

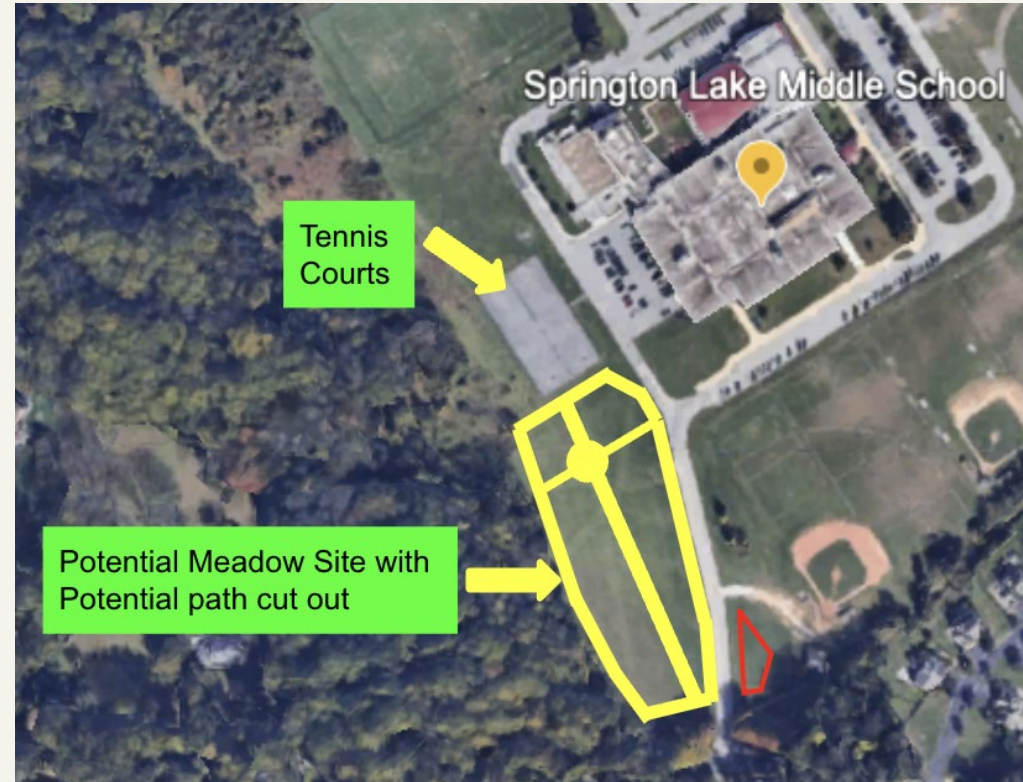


The Meadow at Springton Lake





Potential Meadow Site(s)



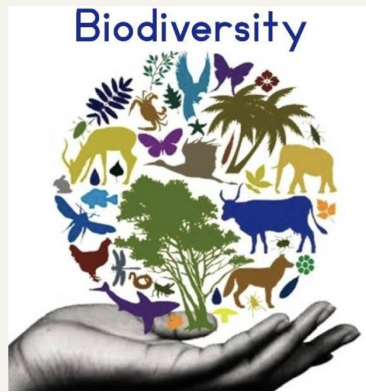
Why build a Meadow ?

Beauty, Outdoor Education, Improved Student Well -Being, Cost and Labor Savings



They are Beautiful

What an incredible entry to school every day. What a statement piece to the community!



They Support Biodiversity

Native plant meadows support all sorts of life, like Native bees and butterflies that are threatened by habitat loss



It is an Outdoor Classroom

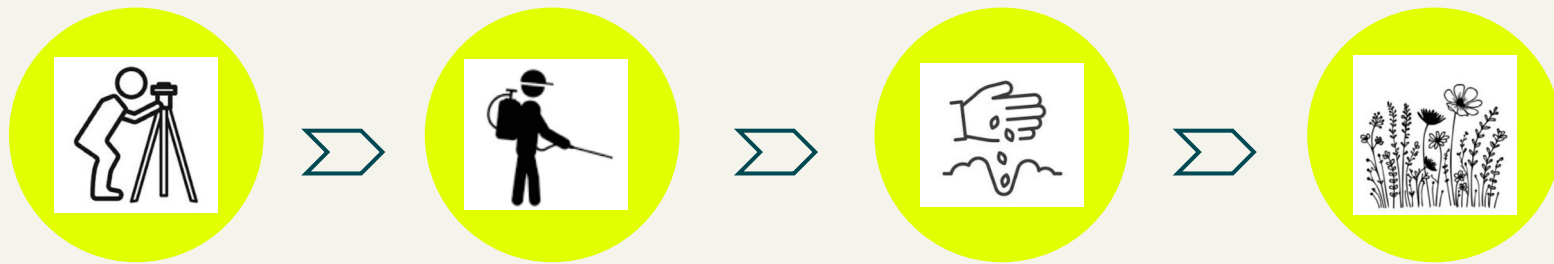
Studies show students are much more engaged in learning when outdoors. It teaches Environmental Stewardship



Cost and Labor Savings

Grass lawns require large inputs of greenhouse gas emitters
No Ecological Value

Meadow Conversion Timeline



Step 1: Evaluate Site Conditions

- Sun Exposure: 5 hours or more
- Turf-grass field used only by cross-country team
- Moisture present (normal and some wetter areas)
- Meadow plants slow water run-off

Step 2: Kill Existing Vegetation*

Professional Ecologists recommend the targeted use of glyphosate * spraying 2-3 times during growing season

Alternatives to glyphosate considered less effective and potentially more harmful

Plant Native Seed in Dormant Season

- Rake soil to create planting bed
- Overseed with Native Seed mixture
- Mulch with straw to hold moisture and prevent weed seeds

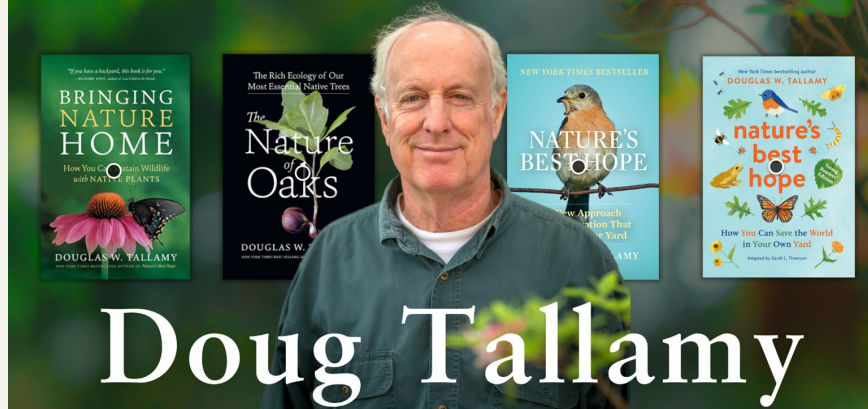
Perform Maintenance for 3 Growing Seasons

- Keep weeds from growing
- Mow every 2-3 weeks so seedlings receive sun as they develop root systems
- Remove thatch (plant material)
- Remove invasive plants

“All Non -Profits and Forest Agencies use Glyphosate in PA,NY,DE” -Jim Jordan (CEO of BRC, De)

Famous Experts who advocate for the use of glyphosate in eradicating invasive plants from Native plant communities where appropriate

Dr. Doug Tallamy , Professor Emeritus of Entomology and Wildlife Ecology at University of Delaware. Founder of “ Homegrown National Park”



[Doug Tallamy: Why Herbicides?](#) Video, Start @

9:40

Basil Camu , co-founder of Leaf and Limb, a landscape company in Raleigh, NC, Project Pando, a non -profit that aims to connect people to trees, and author of "From Wasteland to Wonder: Easy Ways We Can Help Heal Earth in the Sub/Urban Landscape".

[Leaf and Limb](#)
[herbicide reasoning](#)
(landscape company of Basil Camu)



Key Reasons for a Native Plant Meadow

Environmental Stewardship and Biodiversity

Native plants support pollinators, birds and beneficial insects.
They increase water infiltration and reduce runoff
They decrease the use of fossil fuels for maintenance.

Outdoor Educational Hub

Meadows act as a “living laboratory” for biology, ecology, environmental science and art that promote “hands -on learning”

Aesthetic and Community Pride

Provides a unique and beautiful landscape that signals a school's commitment to sustainability and the Environment

Improved Student Well -Being

Access to nature improves focus, reduces stress and provides a calming environment for students

Cost and Maintenance Savings

Much less mowing, reduced costs and maintenance.
Maintained by Environmental Club
We plan to apply for a grant to cover start -up costs

Why is Glyphosate Recommended for clearing vegetation before planting a new Native Plant Meadow

Highly Efficient Site Prep

It is the most cost-effective option and faster than solarization (covering with black tarps) which tend to be expensive, a much longer term process (years). On large sites they continuously get dislodged by wind and require reinstallation and may never fully kill the invasives.

Minimal Soil Disturbance

No tilling involved. The new science finds that tilling soil disrupts the natural beneficial systems in place causing a decrease in organic matter and significant erosion

Most Effective Weed Control

It systematically kills deep-rooted perennial weeds and invasive grasses that are difficult to remove by hand or solarization

Environmental Considerations

When applied properly by professionals in the right conditions, the health hazards associated with herbicides are dramatically reduced and outweigh the alternative options. There should be little to no health concerns for people, animals or the environment except for the targeted invasive plants

Why Glyphosate ?

for meadow conversion

Why do Ecological Restoration specialists use glyphosate to kill invasive plants or in our case turf - grasses?

The short answer is that it is the most effective product at eradicating a potential restoration site of invasive plants that monopolize new plantings and degrade ecological function.

Anyone interested in restoring biodiversity, boosting ecological functions and improving the health of our earth wants to do it No harm. Spraying chemicals is not ideal, but glyphosate used properly, is the current professional standard for clearing large turf sites.

Glyphosate when used properly, absorbs into the plant tissue and remains only in the roots which then die and decompose.

It is sprayed only two times during a growing season when it is forecast to be sunny and not windy all week.

Alternatives to spraying glyphosate, like using black tarps, have proven ineffective for large



Tarps often get blown out of place, are unsightly and require significant installation, maintenance work and costs with no guarantee that they will actually kill the invasive plants.

Studies have shown that the chemicals evaporate from the plants and soil within days or weeks

There is no perfect solution, but the pros think glyphosate is the best option. It requires the least impact on the earth with the biggest return on both monetary and ecological benefits.

Local Professional Input

James E. Jordan Jr.
Executive Director, CEO
Brandywine Red Clay Alliance, DE

Chris Cook
Watershed Specialist
Delaware County Conservation
District

Meagan Hopkins -Doerr
Coordinator, [Master Watershed
Stewards of Chester & Delaware
Counties](#), Penn State Extension

Zach Nemec
Coastal Outreach Specialist
PASeaGrant

[Glyphosate in Delaware Forest
Presentation](#)

References:

From Wasteland to Wonder
Easy Ways We Can Help Heal Earth in the Sub/Urban
Landscape”
by Basil Camu
p.153 Step2: Kill Existing Vegetation During the Growing Season

Planting in a Post-Wild World
Designing Plant Communities For a Resilient Landscape
By Thomas Rainer and Claudia West
p.232 Management Toolbox

The American Meadow Garden
Creating a Natural Alternative to the Traditional Lawn
By: John Greenlee
p. 239 Chemical Weed Control

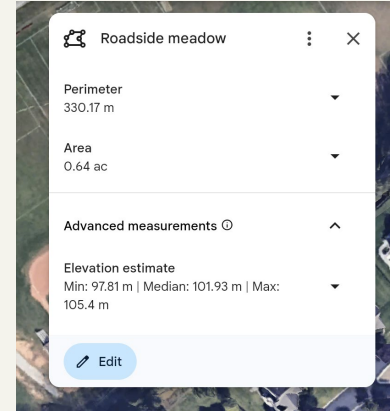
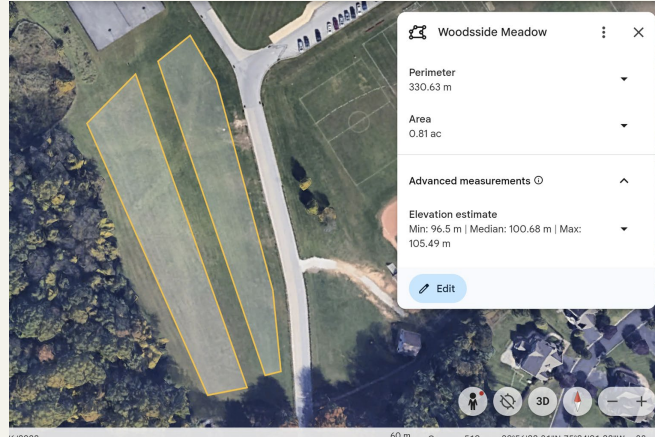
[Leaf and Limb herbicide reasoning](#) (landscape company of Basil Camu)

[Doug Tallamy: Why Herbicides?](#) Video, Start @ 9:30

Costs (None:)

when you consider the advantages!

SCOPE OF WORK	
Will provide the labor, equipment, and materials to perform the scope of work detailed below:	
Layout	\$ 1,065.00
Item	
-layout of area w/	
-(2.8) AC	
Herbicide Applications	\$ 1,595.00
Item	
-(2) applications	
-(2.8) AC	
Drill Seeding	\$ 4,975.00
Item	
-(2.8) AC	
-Ernst Seed Co. ERNMX-153 or equal	
Meadow Mowing	\$ 3,970.00
Item	
-(2.8) AC	
-(3) field mowings of drilled areas as necessary	
Total Contract Amount	\$ 11,605.00



Sample of actual bill to install a 2.8 acre meadow.

Our space is approximately 1.5 acres.

General estimate of about: \$800 for (2) herbicide applications

\$3000 for drill seeding

\$1000 for laying

mulch on seed layer

Total: around \$5,000.00- \$6,000.00 with 50/50 split on Grant funds.

School District pays around \$2,500 - \$3,000.00

This estimate takes into account the offset of mowing being done inhouse, by RTMSD maintenance.

Also, design and layout support from the Delaware County Conservation District