Trailside trespassers: what to do about invasive plants in our preserves?

Ashwini Sahasrabudhe
Lyme Land Trust intern and rising junior at Bowdoin College

Jim Arrigoni
Environmental Director, Lyme Land Trust

Lyme Land Trust

Over **46 miles** of trails in Lyme!

Lyme Land Trust

- 882 acres fee property
- 2,252 acres held in conservation easements

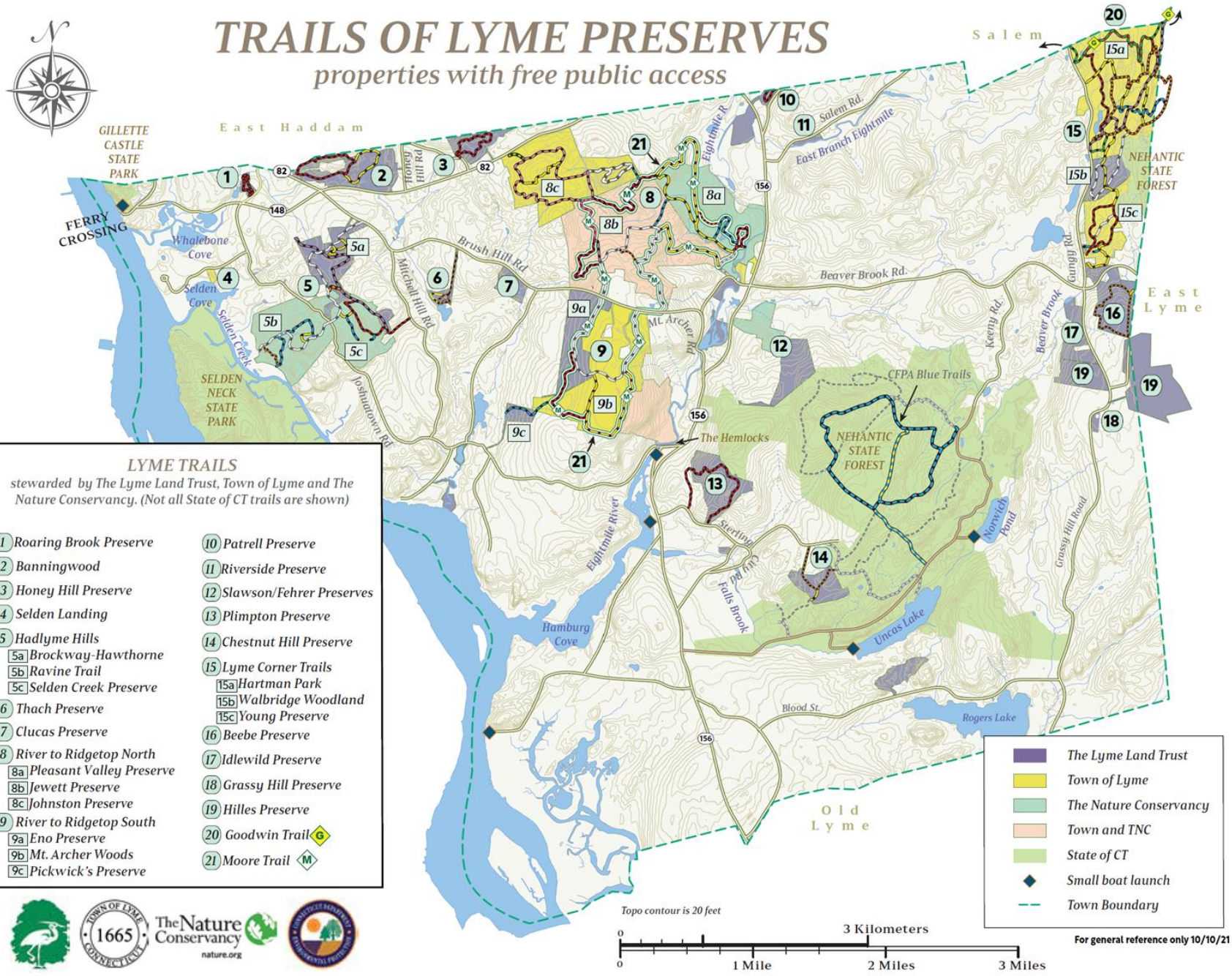
Town of Lyme 1665 Connecticut

The Nature Conservancy
nature.org

Over **half** of Lyme's land is "protected!"

TRAILS OF LYME PRESERVES

properties with free public access



LYME TRAILS

stewarded by The Lyme Land Trust, Town of Lyme and The Nature Conservancy. (Not all State of CT trails are shown)

1. Roaring Brook Preserve
2. Banningwood
3. Honey Hill Preserve
4. Selden Landing
5. Hadlyme Hills
   - 5a Brockway-Hawthorne
   - 5b Ravine Trail
   - 5c Selden Creek Preserve
6. Thach Preserve
7. Clucas Preserve
8. River to Ridgetop North
   - 8a Pleasant Valley Preserve
   - 8b Jewett Preserve
   - 8c Johnston Preserve
9. River to Ridgetop South
   - 9a Eno Preserve
   - 9b Mt. Archer Woods
   - 9c Pickwick's Preserve
10. Patrell Preserve
11. Riverside Preserve
12. Slawson/Fehrer Preserves
13. Plimpton Preserve
14. Chestnut Hill Preserve
15. Lyme Corner Trails
    - 15a Hartman Park
    - 15b Walbridge Woodland
    - 15c Young Preserve
16. Beebe Preserve
17. Idlewild Preserve
18. Grassy Hill Preserve
19. Hilles Preserve
20. Goodwin Trail (G)
21. Moore Trail (M)

The Nature Conservancy nature.org

Program outline

What's *really* so bad about invasive plants?

Get to know some species

The study: methods, results and translating science into management

ON

THE ORIGIN OF SPECIES

BY MEANS OF NATURAL SELECTION,

OR THE

PRESERVATION OF FAVOURED RACES IN THE STRUGGLE FOR LIFE.

By CHARLES DARWIN, M.A.,

FELLOW OF THE ROYAL, GEOLOGICAL, LINNÆAN, ETC., SOCIETIES;

AUTHOR OF 'JOURNAL OF RESEARCHES DURING H. M. S. BEAGLE'S VOYAGE ROUND THE WORLD.'

LONDON:

JOHN MURRAY, ALBEMARLE STREET.

1859.

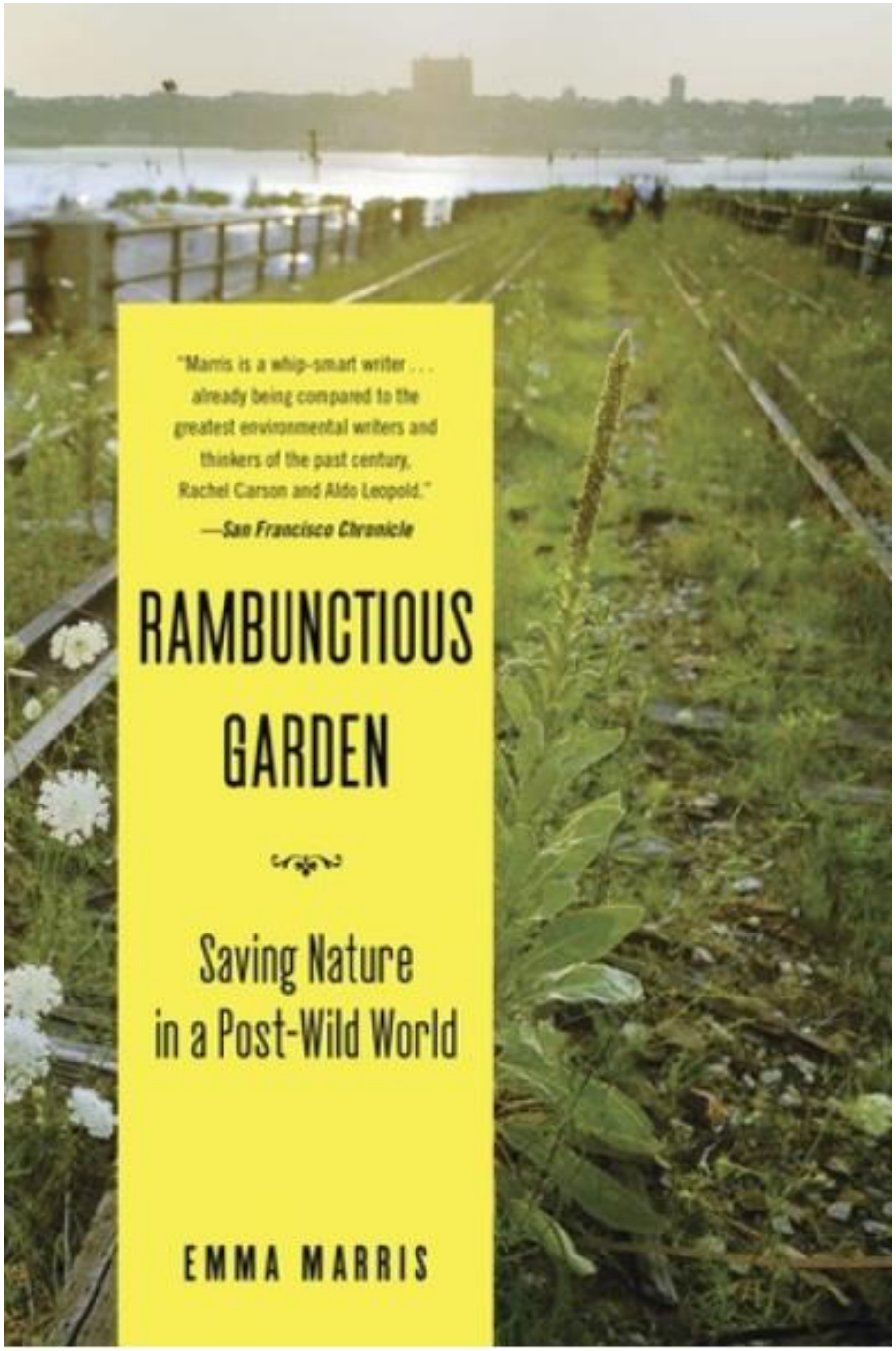
THE ECOLOGY OF INVASIONS

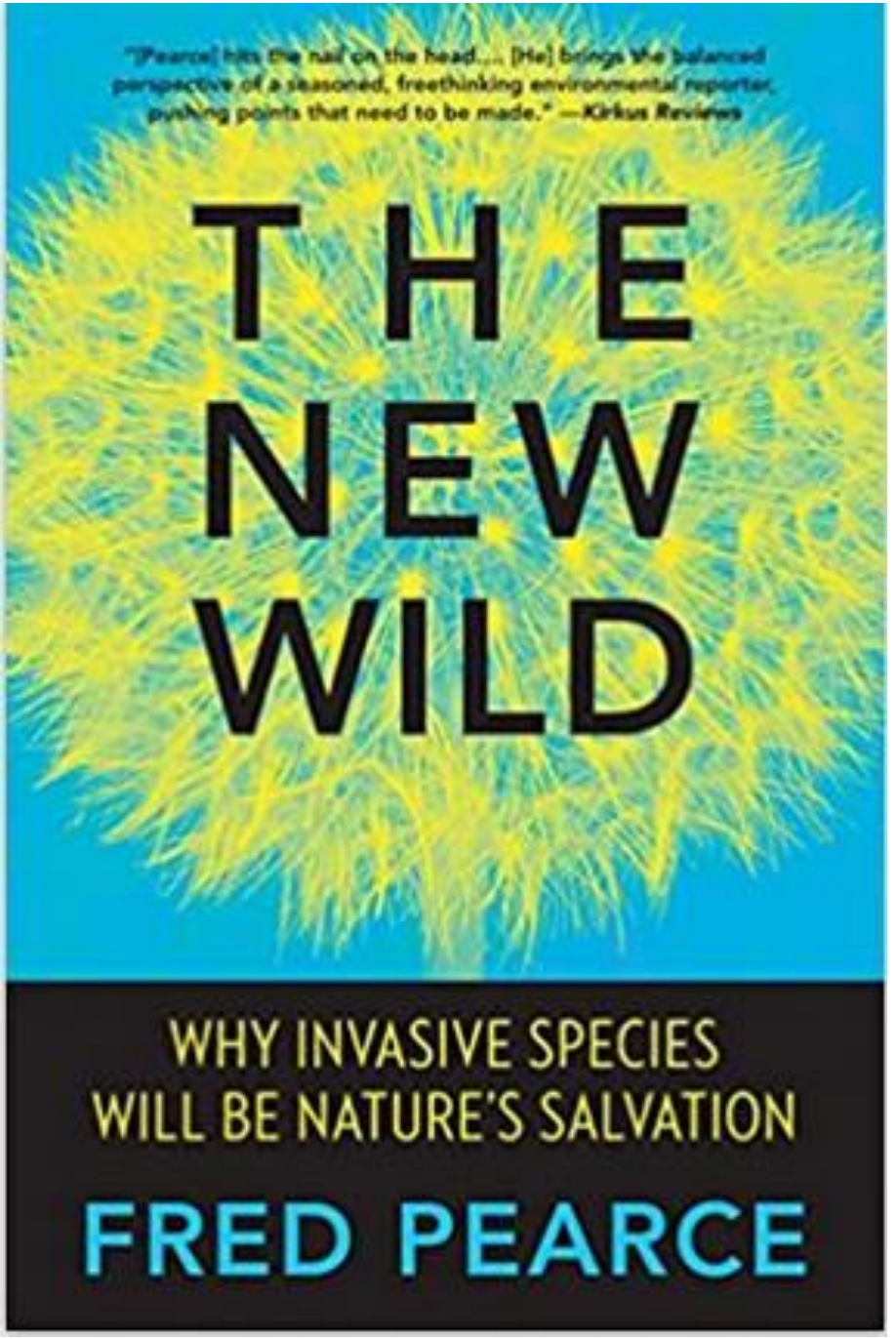
BY ANIMALS AND PLANTS

CHARLES S. ELTON

METHUEN

1958


"Marris is a whip-smart writer . . . already being compared to the greatest environmental writers and thinkers of the past century, Rachel Carson and Aldo Leopold."
—San Francisco Chronicle
RAMBUNCTIOUS GARDEN
Saving Nature in a Post-Wild World
EMMA MARRIS


"[Pearce] hits the nail on the head. . . . [He] brings the balanced perspective of a seasoned, freethinking environmental reporter, pushing points that need to be made." —Kirkus Reviews
THE NEW WILD
WHY INVASIVE SPECIES WILL BE NATURE'S SALVATION
FRED PEARCE

What's so bad about invasive plants?

- They take the place of a native species, or a lot of native species

Data compiled by Dr. Chad Jones and the CT Botanical Society:

	Graves 1910	Dowhan 1979	Dreyer, Jones et al. 2014
# taxa	2228	2802*	2853
# exotic	492	938	1082
% exotic	22.10%	33.50%	37.90%

~1800 native plant species

331 listed species: 133 endangered
46 threatened
152 special concern

This list is updated annually by the CT Invasive Plants Council

CONNECTICUT INVASIVE PLANT LIST

October 2018

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 restricted a subset of the January 2004 list making it illegal to move, sell, purchase, transplant, cultivate or distribute prohibited plants. Effective July 1, 2009, Public Act 09-52 removed the prohibition 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).

"PROHIBITED BY STATUTE?" column indicates prohibited status: Y= prohibited from importation, movement, sale, purchase, transplanting, cultivation and distribution under CT Gen. Stat. §22a-381d; N/A= not prohibited

^ 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. The Council also maintains a list of scientific name synonyms for reference purposes.

COMMON NAME	@	SCIENTIFIC NAME	SYNONYMS	PROHIBITED BY STATUTE?
Amur maple (P)	T	*Acer ginnala* Maxim.		N/A
Norway maple*	T	*Acer platanoides* L.		N/A
Sycamore maple (P)	T	*Acer pseudoplatanus* L.		Y
Goutweed	H	*Aegopodium podagraria L.*	Bishop's weed	Y
Tree of heaven	T	*Ailanthus altissima* (Mill.) Swingle		Y
Garlic mustard	H	*Alliaria petiolata* (M. Bieb.) Cavara & Grande		Y
False indigo (P)	S	*Amorpha fruticosa* L.		Y
Porcelainberry*	V	*Ampelopsis brevipedunculata* (Maxim.) Trautv.	Amur peppervine	N/A
Mugwort	H	*Artemisia vulgaris* L.	Common wormwood	N/A
Hairy jointgrass (P)	G	*Arthraxon hispidus* (Thunb.) Makino	Small carpgrass	Y
Common kochia (P)	H	*Bassia scoparia* (L.) A.J. Scott	*Kochia scoparia*; Fireweed; Summer cypress	Y
Japanese barberry*	S	*Berberis thunbergii* DC.		N/A
Common barberry	S	*Berberis vulgaris* L.		Y
Drooping brome-grass (P)	G	*Bromus tectorum* L.	Cheatgrass	Y
Flowering rush (P)	A	*Butomus umbellatus* L.		Y
Fanwort	A	*Cabomba caroliniana* A. Gray	Carolina fanwort	Y
Pond water-starwort (P)	A	*Callitriche stagnalis* Scop.		Y
Narrowleaf bittercress	H	*Cardamine impatiens* L.		Y
Japanese sedge^ (P)	G	*Carex kobomugi* Ohwi		Y
Oriental bittersweet	V	*Celastrus orbiculatus* Thunb.	Asiatic bittersweet	Y
Spotted knapweed	H	*Centaurea stoebe* L.	*Centaurea biebersteinii; Centaurea maculosa*	Y
Canada thistle (P)	H	*Cirsium arvense* (L.) Scop.		Y
Black swallow-wort	H	*Cynanchum louiseae* Kartesz & Gandhi	*Cynanchum nigrum*; *Vincetoxicum nigrum*	Y
Pale swallow-wort	H	*Cynanchum rossicum* (Kleo.) Borhidi	*Vincetoxicum rossicum*	Y
Jimsonweed (P)	H	*Datura stramonium* L.		Y
Brazilian water-weed (P)	A	*Egeria densa* Planchon	Anacharis; Egeria	Y
Common water-hyacinth^ (P)	A	*Eichhornia crassipes* (Mart.) Solms		N/A
Russian olive (P)	S	*Elaeagnus angustifolia* L.		Y
Autumn olive	S	*Elaeagnus umbellata* Thunb.		Y
Crested late-summer mint (P)	H	*Elsholtzia ciliata* (Thunb.) Hylander	Elsholtzia	Y
Winged euonymus*	S	*Euonymus alatus* (Thunb.) Sieb.	Burning bush	N/A
Cypress spurge (P)	H	*Euphorbia cyparissias* L.		Y
Leafy spurge	H	*Euphorbia esula* L.		Y
Glossy buckthorn	S	*Frangula alnus* Mill.	*Rhamnus frangula*; European buckthorn	N/A
Slender snake cotton	H	*Froelichia gracilis* (Hook.) Moq.	Cottonweed	Y
Ground ivy (P)	H	*Glechoma hederacea* L.	Gill-over-the-ground; Run-away robin	Y
Reed mannagrass^ (P)	G	*Glyceria maxima* (Hartm.) Holmb.	Tall mannagrass	Y
Giant hogweed (P)	H	*Heracleum mantegazzianum* (Sommier & Levier)		Y
Dame's rocket	H	*Hesperis matronalis* L.		Y
Japanese hops (P)	H	*Humulus japonicus* Sieb. & Zucc.	Japanese hop	Y
Hydrilla	A	*Hydrilla verticillata* (L.f.) Royle	Water thyme	Y
Ornamental jewelweed (P)	H	*Impatiens glandulifera* Royle	Tall impatiens	Y
Yellow iris	A	*Iris pseudacorus* L.	Yellow flag iris; Pale yellow iris	Y
Perennial pepperweed	H	*Lepidium latifolium* L.	Tall pepperwort	Y
Border privet (P)	S	*Ligustrum obtusifolium* Sieb. & Zucc.		Y
California privet (P)	S	*Ligustrum ovalifolium* Hassk.		N/A
European privet (P)	S	*Ligustrum vulgare* L.		N/A
Japanese honeysuckle*	V	*Lonicera japonica* Thunb.		Y
Amur honeysuckle	S	*Lonicera maackii* (Rupr.) Herder		Y
Morrow's honeysuckle	S	*Lonicera morrowii* A. Gray		Y
Tatarian honeysuckle (P)	S	*Lonicera tatarica* L.		Y
Belle honeysuckle	S	*Lonicera x bella* Zabel	Bell's honeysuckle (*misapplied*)	Y
Dwarf honeysuckle^ (P)	S	*Lonicera xylosteum* L.	European fly-honeysuckle	Y
Ragged robin (P)	H	*Lychnis flos-cuculi* L.		Y
Moneywort* (P)	H	*Lysimachia nummularia* L.	Creeping jenny	N/A
Garden loosestrife* (P)	H	*Lysimachia vulgaris* L.	Garden yellow loosestrife	Y
Purple loosestrife	A	*Lythrum salicaria* L.		Y
European waterclover (P)	A	*Marsilea quadrifolia* L.	Water shamrock	Y
Japanese stilt grass	G	*Microstegium vimineum* (Trin.) A. Camus		Y
Eulalia* (P)	G	*Miscanthus sinensis* Andersson	Chinese or Japanese silvergrass	N/A
Forget-me-not	A	*Myosotis scorpioides* L.	True forget-me-not; Water scorpion-grass	Y
Parrotfeather (P)	A	*Myriophyllum aquaticum* (Vell.) Verdc.		Y
Variable-leaf watermilfoil	A	*Myriophyllum heterophyllum* Michx.		Y
Eurasian watermilfoil	A	*Myriophyllum spicatum* L.		Y
Brittle water-nymph (P)	A	*Najas minor* All.	Eutrophic water-nymph	Y
Onerow yellowcress (P)	A	*Nasturtium microphyllum* Boenn. ex. Rchb.	*Rorippa microphylla*	Y
Watercress (P)	A	*Nasturtium officinale* W.T. Aiton	*Rorippa nasturtium-aquaticum*	Y
American water lotus (P)	A	*Nelumbo lutea* Willd.	American water lotus	Y
Yellow floating heart (P)	A	*Nymphoides peltata* (S.G. Gmel.) Kuntze		Y
Scotch thistle (P)	H	*Onopordum acanthium* L.		Y
Star-of-Bethlehem (P)	H	*Ornithogalum umbellatum* L.		N/A
Princess tree (P)	T	*Paulownia tomentosa* (Thunb.) Siebold & Zucc. ex Steud.	Empress-tree	Y
Reed canary grass	G	*Phalaris arundinacea* L.		N/A
Common reed	G	*Phragmites australis* (Cav.) Trin. ex Steud.	Phragmites	Y
Water lettuce^ (P)	A	*Pistia stratiotes* L.		N/A
Canada bluegrass (P)	G	*Poa compressa* L.		Y
Bristled knotweed	H	*Polygonum caespitosum* Blume	*Persicaria longiseta;* Oriental lady's thumb	Y
Japanese knotweed	H	*Polygonum cuspidatum* Siebold & Zucc.	*Fallopia japonica*	Y
Mile-a-minute vine	H	*Polygonum perfoliatum* L.	*Persicaria perfoliata*	Y
Giant knotweed (P)	H	*Polygonum sachalinense* F. Schmidt ex. Maxim.	*Fallopia sachalinense*	Y
White poplar (P)	T	*Populus alba* L.		Y
Crispy-leaved pondweed	A	*Potamogeton crispus* L.	Curly pondweed or Curly-leaved pondweed	Y
Kudzu (P)	V	*Pueraria montana* (Lour.) Merr.	*Pueraria lobata*	Y
Fig buttercup	H	*Ranunculus ficaria* L.	Lesser celandine; *Ficaria verna*	Y
Common buckthorn	S	*Rhamnus cathartica* L.		Y
Black locust*	T	*Robinia pseudoacacia* L.		N/A
Multiflora rose	S	*Rosa multiflora* Thunb.		Y
Rugosa rose* (P)	S	*Rosa rugosa* Thunb.*	Beach, Salt spray, Japanese, or Ramanas Rose	N/A
		**Note: This plant is especially aggressive in coastal areas*		
Wineberry	S	*Rubus phoenicolasius* Maxim.		Y
Sheep sorrel (P)	H	*Rumex acetosella* L.		Y
Giant salvinia^ (P)	A	*Salvinia molesta* Mitchell		Y
Tansy ragwort^ (P)	H	*Senecio jacobaea* L.	Stinking Willie	Y
Cup plant (P)	H	*Silphium perfoliatum* L.		Y
Bittersweet nightshade (P)	H	*Solanum dulcamara* L.	Climbing nightshade	Y
Water chestnut	A	*Trapa natans* L.		Y
Coltsfoot	H	*Tussilago farfara* L.		Y
Garden heliotrope (P)	H	*Valeriana officinalis* L.	Garden Valerian	Y

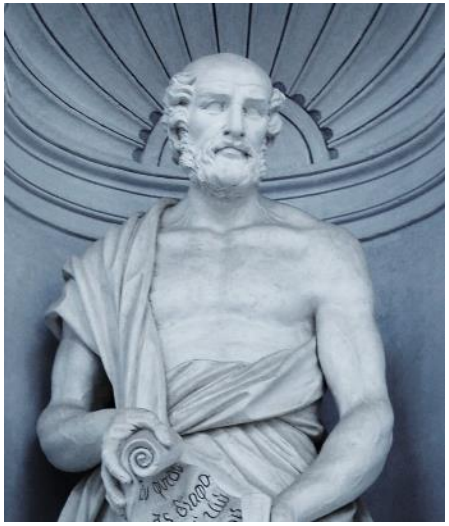
97 species and counting…

What's so bad about invasive plants?

- They take the place of a native species, or a lot of native species
- Indirect ecological effects

What's so bad about invasive plants?

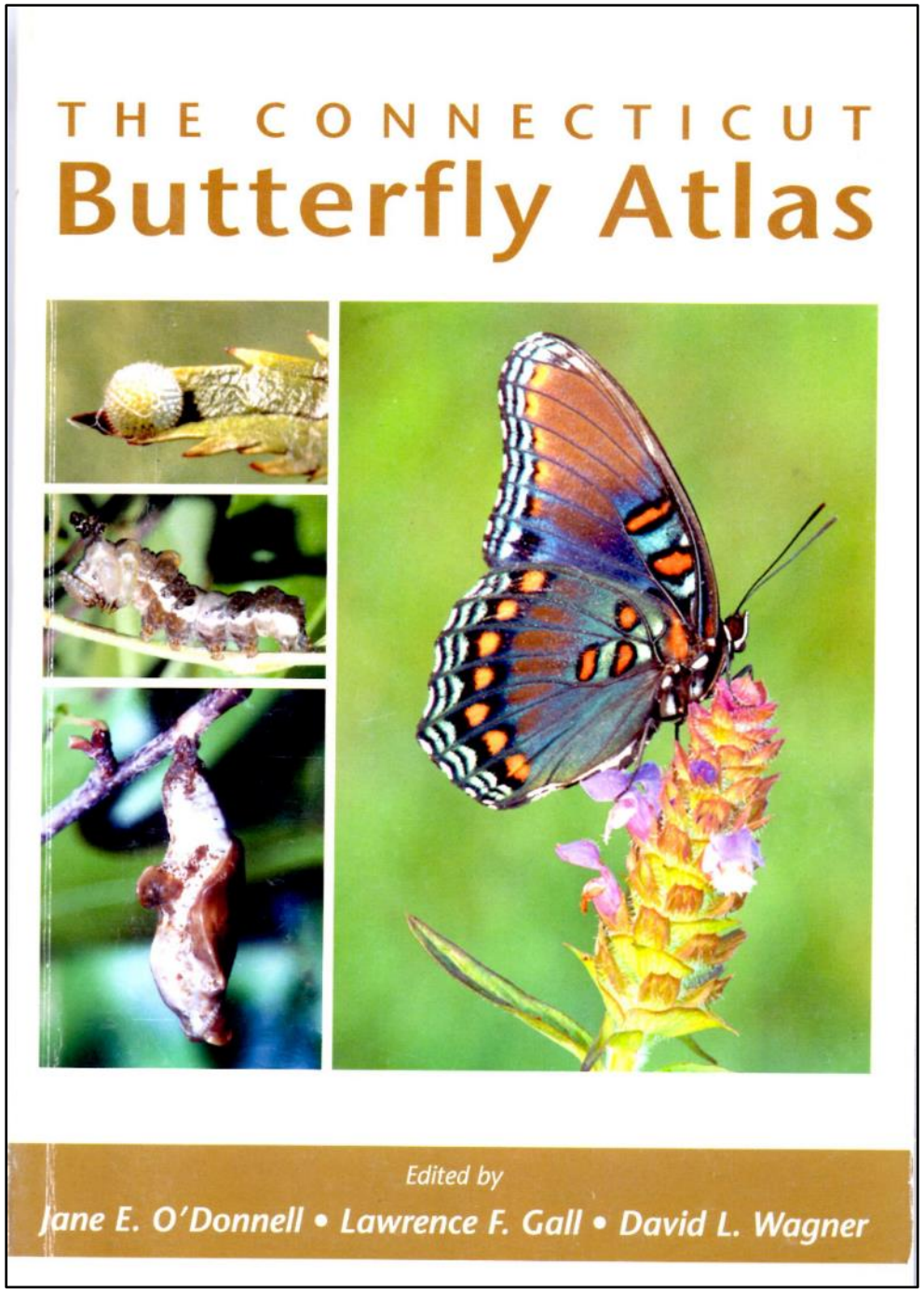
- They take the place of a native species, or a lot of native species
- Indirect ecological effects
- Undermine symbiotic relationships that have co-evolved between native flora and fauna



Creative Commons: Teofrasto Orto

"For every tree, there is a worm."

Theophrastus
(circa 300 BC)



~130 species
in Connecticut

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21 listed species
8 endangered
2 threatened
11 special concern

American Snout

Libytheana carinenta (Cramer)

Status in Connecticut: Vagrant. SNA.

Habitats: Open areas, largely along the coast.

Hostplants: Hackberry (*Celtis occidentalis*)*, and occasionally Common Hops (*Humulus lupulus*)*.

Egg: Laid singly on young hostplant leaf. Duration: 3-5 days.

Caterpillar: Dark green dorsally, fading to yellow green ventrally. Fine yellow dorsal and lateral lines, and small yellow spots. Small, yellow-ringed black subdorsal spots on thorax and sometimes near posterior end. Solitary feeder on young terminal hostplant leaves. Up to 1 1/8" (28 mm) long. Duration: 10-15 days.

Chrysalis: Medium green to yellow green with small lighter spots and faint lateral line on abdomen. Prominent light diagonal line across head and thorax. Dorsal ridge on thorax. Up to 5/8" (16 mm) long. Duration: 8-12 days.

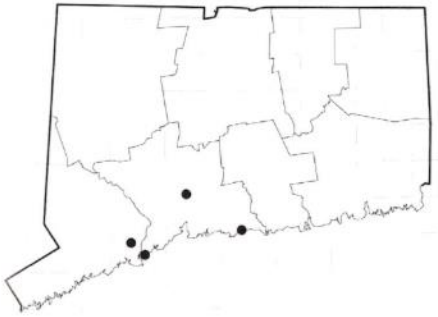
Adult: Wingspan up to 1 7/8" (48 mm). Wings above dark brown with orange medial patches; forewing with whitish postmedial patches. Forewing below similar; hindwing below mottled gray and brown with purple tint. Labial palps extended into long "snout."

Flight times: One or more generations possible, depending on when immigrants first arrive; records from late June to September.

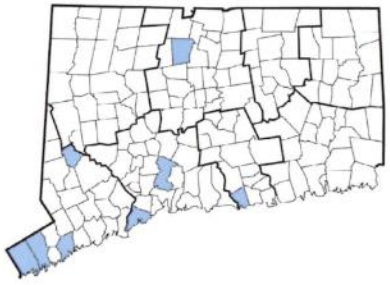
Overwintering stage: Does not survive Connecticut winters.

Comments: The American Snout is an infrequent vagrant in Connecticut, that seems to arrive most years in small numbers. The last major influx of this species into the State was in 1997. Even though Snouts were abundant in New York City and western Long Island in 2001, no individuals were reported in Connecticut that year.

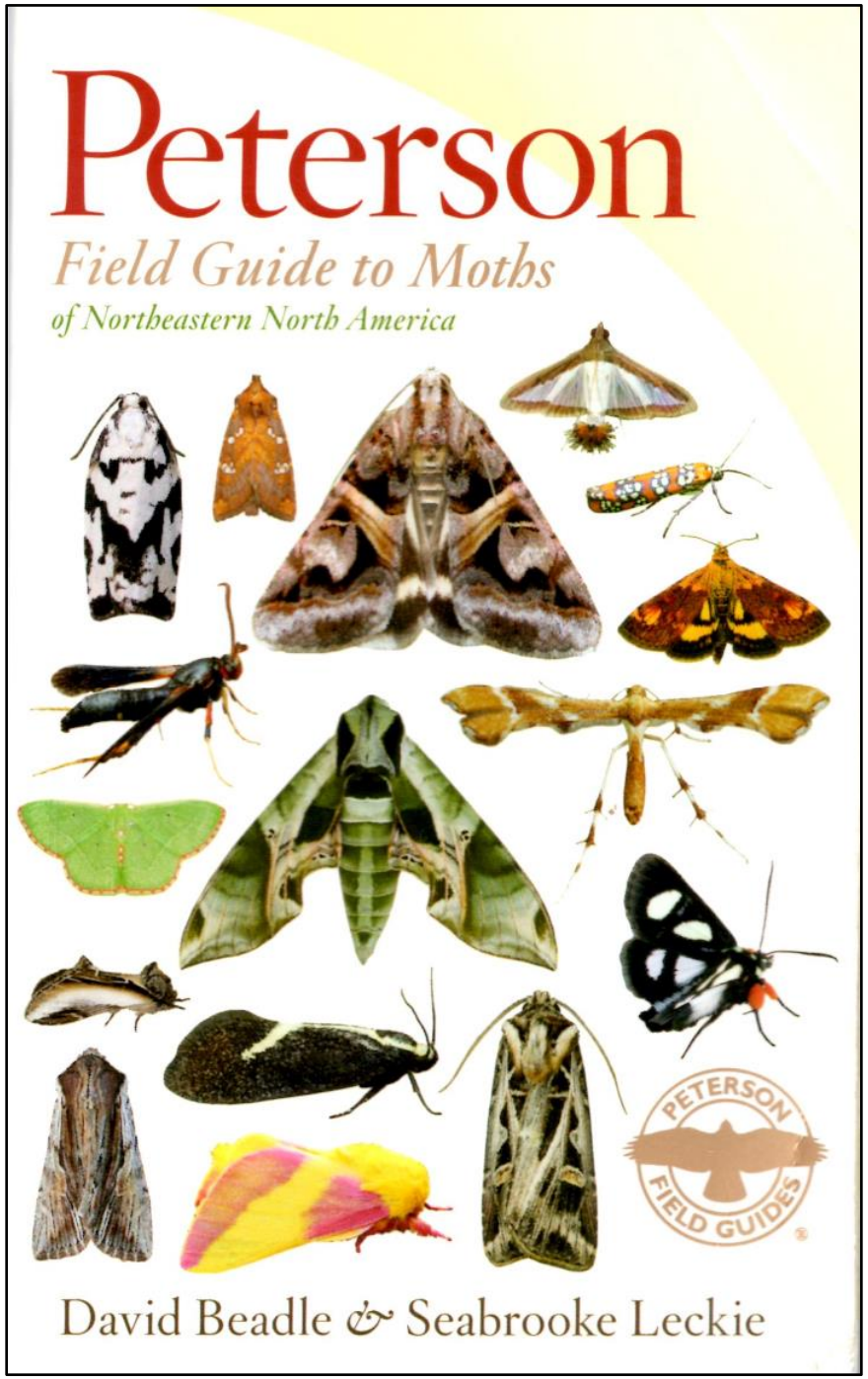
Hamden, CT (Jeff Fengler)



(Carol Lemmon)



Stratford, CT (Carol Lemmon



~1,300 species
in Connecticut

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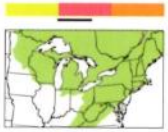
74 listed species:
13 endangered
21 threatened
40 special concern



NORTHERN PINE SPHINX

Lapara bombycoides 7817 **Common**

TL 27–35 mm. Slate gray FW is peppered with white scales. Three black dashes extend through median area; longest touches jagged ST line. Reniform spot is black. **HOSTS:** Pine and tamarack.

Eyed Sphinx Moths

Family Sphingidae, Subfamily Smerinthinae

Medium-sized to large sphinx moths with scalloped wings that are held elevated and slightly away from the body. In most species, HW has a blue-filled eyespot. All are nocturnal and will regularly visit lights in small numbers.

TWIN-SPOTTED SPHINX

Smerinthus jamaicensis 7821 **Common**

TL 38–45 mm. Lilac gray FW has blackish median bar fused to angled AM line, creating a Y-shape. Whitish apex is accented with black semicircle. Rosy pink HW has black-edged blue eyespot divided by black line. Thorax has blackish dorsal patch. **HOSTS:** Deciduous trees, including apple, ash, elm, poplar, and birch.

ONE-EYED SPHINX *Smerinthus cerisyi* 7822 **Common**

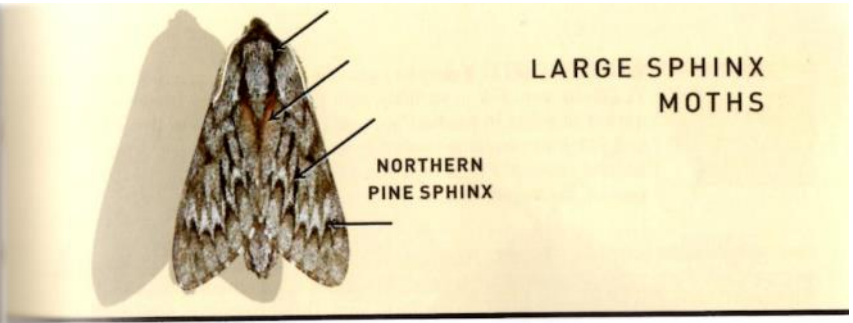
TL 45–55 mm. Violet gray FW has blackish shading in inner median area and along outer margin. Pale pinkish veins extend through median area. Rosy pink HW has black-edged blue eyespot with a black spot in center. Thorax has black dorsal patch. **HOSTS:** Poplar and willow.

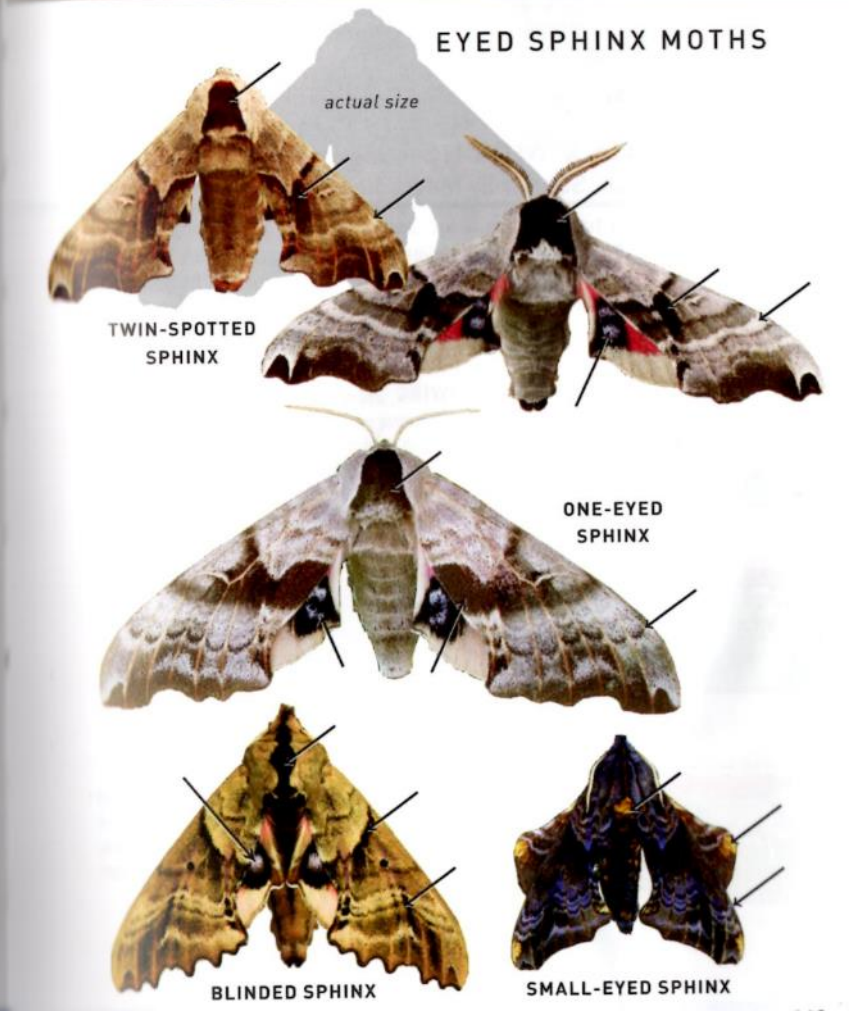
BLINDED SPHINX *Paonias excaecata* 7824 **Common**

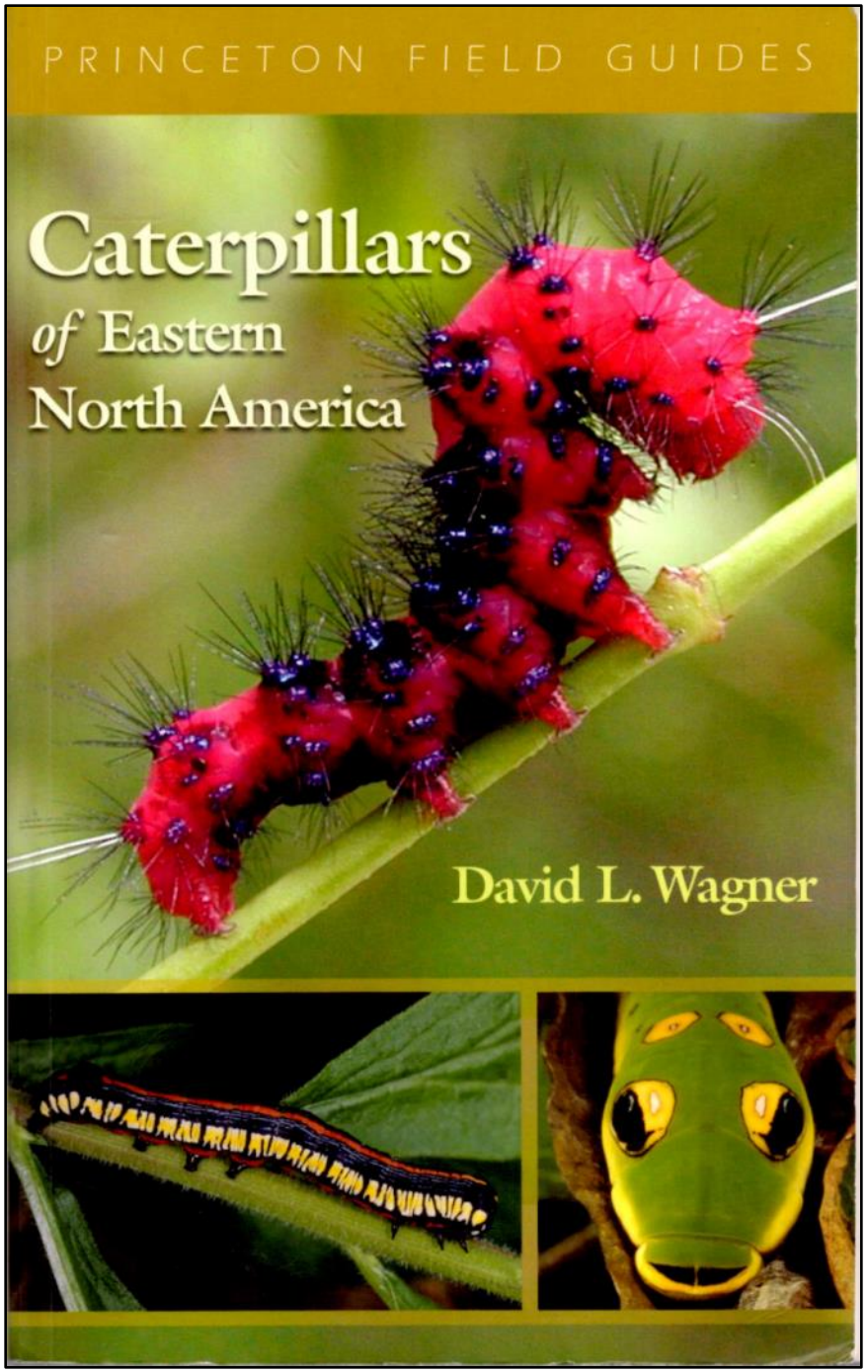
TL 35–50 mm. Light brown FW has darker brown and violet shading in median area and along scalloped outer margin. Thick black bar in inner median area connects to black AM line. Rosy pink HW has black-edged blue eyespot. **HOSTS:** Deciduous trees, including basswood, willow, birch, and poplar.

SMALL-EYED SPHINX *Paonias myops* 7825 **Common**

TL 32–35 mm. Slate-colored FW has bold blackish lines and orange spots. HW has yellow patch surrounding black-edged blue eyespot. Thorax has a flaming orange dorsal stripe. **HOSTS:** Deciduous trees, including black cherry, serviceberry, and basswood.







SPINY OAK-SLUG

Euclea delphinii

RECOGNITION Exceptionally variable in color but *recognizable by its overall shape and the two or four patches of black deciduous spines at rear of body* (in last two instars). Ground color pink, orange, red, yellow, green, or tan. Anterior end possessing three pairs of elongate, subdorsal lobes each bearing numerous stinging spines; posterior end with two pairs of elongated subdorsal lobes. Sides with shallow depressions ringed with black or white situated between subdorsal and subspiracular lobes. Larva to 2cm. Stinging Rose Caterpillar (*Parasa indetermina*) has longer lobes, no detachable spine patches, and distinctive pinstriping over dorsum and sides.

OCCURRENCE Barrens, woodlands, and forests from Missouri to southern Quebec and Maine south to Florida and Texas. A single generation over much of East with caterpillars from late June to October; two generations in Missouri and presumably more in Deep South.

COMMON FOODPLANTS Apple, ash, basswood, beech, birch, blueberry, cherry, chestnut, hackberry, hickory, maple, oak, poplar, sycamore, willow, and many other woody plants.

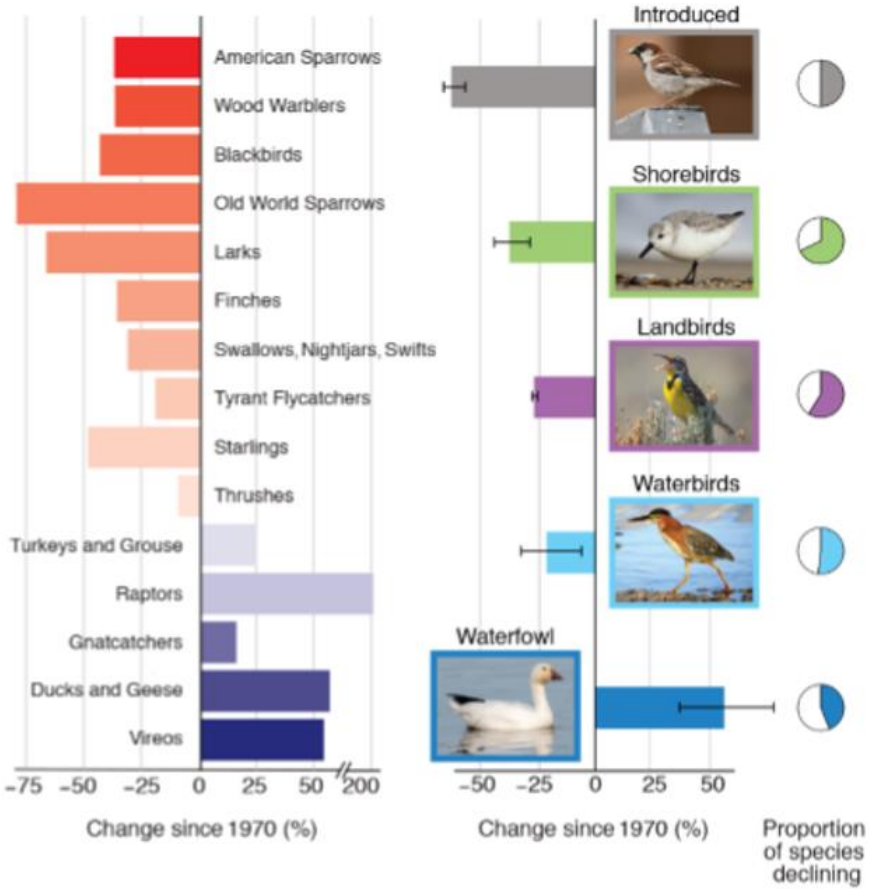
REMARKS Eggs are laid singly or in small clusters. Dyar (1896) regarded Spiny Oak Slug caterpillars to be somewhat secretive and noted that they sometimes hide between leaves by day. Although exceeding other slugs in number of spines, the sting is mild, considerably less severe than that of the Saddleback Caterpillar (*Acharia stimulea*). The dark spine clusters, which are added in the last two instars to the rear of the body, are curiously variable in their expression—they may be essentially absent, occur as a single pair, or, as is most often the case, be represented by two pairs of four dark gumdrop-shaped patches. A tachinid fly has deposited two eggs (the white spots) on the larva in the lower right image.

Cite as: K. V. Rosenberg *et al.*, *Science* 10.1126/science.aaw1313 (2019).

Decline of the North American avifauna

Kenneth V. Rosenberg[1,2*], Adriaan M. Dokter[1], Peter J. Blancher[3], John R. Sauer[4], Adam C. Smith[5], Paul A. Smith[3], Jessica C. Stanton[6], Arvind Panjabi[7], Laura Helft[1], Michael Parr[2], Peter P. Marra[8†]

"Integration of range-wide population trajectories and size estimates indicates a net loss approaching 3 billion birds, or 29% of 1970 abundance."



Is there ever anything good about invasive plants?

- Provide habitat elements for other species
  - Structure/cover
  - Food
- "Ecological services" that benefit humans
  - Soil stabilization, especially on degraded sites
  - Aesthetically pleasing

Many were intentionally introduced for a reason

Japanese Barberry

- Popular landscaping shrub with spatulate leaves and very brittle spines
- Thick infestations provide nesting habitat for uncommon Hooded Warbler
- Intricately implicated with mice and deer in transmission dynamics of Lyme Disease

Oriental Bittersweet

- Vine that strangles trunks and pulls down limbs & trees
- Fruits/seeds dispersed by birds, especially in winter
- People make wreaths and other crafts with fruits

Burning Bush/Winged Euonymus

- Popular shrub introduced via nursery trade
- Stems and twigs are “winged”
- Dominates forest understories & many roadsides
- Fruit & seeds dispersed by birds

Multiflora Rose

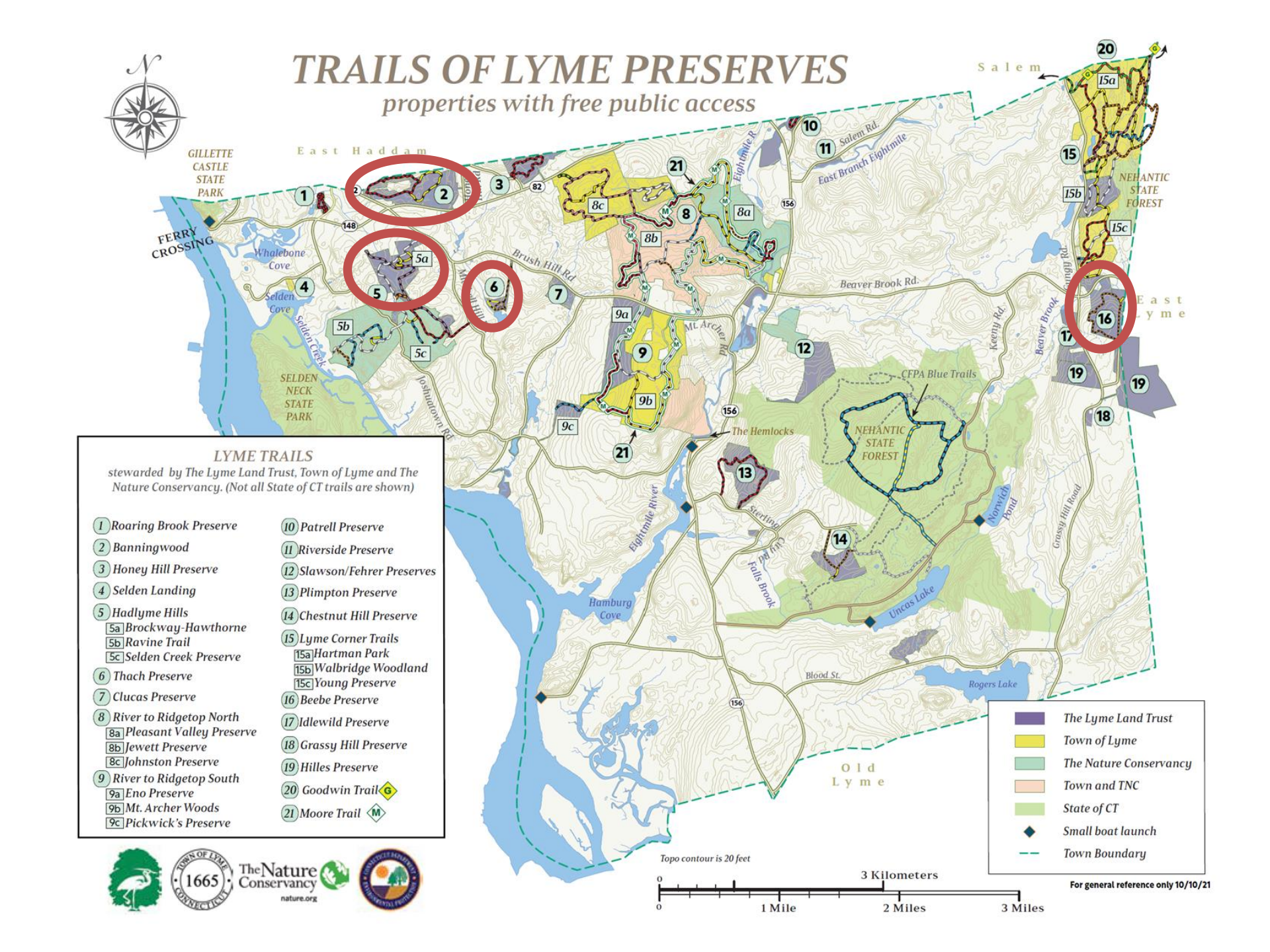
- Introduced as an ornamental and as live fence
- Nasty re-curved spines on stems
- Thickets provide excellent cover for cottontail and other small animals especially in early successional (scrub-shrub) habitats, but not so much in forests

Autumn Olive

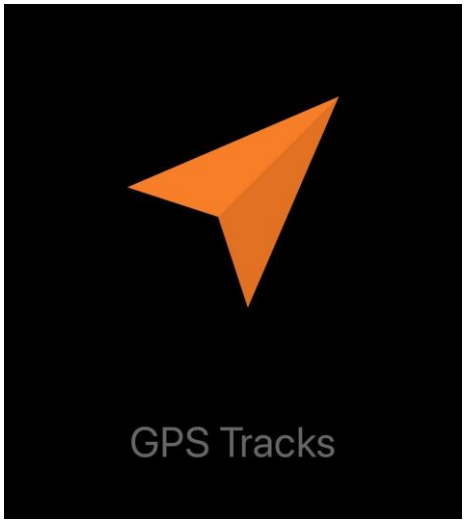
- Often planted by roadsides and other degraded sites to prevent erosion
- Berries are a superfood for birds

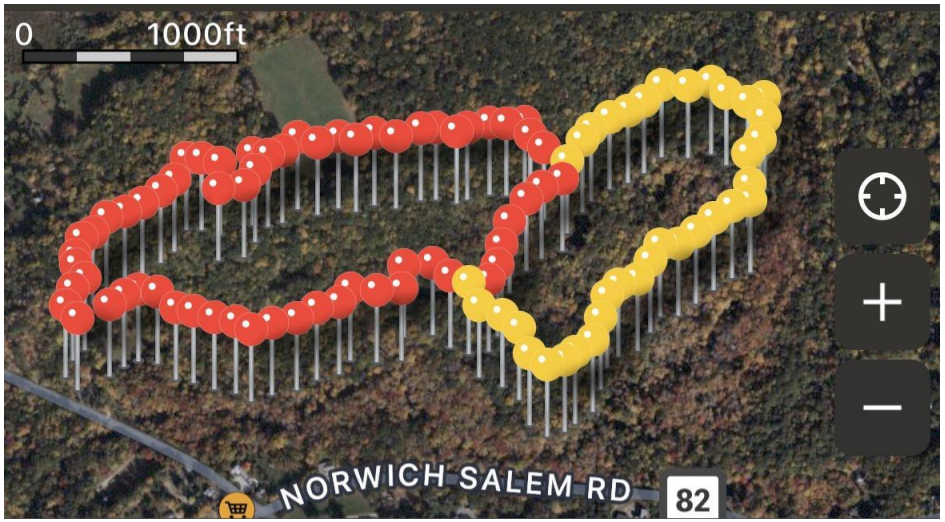
Japanese Stiltgrass

- Annual grass introduced by use for packing material
- Dominates forest floor
- Seeds, which can be viable for >7 years, are dispersed by water, soil, mountain bicyclists?

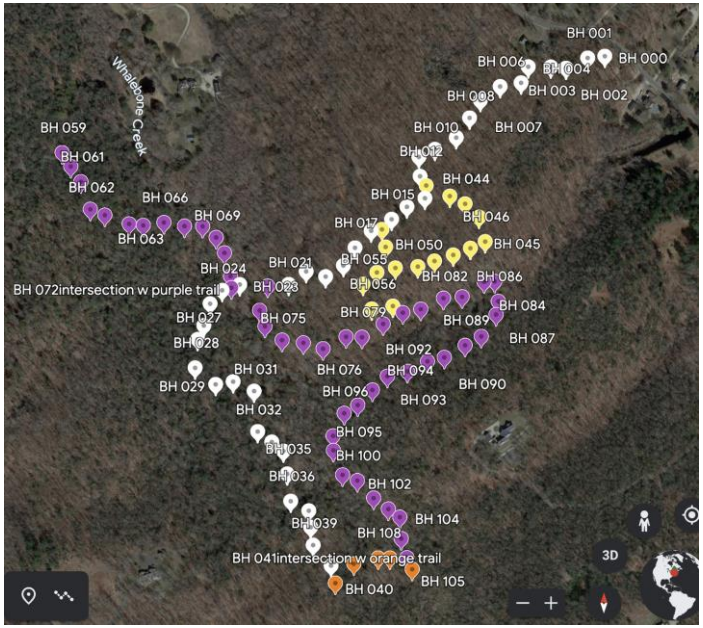

TRAILS OF LYME PRESERVES
properties with free public access
LYME TRAILS
stewarded by The Lyme Land Trust, Town of Lyme and The Nature Conservancy. (Not all State of CT trails are shown)
1 Roaring Brook Preserve
2 Banningwood
3 Honey Hill Preserve
4 Selden Landing
5 Hadlyme Hills
5a Brockway-Hawthorne
5b Ravine Trail
5c Selden Creek Preserve
6 Thach Preserve
7 Clucas Preserve
8 River to Ridgetop North
8a Pleasant Valley Preserve
8b Jewett Preserve
8c Johnston Preserve
9 River to Ridgetop South
9a Eno Preserve
9b Mt. Archer Woods
9c Pickwick's Preserve
10 Patrell Preserve
11 Riverside Preserve
12 Slawson/Fehrer Preserves
13 Plimpton Preserve
14 Chestnut Hill Preserve
15 Lyme Corner Trails
15a Hartman Park
15b Walbridge Woodland
15c Young Preserve
16 Beebe Preserve
17 Idlewild Preserve
18 Grassy Hill Preserve
19 Hilles Preserve
20 Goodwin Trail G
21 Moore Trail M
GILLETTE CASTLE STATE PARK
FERRY CROSSING
East Haddam
Salem
Old Lyme
East Lyme
Whalebone Cove
Selden Cove
Selden Creek
SELDEN NECK STATE PARK
Brush Hill Rd
Joshuatown Rd
Mt. Archer Rd
Beaver Brook Rd.
Salem Rd.
East Branch Eightmile
Eightmile R.
Eightmile River
Keeny Rd.
Beaver Brook
Grassy Hill Road
CFPA Blue Trails
NEHANTIC STATE FOREST
The Hemlocks
Sterling City Rd
Falls Brook
Norwich Pond
Uncas Lake
Hamburg Cove
Blood St.
Rogers Lake
The Lyme Land Trust
Town of Lyme
The Nature Conservancy
Town and TNC
State of CT
Small boat launch
Town Boundary
Topo contour is 20 feet
3 Kilometers
1 Mile
2 Miles
3 Miles
For general reference only 10/10/21
1665
The Nature Conservancy
nature.org

Data Collection





- 100 ft segments;
  10 yds off trail
  on each side



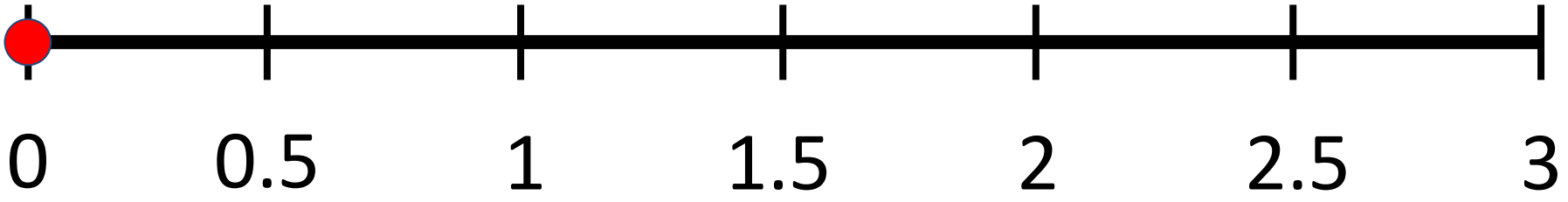
- Text
- Numeric
- Phone
- Date
- Time
- Dropdown
- Radio
- Checkbox
- Search
- Text Box
- Readme
- Location
- Photo

Invasive plant inte... ✔ | Add child form ✚

Form > Invasive plant intens...

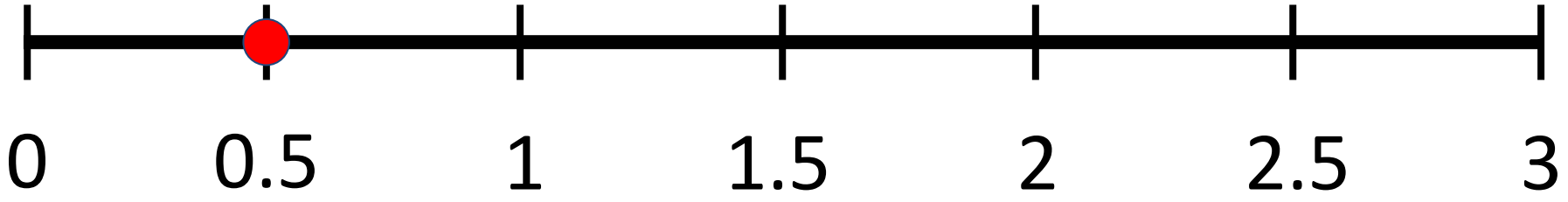
- Date ✔
- Preserve? ✔
- Sampling Segment ✔
- Segment Start ✔
- Segment End ✔
- Side of trail ✔
- Autumn Olive ✔
- Burning Bush ✔
- Japanese Barberry ✔
- Japanese Stiltgrass ✔

Shrub Intensity Scale



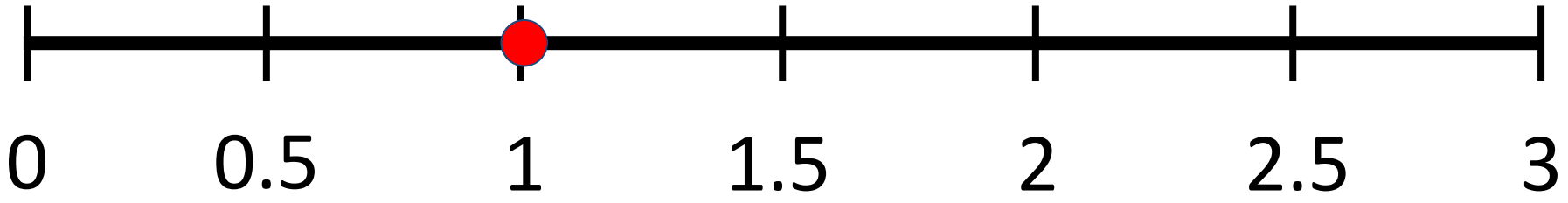
0: Species was not observed.

Shrub Intensity Scale



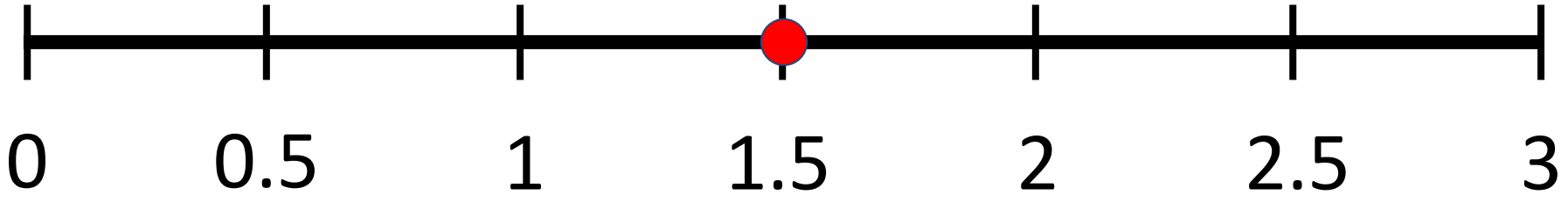
0.5: >5 individuals counted.

Shrub Intensity Scale

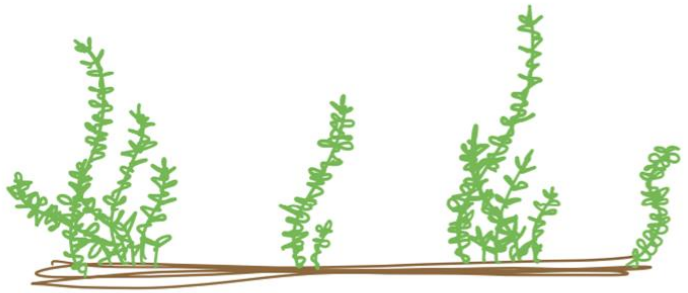


1: Species observed in small isolated clusters.

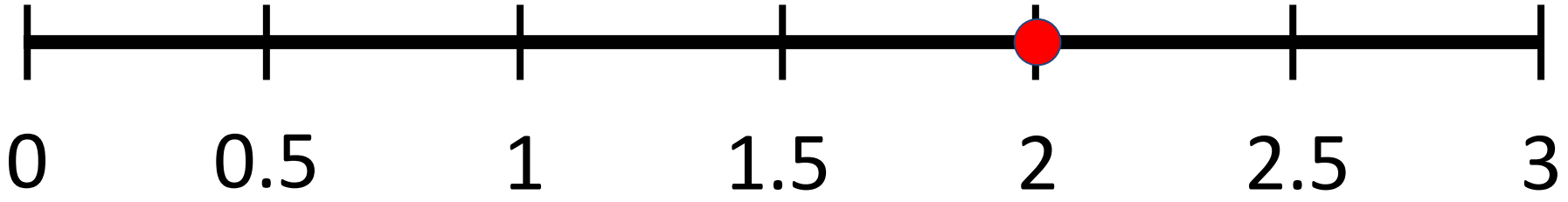
Shrub Intensity Scale



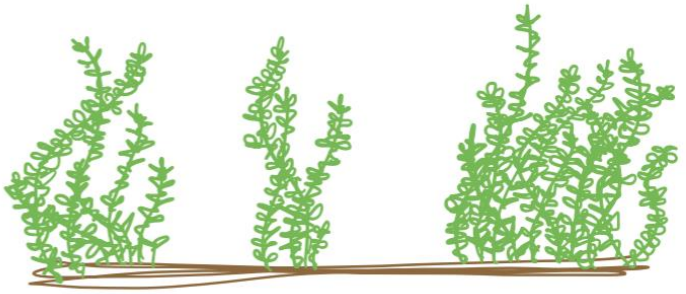
1.5: More frequent groups of species are observed.



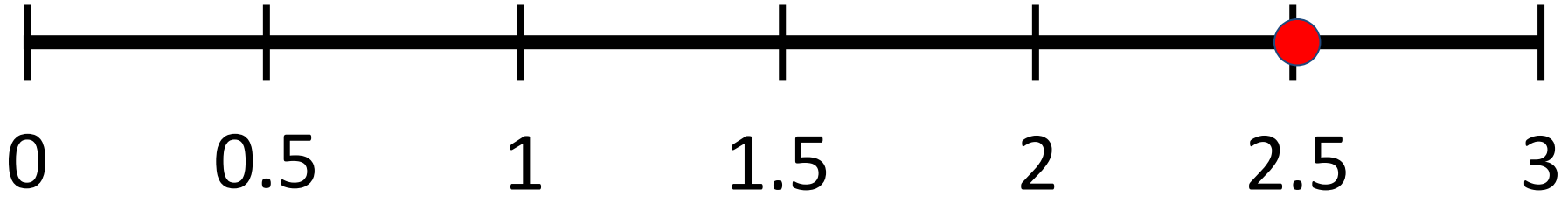
Shrub Intensity Scale



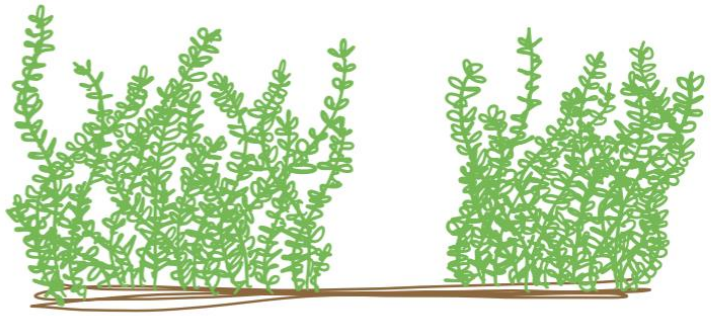
2: More than half of area is covered.



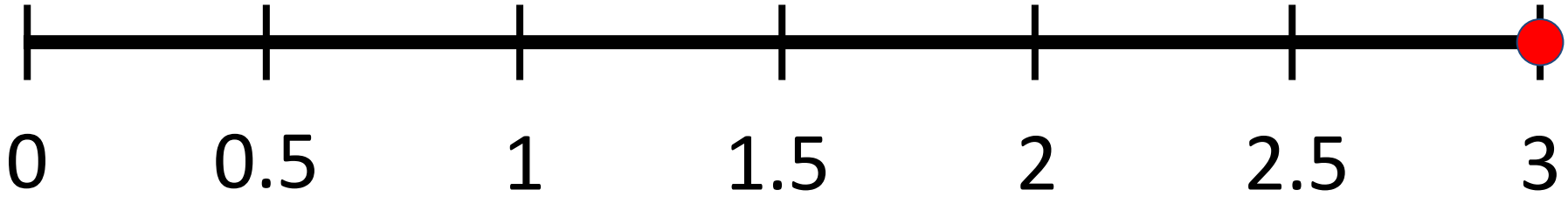
Shrub Intensity Scale



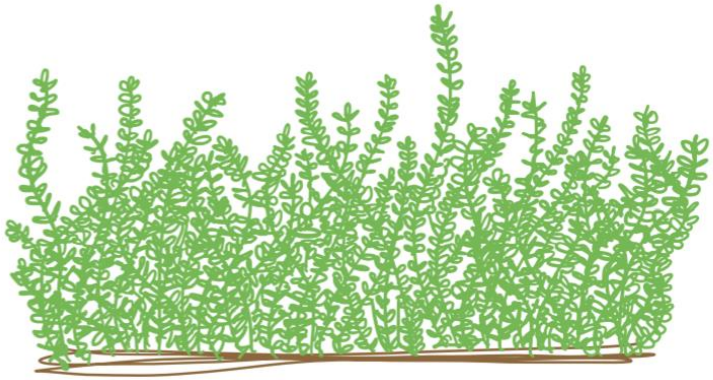
2.5: Species is dominant but not uniform in growth.



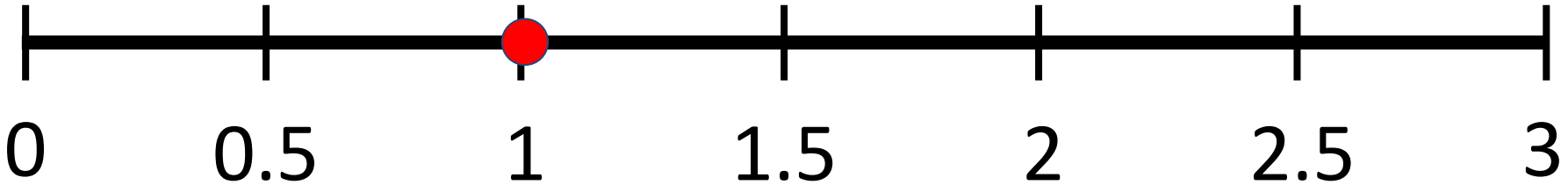
Shrub Intensity Scale



3: Species is dominant; no visible separation between plants.

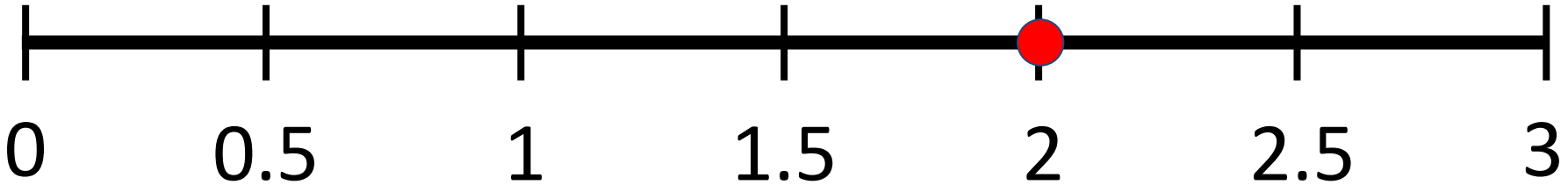


Bittersweet Intensity Scale



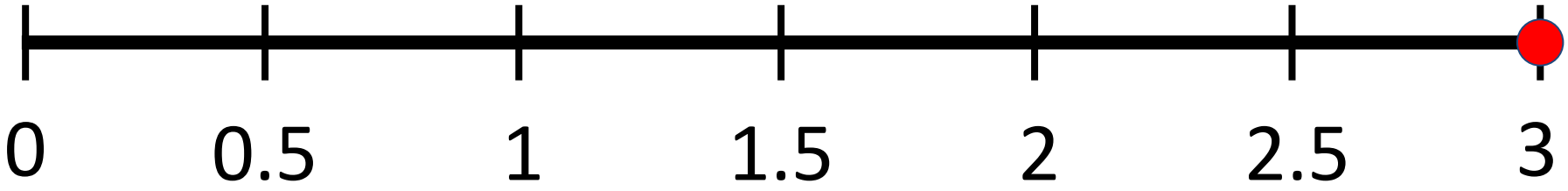
1: Soft, green stemmed plants

Bittersweet Intensity Scale



2: Vines wrapping around other plants; >1cm diameter

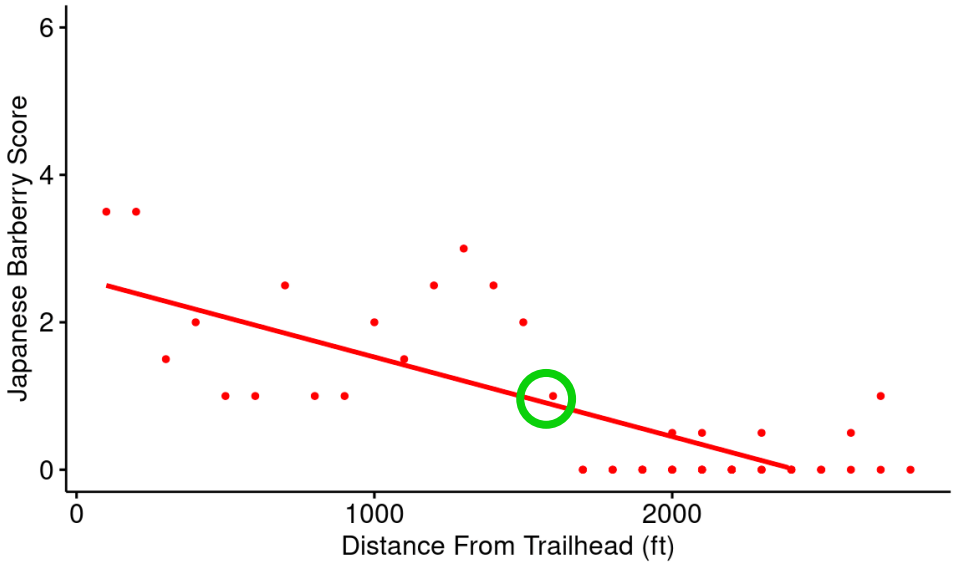
Bittersweet Intensity Scale

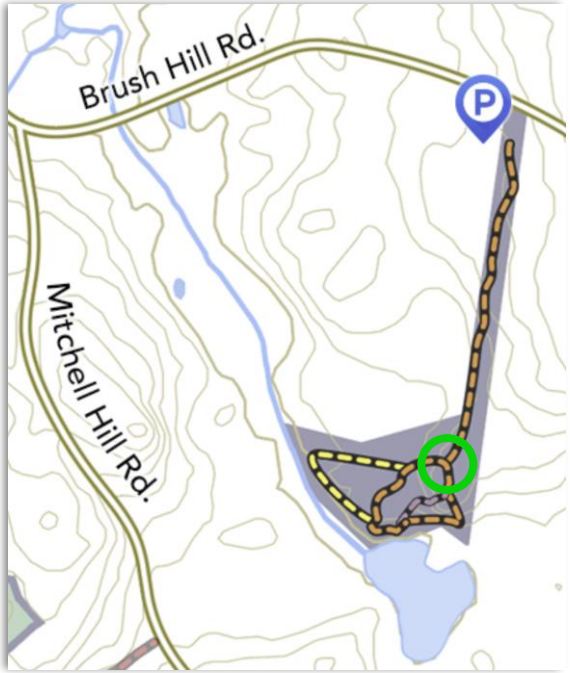


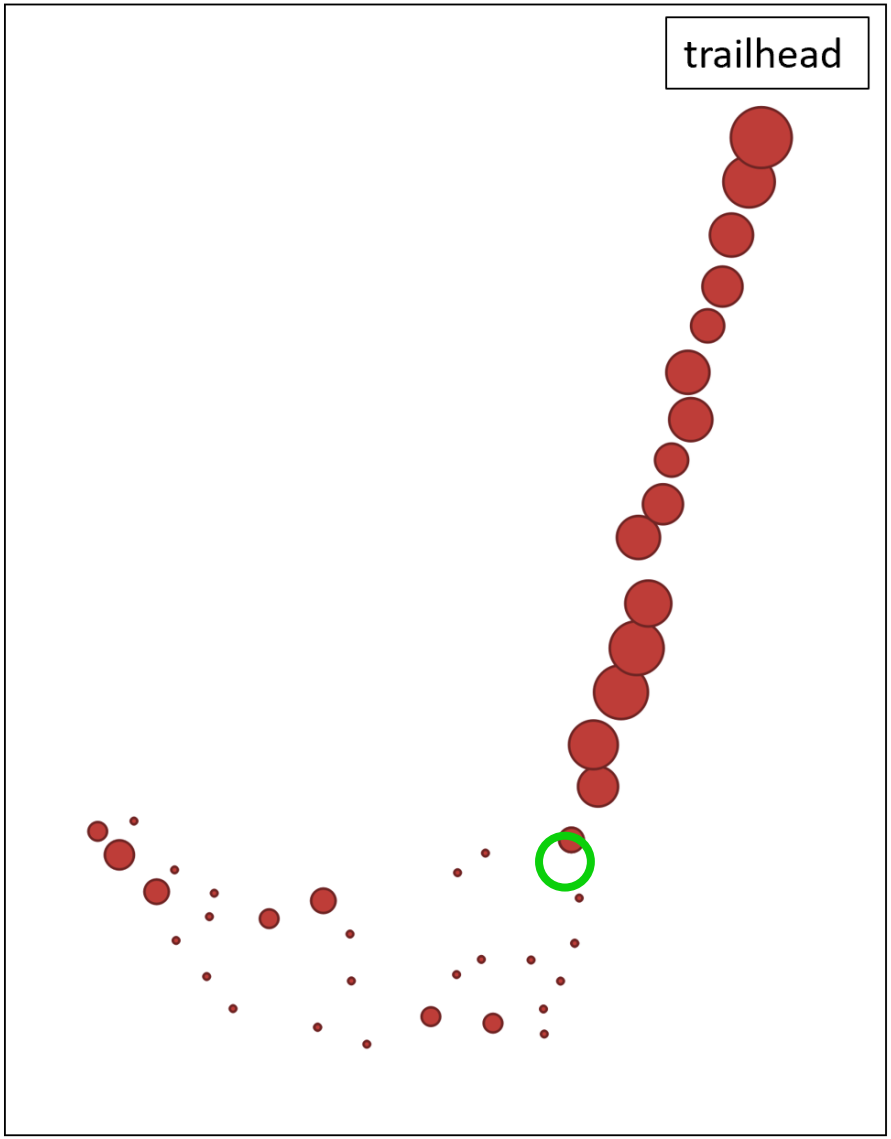
3: Thick, woody vines wrapped around tree trunks.


epicollect5
GPS Tracks
Google Earth
R
QGIS

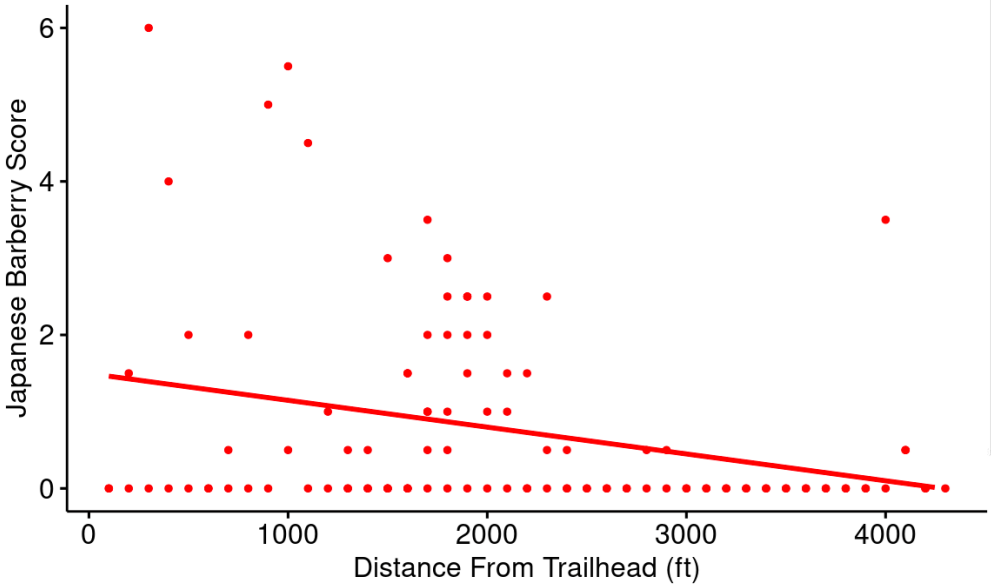
Thach Preserve

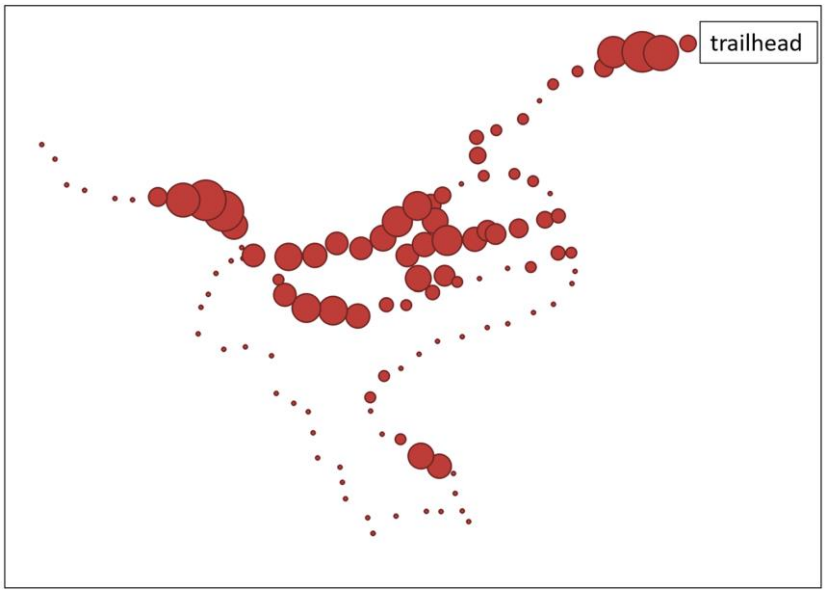




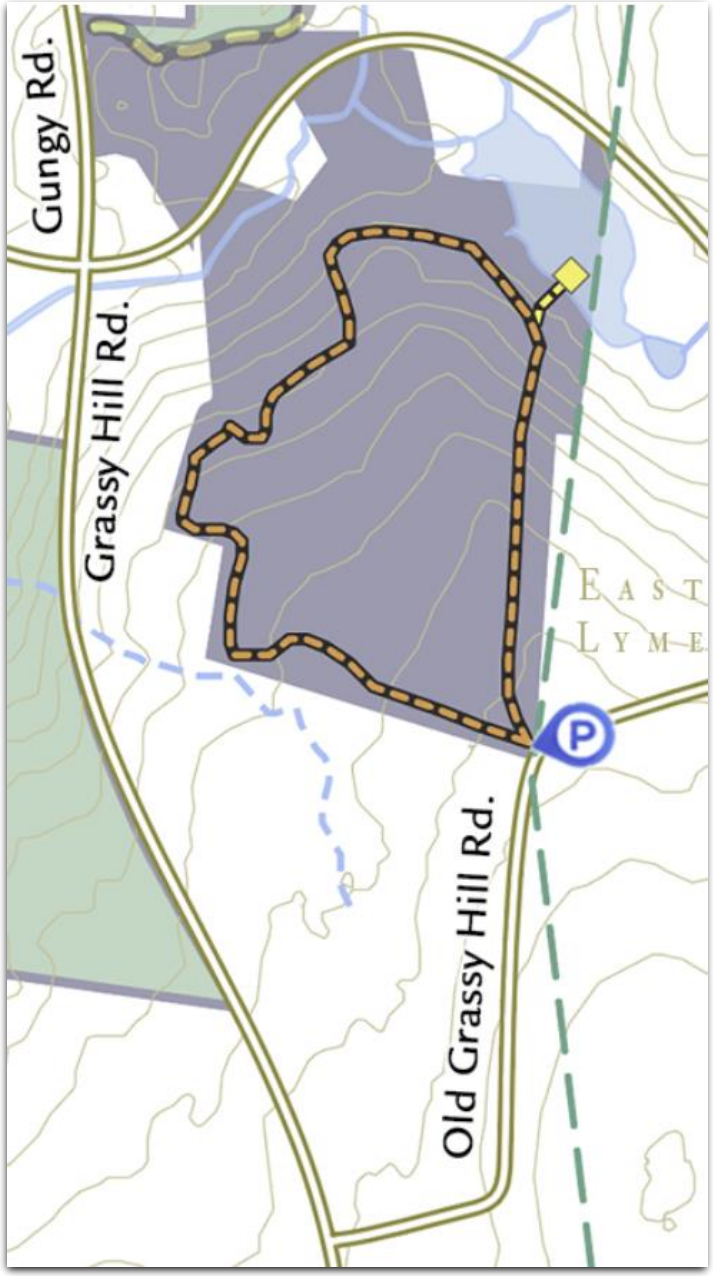


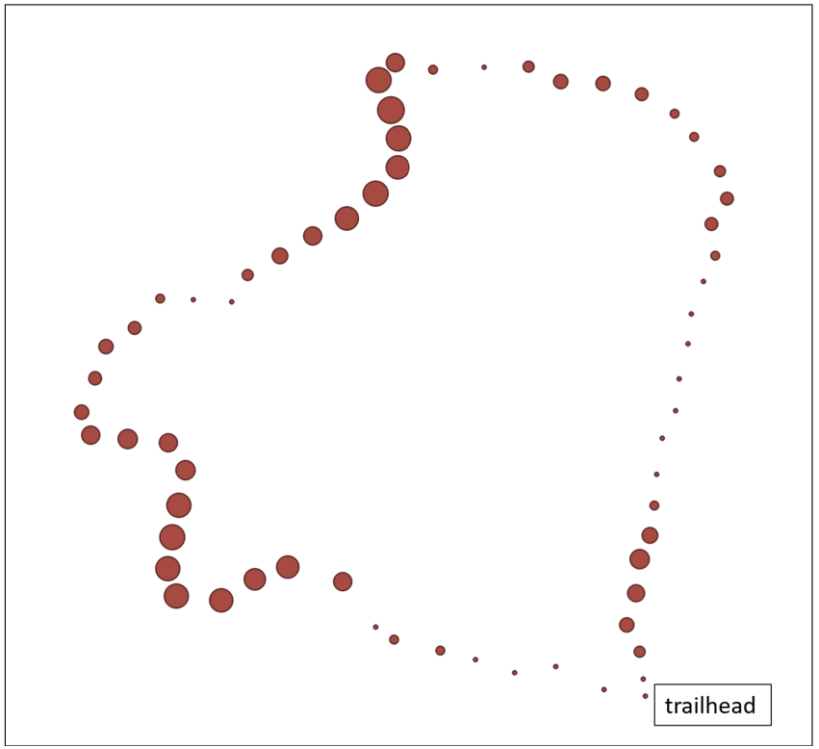
Brockway-Hawthorne Preserve

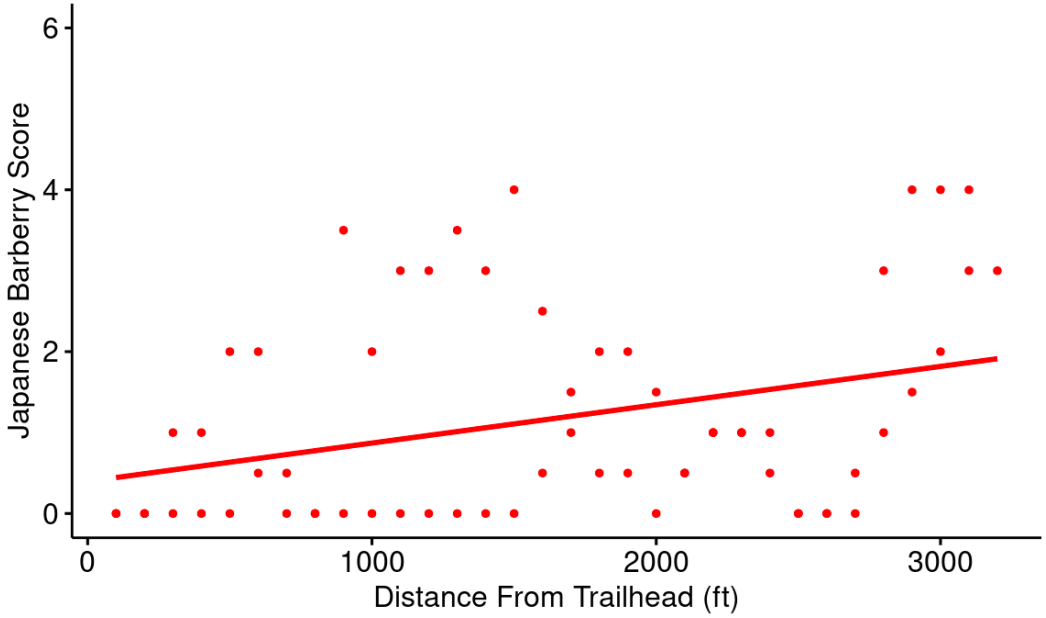




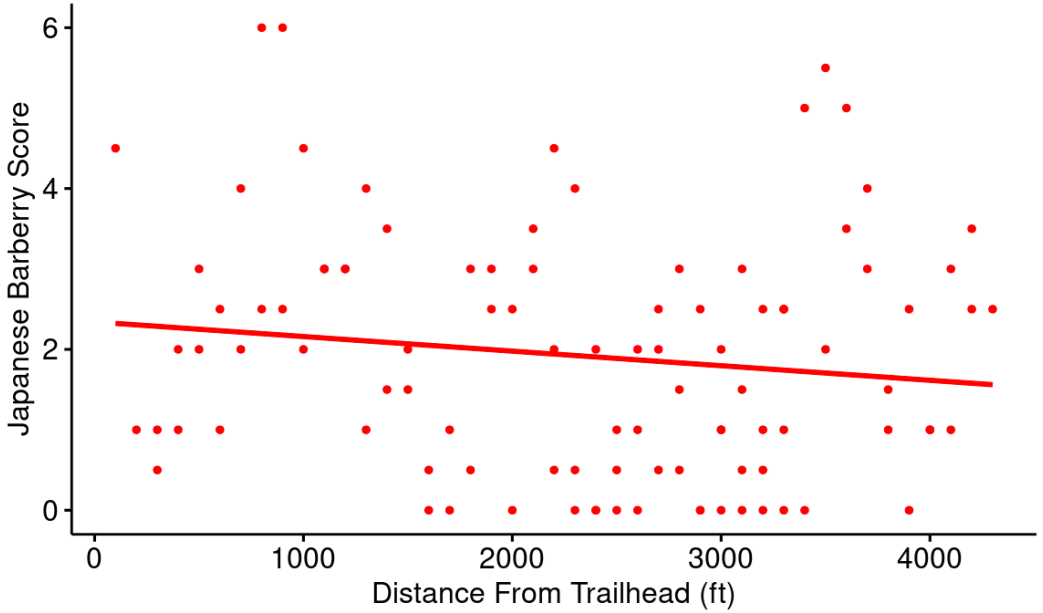
Beebe Preserve

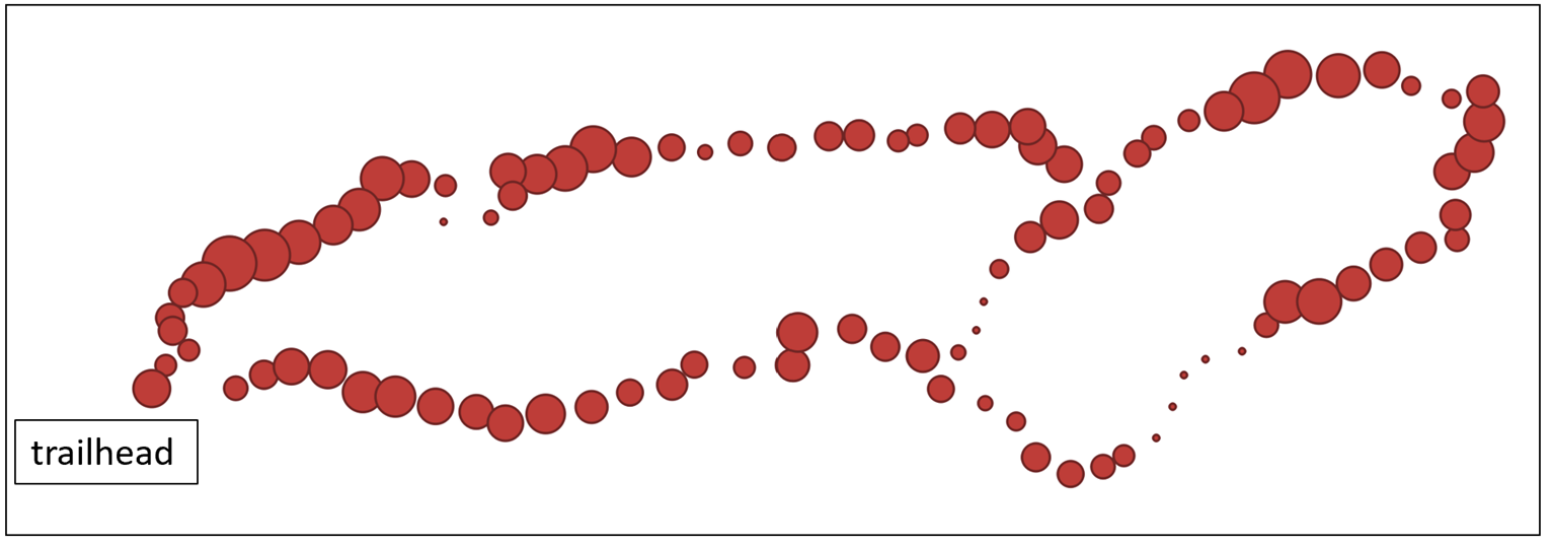






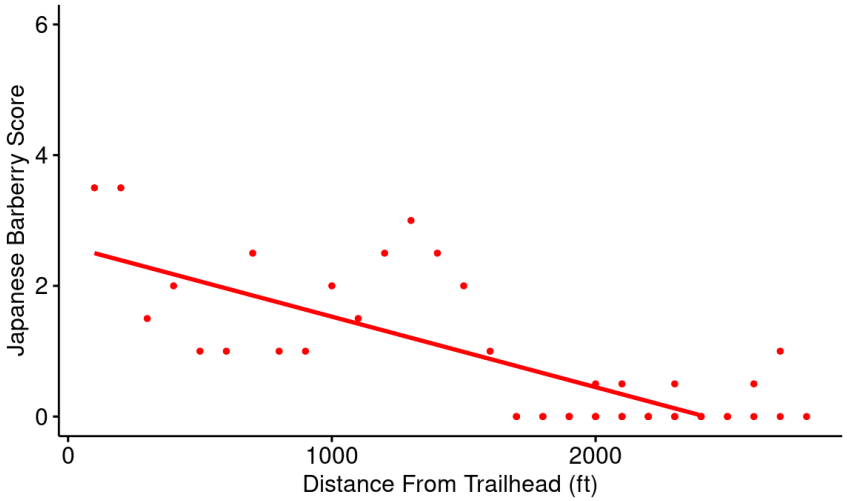
Banningwood Preserve




trailhead


P
82
148
82

Thach



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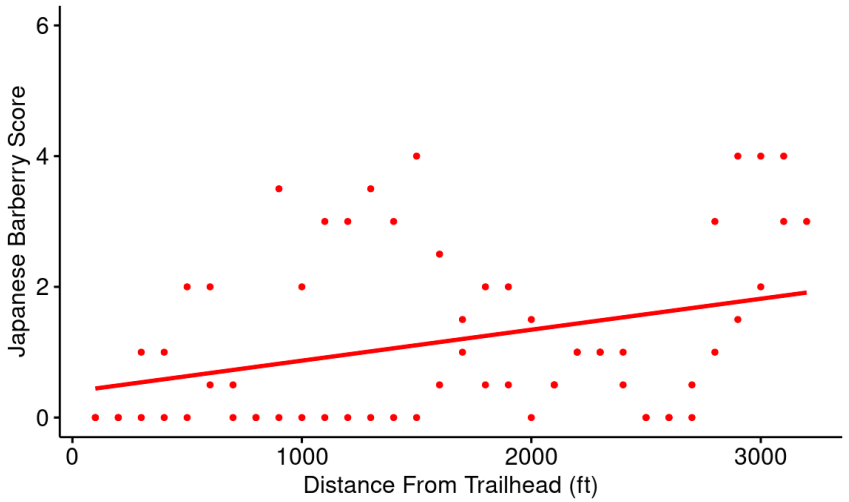
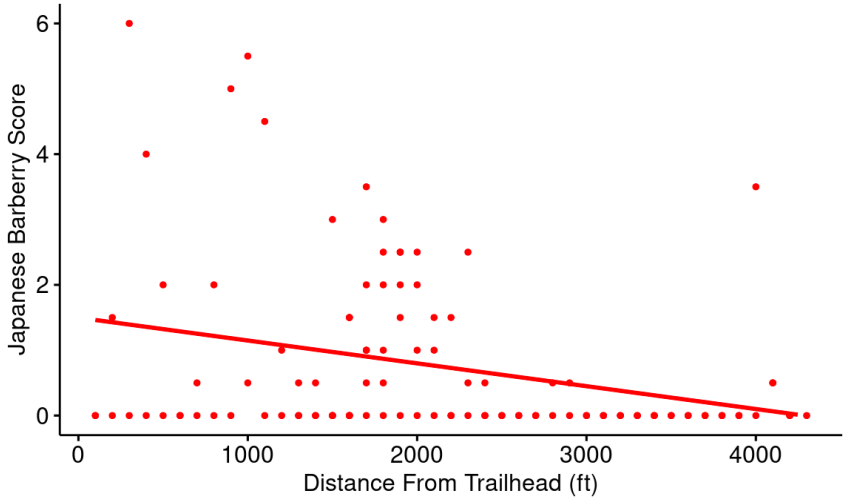
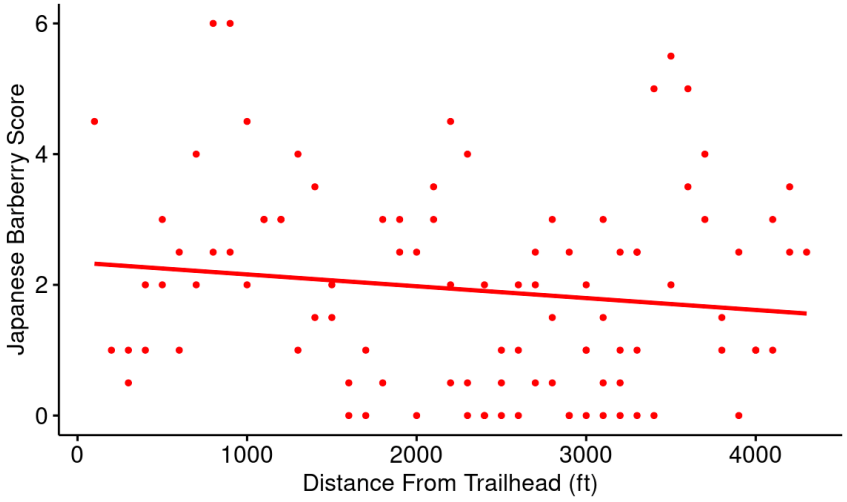


Brockway-Hawthorne



Banningwood



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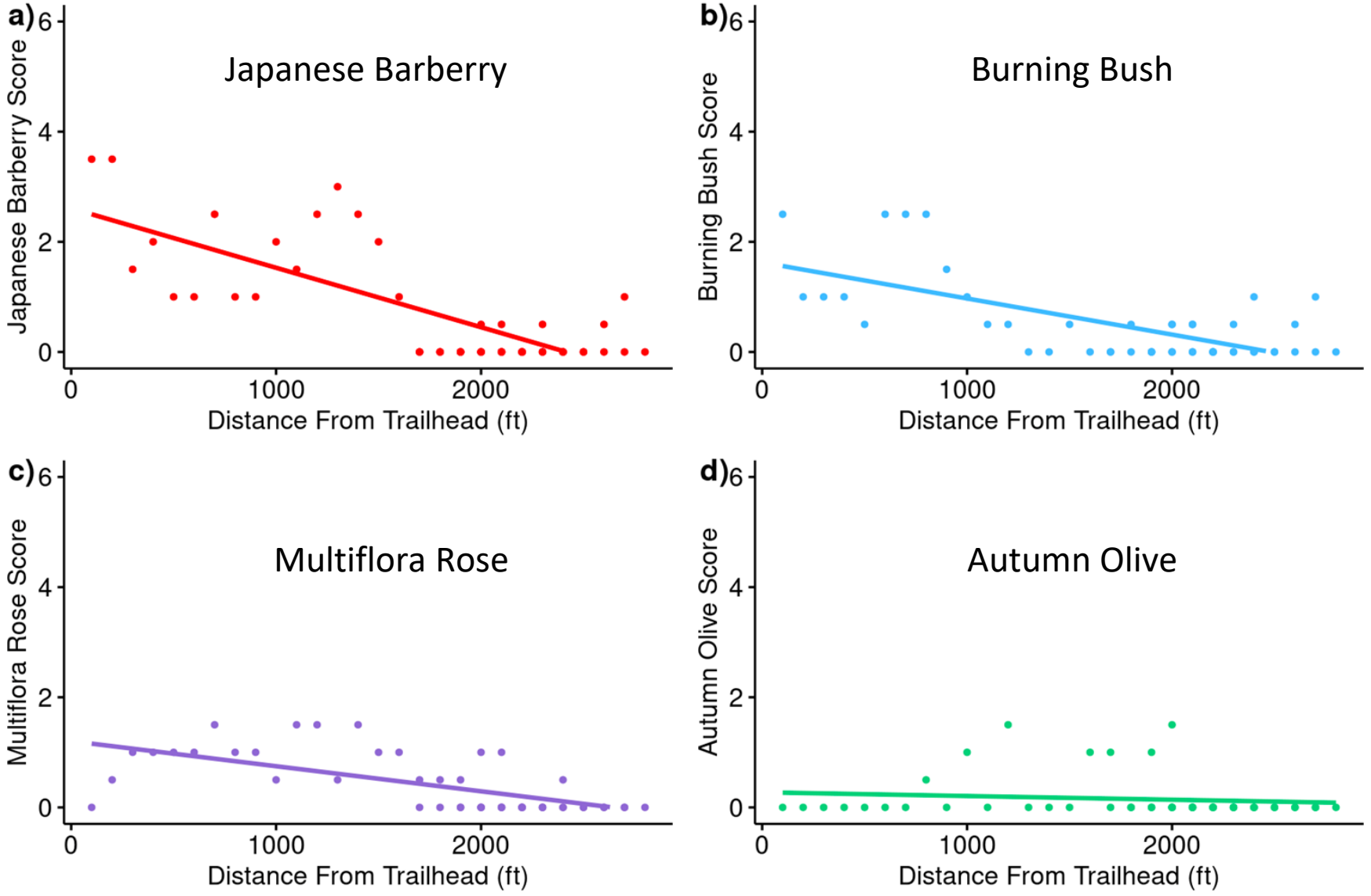
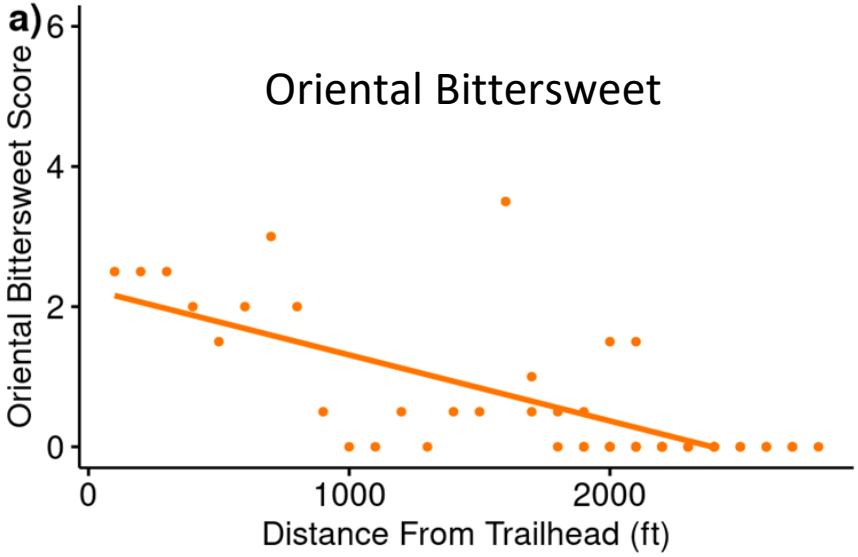
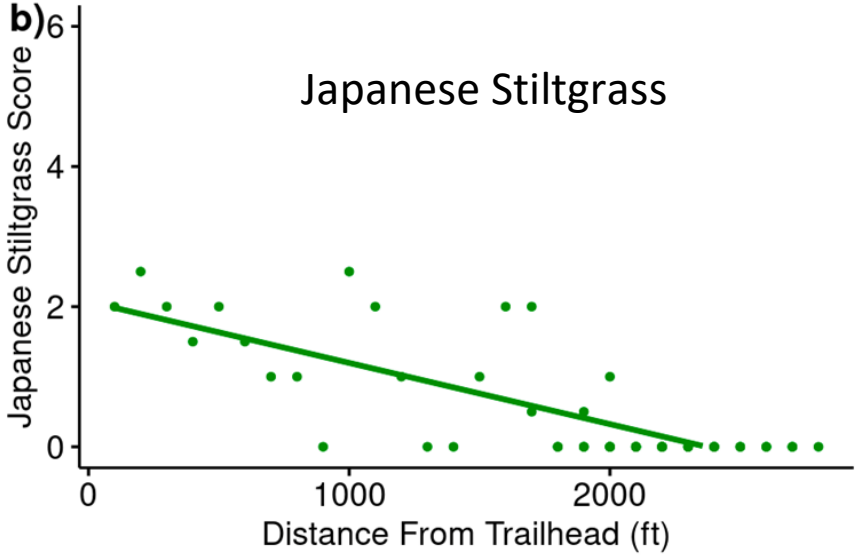
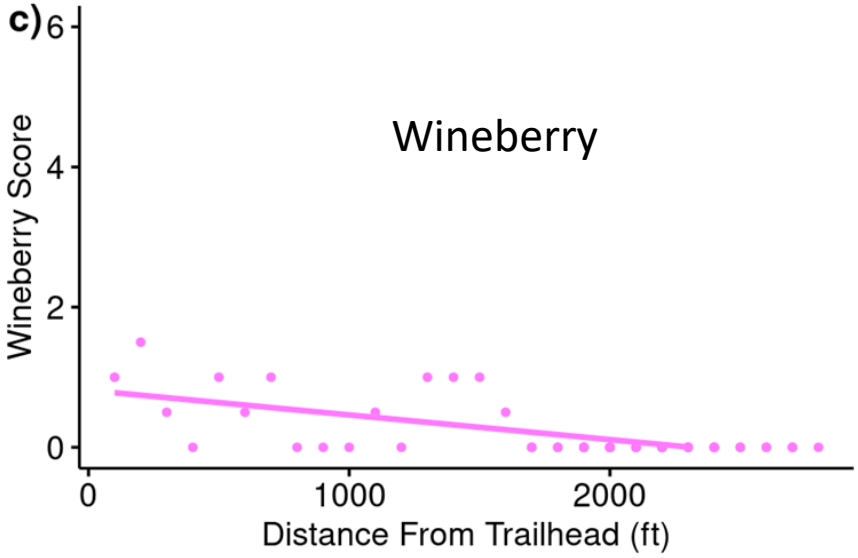
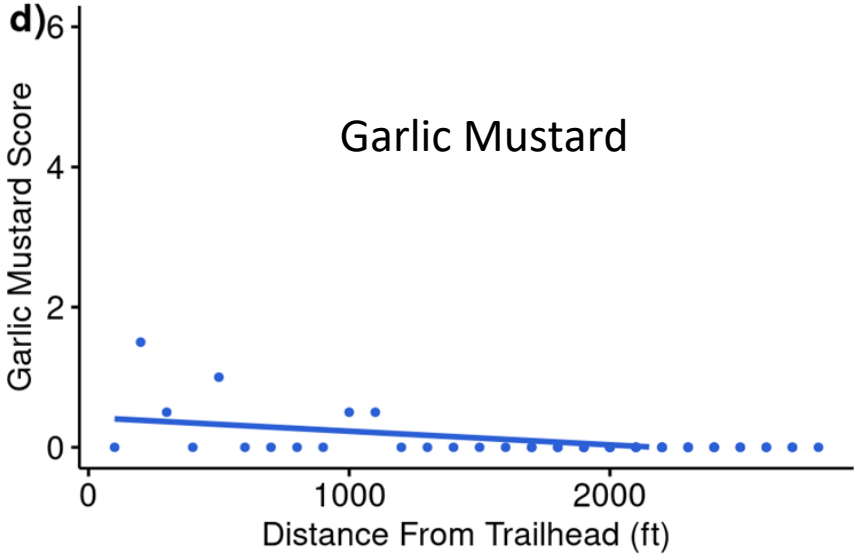


Thach Preserve (slide 2 of 2)

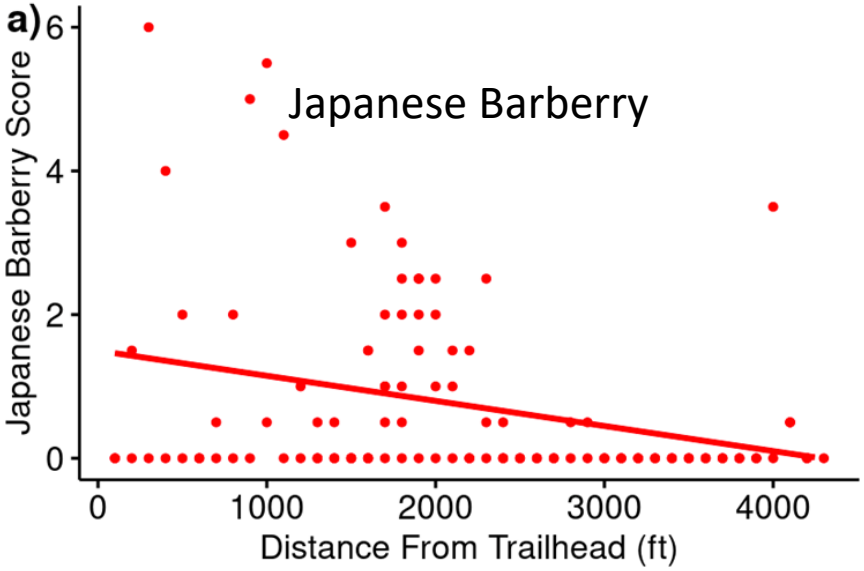


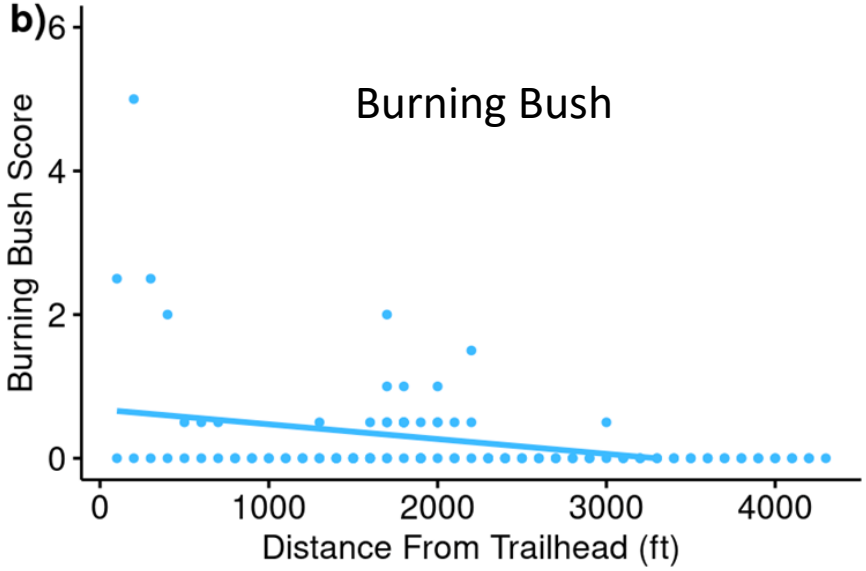


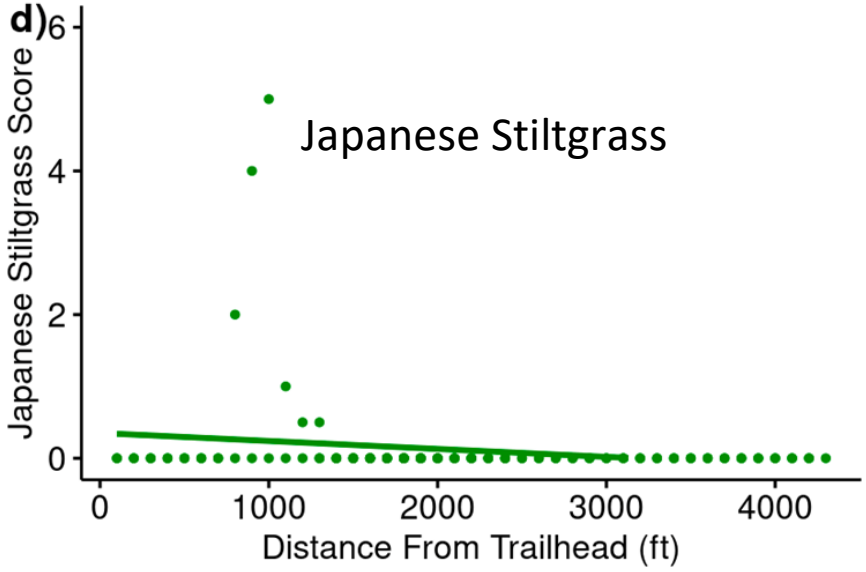




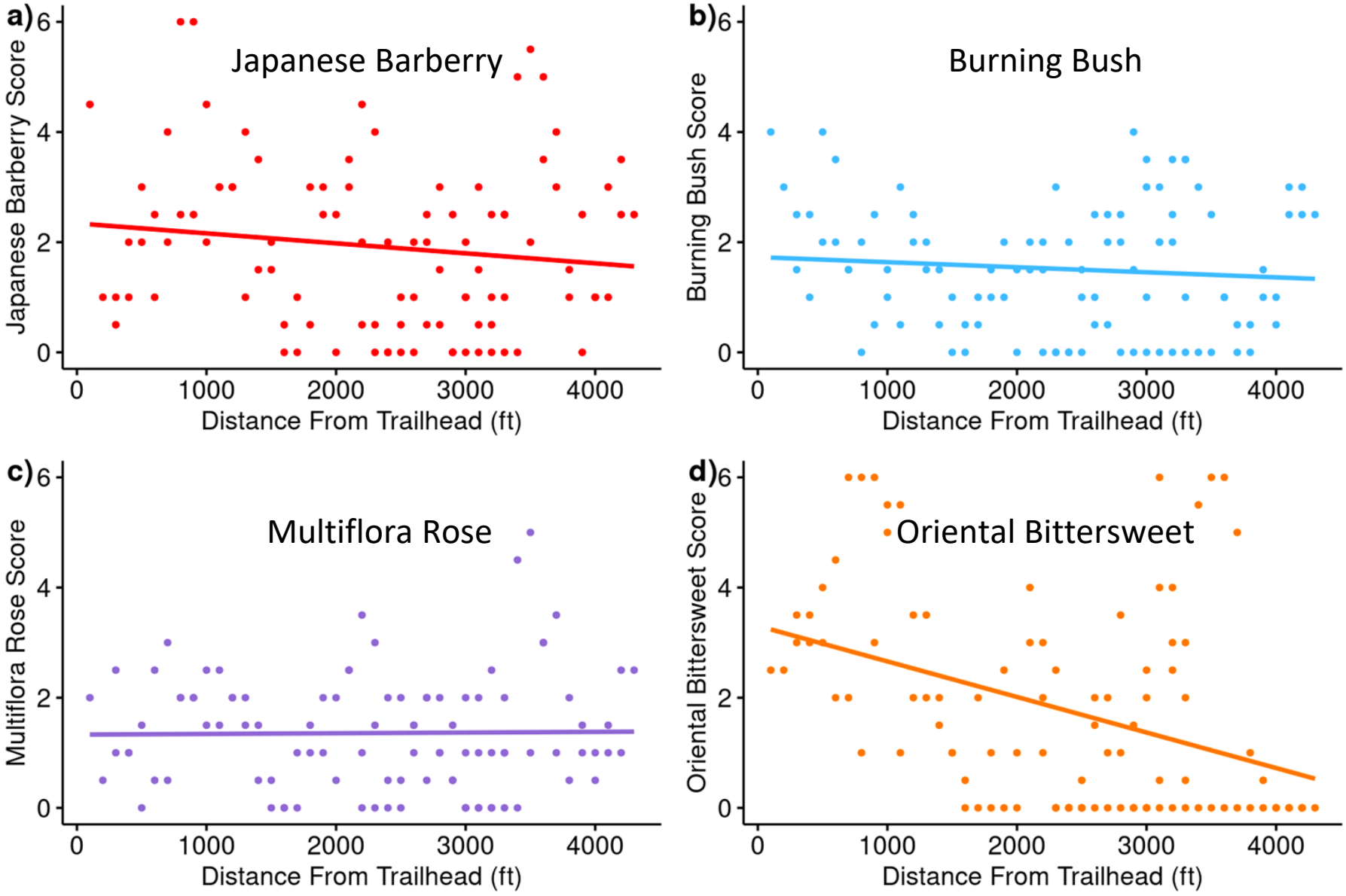
Brockway-Hawthorne Preserve







Banningwood Preserve



How to manage invasive plants?

- Mechanical: hands, tools, machines
- Chemical: herbicides
- Biological: invertebrates, goats!
- Tarp/cardboard covering
- Fire: landscape scale, weed torch

Many ways to fail and waste resources.

Every situation is different,
and there is no silver bullet.

Invasive Plants In Your Backyard!

A Guide to Their Identification and Control

NEW EXPANDED EDITION

PORCELAINBERRY

Ampelopsis brevipedunculata

Deciduous Vine
Flowers: Mid-Summer
Fruits: Late Summer to Fall

Porcelainberry is a vigorous climbing vine resembling native grape. It forms thick mats in tree crowns that can cover and shade out native vegetation. It spreads by prolific growth and seeds eaten by birds and other animals. It prefers moist, rich soils; invades streambanks, pond margins, forest edges and disturbed areas; and thrives in a wide range of light conditions.

IDENTIFICATION

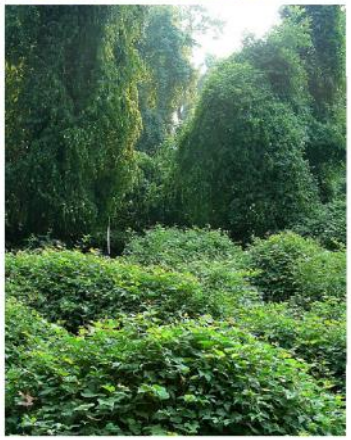
- Woody branched tendril-bearing vine
- Alternate heart-shaped leaves have coarse teeth, and vary from slightly lobed to deeply-dissected
- Green to white, inconspicuous flowers develop in small clusters
- Speckled fruits are shades of pink, purple and blue, in loose clusters

MECHANICAL CONTROL

Hand pull vines in the fall or spring. Cut vines too large to pull out near the ground and cut regrowth as needed.

CHEMICAL CONTROL

For small infestations, cut vines to ground in late summer and treat with glyphosate concentrate. For dense thickets, cut stems to the ground, allow to re-sprout, then spot-spray with glyphosate.



Native Alternatives
American Wisteria • Trumpet Honeysuckle • Virginia Creeper

Photos from bugwood.org: top/mid - L.J. Mehrhoff, University of Connecticut; bottom - S. Manning, Invasive Plant Control.

Timing is everything!

For more information:

CAES
The Connecticut Agricultural Experiment Station

Native Plant Trust
GO BOTANY

UCONN | UNIVERSITY OF CONNECTICUT

A-Z

Connecticut Invasive Plant Working Group

Search this site...

Home | Get Involved | About | Meet the Plants | Invasive Plants Council | Control Information | Invasive Plant Walk | Report Invasive Plant Activity

Bush honeysuckle (*Lonicera spp.*)

About this Site

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

Get Involved:

Join our Membership listserv

JOIN

Emails about:
– events
– workshops
– volunteer opportunities

Frequency: About 2 per month

What can I do?

- Control invasive species on land you manage
- Volunteer with invasive species management at nature preserves and parks
- Plant/landscape with native species
- Don’t be a vector for seeds, fruits or plant parts
- Educate yourself and others, including government employees
- Support land trusts and organizations that manage land

Thanks for your interest, attention and support!

Beebe Preserve