



# Invasive Plant Management in Connecticut

Greenwich Land Trust

April 4, 2013

Logan Senack

CT Invasive Plant Coordinator



University of  
Connecticut

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University of Connecticut,  
Bugwood.org



# Important: Perspective

Invasive plants are only a small percentage of all the plant species in CT

Only a few plants are “bad actors” but they have a disproportionately large impact

~3% of the overall flora in CT

~10% of all non-native plants here

# Multiflora rose

*Rosa multiflora*



# Japanese knotweed

*Polygonum cuspidatum*



Tom Heutte

USDA, [Invasive.org](https://www.invasive.org)

# Burning bush/Winged Euonymus

*Euonymus alatus*



Great fall color, BUT.....

# Burning bush/Winged Euonymus

*Euonymus alatus*



# Burning bush/Winged Euonymus

*Euonymus alatus*





# Reasons to care: Environment

- Soil chemistry
- Tree/forest regeneration
- Native plants
  - Native insects
    - Native birds, animals






Logan Senack, UConn

# Reasons to car: Aesthetics and Land Use

- Hiking
- Fishing and boating
- Hunting
- Gardening and farming
- Sense of place





A photograph of a forest path in autumn. The path is covered in fallen leaves and leads through a dense thicket of trees and shrubs. Several plants are highlighted with dark rectangular labels and white text. The labels are: 'Oriental bittersweet' (top left), 'Morrow's honeysuckle' (center), 'Japanese barberry' (bottom left), and 'Burning bush' (right). The background shows tall, thin tree trunks and a canopy of trees with some autumn-colored leaves.

Oriental bittersweet

Morrow's  
honeysuckle

Japanese barberry

Burning  
bush

Oriental bittersweet

Morrow's  
honeysuckle

Burning  
bush

↑  
Japanese  
honeysuckle

↗  
Autumn olive  
Yellow iris

↙  
Norway maple  
Garlic mustard

Japanese barberry

↘  
Forget-me-nots  
Pond starwort

↘  
Slender bittercress  
Multiflora rose  
Dame's rocket  
Privet



Black Locust

Oriental bittersweet

Multiflora rose  
Japanese barberry  
Forget-me-not (\*)  
Shrub honeysuckle

Mile-a-minute vine

Garlic mustard

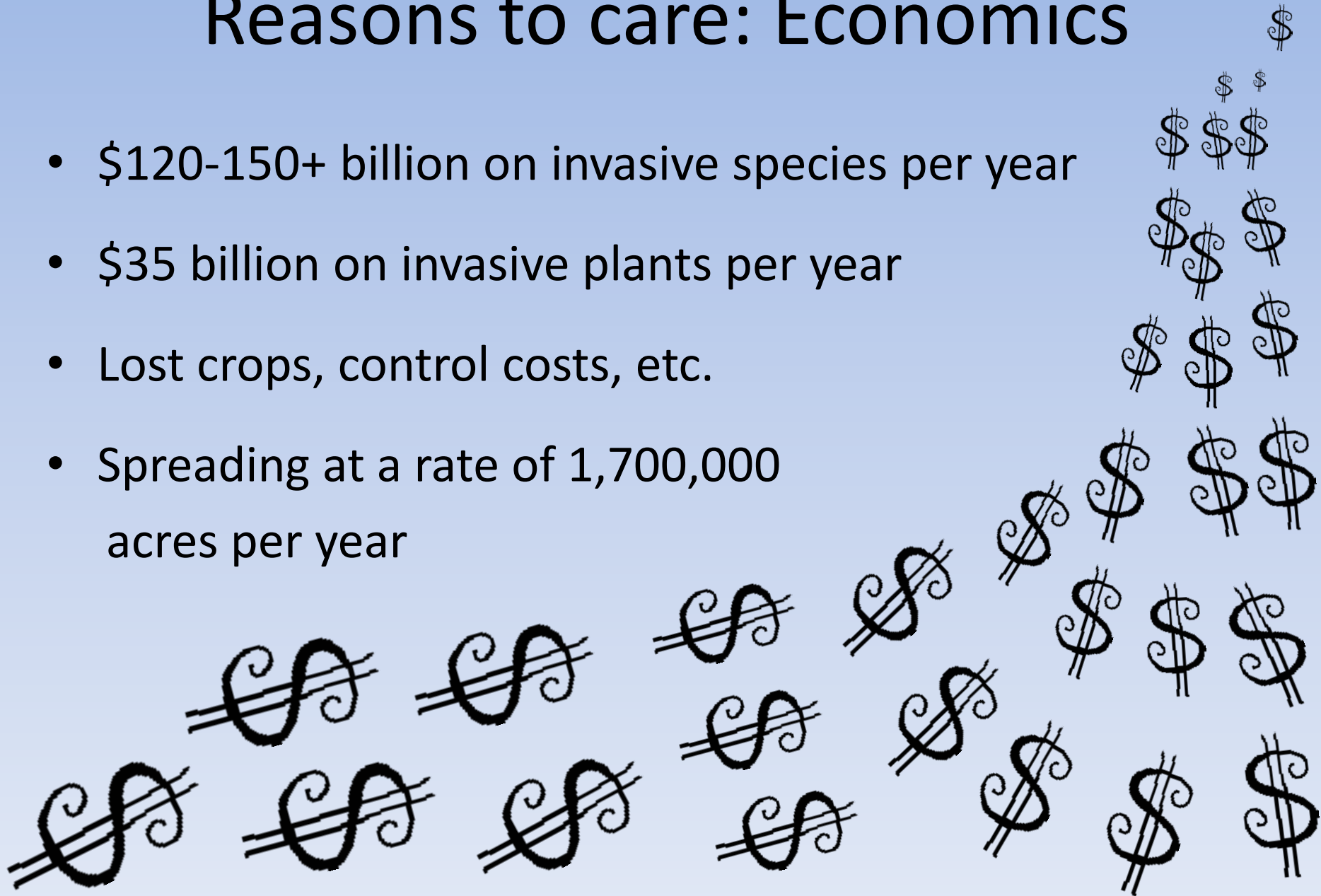
Japanese stiltgrass





# Reasons to care: Economics

- \$120-150+ billion on invasive species per year
- \$35 billion on invasive plants per year
- Lost crops, control costs, etc.
- Spreading at a rate of 1,700,000 acres per year



Beach rose (Seaside rose) *Rosa rugosa*



5478094

# Mile-a-minute vine

*Persicaria perfoliata*



# Autumn Olive *Elaeagnus umbellata*



Autumn Olive *Elaeagnus umbellata*



UGA2307060

# Autumn Olive *Elaeagnus umbellata*



# Autumn Olive *Elaeagnus umbellata*



5392986

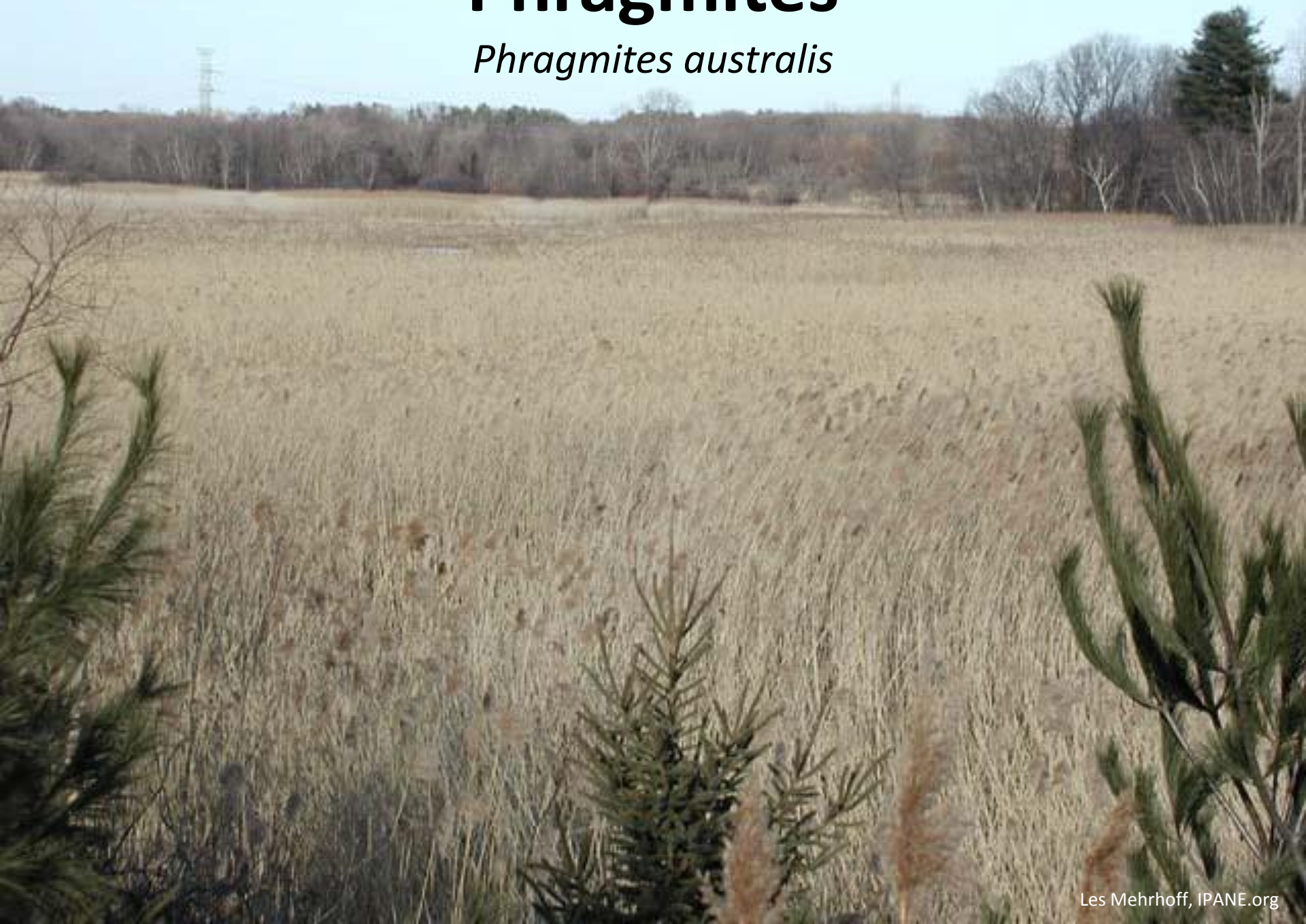
# Autumn Olive *Elaeagnus umbellata*





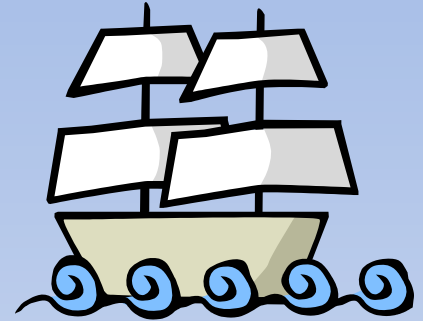
# Phragmites

*Phragmites australis*



# Federal Definition

1. Non-native



2. Cause harm

- Economic
- Environmental
- Human health

# Connecticut

## **9 criteria, including:**

- demonstrated or possible rapid growth
- high dispersion potential
- outcompete other species in the same natural plant community
- potential to exist in high numbers outside of intensely managed habitats



# Legal Restrictions on Invasive Plants

In CT, it is illegal to:

- import
- move\*
- sell
- purchase
- transplant
- cultivate
- distribute

any of the species on  
the prohibited list

(state agencies and their contractors  
cannot use plants on the whole list)

punishable by up to \$100  
fine per plant (includes  
plant parts, seeds, etc.)

DEEP has enforcement  
authority as of Oct. 2010

# Legal Restrictions on Invasive Plants



- Questions -



# Control and Management



5367455



5422102



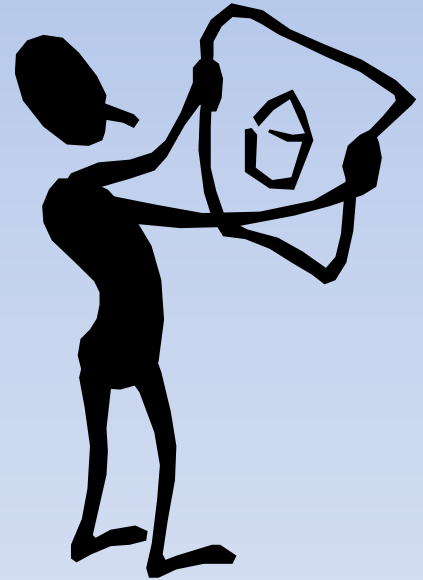
Weed Wrench.com

Images from Bugwood.org



# Control and Management

- MAKE A PLAN FIRST
  - Match the technique to the job
- Plan to follow-up later
- Dispose of plants properly\*
- Follow-up again





# Connecticut Efforts and Resources





Photo by Les Mehrhoff, IPANE, [invasive.org](http://invasive.org)

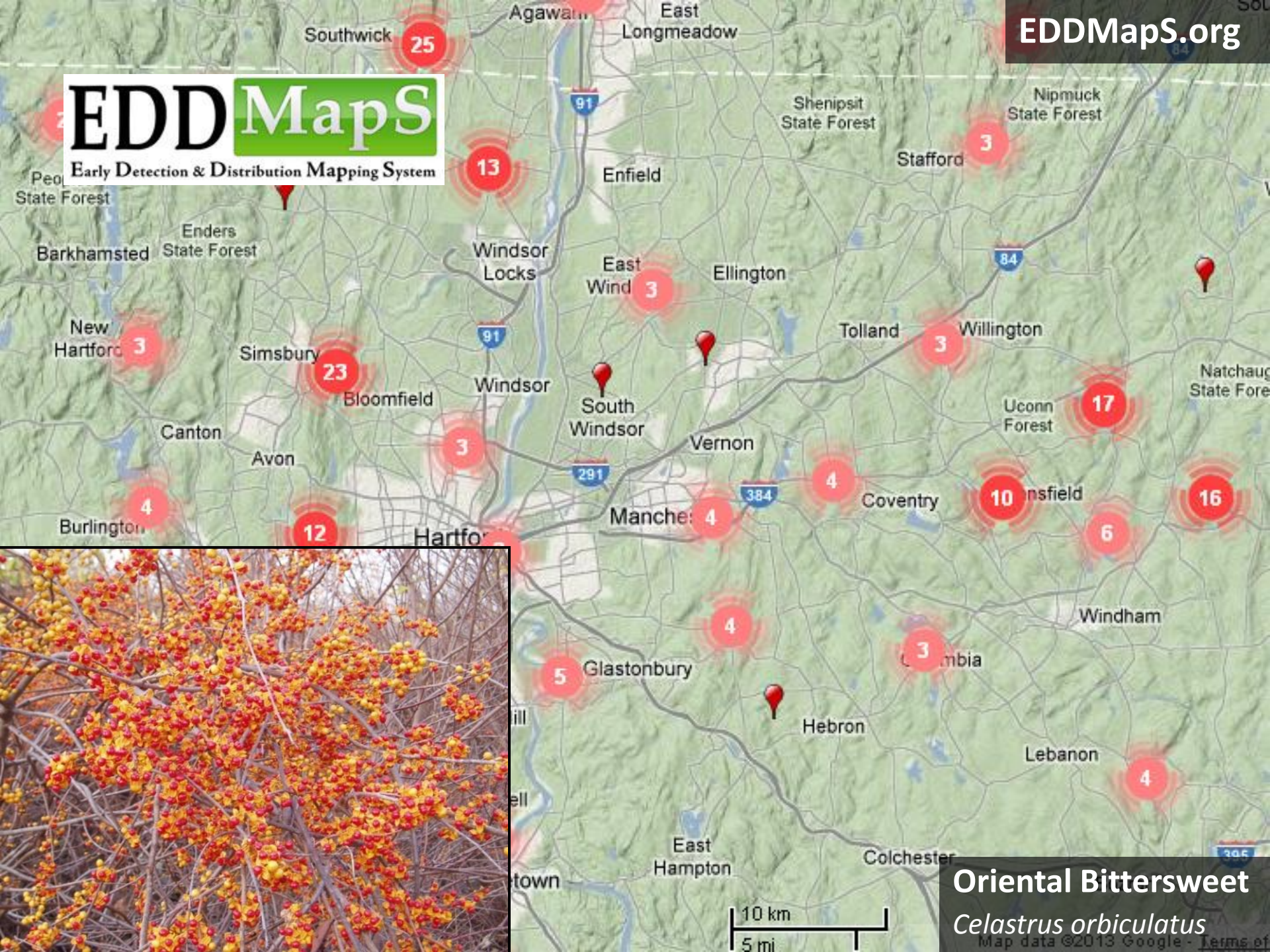


Photo by Les Mehrhoff, IPANE, [invasive.org](http://invasive.org)

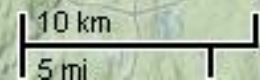
Photo by Max Williamson, USDA Forest Service, [invasive.org](http://invasive.org)

# EDDMapS

Early Detection & Distribution Mapping System



**Oriental Bittersweet**  
*Celastrus orbiculatus*  
 Map data ©2013 Google - Terms of



# Purple Loosestrife

*Lythrum salicaria*



purple loosestrife ( *Lythrum salicaria* )



5445973

# Biological Control







# Mile-a-minute vine

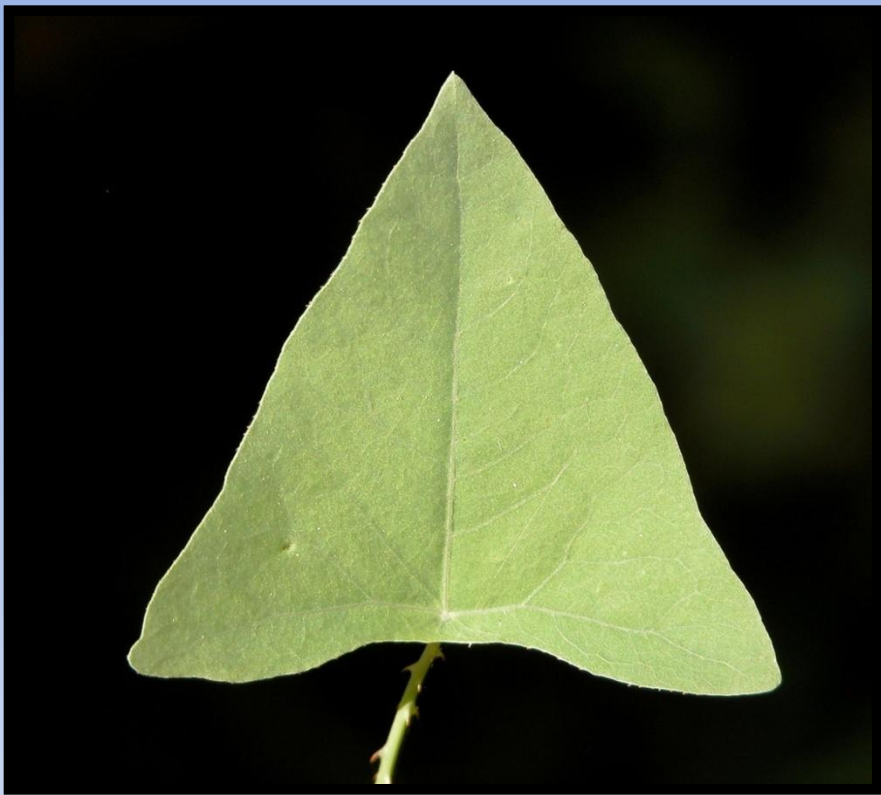
*Persicaria perfoliata*





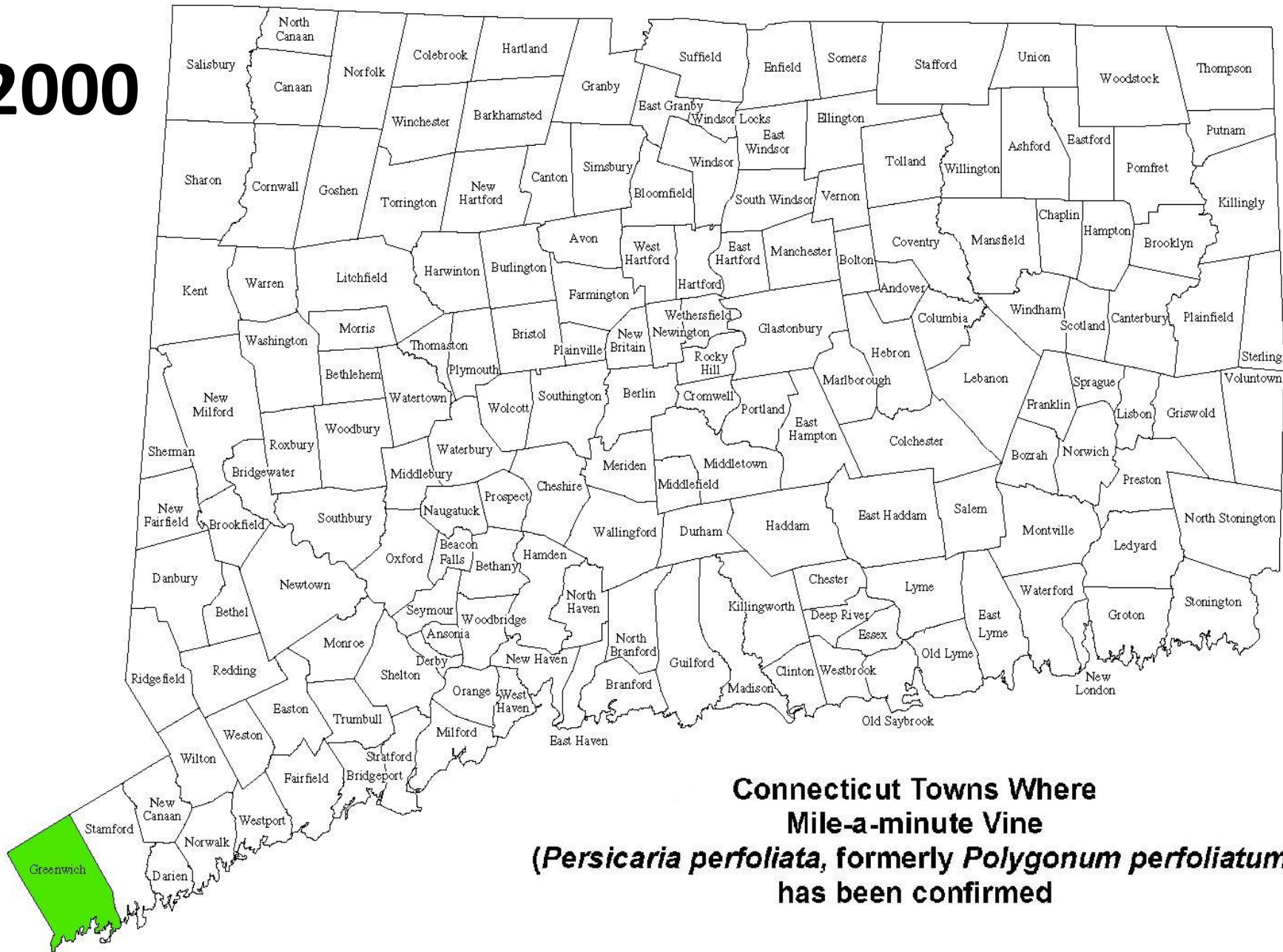
Logan Senack

**Mile-a-minute vine: contact Logan or CT DEEP if found**

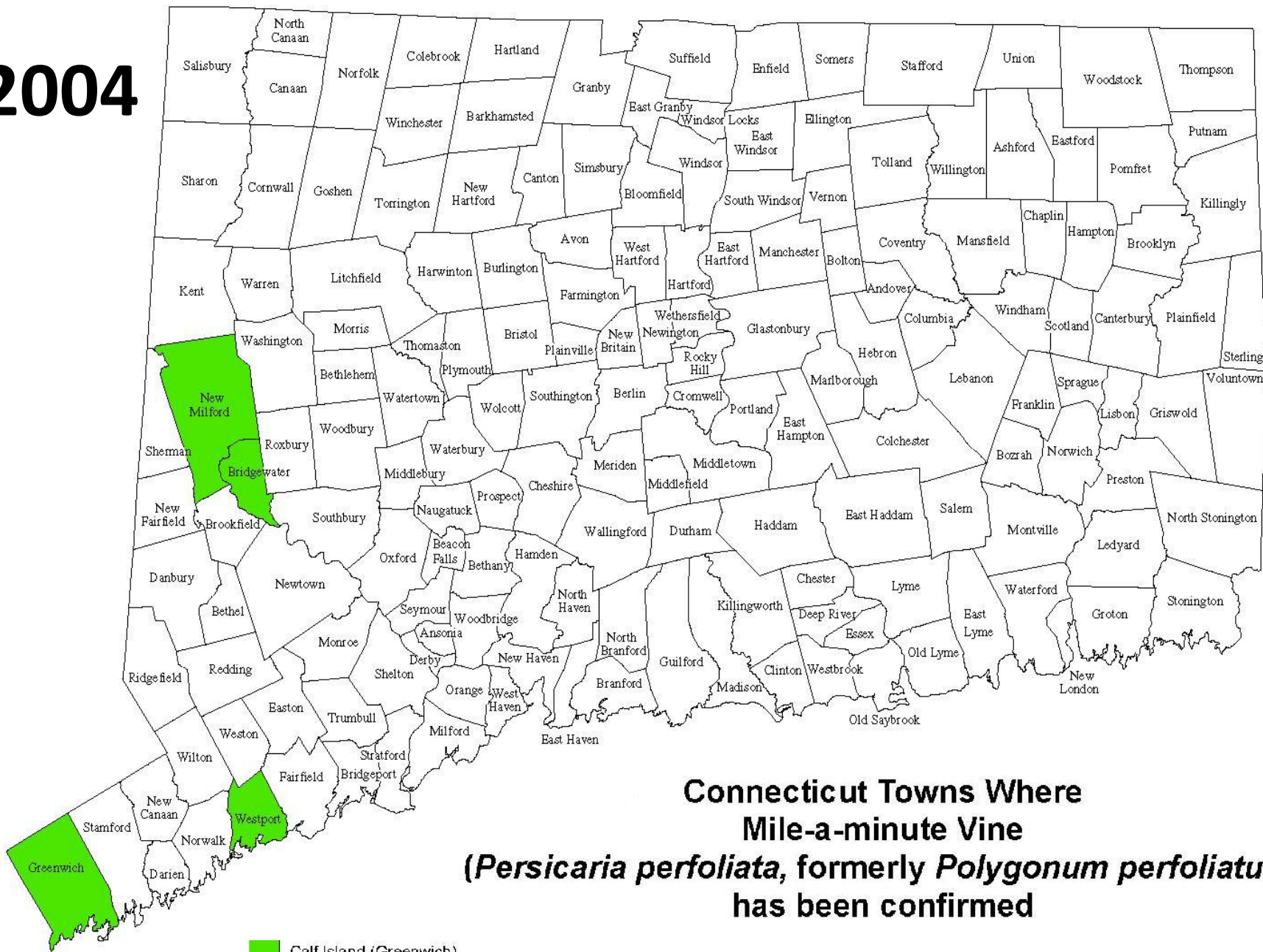


Photos by Todd Mervosh, CAES

2000

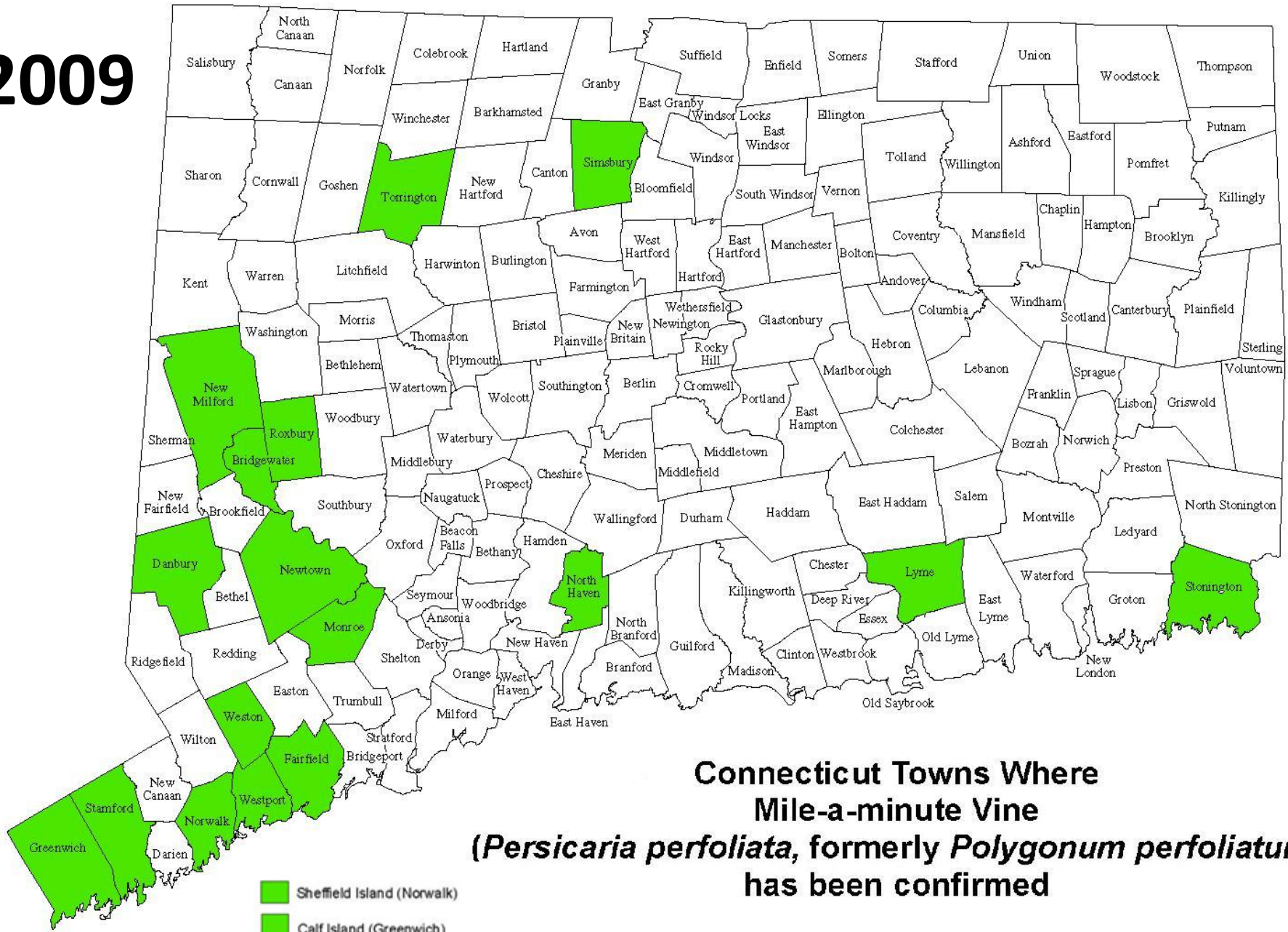


# 2004



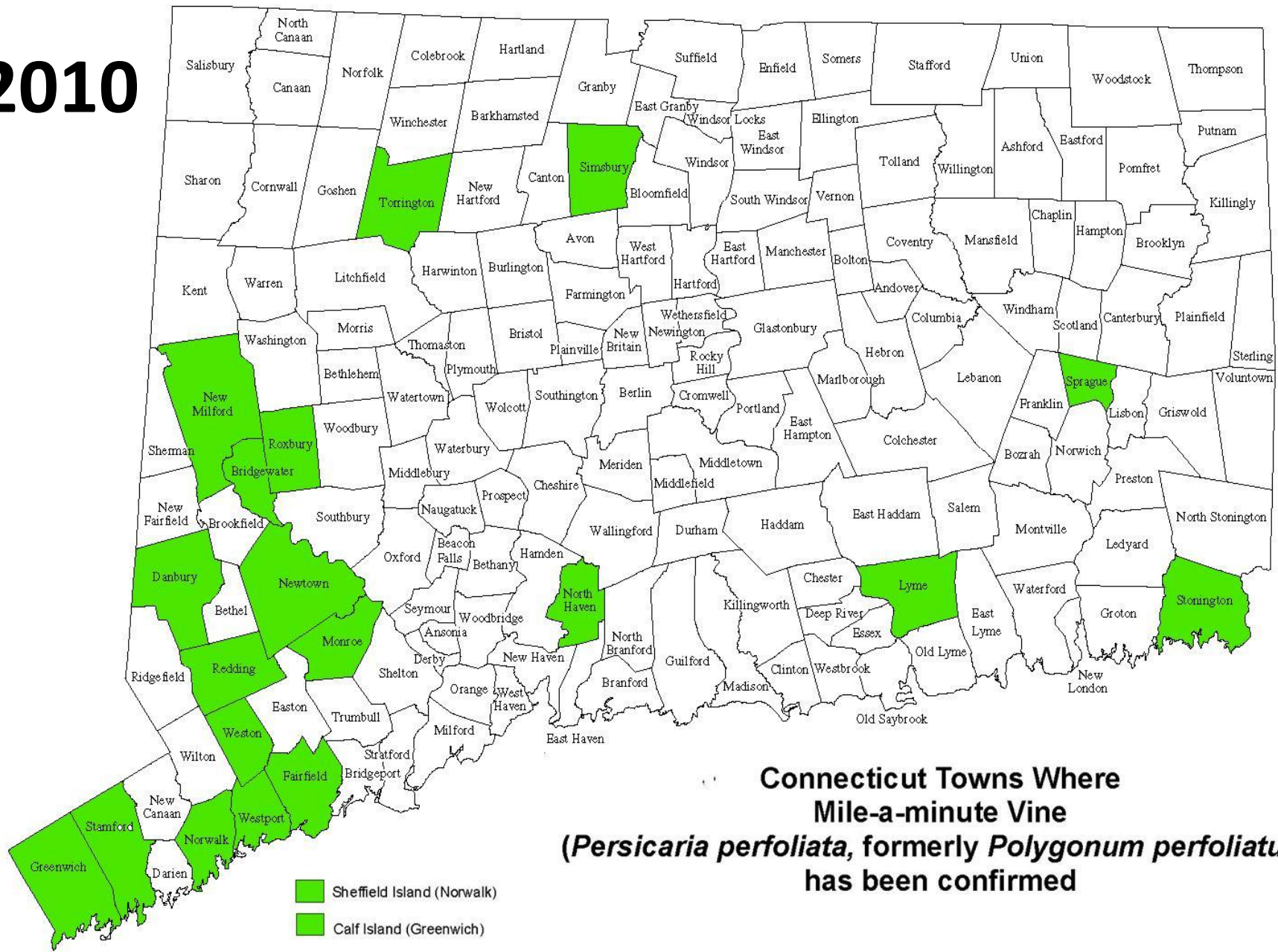
**Connecticut Towns Where  
Mile-a-minute Vine  
(*Persicaria perfoliata*, formerly *Polygonum perfoliatum*)  
has been confirmed**

# 2009



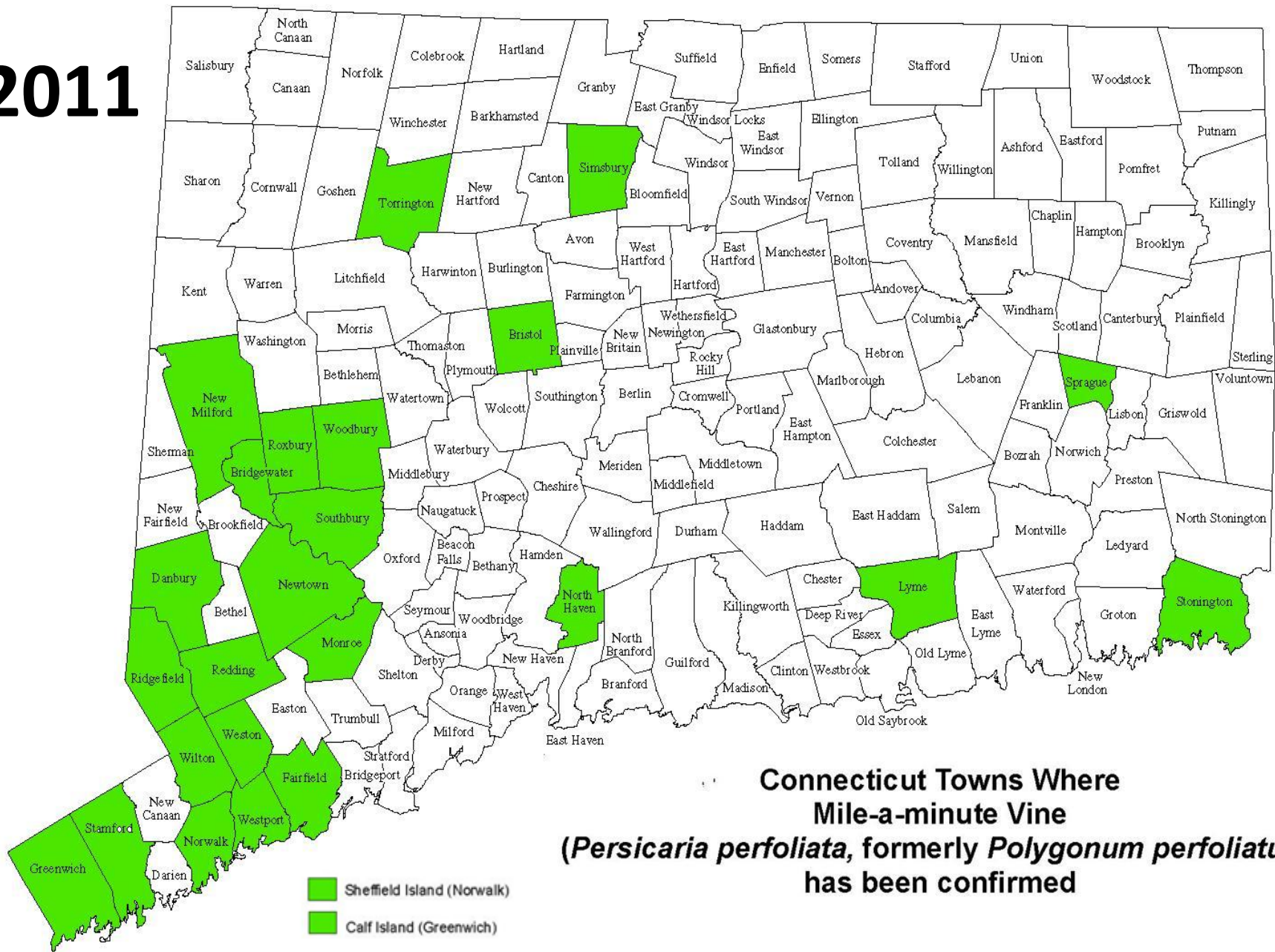
**Connecticut Towns Where  
Mile-a-minute Vine  
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# 2010



**Connecticut Towns Where  
Mile-a-minute Vine  
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# 2011



**Connecticut Towns Where  
Mile-a-minute Vine  
(*Persicaria perfoliata*, formerly *Polygonum perfoliatum*)  
has been confirmed**





# Example: MAM efforts in CT

- Different controls at different locations
  - Shetucket River
    - Herbicide at one site
    - Handpulling at another
    - Biocontrol at another
    - Controlled burn?



# Mile-a-minute “Pulling Party” in Sprague



# Kudzu

*Pueraria montana*



UGA0002156

Photo by Kerry Britton, USDA Forest Service, Bugwood.org

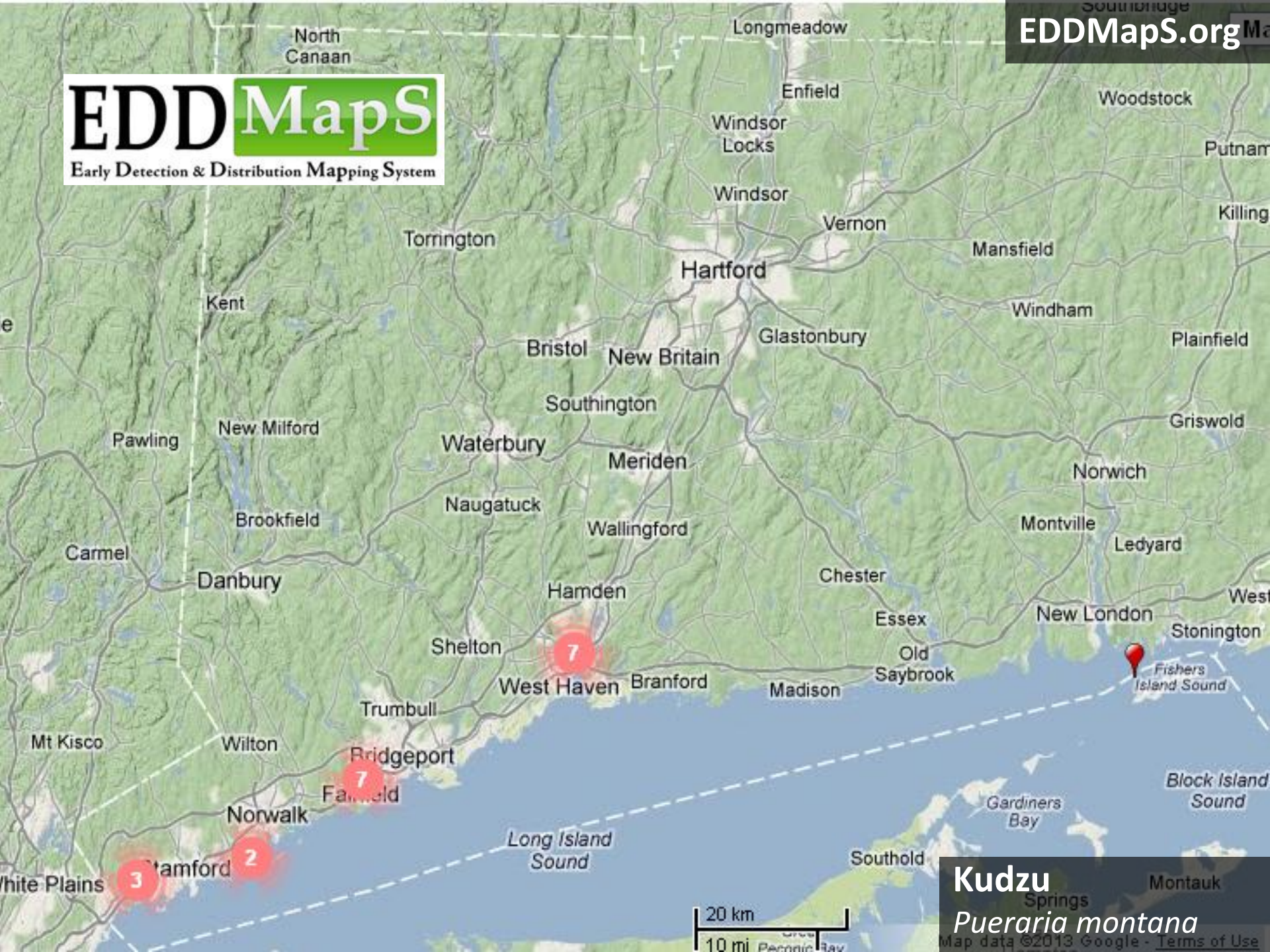
# Kudzu

*Pueraria montana*



# EDDMapS

Early Detection & Distribution Mapping System



**Kudzu**  
*Pueraria montana*  
Map data ©2013 Google - Terms of Use

# Kudzu

*Pueraria montana*



*Kudzu flowering. Photo: Donna Ellis*



*Kudzu leaf shape variation.  
Photos: Donna Ellis*



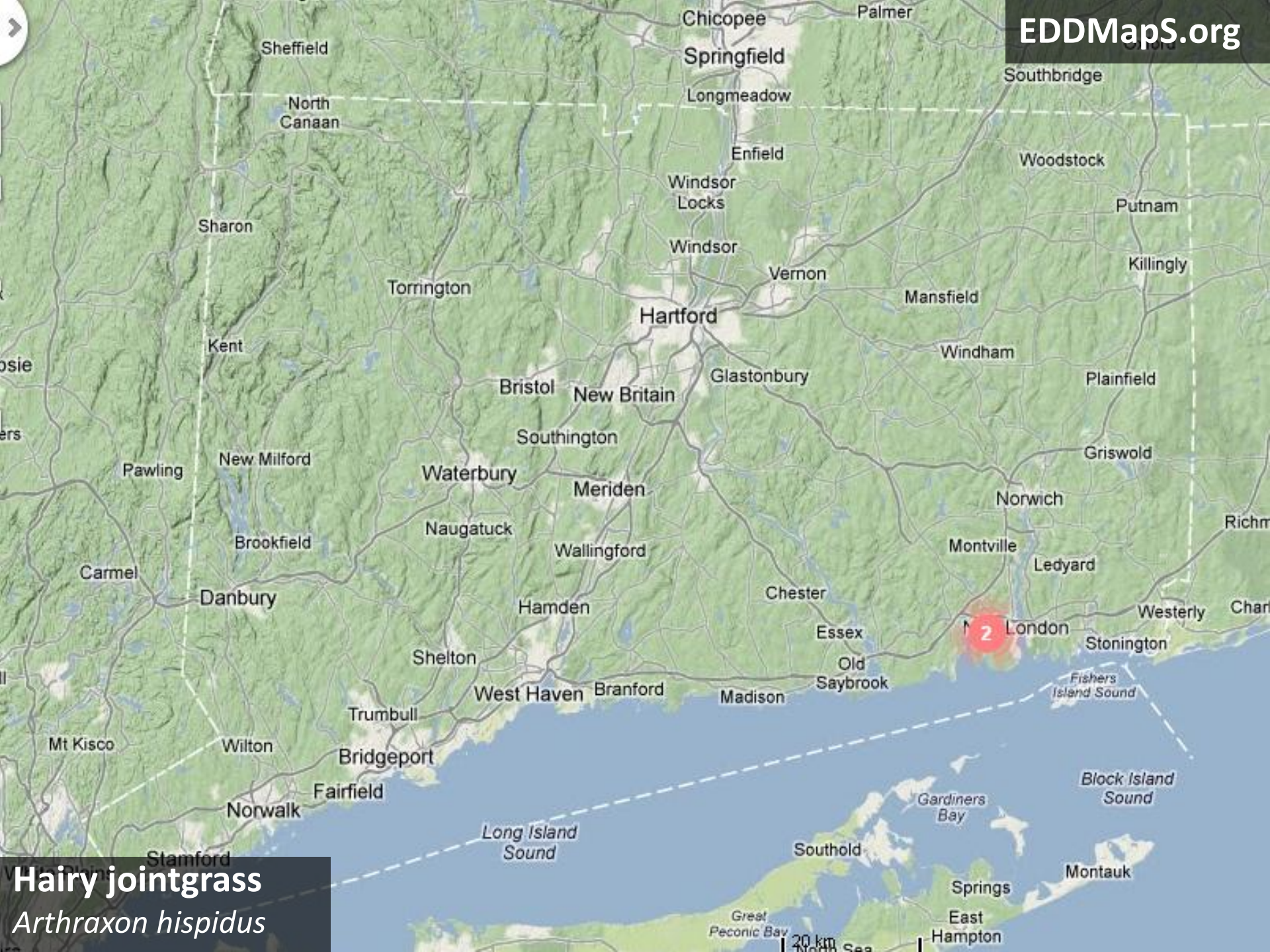
**Hairy jointgrass**  
*Arthraxon hispidus*

Photo by Les Mehrhoff,  
IPANE, Bugwood.org



Nelson DeBarros, CT DEEP

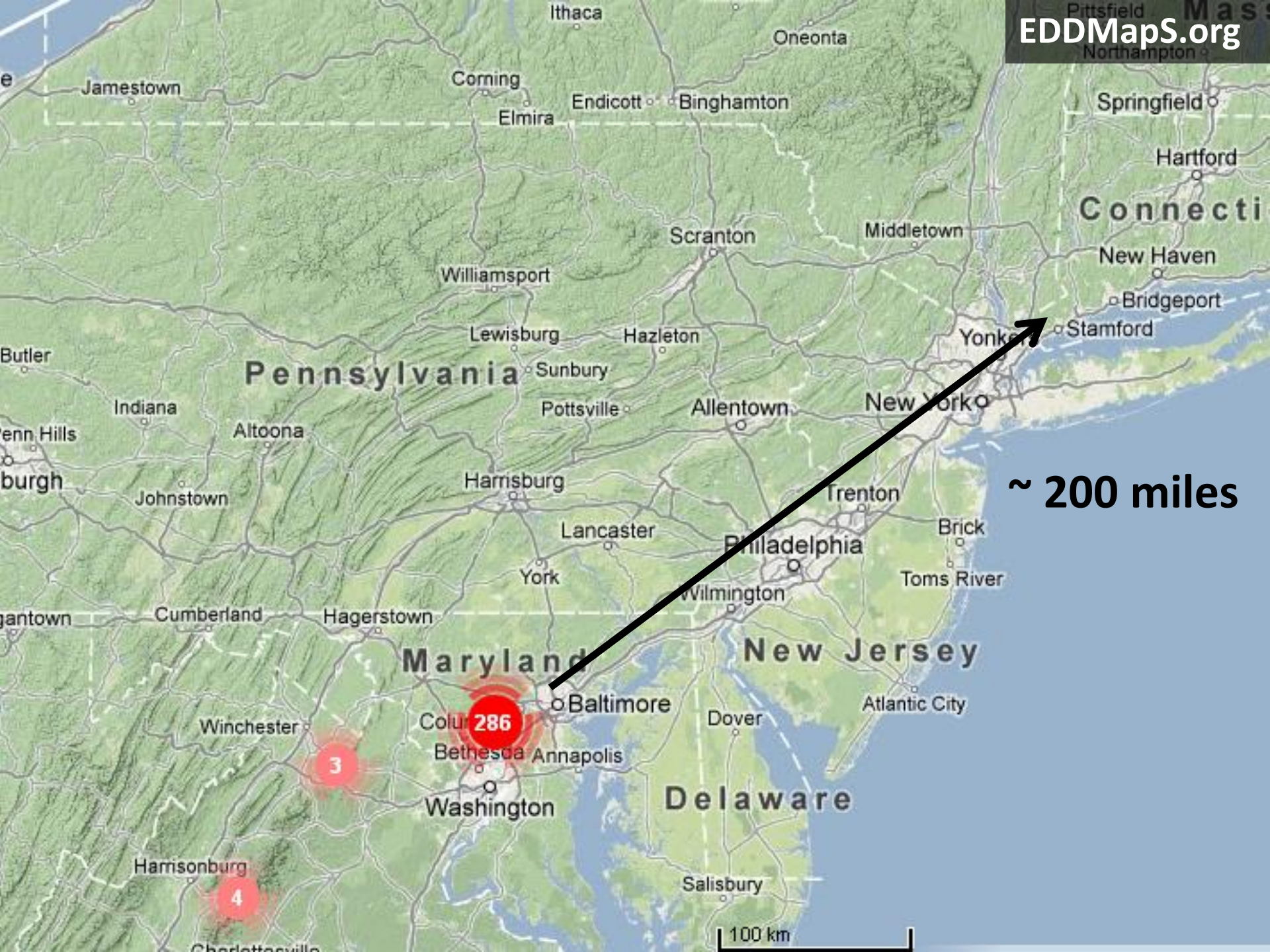




**Hairy jointgrass**  
*Arthraxon hispidus*

**Wavyleaf basketgrass**  
*Oplismenus hirtellus* ssp. *undulatifolius*





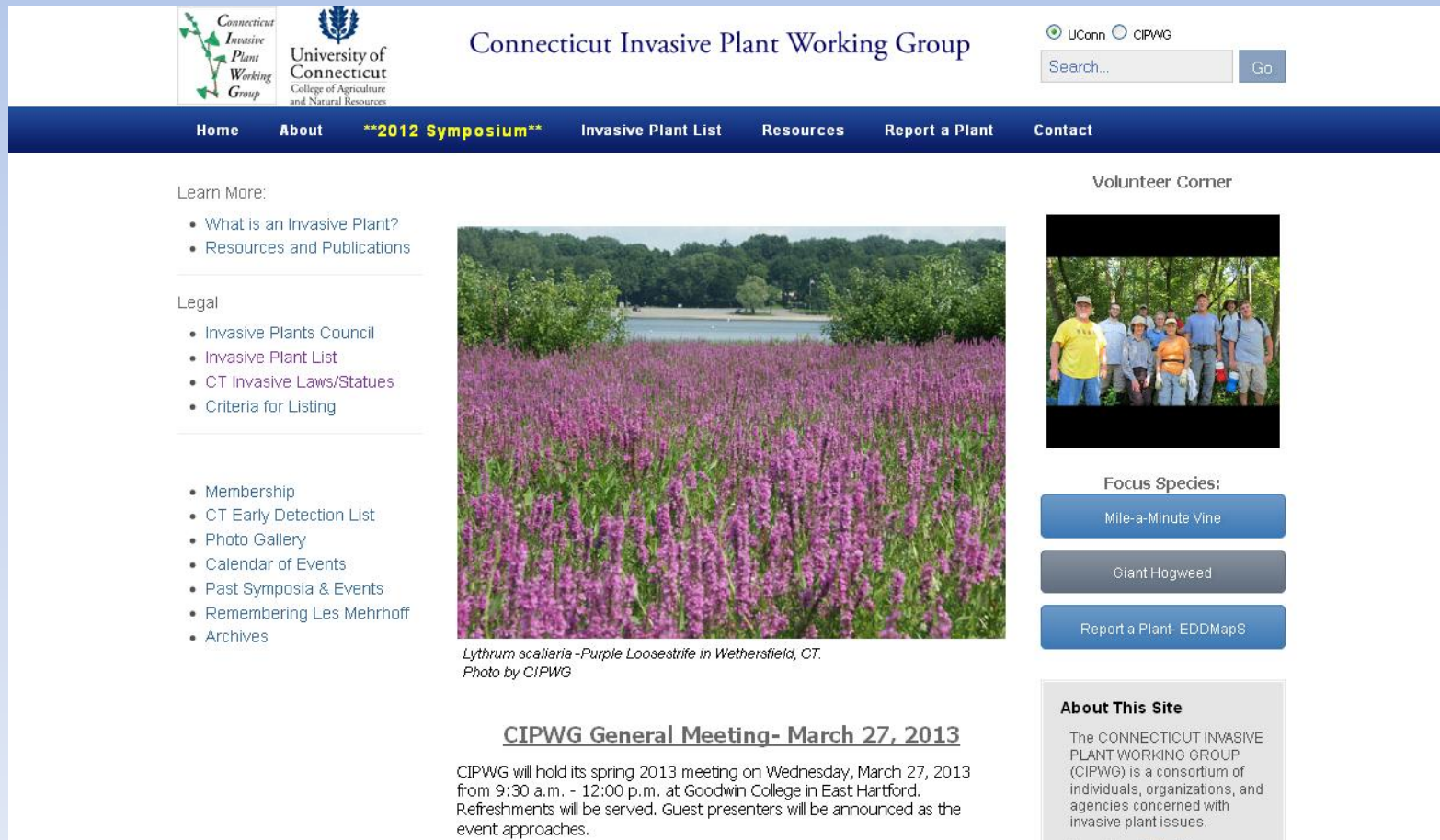
~ 200 miles

100 km

# Available CT Resources

- Website: fact sheets, plant photos, event news, links to guides, other projects

[www.cipwg.uconn.edu](http://www.cipwg.uconn.edu)



The screenshot shows the homepage of the Connecticut Invasive Plant Working Group (CIPWG). The header includes the UConn and CIPWG logos, a search bar, and a navigation menu with links for Home, About, 2012 Symposium, Invasive Plant List, Resources, Report a Plant, and Contact. The main content area is divided into several sections: 'Learn More' with links to 'What is an Invasive Plant?' and 'Resources and Publications'; 'Legal' with links to 'Invasive Plants Council', 'Invasive Plant List', 'CT Invasive Laws/Statutes', and 'Criteria for Listing'; a large photo of a purple loosestrife field with a caption identifying it as *Lythrum scalaria* in Wethersfield, CT; a 'Volunteer Corner' with a photo of a group of people and buttons for 'Focus Species' (Mile-a-Minute Vine, Giant Hogweed) and 'Report a Plant- EDDMapS'; and an 'About This Site' section describing the group as a consortium of individuals, organizations, and agencies.

**Connecticut Invasive Plant Working Group**

UConn CIPWG

Search... Go

Home About **\*\*2012 Symposium\*\*** Invasive Plant List Resources Report a Plant Contact

Learn More:

- What is an Invasive Plant?
- Resources and Publications

Legal

- Invasive Plants Council
- Invasive Plant List
- CT Invasive Laws/Statutes
- Criteria for Listing

• Membership

• CT Early Detection List

• Photo Gallery

• Calendar of Events

• Past Symposia & Events

• Remembering Les Mehrhoff

• Archives

*Lythrum scalaria* -Purple Loosestrife in Wethersfield, CT.  
Photo by CIPWG

**CIPWG General Meeting- March 27, 2013**

CIPWG will hold its spring 2013 meeting on Wednesday, March 27, 2013 from 9:30 a.m. - 12:00 p.m. at Goodwin College in East Hartford. Refreshments will be served. Guest presenters will be announced as the event approaches.

**Volunteer Corner**

**Focus Species:**

Mile-a-Minute Vine

Giant Hogweed

Report a Plant- EDDMapS

**About This Site**

The CONNECTICUT INVASIVE PLANT WORKING GROUP (CIPWG) is a consortium of individuals, organizations, and agencies concerned with invasive plant issues.





# Guidelines for Disposal of Terrestrial Invasive Plants

Produced by the CT Department of Environmental Protection and the University of Connecticut, 2011

## INTRODUCTION:

Efforts to control invasive plants may generate large amounts of plant material and soil or sediment containing viable parts. This material must be appropriately managed or it could contribute to the re-establishment and spread of the species at the controlled site, the disposal site or landfill, or anywhere in between or beyond. In many cases, plants may re-grow in future years. It is very important to monitor sites after control efforts to prevent invasive plants from re-establishing and re-invading the area. In general, it is best to control plants early in the season, before they begin to flower. In some cases, fruits and seeds can continue to mature even on plants that have been uprooted, so it is important to check plants for flowers before deciding on a disposal option. It is advisable to leave plants controlled by herbicides in place instead of removing them.



This document focuses on the disposal of invasive plant material after control work takes place and does not include information about invasive plant control. Once control activities have concluded, please use these general guidelines to dispose of invasive plant materials as safely and effectively as possible. Visit the website of the Connecticut Invasive Plant Working Group ([www.hort.uconn.edu/cipwg/](http://www.hort.uconn.edu/cipwg/)), use other resources, or ask a gardening or landscape professional for advice and information on controlling invasive plants on your property. Additionally, remember that each situation is unique and this document is intended only as a basic guide.

## LEGAL NOTES:

While it is illegal to transport material of any species listed under Connecticut General Statute Sec. 22a-381d as an invasive plant, the statute includes an exception for the moving of plant material for the purpose of eradication. Applications of herbicides in aquatic environments require a permit from the Connecticut Department of Environmental Protection (CT Gen. Stat. Sec. 22a-65c). Applications of herbicides on a property that is not owned by you require a valid pesticide applicator's license (CGS Sec. 22a-47).

Also, please be aware that it is illegal to transport plant material of any kind (invasive or otherwise) on boats or boat trailers and that boats and boat trailers must be inspected for aquatic plants before being transported (CGS Sec. 15-180). Burning may be conducted through the local Open Burning Official as required by CGS Sec. 22a-174(f), if the town has an open burning program and the local Open Burning Office

approves of the proposed burn. Always check the local fire danger and the Air Quality Index before you burn and follow all federal, state, and local laws and ordinances when conducting invasive plant removal or disposal. Special reporting and disposal instructions exist for giant hogweed (*Heraclium mantegazzianum*) and mile-a-minute vine (*Persicaria perfoliata*). To report giant hogweed, contact Donna Ellis at UConn (860-486-6448; [donna.ellis@uconn.edu](mailto:donna.ellis@uconn.edu)). To report mile-a-minute vine, send an email to [mileaminute@uconn.edu](mailto:mileaminute@uconn.edu) or call Donna Ellis at the number above. For information about the appropriate disposal of aquatic invasive plants, please refer to the DEP guide on aquatic invasive plant disposal available at [www.hort.uconn.edu/cipwg/](http://www.hort.uconn.edu/cipwg/) or contact DEP at 860-424-3589.

# CONNECTICUT INVASIVE PLANT LIST October 2012

Connecticut Invasive Plants Council

Ordered by Scientific Name

Statement to accompany list – January 2004: This is a list of species that have been determined by floristic analysis to be invasive or potentially invasive in the state of Connecticut, in accordance with PA 03-136. The Invasive Plants Council will generate a second list recommending restrictions on some of these plants. In developing the second list and particular restrictions, the Council will recognize the need to balance the detrimental effects of invasive plants with the agricultural and horticultural value of some of these plants, while still protecting the state's minimally managed habitats.

In May 2004, Public Act 04-203 banned a subset of the January 2004 list making it illegal to move, sell, purchase, transplant, cultivate or distribute banned plants. Effective July 1, 2009, Public Act 09-52 removed the ban on *Pistia stratiotes*.

@ column indicates growth form or habitat: A = Aquatic & Wetland; G = Grass & Grass-like; H = Herbaceous; S = Shrub; T = Tree; V = Woody Vine

Explanation of symbols after Common Name:

(P) indicates Potentially Invasive (all other plants listed are considered Invasive in Connecticut)

\* denotes that the species, although shown by scientific evaluation to be invasive, has cultivars that have not been evaluated for invasive characteristics. Further research may determine whether or not individual cultivars are potentially invasive. Cultivars are commercially available selections of a plant species that have been bred or selected for predictable, desirable attributes of horticultural value such as form (dwarf or weeping forms), foliage (variegated or colorful leaves), or flowering attributes (enhanced flower color or size).

BAN column indicates prohibited status: Y = banned under CT Gen. Stat. 22a-381d N/A = not banned

\* indicates species that are not currently known to be naturalized in Connecticut but would likely become invasive here if they are found to persist in the state without cultivation. The taxonomic names used by the Connecticut Invasive Plants Council on the Invasive Plant List are consistent with the names used by the United States Department of Agriculture PLANTS database, accessible online at [www.plants.usda.gov](http://www.plants.usda.gov). The Council also maintains a list of scientific name synonyms for reference purposes.

COMMON NAME	@	SCIENTIFIC NAME	SYNONYMS	BAN
Amur maple (P)	T	<i>Acer ginnala</i> L.		N/A
Norway maple*	T	<i>Acer platanoides</i> L.		N/A
Sycamore maple (P)	T	<i>Acer pseudoplatanus</i> L.		Y
Goutweed	H	<i>Aegopodium podagraria</i> L.		Y
Tree of heaven	T	<i>Ailanthus altissima</i> (Mill.) Swingle		Y
Garlic mustard	H	<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande		Y
False indigo (P)	S	<i>Amorpha fruticosa</i> L.		Y
Porcelainberry*	V	<i>Ampelopsis brevipedunculata</i> (Maxim.) Trautv.	Common wormwood	N/A
Mugwort (P)	H	<i>Artemisia vulgaris</i>	Common wormwood	N/A
Hairy jointgrass (P)	G	<i>Arthraxon hispidus</i> (Thunb.) Makino	Small carygrass	Y
Common Kochia (P)	H	<i>Bassia scoparia</i> (L.) A.J. Scott	<i>Kochia scoparia</i> ; Fireweed; Summer cypress	Y
Japanese barberry*	S	<i>Berberis thunbergii</i> DC.		N/A
Common barberry	S	<i>Berberis vulgaris</i> L.		Y
Drooping brome-grass (P)	G	<i>Bromus tectorum</i> L.	Cheatgrass	Y
Flowering rush (P)	A	<i>Butomus umbellatus</i> L.		Y
Fanwort	A	<i>Cabomba caroliniana</i> A. Gray		Y
Pond water-starwort (P)	A	<i>Callitriche stagnalis</i> Scop.		Y
Narrowleaf bittercress	H	<i>Cardamine impatiens</i> L.		Y
Japanese sedge* (P)	G	<i>Carex kobomugi</i> Owhi		Y
Oriental bittersweet	V	<i>Celastrus orbiculatus</i> Thunb.	Asiatic bittersweet	Y
Spotted knapweed	H	<i>Centaurea stoebe</i> (L.)	<i>Centaurea biebersteinii</i> ; <i>Centaurea maculosa</i>	Y
Canada thistle (P)	H	<i>Cirsium arvense</i> (L.) Scop.		Y
Black swallow-wort	H	<i>Cynanchum bouseae</i> Kartesz & Gandhi	<i>Cynanchum nigrum</i> ; <i>Vincetoxicum nigrum</i>	Y
Pale swallow-wort	H	<i>Cynanchum rossicum</i> (Kleoc.) Borhidi	<i>Vincetoxicum rossicum</i>	Y
Jimsonweed (P)	H	<i>Datura stramonium</i> L.		Y
Brazilian water-weed (P)	A	<i>Egeria densa</i> Planchon	Anacharis, Egeria	Y
Common water-hyacinth* (P)	A	<i>Eichhornia crassipes</i> (Mart.) Solms		N/A
Russian olive (P)	S	<i>Elaeagnus angustifolia</i> L.		Y
Autumn olive	S	<i>Elaeagnus umbellata</i> Thunb.		Y
Crested late-summer mint (P)	H	<i>Elsholtzia ciliata</i> (Thunb.) Hylander	Elsholtzia	Y
Winged euonymus*	S	<i>Euonymus alatus</i> (Thunb.) Sieb.	Burning bush	N/A
Cypress spurge (P)	H	<i>Euphorbia cyparissias</i> L.		Y
Leafy spurge	H	<i>Euphorbia esula</i> L.		Y
Glossy buckthorn	S	<i>Frangula alnus</i> Mill.	<i>Rhamnus frangula</i> ; European buckthorn	N/A
Slender snake cotton	H	<i>Froelichia gracilis</i> (Hook.) Moq.	Cottonweed	Y
Ground ivy (P)	H	<i>Glechoma hederacea</i> L.	Gill-over-the-ground, Run-away robin	Y
Reed mannagrass* (P)	G	<i>Glyceria maxima</i> (Hartm.) Holmb.	Tall mannagrass	Y
Giant hogweed (P)	H	<i>Heraclium mantegazzianum</i> (Sommier & Lavie)		Y
Dame's rocket	H	<i>Hesperis matronalis</i> L.		Y
Japanese hops (P)	H	<i>Humulus japonicus</i> Sieb. & Zucc.		Y



# Invasive Plants Council





# Event Displays

## Invasive Plants



### INVASIVE PLANTS: A GROWING CONCERN

*Autumn Olive*

**Invasive Plants**

- Threaten biological diversity
- Produce high numbers of offspring
- Grow in a variety of habitats and in diverse environmental conditions
- Are difficult and costly to eradicate
- Form dense single-species stands, which can displace ecosystems and communities by outcompeting native plants

In Connecticut, a plant must demonstrate several characteristics to be included on the Connecticut Invasive Plant List. All invasive plants must be non-native to the state.

Plants listed must have the biological potential to:

- disperse widely and establish new populations rapidly
- thrive in a variety of habitats and locations
- crowd out and displace other species in the North American habitat

A complete list of the Connecticut Invasive Plant List can be found on the Connecticut Invasive Plant Working Group's website: [www.invasiveplants.org/ctlist/](http://www.invasiveplants.org/ctlist/)

Connecticut Department of Environmental Protection  
Connecticut Department of Agriculture

### Native Plants: Sustainable Alternatives

*Red Chokeberry (native)*

Native plants are plants that have naturally occurred in North America prior to the appearance of European settlers. Plants introduced after that time are usually referred to as "non-native plants" or "introduced plants".

**A few benefits of native plants:**

- Maintaining biological diversity results in more stable and resilient ecosystems. Local and regional variation in ecological communities also makes areas unique.
- Native plants serve as familiar food sources, shelter, and habitat for native birds, mammals, and insects. Invasive plants often displace these native species and reduce habitat quality.
- In cultivated settings, native plants may require less maintenance. Drought-tolerant plants, because they only use water attached to their own roots.

*Columbine (native)*

For more information, please visit:  
Connecticut Invasive Plant Working Group (CIIPWG): [www.invasiveplants.org/ctlist/](http://www.invasiveplants.org/ctlist/)  
Connecticut Department of Environmental Protection: [www.ct.gov/dep](http://www.ct.gov/dep)  
Connecticut Department of Agriculture: [www.ct.gov/dep](http://www.ct.gov/dep)

### What you can do:

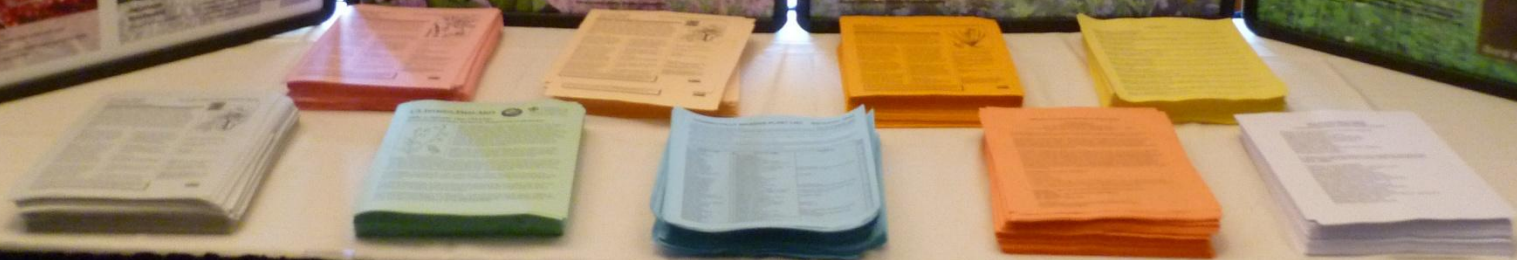
Use native plants in landscaped areas and gardens. For native plant selections, visit your local nursery or garden center.

Remove invasive plant populations on your property early, while they are still small and manageable. Early action makes control significantly easier.

Help educate others in your community.

Check forests, lawns, and meadows for weeds, plants, and fragments of these plants. Report them to the nearest natural resource agency in your area.

**Invasive plants are a problem for everyone**



# Workshops



# CIPWG



# Don't forget:

- Other Land Trusts
- Non-profits, Conservation Organizations
- Town groups:  
Conservation Departments, Conservation Commissions
- State groups:  
CT Invasive Plant Working Group  
CT Botanical Society
- Federal:  
Fish and Wildlife Refuge System

**Visit the website of the CT Invasive Plant Working Group  
for more information  
[www.cipwg.uconn.edu](http://www.cipwg.uconn.edu)**

**Questions?  
[logan.senack@uconn.edu](mailto:logan.senack@uconn.edu)**

**5345047**