

Ramapo College Wildflower Meadows



Eric Wiener, Ramapo College of NJ

MEADOW SITE – ORIGINALLY TURF



Photo by Eric Wiener

INSTALLATION – TURF REMOVAL



Photos by Eric Wiener

INSTALLATION – COMPOST



Photos by Eric Wiener and Joey Baum

INSTALLATION – ROTOTILL



Photos by Eric Wiener

INSTALLATION – SPREAD SEEDS



Photo by Eric Wiener

INSTALLATION – SEEDS MUST CONTACT SOIL



Photo by Eric Wiener

NATIVE WILDFLOWER SPECIES



Agastache foeniculum
Anise Hyssop

Liatris spicata
Blazing Star

Asclepias syriaca
Common Milkweed

Monarda fistulosa
Wild Bergamot

Asclepias tuberosa
Butterfly Milkweed*

Helianthus giganteus
Giant Sunflower

Baptisia australis
Blue False Indigo

Solidago flexicaulis
Zigzag Goldenrod*

Chamaecrista fasciculata
Partridge Pea

Solidago nemoralis
Gray Goldenrod

Conoclinium coelestinum
Blue Mistflower

Solidago speciosa
Showy Goldenrod*

Coreopsis lanceolata
Lanceleaf Coreopsis

Symphyotrichum novae-angliae
New England Aster*

Echinacea purpurea
Purple Coneflower

Symphyotrichum novi-belgii
New York Aster

Eupatorium perfoliatum
American boneset

Tradescantia ohiensis
Ohio Spiderwort

Penstemon digitalis
Beardtongue

Pycnanthemum tenuifolium
Slender Mountain Mint

WATER?

**NOT REQUIRED, BUT
RECOMMENDED
FOR FIRST GROWING
SEASON
(1/2" / 3-4 DAYS)**



Photo by Eric Wiener

FIRST YEAR: plant emergence



Photo by Melissa Mayberry

FIRST YEAR

Early
July 2014

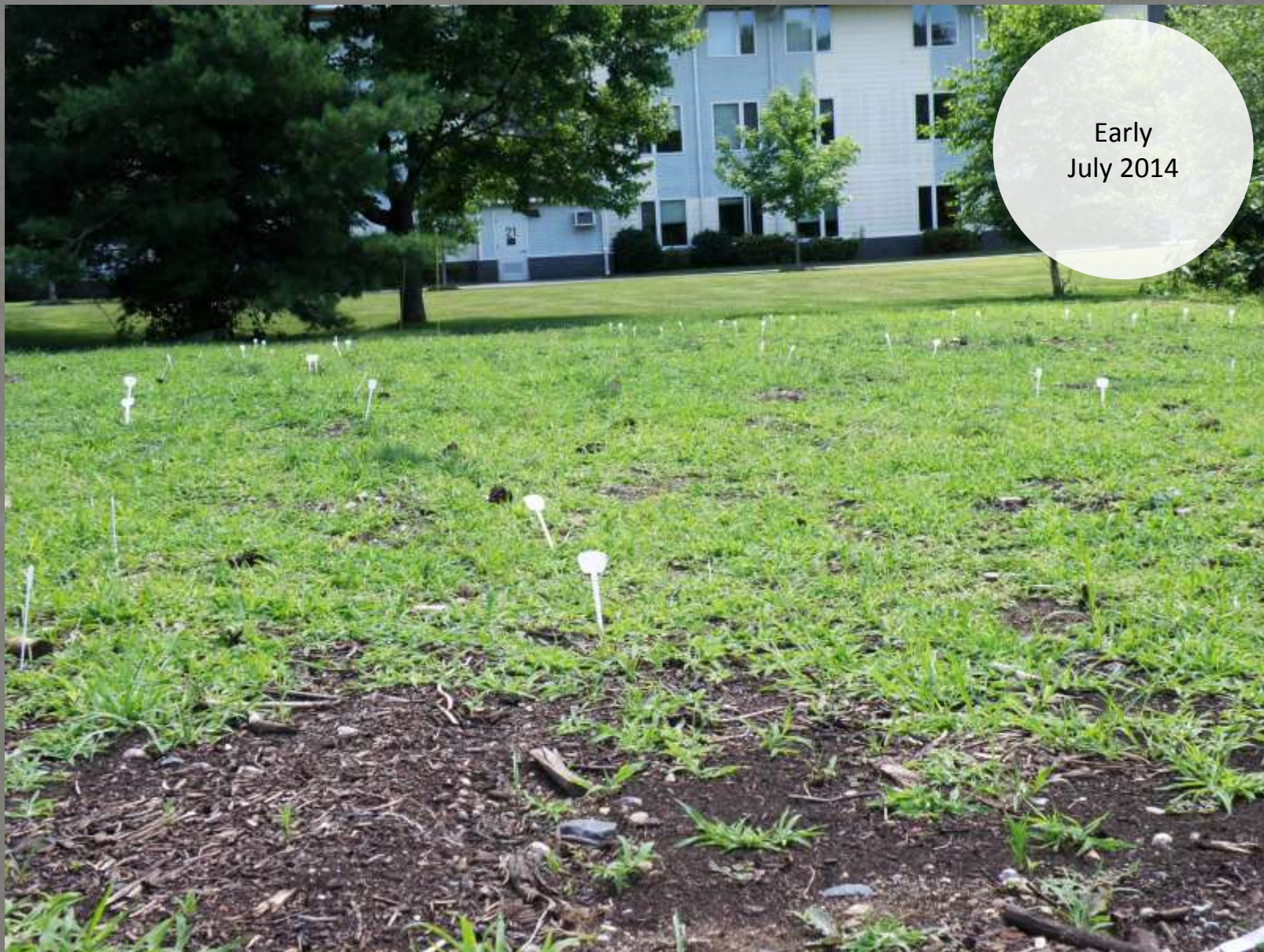


Photo by Melissa Mayberry

FIRST YEAR



July 2014

10.2 native
wildflower
plants per m²

Photo by Eric Wiener

FIRST YEAR: plant establishment



Photo by Eric Wiener

FIRST YEAR: plant establishment – basal rosettes



FIRST YEAR:
- plant establishment
- few flowers – lots of “weeds”



Photos by Eric Wiener

- FIRST YEAR:
- plant establishment
 - few flowers – lots of “weeds”



Photo by Eric Wiener

SECOND YEAR: Success!



May 2015

Photo by Eric Wiener

SECOND YEAR: Success!



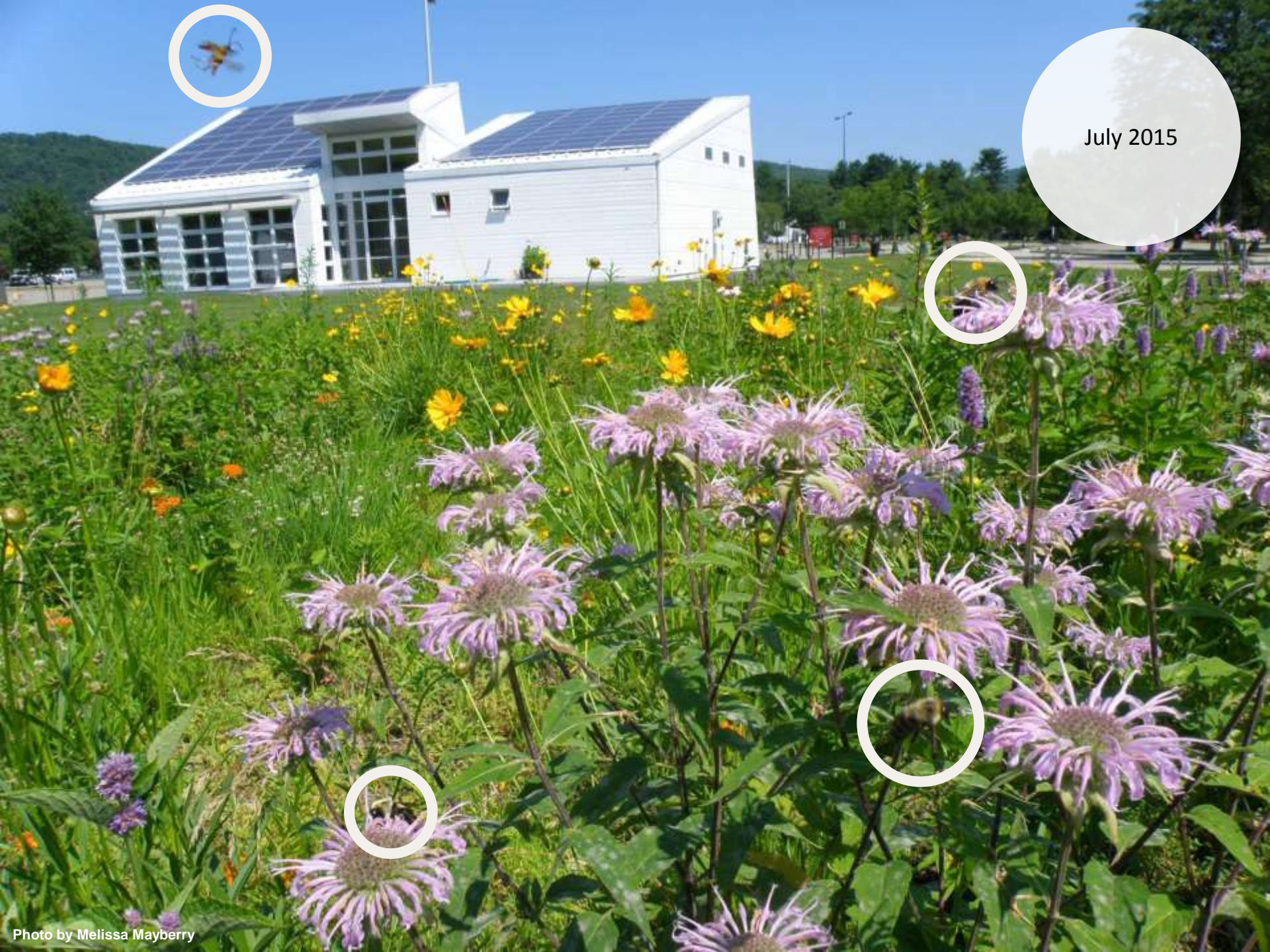
May 2015

Photo by Eric Wiener


SECOND YEAR: Success!



Photo by Melissa Mayberry



July 2015

A photograph of a lush green field filled with various wildflowers, including purple spikes and yellow daisy-like flowers. In the background, a large white building with a gabled roof and several windows is visible. The field is dense with vegetation, and the overall scene is bright and natural.

August
2015

19.9 native
wildflower
plants per m²

September
2015

SECOND YEAR: Success!



THIRD YEAR: MOWING - LATE MARCH



Photo by Eric Wiener

THIRD YEAR



April
2016

Photo by Eric Wiener

THIRD YEAR



Photo by Eric Wiener

THIRD YEAR: succession



mid-June
2016

Photo by Michael Flood

THIRD YEAR: succession



late June
2016

Photo by Michael Flood

THIRD YEAR: succession

July
2016



Photo by Michael Flood

THIRD YEAR: succession



September
2016

Photo by Eric Wiener

THIRD YEAR: POLLINATOR STUDY



Photos by Carolyn Herring, Michael Flood and Eric Wiener

THIRD YEAR: POLLINATOR STUDY



Photos by Brenda Arthur, Leyla Aydin and Aina Yadav



Photos by Melissa Mayberry

• ***Identified 46 pollinator species*** •

FOURTH YEAR



July
2017

Photo by Eric Wiener

FOURTH YEAR: succession



FOURTH YEAR: succession



September
2017

Photo by Eric Wiener

FIFTH YEAR: succession

June
2018



Photo by Eric Wiener

FIFTH YEAR: succession



June
2018

FIFTH YEAR: succession



June
2018

Photo by Eric Wiener

FIFTH YEAR: succession



June
2018



Photos by Eric Wiener

FIFTH YEAR: succession



July
2018

Photo by Eric Wiener

FIFTH YEAR: succession and other dynamics



July
2018



Photos by Eric Wiener

FIFTH YEAR: succession

September
2018



Photo by Eric Wiener

SIXTH YEAR: succession



July
2019

Photo by Eric Wiener

SIXTH YEAR: succession



September
2019

Photo by Eric Wiener

SIXTH YEAR: succession



September
2019

Photo by Eric Wiener

SEVENTH YEAR: succession



July
2020

Photo by Eric Wiener

SEVENTH YEAR: dynamic changes



July
2020

Photo by Eric Wiener

SEVENTH YEAR: dynamic changes

July
2020



Photo by Eric Wiener

SEVENTH YEAR: succession

September
2020



Photo by Eric Wiener

SEVENTH YEAR: succession

September
2020



Photo by Eric Wiener

SEVENTH YEAR: succession

September
2020

Photo by Eric Wiener

SEVENTH YEAR: succession

September
2020



Photo by Eric Wiener

SEVENTH YEAR: succession

September
2020



Photo by Eric Wiener

Maintenance - weeding



2nd meadow – FIRST YEAR



2nd meadow – SECOND YEAR



Photo by Eric Wiener

2nd meadow – SECOND YEAR



June
2018

Photo by Eric Wiener

2nd meadow – SECOND YEAR



August
2018

Photo by Eric Wiener

2nd meadow – SECOND YEAR



Photo by Eric Wiener

2nd meadow – THIRD YEAR



Photo by Eric Wiener

2nd meadow – FOURTH YEAR

September
2020



Photo by Eric Wiener

2nd meadow – FOURTH YEAR



September
2020

Photo by Eric Wiener

2nd meadow – FOURTH YEAR

September
2020



Photo by Eric Wiener

2nd meadow – FOURTH YEAR



September
2020

Photo by Eric Wiener

3rd meadow – student-led



3rd meadow – SECOND YEAR



July
2020

Photo by Eric Wiener

ECOLOGICAL REASONS TO PLANT WILDFLOWER MEADOWS:

- food resources for *Apis mellifera* and native pollinators!
- habitat for wild plants and animals!
- much more sustainable than turf!



Photo by Eric Wiener

Competition between *Apis mellifera* and native pollinators?



Photo by Eric Wiener

Competition between *Apis mellifera* and native pollinators?

- Ecological definition of “competition”:
 - “the use or defense of a resource by one or more individuals that reduces the availability of that resource for other individuals” (Ricklefs and Relyea, 2018)



Photo by Eric Wiener

Competition between *Apis mellifera* and native pollinators?

- Ecological definition of “competition”:
 - “the use or defense of a resource by one or more individuals that reduces the availability of that resource for other individuals (Ricklefs and Relyea, 2018)”
- How to mitigate?
 - **PLANT NATIVE WILDFLOWER MEADOWS!!!!**



Photo by Eric Wiener

A photograph of a lush field of wildflowers. The foreground and middle ground are filled with numerous small, light purple flowers, possibly Salvia or a similar species. Interspersed among them are several bright orange flowers. The background shows a dense line of green trees and foliage. A semi-transparent white rectangular box is centered over the middle of the image, containing the word "Questions?" in a large, black, italicized serif font.

Questions?