

# Re-thinking the Lawn

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*If half the American lawns were replaced with native plants, we could create the equivalent of a 20 million acre national park – nine times bigger than Yellowstone, or 100 times bigger than Shenandoah National Park.*

-Doug Tallamy



# Lawn in America: The Facts

- Over 40 million acres of some version of turfgrass/lawn in the U.S.
  - 1.1 million acres in MD
- **Largest crop in the U.S.**
  - Surpasses corn and soybean
- 2% of the land in the continental U.S.
  - 20% of area in MA & NJ
  - 10% of area in DE
- \$667 million on turfgrass maintenance/year (MD)
- Lawn irrigation takes average of 8 billion gal of water/day

# Lawn in America

- Disproportionate use of fertilizers, water, and chemicals
- *Some* absorption of runoff and carbon from atmosphere
- Percentage of true use?
- Reduced vs. Eliminate



# Lawn in America: History

- Status symbol of the American landscape
  - “Look good to feel good”
- History
  - Early 1600’s- pasture & grazing (early colonial)
  - Borrowed status symbol (Europe, Mount Vernon, Monticello)
  - Early 1800’s- First lawnmower!
  - 1870’s- Suburbs begin with large areas (inspired by parks like Central Park)
    - *The Art of Beautifying Suburban Home Grounds*
  - 1871- The first garden hose for irrigation & boom of industry
  - 1920’s- Golf becomes popular



[WhiteHouse.gov](https://www.whitehouse.gov), whitehouse.gov cites the Library of Congress

# Lawn in America: History

- 1950's
  - Large spike in lawn care articles for popular magazines
  - Post WW2 lawn boom (fertilizers & better technology)

- Video:

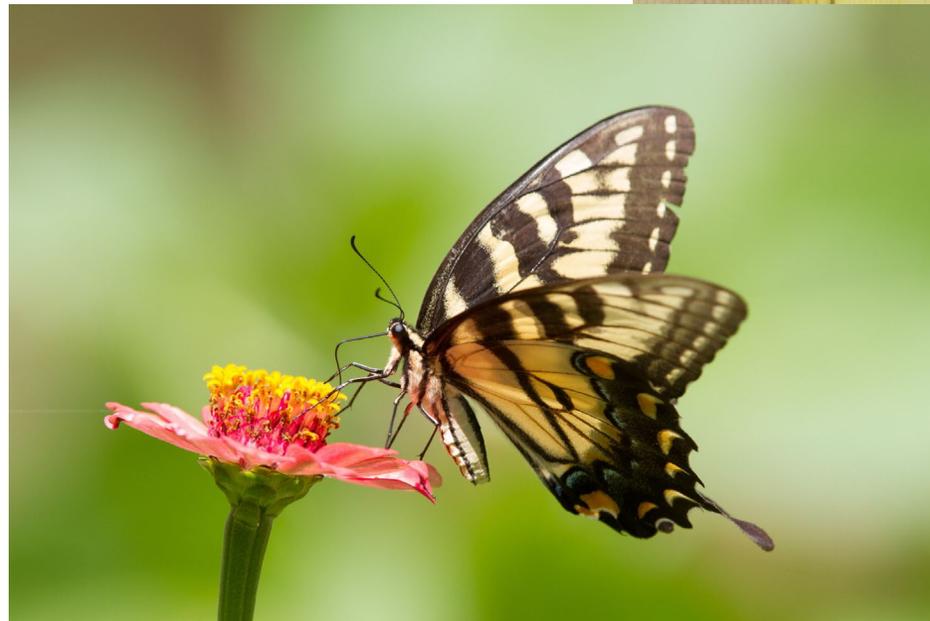
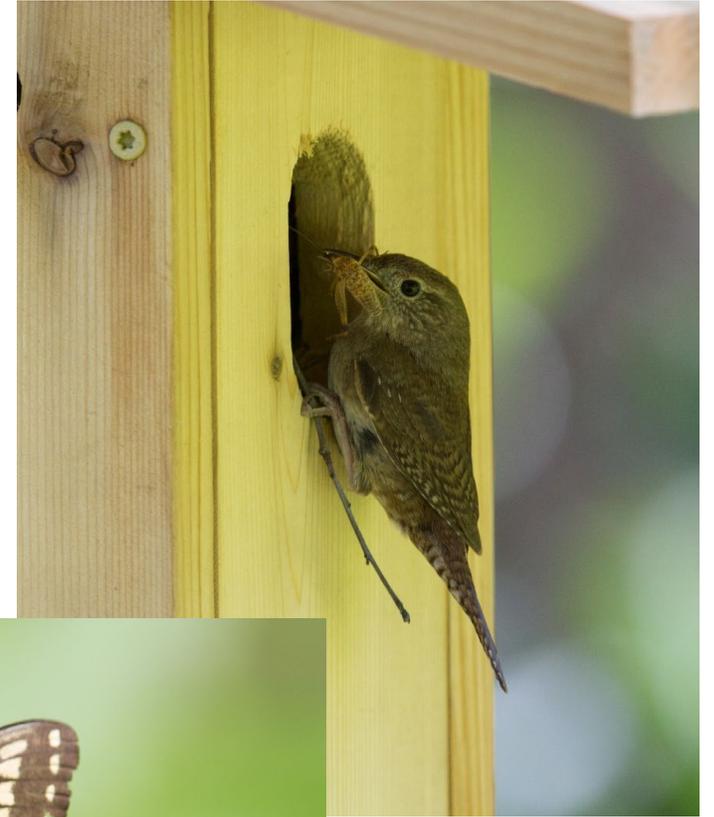
<https://www.nytimes.com/2019/08/09/video/lawn-grass-environment-history.html>



sallyedelsteincollage.com

# Reasons to Re-Think:

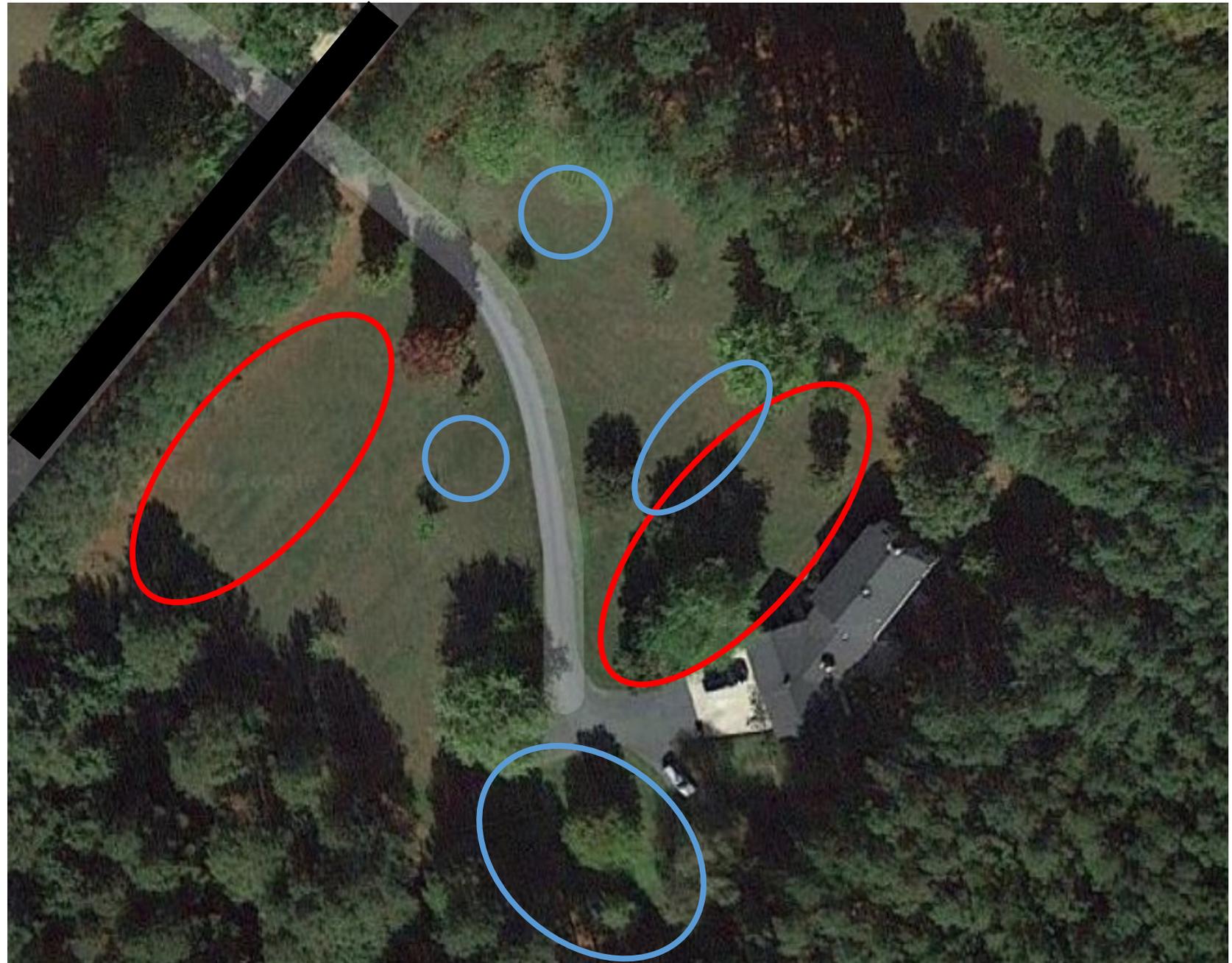
- Ecological desert
- Repurpose area
  - Vegetable garden
  - Natural area
- Wildlife habitat
  - Pollinators
  - Mammals
  - Birds
- Climatic changes
- Unsuitable areas for turf
- Time & \$\$\$



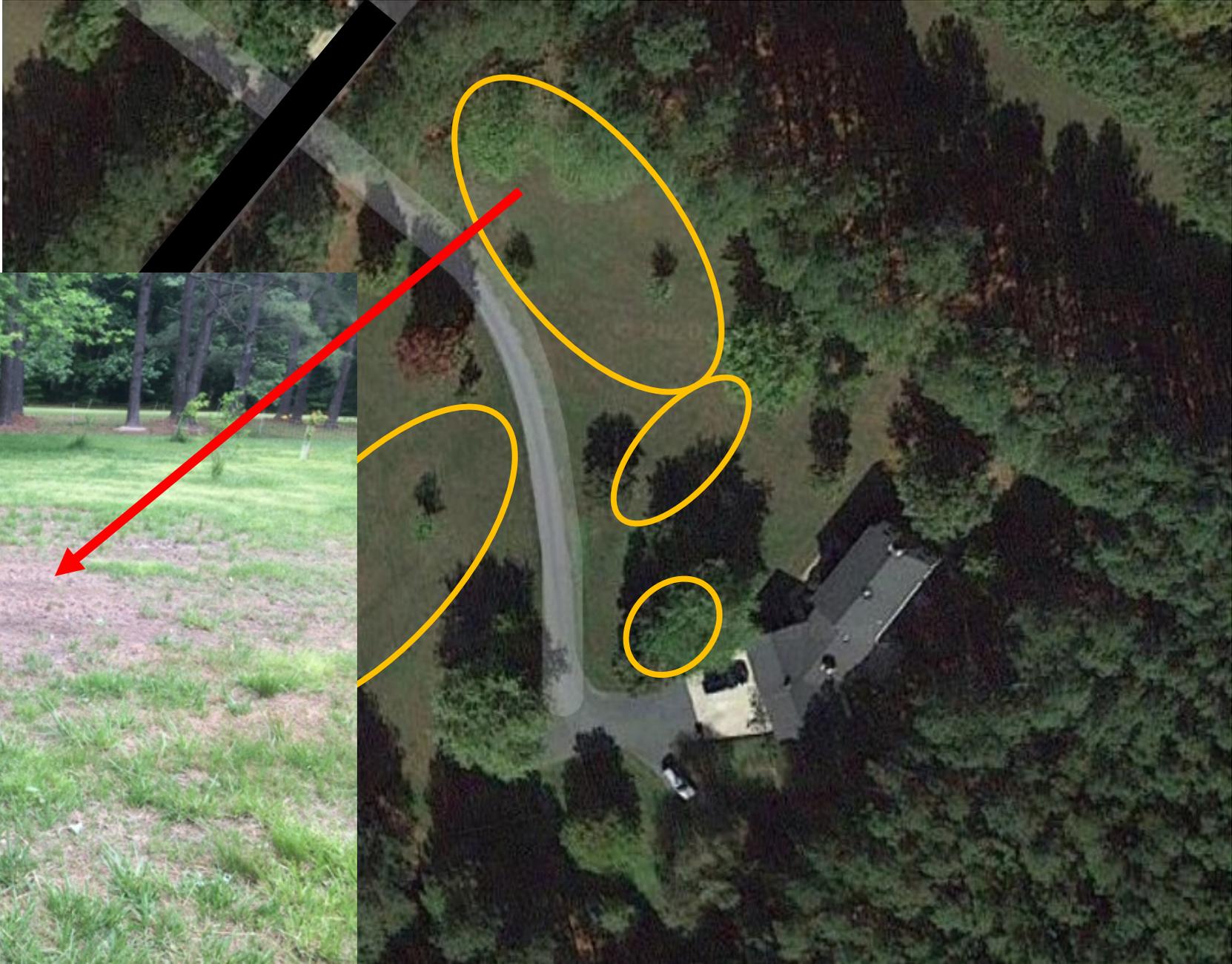
# Evaluate Your Use:

Areas of high traffic or  
use, grass is necessity

Wet areas, locations  
of gathered water



Evaluate  
Your Use:



# Think of Goals:

- Reduce mowing
- Increase wildlife habitat
- Maintenance
  - Reduce mowing
  - No more mowing?
- Erosion/bare soil concerns
  - Steep slopes
  - Too shady
  - Tree roots
- Beauty
- Screening





# Alternatives to Turf:

Alternative Option	Level of Effort/Maintenance	Best for:
Groundcovers (low growing perennials or annuals <1' tall)	Medium- initial effort	Bare spots, erosion control, shady areas, under trees
Meadows (mixed flowering forbs/grass habitat)	Medium to High	Larger areas of former lawn with plenty of sun; could work for medium sized areas as well
Garden bed/Rain garden	Medium- high initial, moderate long-term	Wet spots, rain gardens, small grassy areas difficult to mow
Trees/shrubs (reforestation)	Low	Those interested in reforestation, visual screens or barriers

[Home and Garden Information Center:  
https://extension.umd.edu/hgic/topics/lawn-alternatives](https://extension.umd.edu/hgic/topics/lawn-alternatives)





# Alternatives to Turf:

- In most cases, native plant species are better adapted to site conditions
- Ornamentals with high wildlife value may help, but a 70/30 mix of native to non-native has higher benefit
  - Avoid invasive non-native species
- Choose native plants with multi-species and multi-seasonal benefits

Complete list available at: <https://www.tulsaadubon.org/nativegardening>  
Information courtesy of Doug Tallamy ([www.bringingnaturehome.net](http://www.bringingnaturehome.net))





# Host Plants

Host Plant	Insect
Milkweed- <i>Asclepias</i> spp.	Monarch butterfly
Spicebush- <i>Lindera benzoin</i>	Spicebush swallowtail butterfly
Carrot family (carrot, dill, fennel, etc.)	Black swallowtail butterfly
Pawpaw- <i>Asimina triloba</i>	Zebra Swallowtail
Turtlehead- <i>Chelone glabra</i>	Baltimore Checkerspot Butterfly
Passionflower vine- <i>Passiflora incarnata</i> ; Mayapple- <i>Podophyllum peltata</i>	Variegated Fritillary



\*Note: Host plants are specific to caterpillar and egg stage

# Ground Cover for Erosion Control

Common Name	Genus	Species
Plantain-leaved pussytoes	<i>Antennaria</i>	<i>plantaginifolia</i>
Allegheny foamflower	<i>Tiarella</i>	<i>cordifolia</i>
Golden groundsel	<i>Packera</i>	<i>aurea</i>
Wild ginger	<i>Asarum</i>	<i>canadense</i>
Green-and-gold	<i>Chrysogonum</i>	<i>virginianum</i>
Allegheny pachysandra	<i>Pachysandra</i>	<i>procumbens</i>
Fragrant sumac	<i>Rhus</i>	<i>aromatic</i>
Creeping phlox	<i>Phlox</i>	<i>stolonifera</i>
Moss phlox	<i>Phlox</i>	<i>subulata</i>
Mayapple	<i>Podophyllum</i>	<i>peltatum</i>
Blue-eyed grass	<i>Sisyrinchium</i>	<i>angustifolium</i>

# Techniques for Turf Removal

## Physical

- Shovel/scrape (small spaces)
- Sod stripper
  - Rental
- Burn/scorch
- Smother
  - Cardboard (in-place)
  - Erosion cloth (grass kill)

## Chemical

- Herbicide use
  - Organic
  - Conventional





- Layering/smother (images above)
- Torching (left)
- For more info on turf removal:  
<https://extension.umd.edu/hgic/topics/lawn-turfgrass-removal-methods>





# What I **don't** recommend:

## **Landscape Cloth**

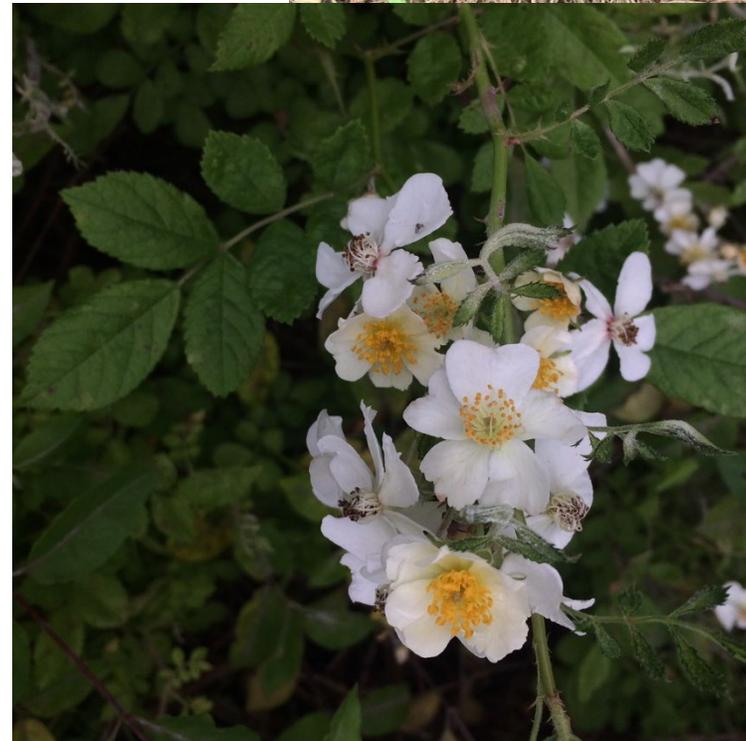
- Temporary weed suppression
  - Weeds will grow through and above cloth
- Is not biodegradable, but breaks down in use
- Damages plant roots

## **Tilling**

- Disturbs soil
- Brings up dormant weed seed to surface
- Better off layering with organic material

# Challenges

- Weeds
  - Crabgrass
  - Creeping Charlie/ground ivy
- Bermudagrass/wiregrass
- Invasive plant pressure
  - English ivy
  - Callery pear
- Replacing soil
- Unwanted wildlife
  - Snakes, ticks, etc.



# Challenges

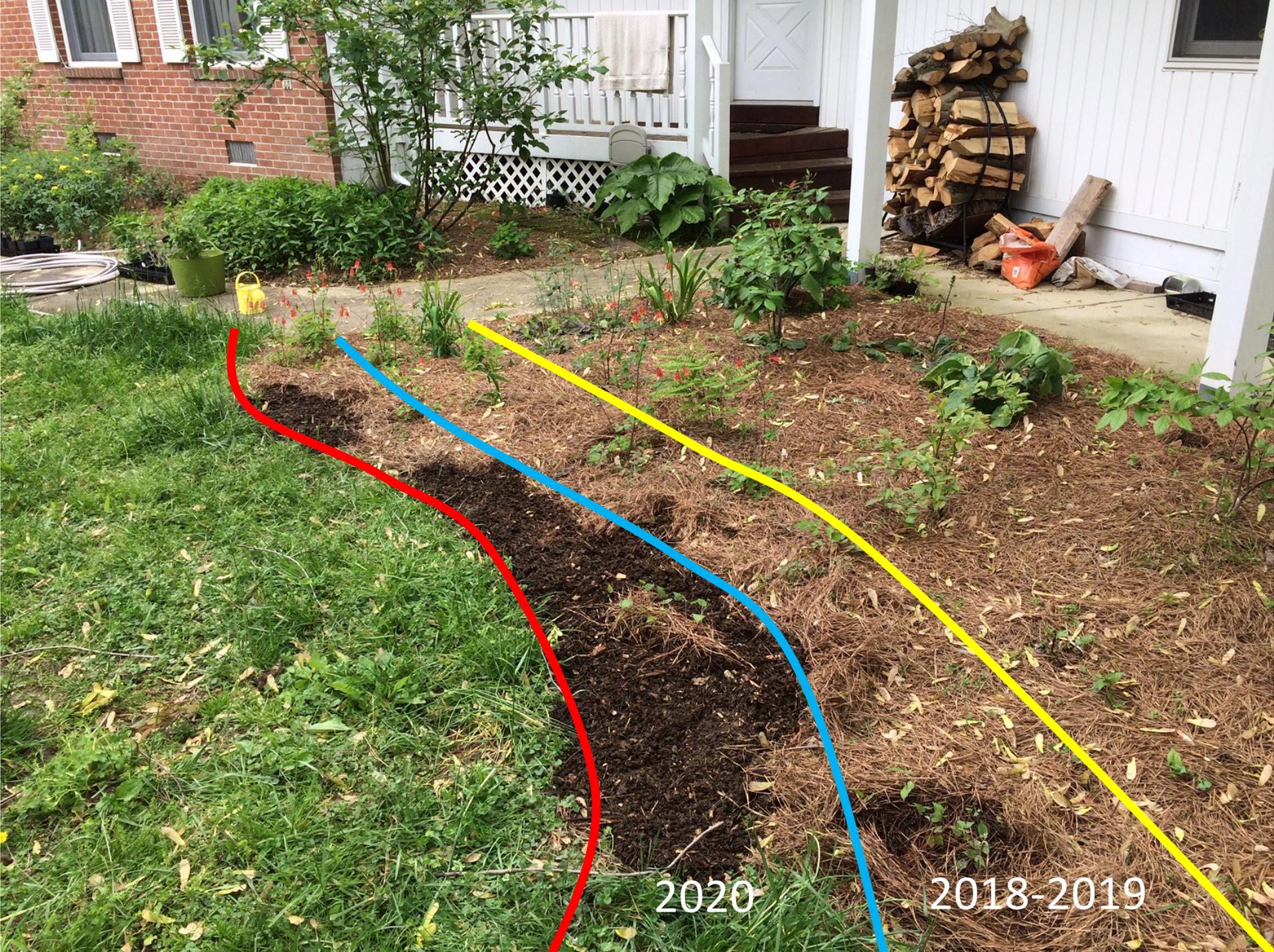
- Neighbors
- HOA/Town Code
- Social acceptance



# Set Realistic (and Satisfying) Goals:

- Start small
- **Make a plan**
- Try low investment first
- Soil test
- Discuss project with a Master Gardener or Extension professional
- Bigger projects
  - Consider contracting work
  - Equipment rental





2020

2018-2019



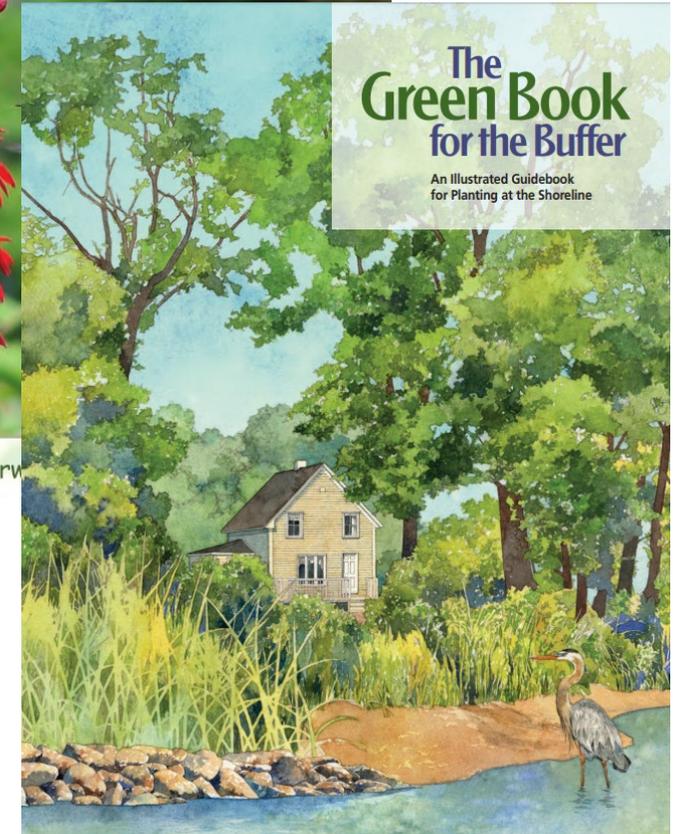
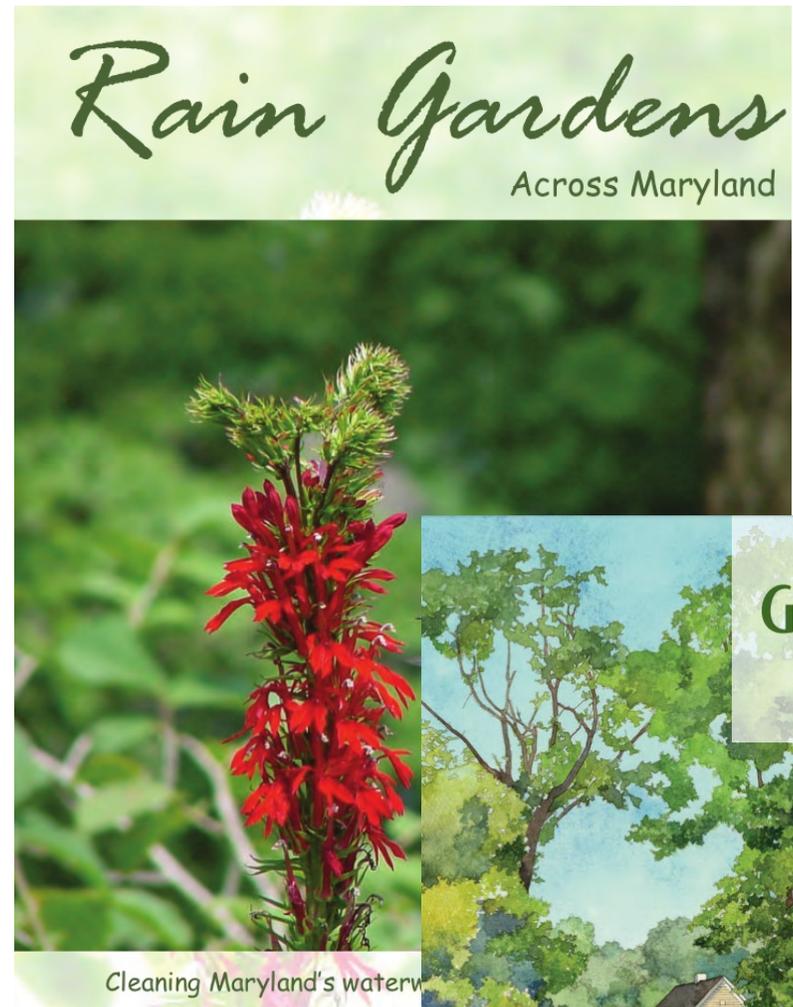
# Reap the Benefits!

- Greater biodiversity
- Less erosion
- Adding quality/aesthetics
- Reduce lawn and maintenance
- Increased habitat for pollinators and wildlife



# Resources

- [\*Rain Gardens Across Maryland\*](#) (PDF online)
- *Urban & Suburban Meadows*, Catherine Zimmerman
- *Native Plants for Wildlife Habitat & Conservation Landscaping*, USFWS (both online & booklet)
  - <http://nativeplantcenter.net>
- [\*Green Book for the Buffer\*](#)- MD DNR



# References

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- Milesi, C., Running, S.W., Elvidge, C.D. *et al.* Mapping and Modeling the Biogeochemical Cycling of Turf Grasses in the United States. *Environmental Management* **36**, 426–438 (2005). <https://doi.org/10.1007/s00267-004-0316-2>
- <https://www.businessinsider.com/americas-biggest-crop-is-grass-2016-2>
- <https://www.theatlantic.com/entertainment/archive/2015/08/the-american-lawn-a-eulogy/402745/>
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- Jenkins, Virginia (2005). *The Lawn: A History of an American Obsession*. Smithsonian Institute.

- Zimmerman, C. B (2010). *Urban and Suburban Meadows*. Matrix Media Press.
- <https://www.tulsaaudubon.org/nativegardening>
- <https://www.nytimes.com/2019/08/09/video/lawn-grass-environment-history.html>
- Audubon Society- <http://audubon.org/>
- Pollinator Partnership- <https://www.pollinator.org/>

<https://go.umd.edu/ENRTEACH>

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# Resources

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[extension.umd.edu/learn/ask-gardening](https://extension.umd.edu/learn/ask-gardening)



[marylandgrows.umd.edu](https://marylandgrows.umd.edu)

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