Increasing Bio Diversity From Lawn to Meadow

HAH Roundtable, March 5, 2022
Erich Winkler, HAH Member
The Lawn – a Brief History

- Closely shorn grass lawns “green carpets” first appeared in England and France in the late 16th Century at the homes of large, wealthy landowners
  - Replacing agricultural land / sheep meadows around the house (estate)
  - Demonstrating wealth and status

- Lawn mowers . . .
  - 1830 First mower introduced by Edwin Budding
  - 1870 First human pushed mower
  - 1921 First gas powered mower
  - 1938 Toro launches a power mower

- Lawns come to America
  - Bowling, Golf, Tennis, Parks, Estates
  - Rapidly expanding after WWII with the development of suburbs
A Brief History – continued

- Today
  - The most grown crop in the U.S.
  - 63,000 square miles = size of Texas
  - A $20B industry
- On Average, we . . .
  - Spend 70 hours / year on lawn care
  - Burn 800 million gallon of gas / year on lawn care
- Not native to America
  - Kentucky Blues - from Europe and Northern Asia
  - Bermudas – from Africa
  - Zoysias – from East Asia
- Thus, requiring
  - watering, fertilization, pesticides
  - None of it edible
Changing Ordinances

FROM . . .
- Southampton Village Code § 41-5 Duty of owner as to land abutting streets
  - No owner of land fronting or abutting on a street or road in the Village of Southampton shall permit any growth of brush, grass or weeds to a greater height than five inches. . . Such brush, grass, weeds or rubbish shall be cut, trimmed or removed as often as may be necessary to comply with the foregoing provisions of this section. . . Failure to comply will . . .

To . . .
- Minnesota will Pay Homeowners to Make Their Lawns Bee-Friendly with Bee-Friendly Wildflowers, Native Grasses, and Clover
- The Peconic Estuary Partnership (PEP) will provide financial rewards for homeowners who remove turf and pavement, and add green alternatives to their properties that benefit the environment
  - www.peconicestuary.org/what-you-can-do/homeowner-rewards-program
- Similar legislation & ordinances are being introduced across the country to
  - Reduce water consumption and pollution, achieve sustainability goals, and to protect endangered species
Getting Started . . .

- Go Organic / Stop all pesticide use
- Reduce mowing frequency
  - Bi-weekly / 3 - 4" tall
  - [Video](#)
- Dedicate less area to lawn
  - Plant diverse native plants
- Use lawn alternatives
  - Ground covers, native grasses,
- Be messy and provide habitat
  - Use mulch wisely / Allow bare soil to support ground nesting pollinators
  - Do fall clean up in the spring
- Manage and remove invasive and non-native species
WHICH PROJECT IS RIGHT FOR YOU?

Pollinator Lawn

Pocket garden / Border

Flowering Tree / Shrubs

Pollinator Meadow

Crabapple, Apple, Redbud, Hawthorn, Serviceberry and Pagoda Dogwood are small trees with big pollinator value.
Design considerations

- Available space / Siting
  - Full and direct sun
  - Min. 3’ by 3’ clusters
  - Min. 3 different plants for each season (Spring / Summer / Fall)

- Pollinator Pathways

- Water source
  - Shallow basin with a few rocks as ‘resting place’

- Architectural features

- Reduced Light pollution

- Comfortable chair to observe and enjoy
Site Preparation

The first steps of sheet mulching.

Use a manual sod cutter or "kicker" to remove turf.
You can also rent a gas powered cutter.
Plant Selection

- Consider keystone plants
  - Oaks support 557 species
- Select ‘straight’ Natives
  - 5% of native plants provide 75% of caterpillar food
  - 14% of native plants provide 90% of caterpillar food
  - Cultivars attract the more common pollinators
- How about ‘less desirable plants’ . . .
  - Clover, Dandelion, Dill, Parsley, Fennel,
- Start with Pollinators in mind
  - Endangered species
  - Which pollinators are you trying to attract
  - NYS Department of Environmental Conservation
    - www.dec.ny.gov/natureexplorer/app/location/town/results.7
  - NYS Pollinator Pathway
  - Xerces Society
Natural Lawn Alternatives

- Creeping Mazus (Mazus reptans)
- Creeping thyme (Thymus serpyllum)
- Clover (Trifolium pratense)
- Creeping Jenny (Lysimachia nummularia)
- Cedar sedge (Carex plumosa)
NYS Pollinator Pathway

What is a Pollinator Pathway?
A Pollinator Pathway is a series of gardens with native plant species that form a distinctive vegetative path within an urban landscape that provides habitat for pollinators, while also reducing the susceptibility of the urban landscape to the introduction of invasive species (any non-native species that causes harm to the economy, environment and/or human health).

You can help this project by planting pollinator friendly native species (some are showcased in this brochure) in your own garden! To participate contact the Pollinator Pathway Project Coordinators Below:

**Project Coordinators:**
Megan Pistolese: 315-387-3600 ext. 7724
megan.pistolese@tnc.org

Sue Gwise: 315-788-8405 ext. 243
Sjg42@cornell.edu

**Dogwood (Cornus spp)**
White flowers in spring. Height: 8’

**Currant and Gooseberry (Ribes spp)**
Late spring blooms, edible berries. Height: 8’

**Dogwood (Cornus spp)**
White flowers in spring. Height: 10’

**Eastern Ninebark (Physocarpus opulifolius)**
Attractive bark. Height: 9’

**Elderberry (Sambucus canadensis)**
White blooms in early summer; edible fruit. Height: 15’

**Meadowsweet (Spiraea alba)**
Blooms mid to late summer, white flowers. Height: 5’

**Raspberry and Blackberry (Rubus spp)**
Edible berries. Height: 6-10’
Recommended Plants with High Value for Pollinators

This is not an exhaustive list—there are thousands of native North American plant species that provide resources and habitat for pollinators. This is a streamlined list intended as a starting point. Instead of listing particular species, we have listed the genera. Not all species in each genus are native to all regions. To learn more about identifying, sourcing and planting native plant species for your park or green space, we suggest reaching out to local ecologists and native plant societies and native plant and seed suppliers (see the sections and links on the previous page). Plant names follow the USDA–NRCS PLANTS database (plants.usda.gov).

### Additional Plant Features

- **POLLINATOR “SUPERFOODS”**—Certain native plants are known to provide exceptional forage for a wide variety of bees and other pollinators, including monarchs. See table below for a list of some of these plants.
- **FOOD FOR SPECIALIST BEES**—Many native bees are “specialists” only collecting pollen and other resources from specific plants. See table below for a list of plants known to provide food for a number of specialist bees.
- **LEPIDOPTERA HOST PLANTS**—The caterpillars of many butterflies and moths can only feed on specific plants. For example, great spangled fritillary larvae only feed on violet leaves. Some plants support an amazing diversity of lepidoptera e.g., oaks support hundreds of butterflies and moth species. Since most native plants support at least one butterfly or moth, we use a for a genus supports over five species of one species that doesn’t eat anything else.

#### Scientific Name | Common Name | Form | Features...
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<tr>
<td>Abronia</td>
<td>Sand verbena</td>
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<td>Acer</td>
<td>Maple</td>
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<td>Achillea</td>
<td>Yarrow</td>
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<td>Aesculus</td>
<td>Chestnut</td>
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<td>Agastache</td>
<td>Giant hyssop</td>
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<td>Ageratina</td>
<td>Snakeroot</td>
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<tr>
<td>Amelanchier</td>
<td>Serviceberry</td>
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<tr>
<td>Amorpha</td>
<td>Leadplant; false indigo</td>
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<td>Andropogon</td>
<td>Bluestem</td>
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<td>Apocynum</td>
<td>Dogbane</td>
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<td>Aquilegia</td>
<td>Columbine</td>
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<td>Arctostaphylos</td>
<td>Manzanita</td>
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<td>Artemisia</td>
<td>Wormwood</td>
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<td>Asclepias</td>
<td>Milkweed</td>
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**KEY**

- FORM: 🌸 Herbaceous, 🍃 Woody, 🌾 Graminoid
- FEATURES:
  - Pollinator “superfood” 🐝
  - Specialist bee plant 🌿
  - Monarch nectar plant 🦋
  - Host plant 🌸
  - Nesting plant 🐝

1. See Additional Plant Features on p. 86 for more information.

Creating a Meadow

- **Site Analysis**
  - Light exposure, soil type
  - Grade, topography
- **Site Preparation**
- **Plant Selection**
  - Seed mixes / tool kits
  - Up to 1/3 grasses / sedges
- **Planting Techniques**
  - Fall seeding
- **On-Going Management**
  - Avoid fertilization
  - Mow every other year
Spread the word

- Talk to Neighbors, Landscapers / Yard maintenance
- Put up a signs
- Host a native Plant Garden Party
- Swap native plants with neighbors
  - Creating Pollinator corridors
- Join / support Pollinator Initiatives
- Encourage village and town boards to adopt ‘native planting’ resolutions
- Participate in Public Events
Bee Recognized

- Certify your Monarch Garden
  - 3 different butterfly nectar plants
  - 3 different caterpillar food plants
  - [www.NABA.org](http://www.NABA.org)
- Commit to 2 out of 3 for the Birds
  - Plant 2 native plants for every 3
  - Remove invasives
  - Use no pesticides
  - [www.234birds.org](http://www.234birds.org)
- Join the Homegrown National Park
  - [WWW.homegrownNationalPark.org](http://WWW.homegrownNationalPark.org)
NATIVE PLANTINGS
UNITED STATES
Load Data for State:
New York
GO!

NEW YORK TOTALS
Active Counties: 53
Active ZIP Codes: 282
Users Count: 366
Plantings Count: 680
Planted Acres: 748.119
Click on county to see area data
Click on fireflies to see ZIP code data

Country Plantings: 43,543 Acres (0.218%)
Country Goal: 20,000,000 Acres
My Projects for 2022

- **Lawn**
  - Raise mower blade to 3"
  - Water and mow less frequently
  - Create space for pollinator lawn
  - Experiment with sod removal

- **Install 3 planter boxes**
  - Clover / Dandelion
  - Herbs
  - Seed mix / native grasses

- **Add plants to pollinator garden area**

- **Plan for 2023**
Resources

- List of nurseries selling native plants
  - [Www.QuogueWildlifeRefuge.org](http://Www.QuogueWildlifeRefuge.org)
- Native Plant finder by the National Wildlife Federation
  - [Www.NWF.org/NativePlantFinder](http://Www.NWF.org/NativePlantFinder)
- Pollinator Action plans
  - [www.lincolnconservation.org/pollinators/toolkits](http://www.lincolnconservation.org/pollinators/toolkits)
- Long Island Native Plant Initiative
  - [www.linpi.org](http://www.linpi.org)
- Lower Hudson Partnership for Regional Invasive Species Management
  - [www.lhprism.org](http://www.lhprism.org)
- North American Butterfly Association
  - [www.NABA.org](http://www.NABA.org)
Credits

- Minnesota Board of Water Supply
- The Lincoln Land Conservation Trust, Lincoln, MA
  - www.lincolnconservation.org
- The Xeres Society
- The NYS Department of Environmental Conservation
- The Long Island Native Plant initiative
- The world wide web . . .
- And many more . . .
Thank you . . .