Pollinator Pathway Stamford

Proposal to Amend the Stamford Blight Ordinance
to Exempt Meadows

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What is the Pollinator Pathway Project?

Pollinator Pathways establish pollinator-friendly habitats and food sources for birds, butterflies, bees, and all pollinating insects, as well as native wildlife.

The Pollinator Pathway Stamford (PPS) is part of the main Pollinator Pathway Project (PPP) that started in Wilton, CT in 2017. Since the inception, there are over 200 participating Connecticut and Northeast towns. As defined on the PPP website, a pollinator pathway is a pesticide -free corridor of public and private properties that provides native plant habitat and nutrition for pollinators.

Inception of the Pollinator Pathway Stamford

After hearing one of the original founders describe the Pollinator Pathway Project in April 2019 at an Earth Day event, we were stunned that Stamford was not yet part of the project. We decided that needed to change. The Pollinator Pathway Stamford is made up of 7 steering committee members who participate in the following organizations: The Stamford Garden Club; Glenbrook Neighborhood Association; the Shippan Point Garden Club; Cove Island Wildlife Sanctuary; and William Kenny Associates LLC. Stamford Organizations that have agreed to sponsor programs and take part in the PPS include Bartlett Arboretum & Gardens; Cove Island Wildlife Sanctuary; DSSD; Fairgate Farm; The Ferguson Library; Glenbrook Neighborhood Association; Mill River Park Collaborative; Shippan Point Garden Club; SoundWaters; The Stamford Garden Club; Stamford Land Conservation Trust; and Stamford Museum & Nature Center. The goal of the PPS is to get companies, organizations and homeowners to join the Pathway to educate them on how to maintain their landscaping/yards using healthier practices. The City of Stamford is an essential partner in this effort to help promote educational programs and awareness to all residents.

Key Recommendations for Pollinator Pathway Participants

In addition to planting more native plants and reducing the use of pesticides, key recommendations are to decrease the amount of monoculture turf grass lawns and cut-back on fall cleanup. Lawns provide no pollen or nectar sources. As a result, we propose to replace lawns with planting beds and/or meadows. Moreover, traditional fall cleanup involves removing all dead plant material from planting beds and leaves from the yard. By leaving plant seed heads, dried perennial stalks and leaves, food and safe habitats for pollinators and other beneficial insects are provided. Our goal with implementing the recommendations is to avoid homeowners violating the current blight ordinance.

Photos Courtesy of Patricia Morris

Amending Stamford's Blight Property Maintenance Violation

A significant step the city could take to help PPS is to amend the Stamford Blight Property Maintenance Violation Ordinance (for grass and weeds) so native plantings and/or meadows are excluded as weeds and not subject to the max height restriction of 9". In addition, our hope would be for the city to go even further by including native plantings and trees within municipal properties.

This is the perfect time for the City of Stamford to take part in the PPS. Momentum is growing for the need to address the loss of vital pollinator habitat in urban and suburban areas around the country. U.S. ecologists estimate that only 3-5% of land remains

'undisturbed' habitat for plants and animals. While this estimate depends on how strictly you define 'undisturbed', the consensus prevails that the loss of the native habitats negatively affects the ecology of their environments.[1] Moreover, with the ever-evolving crisis of climate change, sustainable practices are on the rise, including the need for native landscaping and trees. For cities like Stamford, it becomes a health, safety and welfare issue for its current and future residents.

Why Pollinators and Meadow Habitats are Important

What are Pollinators & Why are They Important?

- Insects, birds and other animals move pollen from one plant to another.
- Pollinators enable cross fertilization of plants promoting reproduction and growth of new plants.
- More than 30% of food in the United States grows as a result of the work pollinators do. A value of approximately $23 billion.[2]

What is Threatening our Pollinators?

- Widespread application of pesticides and other chemicals on lawns, landscaped plantings, and agriculture.
- Climate changes that lead to lack of larval host plants.
- Loss of food and shelter sources as natural environments become increasingly fragmented through urbanization and suburbanization.

What are the Benefits of Meadows v. a Standard Turf Lawn?

The term *meadow* refers to uncultivated areas featuring herbaceous plants and soils that aren't wet year-round. While grasslands are defined as having more than 50% *grass* cover, meadows have more than 50% *forb* cover. Most forbs are wildflowers, although the term also includes non-flowering plants like ferns.[3]

- **Beauty & Visual Appeal**
  - Colorful year-round
  - Provide a sensory experience

- **Habitat**
  - Reduction of Invasive Species
  - Birds
  - Pollinators & beneficial insects
  - Canada Geese, considered a pest in some regions, prefer short turf grass over taller native grasses.[4]

Photos Courtesy of Patricia Morris

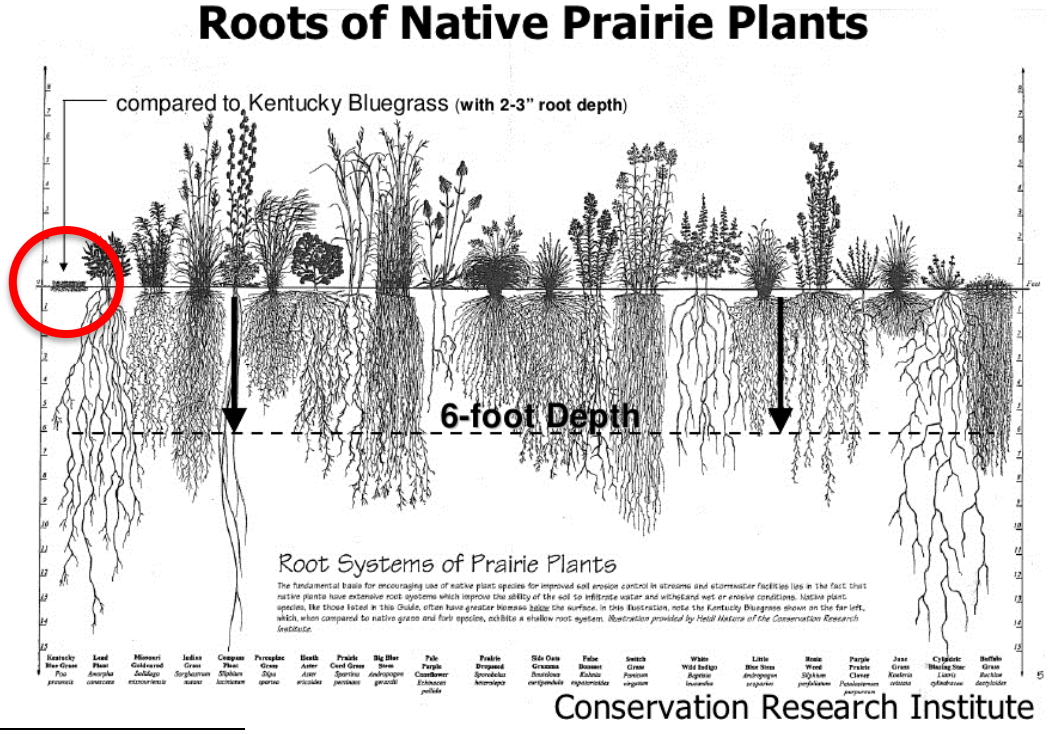
- **Soil Improvement**
  - The deep and expansive rooting systems of the diverse perennial grasses and forbs in native prairies provide habitat and carbon-rich secretions, whereas the seasonal loss of

[1] Doug Tallamy, Bringing Nature Home (Portland, OR: Timber Press, 2007), 36.
[2] Minnesota Board of Water and Soil Resources, "Pollinator Plan," 5 January 2019, 3.
[3] Nate Loetz, "From Lawn to Meadow: Protect Water and Provide Habitat While Saving Money," Pennsylvania Land Trust, 4 April 2017, 5.
[4] Environmental Protection Agency (EPA), "Green Landscaping: Greenacres", available at https://archive.epa.gov/greenacres/web/html/factsht.html#Maintenance%20Tips.

above ground materials provides other important nutrient molecules through plant litter.[5] Therefore, by incorporating meadows, the extensive root systems help to filter and enrich the soil.
- Aeration and de-compaction.
- Beneficial microorganism communities.

- **Maintenance & Reduced Dependence on Oil = Economic Benefits**
  - Meadows are more cost effective and must only be mowed once a year, while turf lawns must be mowed regularly.
  - Watering, Pesticides and Fertilizers are not required.
  - Limited need for weeding.
  - Reducing floods results in less money spent on property damage.
  - Providing cleaner air results in less potentially sick residents from air pollution.

- **Watershed Improvement**
  - Meadows help reduce water pollution (Long Island Sound protection) and increase water absorption / rainwater infiltration, thereby improving water quality.
  - Less sheet flow = less water overflowing into city storm water sewers.
  - Turf Lawns stifle biodiversity and contribute to water pollution from the chemicals and fertilizers applied. The roots are too shallow to help filter pollutants from ground water, while meadows have extensive root systems. See *Roots of Native Prairie Plants* chart below.
  - Commercial areas and municipal spaces require billions of gallons [of water] to meet their irrigation needs. The native species that comprise meadows, on the other hand, are adapted to the climate and can thrive without irrigation. When meadows replace lawns, especially in drought-prone areas, communities can save clean water for essential uses like drinking.[6]



[5] Irene M. Ugner, "Soil Health: The Unseen Foundation of Biodiversity," Missouri Natural Areas Newsletter, V17, No. 1, 2017, 2.
[6] Nate Loetz, "From Lawn to Meadow: Protect Water and Provide Habitat While Saving Money," Pennsylvania Land Trust 2017, 5.

Example of Residential Turf Lawn Converted to Planting / Meadow Beds:
Courtesy of William Kenny Associates LLC




Other examples of converted no-mow lawns:


Why Stamford Should Amend the Existing Blight Ordinance

Local Governments can derive substantial benefits from promoting and protecting native vegetation that is appropriate to the area. [7] The use of appropriate native vegetation in local landscaping can help achieve water conservation goals, preserve habitat in urban areas, greatly reduce maintenance costs for landscaping, and protect property values.[8] Encouraging residents to reduce the amount of lawn by installing meadows and/or planting beds, helps reduce the amount of storm water run-off, especially with the changing weather and heavy rains that are more typical now.

What is a Native Plant?

Native plants are those that occurred in our region before settlement by Europeans including, ferns, grasses, wildflowers, shrubs, trees and vines. The best plants for Stamford are those native to the Northeast U.S. An example of a non-native plant is one imported from another country. Because our native wildlife, including pollinators, co-evolved with our native plants, they are critical to their survival. Native plants are generally easier to grow and cheaper to maintain because they are well-adapted to our climate and soil.

"Native plants promote biodiversity and stewardship of our natural heritage. In the U.S., approximately 20 million acres of lawn are cultivated, covering more land than any single crop. Native plants are a part of our natural heritage. Natural landscaping is an opportunity to reestablish diverse native plants, thereby inviting the birds and butterflies back home."[9]

What is a Non-Native or Invasive Plant?

Invasive plants are plants that have been introduced to our ecosystem that cause harm to the environment. Invasive plants typically exhibit an aggressive growth habit and can outcompete and displace native species harming our ecosystem. The Connecticut Invasive Plant Working Group website has a variety of resources to identify and remove the invasive plants in our state (https://cipwg.uconn.edu/invasive_plant_list/#).

"In general, aggressive, non-native plants have no enemies or controls to limit their spread. As they move in, complex native plant communities, with hundreds of different plant species supporting wildlife, will be converted to a monoculture. This means the community of plants and animals is simplified, with most plant species disappearing, leaving only the non-native plant population intact."[10]


Native Dogwood Blossoms


Non-Native Dogwood


Invasive Japanese Knotweed

[7] Erika Zimmerman, "Model Native Plant Landscape Ordinance Handbook," Conservation Clinic University of Florida Levin College of Law, November 2004, 6.
[8] Ibid., 6.
[9] Environmental Protection Agency (EPA), "Green Landscaping: Greenacres", available at https://archive.epa.gov/greenacres/web/html/factsht.html#Maintenance%20Tips.
[10] Ibid.

Why Should We Use Native Plants?

Native plants provide beneficial habitat for more animal and insect species than invasive plants. Once a native plant is established and properly located in the correct light and soil conditions, the native plant typically needs less water, even becoming drought tolerant in some cases. In addition to less watering, native plants require less maintenance (no mowing) and do not need fertilizers, herbicides or pesticides.

Additional Facts from the EPA[11]

- Many species of sod and grass require significant amounts of water for irrigation, as much as 30% of water on the east coast and 60% on the west, while native plants require less water and often contribute to decreased water runoff.
- Excess phosphorus and nitrogen (the main components in fertilizers) run off into lakes and rivers causing excess algae growth. This depletes oxygen in our water, harms aquatic life and interferes with recreational water use.
- Lawns require over 70 million pounds of pesticide each year nationwide. Rivers and lakes become contaminated with pesticides, as well as cause harm to people through degraded water quality, which increases the cost of water treatment.
- According to the EPA, "Natural Landscapes do not require mowing. Lawns, however, must be mowed regularly. Gas powered garden tools emit 5% of the nation's air pollution. Forty million lawnmowers consume 200 million gallons of gasoline per year. One gas-powered lawnmower emits 11 times the air pollution of a new car for each hour of operation. Excessive carbon from the burning of fossil fuels contributes to global warming. Native plants sequester, or remove, carbon from the air.
- Native plants provide shelter and food for wildlife. They attract a variety of birds, butterflies, and other wildlife by providing diverse habitats and food sources. Closely mowed lawns are of little use to most wildlife.
- Native plants save money.

"Unless we modify the places we live, work, and play to meet not only our own needs but the needs of other species as well, nearly all species of wildlife in the United States will disappear forever. This is not speculation. It is predication backed on decades of research on species-area relationships by ecologists who know what they speak. And the extinction of our plants and animals is not a scenario lost in the distant future. It is playing out across the country and planet as I (Doug Tallamy) write. Our preserves and national parks are not adequate to prevent the predicted loss of species, and we have run out of space required to make them big enough."[12]

Photo Courtesy of Patricia Morris

An easy solution is to create habitats where humans, insects, birds, and animals can all live in together without removing more habitat within urban and suburban areas. Incorporating the use of meadows and native vegetation will construct new vital habitats to promote the well-being of many species. Stamford could be a leader in Connecticut by not only implementing the use of meadows as acceptable in the blight ordinance regulations, but by including the requirements to use native plants and trees in all new construction, municipal buildings, public parks, road plantings etc. (refer to Westchester County executive order for suggestions) to promote a sustainable, healthy future for our city.

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[11] EPA, "Landscaping with Native Plants," https://archive.epa.gov/greenacres/web/html/factsht.html

[12] Doug Tallamy, Bringing Nature Home (Portland, OR: Timber Press, 2007), 36.

Example of Invasive Plant Removal & Planting Native Trees with Meadow:
Courtesy of William Kenny Associates LLC

Wetland Habitat Enhancement

Invasive Plants Removed with new Native Tree Plantings

One Year later

Sample Landscaping Ordinances

CITY LOCATION	CITY sq. miles	POPULATION	SUMMARY of LANDSCAPING ORDINANCES
Minneapolis, MN	57.49 sq. miles	429,854 (2020)	Supports wildlife-friendly landscaping while also requiring public safety. Residents can plant a prairie habitat, but it must be "planned, intentional and maintained", devoid of noxious weeds and not create a safety hazard.
Brooklyn, MN	26.55 sq. miles	86,478 (2020)	Managed natural landscapes may include plants and grasses 8 inches or more in height that have gone to seed but may not include any noxious weeds. Must be maintained so as to not include unintended vegetation.
Bloomington, MN	38.41 sq. miles	89,987 (2020)	Weed Ordinance with max height of 8" with stated native prairie & long grasses, natural wooded areas, wetlands & rain gardens, lakescaping and easement exemptions. Cannot occupy more than 50% of the pervious surface area of the parcel. Setbacks are implemented. Must be mowed at least once a year.
Austin, TX	271.8 sq. miles	967,612 (2020)	Certified Wildlife Habitats
			Monarch Habitat & Milkweed Resolution
			Affirmative Defense for Native Tall Grasses Resolution
			NWF Wildlife Habitat Certification Resolution
Westchester County, NY	450 sq. miles	967,506 (2019)	Executive Order: 09-28-2018 Westchester County government will promote sustainable landscapes by choosing native plants of the Northeast. They will promote educational programs for public awareness. Reference invasive plants. "Native plants will be used exclusively in designing, planting, maintaining, and managing the landscape features of all County roadsides, parks, public areas, and other county properties and facilities."
New Castle County, DE	494 sq. miles	558,753 (2019)	Executive Order: 05-03-2018 Because of the decrease in local plant diversity and species, New Castle prohibits the use of invasive exotic species and requires "the use of only native plant species in the development of new and landscaped areas & in rehabilitation of existing landscaped areas on County property" and "encourage the integration of native vegetation to prevent the introduction of exotic species."
Stamford, CT	52.1 sq. miles	135,470 (2020)	**TBD**: Exempt Managed Natural Meadow Landscapes from the existing turf grass requirements.
Missouri Prairie Foundation - Grow Native!			A Model Ordinance for Municipalities: Defines Native Vegetation, Turf Grass & Weeds. Specifies max height of 8" for turf grass. Native vegetation is exempted.

CITY LOCATION	CITY sq. miles	POPULATION	SUMMARY of LANDSCAPING ORDINANCES
Conservation Clinic: University of Florida Levin College of Law			Model Native Plant Landscape Ordinance Handbook Submitted to Florida Native Plant Society.
			"This model ordinance is intended to be used by local governments that wish to adopt or amend their existing landscape ordinance to encourage or require the use of appropriate native vegetation in all landscaped areas."
			"Used by local governments to improve the landscaping principles that guide landscaping of all new developments."
			"The goal of this plan is to provide a comprehensive plan to promote appropriate native vegetation and best landscaping practices."

Example of a monoculture habitat[13]

[13] BWSR *Lawns to Legumes*: "Planting for Pollinators Design Guide" found at https://bwsr.state.mn.us/sites/default/files/201908/Planting%20for%20Pollinators%20Design%20Guide%200816.pdf

Stamford is Already on its Way to Making a Difference

1. Stamford is currently registered as a Sustainable CT City with a Silver Rating. By participating in the PPS, Stamford will be able to fulfill more categories under 'Well-Stewarded Land and Natural Resources.'
    - Create a Natural Resource and Wildlife Inventory
    - Develop an Open Space Plan (Legally Protected Land)
    - Manage for Drought and Municipal Water Use
    - Manage Woodlands and Forests
    - Facilitate Invasive Species Education & Management
    - Implement Green Grounds & Maintenance Program
2. Multiple city organizations already practice the objectives of the Pollinator Pathway Project. Bringing the organizations together under the umbrella of the PPS strengthens Stamford's goal of sustainability for the environment.
3. Current Existing Meadows in City parks:
    - Cove Island Wildlife Sanctuary
    - Installation of a meadow at Kosciuszko Park: Fall of 2010. https://www.stamfordadvocate.com/default/article/Seeds-for-a-more-sustainable-Stamford-4701921.php
    - Scofieldtown Park Meadow

Additional Resources for City Research

1. Green Infrastructure: Washington, D.C.

   https://www.ecolandscaping.org/12/managing-water-in-the-landscape/more-than-a-rain-garden-green-infrastructure-addresses-environmental-problems-across-scales/

2. Urban Landscape Inspirations from Native Plant Communities

   https://www.ecolandscaping.org/08/designing-ecological-landscapes/landscape-design/urban-landscape-inspirations-from-native-plant-communities/

3. *Bringing Nature Home: How You can Sustain Wildlife with Native Plants,* Doug Tallamy

4. Lawns to Legumes program in Minnesota coordinated and offered through the Minnesota Board of Water and Soil Resources.

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   dan.shaw@state.mn.us

   https://bwsr.state.mn.us/lawns-legumes-your-yard-can-bee-change

5. CT DOT expands 'Pollinator Corridor Program'

https://portal.ct.gov/DOT/News-from-the-Connecticut-Department-of-Transportation/2019/DOT-Designates-50-More-Sites-as-Part-of-its-Pollinator-Corridor-Program

6. OH DOT Statewide Roadside Pollinator Habitat Program Restoration Guidelines and Best Management Practices

   http://www.davey.com/media/1619374/1_odot_statewide_roadside_pollinator_habitat_restoration_guide.pdf

   http://www.themunicipal.com/2019/02/odot-practices-benefit-pollinators/

7. National Wildlife Federation (NWF) Registered and Certified CT towns. Registered means the town is working towards its certification, while certified means the town has achieved certification as a NWF Community Wildlife Habitat.

   Registered: Branford, CT and East Hampton, CT

   Certified: Colchester, CT and Willimantic, CT

   https://www.nwf.org/CommunityWildlifeHabitat/Home/CurrentCommunities