Making Pollinator Gardens Easy

Green Urb Gardens for Waltham Land Trust

February 11, 2026

Meghan O'Connell | Karen Dooley | Mac Gaither

Agenda

- Who are we?
- Somerville Pollinator Action Plan (SPAP)
- Pollinators: a brief overview
- Gardening for pollinators: changes in habits
- Gardening for pollinators: creating habitat
- Choosing Plants and how to use the SPAP
- Resources
- Q&A

Who are we?

- Green Urb Gardens: providing fine gardening services to the Greater Boston area since 2017
- We aim to create more beauty, abundance, and healthy ecosystems through our gardening work

Who are we?

- Focus on pollinator-friendly and native plants that are selected for specific gardens based on given conditions
- No chemicals and only electric tools when needed
- Advocating and educating to spread awareness about sustainable gardening that supports human and wildlife needs alike

CEO and Manager of Green Urb Gardens, Meghan O'Connell, participating at Waltham Land Trust's native seed sowing event

Somerville Pollinator Action Plan (SPAP)

- Created for Somerville but a blueprint to pollinator advocacy and conservation in the Greater Boston area
- We will be using the SPAP as a guide for this talk

CITY OF SOMERVILLE, MA
Mayor Katjana Ballantyne

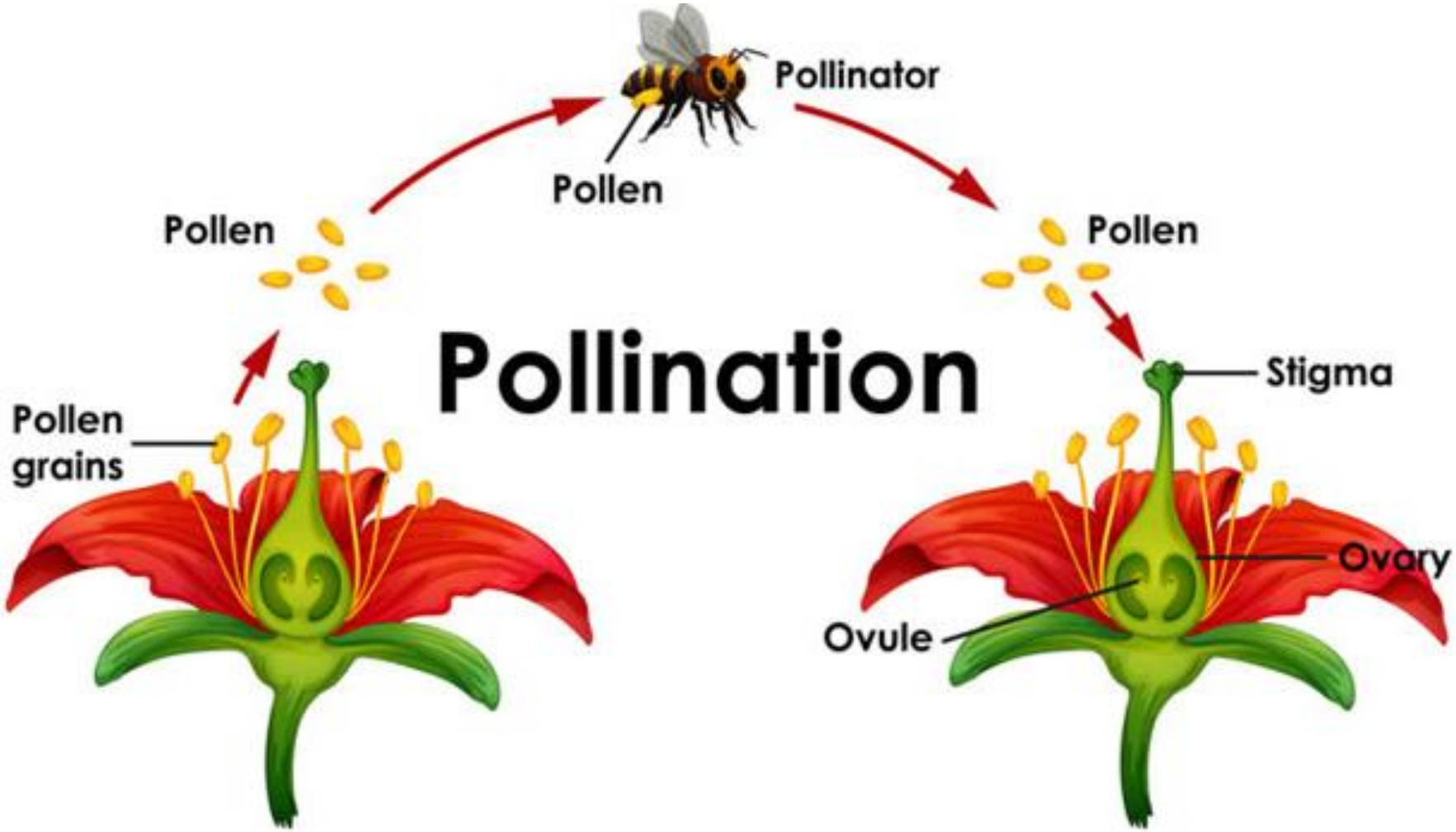
SOMERVILLE POLLINATOR ACTION PLAN

What are pollinators?

Pollinators include bees, moths/butterflies, wasps, flies, beetles, and birds/bats

What are pollinators?

Pollinators are animals that transfer pollen from flower to flower (SPAP p. 6)



What are pollinators?

- Other animals, such as birds, rely on pollinating insects as a food source
  - 80% of birds studied rely on caterpillars to feed their young (SPAP p. 7)

Downy woodpecker feeding fledgling (Steve Creek Wildlife Photography)

What is the life cycle of a pollinator?

- It's important to consider all life cycles of a pollinator to properly support them
- Three important stages:

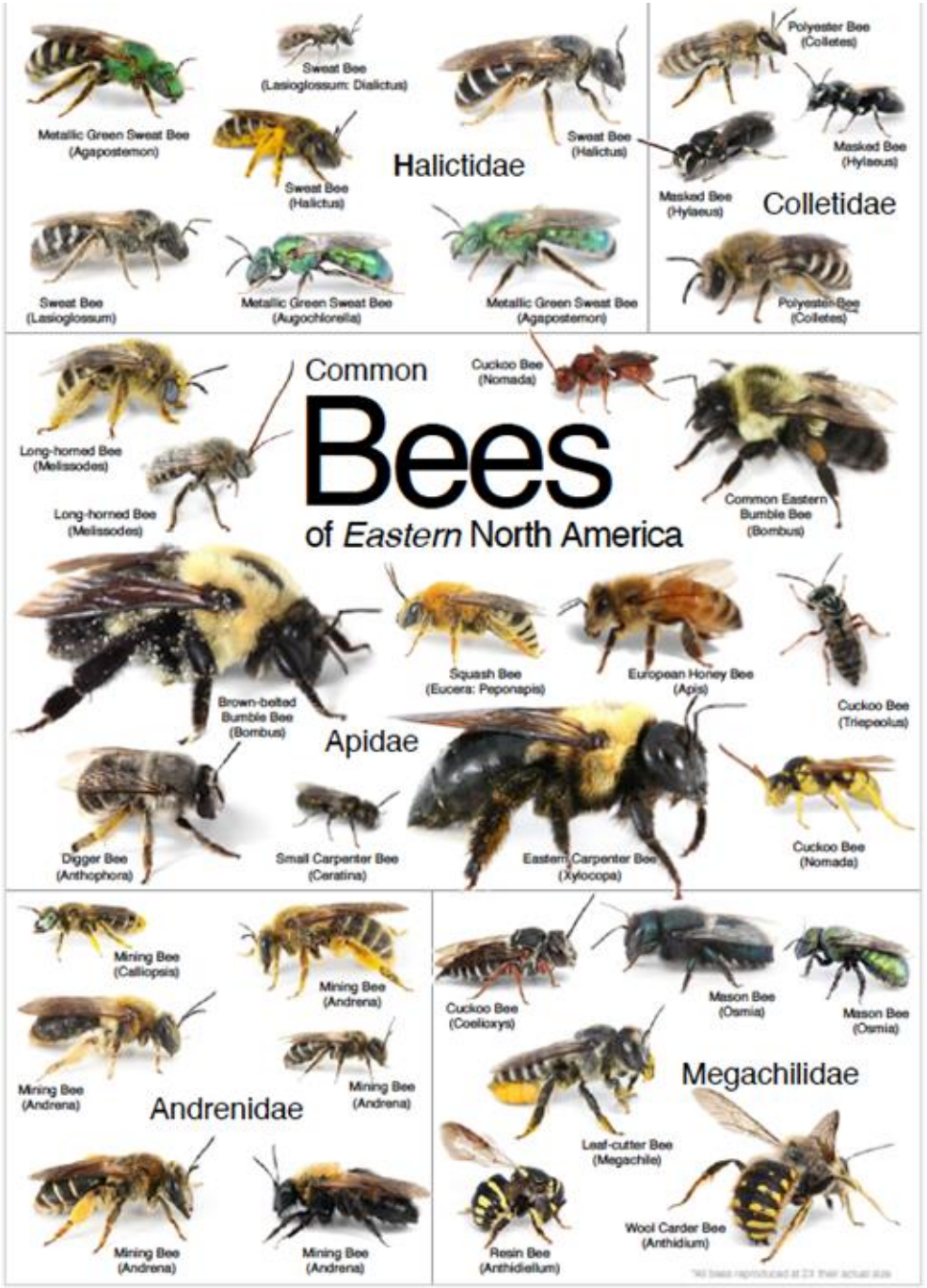
Think beyond the honeybee

- Honeybees are NOT native and are not the insects that need our help
  - Imported as "livestock" for pollination of agricultural crops
  - Human managed – do not live in the wild in the United States

Backyard beekeeping

Think beyond the honeybee

- Native “wild” pollinators are equally if not more vital to the pollination of our crops as honeybees (SPAP p. 7)
- There are nearly **4,000** different species of bees in North America alone
- Learn more on SPAP p. 34-87 (specific to Somerville but many of these pollinators are present in the Greater Boston region)



Joseph S. Wilson https://www.beesinyourbackyard.com/


A
Silky striped sweat bee
Agapostemon sericeus


B
Mason wasp
Euodynerus hidalgo


C
Common drone fly
Eristalis tenax


D
Goldenrod solider beetle
Chauliognathus pensylvanicus


E
European honeybee
Apis mellifera


F
Golden northern bumblebee
Bombus fervidus

Why focus on pollinators?

Pollinators are in decline – possible 30% decline in the next 20 years (SPAP p. 9)

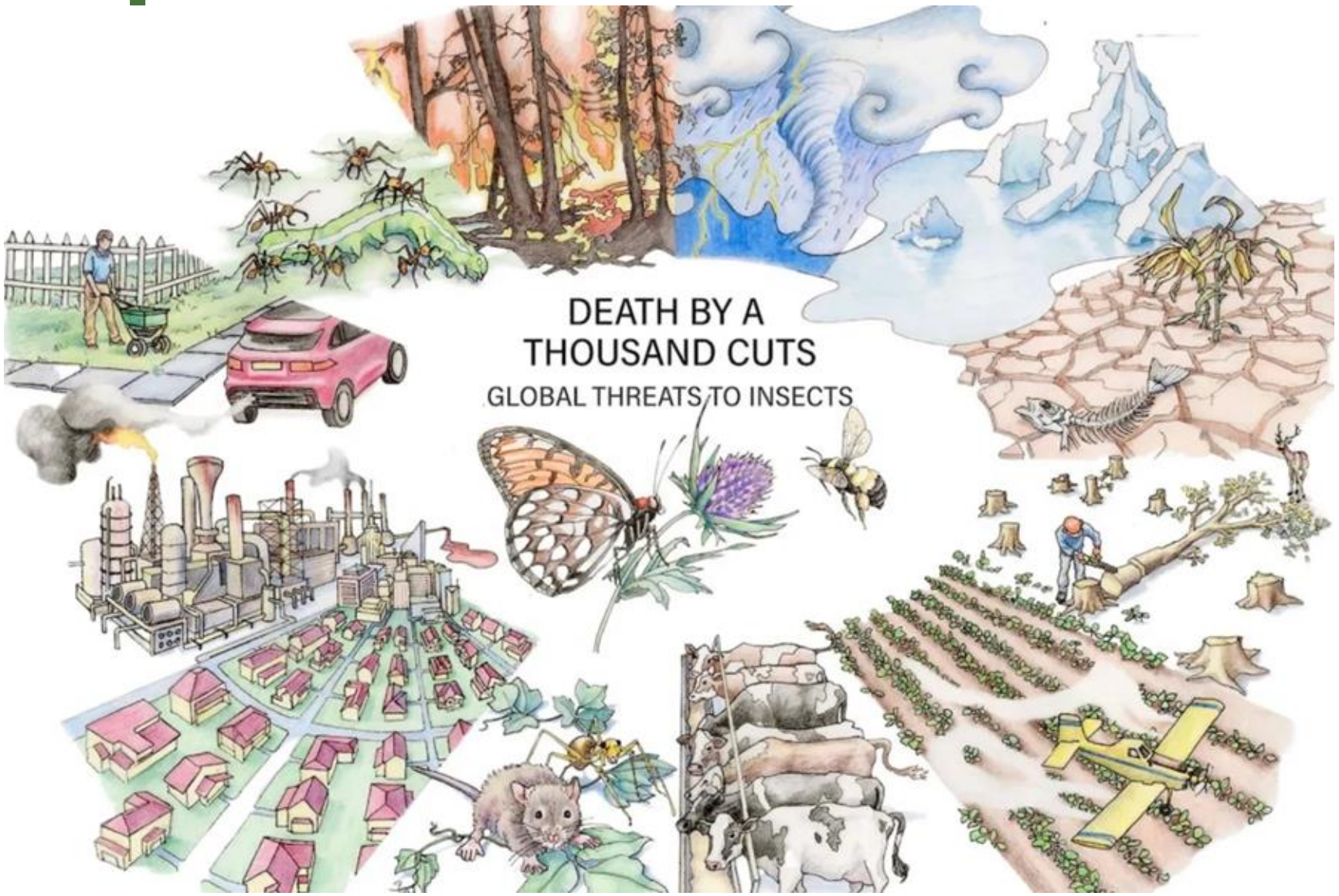


Illustration by Virginia R. Wagner for the article Insect Decline in the Anthropocene: Death by a Thousand Cuts (https://doi.org/10.1073/pnas.2023989118)

Why focus on pollinators?

- Declines are attributed to a variety of reasons (SPAP p. 18-23):
  - Habitat loss and fragmentation
  - Pesticide use
  - Traditional landscape management practices
  - Climate change
  - Light pollution
  - Invasive species

But what can we really do?

- How can we help? Through public land (efforts like Waltham Land Trust) AND private land (as homeowners)

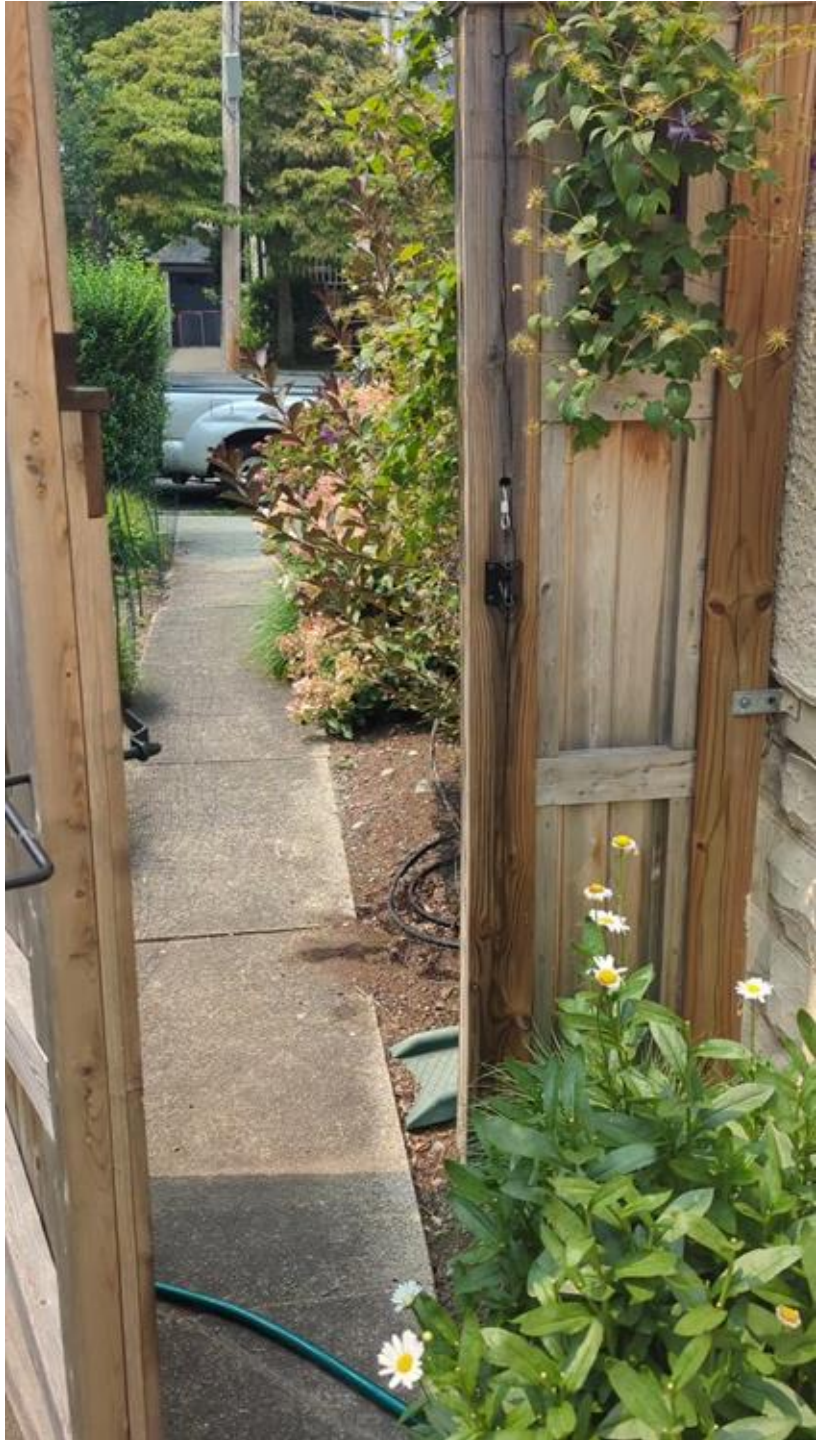
Waltham Land Trust members contributing to the organization's mission

Private gardens like this one are a great way to make an impact

But what can we really do?

- Around 60% of land in the United States is privately owned (1.3 BILLION acres) (American Geographical Society)
    - vs. 28% of public owned land (around 640 million acres) (congress.gov)

- 90% of land in Massachusetts is privately owned



Gardening for pollinators

There are a few key guidelines to creating a pollinator friendly garden:

1. Plant flowering plants. Ideally focus on native species that bloom at different times over the course of the growing season.

2. Consider multiple habitats. Think of pollinators throughout their whole life cycle.

3. Don’t use pesticides. What kills “pests” kills insects in general, including those beneficial pollinators!

Getting started – small steps

- Changes don't need to start with transforming your entire garden immediately
- Don't underestimate the impact one small action can do: even adding a 2-foot-wide pot of native plants to a porch can provide crucial habitat for pollinators (Dooley et al, 2025; SPAP p. 112)

2-foot-wide research pot (Tufts University) being visited by two monarch butterflies

Getting started – changes in habits

A lot can be done with switches in landscape maintenance practices (SPAP p. 103-106, 113):

- Stop mowing, mow less frequently, or add a poly-culture (multiple types of grass) mix to your lawn (SPAP p. 100/106)
- Stop using pesticides (fungicides, herbicides, and insecticides) (SPAP p. 103)
- Assist with the removal of harmful invasives (SPAP p. 103-104, https://walthamlandtrust.org/invasive-plants/)
- Reduce light pollution (SPAP p. 107)

Let your lawn bloom by mowing less frequently

Getting started – changes in habit

- Leave the leaves in the fall: leave them where they land or move them from hardscapes to open areas in your garden (SPAP p. 104-105)
- Leave bare soil patches (at least 2-feet in diameter) for ground-nesting bees (SPAP p. 102/105)
- If mulching, use leaf mulch and mulch the edges of beds/directly around plants while leaving bare patches in the center of the beds (SPAP p. 102/105)
  - Never use fabric weed barriers or bark mulch

Leave whole or shredded leaves in garden beds

Getting started – changes in habits

- Leave herbaceous perennials stems and woody debris standing or trim them to 6-18" for the winter (SPAP p. 104-105)
  - Leave these stems for at least 2 years – new growth will cover them up
- Start spring clean up **after** May 1st to allow nesting pollinators to emerge (SPAP p. 105)

Trim stems down to 6-18" and leave woody debris

Getting started – changes in habits

Diagram: Purdue University

Creating habitat – first steps

First steps in habitat creation might include:

- Replacing invasives
- Use native plants from your ecoregion (NWF) and/or planting zone (USDA)
- Swap annuals for perennial plants

Creating habitat – next steps

Questions to ask yourself:

- What existing plants do I have?
  - When do these plants bloom? What's not doing well?
- What are the sunlight conditions?
  - Observe land during various times in the day or use an app like **SunSeeker**
- What are the moisture levels of the site?
  - Is it consistently moist? Does it drain well? Does it often have standing water? Is it always dry?
- What are the topographic features?
  - Does the garden bed slope? Is it protected by a wall or against the side of a house?
- What is the soil type?
  - Get a soil sample tested to know more! **Umass Amherst lab tests**
- What are possible challenges at this site?
  - Are there bunnies? Is it exposed to road salt? Walkways?

How do I choose my plants?

- Prioritize native straight species or native cultivars (nativars) that are most similar to the straight species (SPAP p. 92-94)

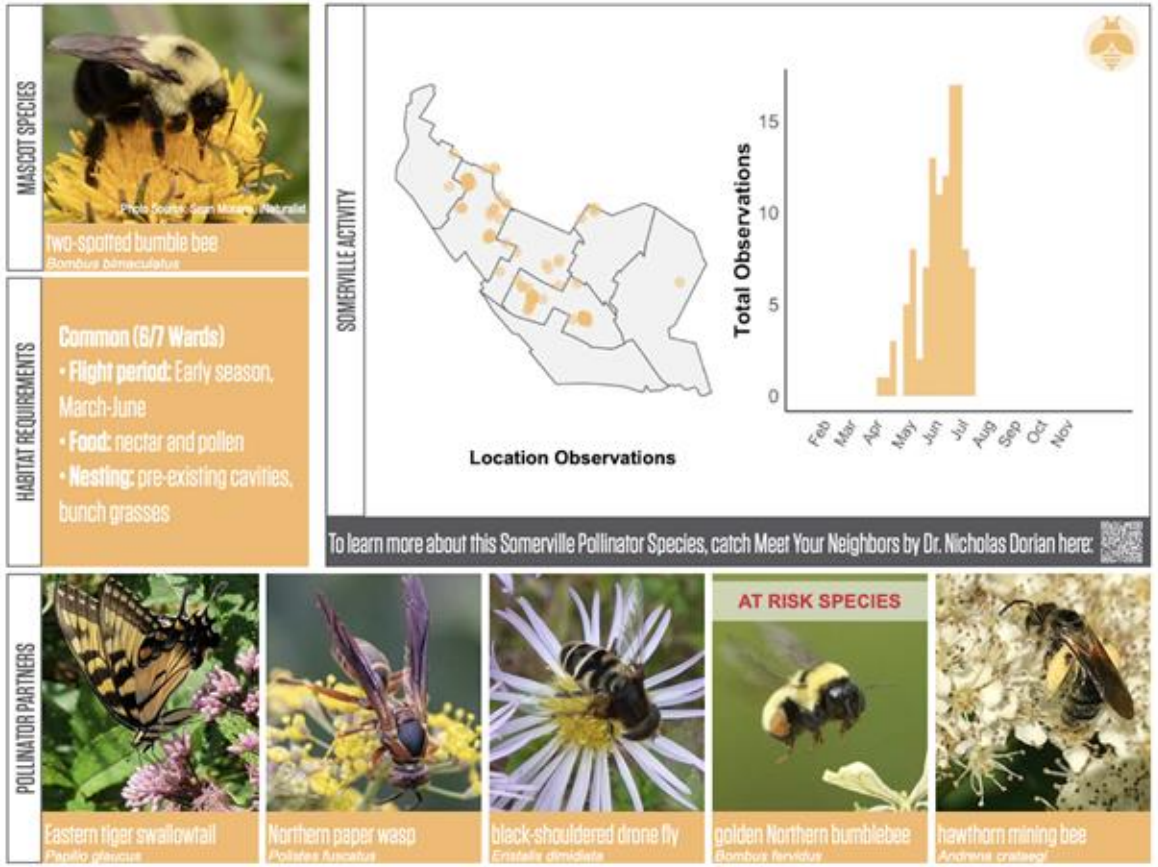
How do I choose my plants?

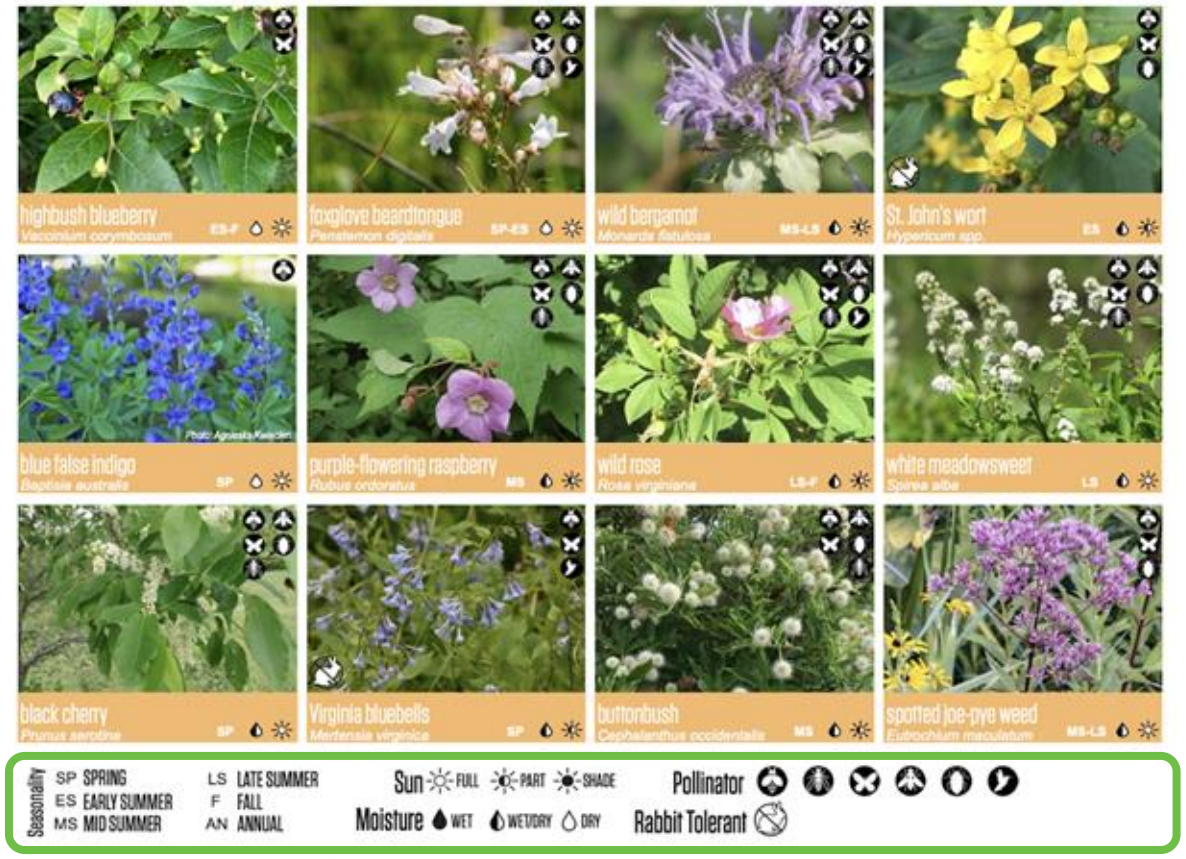
- Select plants with blooms from early spring to fall (SPAP p. 97)
- Include both plants that provide nectar/pollen sources and plants that are larval hosts (SPAP p. 93)
- ‘Keystone’ species: plants that support many insect species (SPAP p. 97 & SPAP “Comprehensive Plant List”)

Monarchs require milkweed to feed on as caterpillars, but also require late season blooms like goldenrod to fuel their migration south

Looking for plant recommendations?

SPAP Plant Pantry (ch. 11, p. 146-237) provides combinations of plants that benefit specific local pollinators





Looking for plant recommendations?

Seasonality
SP SPRING
ES EARLY SUMMER
MS MID SUMMER
LS LATE SUMMER
F FALL
AN ANNUAL

Sun FULL PART SHADE

Moisture WET WET/DRY DRY

Pollinator

Rabbit Tolerant

MASCOT SPECIES

two-spotted bumble bee
Bombus bimaculatus

HABITAT REQUIREMENTS

Common (6/7 Wards)
- **Flight period:** Early season, March-June
- **Food:** nectar and pollen
- **Nesting:** pre-existing cavities, bunch grasses

SOMERVILLE ACTIVITY

To learn more about this Somerville Pollinator Species, catch Meet Your Neighbors by Dr. Nicholas Dorian here:

POLLINATOR PARTNERS

Eastern tiger swallowtail
Papilio glaucus

Northern paper wasp
Polistes fuscatus

black-shouldered drone fly
Eristalis dimidiata

AT RISK SPECIES

golden Northern bumblebee
Bombus fervidus

hawthorn mining bee
Andrena crataegi

highbush blueberry
Vaccinium corymbosum
ES-F

foxglove beardtongue
Penstemon digitalis
SP-ES

wild bergamot
Monarda fistulosa
MS-LS

St. John's wort
Hypericum spp.
ES

blue false indigo
Baptisia australis
SP

purple-flowering raspberry
Rubus odoratus
MS

wild rose
Rosa virginiana
LS-F

white meadowsweet
Spirea alba
LS

black cherry
Prunus serotina
SP

Virginia bluebells
Mertensia virginica
SP

buttonbush
Cephalanthus occidentalis
MS

spotted joe-pye weed
Eutrochium maculatum
MS-LS

Seasonality
SP SPRING
ES EARLY SUMMER
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Sun FULL PART SHADE

Moisture WET WET/DRY DRY

Pollinator

Rabbit Tolerant

Lookin ions?

Native plants preferred by imperiled bee and butterfly species in New England. List created by Dr. Robert J Gegear, UMASS Dartmouth (rgegear@umassd.edu; gegearlab.weebly.com).

Pollen Sources

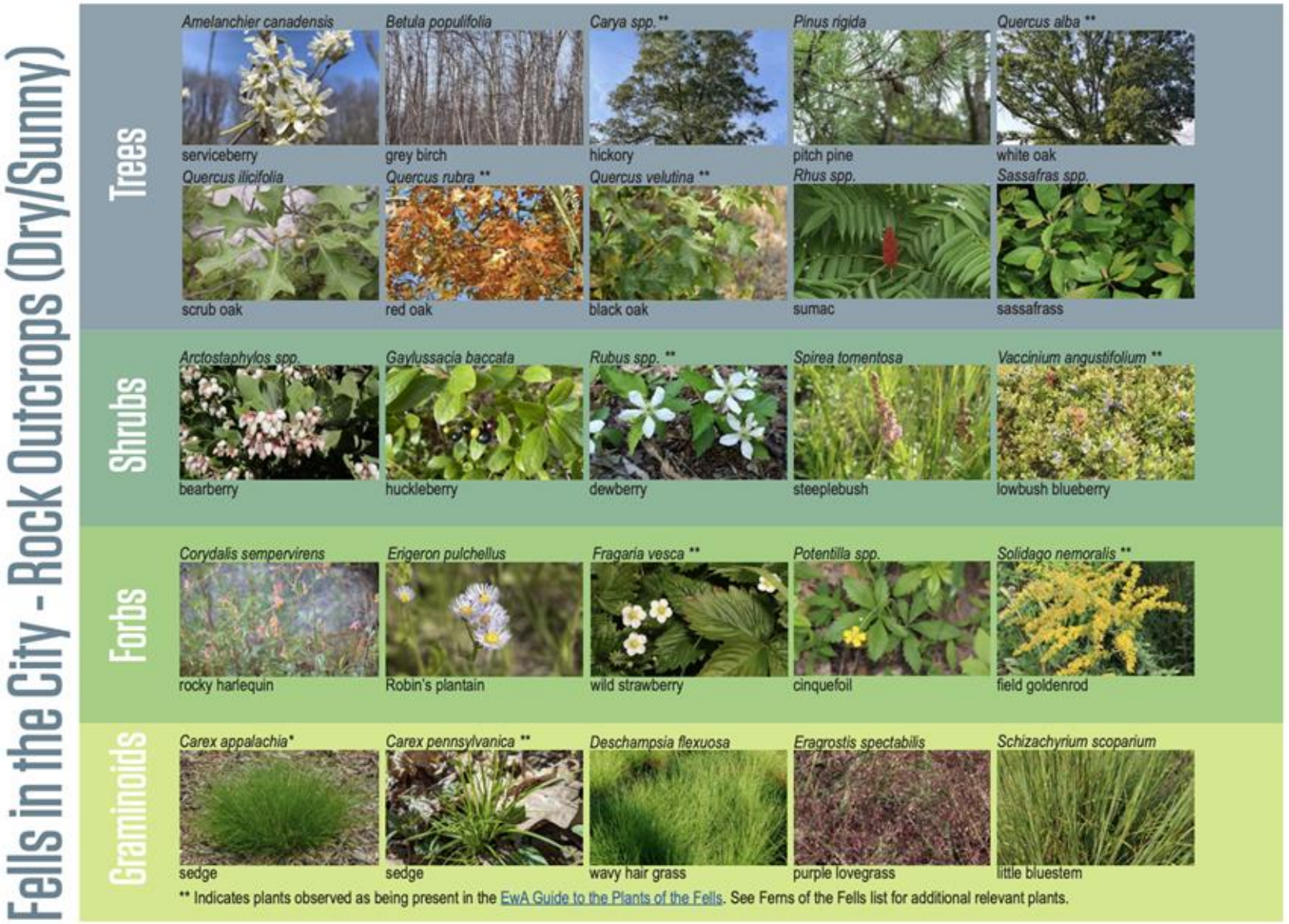
LATIN NAME	COMMON NAME	PLANT TYPE	SUN	SOIL	BLOOM TIME: Early M	Early A	Mid M	Mid J	Late J	Late A	Late S	Late O	'At risk' species: BUMBLEBEES B. terricola	B. fervidus	B. vagans	BUTTER FLIES	OTHER BEES
Hypericum ascyron	Great St. John's-wort	Herb. perenn.	Full-Part	Med					■				■		■	NA	■
Hypericum majus	Greater St. John's-wort	Herb. perenn.	Full-Part	Med, Wet					■	■	■		■		■	NA	■
Hypericum punctatum	Spotted St. John's-wort	Herb. perenn.	Full-Part	Med, Dry					■	■	■		■		■	NA	■
Hypericum prolificum	Shrubby St. John's-wort	Shrub	Full-Part	Med, Dry				■	■	■			■		■	NA	■
Rosa blanda	Smooth rose	Shrub	Full-Part	Med, Dry				■	■				■		■	NA	■
Rosa carolina	Carolina rose	Shrub	Full-Part	Wet, Med, Dry				■	■	■			■	■	■	NA	■
Rosa nitida	Shining rose	Shrub	Full-Part	Wet, Med				■	■	■	■		■	■	■	NA	■
Rosa palustris	Swamp rose	Shrub	Full-Part	Med				■	■				■	■	■	NA	■
Rosa virginiana	Virginia rose	Shrub	Full-Part	Med				■	■	■			■	■	■	NA	■
Rubus odoratus	Flowering raspberry	Shrub	Full-Part	Med				■	■				■	■	■	NA	■
Salix discolor	Pussy willow (male)	Shrub	Full	Med	■	■							■		■	NA	■
Salix humilis	Prairie willow (male)	Shrub	Full-Part	Med, Dry		■	■						■		■	NA	■
Salix lucida	Shining willow (male)	Shrub	Full-Part	Med, wet		■	■						■		■	NA	■
Salix occidentalis	Dwarf prairie willow (male)	Shrub	Full-Part	Med, Dry	■	■							■		■	NA	■
Salix petiolaris	Meadow willow (male)	Shrub/sm tree	Full-Part	Med		■	■						■		■	NA	■
Salix bebbiana	Bebb willow (male)	Shrub	Full-Part	Dry, Med, Wet		■	■						■		■	NA	■
Spiraea alba	White meadowsweet	Shrub	Full-Part	Wet, Med				■	■	■	■		■	■	■	NA	■
Spiraea tomentosa	Steeplebush	Shrub	Full-Part	Wet						■	■		■	■	■	NA	■

Nectar sources

LATIN NAME	COMMON NAME	PLANT TYPE	SUN	SOIL	BLOOM TIME: Early M	Early A	Mid M	Mid J	Late J	Late A	Late S	Late O	BUMBLEBEES B. terricola	B. fervidus	B. vagans	BUTTER FLIES	OTHER BEES
Blephilia hiruta	Hairy woodmint	Herb. perenn.	Part-Shade	Med,Dry			■	■	■	■	■				■	■	■
Blephilia ciliata	Downy woodmint	Herb. perenn.	Part-Shade	Dry			■	■	■	■					■	■	■
Astragalus canadensis	Canadian milkvetch	Herb. perenn.	Full-Part	Wet, Dry			■	■	■				■	■	■		
Eupatorium perfoliatum	Boneset Thoroughwort	Herb. perenn.	Full-Part	Wet, Med					■	■	■		■			■	■
Pycnanthemum tenuifolium	Narrowleaf mountain mint	Herb. perenn.	Full-Part	Med, Dry				■	■	■	■		■			■	■
Asclepias amplexicaulis	Clasping milkweed	Herb. perenn.	Full-Part	Dry				■	■				■		■	■	■
Asclepias exaltata	Poke milkweed	Herb. perenn.	Part, Shade	Med, Dry				■	■				■		■	■	■
Asclepias incarnata	Swamp milkweed	Herb. perenn.	Full-Part	Med, Dry					■	■			■		■	■	■
Asclepias purpurascens	Purple milkweed	Herb. perenn.	Full-Part	Wet, Med,Dry				■	■				■		■	■	■
Asclepias quadrifolia	Four-leaved milkweed	Herb. perenn.	Full-Part	Med, Dry			■	■	■				■		■	■	■
Asclepias syriaca	Common milkweed	Herb. perenn.	Full	Wet, Med, Dry				■	■	■			■		■	■	■
Asclepias tuberosa	Butterfly milkweed	Herb. perenn.	Full-Part	Dry				■	■				■		■	■	■
Asclepias verticillata	Whorled milkweed	Herb. perenn.	Full-Part	Med, Dry					■	■	■		■		■	■	■
Cercis canadensis	Eastern Redbud	Tree	Part	Med, Dry	■	■	■						■		■		
Eutrochium dubium	Coastal Plain Joe-Pye weed	Herb. perenn.	Full-Part	Wet, Med					■	■	■		■		■	■	■
Eutrochium fistulosum	Hollow Joe-Pye weed	Herb. perenn.	Full-Part	Wet, Med					■	■	■		■		■	■	■
Eutrochium maculatum	Spotted Joe-Pye weed	Herb. perenn.	Full-Part	Wet, Med					■	■	■		■		■	■	■

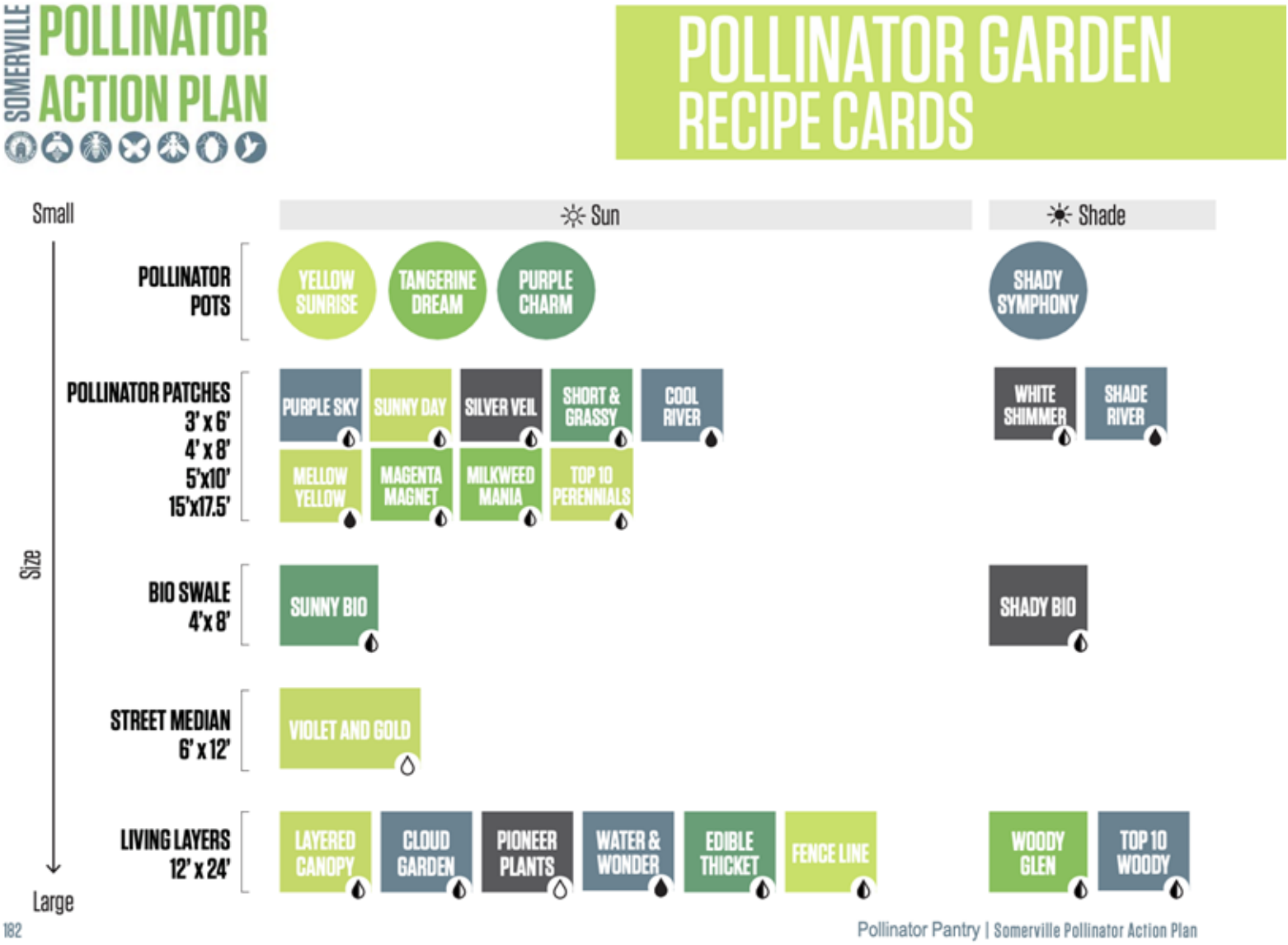
Looking for plant recommendations?

- It also provides local ecological plant communities – groups of plants that have evolved together for thousands of years
- These are great to plant together as they won't outcompete each other



Looking for plant recommendations?

- Finally, it gives “recipe cards” of plant mixes for different types of gardens
- Choose the size that best fits the site you’re installing, pick a “recipe card” that matches your site conditions, and use the given design map to install your garden



Looking for plant recommendations?

Example: I have a section of my front garden that I want to convert into a pollinator garden.

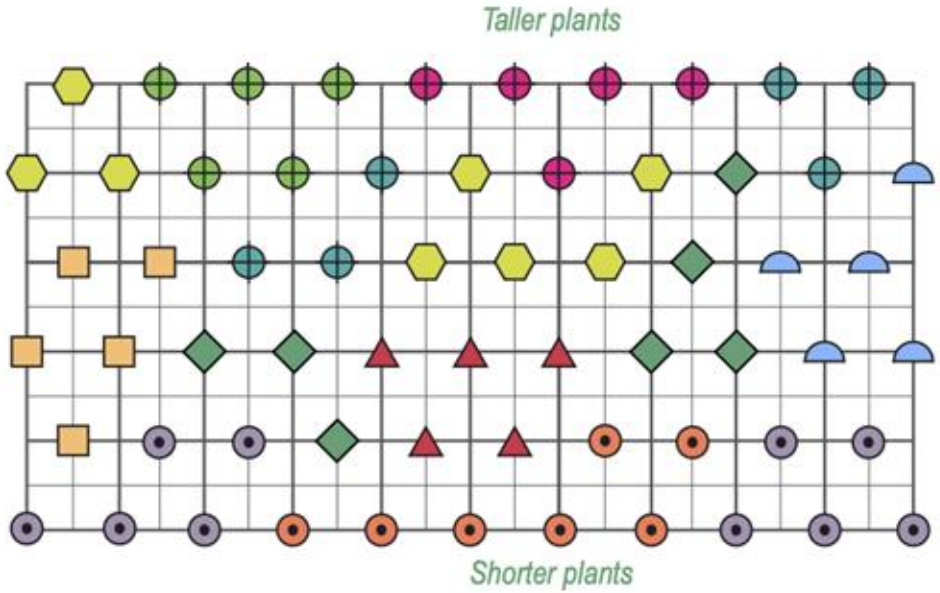
- It’s around 5.5x10’, in full sun, and a relatively dry area with no irrigation

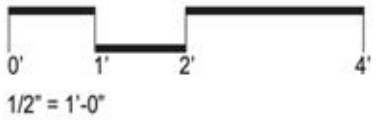
Lo s?

Exar o
con
It' ith
n

PURPLE SKY | SUNNY DAY | SILVER VEIL | SHORT & GRASSY | COOL RIVER | MELLOW YELLOW
MAGENTA MAGNET | WHITE SHIMMER | SHADE RIVER | MILKWEED MANIA | TOP 10 PERENNIALS

POLLINATOR PATCH
5'x10'





This bed is meant to be viewed from this side!

Pick 10 Plants!

Pick a Plant Palette!

Each garden is designed for a specific amount of sunlight, soil mositure, and height so be sure to pick the one that will work best for your site. Feel free to mix and match but aim to include plants that will bloom in every season!

Structure Plants (6) (5) (5) ← 3

Seasonal Theme (5) (5) (7) (5) ← 5

Groundcover (or sub seasonal theme!) (10) (7) ← 2

Plant sizes: Deep landscape plugs.
If using larger 1 gallon size plants, increase spacing to 18"

CITY OF SOMERVILLE, MA
Mayor Katjana Ballantyne

SOMERVILLE POLLINATOR ACTION PLAN

To get involved, informed, or inspired, visit:
voice.somervillema.gov/somerville-pollinator-action-plan

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SUNNY DAY

SUNNY | DRY | UNDER 4' TALL

STRUCTURE PLANT

yellow wild Indigo
Baptisia tinctoria
SP-ES

clustered mountain mint
Pycnanthemum muticum
ES-LS

switchgrass
Panicum virgatum 'North Wind'
LS-F

St. John's wort
Hypericum punctatum
ES-LS

SEASONAL THEME

little bluestem
Schizachyrium scoparium
LS-F

butterfly milkweed
Asclepias tuberosa
MS

black-eyed Susan
Rudbeckia fulgida
ES-LS

lance-leaved coreopsis
Coreopsis lanceolata
SP-MS

yarrow
Achillea millefolium 'Terracotta'
MS-LS

sneezeweed
Helenium autumnale
MS-F

cutleaf coneflower
Rudbeckia laciniata
MS

autumn goldenrod
Solidago sphacelata
LS

narrowleaf evening primrose
Oenothera fruticosa
SP

GROUNDCOVER

Robin's plantain
Erigeron pulchellus
SP

copper-shouldered oval sedge
Carex bicknelli
ES

barren strawberry
Waldsteinia fragarioides
ES

Seasonality
SP SPRING
ES EARLY SUMMER
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AN ANNUAL

Sun FULL PART SHADE

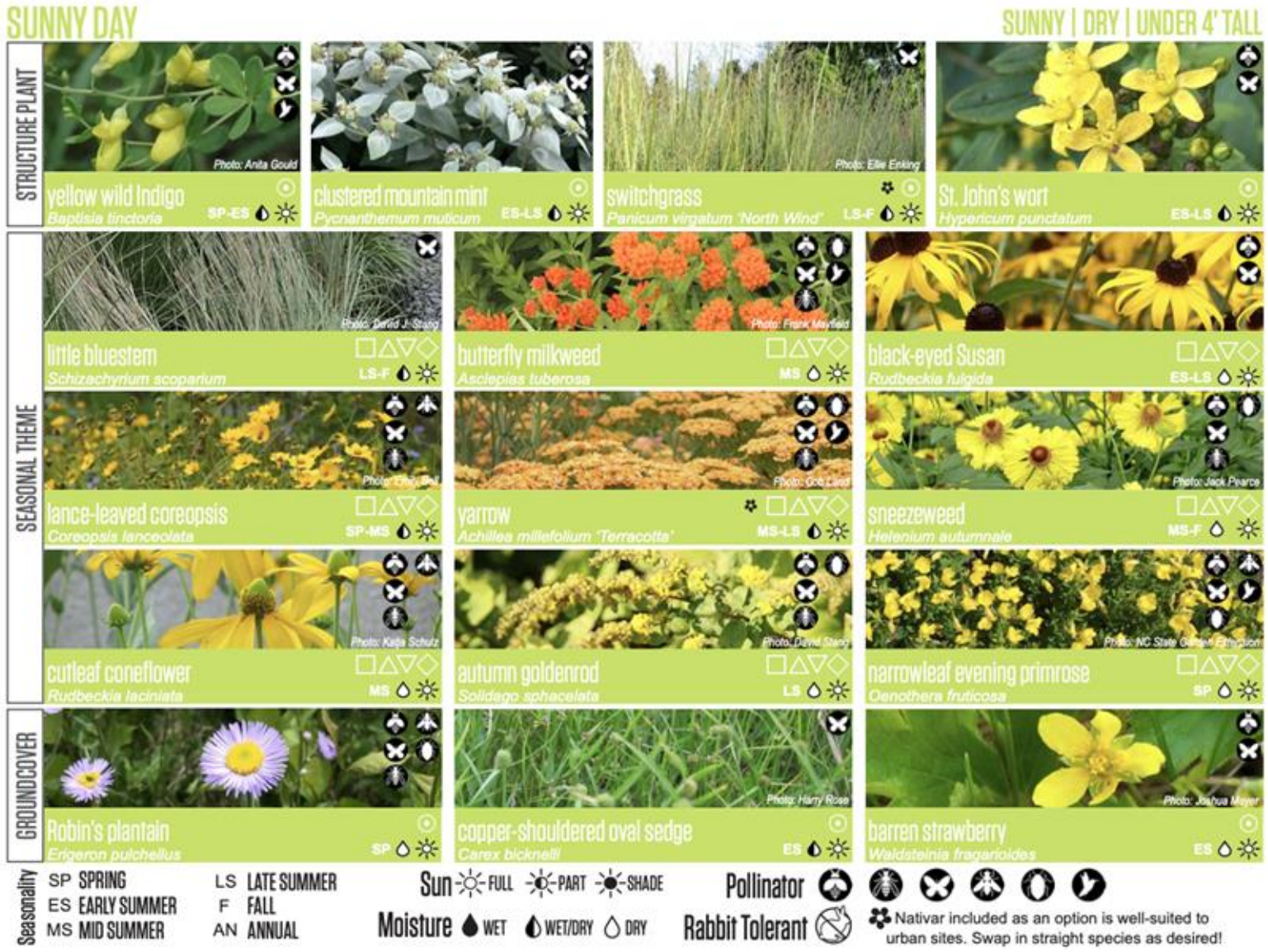
Moisture WET WET/DRY DRY

Pollinator

Rabbit Tolerant

Nativar included as an option is well-suited to urban sites. Swap in straight species as desired!

Looking for plant recommendations?



Structure:

- Yellow wild indigo
- Clustered mountain mint
- Switchgrass

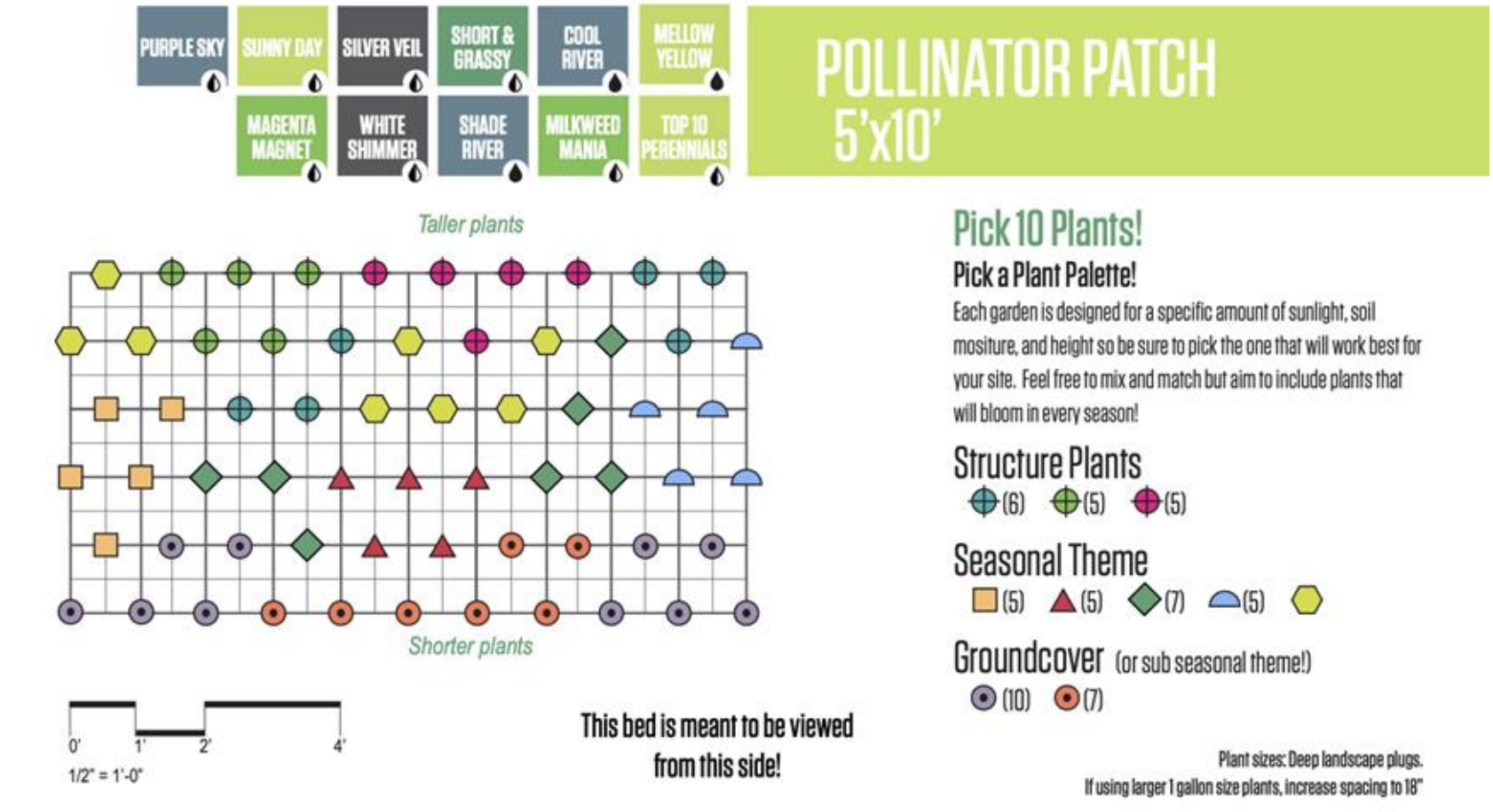
Seasonal:

- Butterfly milkweed
- Black-eyed Susan
- Sneezeweed
- Autumn goldenrod
- Narrowleaf evening primrose

Groundcover:

- Robin's plantain
- Barren strawberry

Looking for plant recommendations?



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- Barren strawberry

Looking for plant recommendations?

Top Plants

If you **only plant one thing**:

SOMERVILLE POLLINATOR ACTION PLAN

Trees

1.	Dogwood	*Cornus spp.*
2.	Cherry, Plum, etc.	*Prunus spp.*
3.	Willow	*Salix spp.*
4.	American holly	*Ilex opaca*
5.	Hawthorn	*Crataegus spp.*
6.	Serviceberry/Shad	*Amelanchier spp.*
7.	Maple	*Acer spp.*
8.	Eastern Redbud	*Cercis canadensis*
9.	Tulip Tree	*Liriodendron tulipifera*
10.	Oak	*Quercus spp.*

Perennials

1.	Goldenrod	*Solidago spp.*
2.	Milkweed	*Asclepias spp.*
3.	Aster	*Symphyotrichum spp.*
4.	Mountain Mint	*Pycnanthemum spp.*
5.	Boneset	*Eupatorium spp.*
6.	Black-eyed Susan	*Rudbeckia spp.*
7.	Beebalm	*Monarda spp.*
8.	Coneflower	*Echinacea spp.*
9.	Yarrow	*Achillea spp.*
10.	Joe Pye Weed	*Eutrochium spp.*

Shrubs

1.	Meadowsweet	*Spirea alba*
2.	Raspberry, etc.	*Rubus spp.*
3.	Sumac	*Rhus spp.*
4.	Dogwood	*Cornus spp.*
5.	Plum	*Prunus spp.*
6.	Willow	*Salix spp.*
7.	New Jersey Tea	*Ceanothus americanus*
8.	Viburnum	*Viburnum spp.*
9.	Sweet Pepperbush	*Clethra alnifolia*
10.	Buttonbush	*Cephalanthus occidentalis*

Spread the word!

- Become a pollinator advocate – teach a neighbor, friend, or family member what you've learned tonight and spread awareness about pollinators and how to help them (SPAP p. 107, 114)
- Volunteer with local organizations such as the Waltham Land Trust, EarthWise Aware, Grow Native Massachusetts, or the Massachusetts Pollinator Network to name a few (SPAP p. 107)
- Continue learning! Organizations such as Native Plant Trust, Xerces Society, Pollinator Partnership, and others provide educational opportunities on pollinators

See the impact

- Take some time this spring/summer and spend a few quiet minutes outside to observe what you see
  - What type of pollinators do you notice? Do you recognize any?
  - You can use community-based applications like Seek or iNaturalist to help identify pictures of pollinators
- Change takes time and patience but is contagious! Notice how changes you make in your habits encourage neighbors to think differently, and eventually do the same

See the impact

Resources - plants

Plant lists:

- Somervoice Somerville Pollinator Action Plan downloadable plant directory https://voice.somervillema.gov/somerville-pollinator-action-plan
- Native Plant Trust Plant Finder https://plantfinder.nativeplanttrust.org/Plant-Search
- Grow Native MA Plant Lists https://grownativemass.org/Great-Resources/Plant-Lists-Landscape-Guides
- Homegrown National Park Plant Finder https://nativeplantfinder.nwf.org
- Dr. Robert Gegear's Plant List for Bumblebee Species at Risk https://gegearlab.weebly.com/plant-list.html

Invasives:

- Massachusetts Invasive Plant Advisory Group https://massnrc.org/mipag/invasive.htm
- Waltham Land Trust invasives page https://walthamlandtrust.org/invasive-plants/
- Grow Native MA invasives page https://grownativemass.org/Know-Your-Landscape/invasive-plants

Resources - pollinators

- "Meet your pollinator neighbors": short videos to learn more https://voice.somervillema.gov/somerville-pollinator-action-plan/news_feed/videos-meet-your-neighbor-insects
- Tufts Pollinator Initiative educational resources: https://sites.tufts.edu/pollinators/
- Massachusetts Pollinator Network expert presentations: https://masspollinatornetwork.org
- EarthWise Aware nature conservation education: https://www.earthwiseaware.org
- Pollinator Partnership pollinator conservation and education: https://pollinatorpartnership.org
- UMASS Extension pollinator resources, including Pollinator Steward Certificate Program: https://www.umass.edu/agriculture-food-environment/resources/pollinators/pollinator-steward-certification-program
- Xerces Society for Invertebrate Conservation: https://xerces.org
- Community identification app and data collection: https://www.inaturalist.org
- Beecology Project by Dr. Robert Gegear: https://beecology.wpi.edu/website/home

Resources- plants & soil

Plant sourcing and growing:

- Ecoregion information https://www.epa.gov/eco-research/ecoregions, https://grownativemass.org/Our-Commonwealth/ecoregions
- Grow Native MA native plant nursery list https://grownativemass.org/Great-Resources/nurseries-seed
- Native Plant Trust in Framingham, MA: https://www.nativeplanttrust.org/for-your-garden/buy-native-plants-new/

Soil testing:

- UMass Amherst Soil test lab: https://www.umass.edu/agriculture-food-environment/services/soil-plant-nutrient-testing-laboratory/ordering-information-forms


Questions?
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