

PLANT THIS NOT THAT

EASTERN-US NATIVE ALTERNATIVES
FOR COMMON GARDEN PLANTS

By Max Eber



Why Native Plants?

Don't all shrubs, trees and flowers help wildlife?

-Yes... and no. Not all introduced garden plants help our native wildlife the way they need. Some wildlife do not recognize them as useful compared to the species they evolved alongside here in North America. Some common garden landscape plants like ginkgo trees while they make for excellent, no-care ornamentals are basically living statuary with limited to no wildlife value.

THIS IS IMPORTANT TO CONSIDER WHEN:

- In the US there are 111 million acres of designated wilderness left for wildlife. That's a little over 5% of the total U.S. land mass, most of which is in Alaska. It's just 2% of all land across the lower 48 states. The rest is all developed as cities, farms, suburban residential, and commercial spaces with forest and "wild" areas speckled in between. (wilderness.org)

Of that developed 95% the US:

- Has about 4 million+ miles of asphalt roads. Not including 3,590+ square miles of parking lots.

(<https://www.artba.org/government-affairs/policy-statements/highways-policy/>)

-40 million acres of turf grass in the U.S., covering 1.9% of the land.

Most of this was more wilderness, cultivated native space by Native Americans or more wildlife friendly family farms just 250-100 years ago or less. By replacing remaining native spaces with cultivated non-native plants, we're further breaking up habitats and reducing availability of host plants. Non-native plants can become invasive and escape into the wild further displacing and destroying remaining small pockets of native flora.



MONARCH BUTTERFLY

What's at stake?

Due to lack of native plants, invasive garden escapees, pesticides and herbicides our birds, butterflies, bats and beneficial insect populations are crashing. Remember your car grill? Check it this summer.

Monarch butterflies have declined by 80 percent over a 20-year average since the 70s and 80s due to deforestation in Mexico and the US border and lack of milkweed, it's host wildflower in the US.

(https://www.biologicaldiversity.org/species/invertebrates/monarch_butterfly/index.html)

Wild bee abundance show declines of roughly 23 percent across the U.S. from 2008 to 2013 and up to 90% depending on species.

<https://www.smithsonianmag.com/smart-news/new-map-highlights-bee-population-declines-across-us-180962268/>

The number of birds in the United States and Canada have declined by 3 billion, or 29 percent since 1970

(<https://news.cornell.edu/stories/2019/09/nearly-30-birds-us-canada-have-vanished-1970>)

This is on top of 365 to 988 million birds dying from crashing into windows due to light pollution annually in just the US..

(<https://www.washingtonpost.com/national/health-science/stop-blaming-cats-as-many-as-988-million-birds-die-annually-in-window-collisions/>)

Eastern Forest Birds

170
MILLION
EASTERN FOREST BIRDS
LOST SINCE 1970



-17%
POPULATION
LOSS IN EASTERN
FOREST BIRDS
SINCE 1970

6 IN 10
WOOD
THRUSHES LOST
SINCE 1970



the Cornell Lab of Ornithology. Source: Science, 2019

Wood Thrush by Peter Kennerley/Macaulay Library, Eastern Forest by Nicholas Tonelli/Creative Commons

Migratory Birds

2.5
BILLION
MIGRATORY BIRDS
LOST SINCE 1970

2 IN 5
BALTIMORE ORIOLES
LOST SINCE 1970



-28%
POPULATION LOSS
IN MIGRATORY
BIRD SPECIES
SINCE 1970



Courtesy of the Cornell Lab of Ornithology. Source: Science, 2019

Baltimore Oriole by Gary Mueller/Macaulay Library, Forest by Nicholas Tonelli/Creative Commons

Yikes that's scary!

What Can We Do?

Immediate results to help wildlife:

- Stop broadly spraying insect foggers and insecticides, including systemic insecticides found in certain 3-in-1 plant and lawn fertilizers and fungicides. Stop broadly spraying herbicide. Always read labels and use alternative natural or controlled methods such as painting herbicide to stump application.

- Do not plant possible host plants treated with systemic insecticides. Ask every commercial nursery you purchase from if they utilize systemics on their plants.

- Keep fallen leaves and some sticks on the ground each fall or keep chopped leaves in loose piles to provide cover.

- Reduce turf grass by connecting solo trees and shrubs into larger habitat beds (more on this later).

- Reduce light pollution and install bird-saving crash deterrents. Install bird and bat houses in proper locations.

- Petition for more natural spaces, preserves, and concrete removal for tree plantings along streets from local HOA and county governments. Encourage environmental initiatives.

- Consider buying a hybrid or totally electric car or utilizing public transport if possible.

And above all:



and...above all:



If you ~~build~~ **PLANT** it,
they will come

BUT FIRST: SOME BAD GUYS



PORCELAIN BERRY



BITTERSWEET



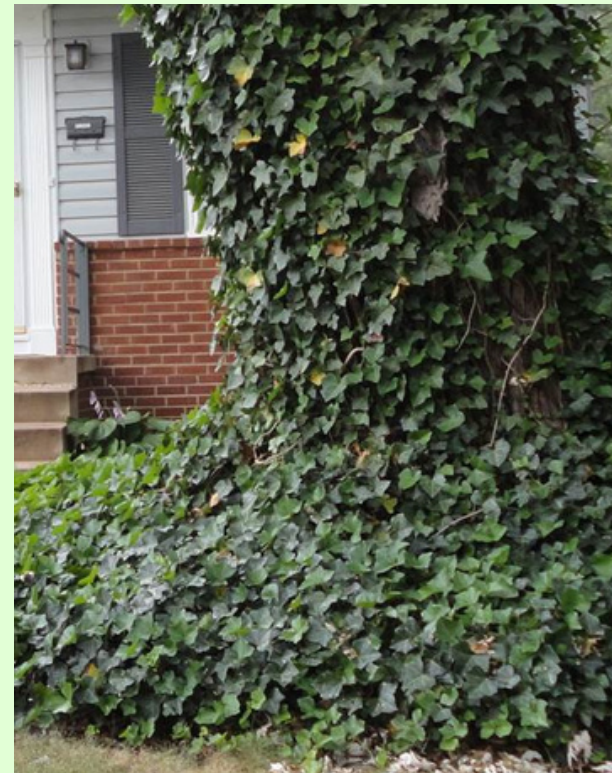
STILTGRASS



KNOTWEED



LESSER CELANDINE



ENGLISH IVY



HONEYSUCKLE



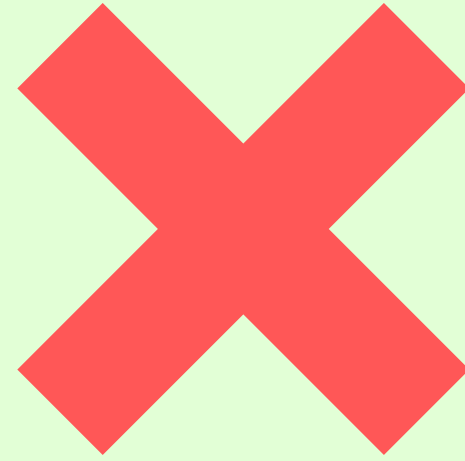
MILE-A-MINUTE

DONT PLANT:

WINGED BURNING BUSH
(EUONYMUS ALATUS)

JAPANESE BARBERRY
(BERBERIS THUNBERGII)

HEAVENLY BAMBOO
(NANDINA DOMESTICA)



DO PLANT:

ARONIA
(A. ARBUTIFOLIA A. MELANOCARPA)
'Autumn Magic' 'Brilliantissima',
'Low-Scape Mound*', 'Hedger*'

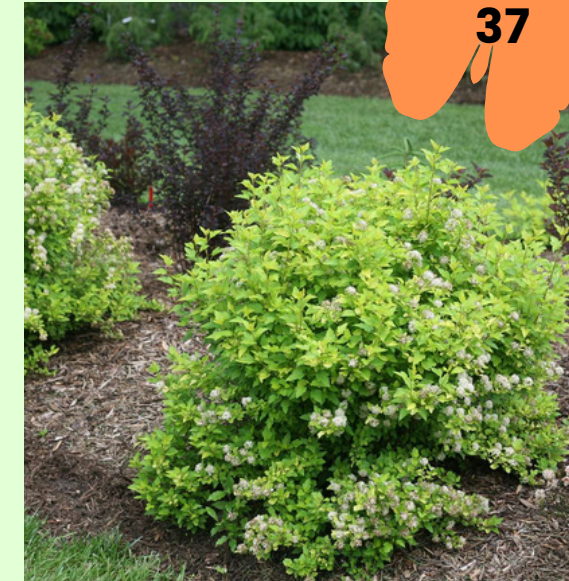
NINEBARK
(PHYSOCARPUS OPULIFOLIUS) '
'Tiny Wine', 'Amber Jubilee', 'Dart's Gold'

DOGHOBLE / FETTERBUSH
(LEUCOTHOE AXILLARIS, FONTANESIANA)
'Scarletta', 'Rainbow', 'Rejoyce'

VIRGINIA SWEETSPIRE
(ITEA VIRGINICA)
'Little Henry' 'Garnet' 'Merlot'

FRAGRANT SUMAC
(RHUS AROMATICA) 'Gro-Low', 'Lacette'

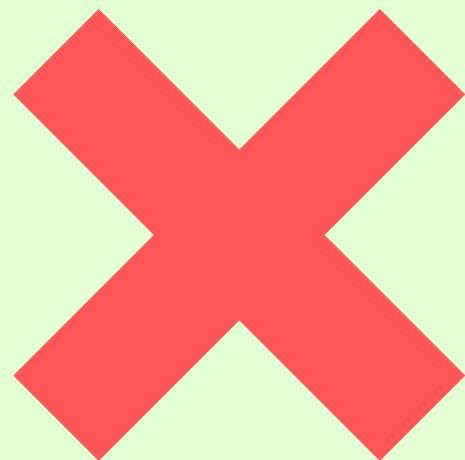
VIBURNUM
NUDUM, LENTAGO, PRUNIFOLIUM, DENTATUM



DONT PLANT:

BUTTERFLY BUSH
(BUDDLEIA DAVIDII)

JAPANESE SPIREA
(SPIRAEA JAPONICA)



DO PLANT:

ANISE HYSSOP
(AGASTACHE) 'Blue Fortune' 'Black Adder'
'Dark Towers' 'Purple Haze'

BUTTON BUSH
(CEPHALANTHUS OCCIDENTALIS)

MEADOWSWEET, STEEPLEBUSH
(SPIREA ALBA VA. LATIFOLIA, TOMENTOSA)

CULVER'S ROOT
(VERONICASTRUM VIRGINICUM)
'Lavender Towers'

CLEThERa, SUMMERSWEET
(CLEThERa ALNIFOLIA)
'Hummingbird' 'Sixteen Candles', 'Ruby
Spice'

SMOOTH HYDRANGEA
(HYDRANGEA ABORCENS 'HAAS HALO')

ST. JOHNS WORT
(HYPERICUM DENSIFLORIUM, PROLIFICUM)



DONT PLANT:

BOXWOOD
(*BUXUS SEMPERVIRENS*)

PRIVET
(*LIGUSTRUM*)

AUTUMN/RUSSIAN OLIVE
(*ELAEAGNUS UMBELLATA*,)
(*ELAEAGNUS ANGUSTIFOLIA*)

SKIP LAUREL
(*PRUNUS LAUROCERASUS*)

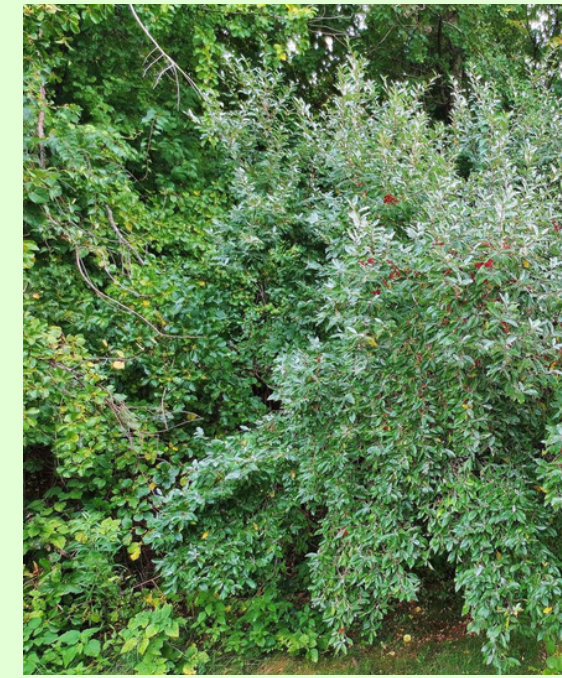
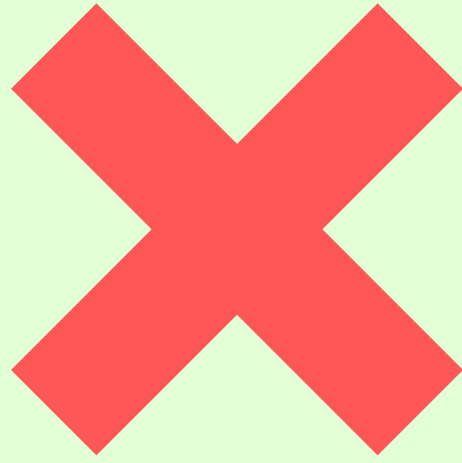
DO PLANT:

INKBERRY HOLLY
(*ILEX GLABRA*)
'Shamrock', 'Nigra', 'Nana', 'Gembox',
'Strongbox'

BAYBERRY
(*MYRICA/MORELLA PENNSYLVANIA*)

WAX MYRTLE
(*MYRICA /MORELLA CERIFERA*)

DOGHOBBLE / FETTERBUSH
(*LEUCOTHOE AXILLARIS, FONTANESIANA*)
'Scarletta', 'Rainbow', 'Rejoyce'



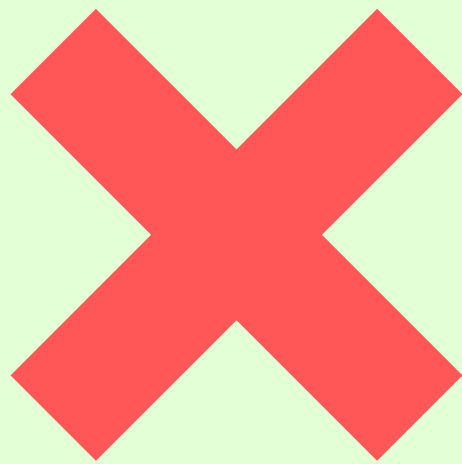
DONT PLANT:

HONEYSUCKLE
(*LONICERA JAPONICA*)

ENGLISH IVY
(*HEDRA HELIX*)

JAPANESE, CHINESE WISTERIA
(*WISTERIA FLORIBUNDA/SINENSIS*)

SWEET AUTUMN CLEMATIS
(*CLEMATIS TERNIFLORA*)



DO PLANT:

TRUMPET HONEYSUCKLE
(*LONICERA SEMPERVIRENS*)

MAYPOP / PASSIONFLOWER*
(*PASSIFLORA INCARNATA*)

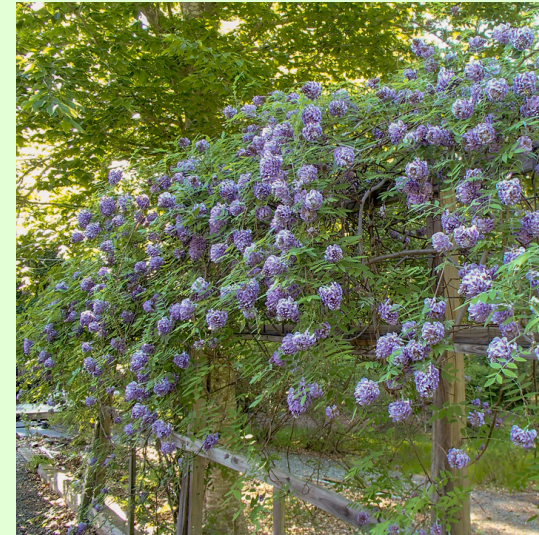
AMERICAN WISTERIA*
(*WISTERIA FRUTESCENS*)

DUTCHMAN'S PIPE*
(*ARISTOLOCHIA MACROPHYLLA, TOMENTOSA*)

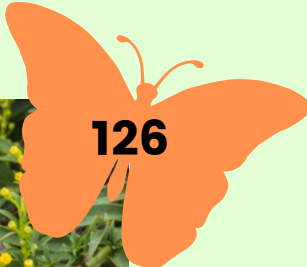
TRUMPET VINE*
(*CAMP SIS RADICANS*)

VIRGINIA CREEPER*
(*PARTHENOCISSUS QUINQUEFOLIA*)

VIRGIN'S BOWER*
(*CLEMATIS VIRGINIANA*)



POLLINATOR PARADE:



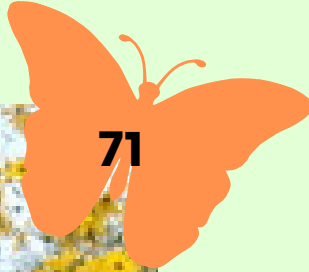
**GOLDENROD,
SOLIDAGO**



**MOUNTAIN MINT,
PYCNATHEMUM**



**VERONIA
NOVEBORACENSIS**



HELIANTHUS



**LOBELIA
CARDINALIS, SIPHILITICA
(SPECIES , 'Black Truffle')**



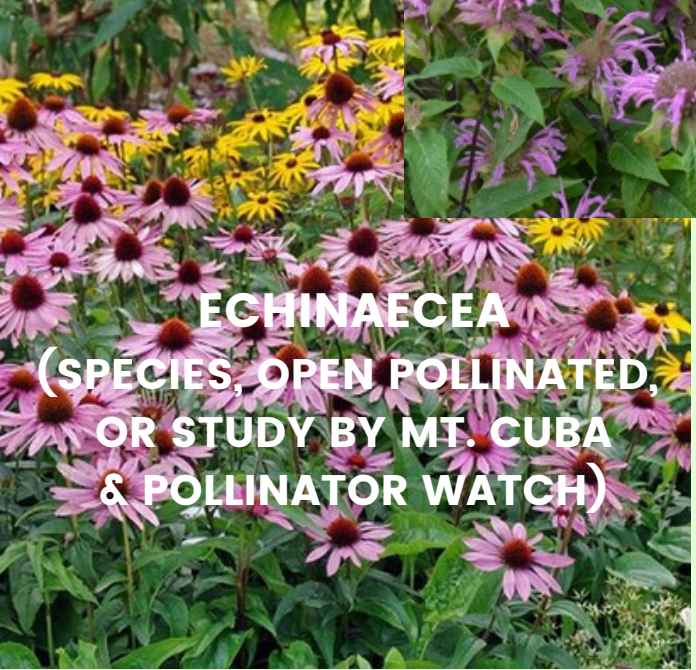
**MONARDA FISTULOSA
'Claire Grace'**



**BONSET,
EUPATORIUM*
(EUTROCHIUM)
Eupatorium perfoliatum**



**ASTER*
(SYMPHYOTRICHUM)**



**ECHINAECEA
(SPECIES, OPEN POLLINATED,
OR STUDY BY MT. CUBA
& POLLINATOR WATCH)**



LIATRIS



*Also good replacements for butterfly bush!!!

BUTTERFLY MAGIC



435

**CHOCKECHERRY,
PRUNUS VIRGINIANA VAR
VIRGINIANA**



386

**WILLOW,
SALIX**



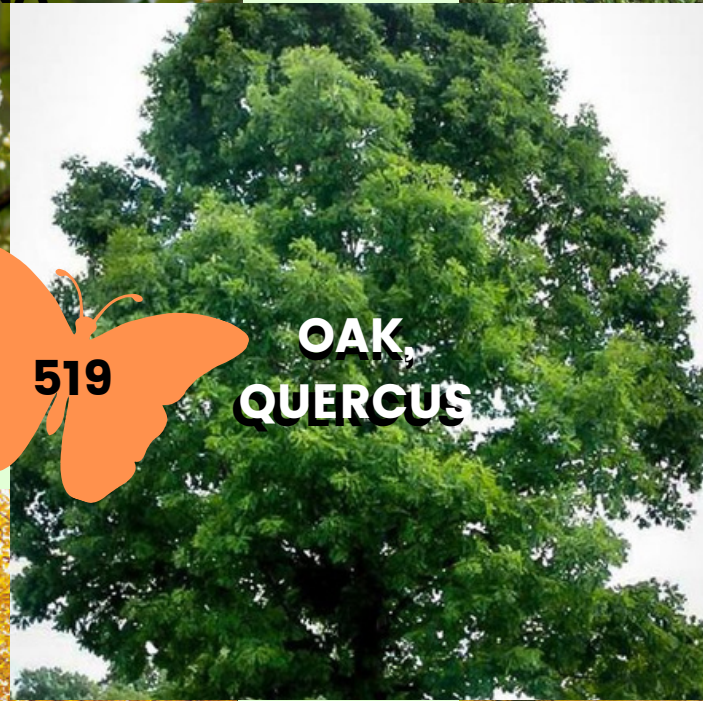
32

**VIOLETS,
VIOLA**



28

**LUPINE,
LUPINUS
LUPINUS PERENNIS
LINNAEUS VAR. GRACILIS**



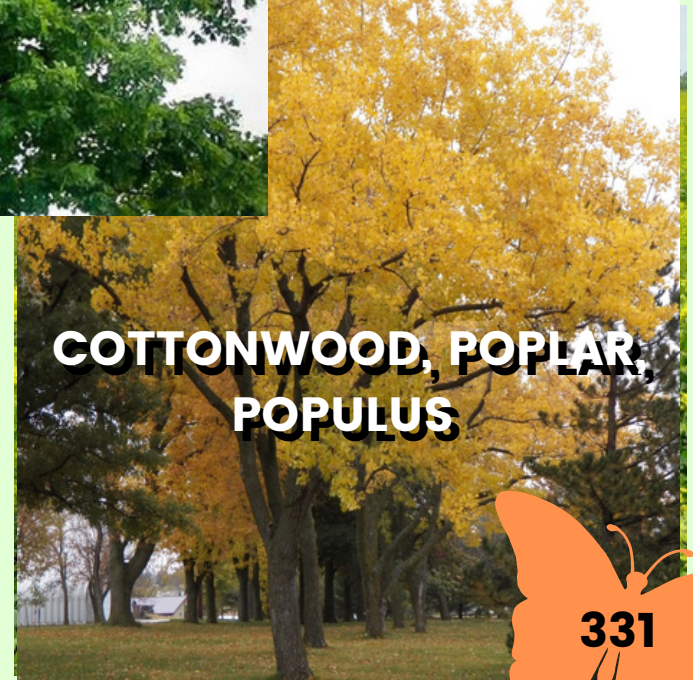
519

**OAK,
QUERCUS**



**BIRCH,
BETULA**

381



**COTTONWOOD, POPLAR,
POPULUS**

331



77

**STRAWBERRY,
FRAGARIA VIRGINIANA,
VESCA**



**HIBISCUS, ROSE MALLOW
HIBISCUS LAEVIS**

26



**GERANIUM,
GERANIUM CAROLINIAUM,
ROBERTIANUM,
MACULATUM**

27

MORE BUTTERFLY MAGIC



TULIP POPLAR,
LIRIODENDRON
TULIPIFERA



MILKWEED,
BUTTERFLY WEED,
ASCLEPIAS,



CHELONE GLABRA,
TURTLEHEAD



PAW PAW,
ASIMINA



281

BLUEBERRY,
VACCINIUM



SPICEBUSH,
LINDERA BENZOIN

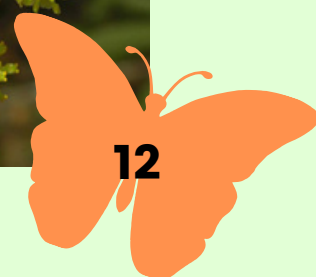


25

PANICUM,
SWITCHGRASS



SPICEBUSH,
LINDERA BENZOIN



12



GOLDEN ALEXANDER
ZIZIA AUREA,



CASSIA MARILANDICA
CASSIA HEBECARPA,
SENNA



ANTENNARIA NEGLECTA,
PUSSYTOES

Grass By Another Name...

Carex and Sequestering Lawns

Americans love lawns. But lawns are hurting wildlife by taking up space and use of harmful chemicals and poisons to maintain them. Removing lawn and replacing with native environments is key – but removing lawn can be hard, where do you even start to reduce? Problem areas of lawn on your property that struggle or are not walked on, especially in wetter or shady locations and in-between singular separate trees and shrubs should be the first places to consider when taking steps to reduce lawn coverage.

Encircle separate trees and shrubs or map out unused space with a hose, rope, or chalk into new garden beds (formal ovals, circles or rectangles or informal organic shapes), then tear out or smother all sod inside . If nearly empty already, add organic material. The new beds can then be planted with additional native shrubs, perennials, providing instant habitat and new garden borders for the property.

If the appearance of lawn is important, due to neighborhood HOA rules or personal preference most not walked on lawn sod can also be replaced with **carex**.

Carex, a grass-like perennial also known as sedge, when used en masse can simulate turf grass without the care and chemicals of lawn upkeep and mowing. Various species are considered semi-evergreen to evergreen and have many different textures, leaf shapes and even colors, making a few species a replacement for non-native liriope ground cover too. Various carex can be blended together either naturally or in formal designs along with other short native grasses to create modern grass borders, especially for partial shade. Most carex only need to be sheared once a year in spring – making them truly low care!

-All carex do bloom, providing food for pollinators, especially the native butterflies, mostly skippers, which use the plants as hosts. Carex pensylvancia, shown to the right, can host 36 species of caterpillars alone!

- Consider petitioning HOA's and or neighborhoods and main street improvement committees and garden clubs to move towards utilizing carex for public plantings.



RESIST MONOCULTURES: HEDGEROWS

Arborvitae hybrids of native *Thuja occidentalis*, *Thuja plicata*, and non-native Asian hybrids have become extremely common for property lines and screening, often replacing old hardwoods and pines. They are cheap, grow fast, are tall, and are evergreen. Overall solid plants. However, they are turning into monocultures posing risks for disease if one arises and are taking up space where biodiversity could be higher.

Non-invasive, they are not necessarily problem plants, but a better more sustainable method of screening and an easy way to incorporate more biodiversity into a property is to plan staggered alternating hedgerows of a few species of trees and shrubs two to three or more rows deep with each row increasing in height.

Depending on needs it could even include tall grasses and perennials. An effective hedgerow could conceivably include arborvitae, especially towards the back but it shouldn't be the only tree utilized. While potentially more expensive upfront due to more species utilized, staggering your plants of any actually creates a denser, lush appearance and provides more cover for wildlife. It also does not have to "look" wild, you can plant formal patterns too, repeating or mirroring particular combinations.

EVERGREEN & SEMI-EVERGREEN TREES AND SHRUBS FOR SCREENING:

- RED CEDAR, JUNIPERUS VIRGINIANA; straight species can be variable and be seen as weedy but it has high wildlife value. Has many cultivars in a variety of colors and sizes for many uses, some comparable arborvitae and or cypress replacements. Plant female cultivars for blue winter berries. Do not plant near apple trees.
- PINES: WHITE PINE, PINUS STROBUS. VIRGINIA PINE, PINUS VIRGINIANA,
- BALD CYPRESS, TAXODIUM DISTICHUM, OR POND CYPRESS, TAXODIUM ASCENDENS: Lacy light shade casting conifers but loses their needles in winter.
- AMERICAN HOLLY, ILEX OPACA: Classic Christmas holly. Plant female cultivars for berries and males for pollination.
- SWEETBAY MAGNOLIA, MAGNOLIA VIRGINIANA : Smaller semi-evergreen to evergreen magnolia with silver undersides to leaves.
- SOUTHERN MAGNOLIA, MAGNOLIA: Classic southern plant.
- NORTHERN BAYBERRY & WAX MYRTLE, MYRICA (MORELLA) PENNSYLVANICA, MYRICA (MORELLA) CERIFERA

DECIDUOUS

Any of the mentioned deciduous hardwood trees and shrubs presented in earlier slides would work well but also :

- | | | |
|---------------------------------|---|--|
| - VARIOUS MAPLES, ACER | - AMERICAN HAZELNUT, CORYLUS AMERICANA | - PERSIMMON, DIOSPYROS VIRGINIANA |
| - TILIA | - REDBUD, CERCIS | - AMERICAN WITCH HAZEL, HAMAMELIS VIRGINIANA |
| - BLACK TUPELO, NYSSA SYLVATICA | - DOGWOOD, CORNUS (Var. trees & shrubs) | - SWEETGUM, LIQUIDAMBAR STYRACIFLUA |
| - HICKORIES, CARYA | - ELDERBERRY, SAMBUCUS | - SERVICEBERRY, AMELANCHIER CANADENSIS |
| - SOURWOOD, OXYDENDRUM ARBOREUM | - BEECH, FAGUS GRANDIFOLIA | - GREEN HAWTHORN, CRATAEGUS VIRIDIS |

RESOURCES

Databases & Other Reference Links

University of Maryland Extension
www.extension.umd.edu

Center for Biological Diversity
www.biologicaldiversity.org

Native Plant Finder (BETA)
www.nwf.org/NativePlantFinder (use nearby PA zipcode)

Maryland Native Plant Society
www.mdflora.org

Missouri Botanical Garden Plant Finder:
www.missouribotanicalgarden.org/plantfinder

Maryland Biodiversity Project
www.marylandbiodiversity.com

Baltimore Tree Trust
www.baltimoretreetrust.org

Maryland Plant Atlas
www.marylandplantatlas.org

North Carolina Extension Gardner Plantbox:
www.plants.ces.ncsu.edu

Direct Native Plants
www.directnativeplants.com

Izel Native Plants
www.izelplants.com

Kollar Nursery
www.kollarnursery.com

Clear Ridge Nursery
www.clearridgenursery.com

Herring Run Nursery & Blue Water Baltimore
www.bluewaterbaltimore.org/herring-run-nursery

Chesapeake Natives Inc.
www.chesapeakenatives.org

Adkins Arboretum
www.adkinsarboretum.org/nursery/plant_sale.html

The Elms Native Plant Nursery
sites.google.com/smcps.org/elmsenvironmental/native-plant-nursery?authuser=0

Schott Nurseries
www.schottnurseries.com

Lauren's Garden Service Native Plant Nursery
www.laurensgardenservice.com/native-plant-infomation-and-shopping/