Summit Metro Parks™

Wild Back Yards

Christopher Chaney

Park Biologist

February 21, 2023

Overview

Overview

- What is a Wild Back Yard?
- Why is it needed?
- What can *you* do?

What is a Wild Back Yard?

- Dominated by native plants
- Wildlife habitat

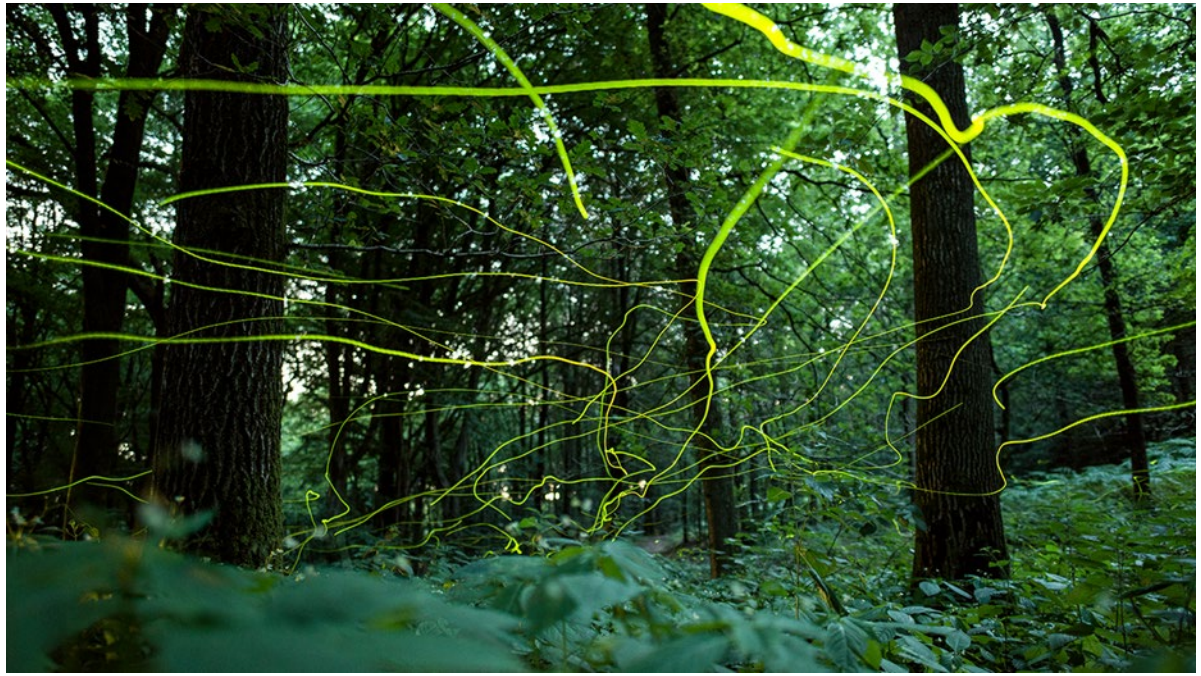
Why are Wild Back Yards needed?

Biodiversity

- 8.7 million species
- 3.5% plant species (primary producers)
- 28 animals & 2 fungi per plant species
- 75% need specific plant species

Extinction & Loss of Biodiversity

- **Insect decline**



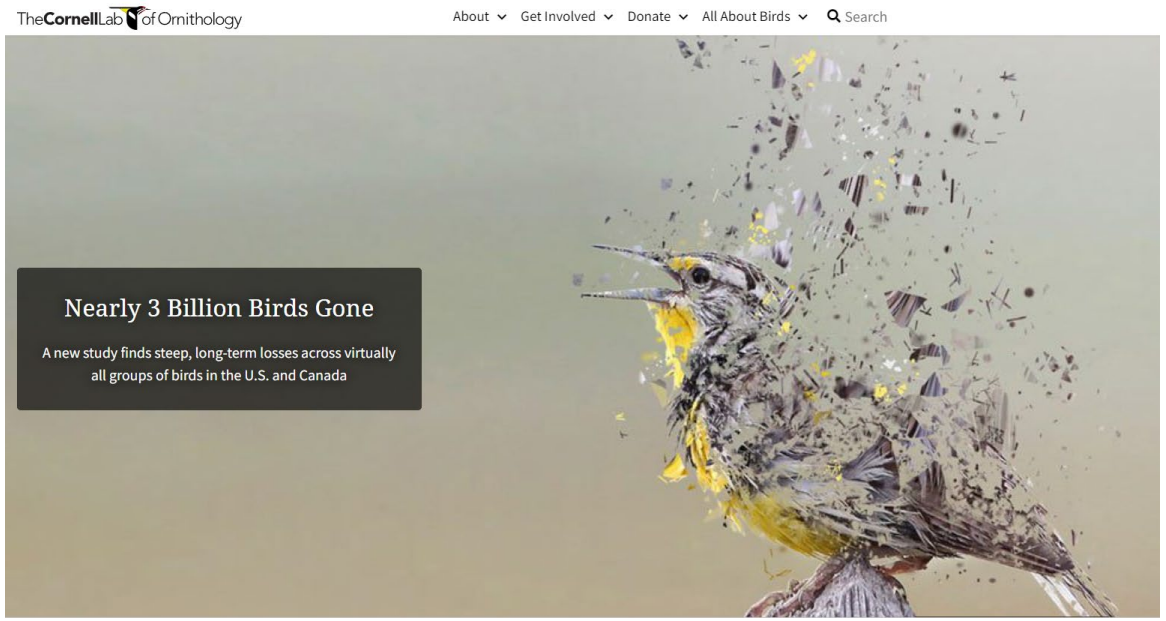
Extinction & Loss of Biodiversity

- **Insect decline**

Chris Maynard

Extinction & Loss of Biodiversity

- **Insect decline**
- **Bird decline**



Science

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HOME > SCIENCE > VOL. 366, NO. 6461 > DECLINE OF THE NORTH AMERICAN AVIFAUNA

REPORT

Decline of the North American avifauna

KENNETH V. ROSENBERG, ADRIAAN M. DOKTER, PETER J. BLANCHER, JOHN R. SAUER, ADAM C. SMITH, PAUL A. SMITH, JESSICA C. STANTON, ARVIND PANJABI, LAURA HELFT, [...], AND PETER P. MARRA +1 authors Authors Info & Affiliations

SCIENCE · 19 Sep 2019 · Vol 366, Issue 6461 · pp. 120-124 · DOI: 10.1126/science.aaw1313

10,127 361 CHECK ACCESS

Staggering decline of bird populations

Because birds are conspicuous and easy to identify and count, reliable records of their occurrence have been gathered over many decades in many parts of the world. Drawing on such data for North America, Rosenberg *et al.* report widespread population declines of birds over the past half-century, resulting in the cumulative loss of billions of breeding individuals across a wide range of species and habitats. They show that declines are not restricted to rare and threatened species—those once considered common and wide-spread are also diminished. These results have major implications for ecosystem integrity, the conservation of wildlife more broadly, and policies associated with the protection of birds and native ecosystems on which they depend.

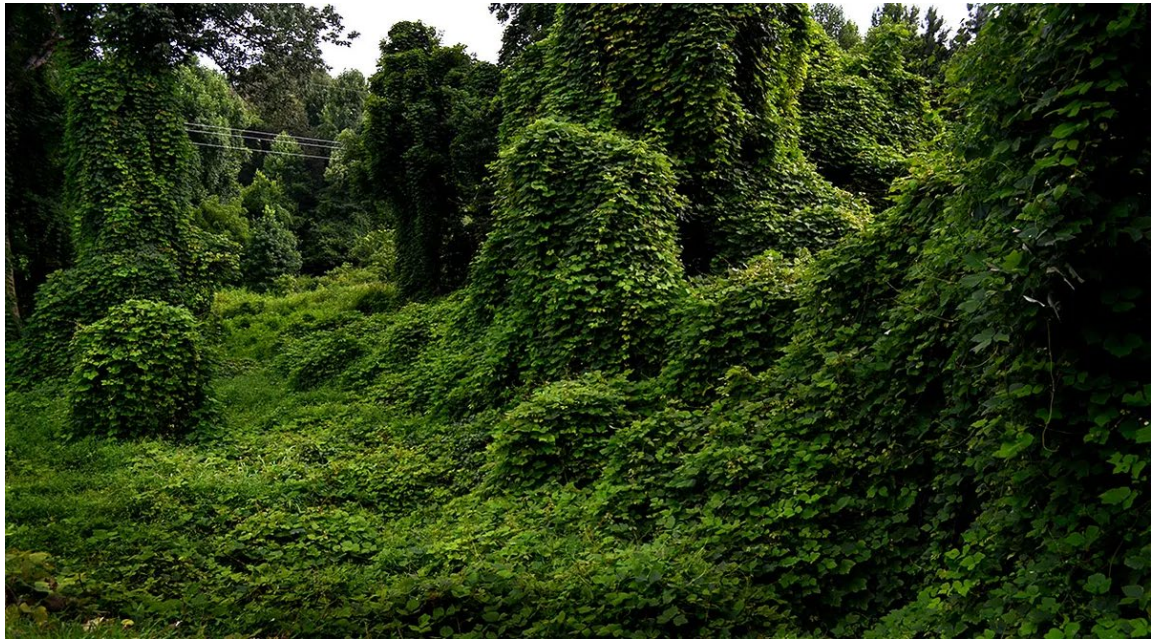
Science, this issue p. 120

Extinction & Loss of Biodiversity

- **Habitat loss & fragmentation**

Extinction & Loss of Biodiversity

- **Habitat loss & fragmentation**
- **Introduced (non-native species)**



Extinction & Loss of Biodiversity

- **Habitat loss & fragmentation**
- **Introduced (non-native species)**
- **Pesticides**

Extinction & Loss of Biodiversity

- **Habitat loss & fragmentation**
- **Introduced (non-native species)**
- **Pesticides**
- **Light Pollution**

Extinction & Loss of Biodiversity

- **Habitat loss & fragmentation**
- **Introduced (non-native species)**
- **Pesticides**
- **Light Pollution**

- **Imagination!**

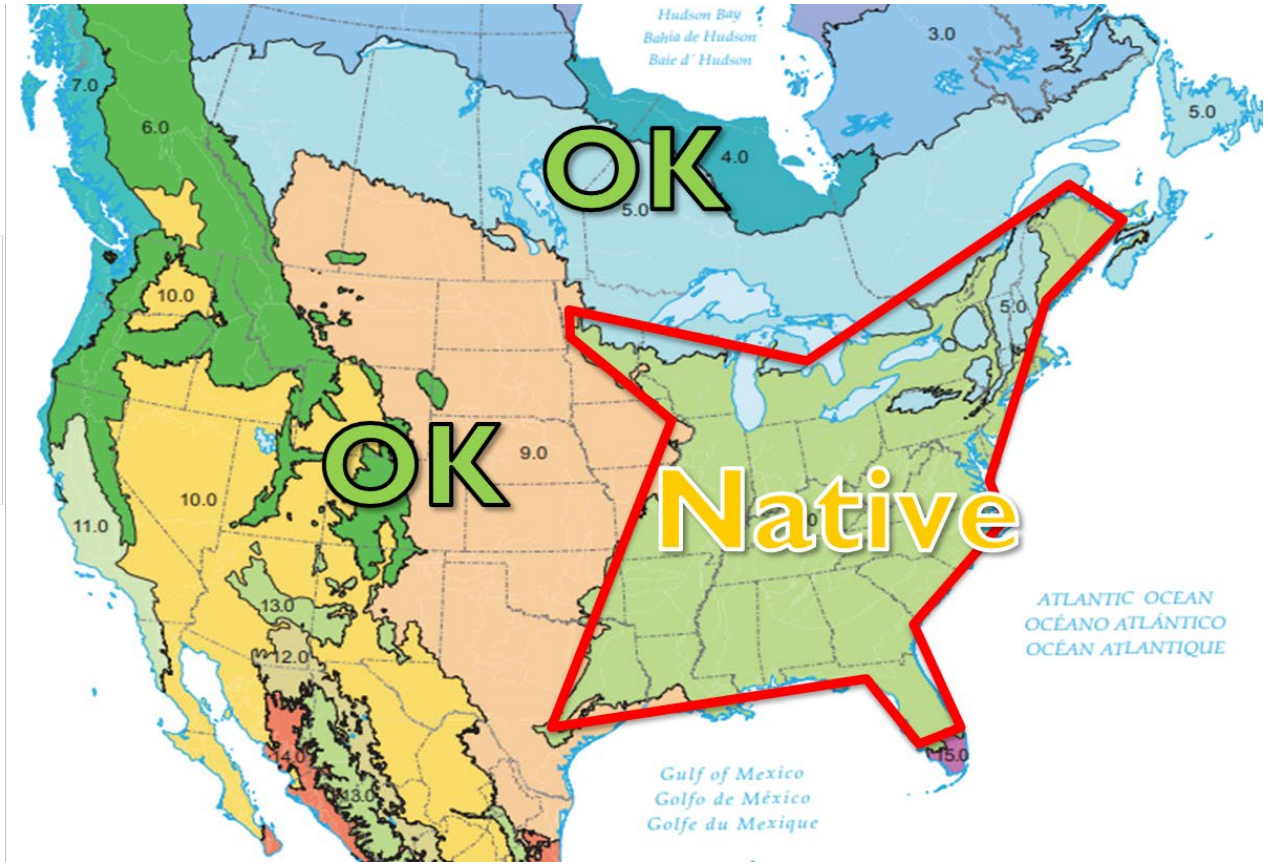
What can *you* do?

- Plant native
- Reduce non-natives
- Provide habitat
- Reduce ecological footprint
- Spread the word

Native Species

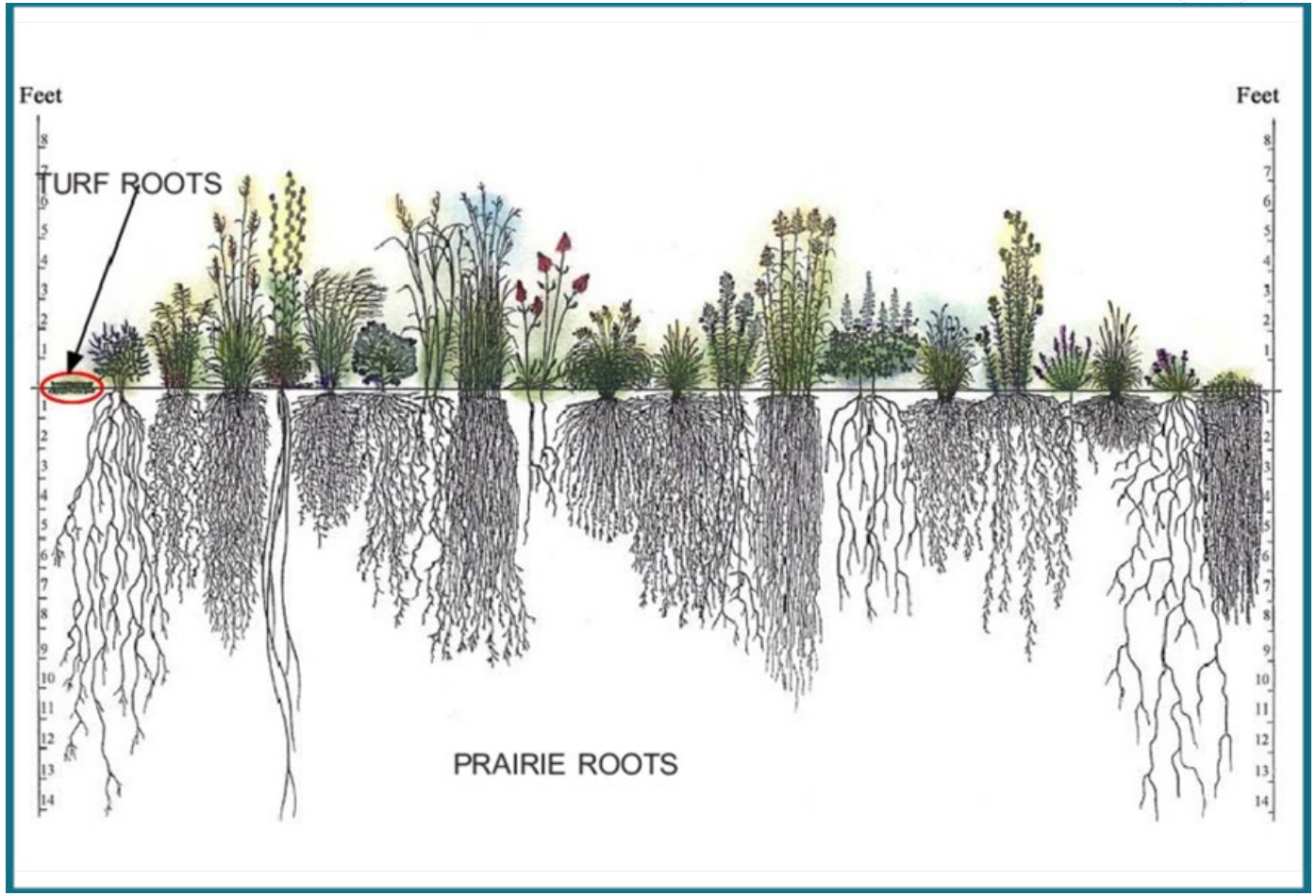
What is “Native”?

Biome Concept:
- Interesting
- Safe
- Adaptive



Native Species

- **What is “Native”?**
- **Why are they important?**



Native Species

- **What is “Native”?**
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Native Species

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Native Species

- **What is “Native”?**
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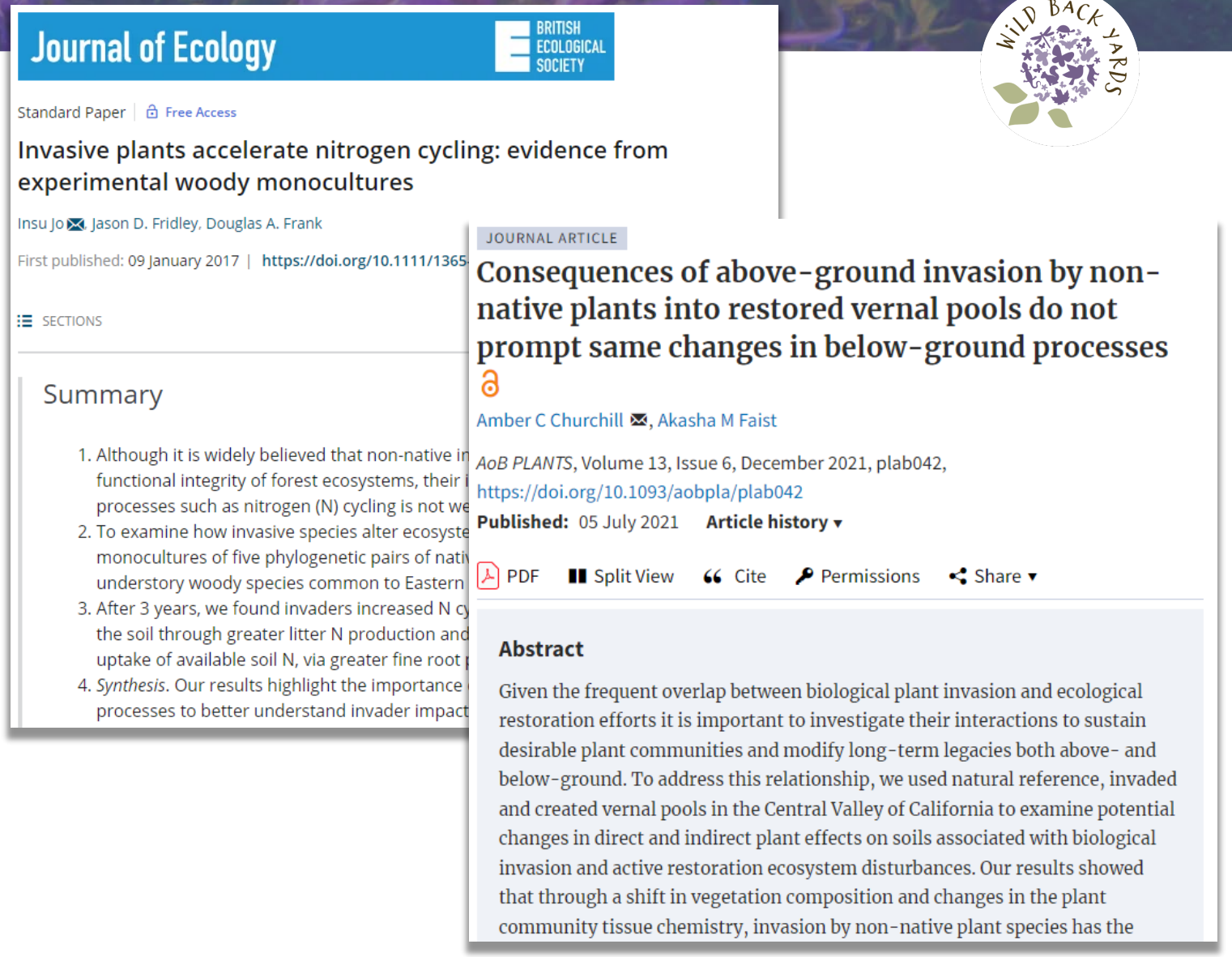

Journal of Ecology

BRITISH ECOLOGICAL SOCIETY

Standard Paper | Free Access

Invasive plants accelerate nitrogen cycling: evidence from experimental woody monocultures

Insu Jo, Jason D. Fridley, Douglas A. Frank

First published: 09 January 2017 | https://doi.org/10.1111/1365

SECTIONS

Summary

1. Although it is widely believed that non-native in
functional integrity of forest ecosystems, their i
processes such as nitrogen (N) cycling is not we
2. To examine how invasive species alter ecosyste
monocultures of five phylogenetic pairs of nati
understory woody species common to Eastern
3. After 3 years, we found invaders increased N cy
the soil through greater litter N production and
uptake of available soil N, via greater fine root
4. *Synthesis*. Our results highlight the importance
processes to better understand invader impact

JOURNAL ARTICLE

Consequences of above-ground invasion by non-native plants into restored vernal pools do not prompt same changes in below-ground processes

Amber C Churchill, Akasha M Faist

AoB PLANTS, Volume 13, Issue 6, December 2021, plab042,
https://doi.org/10.1093/aobpla/plab042

Published: 05 July 2021 **Article history**

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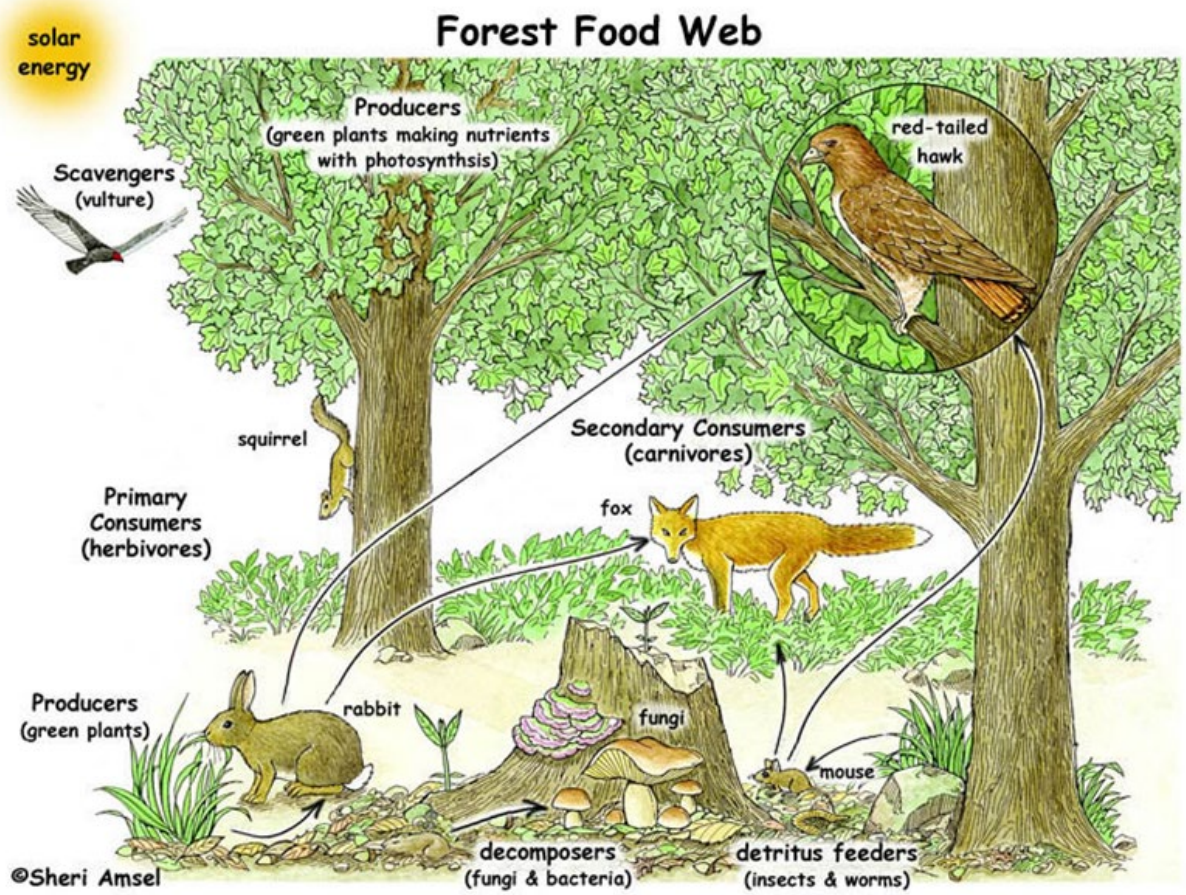
Abstract

Given the frequent overlap between biological plant invasion and ecological restoration efforts it is important to investigate their interactions to sustain desirable plant communities and modify long-term legacies both above- and below-ground. To address this relationship, we used natural reference, invaded and created vernal pools in the Central Valley of California to examine potential changes in direct and indirect plant effects on soils associated with biological invasion and active restoration ecosystem disturbances. Our results showed that through a shift in vegetation composition and changes in the plant community tissue chemistry, invasion by non-native plant species has the

Native Species

- **What is “Native”?**
- **Why are they important?**
  - Native plants support ALL biodiversity
  - Non-native plants are +/- sterile
    - Support few if any native wildlife
    - Invade & sterilize natural areas
    - Account for 34% of wild plants



Native Species

- **What is “Native”?**
- **Why are they important?**

CORNELL CHRONICLE

Topics | Campus & Community | All Stories | In the News | Expert Quotes | Cornellians

Native bees are better pollinators, more plentiful than honeybees, finds entomologist

By Krisy Gashler

October 24, 2011

The honeybee has hogged the pollination spotlight for centuries, but native bees are now getting their fair share of buzz: They are two to three times better pollinators than honeybees, are more plentiful than previously thought and not as prone to the headline-catching colony collapse disorder that has decimated honeybee populations, says Cornell entomology

Wild Back Yards

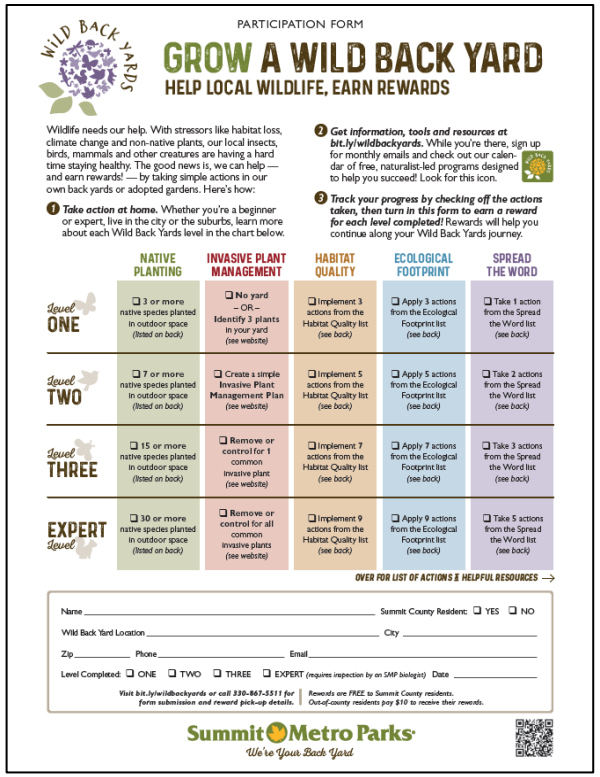
Recognition Program

Goal:
Help residents improve biodiversity at home and reward them for their efforts!

	NATIVE PLANTING	INVASIVE PLANT MANAGEMENT	HABITAT QUALITY	ECOLOGICAL FOOTPRINT	SPREAD THE WORD
Level ONE	❑ **3 or more** native species planted in outdoor space *(listed on back)*	❑ **No yard** – OR – **Identify 3 plants** in your yard *(see website)*	❑ Implement **3** actions from the Habitat Quality list *(see back)*	❑ Apply **3** actions from the Ecological Footprint list *(see back)*	❑ Take **1** action from the Spread the Word list *(see back)*
Level TWO	❑ **7 or more** native species planted in outdoor space *(listed on back)*	❑ Create a simple **Invasive Plant Management Plan** *(see website)*	❑ Implement **5** actions from the Habitat Quality list *(see back)*	❑ Apply **5** actions from the Ecological Footprint list *(see back)*	❑ Take **2** actions from the Spread the Word list *(see back)*
Level THREE	❑ **15 or more** native species planted in outdoor space *(listed on back)*	❑ **Remove or control** for **1** common invasive plant *(see website)*	❑ Implement **7** actions from the Habitat Quality list *(see back)*	❑ Apply **7** actions from the Ecological Footprint list *(see back)*	❑ Take **3** actions from the Spread the Word list *(see back)*
EXPERT Level	❑ **30 or more** native species planted in outdoor space *(listed on back)*	❑ **Remove or control** for **all** common invasive plants *(see website)*	❑ Implement **9** actions from the Habitat Quality list *(see back)*	❑ Apply **9** actions from the Ecological Footprint list *(see back)*	❑ Take **5** actions from the Spread the Word list *(see back)*

Resources

Available at Nature Centers and at bit.ly/WildBackYards



PARTICIPATION FORM

GROW A WILD BACK YARD

HELP LOCAL WILDLIFE, EARN REWARDS

Wildlife needs our help. With stressors like habitat loss, climate change and non-native plants, our local insects, birds, mammals and other creatures are having a hard time staying healthy. The good news is, we can help — and earn rewards! — by taking simple actions in our own back yards or adopted gardens. Here's how:

1. ***Take action at home.*** Whether you're a beginner or expert, live in the city or the suburbs, learn more about each Wild Back Yards level in the chart below.
2. ***Get information, tools and resources at bit.ly/wildbackyards.*** While you're there, sign up for monthly emails and check out our calendar of free, naturalist-led programs designed to help you succeed! Look for this icon.
3. ***Track your progress by checking off the actions taken, then turn in this form to earn a reward for each level completed!*** Rewards will help you continue along your Wild Back Yards journey.

	NATIVE PLANTING	INVASIVE PLANT MANAGEMENT	HABITAT QUALITY	ECOLOGICAL FOOTPRINT	SPREAD THE WORD
Level ONE	❑ 3 or more native species planted in outdoor space *(listed on back)*	❑ No yard – OR – Identify 3 plants in your yard *(see website)*	❑ Implement 3 actions from the Habitat Quality list *(see back)*	❑ Apply 3 actions from the Ecological Footprint list *(see back)*	❑ Take 1 action from the Spread the Word list *(see back)*
Level TWO	❑ 7 or more native species planted in outdoor space *(listed on back)*	❑ Create a simple Invasive Plant Management Plan *(see website)*	❑ Implement 5 actions from the Habitat Quality list *(see back)*	❑ Apply 5 actions from the Ecological Footprint list *(see back)*	❑ Take 2 actions from the Spread the Word list *(see back)*
Level THREE	❑ 15 or more native species planted in outdoor space *(listed on back)*	❑ Remove or control for 1 common invasive plant *(see website)*	❑ Implement 7 actions from the Habitat Quality list *(see back)*	❑ Apply 7 actions from the Ecological Footprint list *(see back)*	❑ Take 3 actions from the Spread the Word list *(see back)*
EXPERT Level	❑ 30 or more native species planted in outdoor space *(listed on back)*	❑ Remove or control for all common invasive plants *(see website)*	❑ Implement 9 actions from the Habitat Quality list *(see back)*	❑ Apply 9 actions from the Ecological Footprint list *(see back)*	❑ Take 5 actions from the Spread the Word list *(see back)*

OVER FOR LIST OF ACTIONS & HELPFUL RESOURCES →

Name _____ Summit County Resident: ❑ YES ❑ NO

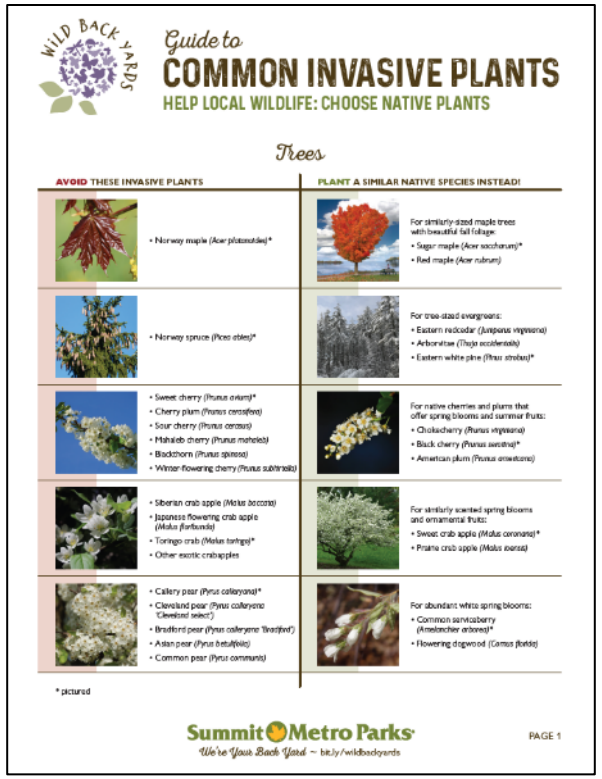
Wild Back Yard Location _____ City _____

Zip _____ Phone _____ Email _____

Level Completed: ❑ ONE ❑ TWO ❑ THREE ❑ EXPERT *(requires inspection by an SMP biologist)* Date _____

Visit bit.ly/wildbackyards or call 330-867-5511 for form submission and reward pick-up details. | *Rewards are FREE to Summit County residents. Out-of-county residents pay $10 to receive their rewards.*

Summit Metro Parks
We're Your Back Yard



Guide to

COMMON INVASIVE PLANTS

HELP LOCAL WILDLIFE: CHOOSE NATIVE PLANTS

Trees

AVOID THESE INVASIVE PLANTS	PLANT A SIMILAR NATIVE SPECIES INSTEAD!
• Norway maple (*Acer platanoides*)*	For similarly-sized maple trees with beautiful fall foliage: • Sugar maple (*Acer saccharum*)* • Red maple (*Acer rubrum*)
• Norway spruce (*Picea abies*)*	For tree-sized evergreens: • Eastern redcedar (*Juniperus virginiana*) • Arborvitae (*Thuja occidentalis*) • Eastern white pine (*Pinus strobus*)*
• Sweet cherry (*Prunus avium*)* • Cherry plum (*Prunus cerasifera*) • Sour cherry (*Prunus cerasus*) • Mahaleb cherry (*Prunus mahaleb*) • Blackthorn (*Prunus spinosa*) • Winter-flowering cherry (*Prunus subhirtella*)	For native cherries and plums that offer spring blooms and summer fruits: • Chokecherry (*Prunus virginiana*) • Black cherry (*Prunus serotina*)* • American plum (*Prunus americana*)
• Siberian crab apple (*Malus baccata*) • Japanese flowering crab apple (*Malus floribunda*) • Toringo crab (*Malus toringo*)* • Other exotic crabapples	For similarly scented spring blooms and ornamental fruits: • Sweet crab apple (*Malus coronaria*)* • Prairie crab apple (*Malus ioensis*)
• Callery pear (*Pyrus calleryana*)* • Cleveland pear (*Pyrus calleryana 'Cleveland select'*) • Bradford pear (*Pyrus calleryana 'Bradford'*) • Asian pear (*Pyrus betulifolia*) • Common pear (*Pyrus communis*)	For abundant white spring blooms: • Common serviceberry (*Amelanchier arborea*)* • Flowering dogwood (*Cornus florida*)

* pictured

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We're Your Back Yard ~ bit.ly/wildbackyards

Complete list of

INVASIVE PLANTS

TO AVOID OR REMOVE IN YOUR WILD BACK YARD

HIGH PRIORITY INVASIVES

Common Name	Scientific Name
Amur honeysuckle	*Lonicera maackii*
Autumn olive	*Elaeagnus umbellata*
Canada thistle	*Cirsium arvense*
Common reed	*Phragmites australis*
Garlic mustard	*Alliaria petiolata*
Glossy buckthorn	*Frangula alnus [Rhamnus frangula]*
Hybrid cattail	*Typha x glauca*
Japanese knotweed	*Polygonum cuspidatum [Fallopia japonica]*
Morrow's honeysuckle	*Lonicera morrowii*
Narrowleaf cattail	*Typha angustifolia*
Nepalese browntop	*Microstegium vimineum [Andropogon vimineum]*
Purple loosestrife	*Lythrum salicaria*
Reed canarygrass	*Phalaris arundinacea*
Shortspike watermilfoil	*Myriophyllum spicatum*
Amur corktree	*Phellodendron amurense*
Amur peppervine*	*Ampelopsis brevipedunculata**
Apple of Peru	*Nicandra physaloides*
Asian pear*	*Pyrus betulifolia**
Asiatic tearthumb	*Polygonum perfoliatum*
Bamboo grasses*	*Fargesia spp., Phyllostachys spp., Pleioblastus spp., Bambusa spp.**
Bigleaf periwinkle*	*Vinca major**
Blackthorn*	*Prunus spinosa**
Bohemian knotweed	*Polygonum x bohemicum [Fallopia x bohemica]*
Border privet*	*Ligustrum obtusifolium**
Bouncingbet	*Saponaria officinalis*
Bradford pear*	*Pyrus calleryana 'Bradford'**
Brazilian waterweed	*Egeria densa [Elodea densa]*
Brittle waternymph	*Najas minor*
Burningbush (Mexican fireweed)	*Bassia scoparia [Kochia scoparia]*
Burningbush (Winged euonymus)*	*Euonymus alatus**
Butterweed	*Packera glabella [Senecio glabellus]*
Callery pear*	*Pyrus calleryana**
Canadian horseweed	*Conyza canadensis [Erigeron canadensis]*
Carelessweed	*Amaranthus palmeri*

HIGH PRIORITY INVASIVES

* Plants banned in the State of Ohio

* Also listed on our *Guide to Common Invasive Plants*

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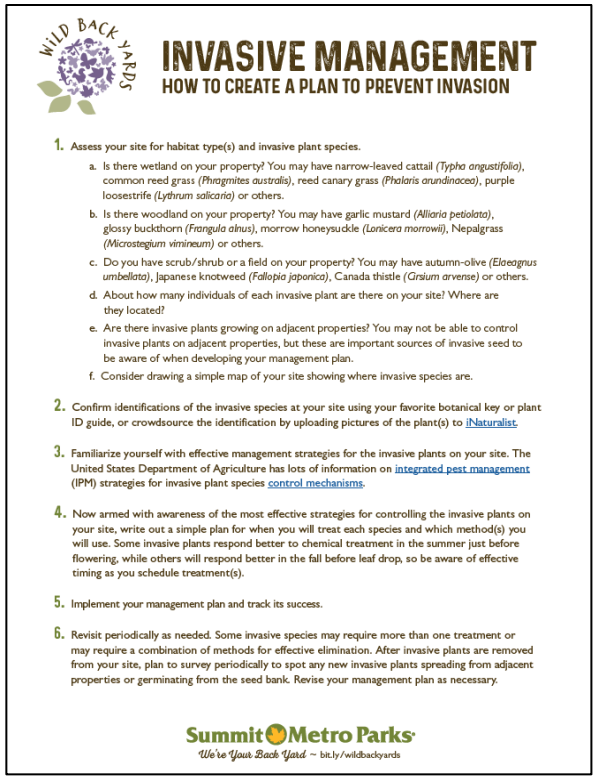

INVASIVE MANAGEMENT

HOW TO CREATE A PLAN TO PREVENT INVASION

1. Assess your site for habitat type(s) and invasive plant species.
   a. Is there wetland on your property? You may have narrow-leaved cattail (*Typha angustifolia*), common reed grass (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*) or others.
   b. Is there woodland on your property? You may have garlic mustard (*Alliaria petiolata*), glossy buckthorn (*Frangula alnus*), morrow honeysuckle (*Lonicera morrowii*), Nepalgrass (*Microstegium vimineum*) or others.
   c. Do you have scrub/shrub or a field on your property? You may have autumn-olive (*Elaeagnus umbellata*), Japanese knotweed (*Fallopia japonica*), Canada thistle (*Cirsium arvense*) or others.
   d. About how many individuals of each invasive plant are there on your site? Where are they located?
   e. Are there invasive plants growing on adjacent properties? You may not be able to control invasive plants on adjacent properties, but these are important sources of invasive seed to be aware of when developing your management plan.
   f. Consider drawing a simple map of your site showing where invasive species are.
2. Confirm identifications of the invasive species at your site using your favorite botanical key or plant ID guide, or crowdsource the identification by uploading pictures of the plant(s) to iNaturalist.
3. Familiarize yourself with effective management strategies for the invasive plants on your site. The United States Department of Agriculture has lots of information on integrated pest management (IPM) strategies for invasive plant species control mechanisms.
4. Now armed with awareness of the most effective strategies for controlling the invasive plants on your site, write out a simple plan for when you will treat each species and which method(s) you will use. Some invasive plants respond better to chemical treatment in the summer just before flowering, while others will respond better in the fall before leaf drop, so be aware of effective timing as you schedule treatment(s).
5. Implement your management plan and track its success.
6. Revisit periodically as needed. Some invasive species may require more than one treatment or may require a combination of methods for effective elimination. After invasive plants are removed from your site, plan to survey periodically to spot any new invasive plants spreading from adjacent properties or germinating from the seed bank. Revise your management plan as necessary.

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Wild Back Yards

Wild Back Yards


Questions?

Summit Metro Parks™

Importance of understory plantings

Janean Kazimir
Interpretive Naturalist

March 9, 2023

The benefit of trees

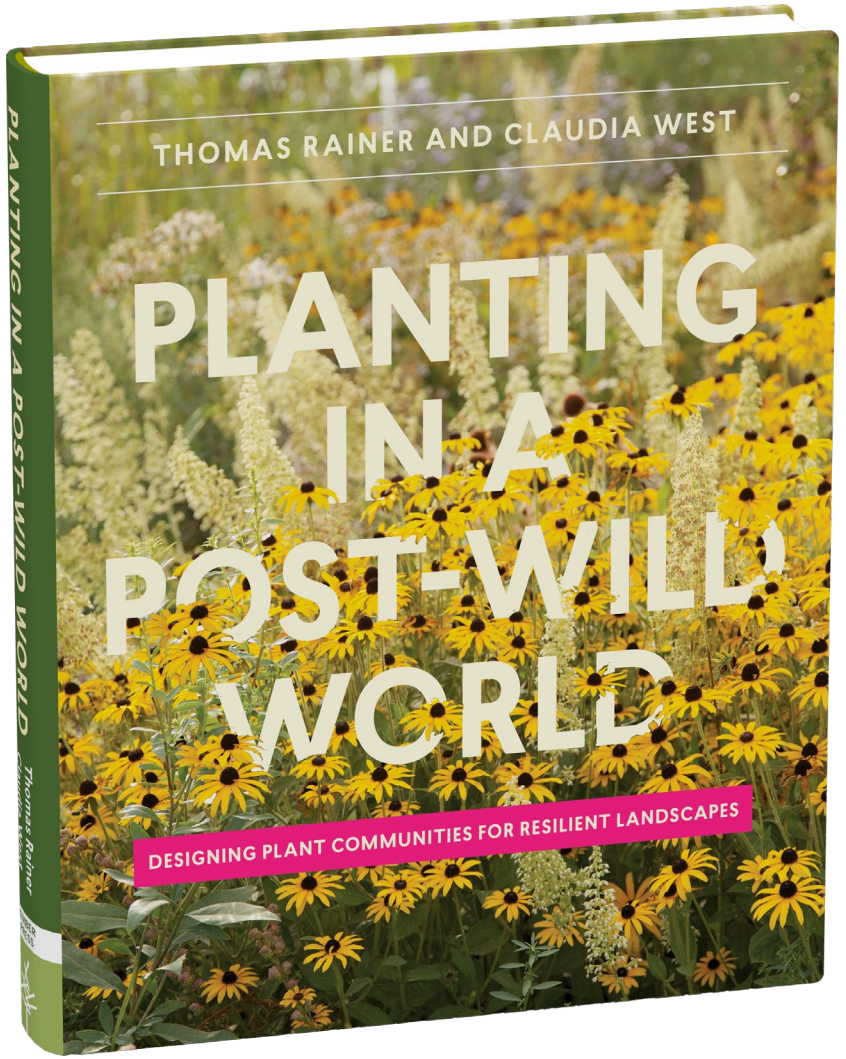
- Shade/cooling
- Sequester carbon
- Prevent erosion
- Beauty
- Property value
- Habitat
- Food
- Biodiversity

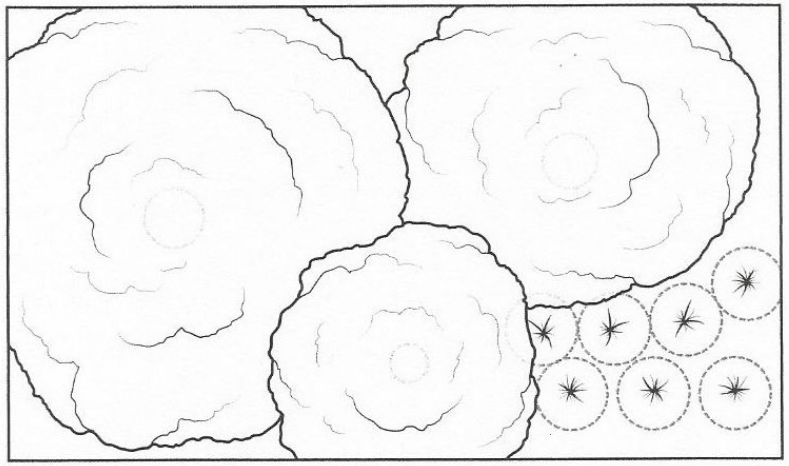
What is the understory?

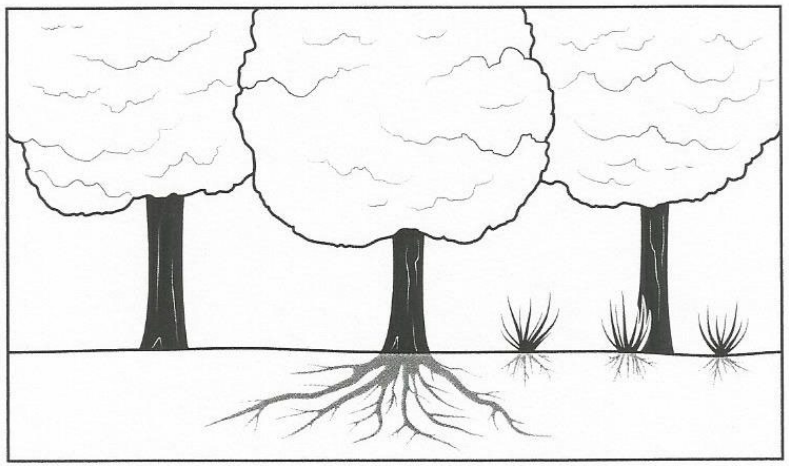
Importance of understory plantings

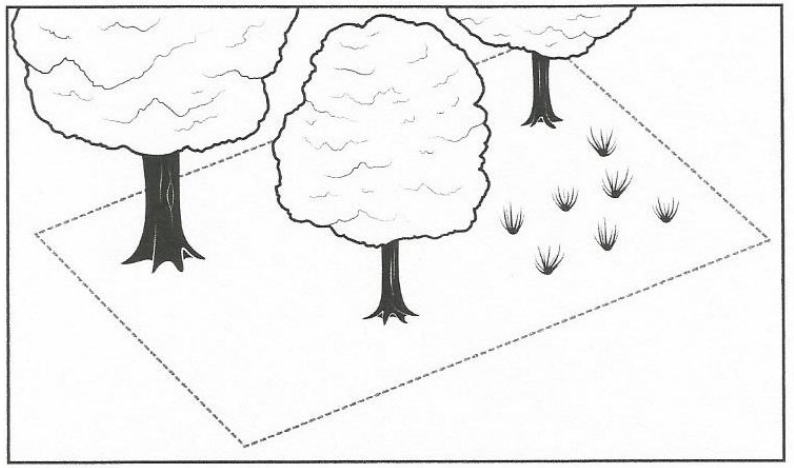
- Ecosystem stability
- Sequester carbon
- Prevent erosion
- Protect soil
- Habitat
- Food
- Function
- Biodiversity

Planting plans often overlook the understory









Why does understory matter? *Just ask the Luna moth...*

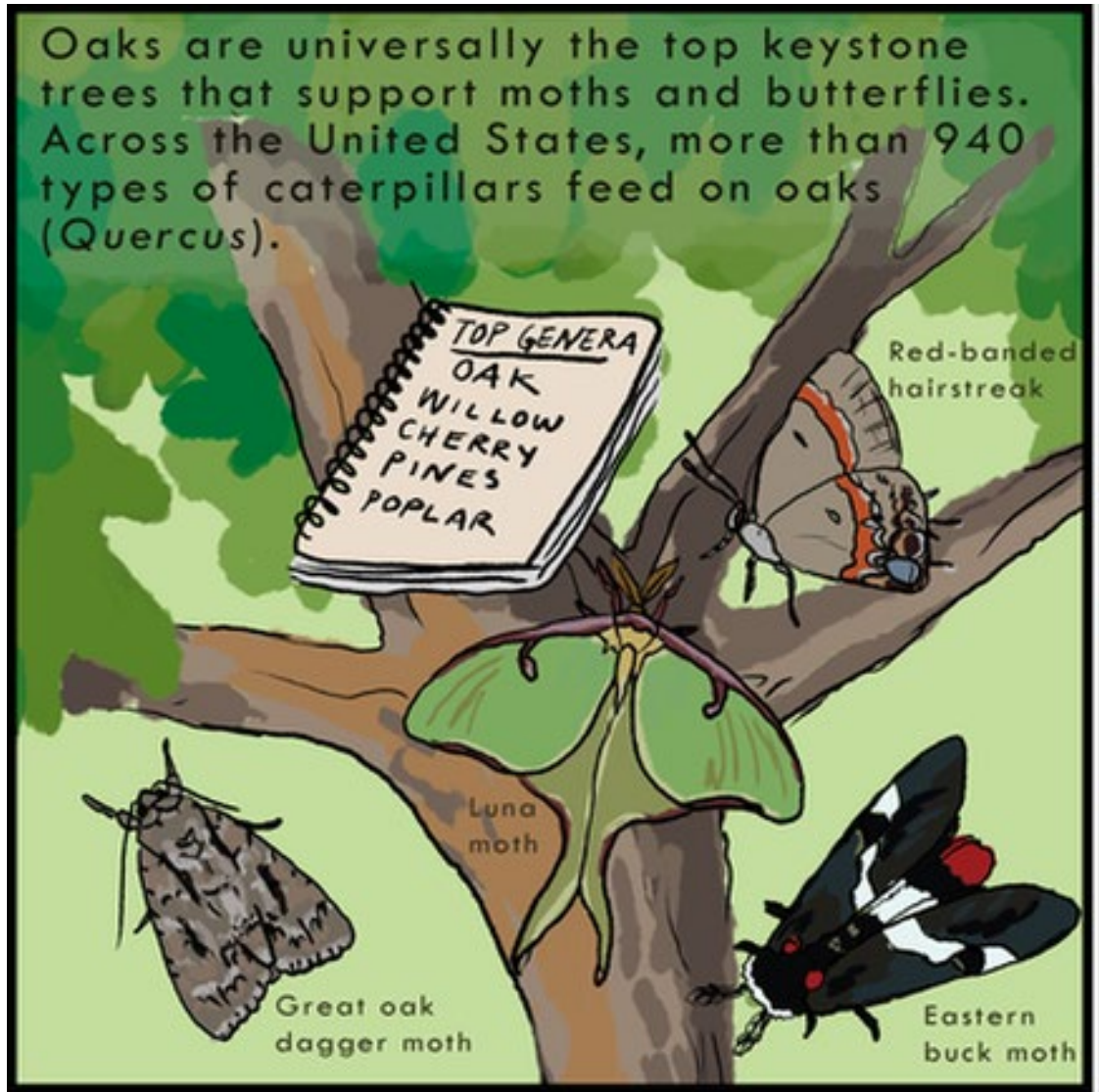
Other creatures that rely on groundcover

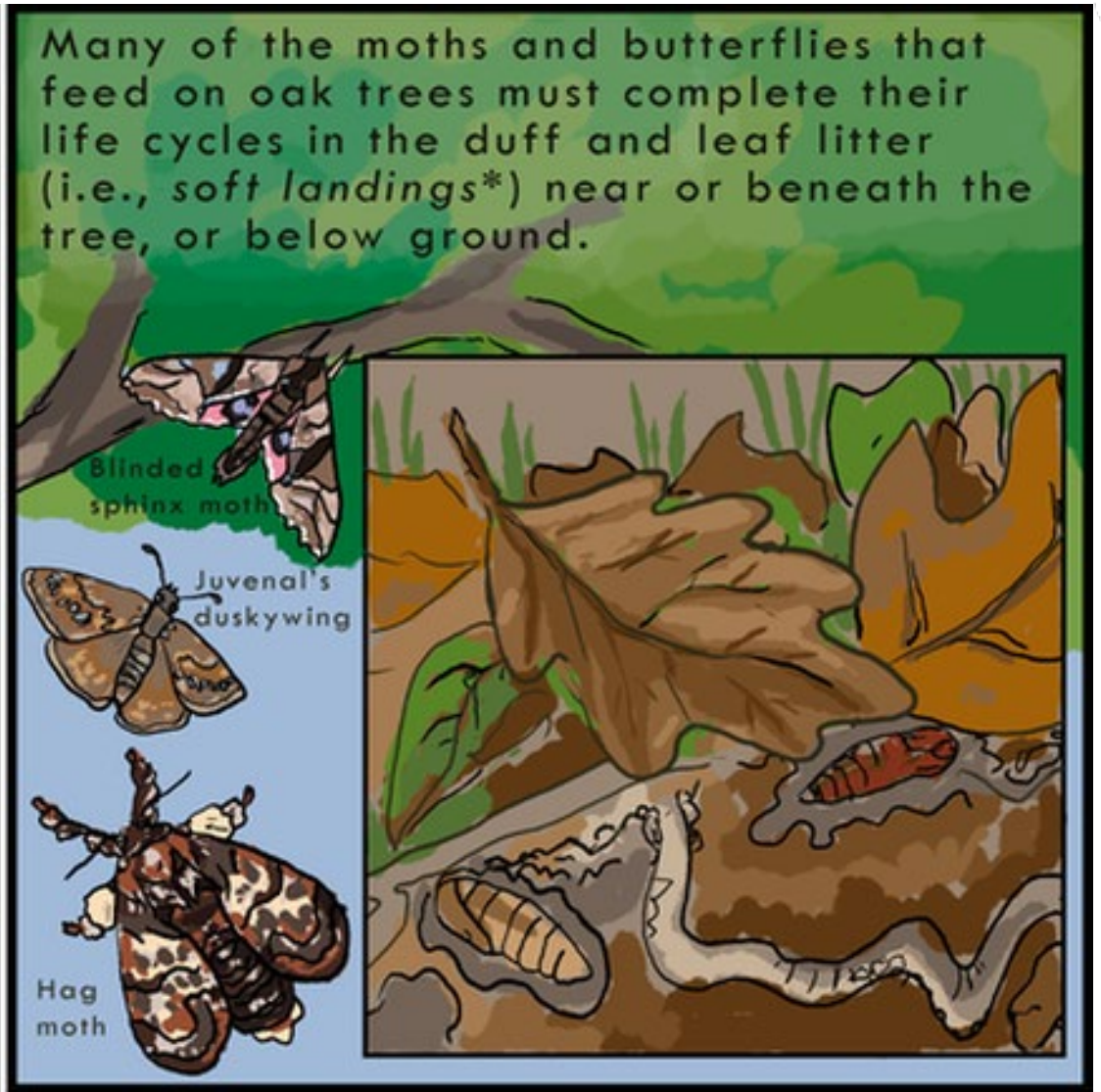




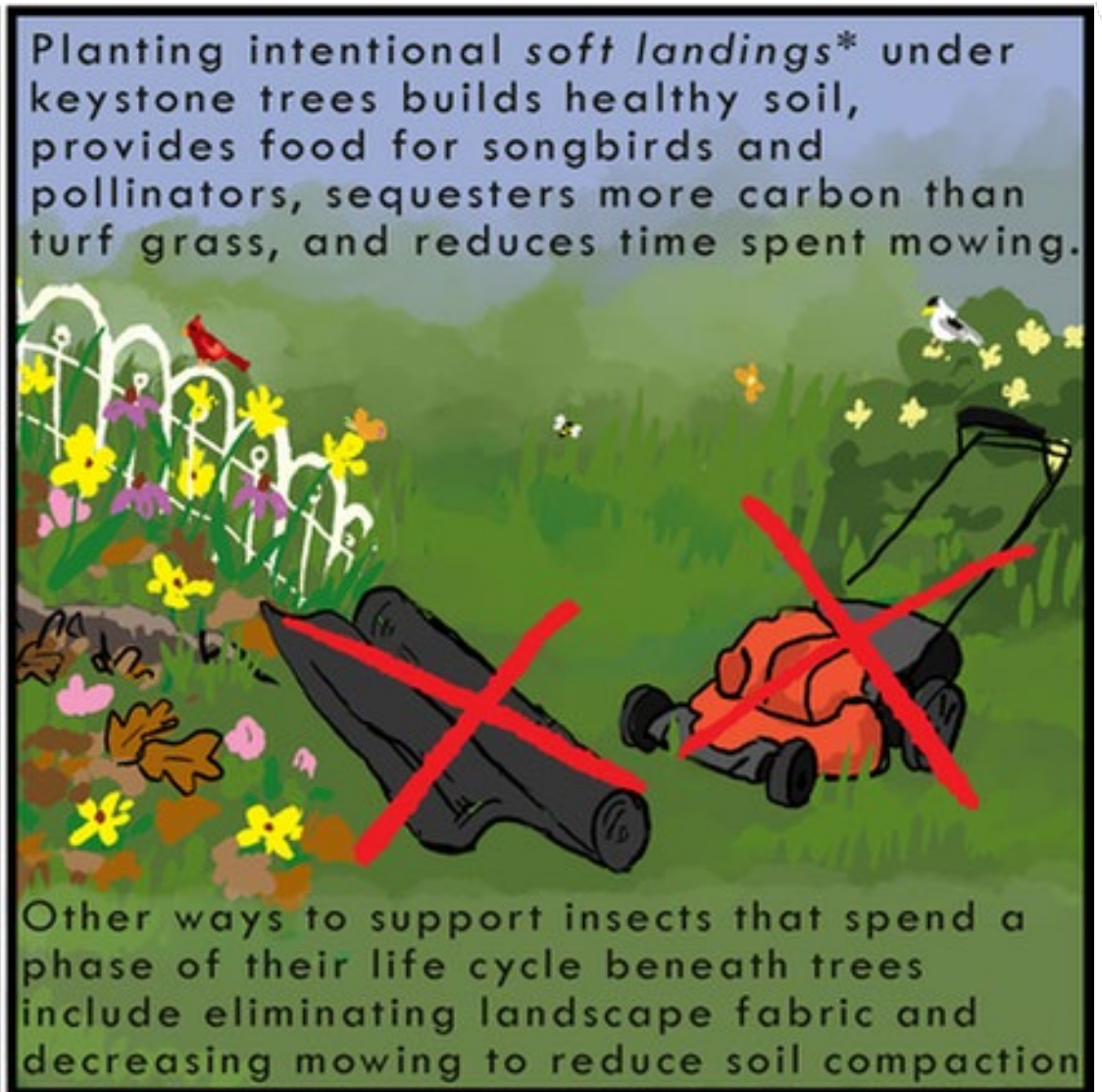



“Soft landings” – *Heather Holm*





“Soft landings” – *Heather Holm*



Examples of understory plantings

Black-eyed Susan, Joe-pye weed...

Ostrich fern

Examples of understory plantings

Wild ginger, trillium, Jacob's ladder, Virginia bluebells...

Spicebush

Examples of understory plantings

American witch-hazel

Bottlebrush buckeye

Learn more:

WILD BACK YARDS

SummitMetroParks.org

bit.ly/WildBackYards