



INVASIVE PLANTS – *NOT JUST A BAD IDEA, SOON TO BE ILLEGAL!*

WHAT I'LL TALK ABOUT

- Definition of invasive species
- Examples of invasive plants and the problems they cause
- The Terrestrial Invasive Plant Rule

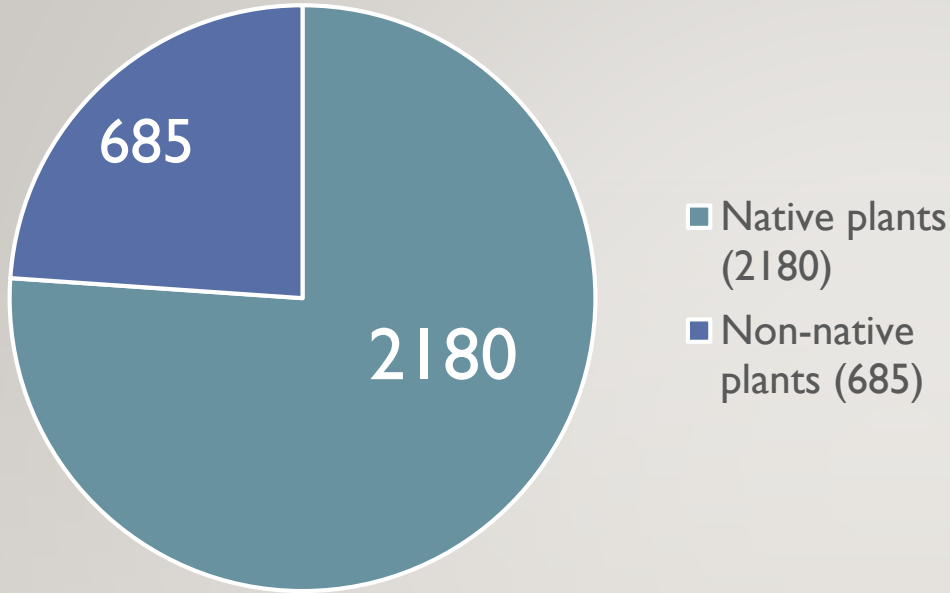
WHAT IS AN INVASIVE SPECIES?

The official federal definition:

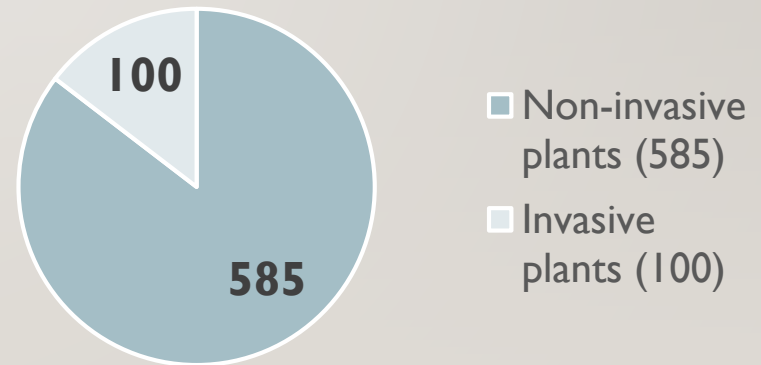
An alien species whose introduction does or is likely to cause economic or environmental harm, or harm to human health

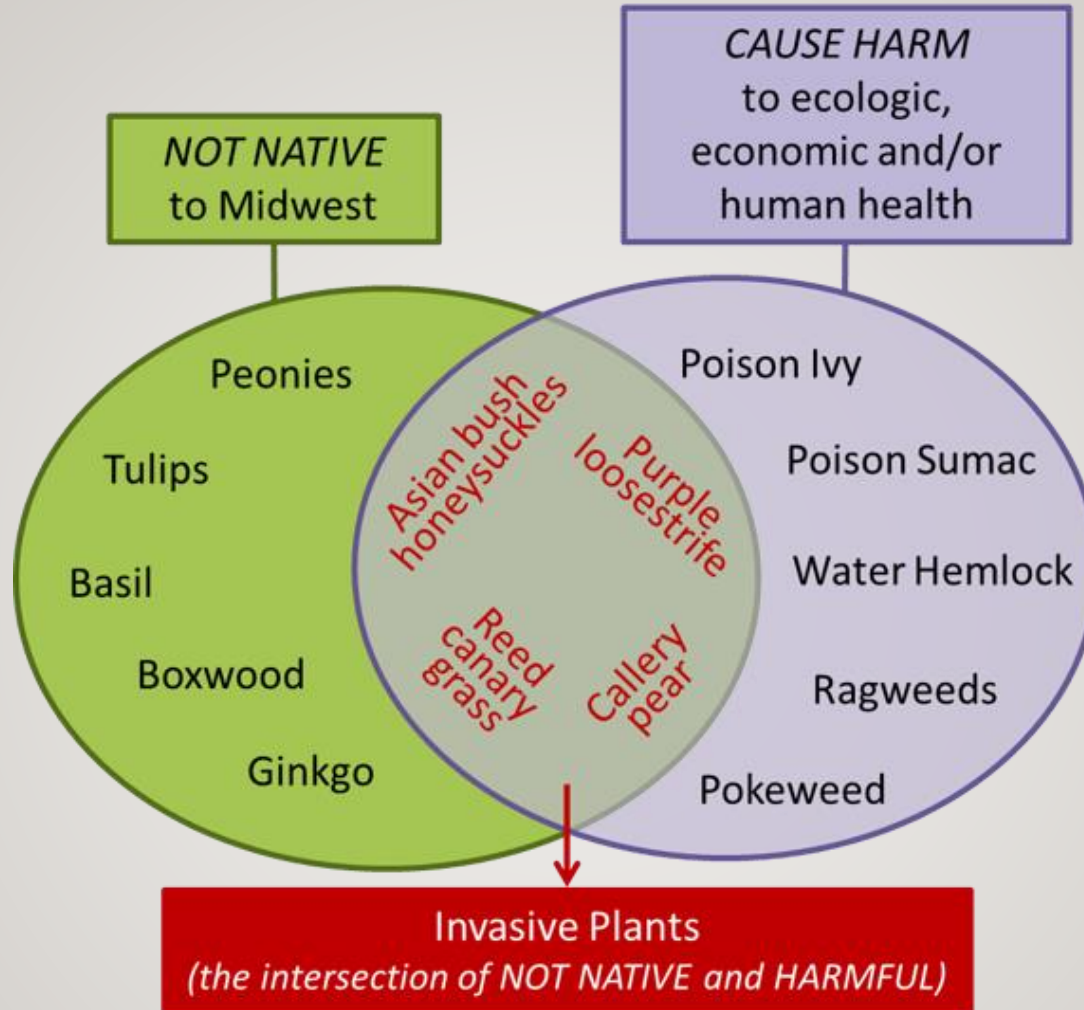
Indiana has 2,865 plant species (BONAP.org) How many are invasive?

Plant Species in Indiana



Invasive Versus Non-Native Plants





UPDATE ON THE ENVIRONMENTAL AND ECONOMIC COSTS ASSOCIATED WITH ALIEN-INVASIVE SPECIES IN THE UNITED STATES

David Pimentel, Rodolfo Zuniga, Doug Morrison
College of Agriculture and Life Sciences, Cornell University, Ithaca, NY
14850-0901, United States
Ecological Economics: 2004

Invading alien species in the United States cause major environmental damages and losses adding up to almost \$120 billion per year. There are approximately 50,000 foreign species and the number is increasing. About 42% of the species on the Threatened or Endangered species lists are at risk primarily because of alien-invasive species.



ASIAN BUSH HONEYSUCKLES

(*LONICERA MAACKI*, *TATARICA*, *MORROWII*, X *BELLA*)



- DECREASES SONGBIRD NESTING SUCCESS
- DECREASES UNDERSTORY PLANT DIVERSITY, COVER AND REPRODUCTION, INCLUDING TREE SEEDLINGS
- DECREASES CANOPY TREE GROWTH BY OVER 50%
- INCREASES TICKS AND TICK-BORNE ILLNESSES

JAPANESE KNOTWEED (*REYNOUTRIA JAPONICA*)

- DISPLACES NATIVE PLANTS
- SEDIMENTATION IN STREAMS
- DAMAGE TO INFRASTRUCTURE
- REDUCES WILDLIFE HABITAT



PURPLE WINTERCREEPER (*EUONYMUS FORTUNEI*)

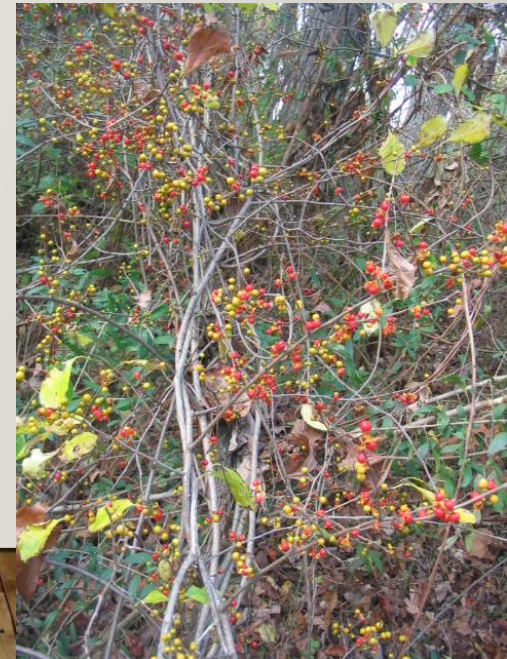
- EVERGREEN, CLINGING VINE THAT CAN FORM A DENSE GROUNDCOVER
- SMALL GREEN-WHITE FLOWERS THAT FORM ORANGE BERRIES WITH A WHITE HUSK ARE PRODUCED ONLY WHEN VINE IS ALLOWED TO CLIMB
- CAN CLIMB TREES AND MAKE TREES FOR VULNERABLE TO WIND THROW



ASIAN BITTERSWEET (*CELASTRUS ORBICULATUS*)



- FORMS DENSE STANDS ON FOREST EDGES
- SMOTHERS CANOPY AND MAKES TREES VULNERABLE TO WINDTHROW
- HYBRIDIZES WITH NATIVE BITTERSWEET



AUTUMN OLIVE (*ELEAGNUS UMBELLATA*)



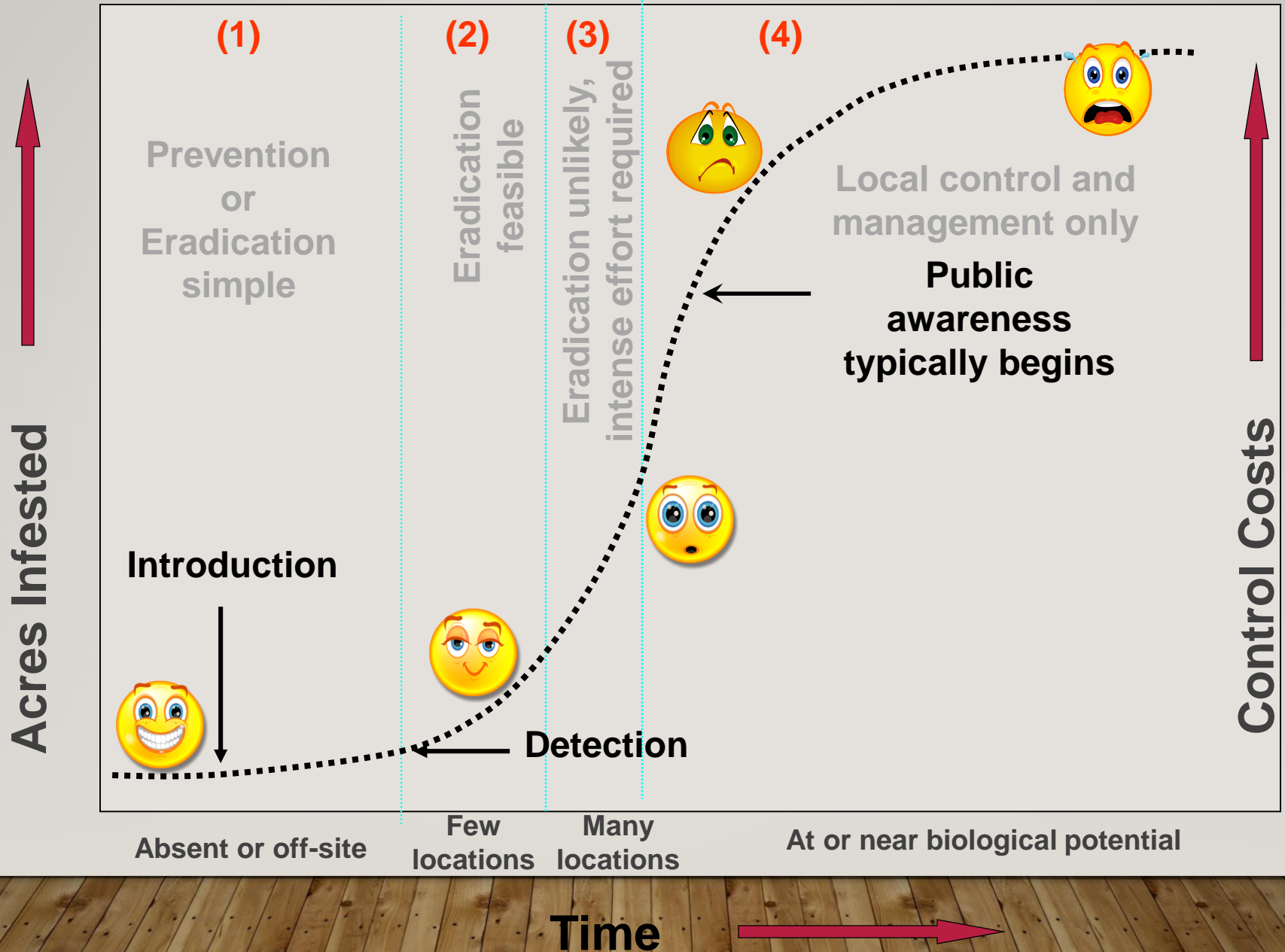
- LEAVES SIMPLE AND ALTERNATE, SILVER-GRAY ON THE UNDERSIDE, LANCE-SHAPED OR ELLIPTIC, WITH ENTIRE, WAVY MARGINS
- FLOWERS CREAM COLORED AND TUBE-SHAPED IN LEAF AXILS IN MID-APRIL, TURN INTO REDDISH PURPLE BERRIES SEPTEMBER – OCTOBER
- INVADES FIELDS, PASTURES, FOREST UNDERSTORY AND MAKES DENSE THICKETS



SO HOW DO WE DEAL WITH INVASIVE SPECIES?



Weed Increase Over Time and Control Potential

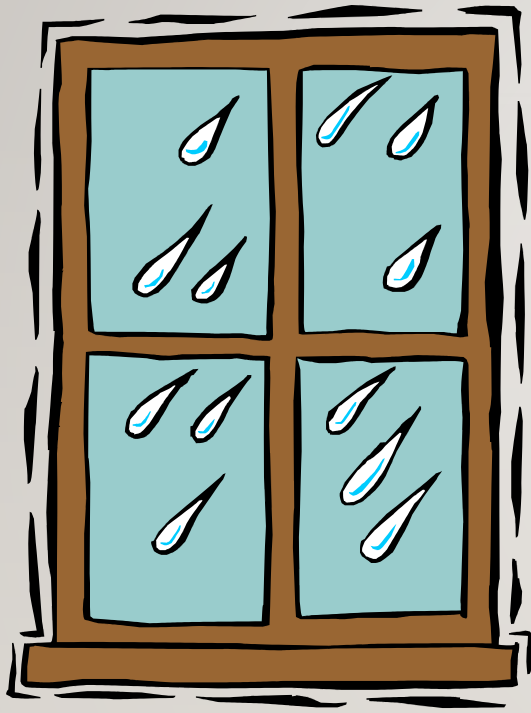


SO HOW DO WE DEAL WITH INVASIVE SPECIES?

1. Prevention
2. Early Detection
3. Control and Management
4. Restoration



When it's
raining, close
the window
before you
grab the
mop.



WHAT DO

ASIAN BUSH HONEYSUCKLE,
JAPANESE KNOTWEED,
PURPLE WINTERCREEPER,
ASIAN BITTERSWEET, AND
AUTUMN OLIVE

HAVE IN COMMON?



MOST INVASIVE PLANTS COME FROM HORTICULTURE.

Of the 235 woody plant species that have naturalized in North America, 201 (85%) were introduced primarily for the landscape trade (both ornamental and functional landscaping, such as erosion control), and 34 (14%) were introduced primarily for agriculture or production forestry (Reichard 1994).

That's 99%.


So we just need to tell horticulture to stop selling invasive plants, right?

TERRESTRIAL INVASIVE PLANTS

- Starting in 2000, the horticulturists, agencies, land trusts and landowners formed the Invasive Plant Species Assessment Working Group (IPSAWG), which assessed horticultural plants for their level of invasiveness. 2006 brochure – 100,000 handed out!
- In 2010, the Invasive Plant Advisory Committee (IPAC) continued that work. The official list was adopted by the Indiana Invasive Species Council (IISC) in 2012.
- In 2013, the IISC asked the state to make the 46 highly invasive plant species illegal.



TERRESTRIAL INVASIVE PLANTS



**INDIANA
INVASIVE
SPECIES
COUNCIL**




Photo: Cliff Sadof




Photo: John Obermeyer




Photo: Richard Lyons

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Invasive Species in Indiana

Official IISC Invasive Plant List

As established 9/26/2012 and updated 10/11/2013. [How was this list developed?](#)
Download a Plant List PDF: [By Group](#) | [By Latin Name](#)

Common Name	Latin Name	Invasive Rank	Current IN Legal Status
Norway maple	<i>Acer platanoides</i>	High	None
Japanese chaff flower	<i>Achyranthes japonica</i>	High	None
tree of heaven	<i>Ailanthus altissima</i>	High	None
garlic mustard	<i>Alliaria petiolata</i>	High	None
black alder	<i>Alnus glutinosa</i>	High	None
mugwort	<i>Artemisia vulgaris</i>	High	None
small carpgrass	<i>Arthraxon hispidus</i>	High	None
Japanese barberry	<i>Berberis thunbergii</i>	High	None


Plants

Plant Pests & Diseases

Animal Diseases

Aquatics

BMP's ⓘ
Top Ten Best Management Practices for Invasive Species



INVASIVE PLANTS COVERED BY THIS RULE

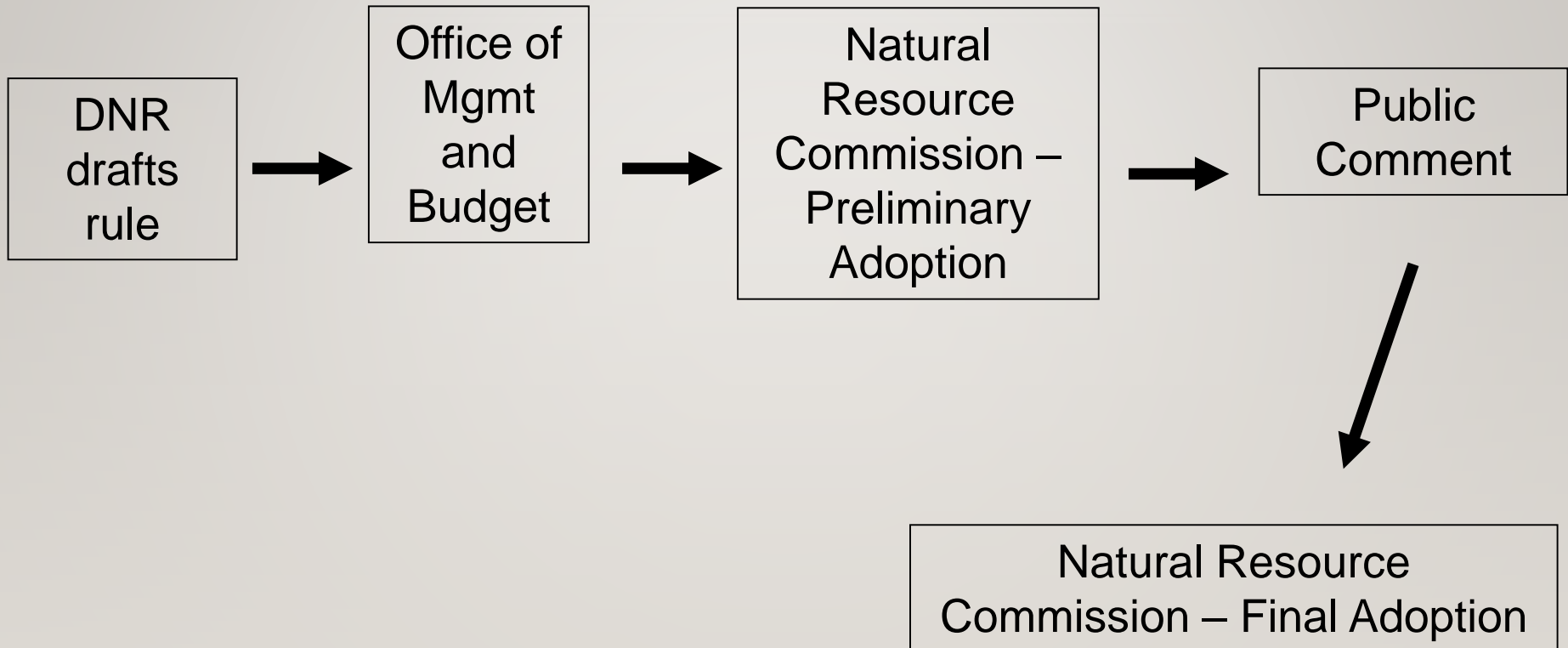
- *Carduus acanthoides* (spiny plumeless thistle).
- *Phellodendron amurense* (Amur cork tree).
- *Polygonum perfoliatum* (mile-a-minute vine).
- *Vincetoxicum nigrum* (black swallow-wort).
- *Vincetoxicum rossicum* (pale swallow-wort).
- *Achyranthes japonica* (Japanese chaff flower).
- *Ailanthus altissima* (tree of heaven).
- *Alliaria petiolata* (garlic mustard).
- *Alnus glutinosa* (black alder).
- *Artemisia vulgaris* (mugwort).
- *Arthraxon hispidus* (small carpgrass).
- *Berberis thunbergii* (Japanese barberry).
- *Carduus nutans* (musk thistle).
- *Celastrus orbiculatus* (Asian bittersweet).
- *Centaurea stoebe* (spotted knapweed).
- *Cirsium vulgare* (bull thistle).
- *Conium maculatum* (poison hemlock).
- *Convolvulus arvensis* (field bindweed).
- *Coronilla varia* (crown vetch).
- *Dioscorea polystachya* (*oppositifolia*) (Chinese yam).
- *Dipsacus fullonum* (common teasel).
- *Dipsacus laciniatus* (cut-leaved teasel).
- *Elaeagnus umbellata* (autumn olive).
- *Euonymus fortunei* (wintercreeper).
- *Euphorbia esula* (leafy spurge).
- *Frangula alnus* (glossy buckthorn).
- *Humulus japonicus* (Japanese hops).
- *Hesperis matronalis* (dame's rocket).
- *Lespedeza cuneata* (*sericea* lespedeza).
- *Lepidium latifolium* (pepperweed).
- *Ligustrum obtusifolium* (blunt leaved privet).
- *Lonicera japonica* (Japanese honeysuckle).
- *Lonicera maackii* (Amur honeysuckle).
- *Lonicera morrowii* (Morrow's honeysuckle).
- *Lonicera tatarica* (Tatarian honeysuckle).
- *Lonicera x bella* (Bell's honeysuckle).
- *Microstegium vimineum* (Japanese stiltgrass).
- *Morus alba* (white mulberry).
- *Phalaris arundinacea* (reed canarygrass).
- *Phragmites australis* subspecies *australis* (common reed).
- *Reynoutria japonica* (Japanese knotweed).
- *Reynoutria sachalinensis* (giant knotweed).
- *Reynoutria x bohemica* (Bohemian knotweed).
- *Rhamnus cathartica* (common buckthorn).



TERRESTRIAL INVASIVE PLANTS

- Div. of Entomology and Plant Pathology drafted a rule in 2014 to make illegal all 46 highly invasive plant species.
- Survey done of the larger nurseries in Indiana to determine how much nursery stock may potentially be considered invasive upon the adoption of the proposed list.
- Results of the survey suggested that Norway Maple and Callery Pear will create the largest economic impact to growers if removed from trade in Indiana – and so they were removed from the list.

TERRESTRIAL INVASIVE PLANTS RULE PROCESS



TERRESTRIAL INVASIVE PLANTS

- The governor signed the rule on March 16 and it was then published on March 18
- The 30-day waiting period ended April 18 and the rule became effective.



TERRESTRIAL INVASIVE PLANTS

What restrictions are in the rule for the 44 species?

(c) Except as provided in subsection (d), with respect to any species identified in subsection (a) a person must not:

(1) Sell, offer or grow for sale, gift, barter, exchange, or distribute a species (2020);

(2) Transport or transfer a species (2020); or

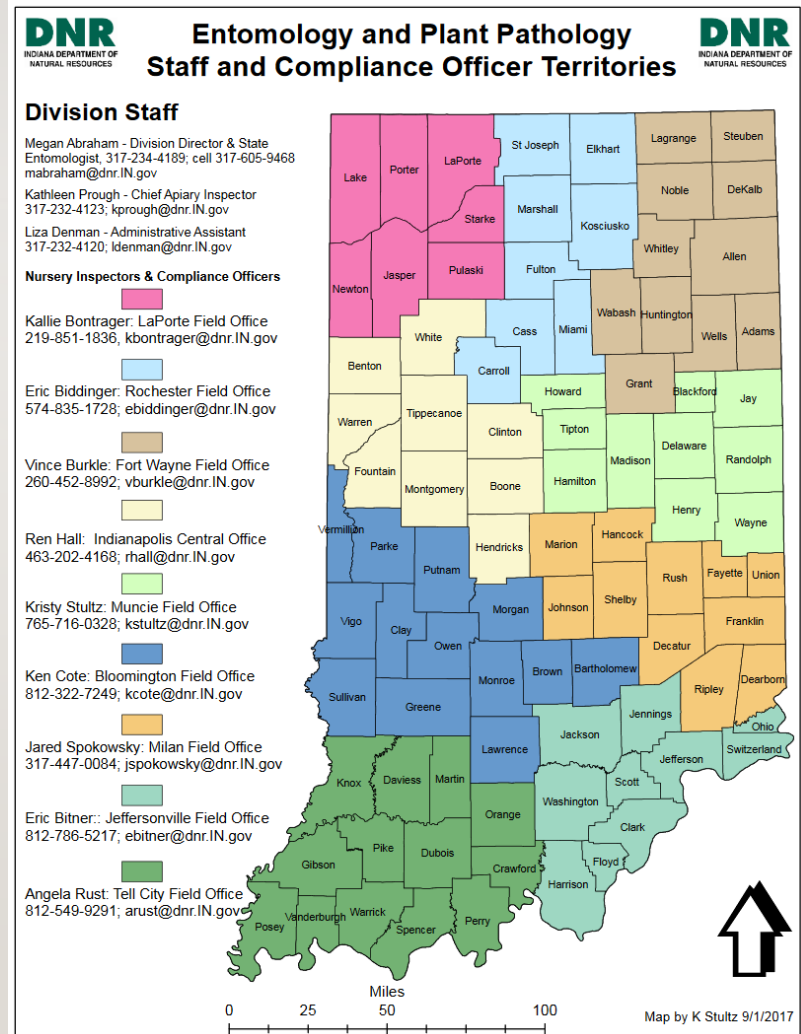
(3) Introduce a species (2019).



HOW CAN YOU HELP?

As of April 18, 2020:

- Be familiar with the rule – it is at <http://www.in.gov/legislative/iac/20181121-IR-312180316PRA.xml.pdf>
- Be ready to help enforce the rule by contacting the DNR - Division of Entomology and Plant Pathology if you see a violation (any sale, exchange, transport, etc.)
- There are Nursery Inspectors and Compliance Officers throughout the state.



HOW CAN YOU HELP?

- We are assessing more species now and hope to amend the rule in the next year; help us by reporting invasive plants at EDDMaps.org
- Join our Facebook Group - We'll be providing information and updates in the **Invasive Plant Advisory Committee** Facebook Group to help people understand what's in the rule and how to report violations next year.



THANK
YOU!

