

# ATTRACTING POLLINATORS WITH NATIVE PLANTS

IN PEQUANNOCK TOWNSHIP



**Pequannock  
Environmental  
Commission**



**Tuesday, October 15, 2024  
7 p.m., Pequannock Library**

**Presented by:**  
**Pequannock Environmental Commission**  
**Thomas Newman, P.E., Chair**  
**Karen Randolph, PhD, Member**

# PRESENTATION OVERVIEW

- Meet your Environmental Commission
- Pollinator Garden Projects – History & Status
  - Foothills Park Pollinator Garden
  - Library Front Rain Garden
  - Library Rear Rain Garden
  - Greenview Park Rain Garden
- Why Native Plants?
- What Can You Do?



*Please ask questions at any time!*

Kiosk at Foothills Park  
Pollinator Garden

# Environmental Commission

- Members are *volunteers* appointed by the Mayor; include liaisons to the Planning Board and Open Space Committee
- 7 Members (3-yr terms) + 2 Alternates (2-yr terms)
  - + Youth Liaison (1-yr non-voting term)
  - + Council Liaison (1-yr non-voting term)
- Mission:
  - *Advise the Council, Planning Board and Zoning Board (we often review development plans and respond to information requests)*
  - *Advocate for open-space preservation and conservation*
  - *Keep residents informed of environmental issues*
  - *Promote environmental education*
  - *Keep an updated “Environmental Resource Inventory”*
- Meetings: monthly (2<sup>nd</sup> Wed., 7:30pm at Senior House)

# Environmental Commission

- See our web page: [www.peqtwp.org/241/Environmental-Commission](http://www.peqtwp.org/241/Environmental-Commission) (on Town site under “Government / Boards, Committees & Commissions”)
  - Activities Calendar (past, ongoing and upcoming)
    - Sat. Oct. 19: Hoe Down Booth (Theme: Composting & Gardening)
    - Sat. Oct. 26: Pollinator/Rain Garden Winterizing & Seeding Event
    - Sat. Jan. 11 or 25: StyroFoam Collection Drive
    - Sat. Apr. 5: Pequannock Library Fest Booth (Theme: Library Rain Gardens)
    - Sat. Apr. 12: Pequannock Cleanup Day
    - Sat. Apr. 26: Mini BioBlitz (Finding Wild Animals & Plants at Woodland Lake)
    - Sat. May TBD: Rain Barrel Workshop (Make a Rain Barrel & Take it Home – Free!)
  - Links to Information Organized by Topic, including
    - “How Do I...” “Maps/Aerials” “Weather/Flooding” “Kids/Education” & more
  - Link to our Township “Environmental Resource Inventory”
    - A compendium of environmental information for our town

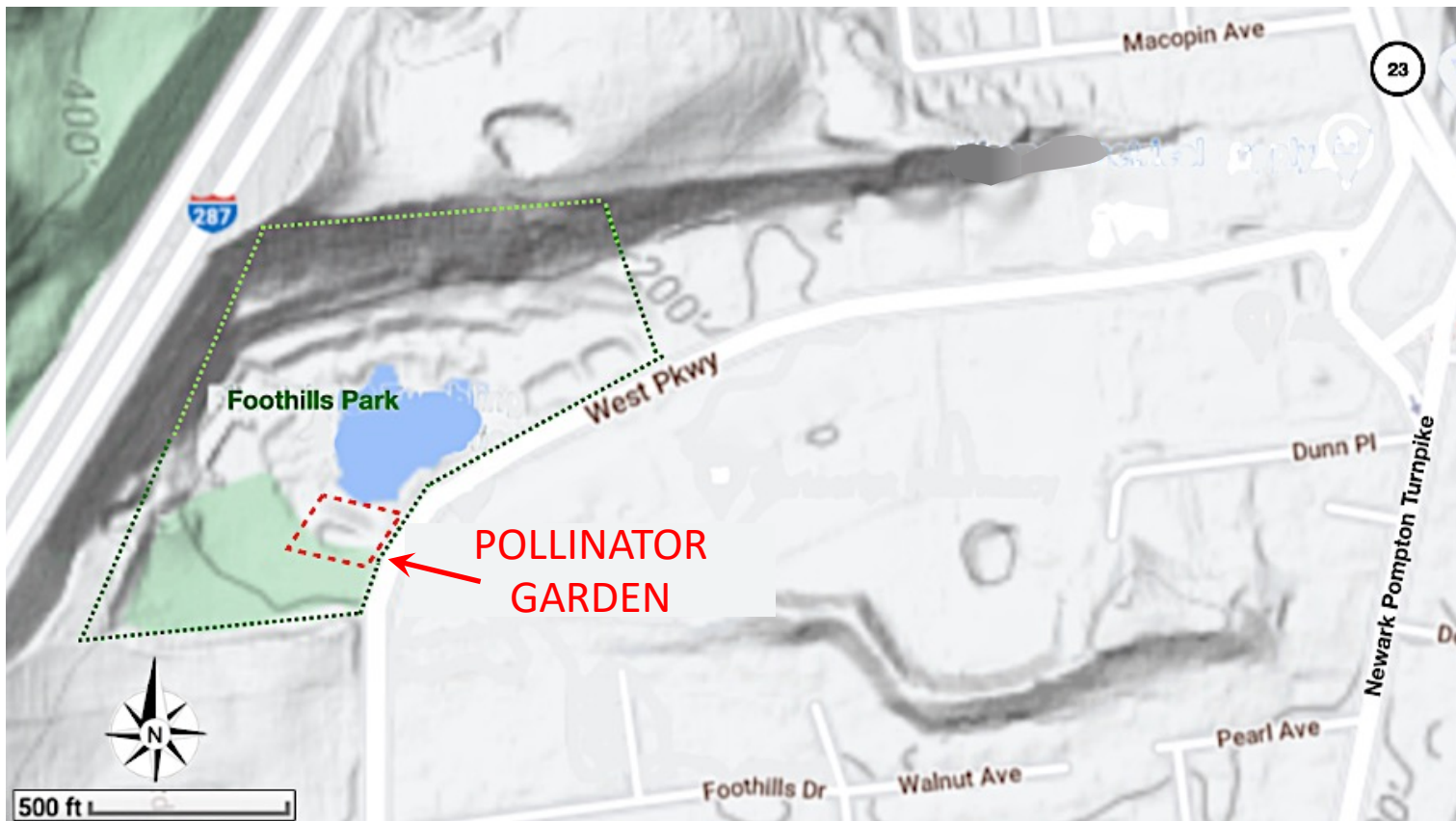


*I'll come back to this at the end if we have time*

# Pollinator Garden Projects

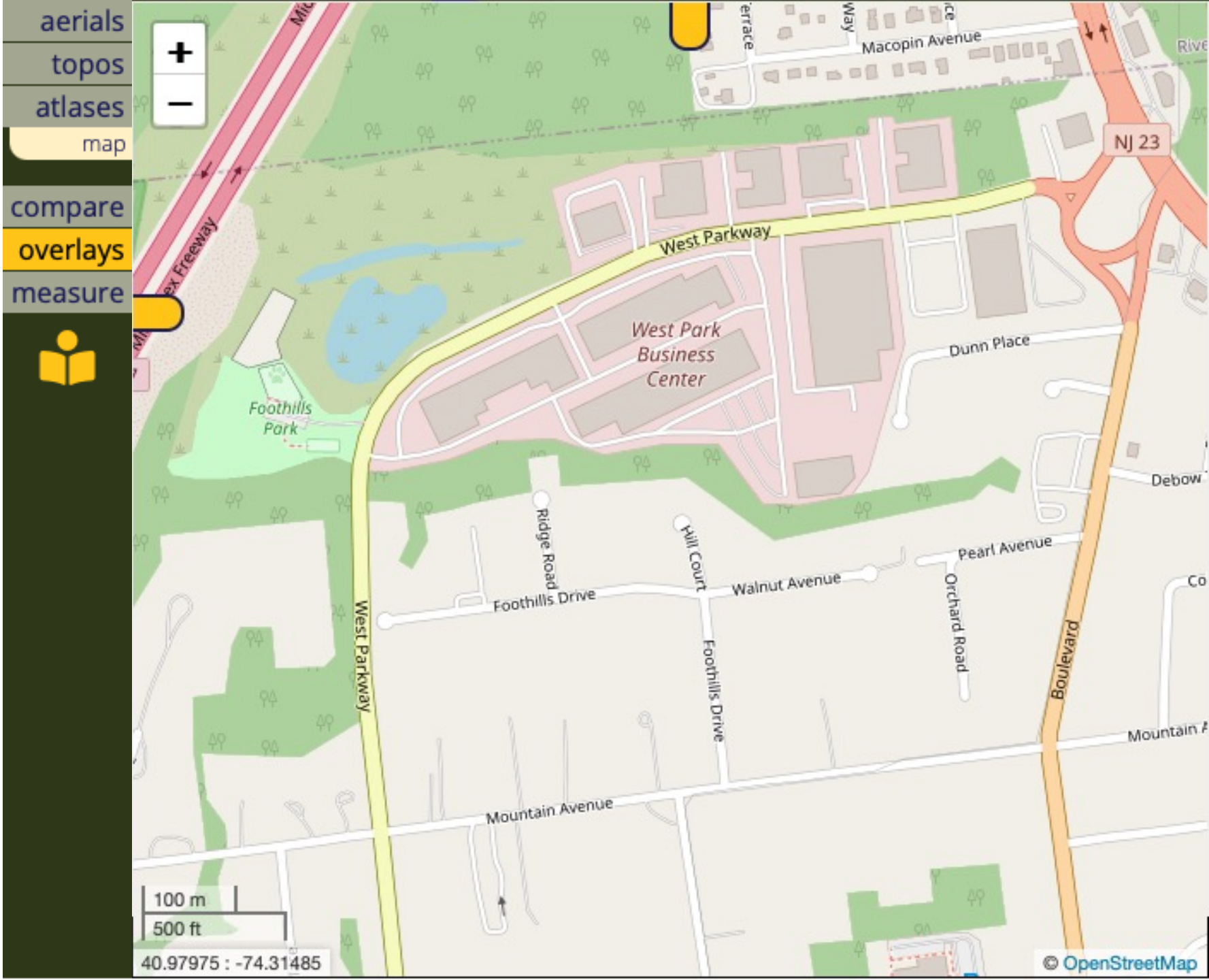
- Foothills Park Pollinator Garden
  - Location: Foothills Park, West Parkway
  - History: Quarry (1950s-1980s), now Township Park with drainage for Business Center

Google "Terrain" Topographic Map



<https://www.historicaerials.com/viewer>

(link on our website under "Maps/Aerial Photos")



<https://www.historicaerials.com/viewer>

(link on our website under "Maps/Aerial Photos")

- 2022
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(link on our website under “Maps/Aerial Photos”)

40.97462 : -74.30145

© OpenStreetMap, © NETRonline

<https://www.historicaerials.com/viewer>

(link on our website under "Maps/Aerial Photos")

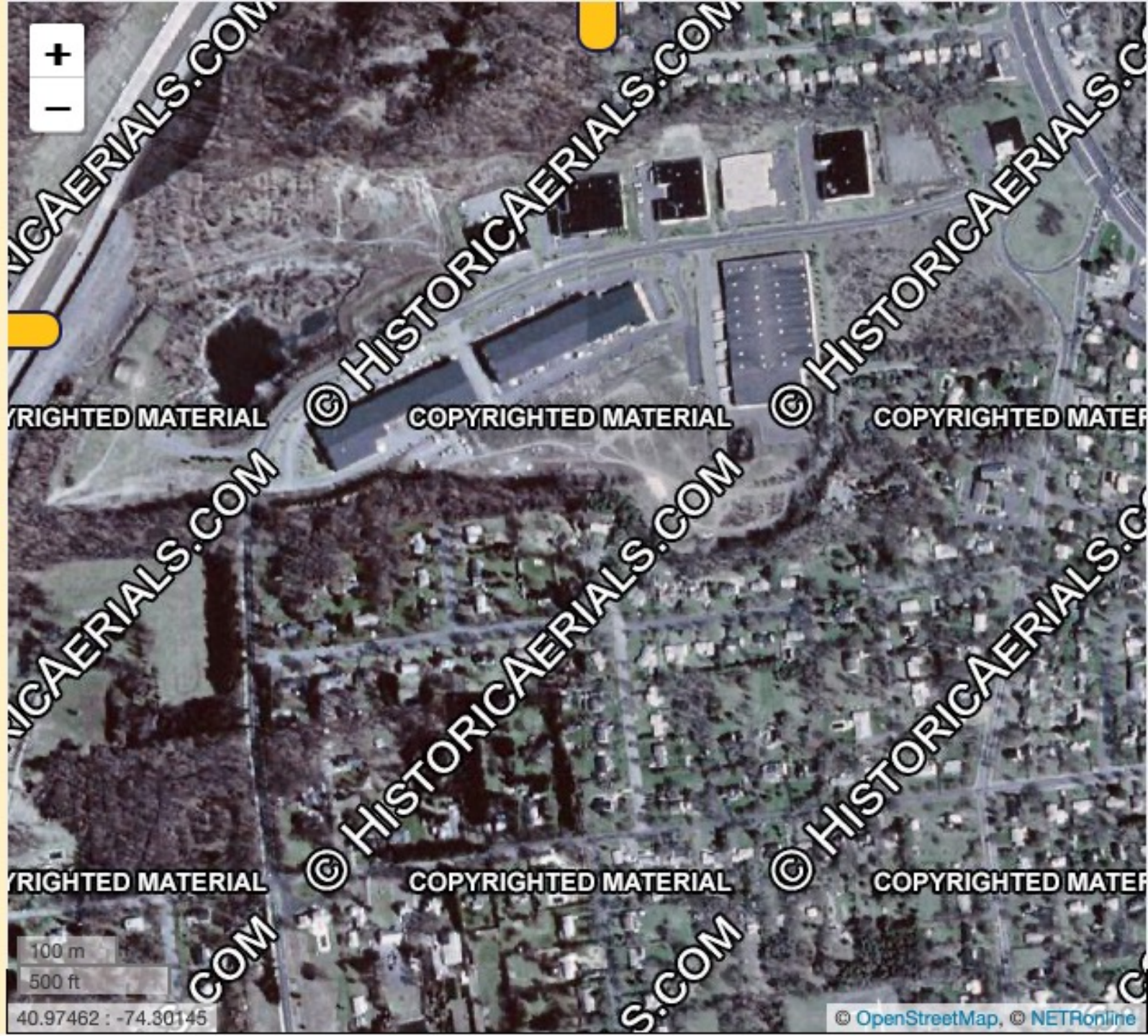
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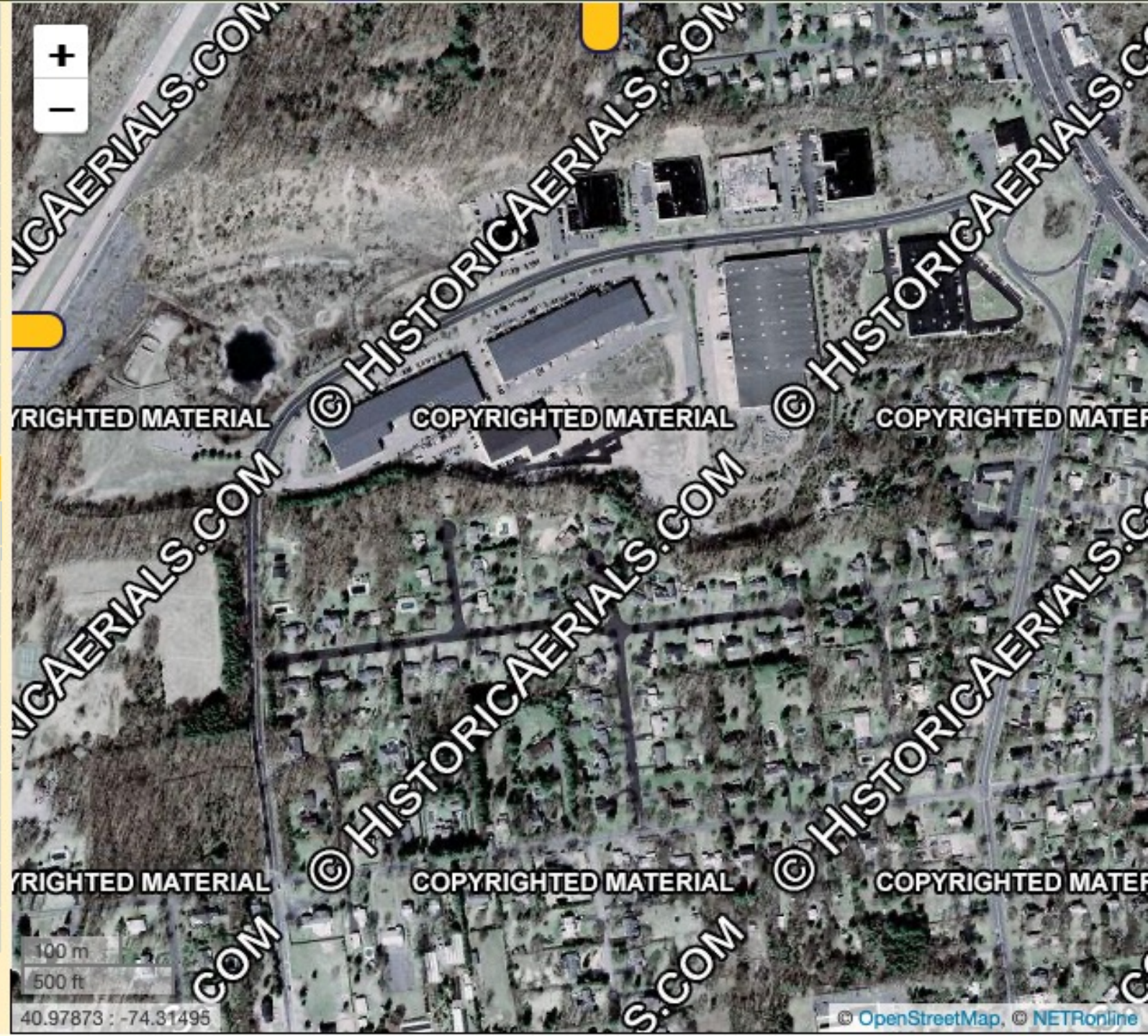


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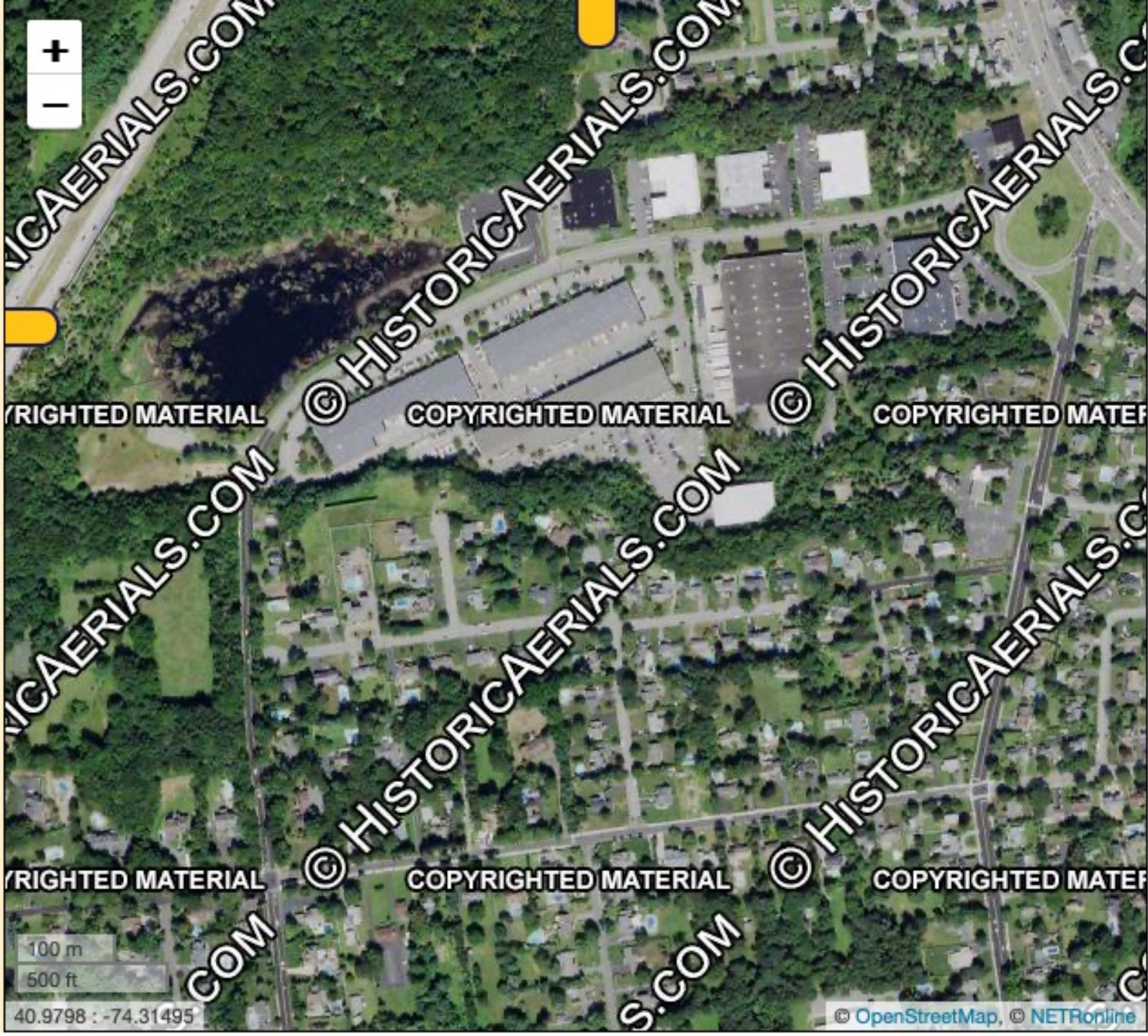
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April 21, 2024



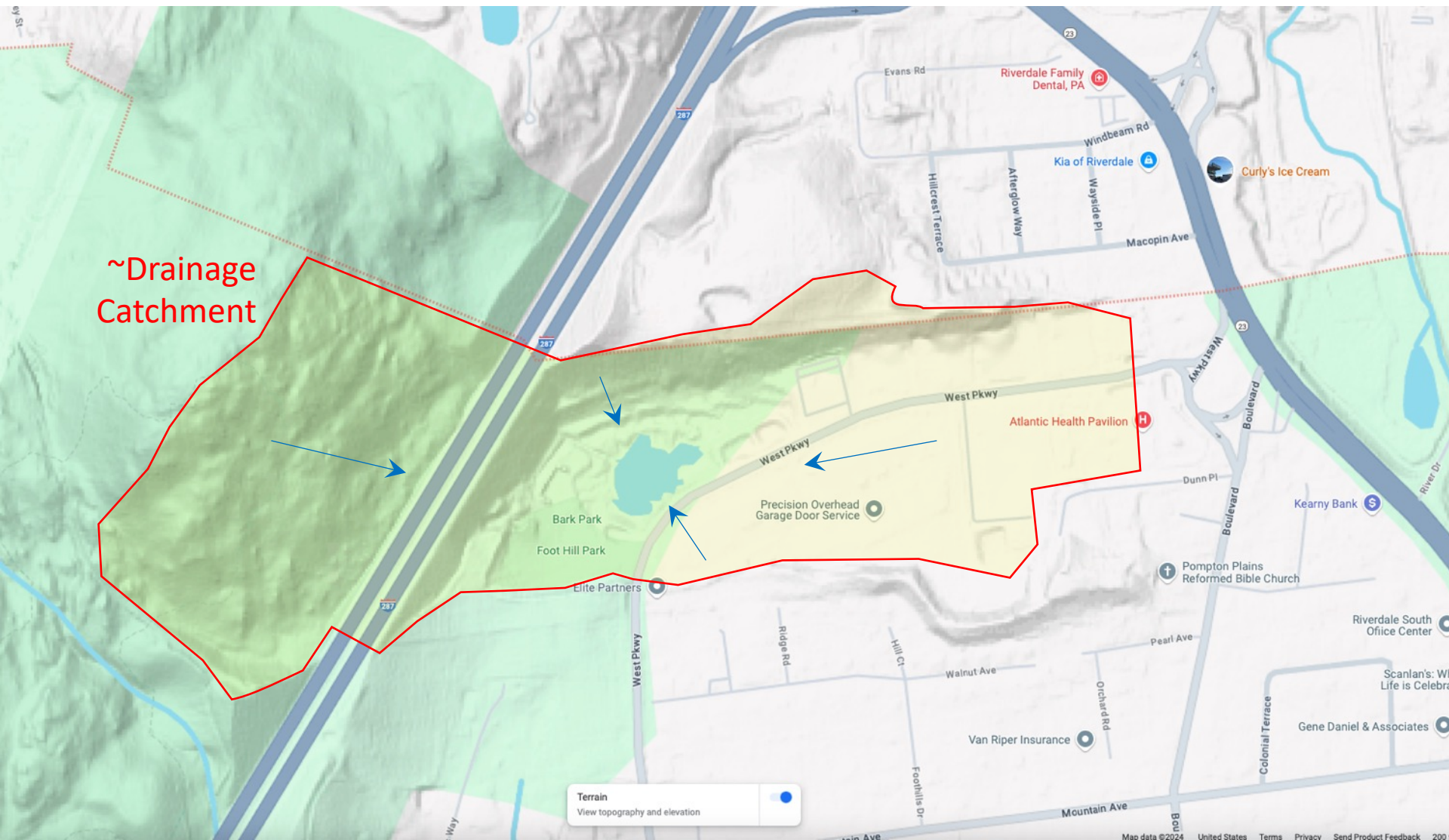
Historic Max Water Level

2023/2024 Max Water Level

Current Water Level

June 12, 2024

# Foothills Park – Why Do Levels Vary So Much?



- Initial Plan Elements (pre-287)

-

# Foothills Park – 2022 Plan

## PROPOSED FOOTHILLS PARK HIKING TRAILS PROJECT LOCATION MAP - REV 8/24/2022

### Highlights

..... Footpaths

 Bump-outs

 Pollinator  
Garden

 Benches

 Kiosk

### Legend

- EASEMENTS
-  PHOTO LOCATION
- ..... PROPOSED TRAIL PHASE 1 - 1600 ft.
- ..... PROPOSED TRAIL PHASE 2 - 800 ft.
- ..... PROPOSED TRAIL PHASE 3 - 1700 ft.
- LOT LINES
- TOWNSHIP LIMITS
- PARCELS

Pequanock  
Dog Park

PQ

FOOTHILLS PARK

Limits of Access  
Currently Constructed  
Gravel Road  
≤ 2% Running Slopes

8' Wide Select Motorized Use  
> 2% Running Slopes

8' Wide Select Motorized Use  
≤ 2% Running Slopes

2 Well Heads

Well House  
#3

Guy Wire

WEST PARKWAY

8' Wide Select Motorized Use  
> 2% Running Slopes

6' Wide Non-Motorized  
Access Only  
≥ 2% Running Slopes

6' Wide Non-Motorized  
Access Only  
≥ 2% Running Slopes

Guy Wire

0 25 50 100 150 200  
Feet



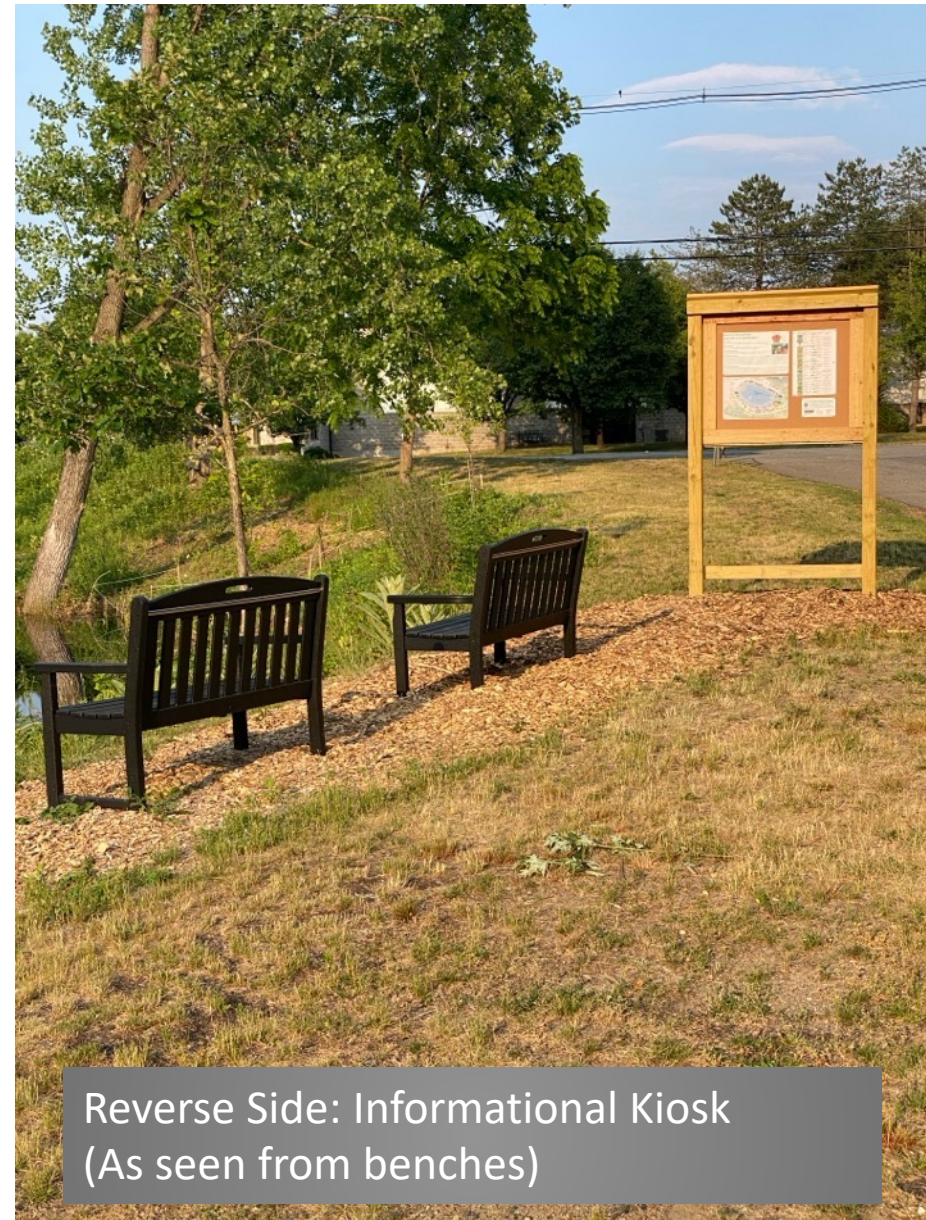
**TOWNSHIP OF PEQUANNOCK**  
PLANNING & ENGINEERING DEPARTMENT

530 NEWARK POMPTON TPK  
POMPTON PLAINS, NJ 07444



Photo: Steven O'Neill, 9/12/2022  
High Flight Photography Services LLC  
[Stevenoneill17@gmail.com](mailto:Stevenoneill17@gmail.com)

# Foothills Park – Current Status

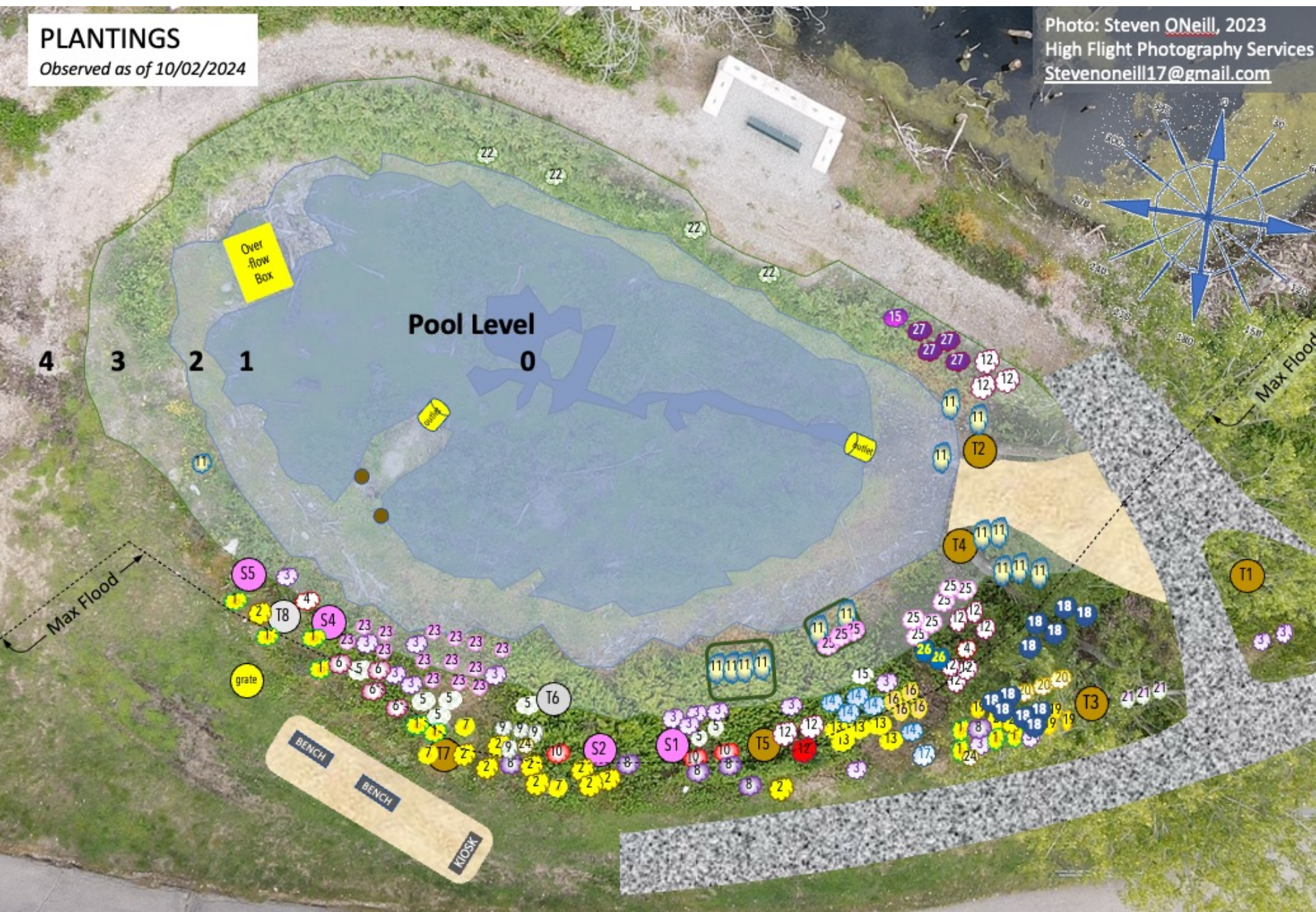


## PLANTINGS

*Observed as of 10/02/2024*

Observed as of 10/02/2024

Photo: Steven ONeill, 2023  
High Flight Photography Services  
Stevenoneill17@gmail.com



# Foothills Park – Current Status

| Shrubs and Trees                                                                   |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 | Provide structure for birds, cover for insects, shade for plants                   |          |       |
|------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------|-------|
| PHOTO                                                                              | NAME (Common, Scientific )       | FLOWERS                                      |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    | ATTRACTS | NOTES |
|    | Arrowwood                        | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Blue-black berries,<br>red fall foliage                                            |          |       |
|                                                                                    | <i>Viburnum dentatum</i>         | Flat white clusters                          |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|    | Buttonbush                       | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Loves wet areas.<br>After blooming, seed pods<br>provide food for weeks.           |          |       |
|                                                                                    | <i>Cephalanthus occidentalis</i> | Fragrant white balls                         |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|    | Red Twig Dogwood                 | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Bright red stems provide<br>rare winter display                                    |          |       |
|                                                                                    | <i>Cornus sericea</i>            | Small white flowers,<br>scarlet winter stems |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|    | Serviceberry                     | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | An early bloomer.<br>Purple/red fruit in June.                                     |          |       |
|                                                                                    | <i>Amelanchier canadensis</i>    | Small white stars                            |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|   | Swamp White Oak                  | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more    | Oaks support more types<br>of native caterpillars than<br>any other plant, by far. |          |       |
|                                                                                    | <i>Quercus bicolor</i>           | Small yellow                                 |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|  | Swamp Rose Mallow                | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Huge flowers of various<br>colors attract many<br>pollinators                      |          |       |
|                                                                                    | <i>Hibiscus moscheutos</i>       | 6-8" flowers may be<br>white/pink with eyes  |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|  | Witch Hazel                      | MAR                                          | APR | MAY | JUN | JUL | AUG | SEP | OCT |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Oaks support more types<br>of native caterpillars than<br>any other plant, by far. |          |       |
|                                                                                    | <i>Hamamelis virginiana</i>      | Small yellow spidery<br>flowers in winter    |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |
|                                                                                    |                                  |                                              |     |     |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |          |       |

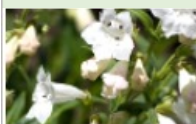
# Foothills Park – Current Status

## Herbaceous Plants and Ground Covers *Provide nectar or host*

| PHOTO                                                                               | NAME (Common, Scientific)                                    | FLOWERS                                                                        | ATTRACTS                                                                                                                                                                                                                                                                                                                                                                                                | NOTES                                           |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
|    | Anise Hyssop<br><i>Agastache foeniculum</i>                  | MAR APR <b>MAY</b> JUN JUL AUG SEP OCT<br>Blue/purple columns                  |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Long-lasting blooms.                            |
|    | Bee Balm (Scarlet)<br><i>Monarda fistulosa</i>               | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Scarlet                              |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Fragrant flowers and foliage.                   |
|    | Black-Eyed Susan<br><i>Rudbeckia hirta</i>                   | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Yellow petals, brown center          |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | A re-seeding biennial with long-lasting blooms. |
|    | Blazing Star<br><i>Liatris spicata</i>                       | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Purple spikes                        |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Drought tolerant.                               |
|    | Blue Flag Iris<br><i>Iris versicolor</i>                     | MAR APR <b>MAY</b> JUN JUL AUG SEP OCT<br>Large, blue-purple with yellow       |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Thrives in up to 4" of standing water.          |
|    | Butterfly Weed<br><i>Asclepias tuberosa</i>                  | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Showy, yellow-orange clusters.       |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Attracts butterflies including Monarchs.        |
|   | Coreopsis / Tickseed<br><i>Coreopsis (Jethro Tull)</i>       | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Yellow-orange rays, dark orange eyes |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more        | Long-lasting blooms.<br>Drought tolerant.       |
|  | Sundrops /Narrow Eve. Primrose<br><i>Oenothera fruticosa</i> | MAR APR <b>MAY</b> JUN JUL AUG SEP OCT<br>Bright yellow cups.                  |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Long blooming period; flowers at night.         |
|  | False Sunflower / Ox-eye<br><i>Heliopsis helianthoides</i>   | MAR APR MAY <b>JUN</b> JUL AUG SEP OCT<br>Yellow-orange rays, dark orange eyes |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Long-lasting blooms.<br>Drought tolerant.       |
|  | False Indigo<br><i>Baptisia</i>                              | MAR APR <b>MAY</b> JUN JUL AUG SEP OCT<br>Showy, dark blue lipped petals       |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Drought tolerant.                               |

# Foothills Park – Current Status

## Herbaceous Plants and Ground Covers

|                                                                                     |                                                                  |                                                      |                                         |                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                           |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|    | <b>Foxglove Beardtongue</b><br><i>Penstemon digitalis</i>        | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | White to pink conical tubes             |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Not a true Foxglove.<br>Drought tolerant.                                 |
|    | <b>New England Aster</b><br><i>Symphyotrichum novae-angliae</i>  | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Blue to violet                          |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Magnet for late fall pollinators;<br>grows 3 to 7 ft tall.                |
|    | <b>Obedient Plant</b><br><i>Physostegia virginiana</i>           | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | White                                   |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Named so because flowers will remain once they are twisted into position. |
|    | <b>Purple Coneflower</b><br><i>Echinacea purpurea</i>            | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Radial purple petals from round center  |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Goldfinches love the seeds                                                |
|    | <b>Rattlesnake Master</b><br><i>Eryngium yuccifolium</i>         | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Round, thorny heads are pale blue/green |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Blooms attract many pollinators and predatory insects                     |
|    | <b>Showy Goldenrod</b><br><i>Solidago speciosa</i>               | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Yellow                                  |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more         | Late season pollinator workhorse                                          |
|   | <b>Sunchoke / Jer.Artichoke</b><br><i>Helianthus tuberosus</i>   | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Yellow sunflower                        |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more    | Supports pollinators and is a host plant for larvae.                      |
|  | <b>Swamp Milkweed</b><br><i>Asclepias incarnata</i>              | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Pink                                    |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Attracts butterflies, hosts Monarchs; tolerates wet.                      |
|  | <b>Virginia Mountain Mint</b><br><i>Pycnanthemum virginianum</i> | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | White                                   |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Tiny blooms buzz with pollinators.                                        |
|  | <b>Woodland Sunflower</b><br><i>Helianthus divaricatus</i>       | MAR<br>APR<br>MAY<br>JUN<br>JUL<br>AUG<br>SEP<br>OCT | Yellow rays, yellow-orange eyes         |  Butterflies<br> Hummingbirds<br> Songbirds<br> Bees & more | Enjoys partial shade; grows 2 to 7 ft tall.                               |

# Foothills Park – Current Status

## Some Notable Sightings

Oriole (downed nest only)



Kingfishers



Monarch Butterflies  
and Caterpillars



Tadpoles and frogs



Damselflies and  
Dragonflies



# Pollinator Garden Projects

- Pequannock Library Rain Garden (Front)
  - History: Created in May, 2014 as an Eagle Scout Project (Brian Van Wart, assisted by Town Engineer Joe Golden)



Photo:  
During storm, circa Sep. 2014

# Pequannock Library Rain Garden (Front)

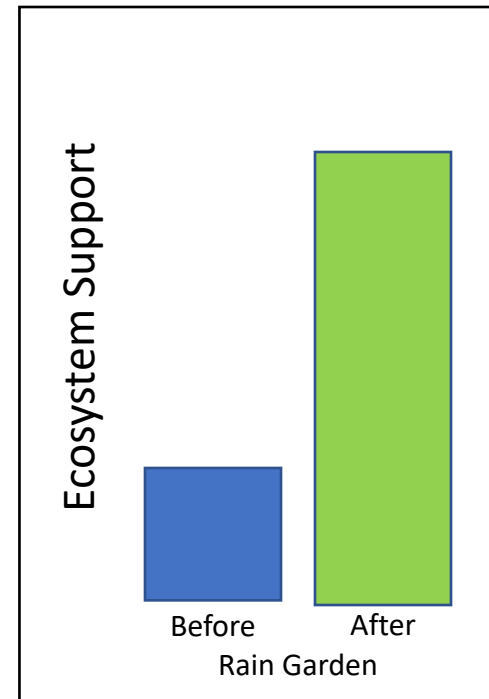
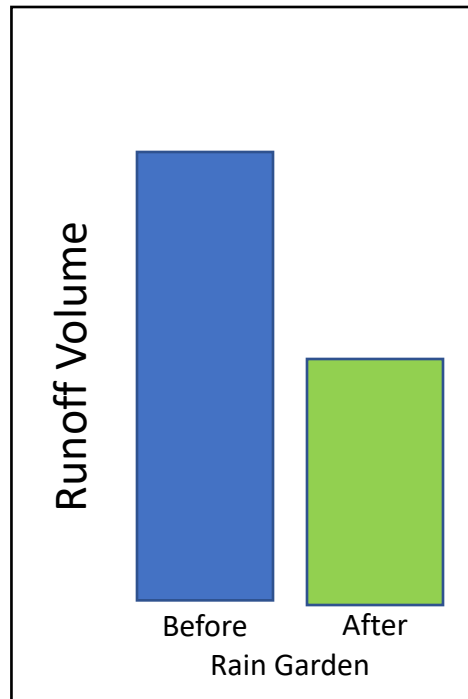
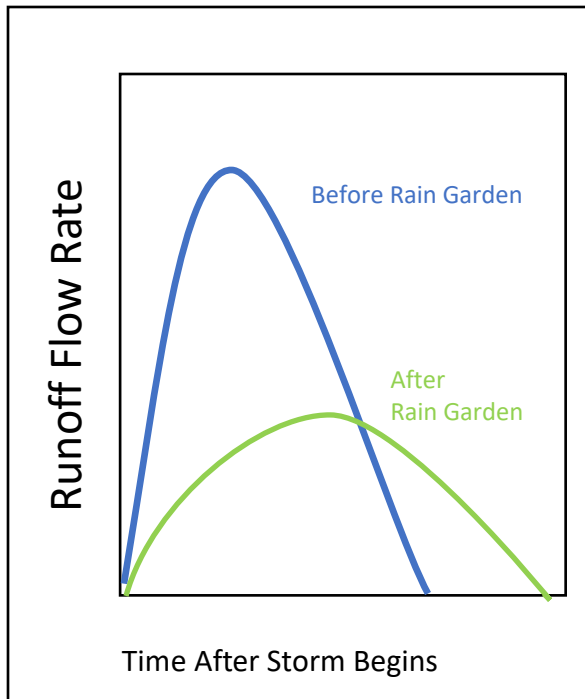
- Purpose: reduce runoff, absorb pollution, and support pollinators to sustain the ecosystem



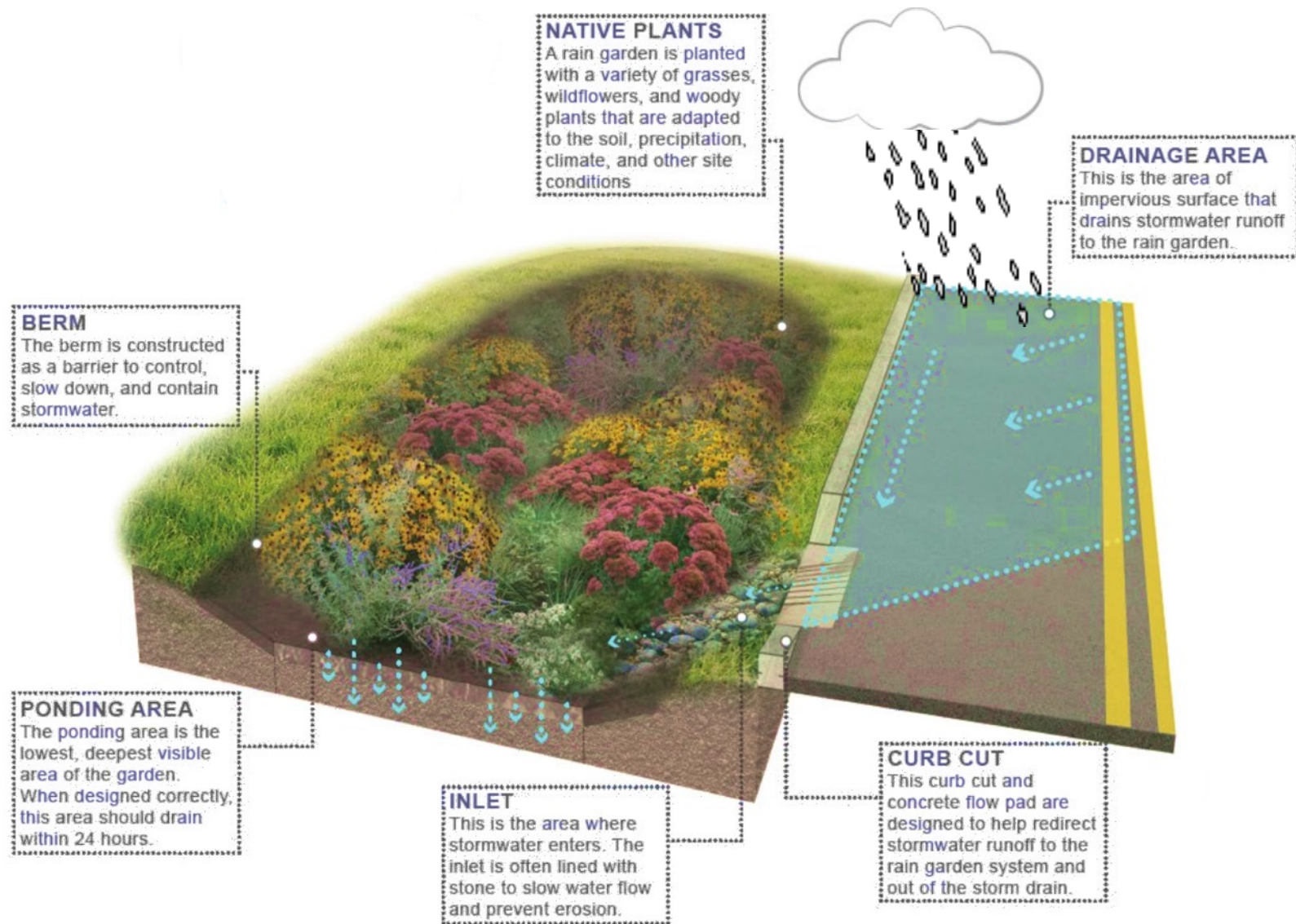
Photo:  
During storm, circa Sep. 2014

# Pequannock Library Rain Garden (Front)

- Purpose: reduce runoff, absorb pollution, support pollinators to sustain ecosystem



# How Does A Rain Garden Work?



# Pequannock Library Rain Garden (Front)

- Capturing and handling runoff



# Pequannock Library Rain Garden (Front)

- In 2023, after nearly a decade, many of the original Rain Garden plantings had died off due to increasing shade from the growing trees, droughts, trampling, etc.
- In Sep. 2023, the Environmental Commission asked if the Library wanted help rejuvenating the plantings. (Yes!)
- Using a small (\$100) budget, we leveraged a fall plant sale at a local nursery (Canete's) and resident donations to add roughly \$600 worth of plantings.



# Pequannock Library Rain Garden (Front)

Status:

Runoff from parking lot enters the garden through curb cut during Sep 29, 2023 storm



# Pequannock Library Rain Garden (Front)

Status:

Ponding visible throughout the rain garden during Sep 29, 2023 storm



# Pequannock Library Rain Garden (Front)

Status:

Some of the other plantings that survived from 2023:



Coreopsis



Moss Phlox



Blue Flag Iris



Rudbeckia



Helianthus



Penstemon



Groundsel



Aster

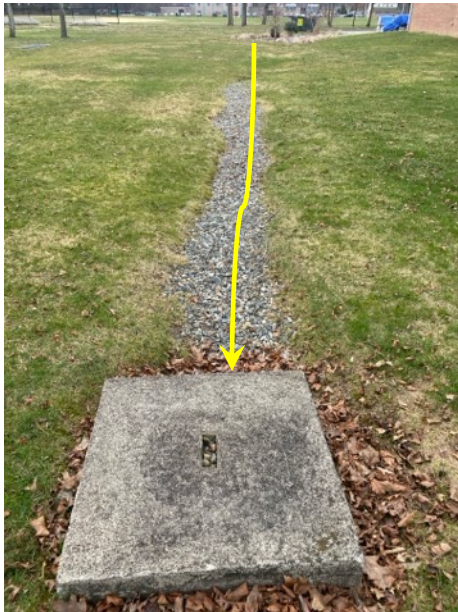


Echinacea

# Pollinator Garden Projects

- Pequannock Library Rain Garden (Rear)
  - History: Created in October, 2020 as an Eagle Scout Project (Scout Daniel

Storm sewer  
entrance



Reverse angle  
(Mar. 20, 2024)



Photo:  
May 8, 2021

# Pequannock Library Rain Garden (Rear)

- Status on Sep. 29, 2023 (during storm)



Photo: storm on  
Sep. 29, 2023

# Pequannock Library Rain Garden (Rear)

- Status on Aug. 26, 2024 (plantings present but...)



Photo:  
Aug. 26, 2024

# Pequannock Library Rain Garden (Rear)

- Status on Aug. 26, 2024 (...needs weeding!)



Photo:  
Aug. 26, 2024

# Pollinator Garden Projects

- Greenview Park Rain Garden (Proposed for 2025)
  - Location: Between the restroom parking lot and the pond.



# Greenview Park Rain Garden (Proposed for 2025)

- History: runoff from the parking lot does not drain away. In 2024, DPW re-lined pond, regraded the surrounding area, and asked PEC to install a rain garden to handle runoff.



Looking north between parking lot and pond  
Photo: Sep. 13, 2024

# Why Native Plants?

- There is an *excellent* webinar recording about this at:
  - [www.youtube.com/watch?v=anjQNC2jppg](http://www.youtube.com/watch?v=anjQNC2jppg) (Dr. D.Tallamy)
- Scientists are observing a Mass Extinction event of many species including insects, birds and mammals
  - Reasons are unclear (loss of habitat, pollution?)
  - Despite the reasons, *supporting ecology* is critical!

**Science** AAAS

**North America has lost 3  
billion birds in 50 years**

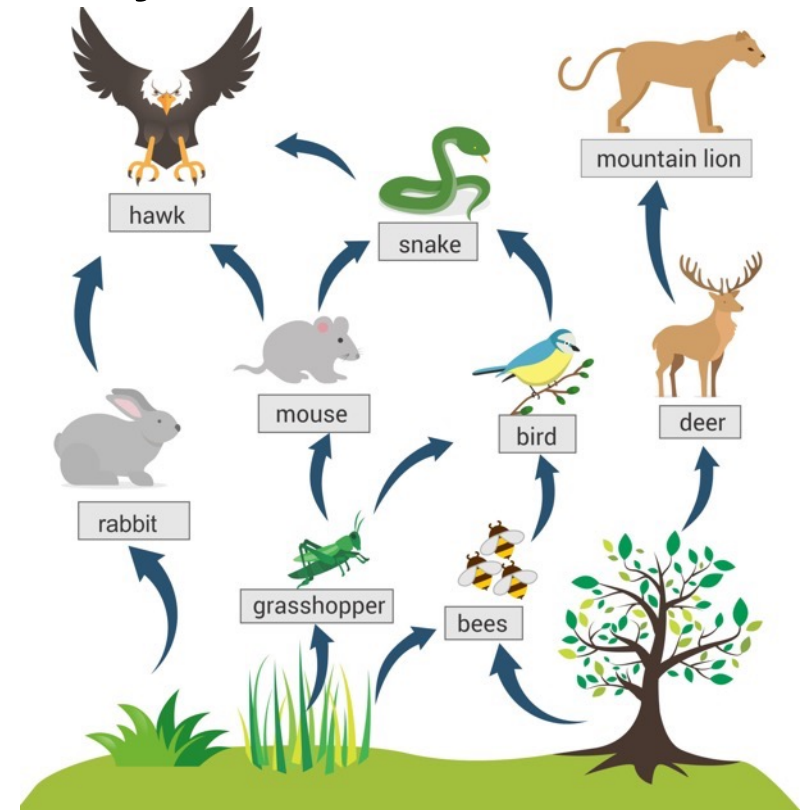
Rosenberg et al. 2019. *Science*  
Vol. 365, Issue 6459, pp. 1228-1229

**The Washington Post**  
**One million species face  
extinction, U.N. report  
says\***

**The New York Times**  
**The Insect Apocalypse Is Here**  
What does it mean for the rest of life on Earth?  
Nov 27 2018

# Why Native Plants?

- Many folks may recall from grade-school biology nature's “*ecological pyramid*” or “*food web*”



- What's becoming clear is the importance of the lower part of these models – especially *habitat* & *insects and their larvae*.

# Why Native Plants?

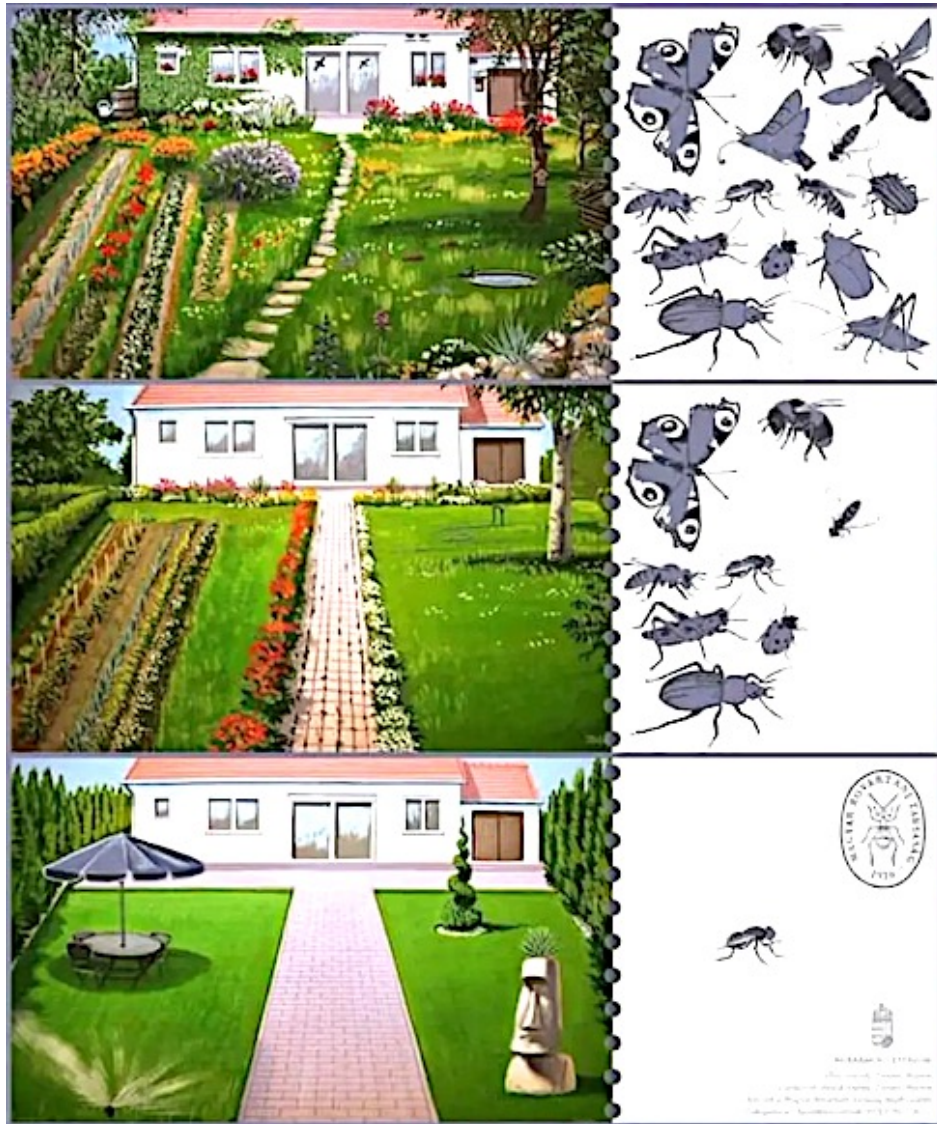
- Habitat:
  - Humans have ***greatly*** altered our entire landscape, clearing old-growth forests for agriculture, introducing non-native crops/plant & animals, draining and hardscaping the land, damming and channelizing rivers, introducing pollutants...



# Why Native Plants?

- Habitat:

- *How much suitable habitat is required to sustain the ecology?*
- Based on his research, Dr. Tallamy suggests that 70% native plants on private property will sustain the ecology.
- According to research by Dr. D.Narango, new residential yards feature ~80% *non*-native plants (we need to flip that!)



# Why Native Plants?

- Importance of Insects, especially their larvae:
  - It turns out that insect larvae, a.k.a. “caterpillars” are of critical importance as “superfoods” in the food web
  - More than 70% of birds eat mostly insects at some point during their life cycle (especially raising young)
  - Caterpillars appear at highly predictable times and offer a lot of nutrition in a soft (very little chitin) package easy to feed directly to chicks.



# Why Native Plants?

- But it turns out that most caterpillars, and 90% of moth/butterfly caterpillars, are “SPECIALISTS” (meaning, can eat just 1 or a few different plants).
- Why is that?
  - Plants have evolved toxins to protect themselves
  - Very few insects have developed tolerances of that toxin
  - These pairs have also evolved so that the caterpillar is ready to eat the plant when its foliage is out, the foliage color matches (camouflage) or provides cover.
  - Even the adult (moth/butterfly) forms have specialized pairings that provide the right kind of nectar from the right size/shape flower of a certain color.

Funnel



Salverform



Trumpet



Rosette



Pompom



Cross (cruiform)



Star (stellate)



Saucer



Cup



Bell



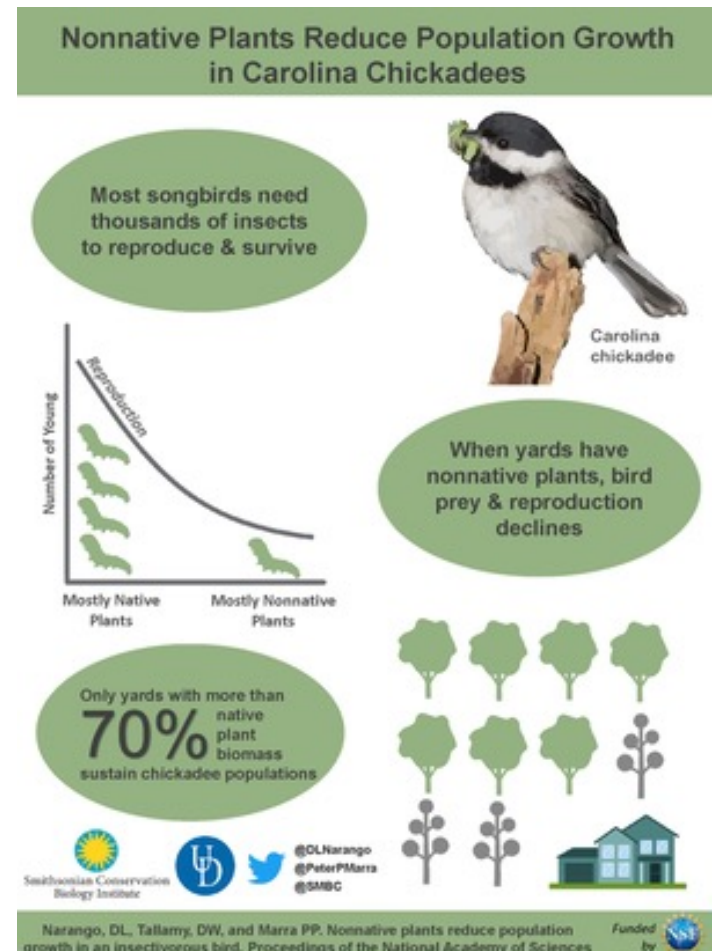
Tubular

# Why Native Plants?

- Native plants support:
  - 2-3x higher insect abundance and biomass vs non-native
  - 5x more caterpillars vs non-native
  - Higher insect diversity
  - Specialist native insects
- Popular non-native plants typically support few if any native species:
  - Ginko – 6 species
  - Hosta/Zinnia/Hyacinth/Cosmos/Marigold – 0 species
- Even non-native “cousins” of native species typically support about half the number of organisms, and resulted in slower growth & higher mortality
  - However, some “nativars” are ok; it depends on what’s bred. Avoid changes to flower size, shape, and color.

# Why Native Plants?

- Even “GENERALISTS” (insects that live off of many different plants) prefer native varieties to non-native plants, and even over non-native *cousins* and *hybrids* of the native varieties.
- Similar results are found with birds
  - A study of chickadees show they favored (visited) natives to non-natives by a ratio of 85% to 15%
  - Reproductive success was also much higher when native plants were available vs. non-native or hybrids.



# Why Native Plants?

- Studies done in the US on a county-by-county basis show that certain native plants supported far more caterpillar species including sensitive species. These **“Keystone Plants”** are critical to food web stability.
- Oaks are universally the top keystone plants in the US and alone support ~1,000 different caterpillar types.
- Many of these caterpillars complete their life cycle in the leaf litter or the ground under/near the tree
  - Keeping the ground under the canopy un-mowed or mulched greatly enhances the sustainability of these insects as well as fireflies, bumblebees, and lacewings.
- To support bees, Goldenrods are Keystone Plants, critical to well over 100 different species.

# Why Native Plants?

## Best NJ Trees

- Oaks (>500)
- Cherry (397)
- Willow (352)
- Birch (343)
- Aspen (300)



## Best NJ Flowers

- Goldenrod (>123)
- Aster (101)
- Strawberry (71)
- Sunflower (66)



## Best for Bees

- Goldenrod 34)
- Sunflower (34)
- Aster (29)
- Rudbeckia (26)
- Coreopsis (17)
- Blueberry (10)

Also great:

- Mints
- Bee balm
- Rose
- Cherry
- Apple

# What Can YOU Do?

- Assess your yard to find how many native vs. non-native trees, shrubs and flowers you have. See if you can attain at least 70% native (sustainability target).
- Reduce the size of your lawn and replace it with beds of native trees and flowering plant beds
- Focus on “Keystone” native species
- Capture roof runoff in rain barrels and/or divert roof runoff to plantings and rain gardens
- Participate in community pollinator- or rain-garden planting and maintenance events, where you may learn a lot and even exchange native plants with other residents!

# For More Information

<https://npsnj.org> – Native Plant Society of NJ

[www.nwf.org](http://www.nwf.org) – Native Plant Finder

[www.xerxes.org](http://www.xerxes.org) – Xerxes Society; rec's for seasons

[www.inaturalist.org](http://www.inaturalist.org) – for photos to ID what you want

<https://www.jerseyyards.org> – tips for NJ homeowners

<https://www.youtube.com/watch?v=anjQNC2jppg> – Excellent presentation by Dr. Doug Tallamy on Why Native and What Homeowners Can Do

[www.desireenarango.weebly.com](http://www.desireenarango.weebly.com) – research, slides, graphics of Dr. Desiree Narango

## *For Interested Residents*

- The Environmental Commission is looking for volunteers to help maintain our gardens and build new ones!
- Specifically we are looking for:
  - Donations of native plants, such as Black Eyed Susans, Echinacea, Milkweed, Goldenrods, Obedient Plants, etc.
  - People who can weed, plant, shovel wood chips, water, etc.
  - People who would like to share their gardening know-how with others AND people who would like to learn.
- Please consider signing up on our sign-up sheets or contact us with any questions!
- [PTEC@pegtwp.org](mailto:PTEC@pegtwp.org) or [tlnewman02@Hotmail.com](mailto:tlnewman02@Hotmail.com)

# Environmental Commission

- See our web page: [www.peqtwp.org/241/Environmental-Commission](http://www.peqtwp.org/241/Environmental-Commission) (on Town site under “Government / Boards, Committees & Commissions”)
  - Activities Calendar (past, ongoing and upcoming)

- Sat. Oct. 19: Hoe Down Booth (Theme: Composting & Gardening)
- Sat. Oct. 26: Pollinator/Rain Garden Winterizing & Seeding Event
- Sat. Jan. 11 or 25: StyroFoam Collection Drive
- Sat. Apr. 5: Pequannock Library Fest Booth (Theme: Library Rain Gardens)
- Sat. Apr. 12: Pequannock Cleanup Day
- Sat. Apr. 26: Mini BioBlitz (Finding Wild Animals & Plants at Woodland Lake)
- Sat. May TBD: Rain Barrel Workshop (Make a Rain Barrel & Take it Home – Free!)



# Environmental Commission

- See our web page: [www.peqtwp.org/241/Environmental-Commission](http://www.peqtwp.org/241/Environmental-Commission) (on Town site under “Government / Boards, Committees & Commissions”)
  - Link to our Township “Environmental Resource Inventory”
    - A compendium of local environmental information (being updated)
  - Links to Information Organized by Topic, including
    - “How Do I...”
    - **Waste Disposal/Recycling/Pollution** (tips for responsible actions, etc.)
    - **Maps/Aerial Photos** (includes historical)
    - **Land/Plants/Animals** (includes info on gardening, native/invasive species, etc.)
    - **Weather/Flooding** (includes rainfall maps, flooding maps, river levels, etc.)
    - **Watersheds/Waterbodies** (includes maps with names & drainage areas)
    - **Drinking Water & Food Health** (includes data on contaminants, restaurants, etc.)
    - **Air/Sun** (includes air quality information, astronomical information)
    - **Energy** (includes info on homeowner incentives and tips, auto info, etc.)
    - **Regulatory** (includes links to local/state/federal rules, contaminated sites, etc.)
    - **Kids/Education** (includes links for kids/parents, day-trip ideas for families, etc.)