

Landscaping for Climate Change Webinar

Practical Solutions for Your Yard: Webinar 1 of 2

February 27, 2023



MVP
Municipal Vulnerability
Preparedness



Weston & SampsonSM

 **Mass Audubon**
Protecting the nature of Massachusetts



Landscaping for Climate Change Webinar

Notification of Recording

This meeting will be recorded. The Towns of Richmond and West Stockbridge may choose to retain and distribute the video, still images, audio, and/or the chat transcript.

By continuing with this virtual meeting you are consenting to participate in a recorded event. The recordings and chat transcript will be considered a public record. If you do not feel comfortable being recorded, please turn off your camera and/or mute your microphone.



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Landscaping for Climate Change Webinar

1. Introductions and Why We are Here
2. Nature Based Solutions for Your Yard
 - Plant native plants, why?
 - Riparian buffers
 - Build a Rain Garden
 - Rain Barrels
 - Lawn Maintenance tips
3. Questions and Answers

A close-up photograph of several pink cherry blossoms with prominent yellow stamens. The flowers are in various stages of bloom, with some showing the delicate structure of the petals and stamens. The background is softly blurred, focusing attention on the individual flowers.

Introductions

Dale Abrams, Mass Audubon

Alison Dixon, Housatonic Valley Association

Joanna Nadeau, Weston and Sampson

Climate Change Preparedness Funded by the MVP Program

Municipal Vulnerability Preparedness (MVP) Grants assist Massachusetts towns and cities to address climate change.

<https://resilientma.mass.gov/mvp/>

Provided through the Executive Office of Energy and Environmental Affairs



MVP

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Local MVP Activity

- **Richmond's MVP Plan-HMP update (2021)**
- **Joint MVP Action Grant for Resilient Stormwater Action Plan (by June 2023)**
- **West Stockbridge updating HMP for designation as MVP Community (by June 2023)**



Project Context: Stormwater Problems



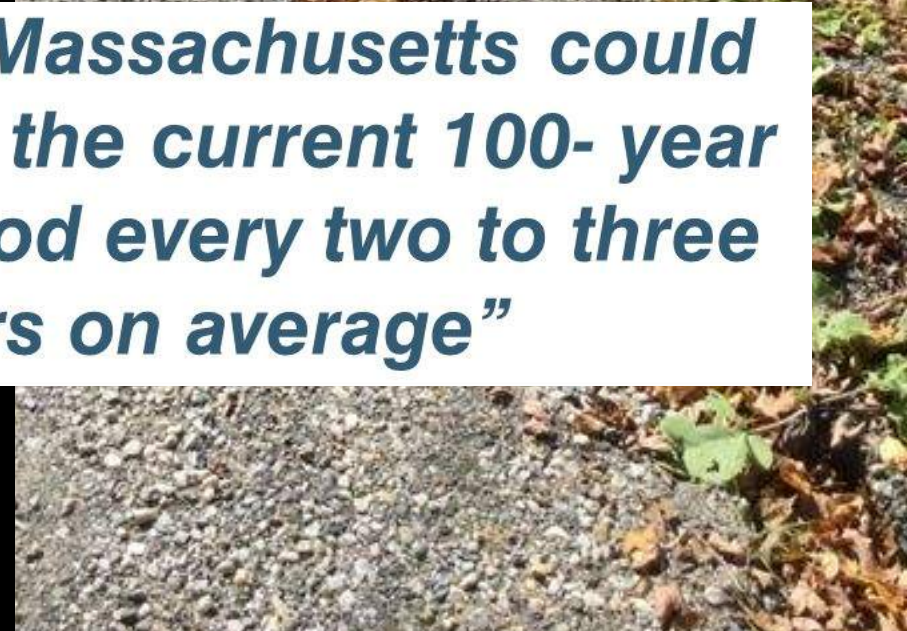
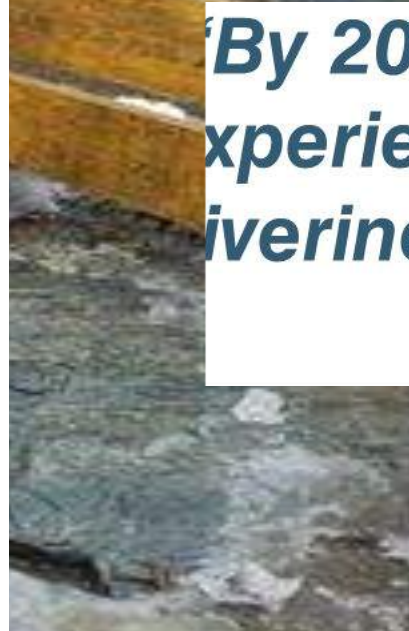
Project Context: Stormwater Problems

PRECIPITATION DURING
HEAVY EVENTS IN THE
N O R T H E A S T

INCREASED
BY MORE THAN

70%

BETWEEN 1958-2010



“By 2050, Massachusetts could experience the current 100- year riverine flood every two to three years on average”

Planning for Climate Change Resilience

What are the towns doing?

- Evaluate capital projects for stormwater management
- Plan for climate change and severe weather
- Incorporate community priorities
- Prevent infrastructure disruptions
- Manage vulnerabilities



Resilient Stormwater Action and Implementation Plan



Planning for Climate Change Resilience

What are the towns doing?

- A Road-Stream Crossing Management Plan includes
 - Crossing inventory
 - Prioritized culvert replacements based on flood risk and current condition
- Replacing priority crossings
 - Designs developed
 - Seeking permits



Bonny Hill Rigg Road, Becket Stream Crossing (TS Irene)

Climate Change Preparedness

Is the expense worth it?

Benefits:

- Climate change resiliency (i.e infrastructure can better handle severe storms)
- Less maintenance required
- Improves aquatic organism connectivity (i.e. animals can move more freely and safely)



How to Get Involved



Attend the webinars!

And...

- Watch the Towns' websites
- Review the draft plan
- View the StoryMap
- Sign up for eblasts
tinyurl.com/RWSSignup

Community Engagement Plan

Stakeholder Meetings	Public Engagement and Education	Targeted Conversations	Webinars, Demo Site, Story Map
<i>Input and guidance through:</i> 2-3 Meetings with Stakeholders	Public Survey (paper and online) Educational articles Web and e-blasts Presentation of the Draft Plan	Individual interviews with agricultural producers and farmers to get input and gauge interest	Landowner Presentation Series & Fact Sheet Rain garden at W. Stockbridge Town Hall (and brochure) StoryMap of GI sites

Why We're Here Today



Community Survey

66%

of respondents are unfamiliar with and want to learn about stormwater solutions such as:

- Rain gardens
- Permeable pavement
- Vegetative buffers
- Green roofs
- Bioretention basins

35%

of residents have seen these used in Richmond or West Stockbridge

Except for green roofs

17%

of residents have used one or more of these solutions



Nature Based Solutions

What are they?

Nature-based solutions are adaptation measures based in natural processes and materials to better protect, restore, and manage ecological systems. They:

- Safeguard public health and safety
- Provide clean air and water
- Promote natural hazard resilience
- Sequester carbon



Mass Audubon's Broadmeadow Brook Visitor Center -
Rain garden with Native Plants

Stream, Wetland, and Waterfront Strategies

Slope Stabilization

- Mitigate erosion and/or loss of riparian buffer
- Stream bank problem areas or gravel roads with runoff issues

In-Stream Habitat Restoration

- Removal of invasives / debris and adding natives
- Adequate fish passage / habitat

Increased Flood Storage / Wetlands

- Identify areas that may add floodplain area
- Additional storage for larger storms



Developed Area Strategies

Bioretention Basin / Rain Garden

- At-home and larger scale options
- Parking lot medians or edges, sidewalks, along roadways, buffers in agricultural areas
- Uses native plants, increases green space, reduces UHI



Permeable Paving

- Open areas that must remain paved (i.e. parking lots) that do not have significant tree cover or heavy traffic
- Walkways, parking stalls, driveways

Note: this includes porous pavement & permeable pavers



“In the past, we have asked one thing of our gardens:
that they be pretty. Now they have to support life,
sequester carbon, feed pollinators, and manage water.”

~ DOUG TALLAMY



Nature Based Solutions

Plant Native Plants - Why?

Support a diverse food web

Absorb and filter water

Sequester carbon from the atmosphere to the soil

Provide habitat for pollinators/wildlife

More resilient to climate change



Buttonbush, *Cephalanthus occidentalis*

How many species of
caterpillars for each tree?

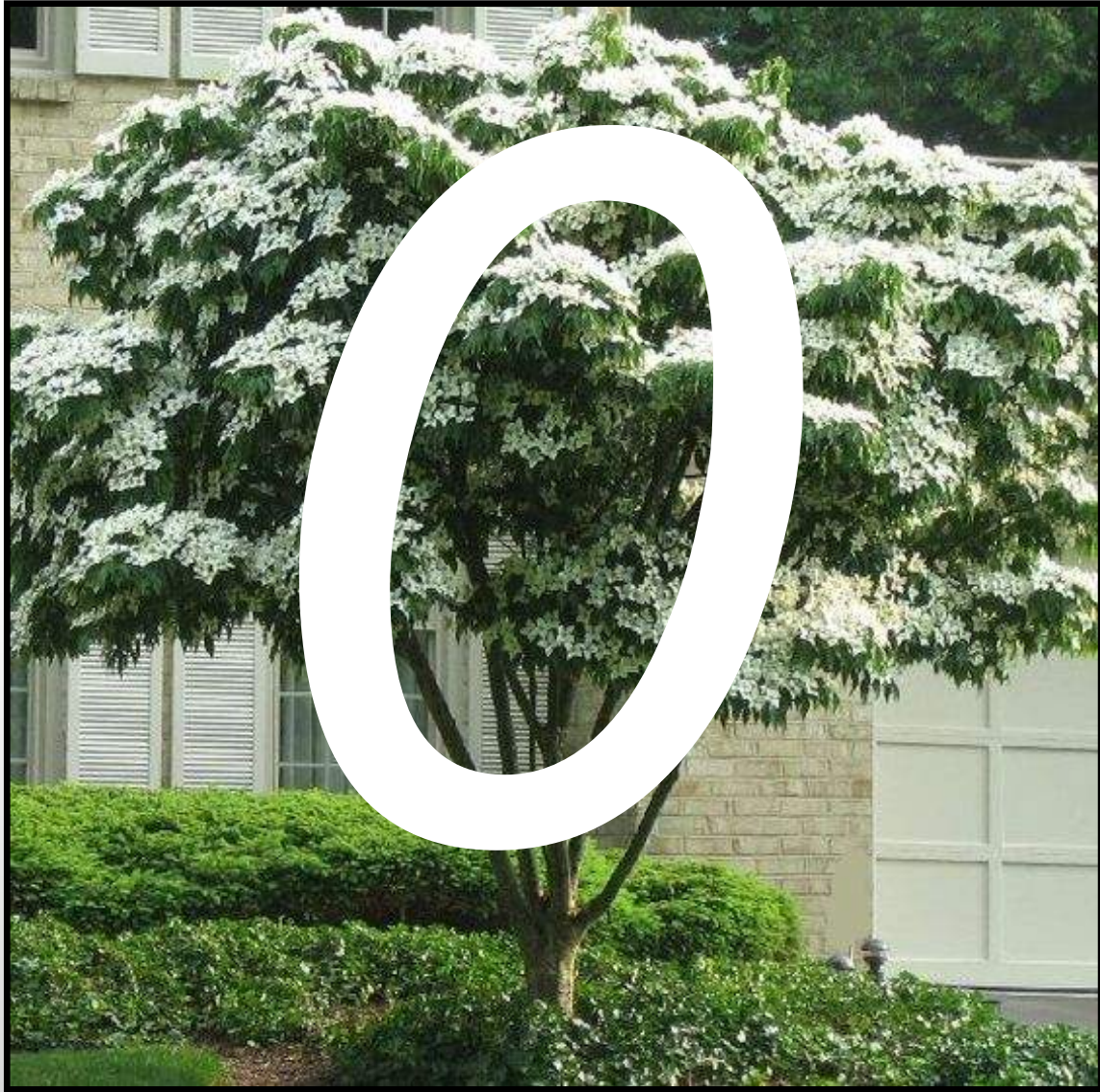


Kousa Dogwood



Native Flowering Dogwood

0 species



Kousa Dogwood

117 Species of
Caterpillars



Native Flowering Dogwood

"If you have a backyard, this book is for you."

—Richard Louv, author of *Last Child in the Woods*



Bringing Nature Home



UPDATED AND EXPANDED

How You Can
Sustain Wildlife
with Native Plants

Douglas W. Tallamy

With a Foreword by Rick Darke



"Tallamy is one of the most original and persuasive present-day authors on conservation."

—EDWARD O. WILSON, University Research
Professor Emeritus, Harvard University

NATURE'S BEST HOPE



A New Approach
to Conservation That
Starts in Your Yard

DOUGLAS W. TALLAMY

bestselling author of *Bringing Nature Home*

Nature Based Solutions

Plant Native Plants - Where?

A collage of three native plant species. The left side shows tall purple spikes (likely Blackberry Liatris). The middle shows clusters of bright orange flowers (likely Butterfly Milkweed). The right side shows several pink daisy-like flowers (likely Coneflower).

Can you reduce your lawn size?

Do you have a wet lawn area?

Questions & Discussion

What questions do you have about implementing these ideas in your yard?



Nature Based Solutions

Riparian Buffers

A photograph of a stream flowing through a forest. The water is clear and reflects the surrounding green and yellow foliage. The banks are lined with trees and bushes, some with vibrant autumn leaves. The scene is peaceful and natural.

Absorbs and filters stormwater runoff

Stabilizes streambanks, reduces erosion

Provides shade, shelter and food

Provides wildlife habitat corridors



Nature Based Solutions

Riparian Buffers



Nature Based Solutions

Riparian Buffer Restoration



Green River, Austerlitz NY



Nature Based Solutions

Riparian Buffer Restoration



Salmon Kill River, CT



Nature Based Solutions

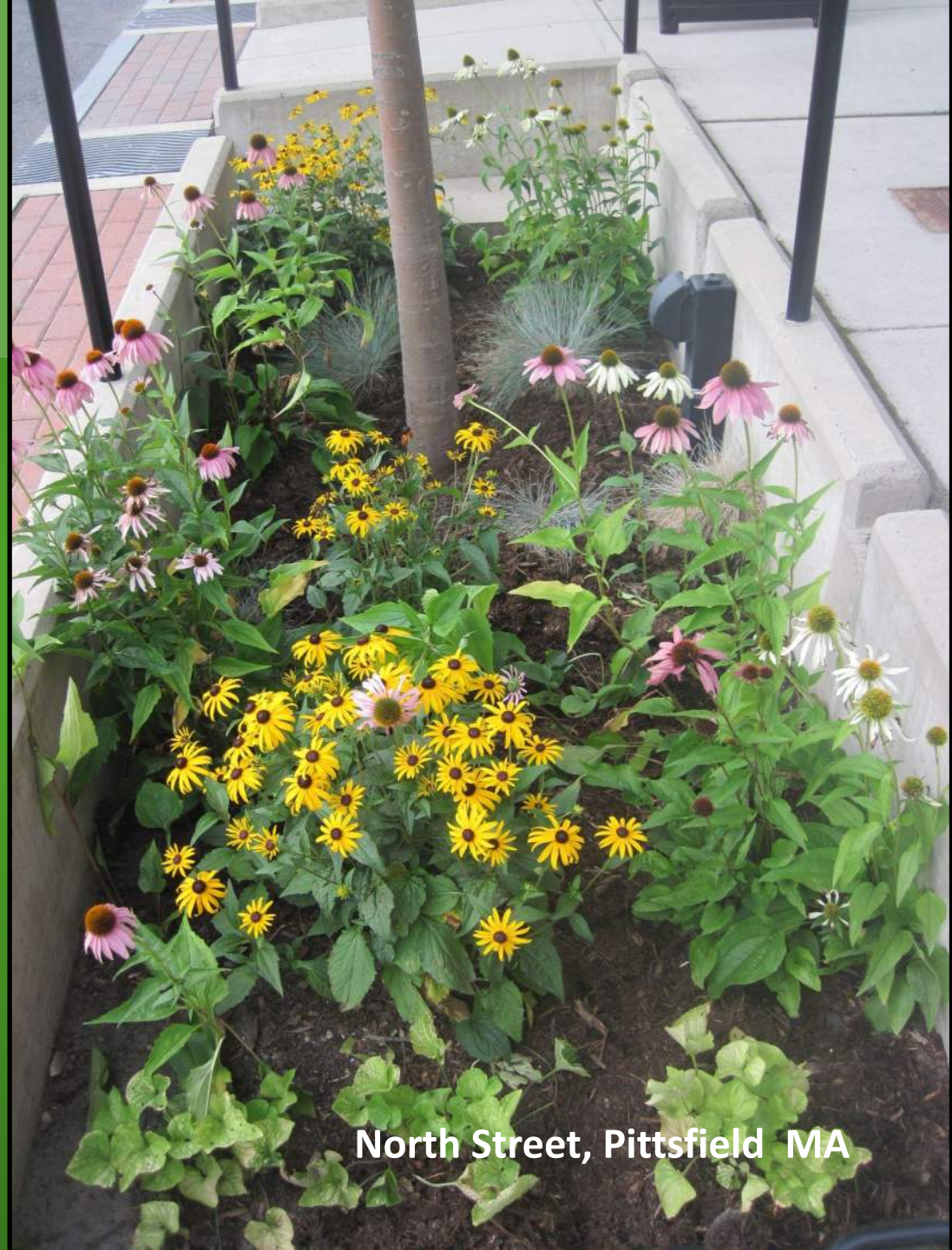
Riparian Buffer Restoration



Restoring buffers: Wells Brook in Dover

Nature Based Solutions Build Rain Gardens

A bowl-like garden designed to capture and infiltrate stormwater from roads, roofs, driveways and sidewalks.



North Street, Pittsfield MA



UMass, Amherst



Leominster, MA

Nature Based Solutions Build Rain Gardens

- At least 10 feet from the foundation
- Not on top of a septic tank; At least 25 feet from a septic tank, private well, or leach field.
- Away from underground utilities (Call DigSafe 811 - at least 3 days before digging)
- Groundwater table is 2 feet below the ground
NOT in an area that already tends to be wet.
- Away from tree roots
- Level or minimal slope (<10%) with at least partial sun
- Check the views of the site from a window

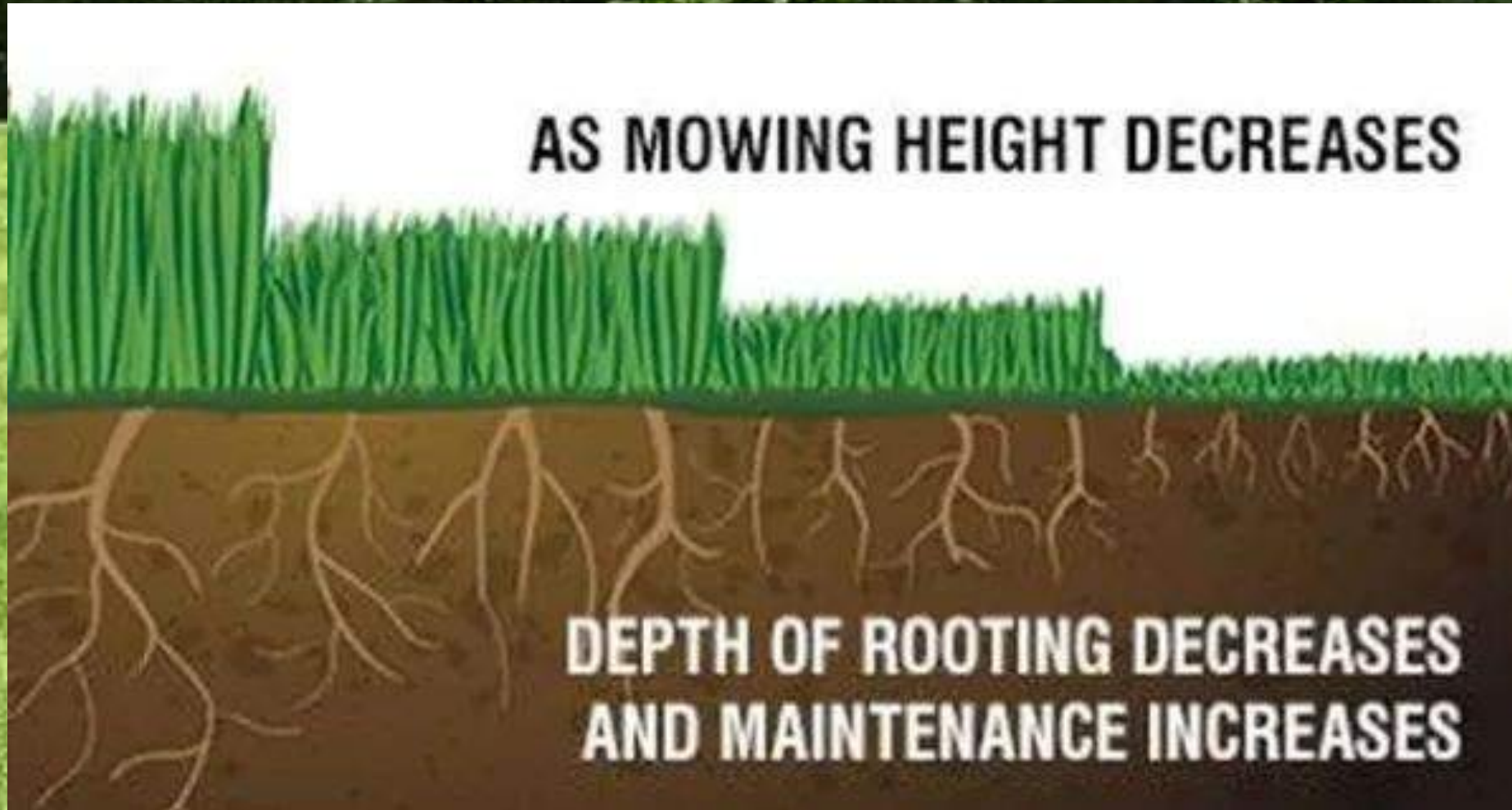




- \$2-15/ft² installed
- Reduces Nitrogen, Phosphorus, metals, and total suspended solids (TSS) by 65-90%
- Maintenance is necessary, as with every garden!

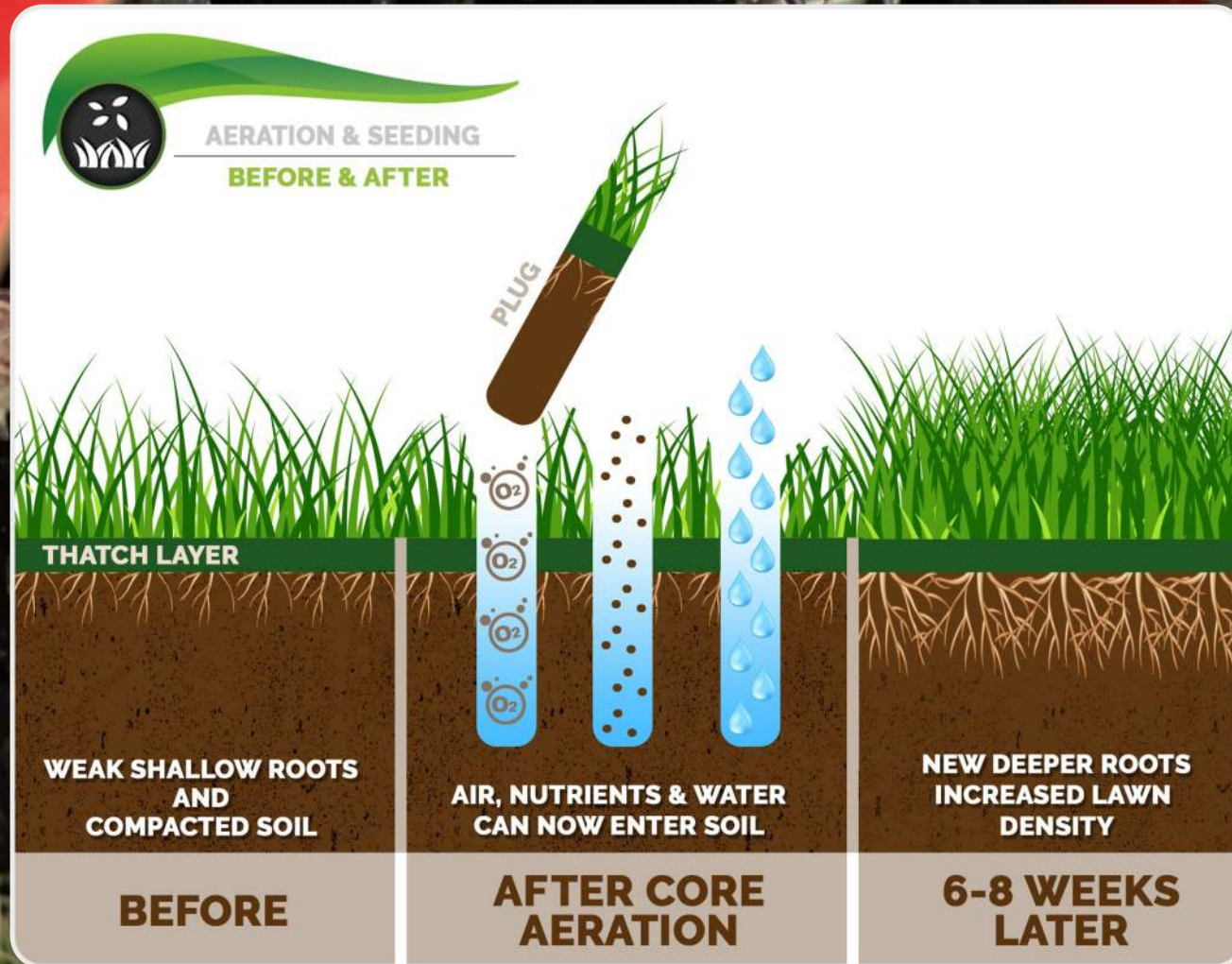
Nature Based Solutions

Lawn Maintenance Tips



Nature Based Solutions

Lawn Maintenance Tips



Nature Based Solutions

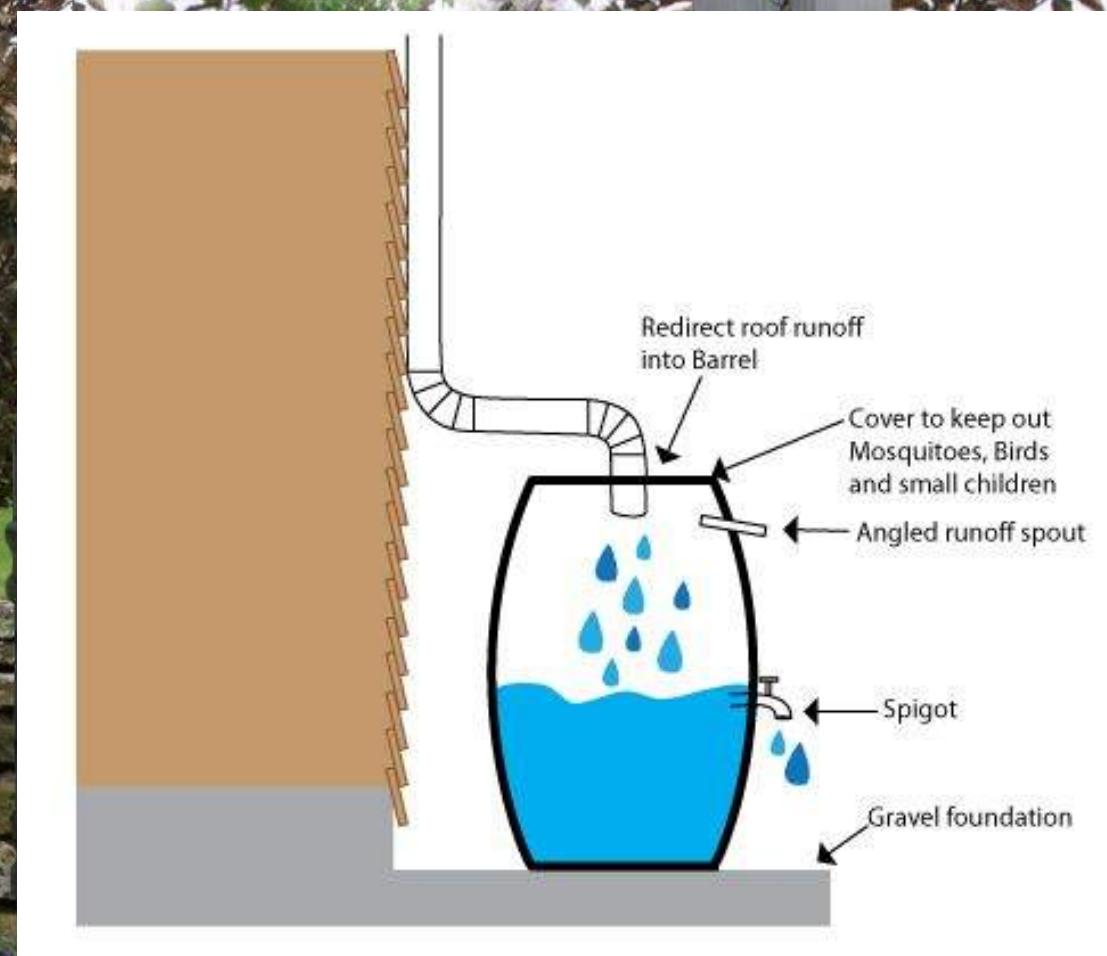
Lawn Maintenance tips

1. Set your mow height higher
2. Aerate your soil
3. Use a mulching mower
4. Use drought tolerant grass

Nature Based Solutions

Rain Barrels

- Place a rain barrel at a downspout
- Place near where water will be used
- Link two or three barrels together



Questions?



Nature Based Solutions

Resources: Native Plants

Helia Native Nursery, 95 East Rd., Alford; tel: 413-528-1400
helianativenursery@gmail.com
<https://www.helianativenursery.com>

Wing and a Prayer Nursery, 48 Trouble St., Cummington; tel: 413-634-5659
creamery@verizon.net
<https://aliceskitchenathoneyhill.com/amys-nursery/>

Nasami Farm, 128 North St., Whatley; tel: 508-877-7630
hello@NativePlantTrust.org
<http://www.nativeplanttrust.org/for-your-garden/nasami-farm/>

Nature Based Solutions

Resources: Landscape Design

Helia Land Design, Alford, MA; tel: 413-528-1400

helialanddesign@gmail.com

<https://www.helialanddesign.com>

Native Habitat Restoration, Stockbridge; 413-358-7400

nativehabitatrestoration@gmail.com

<https://nativehabitatrestoration.weebly.com>

Nature Works Land Care, 900 Pleasant St., Lee; 413-325-1101

natureworksorganiclandcare@gmail.com

<https://natureworkslandcare.com>

Thank you!

Join us for the next webinar:

Wednesday, March 29

6:30 - 7:15pm

Sign up at: <https://tinyurl.com/mar29storm>



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HVA

hvatoday.org

QUESTIONS?

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