

## Planting For Pollinators

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## Planting For Pollinators

### Pollinators – Who are they

- Honeybees
- Native bees
- Butterflies
- Hummingbirds
- Bats
- Insects

### Pollination – process by which pollen(male)is transferred to stigma(female)

- Wind Pollination
  - Trees & grasses
- Animal Pollination
  - 80% of plants
  - Co-evolution

### Pollinator Rewards

- Nectar – sugar source
- Pollen – protein source

### Pollinator Importance

- Crops
- Natural habitats

### Honeybees

- ~\$15billion/yr pollinator services
- 90+ crops
- ~\$500,000 market value of honey in MA

### Native bees

- >400 species in New England
- ~\$3billion/yr pollination services
- Social and solitary bees
  - Ground nesting
  - Wood nesting

### Pollinator Concerns

- Monarch butterfly population decline
- Honeybee Hive Loss

- 42% April 2014-April 2015
- CCD
  - Pathogens
  - Parasites
  - Management
  - Stressors
- Native species declines

#### Planting

- Evaluate what you have
  - Plants – especially those along wood edge
  - Nesting sites – dead trees & bare soil
  - Lawns – Clover
- Planning
  - Location – Sun
  - Soil
    - Do a soil test <http://soiltest.umass.edu/>
  - Preparation
    - Remove Weeds
      - Tillage 2-3 times during the season
      - Herbicides Glyphosate 2-3 applications 6wks apart
      - Black plastic – season long
      - Lasagna layering – scalp layer with paper and compost
  - Choosing Plant Material
    - Good source of pollen & nectar
    - Overlapping flowering times
    - Plug
      - Fall or spring
      - Quicker establishment/\$\$\$
    - Seed
      - Fall
      - Takes time/\$
    - Native Plants – locally adapted – less inputs
  - Maintenance
    - Establishment – weed and water
    - Longterm – mowing 1-3 yrs

#### Trees – in order of bloom – Cape Native unless noted

- Red Maple, *Acer rubrum*
- Black Gum, *Nyssa sylvatica*
- Black Cherry, *Prunus serotina*
- Sumac, *Rhus spp.*
  - Shining sumac, *R. copallinum*

- Smooth sumac, *R. glabra*
- Willow, *Salix spp.*
  - Pussy willow, *S. discolor*
  - Black willow, *S. nigra*
- Sourwood, *Oxydendrum arboretum* – North America Native

Shrubs – in order of bloom – Cape Native unless noted

- Bearberry, *Arcostaphylos uva-ursi*
- Holly, *Ilex spp.*
  - Inkberry, *I. glabra*
  - Winterberry, *I. verticillata*
  - American holly, *I. opaca*
- Meadowsweet, *Spiraea spp.* – many species some native some not
- Brambles, *Rubus spp* – Dewberry, Blackberry, Raspberry
- Summersweet, *Clethra alnifolia*

Perennials – in order of bloom – Cape Native unless noted

- Lupine, *Lupinus perennis*
- Rose coreopsis, *Coreopsis rosea*
- Butterfly weed, *Asclepias tuberosa*
- Purple coneflower, *Echinacea purpurea* – North America Native
- Slender leaved mountain mint, *Pycnanthemum tenuifolium*
- Wild bergamot, *Monarda fistulosa*
- Joe-pye-weed, *Eupatorium spp.*- many species native
- Goldenrod, *Solidago spp.*
  - Seaside goldenrod, *S. sempervirens*
  - Rough-stemmed goldenrod, *S. rugosa* – ‘Fireworks’
  - Tall goldenrod, *S. gigantean*
- New England Aster, *Symphotrichum novae-angliae*

Other

- Avoid double flowers
- Bees don’t see red

Pesticide Safety

- Use IPM – often times this will eliminate need for pesticides
- Read the label – specific instructions to protect pollinators
- Don’t apply to flowers in bloom
- Watch out for drift – bee foraging
- Use the least toxic material to do the job
  - *Bt*
- Publication with bee acute toxicity - <http://www.wildflower.org/collections/>

Additional Resources

- <http://extension.unh.edu/Sustainable-Landscapes-and-Turf/Wildflower-Meadows>

- <http://www.xerces.org/pollinator-conservation/>
- <http://www.wildflower.org/collections/>