

WEBINAR

1.14.21

11am-12:30pm

EST

Hosted By



**INVASIVE SPECIES
MANAGEMENT**

SAINT LAWRENCE
EASTERN LAKE ONTARIO

Cornell Cooperative Extension

St. Lawrence County

Jefferson County



THE POWER OF

Native Plants

-Chat-box Icebreaker-

***Name**

***Where You're From**

***What is Your Favorite Garden Plant?**



INVASIVE SPECIES MANAGEMENT

SAINT LAWRENCE
EASTERN LAKE ONTARIO



**SLELO is Hosted
by:**

The Nature Conservancy

Where We Work:

Oneida
Oswego
Jefferson
Lewis
St. Lawrence

What We Do:

Collaborate with our
partners to protect our
lands and waters from the
impacts of invasive
species.

**Teaming up to Stop the
Spread
of Invasive Species**

www.sleloinvasives.org

What are Invasive Species

A tall, slender plant with a dense spike of small, bright purple flowers. The leaves are green and lance-shaped. The background is a blurred green field under a blue sky with light clouds.

Purple loosestrife (*Lythrum salicaria*)

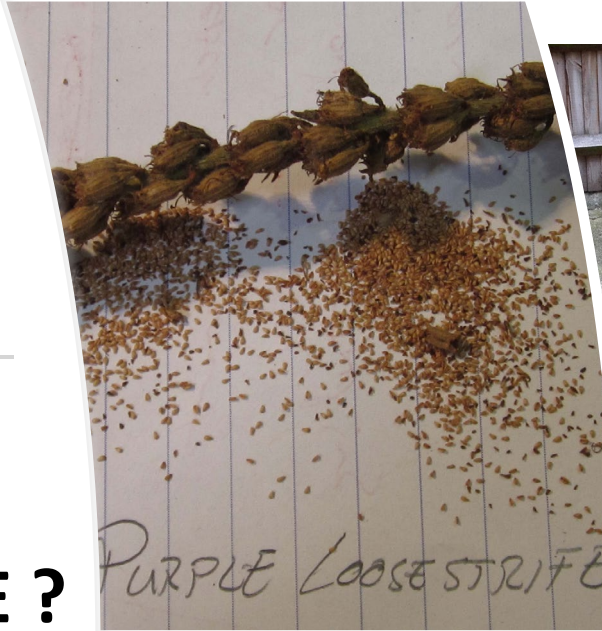
A dense, bushy plant with small, dark red, glossy leaves. The background is dark and out of focus.

Burning bush (*Euonymus alatus*)

Not All Non-native Species Are Invasive

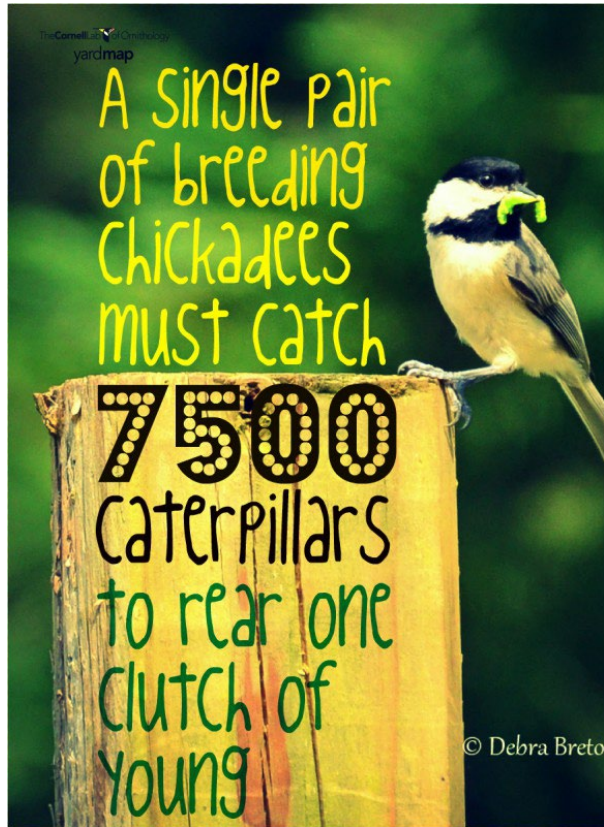


WHY ARE SOME NON-NATIVES INVASIVE ?





**Why are they
here?**



Monarch larva on
native milkweed



Invasive Black Swallow-wort

Power of Native Plants



INVASIVE SPECIES

TO KEEP AN EYE OUT FOR



Invasive Jumping worm



Jumping worms in the Northeast



1912, Washington DC
Cherry trees



1947, NYC
Bronx zoo



Albany, 1948
Florists' peat moss

Jumping worm policy – New York

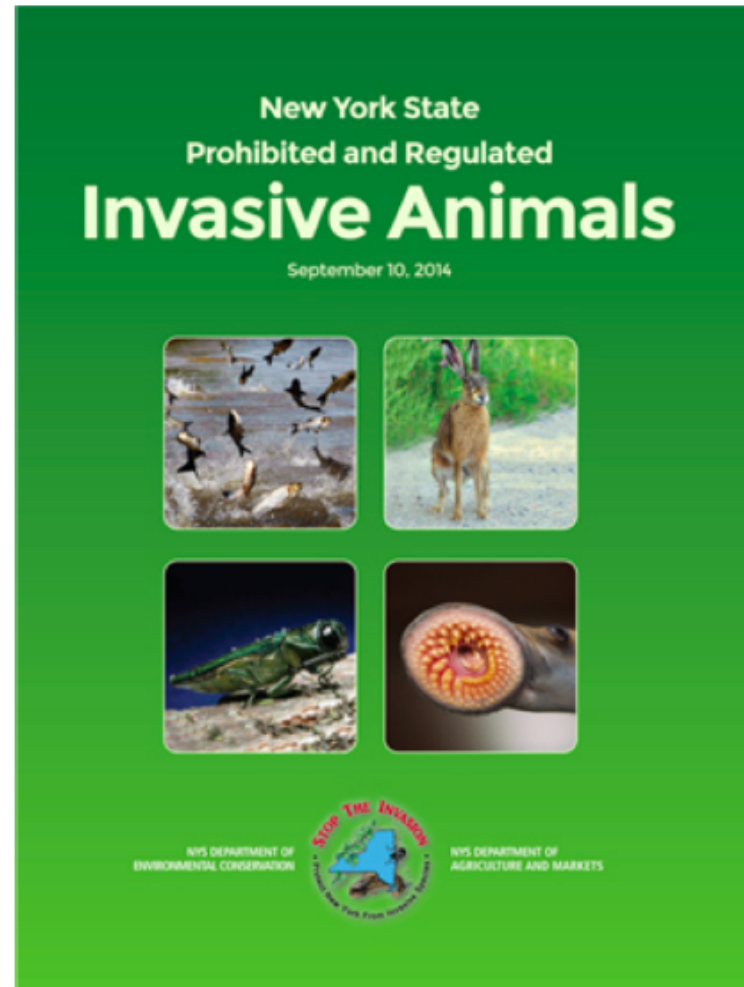
General public

1. Warning
2. Fine (minimum \$250)

Nurseries

1. Warning
2. Fine (minimum \$600)
3. Revocation of license/certificate

Additional penalties in some counties



https://www.dec.ny.gov/docs/lands_forests_pdf/isprohibitedanimals.pdf

Aren't Earthworms Good for the Soil?

VS

Groomed Gardens

Forests



Ploughed regularly
Fast growing annuals
Fertilizer amendments



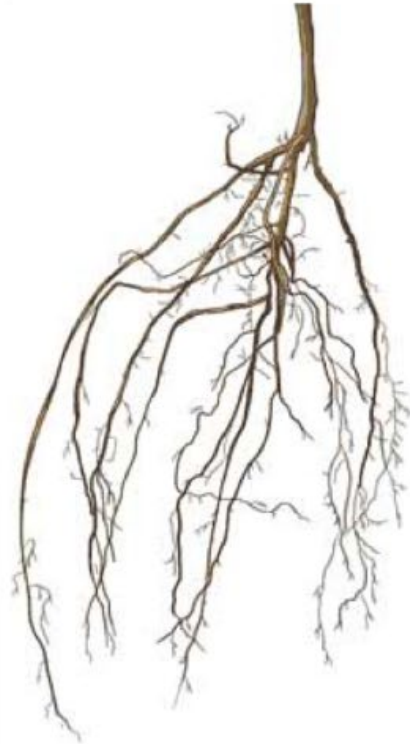
Slow soil mixing
Slow growing perennials
Associate with mycorrhizal fungi

Impacts

Plants via soil

Modified soil

- Low germination
- Root desiccation
- Unstable rooting



Annual life cycle



- Resilient cocoon

- Juveniles 1-3 cm
- Adults 3-20 cm

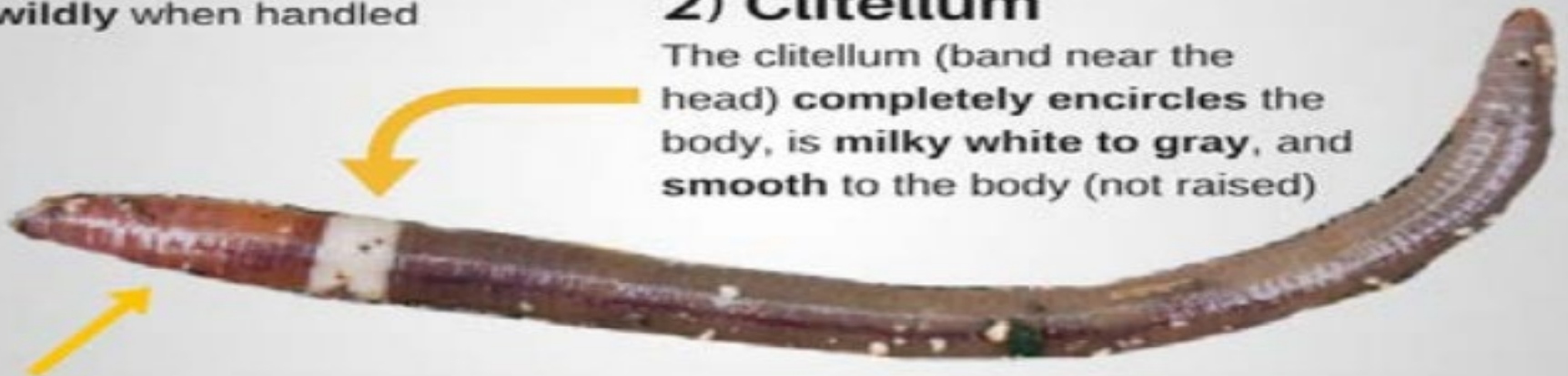
High density/fast maturity
Parthenogenetic
Prolific reproduction

1) Snake-like behavior

Jumping worms will thrash wildly when handled

2) Clitellum

The clitellum (band near the head) completely encircles the body, is milky white to gray, and smooth to the body (not raised)



Clitellum located closer to the head than European worm species. **Adults are visible July-September**

Not to be confused with:
Common non-native
European species which have
a raised, reddish clitellum

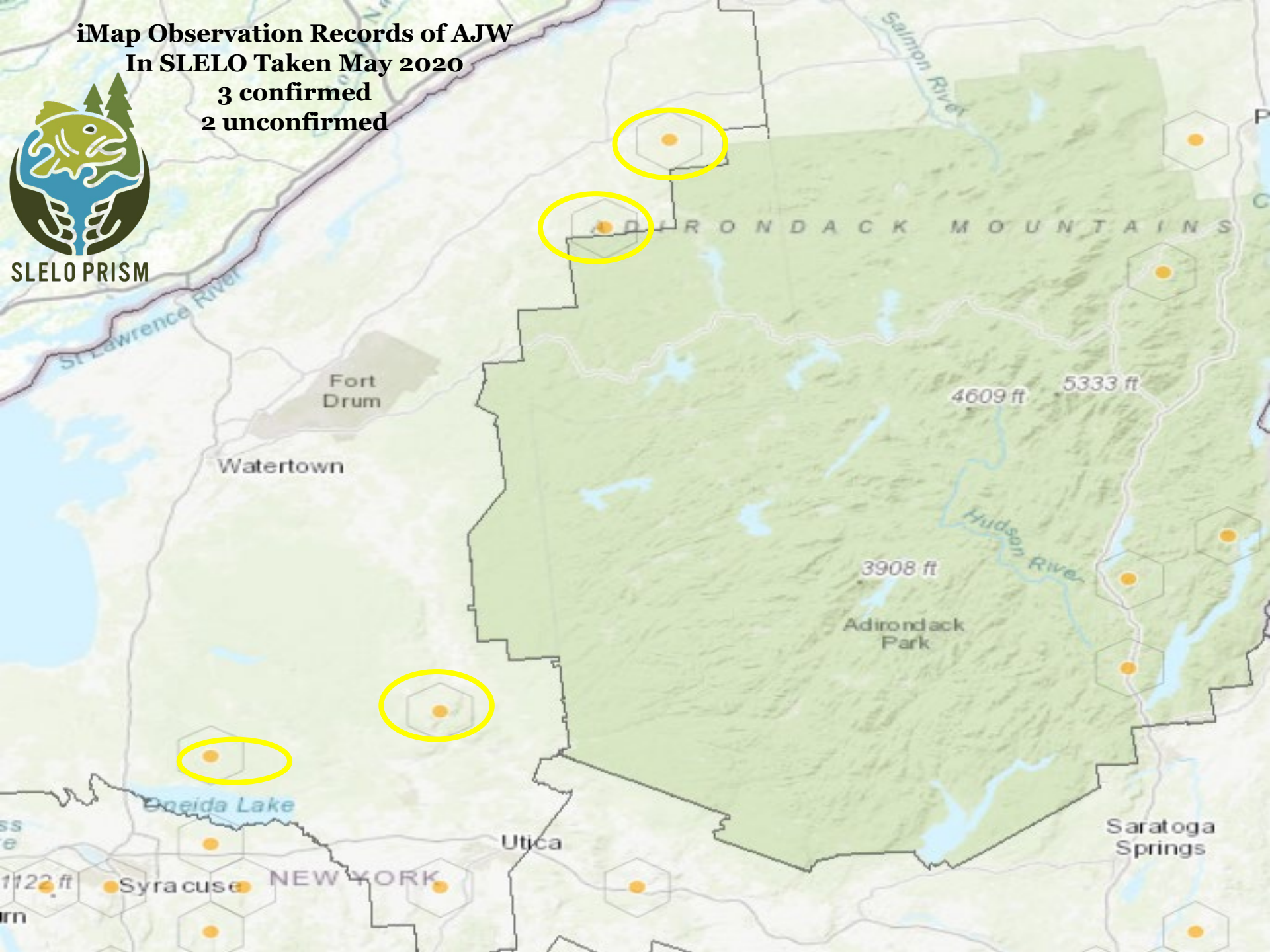


Invasive Jumping Worm Behavior



**iMap Observation Records of AJW
In SLELO Taken May 2020**

**3 confirmed
2 unconfirmed**

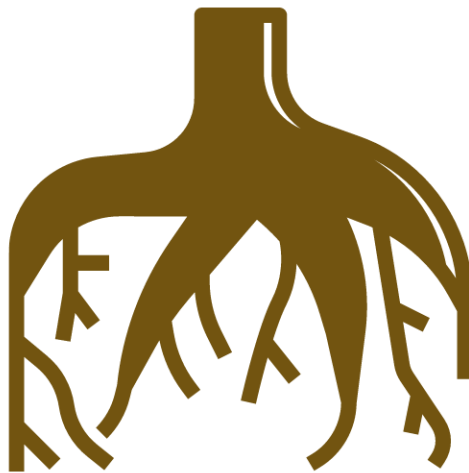


You Can Help!

Don't Use as Bait



Buy Bare Root



Don't Use for
Vermiculture



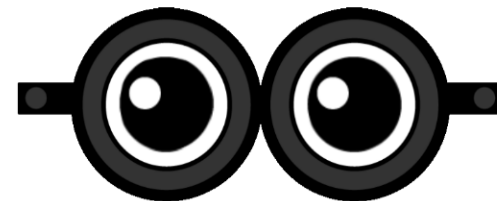
Don't Dump Yardwaste
in Natural Areas



Be Compost
Conscious



Check for Signs



HOW TO CHECK YOUR PROPERTY FOR INVASIVE JUMPING WORMS

Using a mustard pour

1) Mix 1 gallon of water with 1/3 cup of ground yellow mustard seed



+



2) Clear a bare patch of soil and pour solution slowly over soil. This will drive any worms to the surface

3) If you have jumping worms, report it to www.nyimainvasives.org



Spotted Lanternfly is in New York

- Check any flat surface for egg masses.
- SLF confirmed in Staten Island, Ithaca, Port Jervis, Sloatsburg, Orangeburg, NY.

Report sightings to
spottedlanternfly@agriculture.ny.gov
Include photos and location

**Spotted Lanternflies Lay Eggs on
any Flat Surface**

Eggs on
Tree Bark

Eggs on
Metal

Eggs on Tires

SLF Egg Mass on Railroad
Rails

Porcelain Berry (*Ampelopsis brevipedunculata*)



Leaves can be simple with serrated edges.



Vines grow densely over other vegetation



Berries are purple/blue with speckles and a shine similar to porcelain- hence the name.



- Bark has lenticels (raised pores)
- Bark does not peel in narrow strips like native grape vines.



Leaves can be deeply lobed.

Wild Parsnip, *Pastinaca sativa*



Toothed compound pinnate leaves





Invasive Plants to Avoid Growing

**How to Attract
Pollinators to Your
Garden**

Supporting Pollinators in Your Landscape

Sue Gwise



“Populations of native bees and native pollinators are in decline throughout the world due to pesticides and habitat fragmentation, loss and degradation.”
-the Xerces Society



PHOTO- Kathy Sturr

Why we need to encourage pollinators

- Pollinators are *keystone species*- a large number of other species depend on them for survival
- Abundant pollinators are indicative of healthy ecosystems
- Pollination creates a seed → perpetuates the species
- 80% of flowering plants and most native plants need insects for adequate pollination





Without pollinators...



These Photos Capture The Startling Effect Of Shrinking Bee Populations
In rural China, humans pollinate flowers by hand.



DECLINE OF BEES FORCES CHINA'S APPLE FARMERS TO POLLINATE BY HAND

After Bee Die-Off, Chinese Apple Farmers Resort to Hand Pollination

When Humans Are Forced To Replace The Bees They Killed

Downward spiral...

Pollinators disappear



Native plants disappear



Invasive plants move in



Birds and animals move out

What can you do to support pollinators?



#1- Do not plant invasives!

Norway Maple

>Red or Sugar Maple, Red Oak

Wintercreeper

>Ferns

Japanese Barberry

>Chokeberry

>Ninebark

Burning Bush

>Dogwood

>Chokeberry



Do not plant invasives!

Bradford Pear

>Crabapple

>Serviceberry

Autumn/Russian Olive

>Staghorn Sumac

>Hazelnut

Asian Honeysuckles

>Dogwood

Bishop's Weed

>Golden Alexanders

>Canada Anemone



#2- Favor Native Plants

- Native plants are adapted to our soil and climate conditions
- Native plants have fewer disease and insect issues
- Native plants are 'well-behaved'
- A healthy population of native plants can help prevent invasive species from invading an area.



Favor Native Plants...

- Our native insects, birds, plants and animals all evolved together
 - Our native birds and insects know how to use native plants as a result of millions of years of evolution
 - When we plant native species we are adding something to the environment that native insects and birds recognize and can use for food and shelter.

Non-native plants provide less support to native pollinators!



Favor Native Plants...

- Native plants attract native insects which attract native birds
- 90% of all songbirds raise their young on caterpillars that feed on native plants



Caterpillars need food plants!

- Eating machines
- Often very specific as to what they will feed on- native species
- Adults females lay eggs on food plants
- Caterpillars are an important source of food for nesting birds to feed to their young- Protein

Native food plants → Caterpillars (adult butterflies and moths) → Songbirds



What is “native”?

Plants that were here before
colonization (1600)

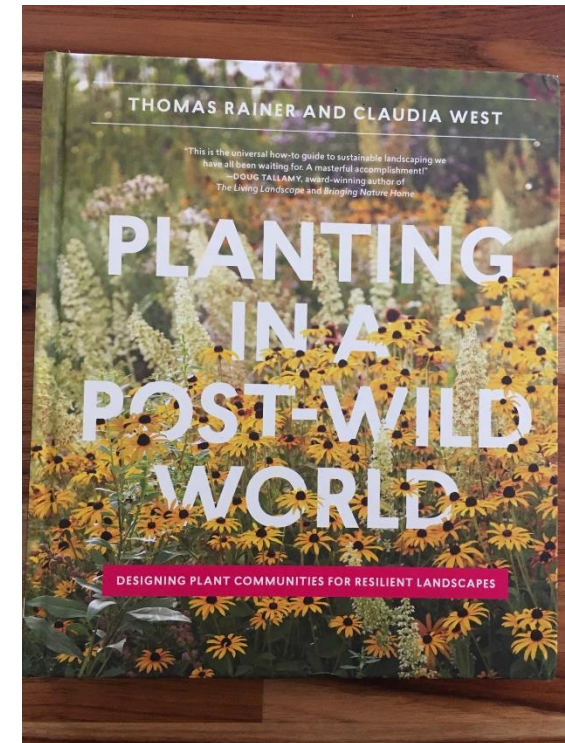
**There is much debate about
nativity!**

How do I find out?

Native Plants of New York by Don
Leopold

Audubon Field Guides

NY Flora Atlas



Many non-natives and less desirable plants also support pollinators!

- Many introduced weeds and ornamentals are used as food plants
- Anything with a flower that has nectar or pollen will support adult pollinators
- Don't get hung up on making sure everything is native!
 - Be more concerned about invasive plants
 - Do we even have a 'native' environment anymore?

#3- Diversity is the key!

- Different plant families
- Trees, shrubs, perennials, vines
- Different flower shapes
- Different flower colors

Even plants considered boring, lowly, weedy, non-native and annoying have a role to play....

Beneficial Pollinators: sleloinvasives.org

Beneficial Pollinators and the Plants That Attract Them

There is an intimate relationship between plants and insects that evolve over time.
This document provides an overview of some of the pollinators you may want to attract to your garden.
Please note that not all pollinators are flashy and although most of us love butterflies and are familiar with the role of bees, these insects are not the only insects responsible for pollination.

Mourning Cloak

Grow: willow, poplar, elm, birch



Baltimore Checkerspot

Grow: viburnum



Giant Swallowtail

Grow: prickly ash, hoptree



Eastern Tiger Swallowtail

Grow: cherry, tulip trees



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MANAGEMENT
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Cornell Cooperative Extension
Jefferson County

Diversity...Food Plants

Eastern Tiger Swallowtail-

- Cherry
- Ash



Clouded Sulphur-

- Legumes
 - Alfalfa
 - Clover
 - Vetch



Black Swallowtail-

- Carrot Family
 - Dill
 - Fennel
 - Parsley
 - Queen Anne's Lace



Spring Azure-

- Dogwood
- Viburnum



Diversity...Food Plants

Silvery Blue-

- Legumes
 - Vetch



Red Admiral-

- Nettles



Mourning Cloak-

- Willow
- Poplar
- Elm
- Hackberry
- Birch



Painted Lady-

- Burdock
- Thistle



Diversity...Food Plants

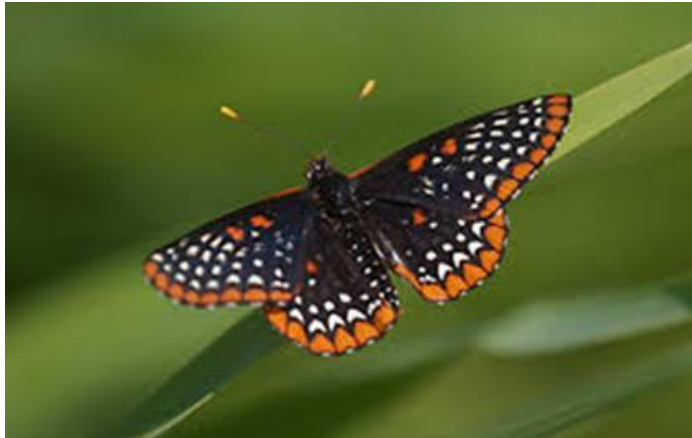
Silvery Checkerspot-

- Sunflower family



Baltimore-

- Turtlehead



White Admiral-

- Willow
- Aspen
- Poplar



Northern Pearly Eye-

- Grasses



Diversity...Food Plants

Cecropia Moth

- Apple
- Box elder
- Cherry
- Lilac
- Willow
- Poplar



Luna Moth-

- Birch
- Hickory
- Walnut



Polyphemus Moth-

- Rose
- Birch
- Willow



Hummingbird Clearwing-

- Viburnum



Pollinator Pathway Brochure: sleloinvasives.org

Chokeberry (*Aronia* spp.)

White flowers in spring.
Height- 8'



Currant and Gooseberry (*Ribes* spp.)

Late spring blooms, edible berries.
Height- 8'



Dogwood (*Cornus* spp.)

White flowers in spring.
Height- 10'



Eastern Ninebark (*Physocarpus opulifolius*)

Attractive bark.
Height- 9'



Elderberry (*Sambucus canadensis*)

white blooms in early summer, edible fruit.
Height- 15'



Meadowsweet (*Spiraea alba*)

Blooms mid to late summer, white flowers. Height- 5'



Raspberry and Blackberry (*Rubus* spp.)

Edible berries; Height- 6-10'



The Pollinator Pathway Project encourages gardeners to choose to grow native over exotic or known to be invasive plants. By making this simple choice, you provide pollinators with the plants that they have evolved with and rely on for their survival. Not only will you support pollinators, but you will also keep invasives from spreading as many invasive plants were once considered desirable landscaping plants that overtime became a problem.

The plants highlighted in this brochure were selected by the Master Gardeners of Jefferson County, NY and recommended to support pollinators in Dr. Don Leopold's book *Native Plant's of the Northeast: A Guide for Gardening & Conservation*.

To learn more, and to participate in this project contact the Pollinator Pathway Project Coordinators Below:

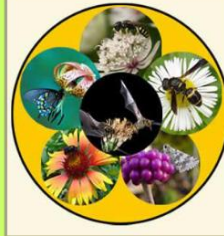
Sue Gwise: 315-788-8450 ext. 243;
Sig42@cornell.edu

Megan Pistolese: 315-387-3600
ext. 7724; megan.pistolese@tnc.org



ELO PRISM
Eastern Lake Ontario Partnership for Invasive Species Management
Turning Up to Stop the Spread of Invasive Species

Pollinator Pathway Project



Plant Sustainably
Plant Native

Suggested Native Pollinator Friendly Species

Birch (*Betula* spp.)

Attractive bark.
Height- 40-70'



Dogwood (*Cornus* spp.)

White flowers in spring.
Height- 20-40'



Eastern Red Cedar (*Juniperus virginiana*)

source of winter food and shelter.
Height- 40- 50'



Hawthorn (*Crataegus* spp.)

White flowers in spring, red fruit.
Height- 20'



Northern White Cedar (*Thuja occidentalis*)

Slow growing evergreen; source of winter food and shelter.
Height- 40- 50'



Pine (*Pinus* spp.)

Faster growing evergreen, source of winter food and shelter.
Height- 50-80'



Pussy Willow (*Salix* spp.)

Fluffy catkins provide winter interest.
Height-15- 20'



Serviceberry (*Amelanchier* spp.)

Edible berries.
Height-15 -25'



Spruce (*Picea* spp.)

Evergreen; source of winter food and shelter.
Height- 30- 60'



Virginia Creeper (*Parthenocissus* spp.)

Fast and vigorous grower; suckers extensively, sap may irritate skin. Height- 100'



Black-eyed Susan/Coneflower (*Rudbeckia* spp.)

Yellow to orange blooms mid-summer to fall.
Height- 30"



Cardinal Flower (*Lobelia cardinalis*)

Red blooms spring to fall.
Height- 3'



Columbine (*Aquilegia canadensis*)

Mixed purple, pink, yellow blooms in early summer.
Height- 2'



Goldenrod (*Solidago* spp.)

Yellow blooms late summer and into fall.
Height- 2-3'



Joe-pye Weed/Boneset (*Eupatorium* spp.)

White and purple blooms July to October.
Height- 4-7'



Milkweed (*Asclepias* spp.)

Purple to pink blooms mid-summer to fall. Height- 3-5'



Oswego Tea (*Monarda didyma*)

Purple to pink blooms mid-summer to fall. Height- 3'



Purple Coneflower (*Echinacea* spp.)

Purple to pink blooms summer to fall.
Height- 3-4'



Sunflower (*Helianthus* spp.)

Yellow to brown blooms mid-summer to fall.
Height- 3-12'



Plant Diversity = Pollinator Diversity!

Deciduous Trees-

- Birch
- Hawthorn
- Serviceberry
- Cherry
- Poplar



Plant Diversity = Pollinator Diversity!

Evergreen Trees-

- Eastern Red Cedar
- Northern White Cedar
- Pine
- Spruce



Plant Diversity = Pollinator Diversity!

Shrubs-

- Dogwood
- Chokeberry
- Currant/Gooseberry
- Ninebark
- Elderberry
- Raspberry/Blackberry
- Willow

Vine-

- Virginia Creeper



Plant Diversity = Pollinator Diversity!

Perennials (wildflowers)-

- Sunflower
- Milkweed
- Bee Balm
- Purple Coneflower
- Black-eyed Susan
- Meadowsweet
- Cardinal flower
- Columbine
- Joe Pye Weed
- Goldenrod





#4- Plant flowers that are attractive to pollinators...

Carrot Family

- Carrot, parsley, celery, dill, coriander
- Umbel flower head



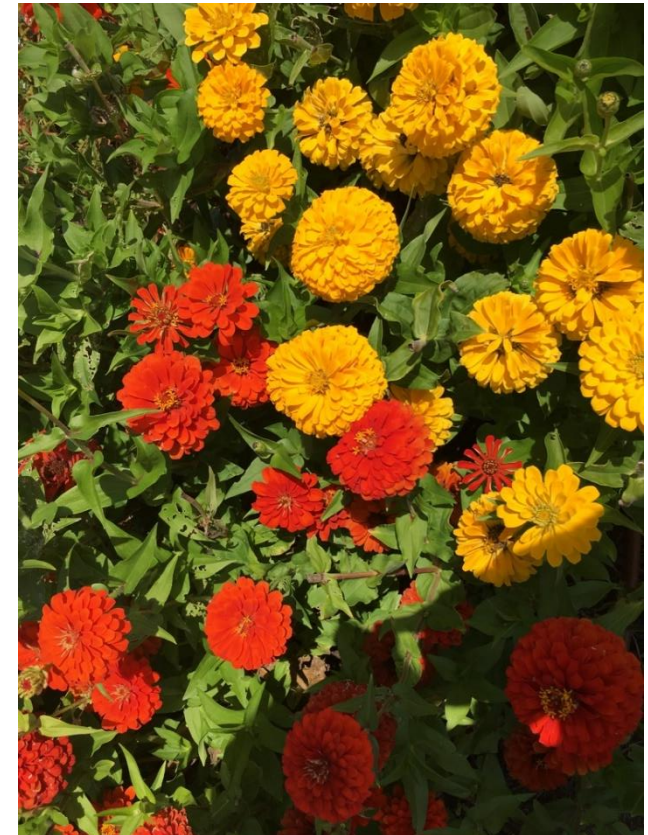
Daisy Family

- Sunflower, aster, daisy, marigold, strawflower, zinnia, dahlia, chrysanthemum
- Composite flower head



How to use flowers for the most benefit

- Diversity- use at least 15 different flowering species
 - Plant diversity = wildlife diversity
- Successional blooming- food is available when insects are active
- Plant flowers in groups
- Use 'species' plants rather than hybrids
- Attractive flowers:
 - Butterflies- long, tubular flowers; red, orange and yellow
 - Moths- night blooming flowers: jimsonweed, evening primrose
 - Bees cannot 'see' red; blue flowers attract bees



#5- Consider the Habitat

- The trouble with lawns...
- Freedom from pesticides
 - Insecticides are not selective!
- Water
 - Butterflies like puddles
- Provide nesting habitat
 - Bare soil for ground nesting bees
 - Trees with loose bark
 - Snags/unkempt areas provide shelter



PHOTO: Emma Nowak

#6- Consider less 'flashy' pollinators

- Pollinators are not just honey bees and butterflies!



Other bees...

- Honey Bees are not native!
- Native Solitary bees- do not live in colonies
 - Wood nesting bees
 - Ground nesting bees
- Bumble bees are excellent pollinators!
 - They have longer tongues than other bees. This allows them to pollinate deeper flowers with complex shapes.
 - They are generalists that visit a variety of plant species, including native wildflowers and food plants.
 - Thermoregulation- shivering. Can forage under cold, cloudy, rainy conditions
 - Buzz pollination



Important pollinators- Flies



Flower Fly



Bee Fly

Important pollinators- Beetles



Flower Beetle



Pollen Beetle



Wood Borer



Soldier Beetle



Firefly

Bottom Line-

- Diversify!
- Nurture what you have
- Eliminate invasive species
- Provide a pollinator friendly habitat- for all pollinators
- Do not use pesticides
- Favor native species, but know that they may not be ideal depending on your setting.

Resources...

- Bringing Nature Home, by Douglas Tallamy
- Native Plants of New York, by Don Leopold
- Audubon Guides (Trees and Wildflowers)
- Caterpillars of Eastern North America, by David Wagner
- Pollination Conservation Handbook, The Xerces Society
- www.xerces.org
- Prairie Moon Nursery
prairiemoon.com (MN)
- Ernst Seeds ernstseed.com (PA)





<<<Get Involved>>>

