Addressing Invasive Species with Citizen Science

Anne Pearce

anne.pearce@wisc.edu

Wisconsin First Detector Network

UW-Madison

Extension

UNIVERSITY OF WISCONSIN–MADISON

Wisconsin First Detector Network (WIFDN)

Statewide community science network that empowers people to take action against invasive species through education and volunteer opportunities

fyi.extension.wisc.edu/wifdn

What is a Weed?

- A plant out of place
- Native or non-native
- Non-native can be casual or naturalized

What About Invasive Plants?

- Naturalized non-native plants
- Growing or spreading rapidly
- Cause or have potential to cause harm
  - Economic
  - Environmental
  - Health

Invasive Dame's rocket

How can I tell if a plant *might* be invasive?

"Great Groundcover" → spreads aggressively

Bishop's goutweed

“Food for Birds” → lots of seeds

Bull thistle

myminnesotawoods.umn.edu

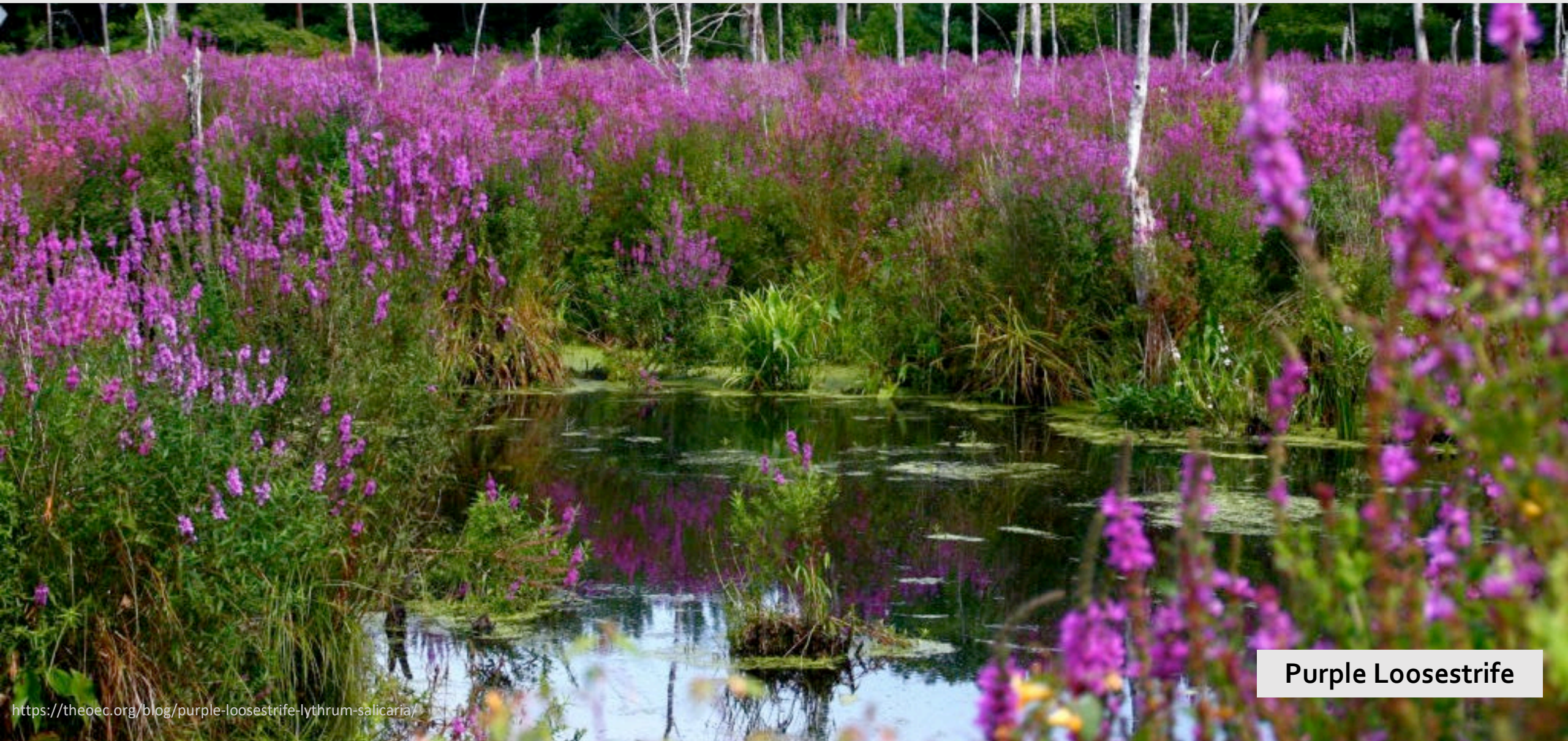
“Living Fence” → thicket-forming

Peter Dziuk- MN Wildflowers

Honeysuckle

“Stays Green Longer” → shifted phenology

“Sea of Blooms” → monoculture



Purple Loosestrife

https://theoec.org/blog/purple-loosestrife-lythrum-salicaria/

“Winter Interest” → many fleshy fruits

Japanese barberry

Peter Dziuk- MN Wildflowers

What are *some* impacts of invasive plants?

Thicket-forming shrubs reduce tree regeneration and can support higher tick populations

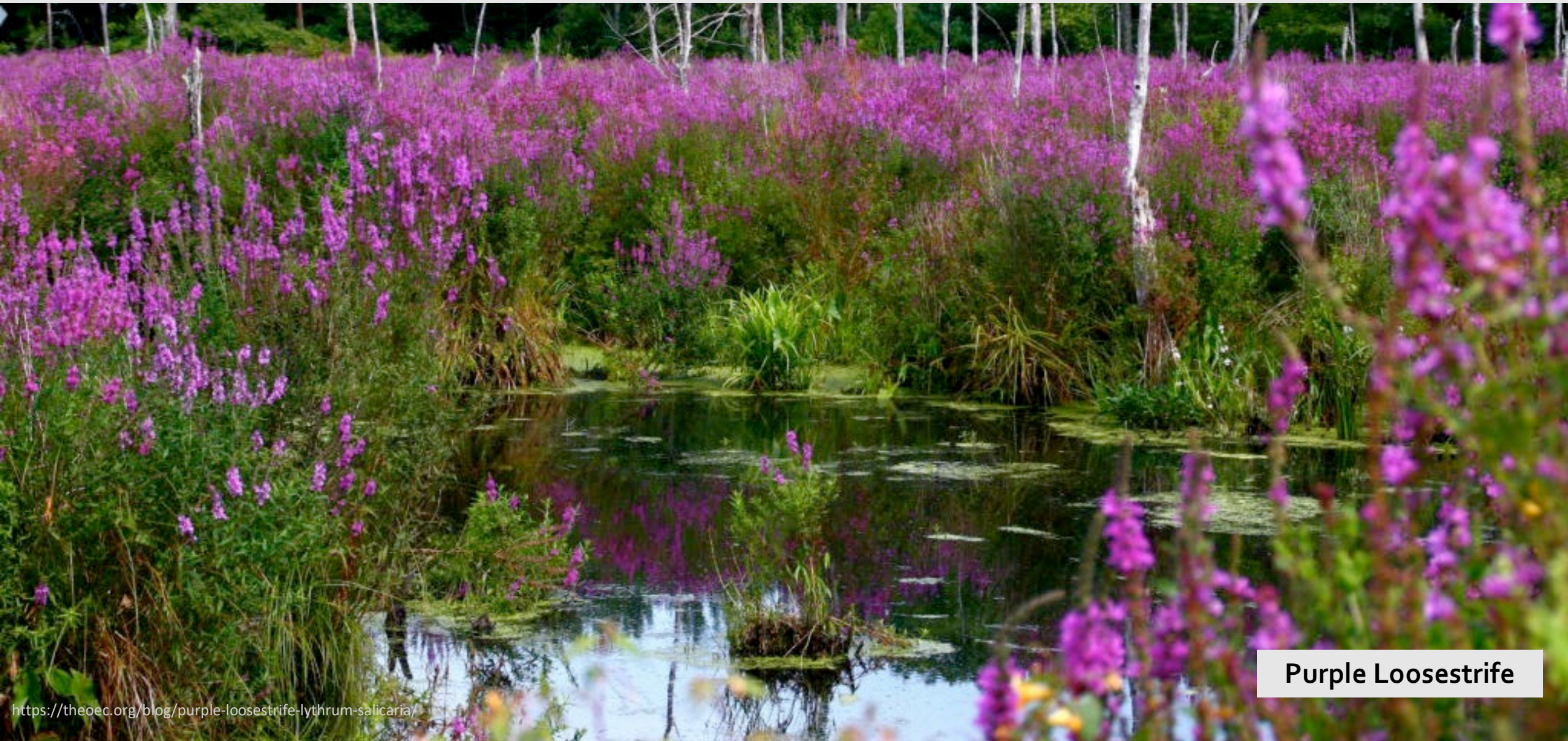
Peter Dziuk- MN Wildflowers

Honeysuckle

Longer growth period allows plant to shade out other species

Common buckthorn

Monoculture → poor pollinator habitat



Purple Loosestrife

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Many fleshy-fruited plants are easily spread by birds who eat the fruits. Most non-native fruits do not provide adequate nutrition to birds.

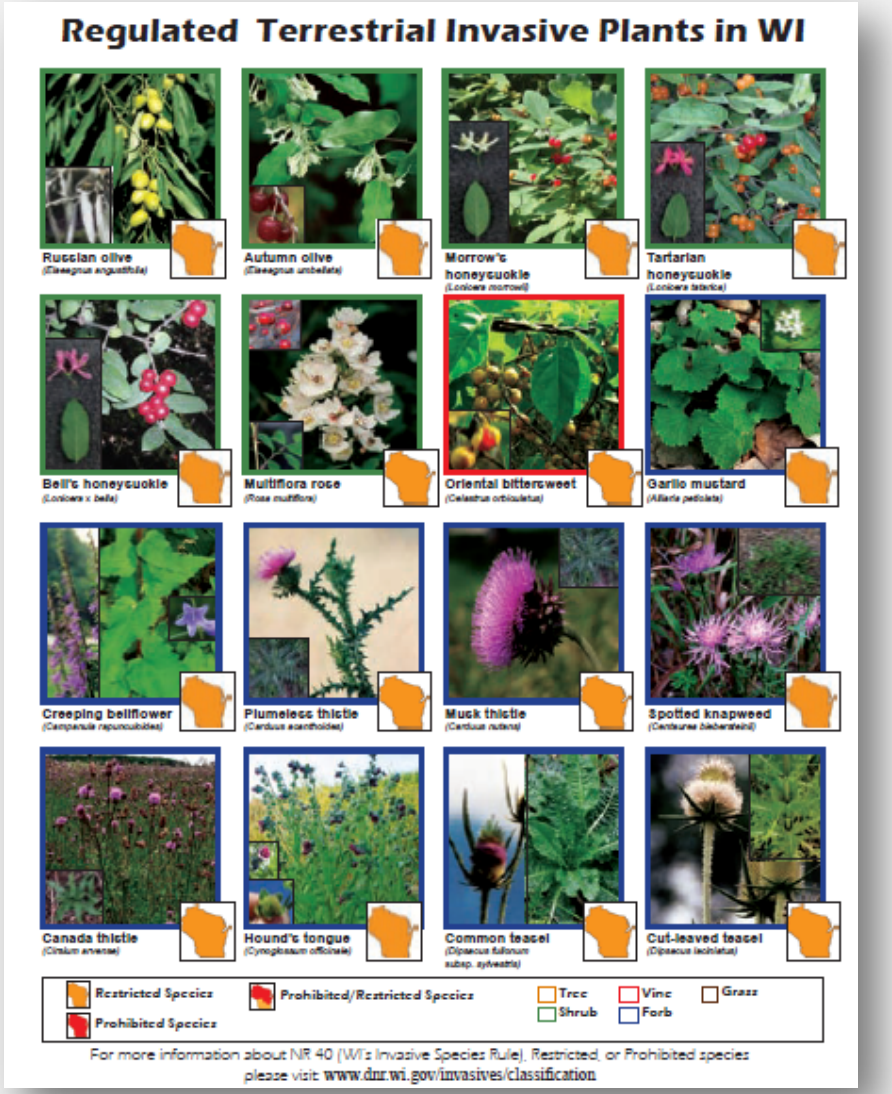
Japanese barberry

Peter Dziuk- MN Wildflowers

Which species are invasive?

Wisconsin's Invasive Species Rule- NR40

- Education about invasive species
- Goal to prevent introduction and spread
- Over 200 species listed as ether "Prohibited" or "Restricted"



NR40 Classification

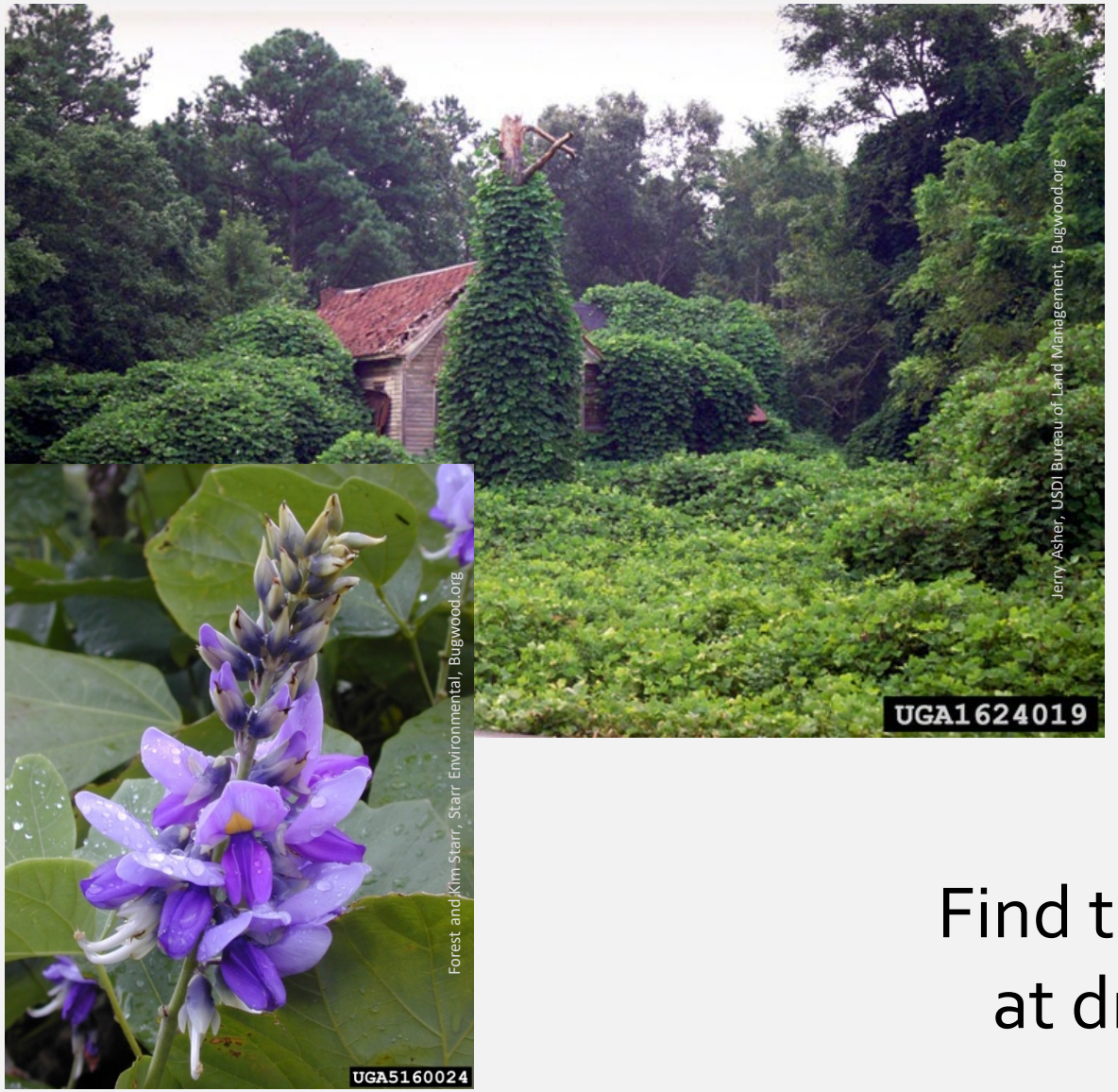
PROHIBITED

- Not yet established or only in pioneer stands
- No person may transport (import/ move), **possess**, transfer (buy/ sell) or introduce a prohibited species without a permit

RESTRICTED

- Already established in state
- No person may transport (import/ move), transfer (buy/ sell) or introduce a restricted species without a permit

PROHIBITED



RESTRICTED

Find the list of regulated species
at dnr.wi.gov, search “NR40”

What can I do in my yard?

1. Choose native plants

Native plants in your yard support many times more insects than non-native plants

Oaks = >500 species

Gingko = 0 species

Caterpillars = bird food

Read more in Bringing Nature Home by Doug Tallamy

1. Choose native plants

- Buy from native plant nurseries
- Know where your plants come from
- Use tools to help select non-invasive plants
  - NWF Native Plant Finder

Doug Tallamy

Native serviceberries support over 100 species of insects

2. Don’t share aggressive plants

- Dispose of plants properly
- Consider replacing with non-invasives

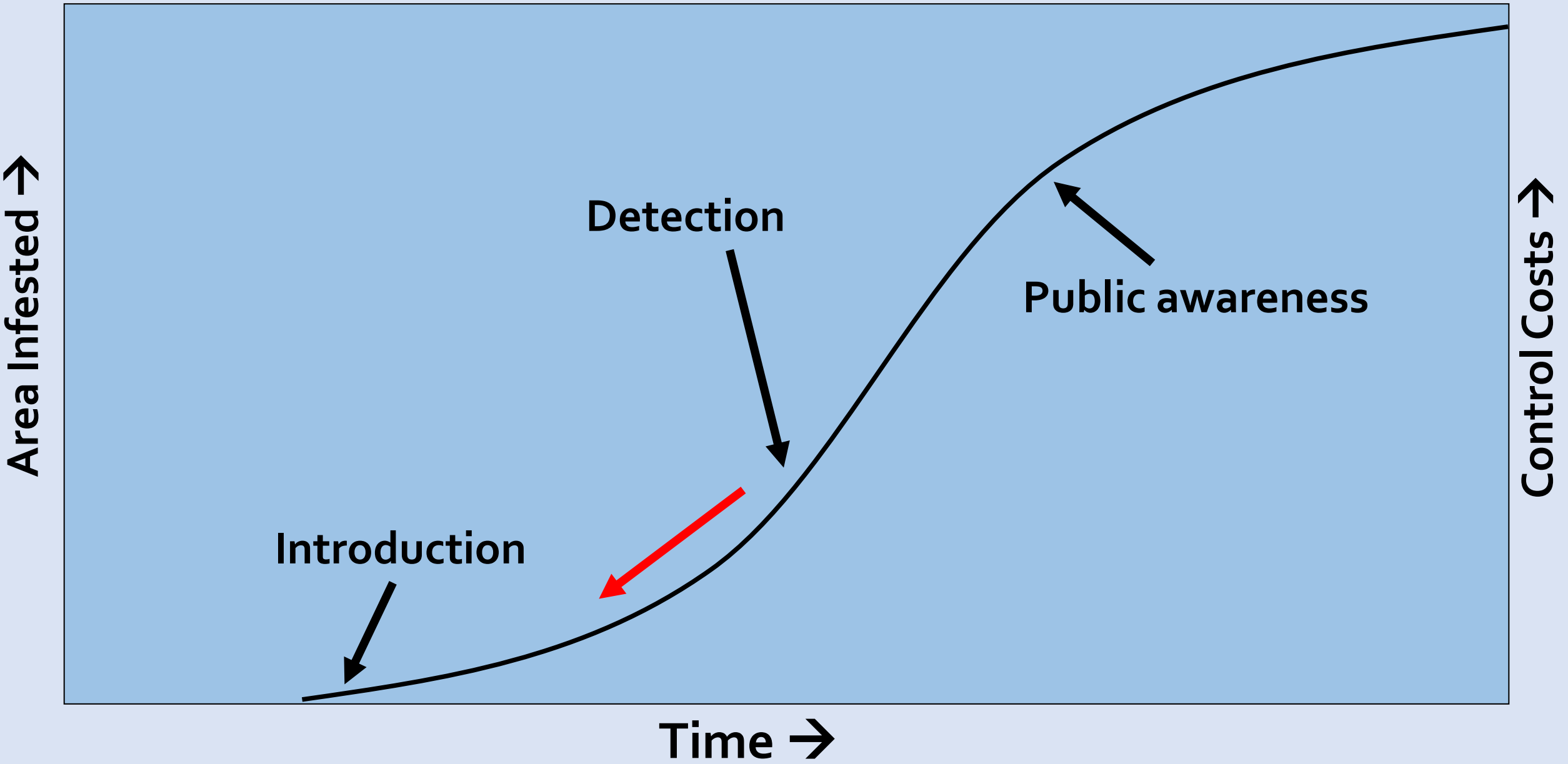
3. Control invasive plants on your property

- Helps prevent spread to natural areas or neighbors
- UW Extension fact sheets provide information on non-chemical and chemical control

What can I do beyond my yard?

Community science opportunities + more!

The Invasion Curve



1. Report invasive plants

- With GLEDN app or email WIFDNcoordinator@gmail.com
  - Species name
  - Date you saw it
  - Location (GPS)
  - Photos to verify identification

2. Monitor Baseball fields for Emerald Ash Borer

- Wasp Watchers project
- Visit site June – September to count nests + collect beetles
- Great project for kids + families!

Upcoming webinar:
April 28th, 6-7 pm
Visit WIFDN website
for more information!

3. Look for Invasive Spotted Lanternfly or Tree-of-Heaven

- Spotted lanternfly not yet found in WI
- Mapping locations of tree-of-heaven will help us monitor for spotted lanternfly

Upcoming webinar:
April 14th, 6-7 pm
Visit WIFDN website
for more information!

4. Volunteer to remove invasive plants

- Local/county/state parks
- Recreational trails
- Lakes and rivers

5. Clean Recreational Equipment/Gear

6. Learn more and teach others

- Visit **fyi.extension.wisc.edu/wifdn** for videos and factsheets

Resources

Identification + Management Information

fyi.extension.wisc.edu/wifdn

Common Name	Scientific Name	Video	Fact Sheet
Biennial thistles		–	fact shee
Bird's-foot trefoil	*Lotus corniculatus*	–	fact shee
Black locust	*Robinia pseudoacacia*	–	fact shee
Black swallow-wort	*Vincetoxicum nigrum*	video	fact shee
Buckthorns		–	fact shee
Bush honeysuckles	*Lonicera sp.*	video	fact shee
Canada thistle	*Cirsium arvense*	video	fact shee
Common tansy	*Tanacetum vulgare*	video	fact shee
Creeping bellflower	*Campanula rapunculoides*	video	fact shee
Crown vetch	*Securigera varia*	video	fact shee
Dame's rocket	*Hesperis matronalis*	video	fact shee
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MANAGEMENT OF

INVASIVE PLANTS IN WISCONSIN

A3924-34

Japanese barberry
(Berberis thunbergii)

Brendon Panke and Mark Renz

Invasive plants can thrive and aggressively spread beyond their natural range, disrupting ecosystems. The *Management of Invasive Plants in Wisconsin* series explains how to identify invasive plants and provides common management options. Management methods recommend specific timings for treatment, as well as expected effectiveness.

Japanese barberry is a round, dense, spiny shrub, typically 2–3' tall, though it may grow up to 6' tall and 6' wide. The branches are reddish brown and deeply grooved with a single, sharp spine at each node. The wood beneath the bark is yellow. It spreads vegetatively through branches that root freely when they touch the ground.

Legal classification in Wisconsin: All wild plants are restricted. Select varieties/hybrids are also restricted. Consult Wisconsin's invasive species rule (NR 40) for details.

Leaves: Alternate, 0.5–1.5" long, entire, and shaped liked a spatula with a narrow base and wide end (spatulate). Color varies depending on the cultivar, but includes green, bluish-green, or dark reddish-purple. Leaves are arranged in clusters above a spine.

Flowers: Mid-spring. Yellow, umbrella-shaped, 0.25" across with 6 petals. Flowers are found along the stem individually or in clusters of 2–4.

Fruits and seeds: Bright-red, oblong berries, 0.3" long. Fruit are found on narrow stalks along the stem individually or in clusters of 2–4. Fruit mature in mid-summer and can persist on shrub into winter.

Roots: Shallow root system. When scratched, the inner layer of the root is yellow.

Similar species: European barberry (*Berberis vulgaris*) is another introduced species that is sometimes invasive. European barberry spines occur in sets of 3, while Japanese barberry spines occur singly.

Ecological threat:

- Invades open and closed canopy forests, woodlands, oak savannas, wetlands, pasture, and meadows. Grows more vigorously on well-drained soils.
- Seeds are readily dispersed by birds.
- Sites infested with Japanese barberry have significantly more deer ticks (*Ixodes scapularis*) than sites where Japanese barberry control efforts have taken place or where barberry is not present.

Non-chemical control

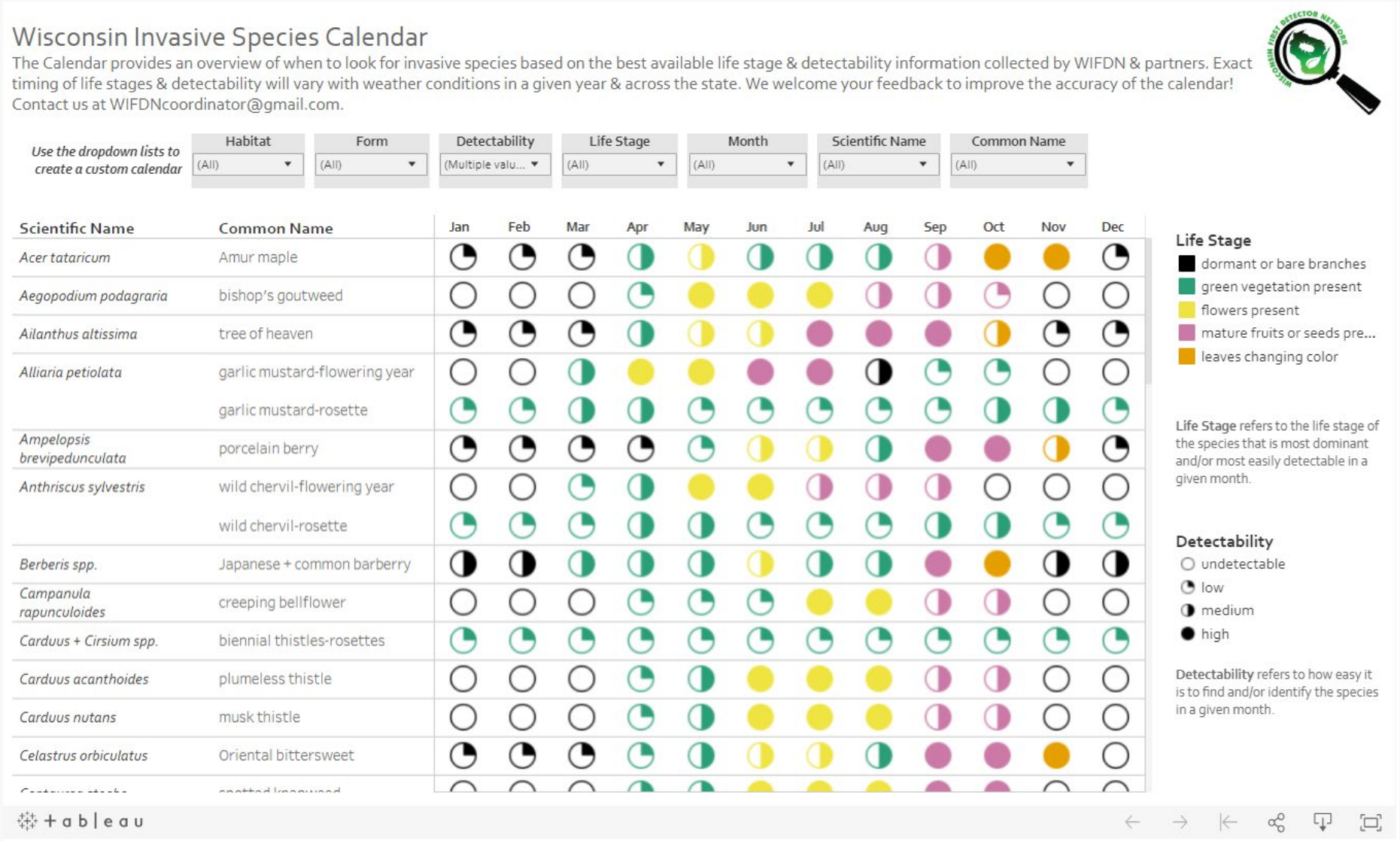
Removal

Effectiveness in season: 90–100%
Season after treatment: 70–90%

Pulling or digging up small- to medium-sized barberry any time of the year is an effective individual plant control strategy if soil conditions are amenable. Remove the root crown, as Japanese barberry resprouts from that area. Small bushes can be pulled by hand and larger bushes can be pulled using a leverage tool. Digging up soil surrounding larger bushes can facilitate plant removal. If fruiting, avoid movement unless material can be transported without spreading fruit to other locations.

UW Extension
University of Wisconsin–Extension
NPM

When to Look→ Invasive Species Calendar




(All)
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on Name
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
aple
goutweed
eaven
ustard-flowering year
ustard-rosette
n berry
rvil-flowering year
rvil-rosette
e + common barberry
bellflower
thistles-rosettes
ss thistle
istle
bittersweet
Life Stage
dormant or bare branches
green vegetation present
flowers present
mature fruits or seeds pre...
leaves changing color
Life Stage refers to the life stage of the species that is most dominant and/or most easily detectable in a given month.
Detectability
undetectable
low
medium
high
Detectability refers to how easy it is to find and/or identify the species in a given month.

Wisconsin Invasive Species Calendar

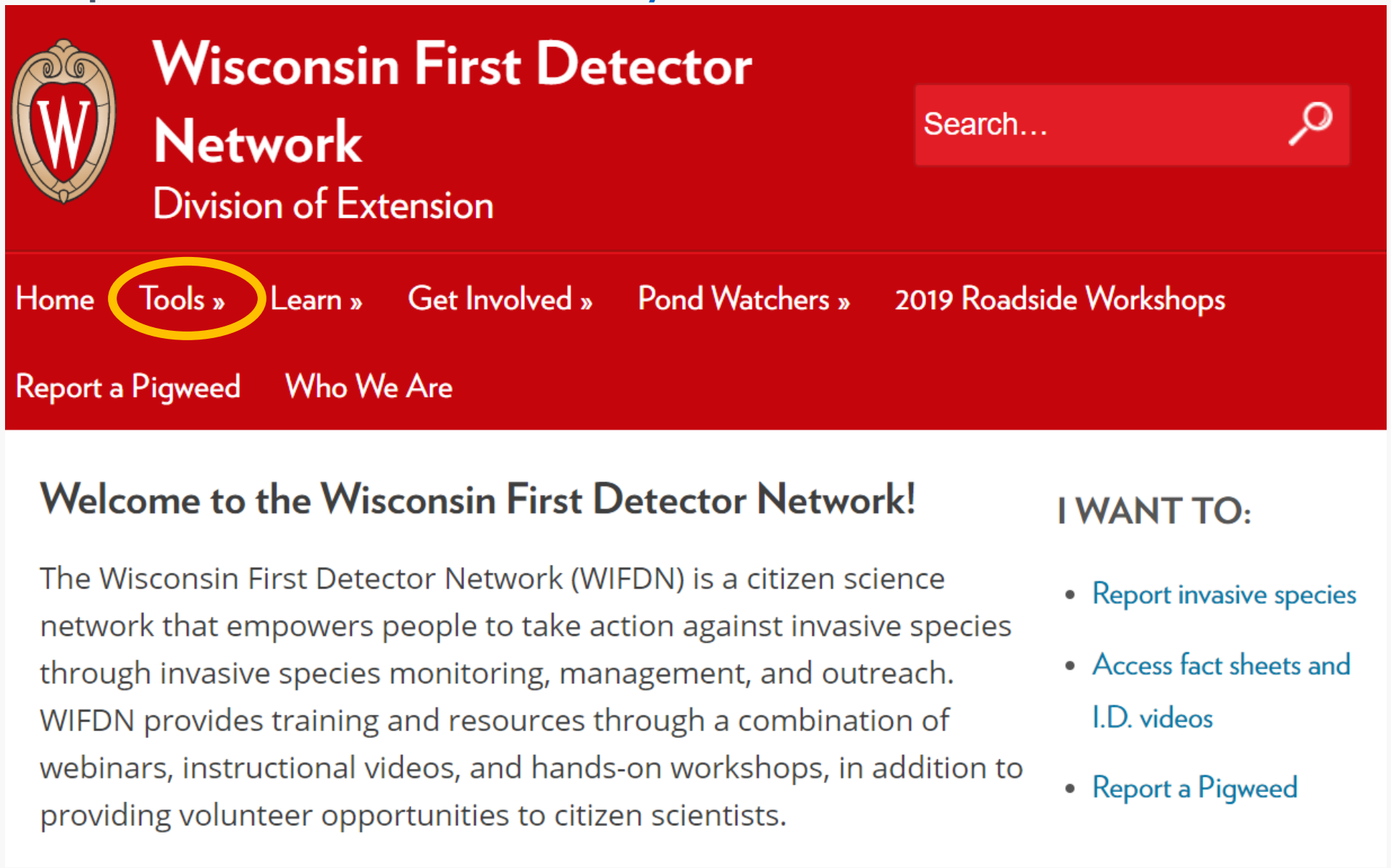
The Calendar provides an overview of when to look for invasive species based on the best available life stage & detectability information collected by WIFDN & partne
timing of life stages & detectability will vary with weather conditions in a given year & across the state. We welcome your feedback to improve the accuracy of the cale
Contact us at WIFDNcoordinator@gmail.com.

Use the dropdown lists to create a custom calendar

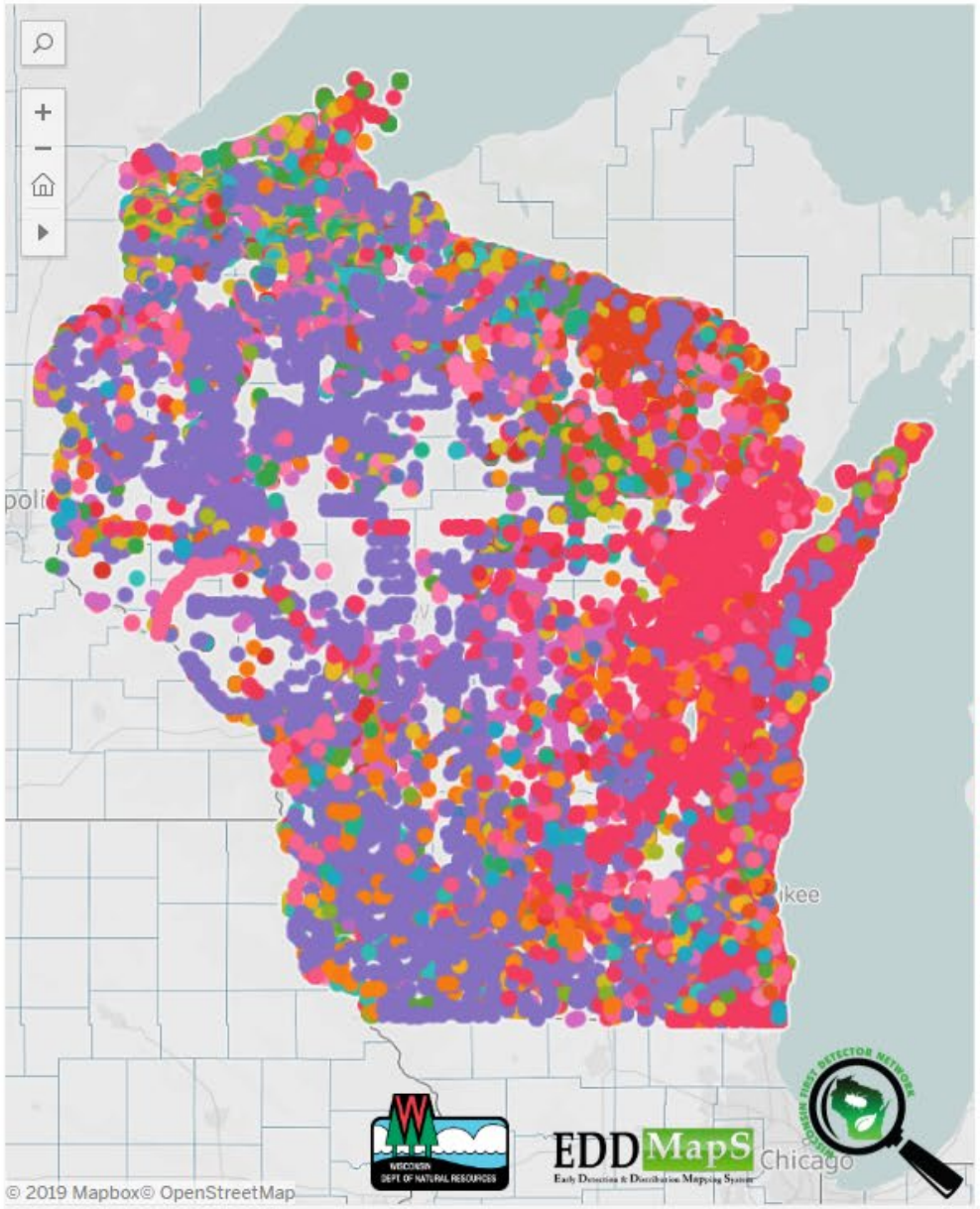
Habitat	Form	Detectability	Life Stage	Month	Scientific Name	Common Name
(All)	(All)	(Multiple valu...	(All)	(All)	(All)	(All)

Scientific Name	Common Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Acer tataricum	Amur maple												
Aegopodium podagraria	bishop's goutweed												
Ailanthus altissima	tree of heaven												
Alliaria petiolata	garlic mustard-flowering year												
	garlic mustard-rosette												
Ampelopsis brevipedunculata	porcelain berry												
Anthriscus sylvestris	wild chervil-flowering year												
	wild chervil-rosette												
Berberis spp.	Japanese + common barberry												
Campanula rapunculoides	creeping bellflower												

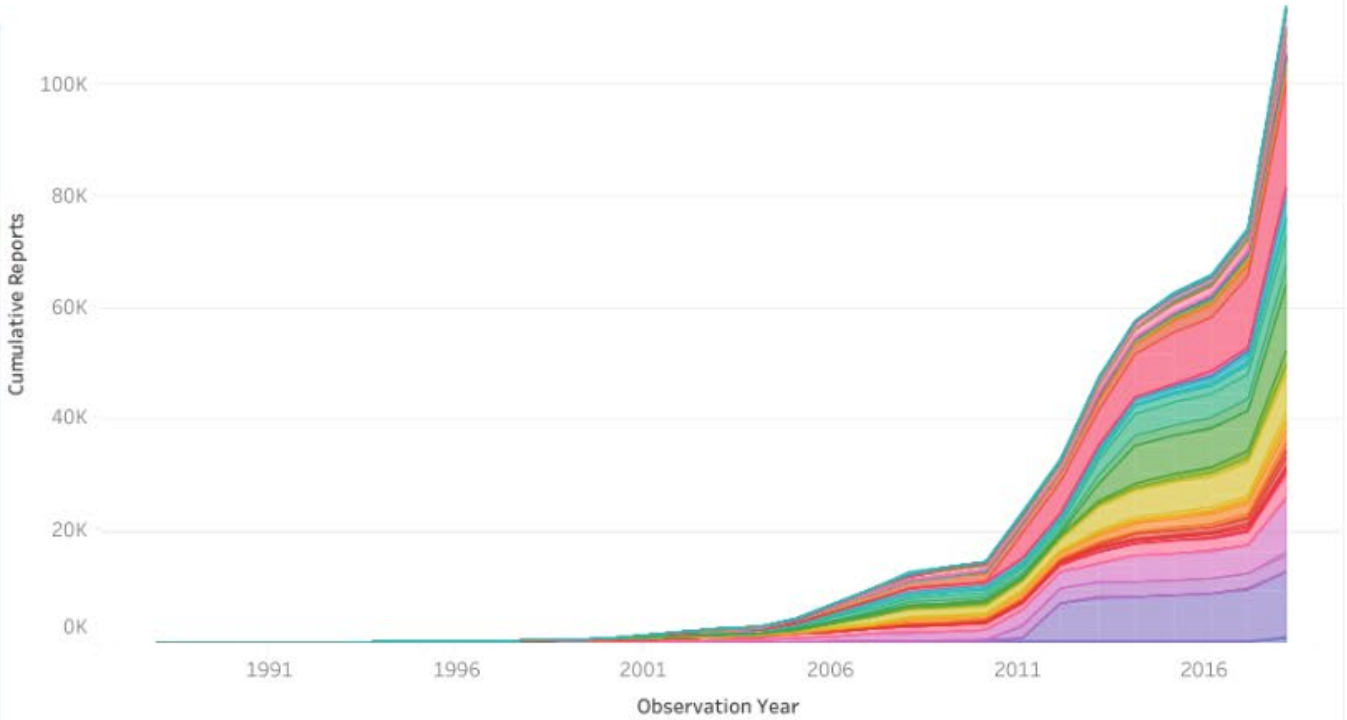
Invasive Species Calendar at fyi.extension.wisc.edu/wifdn



Wisconsin Shared Terrestrial Invasive Plant Presence Viewer



Cumulative Number of Reports Over Time[1]



ABSINTH WORMWOOD	BABYSBREATH	BLACK LOCUST	BROWN KNAPWEED	CHEATGRASS
AMUR CORKTREE	BELLS HONEYSUCKLE	BLACK SWALLOWWORT	BURNET-SAXIFRAGE	CHINESE YAM
AMUR HONEYSUCKLE	BIGLEAF LUPINE	BLACKBERRY LILLY	BUSH HONEYSUCKLES ..	CHOCOLATE VINE
AMUR MAPLE	BIRDSFOOT TREFOIL	BLUEBUTTONS	BUTTERFLY DOCK	COLTSFOOT
AQUATIC FORGET-ME-..	BISHOPS GOUTWEED	BOHEMIAN KNOTWEED	CALLERY PEAR	COMMON BARBERRY
AUTUMN OLIVE	BLACK ALDER	BRISTLY LOCUST	CANADA THISTLE	COMMON BUCKTHORN

WDNR Classification: (All)

Common Name: (All)

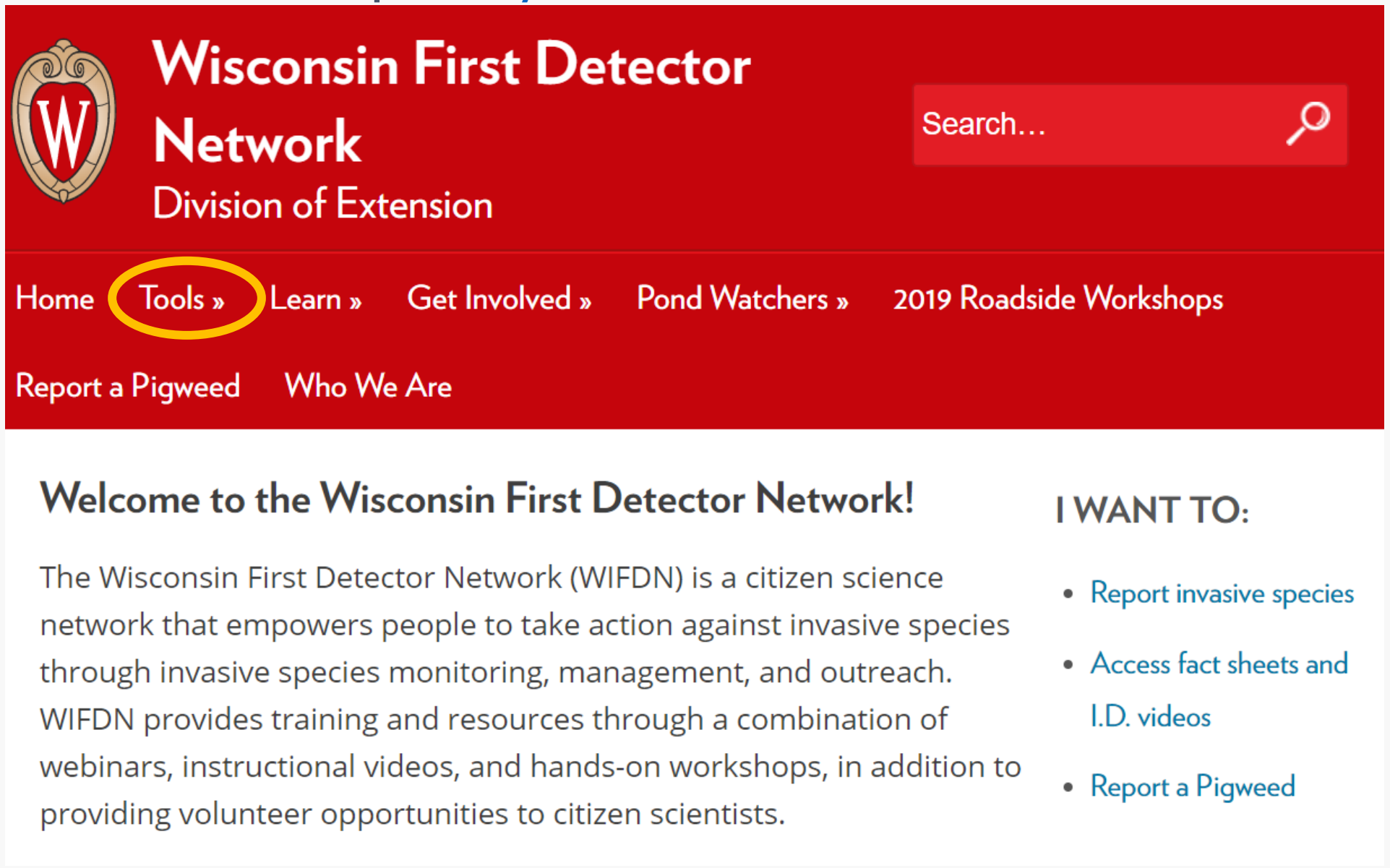
Reporter (fill in, hit enter):

Year of Observation Date

1988 — 2018

[1]Due to internal policies, some wetland species locations are unable to be shared. **Last updated on 3/19/2019**

WISTIPP Viewer map at fyi.extension.wisc.edu/wifdn



Thank you!

anne.pearce@wisc.edu

608-262-9570

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