed Moura

#### WED. APR. PE @ GEO PM

Salem Family Auditorium













The eastern prickly pear cactus is one of nearly 250 varieties of northeast native plants now thriving in our own home habitat here in Barrington.











# Be Sure to utilize our website www.PricklyEds.com to find:

- Searchable plant databases
- Plant lists
- Sample garden plans
- Our "Life in the Garden Blog"
- Articles and information on nature-based gardening
- Resource links
- Videos of Webinars with the Experts
- Information on how to connect with us and others working to advance ecological landscaping practices in our region

Visit us during the growing season at the stand (on Barneyville Road at the intersection of Barrington and Swansea). You will find hundreds of varieties of pesticide free northeast native plants, designer flowering annuals, organic herb and veggie plants, ecoconscious garden supplies and more!

Opening for the season April 30<sup>th</sup>

Hours: Wed & Thurs 4-7 Fri and Sat 10-5 Sun 12-4



We opened our NATIVE PLANT Emporium because it is hard to encourage people to plant native plants if you can't easily find (or recognize) them.

 According to multiple industry studies native plants only account for 10-15% of all horticultural industry sales

#### On average:

- 79% of plants in suburban yards are not native
- 30% of plants in wild areas are (non-native) invasive plants

Why does this matter? The plants we are used to seeing and using are not predominately native plants!





American Groundnut



American Cranberry



**American Holly** 

## SO, WHAT EXACTLY ARE "NATIVE PLANTS"?

Simply Put – a native plant is one that originally occurred within a region as the result of *natural* processes rather than human *intervention*. These are plants that have evolved in a given place over a period of time sufficient to develop complex and essential relationships with the physical environment and other organisms in a given ecological community.

# Native plants have built complex evolutionary relationships with native wildlife over millions, not hundreds of years! For example...

Native Oak Trees Support OVER 500 species of insects, birds and mammals. They are considered a "Keystone Plant" in our area.



Ginkgo Trees, imported from Asia 250+ years ago and widely naturalized still only support 1 species in the United States



In addition to being the owners and operators of "Prickly Ed's", we are also your neighbors. We USED to be avid gardeners, and one of us was a talented lawn guy ;-)!

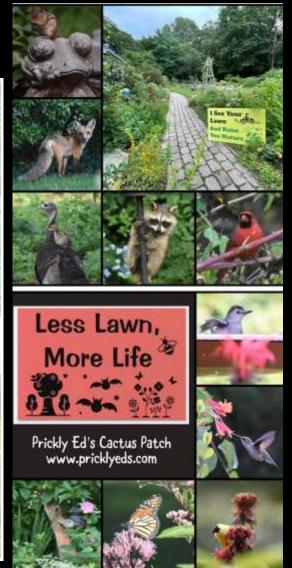
#### **OUR PLACE CIRCA 2015**



### But now our focus has shifted entirely to using our space to create vibrant habitat that supports lots of life.

#### **OUR PLACE NOW**



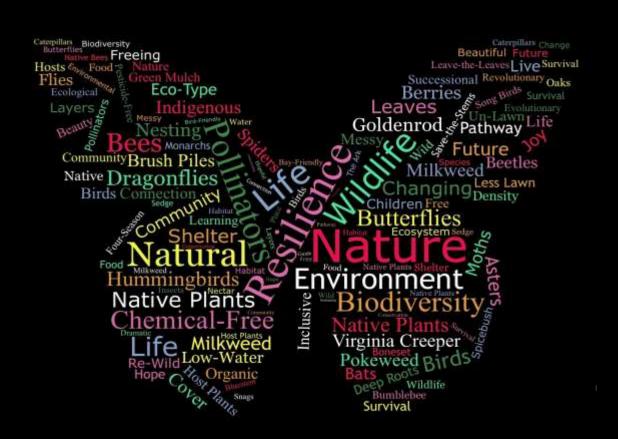


#### The Shift From Gardener to Guardian

In "Ornamental Gardening" plants are selected, arranged, and maintained with the focus on aesthetic appeal. The objective is to have the space look a certain way.



In "Ecological (Nature-Based) Gardening" plants are selected and arranged with a primary focus on ecological benefits. If planned and managed with skill and knowledge the spaces may be very beautiful, but that is not the primary objective.



Why the Shift? Answering that will in turn help answer some of your most pressing garden and landscape questions and objectives.



### There is a Shifting Understanding of How What We Do In Our Own Yard Impacts the Broader Ecosystem

Rapid Loss and Fragmentation of Habitat



Devastating
Decline in Birds

- Even Common
Songbirds



Green Solutions
Help Mitigate
Flooding Issues



Dramatic Decline in Pollinator & Beneficial Insects



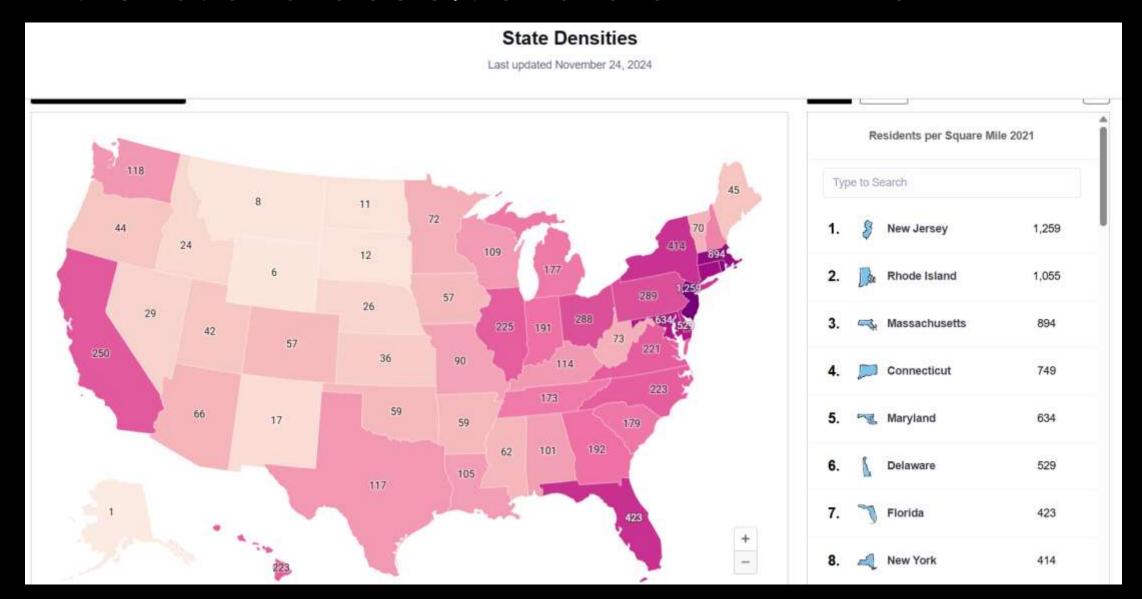
Stormwater Run-Off Causing Harm to Local Waterways

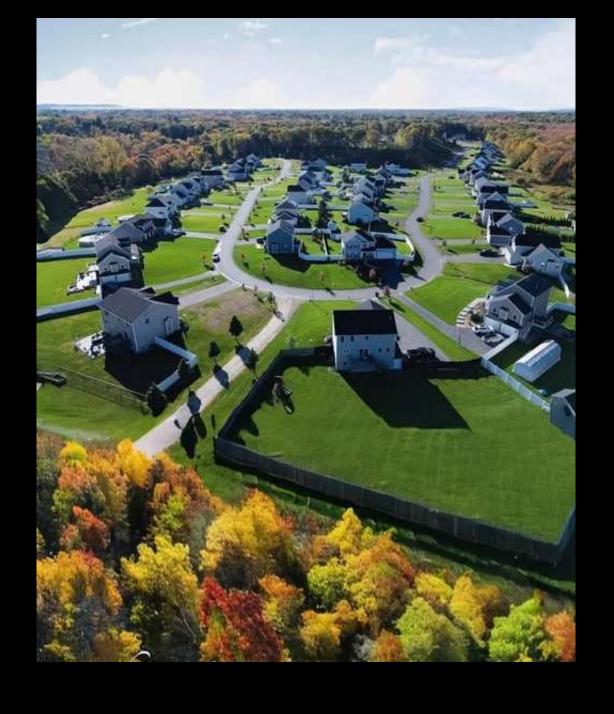


Pollutants & Toxins from Conventional Landscaping are Harming Health Of The Planet, Wildlife, our Pets and Us!



### Rhode Island is the 2<sup>nd</sup> most DENSELY POPULATED state in the nation and 98.5% of land is PRIVATELY OWNED.





Neighborhoods can unintentionally fragment habitat with roads, buildings, lawns, fences and non-native plants.

FUN FACT... If this was Swansea in England instead of Swansea in MA, a new development would be required to deliver a 10% biodiversity net GAIN to be built!



But, if planted and maintained with nature in mind, yards and community spaces can amplify conservation efforts by serving as **connectors** or **steppingstones** between larger habitat areas

#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



Manage the watershed in which they lie.



Remove carbon from the atmosphere.



Doug Tallamy, entomologist, conservationist, author, and founder of Homegrown National Park proposes 4 Universal Landscape Goals things landscapes must do to enable ecosystems to produce the life support we and every other species requires. (And we agree with him!)



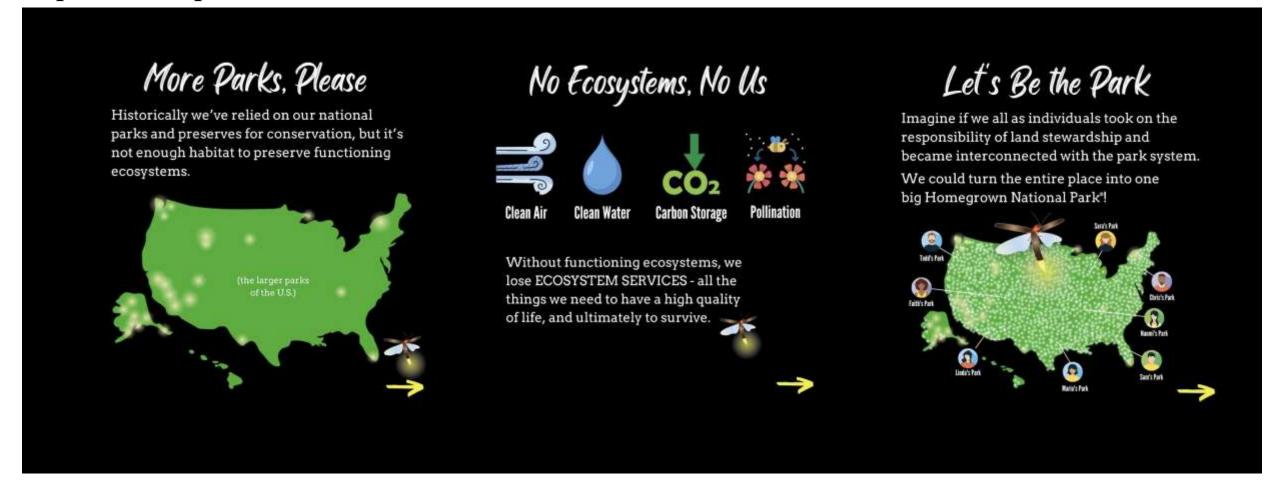
Who is Doug Tallamy? Why do we care what he thinks our landscapes must do? His decades of research and leadership on this topic have inspired an entirely new narrative around the space outside our doors!



Doug Tallamy is the T. A. Baker Professor of Agriculture in the Department of Entomology and Wildlife Ecology at the University of Delaware, where he has authored 106 research publications and has taught insect-related courses for 41 years. Chief among his research goals is to better understand the many ways insects interact with plants and how such interactions determine the diversity of animal communities. His book Bringing Nature Home was published by Timber Press in 2007, The Living Landscape, co-authored with Rick Darke, was published in 2014; Nature's Best Hope, a New York Times bestseller, was released in February 2020, and his latest book, <u>The Nature of Oaks</u>, was released in March 2021. His awards include recognition from The Garden Writer's Association, Audubon, The National Wildlife Federation, Western Carolina University, The Garden Club of America, and The American Horticultural Association. His is the founder of Homegrown National Park, and gives talks, nearly daily on the urgency of transitioning our landscapes to spaces that support life!

#### Join the Movement www.homegrownnationalpark.org

Founded by Doug Tallamy, the Homegrown National Park initiative is a grassroots call-to-action focused on regenerating biodiversity by restoring healthy habitats on millions of acres of private land. The goal is to create large interconnected ecological networks outside of parks and preserves.



#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



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Remove carbon from the atmosphere.



#### Back to the Goals!

Universal Landscape Goal #1 – Support Pollinators

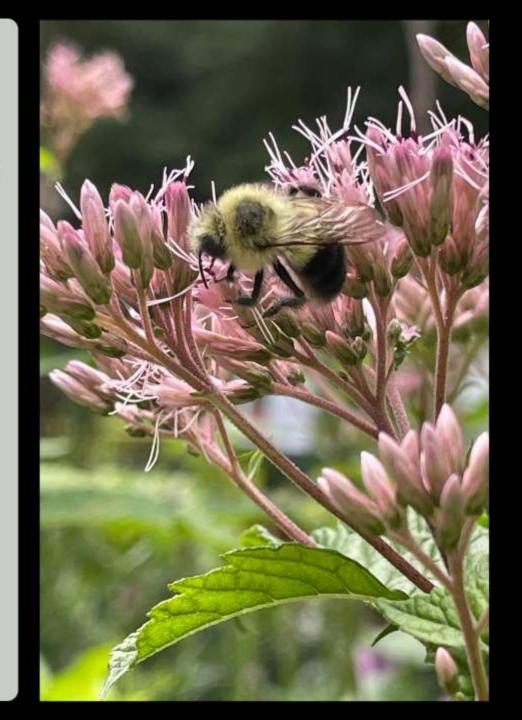




#### The Pollinator Buzz

- Estimated 45% decline in all invertebrates
   (75% for flying insects) worldwide over the last 40 years
- Nearly 1/3 of all insects are endangered, even iconic pollinators like the Monarch Butterfly and American Bumblebee
- As much as \$577 billion of global food production requires pollinators
- 85% of all flowering plants on earth need help with pollination

Pollinators are an indicator species.
Their presence or absence is linked to broader ecosystem health.



#### The pollinators who need help are our NATIVE Pollinators!

#### New England's Super Seven Native Pollinators

















New England has approximately 1,200 butterflies & moths and 380 native bees

There are 20,000 bees worldwide - 4,000 are native to North America

The Rusty Patched
Bumblebee was
the first
bumblebee given
protection under
the Endangered
Species Act



Our native bees do not live in managed hives like imported honeybees. 70% are ground nesting and 30% nest in stems and snags.



There are (apx.) 4,000 species of native bees in North America alone!



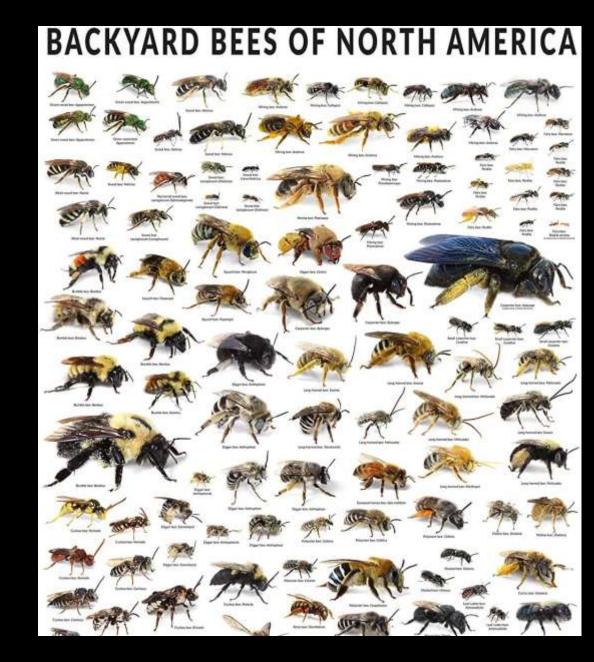
Native bees need native plants – lots of them!



Neonicotinoids, heavily used in conventional turf grass (lawn care) management are HIGHLY toxic to bees.



Researchers at UNH showed dramatic declines in 14 native bee species essential for pollination in New England.



## Some Ways to Help Our Native Bees!

- Plant the plants they need
- Work to have something blooming from early spring to late fall (be sure to include trees and shrubs, these are very important to our native bees!)
- Eliminate pesticides
- Rethink the lawn (mow less, don't use chemicals)
- Use less mulch (70% of bees nest in the ground)
- Build brush piles and keep rotting logs/stumps
- Leave the leaves and save the stems



## To plant for bees, think like bees!

- Bees visit flowers during the daytime
- Bees land on the flower petals to gather pollen
- Bees like sweet smelling flowers
- Bees are attracted to bright colors like yellow and violet



The bee is on Blue Stemmed Goldenrod. Goldenrod is an important native plant.

A study just released earlier this month found that there was a 22% decline in butterfly populations from 2000-2020 and that we are now losing about 2% of the population per year. Why?

- Pesticide Use
- Habitat Loss
- Climate Change

The scientists involved in the study call this trend catastrophic.





In order to have butterflies (and moths) you need caterpillars. This requires "larval host" plants. Butterflies start out as caterpillars!

### No caterpillars = No butterflies!

About 90% of the time, it is native plants that native butterflies require to complete their life cycle.



#### Nectar Plants Support Pollinators - Host Plants Sustain Pollinators (and other important insects)

The symbiotic relationship between Monarch Butterflies and Milkweed is one of the best-known examples of this. While Monarchs will visit a wide array of flowers for nectar, without milkweed they cannot raise new generations of butterflies. The same is true for many other "specialist" insects. Much is still being learned about insects but what is known is that they have great interdependence with NATIVE plants.

Learn more about the plants that best sustain the web of life by exploring the native plant resources on our website www.pricklyeds.com

#### NORTHEAST NATIVE PLANT EXAMPLES



Oak Tree - Host for 435 species



**Blueberry - Host for 258 species** 



**Goldenrod - Host for 112 species** 



Native Birch - Host for 344 species



Milkweed - Host for 12 species



Wild Strawberry - Host for 74 species



Helianthus - Host for 54 species

#### **COMMONLY USED NON-NATIVE EXAMPLES**



**Daffodil - host for 0 species** 



**Kousa Dogwood - host for 0 species** 



**Butterfly Bush - host for 0 species** 



**Hosta - host for 0 species** 



**Daylily - host for 0 species** 



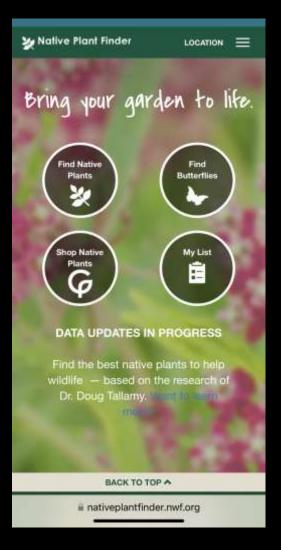
Forsythia - host for 0 species



**English Tea Rose - host for 0 species** 

## "How do I know what a good "host" plant is"?

Use the National Wildlife
Federation Search
Engine which
ranks plants based on number of species supported by zip code.
(linked through our website)



Make use of the many lists on the "Planning Your Garden" page of our website like this Powerhouse **Pollinator Plants** lists from the **Xerces Society** for Invertebrate Research.







# To plant for butterflies, think like a butterfly!

- Butterflies visit flowers during the daytime
- They use their long mouth parts to reach the nectar
- Butterflies rest on flowers when they drink
- Butterflies are attracted to bright colors like orange, violet and red



#### Moths in Massachusetts **Buck Moth** Imperial Moth Leaftier Moth Distinct Quaker Strow Heathland Cutworm Moth Besmo Moth Barrens Dagger Cankerworm Moth Posturina Eyed Baileya Powder Moth Spiny Oakworm Common Idia Moth Saddled Fall Webworm Hummingbird Chocolate Hooktip Moth Prominent Clearwing Moth White-blotched

Clearwing Moth Sohinx Moth

Did you know? North America has around 12,000 species of moths compared to just 825 species of butterflies! Most Moths are beneficial!







Moths Pollinate
Plants – even
more efficiently
than Bees

Moth Caterpillars are essential food for birds

Moths feed amphibians, mammals and reptiles

Environments with many native plants will support healthy populations of moths and in turn healthy and diverse ecosystems.

#### Build a Moon Garden to attract moths (and bats)!

To attract and support moths, be sure to include their NATIVE HOST plants (including trees and shrubs) and in flower gardens prioritize plants that have:

- Lots of fragrance
- Silvery foliage
- Light colored flowers

A few moon garden favorites are Forthergilla, Summersweet, Mountain Mint, Sweetspire, and Flowering Tobacco!

#### And:

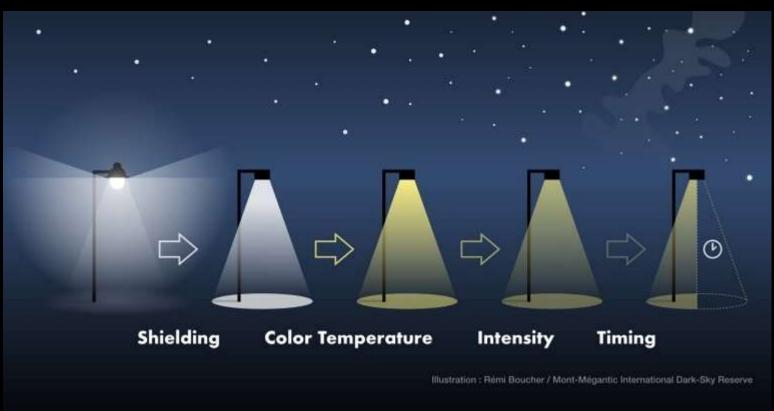
- Eliminate the use of pesticides and only use pesticide free plants
- Create safe spaces to overwinter in fallen leaves, rotting logs and stems

To Support the Night
Shift of Pollinators be
sure to Follow Nighttime
Lighting Guidance From
www.DarkSky.org

### Outdoor Lighting Should Be:

- Useful
- Targeted
- Low
- Controlled
- Warm Colored

Too much light at night is harmful to pollinators, messes with predator-prey dynamics, negatively impacts birds and waterways and takes away the ability to enjoy the wonder of the night skies!



#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



Manage the watershed in which they lie.



Remove carbon from the atmosphere.

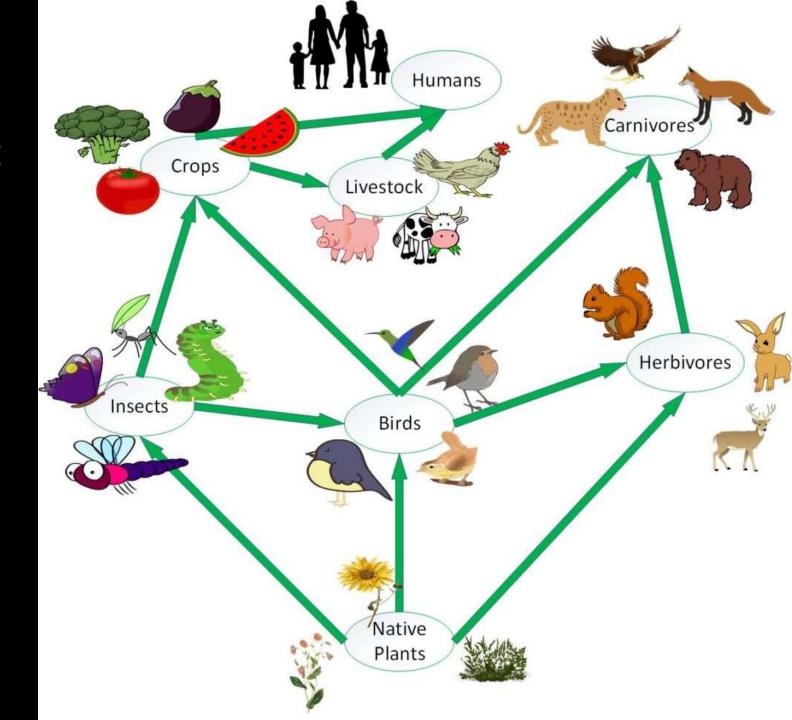


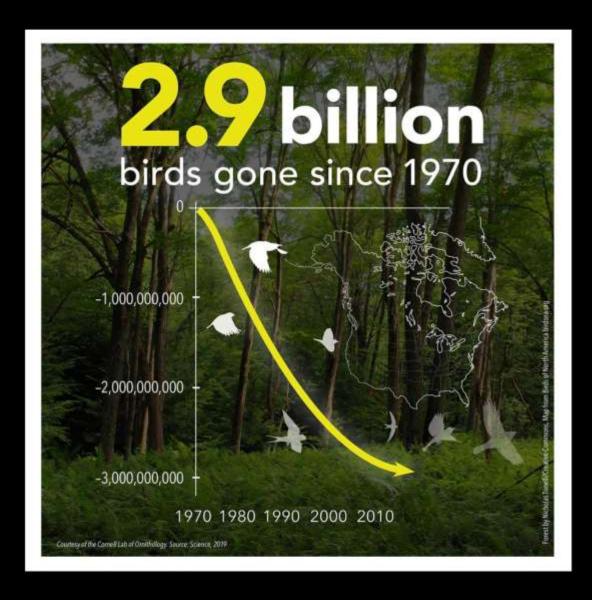
## Universal Landscape Goal #2 – Food Web!



We are losing biodiversity (biological diversity) faster than at any other time in human history.

Biodiversity is the variety of life and the complex web that sustains it. We need biodiversity to survive.





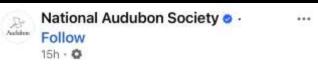
North America has lost nearly 3 billion birds since 1970. Here in Rhode Island a recent survey found equally grim results. More than 1/3 of birds are in serious decline.

A staggering loss that suggests the very fabric of North America's ecosystem is unraveling."

Cornell Lab director John Fitzpatrick and study coauthor Peter Marra

The latest "State" of the Birds" Report was released late last week and revealed that bird populations continue to decline sharply with many at a tipping point.





The latest State of the Birds report bears alarming signs that U.S. birds are widely struggling, despite conservation efforts. Grassland birds have been hit the hardest, with populations down more than 40% since 1970. Meanwhile, ducks have seen a recent downturn after years of improving numbers. "It's a reality check for us, every time we do one of these," report author Mike Brasher says.



audubon.org A Sweeping New Report Shows U.S. Birds Declining Sharply Across a Range of Habitats

### An important study found that to Sustain Life - Yards Need At Least 70% Natives Think "2/3 for the Birds"



A single pair of breeding chickadees must find 6,000-9000 caterpillars to raise one clutch of young!

**Landscapes With:** 

>94% Native plants are <u>outstanding habitat</u> for birds to successfully raise their young

>70% Native plants demonstrated <u>high</u> <u>fledgling success</u>

<70% Native plants - food limited with <u>high</u> levels of nest failure

Remember - this is your entire landscape, not just your flower garden. Native trees and shrubs are some of the most essential components!

TIP! Download the "Is Your Yard Bird Friendly" Checklist from our website and go on a scavenger hunt in your own yard to identify the things you have and the things you can add!





#### Ready to build habitat for our feathered friends?

Use our checklist as your guide - download it here





Visit www.PricklyEds.com for tips and resources
to turn your landscape into a birdscape!

#### Native plants are for the birds! Do your plantings include:

- Keystone Native Plants that produce the catarpities birds need the Oak, Charry, Plant Birch, William, Blackerry, Golderood, Wild Strawberry, and Strawberry, Liberts?
- Nutritious berry producers like Degwood.

  Viburrum, Winterberry, Elderberry, Black
  Gum, and Chokeherry?
- Plants with plenniful seed heads like. Clethra, Monarda, Aster. Joe Pye, Conefforest, Nodding Onles, and Native Grasses?
- Plants that offer nesting materials like Ferns and Milkweed.

#### Does your design nurture nature? Do you:

- Have lots of notive plants? Studies show that landscapes made up of at least 70% notive glants boot support bright (Think about it as "2/3 for the birds")
- · Plant abundantly to mimic nature?
- Include shrubs and trees with varied heights for perching and plant in groupings to offer cover and safe places for nesting?
- Minimize light poliution by using amber hulls, fecusing light downward (never above up into trees) and using timers & motion sensors?

#### Is your yard maintained with nature in mind? Do you:

- Minimize areas of turf-grass lawn to make way for beneficial bird-friendly plantings?
- Keep fallen leaves on the property?
- . Leave spent plant stems standing?
- Forge pesticides (including herbicides, fungicides & lawn "weed & feed" products )?
- Safely leave dood trees (snags) & faller logs?
   Use branches to create brush piles and dood.
- Minimize noise poliction (like from oversized gas powered mowers and leaf blowers/3\*
- . Avoid tree trimming during neeting season?

#### Is your space "bird-centric": Do you:

- Offer water sources that are changed and
- Previde high quality bird used at times of year when resources are Emitted and class feeders frequently?
- Protect birth from pels by keeping cets safety indoors and monitoring dags very stooply when outside?
- Use window decais to prevent bird strikes?
- Avoid the use of any outdoor decorations that could cause entanglement?
- Leave some wild corners to offer natural reating and foraging opportunities?

#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



Manage the watershed in which they lie.



Remove carbon from the atmosphere.



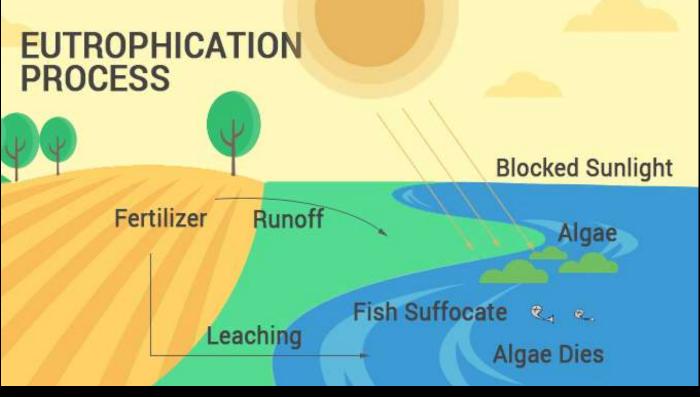
## Landscape Goal #3 – Manage the watershed



When it comes to stormwater runoff, we all live on the waterfront!

# One reason native plants are prioritized in waterwise landscaping is that they DO NOT need chemical fertilizers! Why does this matter?





## Be water-wise and Bay friendly - reduce water use and curb pollution with real green solutions!

Lush lawns aren't so "green" when it comes to our environment. Half of household water on average goes to irrigation. Lawn fertilizer and pesticides seep into the groundwater we drink and hitchhike with rainfall runoff to the streams, lakes, and bay where we play, threatening to spoil the very reasons we love living here. For a more sustainable landscape, reduce or eliminate fertilizer use, replace high-maintenance turf grass with native plants (including trees), and curb stormwater pollution.



## Good green infrastructure combines stormwater management with biodiversity benefits



#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



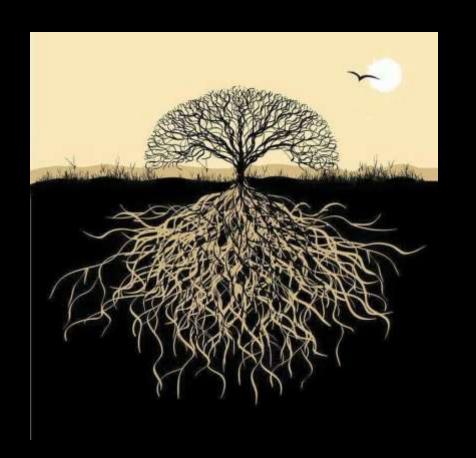
Manage the watershed in which they lie.

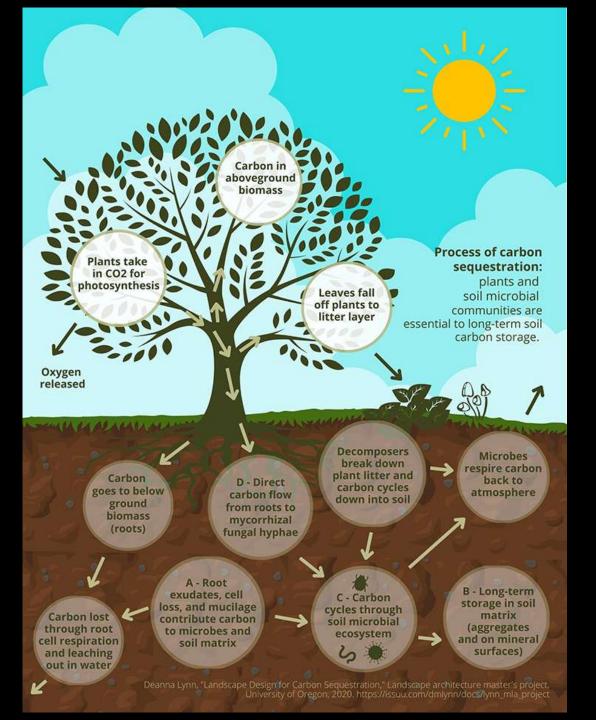


Remove carbon from the atmosphere.



## Landscape Goal # 4 – Remove Carbon





Although turf grass has the potential to sink carbon, the carbon producing equipment used to maintain lawns and the effects of the production and use of chemical fertilizers offset the potential gains.



## Did you know - Gas-powered lawn equipment like leaf blowers and lawn mowers pollute a lot more than most people realize.

In 2020, fossil fuel-powered lawn equipment emitted more than 30 million tons of carbon dioxide, the leading driver of climate change.

A typical commercial leaf blower reportedly burns just 60 percent of its fuel—the rest is spewed into the atmosphere. Leaf blowers run on antiquated technology that has been phased out in nearly all areas—except yard work. But what is off-limits for driving and boating currently blankets neighborhoods.

This magic tool and its friend the broom spew no pollution and provide wonderful free exercise to those using them ©!



#### How to build a carbon friendly landscape

#1 - Back off! Embrace principles of do no harm. Eliminate pesticides and synthetic fertilizers, lower water use, lower or eliminate the use of gas, powered equipment, disturb soil less, and leave organic matter on site.

#2 - Feed and build your soil with rich compost and organic materials.

#3 - Boost biodiversity with abundant and layered native plantings, be sure to include trees and shrubs.

#4 - Lower the amount of lawn!



#### 4 Universal Landscape Goals

#### Landscapes Must:

Support a diverse community of pollinators throughout the growing season.



Provide energy for the local food web.



Manage the watershed in which they lie.



Remove carbon from the atmosphere.



#### Bonus Landscape Goal #5



Protect human (and pet) health and wellbeing.

### Americans love perfect lawns but they are NOT "green" or child, pet, or neighborhood friendly! What is the real cost of lawns?

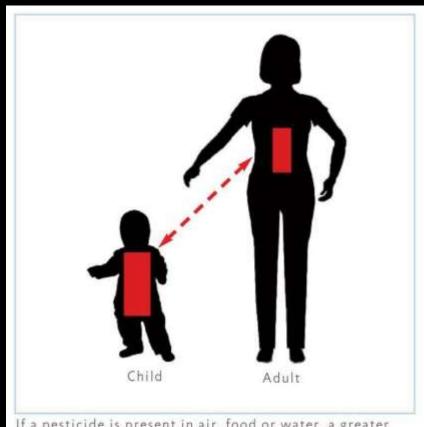
- \$40 billion a year to maintain lawns
- 9 Billion Gallons of Water a Day
- 10x as many pesticides as commercial agriculture (80 million pounds a year)
- Stormwater runoff from treatments smother waterways & poison aquatic life
- 242 tons of pollutants generated by maintenance equipment
- 800 million gallons of gasoline each year to maintain lawns - as many as 17 million of which are spilled





- Most conventional lawn care products contain "Agent Orange"
- Of 30 commonly used ingredients, 19 are linked to cancer, 13 to birth defects, 21 to reproductive disorders, 15 to brain damage
- Pesticides shown to increase risks of childhood cancer (especially leukemia and neuroblastoma) and contribute to rise of autism and ADHD (children are uniquely sensitive to toxins in the environment it is recommended to keep them off treated lawns for weeks after application)
- Lawn chemicals are routinely found at high levels in the urine of dogs - there are immediate ingestion/toxicity concerns and long-term increase in risk of cancers
- Lawn treatments are HIGHLY toxic to bees and other pollinators and 70 million wild birds are killed annually through ingestion of these toxic products

## American's use 10x the amount of pesticides in home landscapes as are used in commercial agriculture!



If a pesticide is present in air, food or water, a greater amount will be taken in by a child in proportion to their body size or weight than by an adult.



#### Ticks and mosquitos – know the facts.

According to the science (not the marketing), we quote "Before deciding to spray your yard, know the facts. Spraying can harm you, your kids, pets and your neighbors. The chemicals can also harm birds and insects that help eat mosquitos and pollinate your yard." Real experts agree, mosquito treatments, including the alleged "all natural" variety can harm you and your environment, while not actually reducing mosquito populations.

#### What really helps for mosquitos?

- Remove or regularly change out any sources of standing water
- Use mosquito dunks
- Wear long sleeves and use nontoxic personal repellents
- Attract mosquito eating friends (hummingbirds and dragonflies eat hundreds of mosquitoes every day!)





#### What really helps for ticks?

- Create wide pathways to move through your space
- Wear light colored clothing and close toe shoes - tuck pants into socks and use personal repellents
- Children with indoor-outdoor pets are 3x as likely to contract Lyme disease -take precautions
- Do daily tick checks ticks need to be attached > 24 hours to transmit Lyme disease – this is a serious disease – BUT – less than 3% of bites result in disease

## Gardening is good for you! Gardening with nature is even better!

Did you know...time in nature is great for physical and mental health. It reduces stress, lowers blood pressure, increases vitamin D, reduces muscle tension and encourages deep breathing! Gardening increases exercise, improves diet and fosters healthy social connections. Gardening is a mood enhancer, brain stimulator, and immune system booster too. Wow! It's like a regular wellness retreat right in your own yard.





With a focus on the HOW, we are going to "pre-answer" 15 Top FAQs.



# FREQUENTLY ASKED QUESTION #1

What should I plant?



And bonus questions:

1b - How do I know if a
plant is "Native"? And

1c - I want to make a

"pollinator garden" but I am
stuck on how to start

### Right Plant - Right Place



**Light Conditions** 



**Water Needs** 



**Soil Composition** 



**Eco-Region** 



Salt / Flood Tolerance



**Herbivore Resilience** 



**Root Growth Habit** 

**Aggressiveness** 

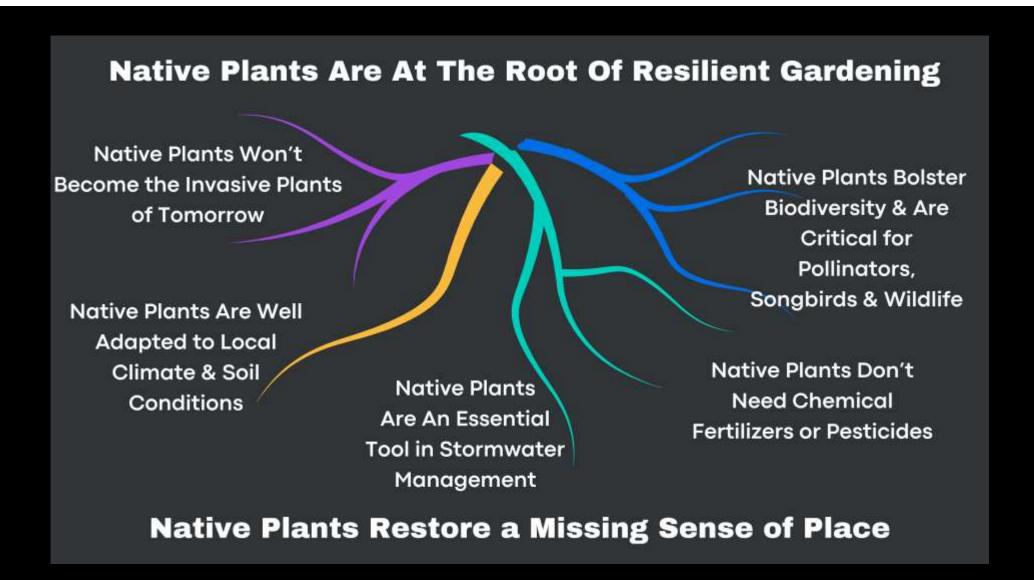


**Bloom Time** 

**Plant Community Compatibility** 

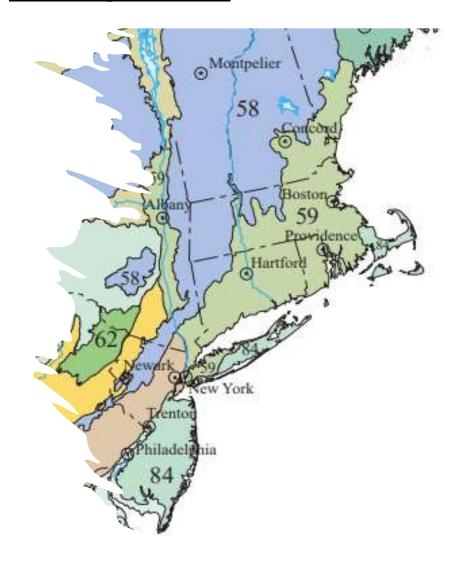


#### In Ecological Landscaping "Right Plant" means "Right Native Plant"!



In conventional gardening the focus is often on "Growing / Hardiness Zones". In Native Plant Landscaping the focus shifts to something called EcoRegions. At <u>Level III</u> we are considered <u>Ecoregion 59</u>.





## Learn from our mistakes! It pays to do your own plant research (using botanical names)!

Just a few of the "Native" plants we ended up with in our landscape that weren't!



This is an actual ad from an unnamed local nursery implying these shrubs are "native" even though they are not!



### A few places to do plant research:

```
https://gobotany.nativeplanttrust.org
https://www.gardenia.net/native-plants/united-states
https://plants.ces.ncsu.edu/find_a_plant/
https://bonap.net/napa
https://web.uri.edu/rinativeplants/
```

Reminder: These resources can be found through our website and slides will be available to you via the site as well.

#### The simple 3x3x3 Pollinator Garden

Planting your very first pollinator garden?

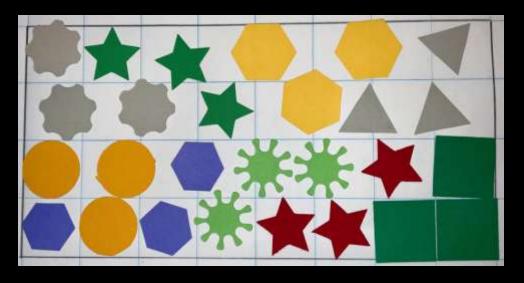
Consider using the 3 x 3 x 3 system.

Choose 3 species x each of the 3 seasons (spring - summer -

fall) = 9 species

x groups of 3 plants for a total of 27 plants.





Not every native plant needs to be bought and planted. Some just need to be allowed to live!













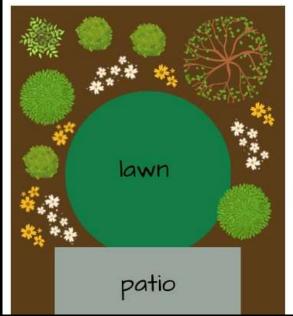
# FREQUENTLY ASKED QUESTION #2

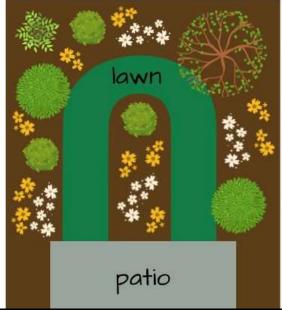


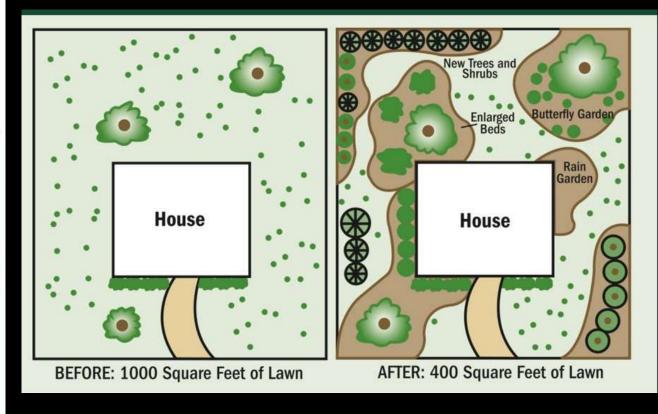
How can I integrate native plants into an existing landscape and garden?

Instead of giving something up is it possible to add more things in? You can find ways to add native plants to a conventional landscape! For starters, do you have areas of lawn that you really don't need??

Lawn doesn't provide much food, shelter or nesting habitat for wildlife. If you have a large lawn, consider shrinking it and adding trees, shrubs and other plants that are native to your area. Here are 2 ideas for you:







My own sister shaking up a very conventional landscape with a center island raised planting bed leaving only the grass needed for the dogs to run in circles around it and a path to walk to the pool.





## Which brings up a question we didn't include – how to get rid of grass when ready to plant!

We manually dig or use a sod cutter and have never used any other methods.



A novel approach that we think has promise was featured in the NYT. Sara Weaner Cooper planted directly into turf grass and it is showing promising results. Before planting the grass was weakened with short cutting and application of sulfur.



https://awaytogarden.com/front-lawn-transformation-with-sara-weaner-cooper/

Do you have any overgrown foundation plantings calling out for a replacement? In this simple Barrington re-do, five overgrown shrubs were replaced by dozens of mixed variety native shrubs and perennials to create a mini pollinator paradise!!



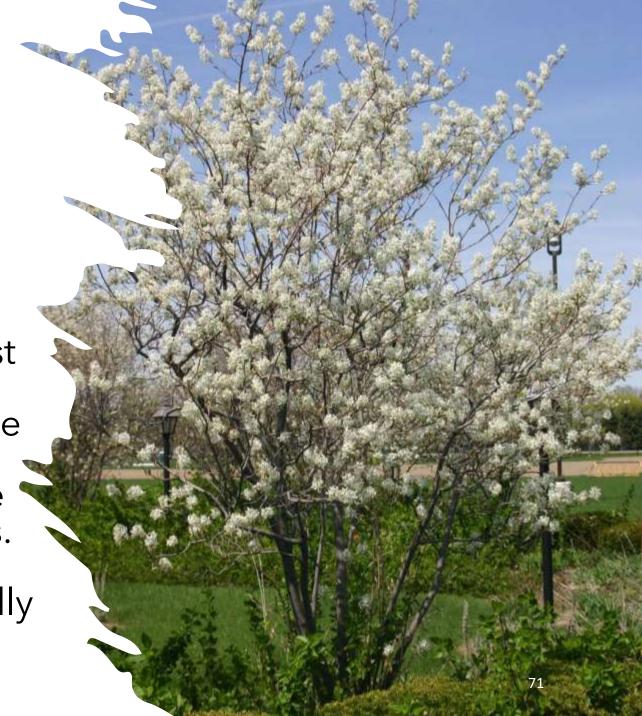






# Can you plant a new native tree or some native shrubs?

The plants that give us the most "bang for the buck" in improving biodiversity overall, are native trees and shrubs. They support the highest number of butterflies and moths, whose caterpillars are essential to the food web. Many provide the earliest source of nectar in our region. Some provide berries for birds - and for us. Because most trees and shrubs will live for a very long time, it is especially wise to prioritize natives!



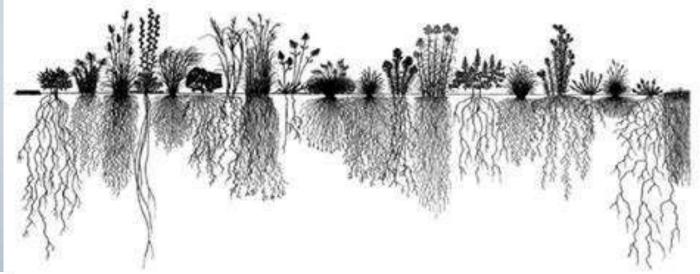


### Can you add some more plants to your gardens? It is ideal to plant in abundance!

from Planting in a Post-Wild World

Plant Layers & Communities SEASONAL THEME LAYER ROUND COVER LAYER

Layers form habitat and mimic nature the edges and transition spaces are where the most life happens. Tip - Plants do not want to be marooned in a sea of mulch. Plant closely together and use a "green mulch" layer to suppress weeds



#### THIS

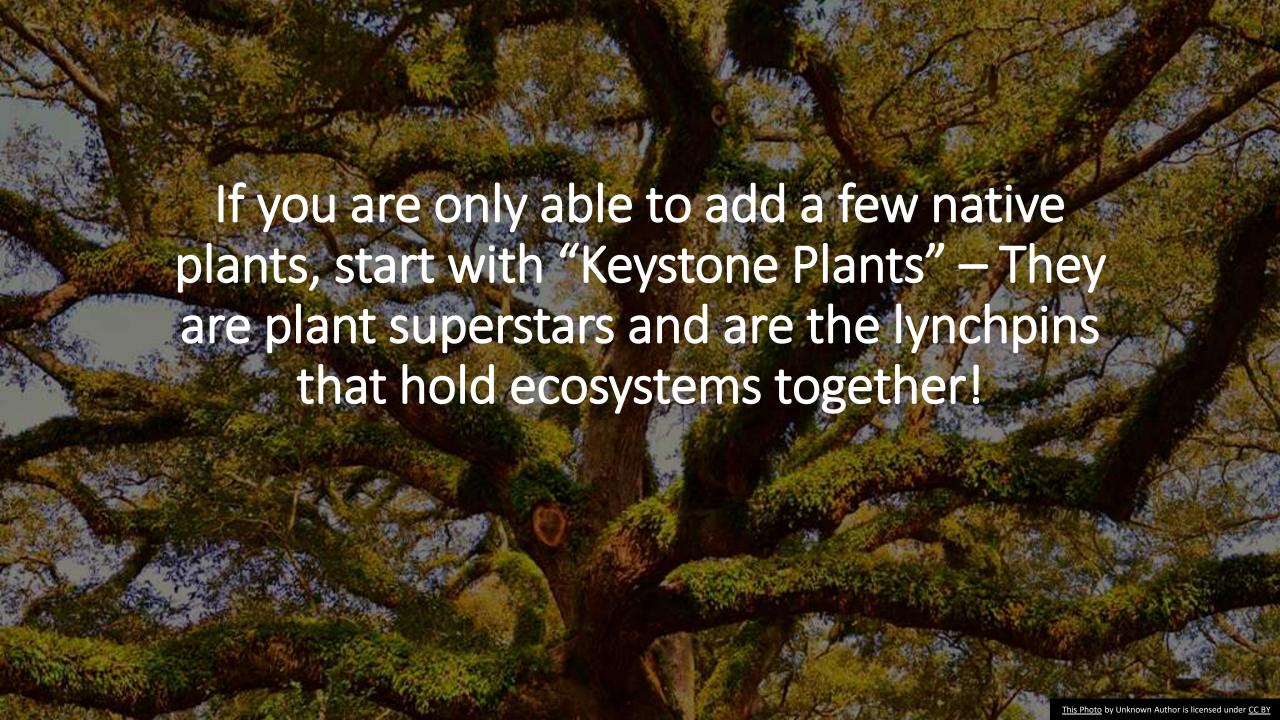




#### NOT THAT!













Examples of Keystone Trees & Shrubs - #of species supported noted



Meadowsweet 93



Arrowood Viburnum 117



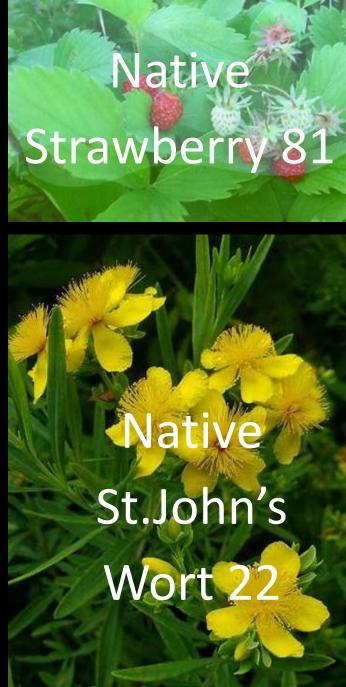
# Native Violets 30

Examples of Keystone
Perennials with # of species
supported noted

Joe Pye 31







# #3, #4 and #5 (because the answer is the same to all)

- How do I stop my plants from flopping over?
- What do I do about xx perennial that doesn't look good when it is done blooming?
- ▶Which of these plants flower all the time?

## Native plants and nature both thrive with ABUNDANCE! That's good news for people who like plants. NOT THAT!

THIS

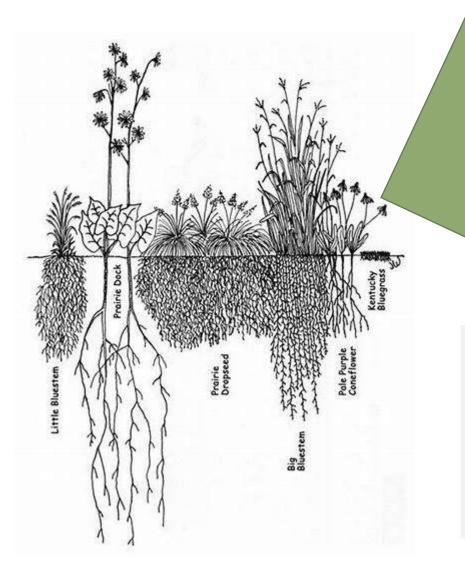








Flopping Plants



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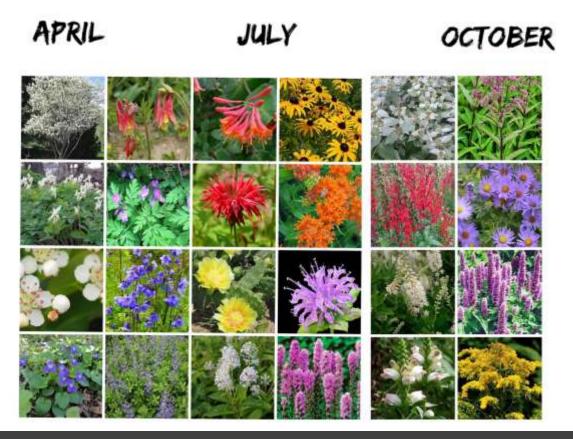
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#### Chelsea chop

The Chelsea chop (so called because it is usually carried out at the end of May, coinciding with the RHS Chelsea Flower Show) is a pruning method by which you limit the size and control the flowering season of many herbaceous plants. We do not use this because it may alter bloom times but others do swear by this technique to make particularly tall plants more manageable.



#### To Best Support Pollinators - and - Achieve Instant Design:

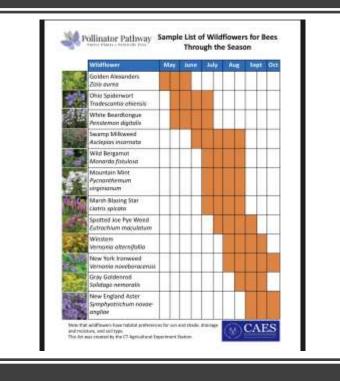
- Plant clusters of the same plant together
- Select plants that bloom at different times throughout the season
- Use plants of varying heights and include a "green mulch" layer
- Use a mix of woodie and herbaceous native plants





"Succession Planting" in the native plant world focuses on picking plants so that the landscape changes and evolves throughout the seasons with several things blooming at all times.



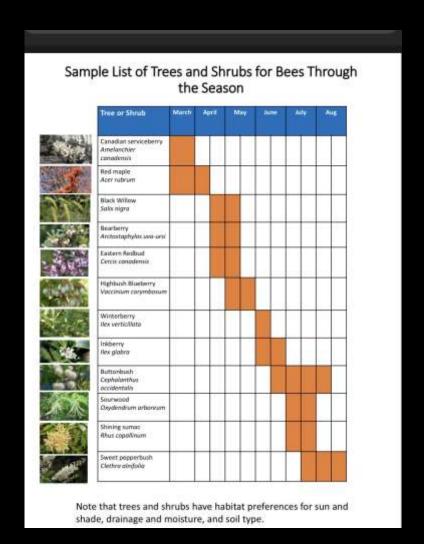


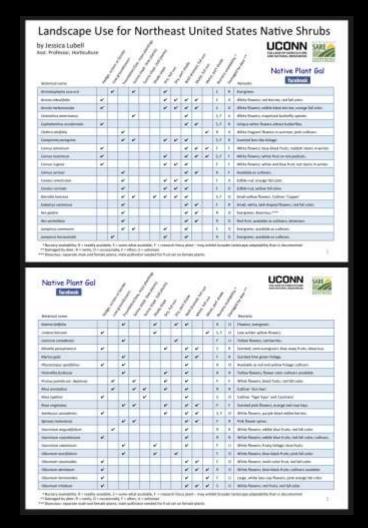


There are many amazing resources to help you select plants that will work together for your goals and in your space. You can access all of these tools on our website – link below.

www.PricklyEds.com/Planning-Your-Garden

The lists and tools on our website <a href="www.PricklyEds.com/Planning-Your-Garden">www.PricklyEds.com/Planning-Your-Garden</a> let you explore perennials, shrubs and trees by bloom time, site conditions, pollinators supported and other characteristics.







### FREQUENTLY ASKED QUESTION #6



Do you have any planting instructions? What amendments should I add to the hole? What fertilizers should I use? (etc.)



#### Two principles to keep in mind:

- ■Minimize soil disturbance
- ■Don't make new plants too comfortable in their new planting hole (you want them stretching their roots for moisture and nutrients)
- Dig a hole slightly larger than root ball be sure top of plant is level with the ground (or a tiny bit above if you are going to use mulch
- Water the hole!
- Put native soil back in and tamp it down well around root ball no air pockets!
- Water deeply again if planting trees and shrubs it is ideal to make a little canal around the plant to fill with water a few times letting it soak in then fill it in once plant has settled.

### Be a weather watcher and whenever possible – plant ahead of rain!





### FREQUENTLY ASKED QUESTION #7



I heard that native plants need less maintenance, does that mean I don't need to do anything to care for them?

### All plants need to be cared for until well established. For native plants this will primarily involve watering them. No need to fertilize!



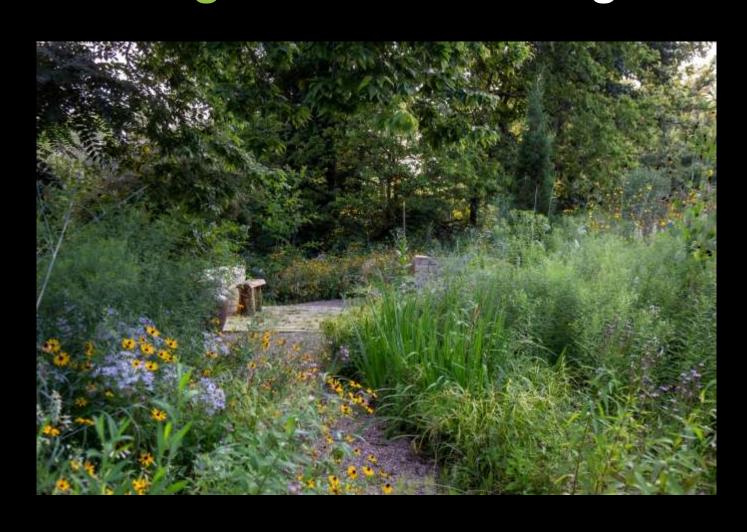
Water roots not foliage!

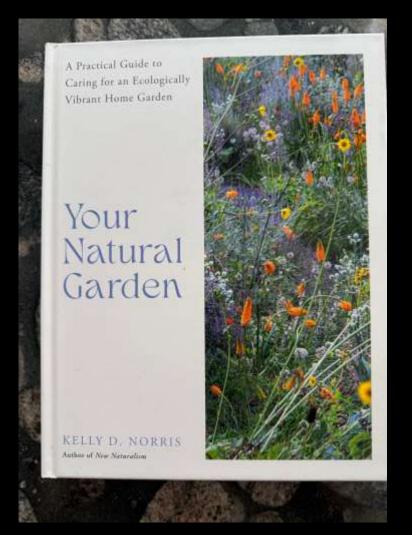
Water deeply, letting water really soak in.

Note that lawn sprinklers do not provide the type of deep root watering that is needed to get these plants well established. Well installed drip irrigation systems can be effective but ultimately hand watering will give you best outcomes.

Monitor new plantings regularly — but — do not helicopter parent every new plant.

An Ecological Landscape is not a Static Landscape – it will evolve and change over time and educated editing is essential to long term success.





### FREQUENTLY ASKED QUESTION #8



Something (deer, rabbits, groundhog) is eating my garden, what do I do?

#### Grow an abundance of compassion!

Ultimately the best strategy is more plants, more habitat and a better balanced ecosystem! Shrinking habitat is forcing more and more hungry animals into backyards.

Fencing (either of the yard or of individual plants) is the most foolproof strategy.

The (super beneficial) Pokeweed that most people insist on pulling is a miracle plant in our yard when it comes to deer!



Sprays may help if applied repeatedly, but the science is not clear on whether this may alter properties for pollinators.

Densely planting and intermingling favored plants with plants not favored by animals (see our website for a list) can help.



Bunnies love to eat lawn weeds and many people find that when those weeds are abundant seldom bother garden plants!
Owls do a great job of keeping bunny numbers in check. But cannot do their job when faced with too much artificial light, too much noise and too many pesticides!

Cages and baskets are the best defense until plants get established. Cages protect from deer but don't inhibit movement through space.





#### Little Critter Protector Baskets





### FREQUENTLY ASKED QUESTION #9



How do I "get rid of" ... could be anything but often it is aphids, earwigs, powdery mildew or any kind of insect, spot or other not easily recognized thing in a yard! Perspective - at least 95% of the "problems" we get asked about are aesthetic, assumption of a problem that isn't one at all, or lack of patience in

allowing nature to do its job.







This is a syrphid (hover) fly laying eggs on a plant with aphids. Her offspring will eat up all the aphids in minutes! But only if you let them...



Our favorite non-toxic solution to common garden complaints is the 10-step program



Embrace a gardening "10-Step Program"

Instead of hovering over top of each plant and fretting, take 10 steps back. What do you see?





10 Steps Back



### FREQUENTLY ASKED QUESTION #10

But, what about my neighbors?

The New york Times

#### They Fought the Lawn. And the Lawn Lost.

After their homeowner association ordered them to replace their wildlife-friendly plants with turf grass, a Maryland couple sued. They ended up changing state law.



#### What about mine?





Ecological gardens can be beautiful, award-winning spaces! But it is equally essential to change the narrative and the perceptions.



UNDERGROWN!

(CAN WE MAKE A VIOLATION NOTICE FOR THAT?)

f you have a turfgrass lawn on most of your property, your yard is not pristine. It is *undergrown*.

If you or your lawn service company apply herbicides, insecticides, or synthetic fertilizers, your yard is not immaculate. It is *contaminated*.

If you regularly mow down whatever strip of land you may have under your purview, you might think you're keeping up with your human neighbors. But you're killing your wild neighbors.

dynamic landscape that changes with the seasons isn't overgrown; it's simply grown in, striving to reach its full potential. But our cultural mindset toward our wild neighbors is undergrown, stunted into perpetual stagnation. We would do well to retrain our brains, focusing on nurturing our empathy and senses to leave more space for the rest of the living world to grow in peace, instead of being chopped to pieces under the heavy weight of our biases and the sorrow of our collective turning away.

Legendary Irish garden designer Helen Dillon once said, "If you keep the edges tidy, no one minds the messy middle."



Photos:
Benjamin Vogt
Kelly D. Norris
Larry Weaner
Used with Permission

But is also perfectly fine to acknowledge that your space is something of a peaceful protest against the abuses of nature all around us!

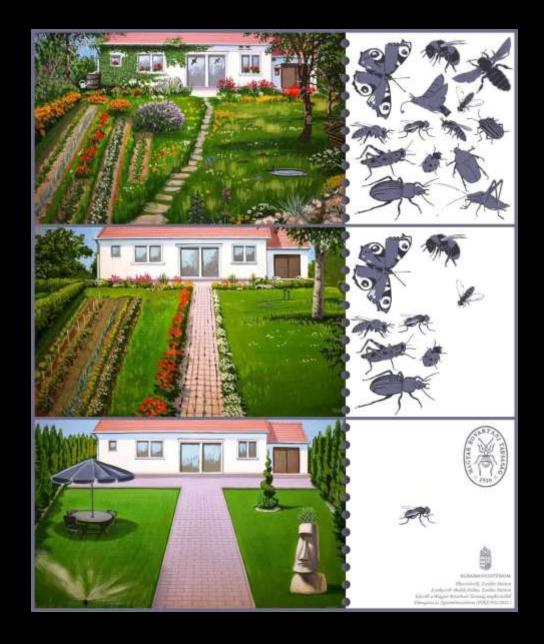


### FREQUENTLY ASKED QUESTION #11



I built it, but they didn't come, where are my hummingbirds, butterflies, bees, fireflies, birds?

## Abundance really does matter!







Even planting just a few native plants is absolutely a GREAT thing. But it doesn't create a viable habitat!







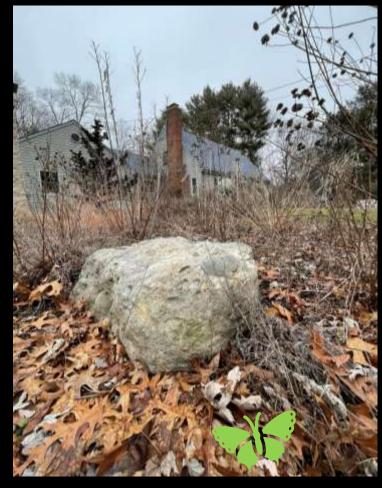
## Be sure to consider if you could be unintentionally introducing pesticides? Americans use 10x more pesticides in yards than in commercial agriculture!

- Lawn treatments (like "weed & feed" and four step are highly toxic to pollinators and birds.
- Many nursery plants are treated with pesticides
- Pesticides are not just insecticides they include herbicides (like ""pre-emegents" and fungicides
- Remember "all natural" does not mean not harmful!





Studies showed a 2/3 reduction in winged insects in landscapes where leaves were removed.



Day 158 of leaving the leaves and only good things have happened!



Goldenrod Gall Fly in our front yard - a favorite snack of Downy Woodpeckers and Chickadees

### For nature to thrive you have to maintain the space in nature centered ways!

#### In practice winter habitat looks like:

#### **THIS**





#### **NOT THIS!**









This plant spreads a lot, does that mean it is invasive? Also, these "weedy", "uninvited" native plants keep popping up outside of my designated pollinator area, how do I get rid of them?

In his new book "Your Natural Garden", ecological designer Kelly Norris writes, "A reasonable gardener thinks what if things get out of control. A natural gardener thinks what if plants exceed all expectations."



#### Avoid & Remove ACTUAL Invasive Plants!

Many invasive plants are still widely sold at garden centers. Most invasive plants that forestry officials and land conservation volunteers battle today were once garden plants. Some widely used invasives include:

- Burning Bush
- Chinese Wisteria
- Bradford Pear
- English Ivy
- Vinca
- Japanese Honeysuckle
- Bittersweet
- Winter Creeper
- Scotch Broom

Costs of managing invasive plants are still being fully understood and are complicated by the fact that in many areas invasive plant management is done largely by volunteers. But it is in the billions annually.





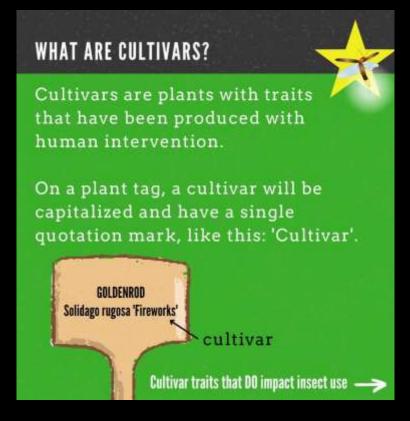
What is the deal with cultivars?

The discussion of cultivars is its own workshop! Here's a few quick things to know.

Using them or not is not black and white. Many native cultivars are wild "selections". You'll know it's a cultivar if there is a name in ' after the species name like Monarda didyma 'Jacob Cline'.





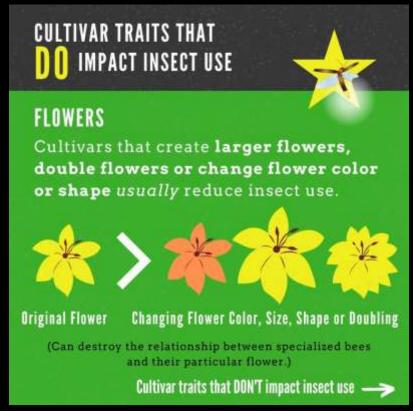


Tip: The Mount Cuba Center has conducted countless cultivar trials https://mtcubacenter.org.

Avoid cultivars where the bloom has been significantly altered or made sterile, and where leaves have been changed to dark tones.

Cultivars where the main change is size, fall color, or disease resistance still maintain insect benefits.







Note: Most cultvars are propagated clonally so don't have much species variation.

# Tale of Two Inkberries!

Ilex Glabra (Straight Species Inkberry) growing in its natural form in our wild areas. Suckering, spreading and ranging from 1 foot to 10 feet tall!



Cultivar Ilex Glabra 'Compacta'

Cultivar Ilex Glabra 'Nigra'



When can I clean up?

Ask WHY and WHAT, not WHEN!



Does my yard really make a difference?

Critics, vested interests and doubters say no. But Scientists and studies emphatically say YES!





Landscaping choices matter! They matter so much that some places (unfortunately not here yet) actually incentivize homeowners to make positive changes!





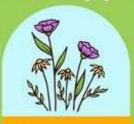
Apply for up to \$500\* to upgrade your yard!



We'll reimburse you for these water-friendly projects:







Native Plants Promotes healthy ecosystems



Rain Barrels
Collects & conserves
rainwater

\*Reimbursements are provided on a first come, first served basis

 Use the QR Code to learn more about program requirements and eligibility, or visit: https://neiwpcc.org/long-island-garden-rewards-program/.









All across the country communities and challenges are popping up to help build community resiliency through better landscape practices.

Consider Joining In the Fun!
The #LessLawnMoreLife
Across America Challenge
kicks off May 1st and is free,
fun, and full of great
information and celebrity
appearances.

Stay connected to Prickly Ed's on Social Media where we will be following along with the weekly challenges and encouraging our region to really show up.









Reality Check Before We Move to Questions. Your yard matters! But your voice outside your yard matters too!

## Here are a few Rhode Island Landscape Facts:

Turf grass sod is our largest agricultural crop

There are 4,673
Landscaping
Businesses in
Rhode Island with
a Market Value of
\$797 million and
it is slated to
continue growing

There is no economic reason for this industry to change course until consumers demand something different.

#### Links to a few of the organizations discussed during the presentation!

PERFECT EARTH PROJECT <a href="https://perfectearthproject.org/">https://perfectearthproject.org/</a>

QUIET CLEAN RHODE ISLAND <a href="https://quietcleanri.org/">https://quietcleanri.org/</a>

BARRINGTON RESILIENCY GARDEN https://www.barrington.ri.gov/477/Resilience-Garden-at-Barrington-Governme

BARRINGTON POLLINATOR PATHWAY <a href="https://www.blct.org/more-about-us/pollinator-pathways/">https://www.blct.org/more-about-us/pollinator-pathways/</a>

AUDUBON SOCIETY OF RHODE ISLAND – TRANSFORMING THE LANDSCAPE <a href="https://asri.org/pollinatorsymposium/event-information.html">https://asri.org/pollinatorsymposium/event-information.html</a>

The Humane Gardener <a href="https://www.humanegardener.com/">https://www.humanegardener.com/</a>