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Watch Hill Conservancy &
Lanphear Livery

**Conservation of Native Pollinators and
Other Declining Species through Habitat
Management**

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NRCS

Where did we come from?

The Soil Conservation Service (SCS) was created in 1935 to reverse the devastation caused as a result of the Dust Bowl



Today SCS is known as the USDA Natural Resources Conservation Service (NRCS)



With rapid decline of Monarch butterfly populations, along with many bee species, state and federal wildlife agencies have focused a lot more on invertebrates...

Bumblebee on *Asclepias tuberosa*



Photo: Gary Casabona



Photo: Gary Casabona

Bumblebee on *Linaria vulgaris* (butter&eggs)



Photo: Gary Casabona

Native forbs are typically suited for nutrient-poor and moisture-poor conditions.

Don't lime or fertilize – this just helps invasives. Don't bury the seeds too deep, just $\frac{1}{4}$ - $\frac{1}{2}$ inch.

Fall dormant seeding (cold stratification) recommended.

The goal is to provide forage throughout the growing season. You want a species mix that blooms early, middle, and late.

Once established, don't mow more than one half of the area in any one year. Set mower height at min. 8 inches to protect basal rosettes.

**Manage for maples and willows,
which provide some of the
earliest forage for pollinators.**

**New England aster, New York
aster and Meadowsweet (Spiraea
alba) are good late-season
species. Goldenrods also cover
the late period and are often
already onsite.**



Elderberry not only provides food for pollinators, but it also provides nesting sites for tunnel-nesting bees. They burrow into the twigs to lay their eggs. In addition, the fruits provide food for migratory birds in fall migration.



Photo: Go Botany – New England Wildflower Society



Arrowwood viburnum (*Viburnum dentatum*). In addition, the fruits provide one of the most nutritious and preferred foods for migratory birds in fall migration.

Jewelweed – *Impatiens capensis*

Often found in large colonies in and around wetlands



Photo: Ladybird Johnson Wildflower Center

A. Highly recommended and preferred by migratory songbirds:

Common Name	Scientific Name	Nutrient Content ¹			Antioxidant Properties ²			
		Fat	Carbs	Energy	Antho. ^a	Vit E ^b	Phenols	TAC ^c
Arrowwood	<i>Viburnum dentatum</i>	*High	High	High	High	High	High	High
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Med	High	High	Med	Low	High	High
Gray Dogwood	<i>Cornus racemosa</i>	High	Med	High	Low	N/A	Med	Low
Silky Dogwood	<i>Cornus amomum</i>	Low	High	Med	Med	N/A	Med	Low
Red Osier Dogwood	<i>Cornus sericea</i>	*Med	Med	High	Low	N/A	Med	Low

B. Recommended and eaten by many migratory songbirds:

Serviceberry	<i>Amelanchier spp.</i>	*Low	High	Med
Common Elderberry	<i>Sambucus canadensis</i>	Low	High	Med
Spicebush	<i>Lindera benzoin</i>	High	Low	High
Pokeweed	<i>Phytolacca americana</i>	Low	High	Low
Flowering Dogwood	<i>Cornus florida</i>	Med	Med	High
Chokecherry	<i>Prunus virginiana</i>	*Low	High	Low
Highbush Blueberry	<i>Vaccinium corymbosum</i>	*Low	High	Low

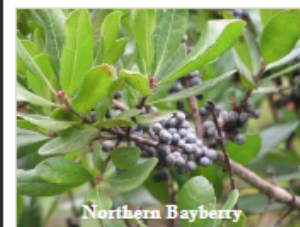
Antioxidants and Birds

Birds during migration experience oxidative stress when they burn fats to fuel their flights. Fruits with high antioxidant capacity can help to alleviate these stresses.

Vitamin E and phenols in fruits, especially colored compounds called anthocyanins that give fruits their bright purple-maroon coloration, are good dietary sources of antioxidants for birds.

C. Recommended and eaten by a few migratory songbirds and overwintering birds:

Northern Bayberry	<i>Myrica pennsylvanica</i>	*High	High	High
Winterberry	<i>Ilex verticillata</i>	*Low	High	Med
Black Chokeberry	<i>Aronia melanocarpa</i>	Low	High	Med
Mapleleaf Viburnum	<i>Viburnum acerifolium</i>	*Low	Low	Med
Nannyberry	<i>Viburnum lentago</i>	*Low	Med	Low



Northern Bayberry



- **Scrub-shrub areas and young forest habitats often contain a greater diversity of wildlife species than older forests.**
- **In the Northeast, these are important habitat types for a large number of birds and other wildlife, but particularly for New England cottontail, woodcock, and ruffed grouse.**
- **Many shrub land birds such as Brown thrasher, American redstart, and Yellow breasted chat also have declining populations.**



American redstart



Yellow breasted chat



Brown thrasher

- Large habitat areas (greater than 10 acres) that have dense understory “thickets” of blackberry, raspberry, greenbriar, along with young tree seedlings can provide habitat for our native rabbit, the New England cottontail.





Photo: Gary Casabona

Hey Gary !

**What if I just want to do
some simple seeding or
planting in my garden ?**



***Penstemon digitalis*- Tall White Beardtongue**

- Pollinator value- high
- Bloom time- May to July
- Flower color- White
- Height- 2 to 5 feet
- Wetland Indicator- FAC
- Light requirements- full sun to part sun
- Habitat- low moist areas, prairies, open woodlands
- Soil moisture- dry, moist, wet
- **Value to Beneficial Insects**- native long- tongued bees

Monarda fistulosa- Wild Bergamot



- Pollinator Value- very high
- Bloom time- June to July
- Flower color- purple
- Height- 2 to 5 feet
- Wetland Indicator- UPL
- Light requirements- full sun to part sun
- Habitat- open prairies, roadsides, fields, edge of woods or thickets
- Soil moisture- dry to moist
- **Value to Beneficial Insects-** bee flies, butterflies, skippers, hummingbirds, moths, long-tongued bees, such as bumblebees, Miner bees, Epeoline Cuckoo bees, large Leaf-Cutting bees, and black bees (*Doufouria monardae*).



Asclepias tuberosa- Butterfly Milkweed

- Pollinator value- very high
- Bloom time- June to July
- Flower color- orange
- Height- 1 to 2 feet
- Wetland Indicator- FAC
- Light requirements- full sun to part sun
- Habitat- prairies, open woods, roadsides
- Soil moisture- dry, moist
- **Value to Beneficial Insects**- long-tongued bees, Sphecids wasps, and various butterflies, including Swallowtails and Fritillaries Monarch, Grey Hairstreak, Queen, and hummingbirds.



Chamaecrista fasciculata- Partridge Pea

- 🌱 Pollinator Value- high
- 🌱 Bloom time- June to Aug
- 🌱 Flower Color- yellow
- 🌱 Height 2 to 5 feet
- 🌱 Wetland Indicator- FACU
- 🌱 Light requirements- full sun to part sun
- 🌱 Habitat- prairies, roadsides, fields, right of ways, sandy roadsides
- 🌱 Soil Moisture- dry
- 🌱 **Value to Beneficial Insects-** Orange Sulphur, Sleepy Orange, Long-tongued bees such as honeybees, bumblebees, Miner bees, and large Leaf-Cutting bees



***Asclepias incarnata*- Swamp Milkweed**

- Pollinator value- very high
- Bloom time- July to August
- Flower color- Pink
- Height- 2 to 4 feet
- Wetland Indicator-OBL
- Light requirements- full sun to partial sun
- Habitat - adapted to a variety of soil types. Also does well in fields, roadsides, waste places and dry sites
- Soil Moisture- moist, wet
- **Value to Beneficial Insects-**
bumblebees, honeybees, digger bees, Halictid bees, wasps, flies, Swallowtail butterflies, Greater Fritillaries, Monarch butterflies, and skippers



Eupatoriadelphus maculatus- Spotted Joe Pye weed

- Pollinator Value- high
- Bloom Time- July to August
- Flower color- pink/purple
- Height- 4 to 6 feet
- Wetland Indicator-FACW
- Light requirements- full sun to part sun
- Habitat-low wet grounds, thickets, open woods, stream banks, swamps
- Soil Moisture- moist to wet
- **Value to Beneficial Insects**- honey bees, bumblebees, digger bees, leaf-cutting bees, bee flies, butterflies, skippers, and moths

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Pycnanthemum virginianum- Virginia Mountain Mint

- Pollinator value- very high
- Bloom time- July to Aug
- Flower color- white
- Height- 2-3ft
- Wetland indicator- FACW
- Light requirements- full sun to partial sun
- Habitat- wet prairies, stream edges
- Soil moisture- moist
- **Value to Beneficial Insects-**
honeybees, Cuckoo bees, Halictid bees, Sphecids wasps, Eumenine wasps, bee flies, Tachinid flies, Wedge-shaped beetles, and Pearl Crescent butterflies.



Eupatorium perfoliatum- Boneset

- Pollinator value- high
- Bloom time- July to September
- Flower color- white
- Height- 2 to 5 feet
- Wetland Indicator- FACW+
- Light requirements- full sun to part sun
- Habitat- marshes, wet fields, fens, swamps, thickets, river and stream banks
- Soil moisture- moist to wet
- **Value to Beneficial Insects**- native bees, butterflies, flies, wasps, and beetles



***Vernonia noveboracensis*- New York Ironweed**

- Pollinator value- high
- Bloom time-August to September
- Flower color- purple/dark pink
- Height- 4 to 6 feet
- Wetland Indicator- FACW+
- Light requirements- full sun to part shade
- Habitat- moist meadows, pastures, and roadsides, wet fields
- Soil moisture- moist
- **Value to Beneficial Insects-** butterflies and native bees



Symphyotrichum novae-angliae- New England Aster

- Pollinator value- high
- Bloom time- August to October
- Flower color- purple
- Height- 3 to 6 feet
- Wetland Indicator- FACW
- Light requirements- full sun to part shade
- Habitat- prairie swales, wet meadows, thickets, along stream banks
- Soil moisture- moist
- **Value to Beneficial Insects**- long-tongued bees (bumblebees, honeybees, Miner bees, large Leaf-Cutting bees), bee flies, butterflies, skippers, Short-tongued bees and Syrphid flies



***Chelone glabra*- White Turtlehead**

- Pollinator value- medium
- Bloom time- July to August
- Flower color- white
- Height- 2 to 4 feet
- Wetland Indicator- FACW
- Light requirements- full sun to shade
- Habitat - marshes, stream banks, wet ditches, low meadows, woodlands
- Soil Moisture- wet, moist
- **Value to Beneficial Insects-**
Baltimore Checkerspot, hummingbirds

Bees will “self-medicate when they have intestinal parasites.
Contains irigoid glycoside compounds.



Recent research [open_in_new](#) by scholars at Dartmouth, University of Colorado at Boulder, and North Carolina State University investigated the use of **secondary metabolites** called **iridoid glycosides**—specifically, aucubin and catalpol—use by the native eastern bumble bee, *Bombus impatiens*, infected with *Crithidia bombi*, an intestinal parasite. These parasites shorten the bee’s lifespan and limit the productivity of the queens,



Photo: Brenda Venable

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