

## Building a rain garden with native plants presentation - June 2020



Using native plants and trees instead of non-native plants:

### 1. **SAVES WATER** (statistics from the EPA)

The average American family uses 320 gallons of water per day. Nationwide, landscape irrigation is estimated to account for nearly one-third of all residential water use, totaling nearly 9 billion gallons per day.

Native plants are trees, shrubs, flowers, grasses, ferns and other plants that originate and evolve in a region over time. These plants adapt to local climate and ecological conditions. Native plants have deep roots which can penetrate the native soil to depths of up to 16 feet! During the dry summer months native root systems reach deep into the ground to find water, which is why native plants are more drought resistant than non-natives.

### 2. **TIME ENERGY POLLUTION OF MOWING** (statistics from Columbia University and the EPA)

Today, American lawns occupy 30-40 million acres of land. Lawnmowers to maintain them account for some 5 percent of the nation's air pollution – probably more in urban areas. Each year more than 17 million gallons of fuel are spilled during the refilling of lawn and garden equipment—more than the oil that the Exxon Valdez spilled.

A lawn mower pollutes as much in one hour as 40 automobiles driving  
580 million gallons of gasoline are used in lawnmowers each year  
\$25 billion is spent on lawn care each year in the U.S.

### 3. **PROVIDES FOR WILDLIFE**

Average American yard: alien plants, bushes and sterile lawn. Most plants sold from nurseries are sold because they are “pest free”. These non-native plants then often escape cultivation.

From Doug Tallamy: Up to 90% of all insects are specialists. (The Monarch is great example. They need specific native plants to survive, like Milkweed.)

### 4. **REDUCES SOIL RUN OFF AND EROSION** (From the EPA)

EPA: Homeowners spend billions of dollars and typically use 10 times the amount of pesticide and fertilizers per acre on their lawns as farmers do on conventional crops. 67 million pounds of pesticides are used on U.S. lawns each year. These chemicals then runoff and become a major source of water pollution. As stormwater flows over the land surface, stormwater picks up potential pollutants that may include sediment, nutrients (from lawn fertilizers), bacteria (from animal waste), pesticides (from lawn and garden chemicals), metals (from rooftops and roadways), and petroleum by-products (from leaking vehicles). Polluted stormwater runoff can be harmful to plants, animals, and people.

A typical lawn absorbs only 10 percent of the amount of stormwater that a natural landscape can absorb. Aim to keep rain water on your property.

## 5. GIVES US A SENSE OF PLACE

FIRST IMAGES: MISC ANNUALS FROM OTHER REGIONS OF THE WORLD.

## 6. NATIVE VS NON NATIVE - BURNING BUSH VS BLUEBERRY

- A. Burning bush is an invasive shrub brought here in the 1860's from Asia. In MA it's banned for sale/trade/planting. Birds eat the berries and deposit them in nearby woods. The new seedlings that result take over forest understories. The U.S. government spent an estimated \$3.0 billion across a range of federal agencies and activities in an effort to prevent, control, and eradicate invasive species domestically.
- B. Blueberry on the other hand is one of the best shrubs to plant for local wildlife. It supports a plethora of native caterpillars and some of those caterpillars go on to feed baby birds. White flowers sometimes tinged pink. Nearly all birds raise their young on insects not seeds or berries. We work so hard to get rid of the insects - also getting rid of birds. Blueberry bushes also have lovely fall color that rival burning bush.

## 7. BOXWOOD VS INKBERRY

Boxwood: NON-NATIVE

Inkberry: NATIVE and provides winter cover. Host plant for the Henry's Elfin butterfly caterpillar. Adult butterflies are attracted to the blooms. Fruits are eaten by birds and small mammals. Easily found at garden centers.

## SPECIFIC PLANTS FOR YOUR RAIN GARDEN, just a few examples

### 8. FULL SUN - most are pretty easily found at traditional garden centers.

#### A. SWAMP MILKWEED - *Asclepias incarnata*

Host to the entire life cycle of the Monarch butterfly caterpillar. Monarch caterpillars can only survive on *Asclepias* - they are a "specialist". The Monarch population has declined by over 80%. A clear Loss of milkweed is one of the main reasons. No milkweed-no Monarch.

2-4 feet tall, white and pink blooms in the summer

Host also for the queen butterfly caterpillar, excellent nectar plant

#### B. CARDINAL FLOWER - *Lobelia cardinalis*

Loved by hummingbirds and swallowtail butterflies

2-4 Feet tall, red blooms in late summer

#### C. BEE BALM - *Monarda fistulosa*

3-4 feet tall, lavender blooms, summer

Host to butterflies: swallowtails, sulphurs, and skippers

It is a larval host to the hermit sphinx, orange mint moth, and raspberry pyrausta

## 9. PART SUN/SHADE

### A. PURPLE CONEFLOWER - *Echinacea* sp.

4 feet tall, purple blooms late summer

Host plant for the Silvery Checkerspot butterfly, and an excellent nectar plant.

### B. MARSH BLAZING STAR - *Liatris spicata*

2-4' tall, pink/purple blooms - summer, Commonly available in nurseries

*Liatris spicata* is excellent for attracting pollinators and beneficial insects. These include butterflies such as the monarch, tiger swallowtail, gray hairstreak, fritillary, painted lady, red admiral, etc. The flowers attract bumblebees, digger bees (*Anthophorini*), long-horned bees (*Melissodes* spp.), leaf-cutting bees (*Megachile* spp.), skippers, and birds including hummingbirds. Caterpillars of the rare glorious flower moth (*Schinia gloriosa*) and liatris flower moth

### C. NORTHERN BLUE FLAG IRIS - *Iris versicolor*

2-3 feet tall, blue violet blooms, late spring

Hosts 17 varieties of Lepidoptera (butterflies and moths)

## 10. SHADE

### 1. SPICEBUSH

6-12 feet tall, Spring bloomer.

Host for the spicebush swallowtail

### 2. CELANDINE POPPY - *Stylophorum diphyllum*

12-20 inches, bright yellow blooms, spring. The flowers provide pollen to native bees, flies and beetles. Chipmunks and woodland mice eat the seed. The foliage is toxic and is usually avoided by deer and other mammalian herbivores.

### 3. WILD BLUE PHLOX - *Phlox divaricata*

12-14" tall - lavender blooms in spring. *Phlox divaricata* is a host to a number of butterfly species such as swallowtails and hairstreaks and its early blooms provide pollen and nectar for those that lay their eggs elsewhere. Host plant for the western pygmy blues. It's also a food source for rabbits, voles and deer.

## 11. AVOID CULTIVARS WHEN POSSIBLE

Cultivars are clones of the parent plants. There is zero genetic variability in clones. So those cultivars going out in to the landscape are altering the genetic diversity of a species. The one thing that consistently deterred insect feeding was taking a green leaf and making it red or purple.