Tools for Leading-edge Detection of the Spotted Lanternfly

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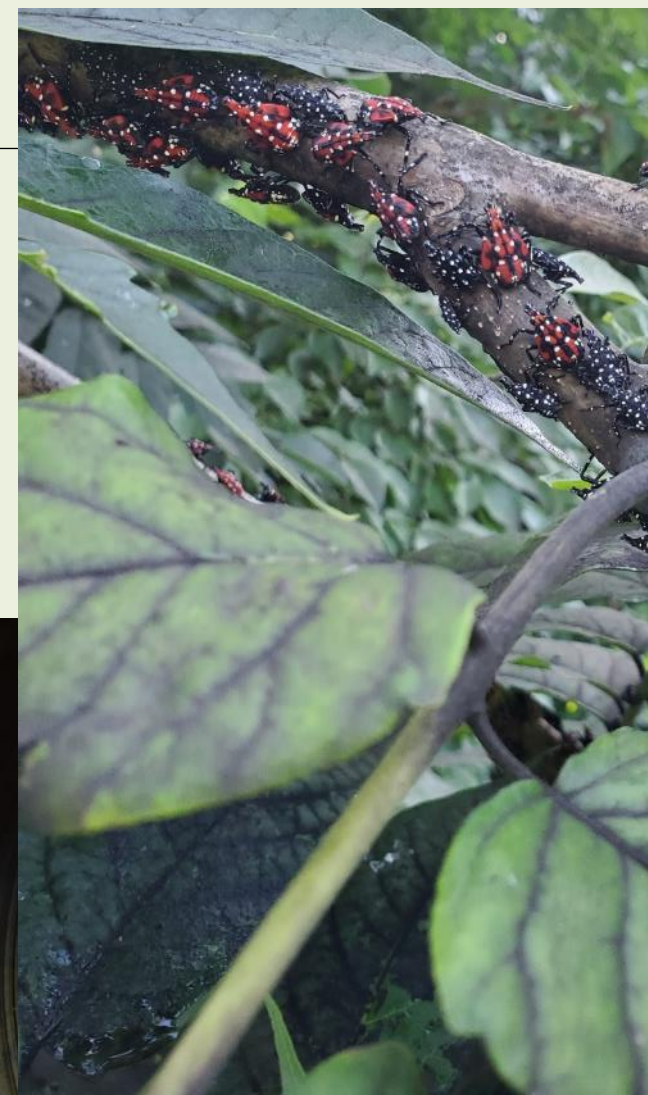Continental Dialogue on Non-Native Forest Insects & Diseases

SLF Host List

Feeds on 70+ plants:
grape, apple
maple, birch, sycamore,
willow, staghorn sumac, rose
many others

Preferred hosts:
***Ailanthus altissima* (tree of heaven)**
black walnut and butternut
hops, oriental bittersweet
sawtooth oak, tuliptree, chinaberry

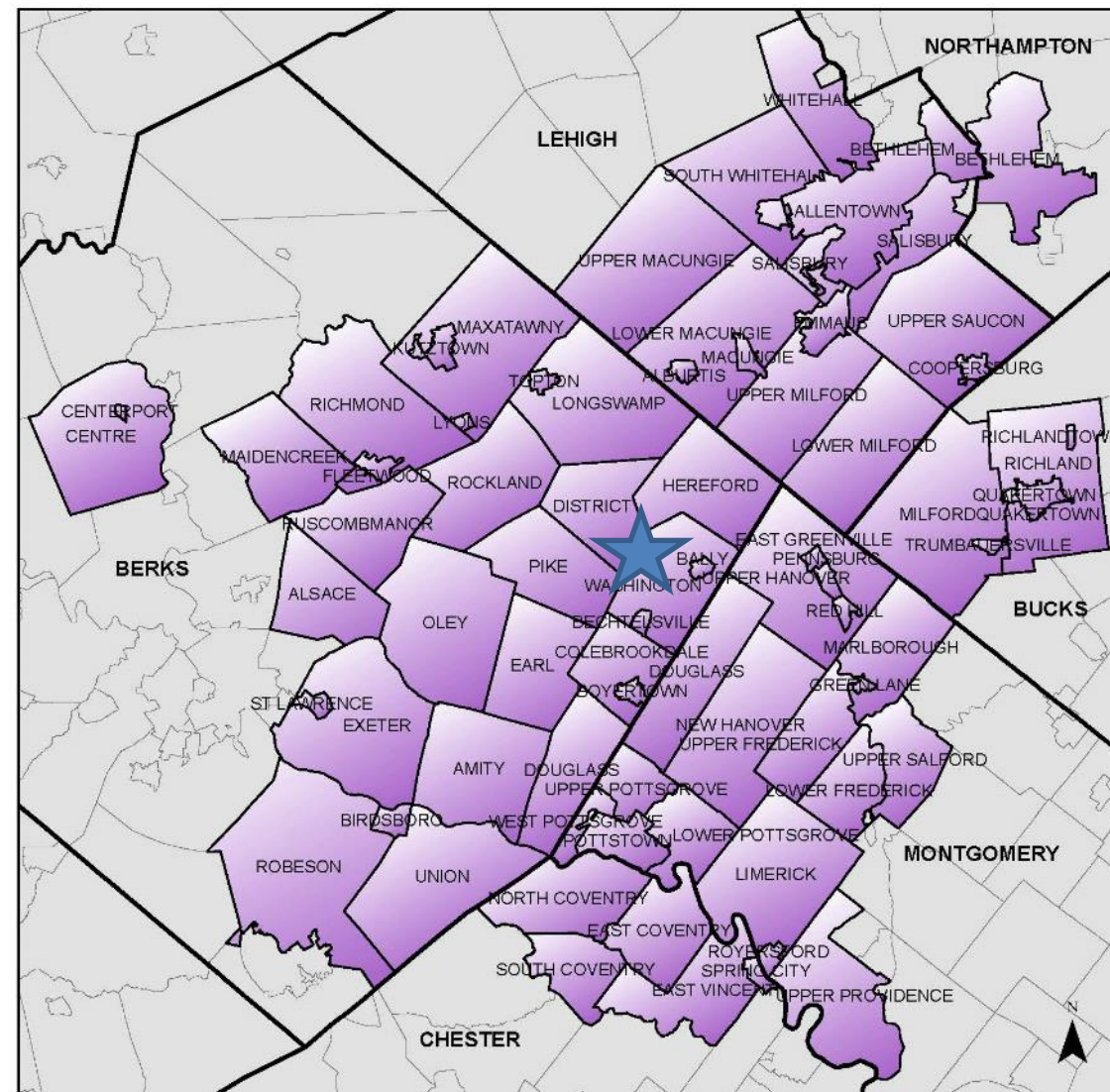K. Murman, M. Cooperband et. al. USDA 2018

Spotted Lanternfly

➢ **Initial specimens collected near Boyertown, PA on September, 2014**

➢ **Tree of heaven (*Ailanthus*) is a key host**
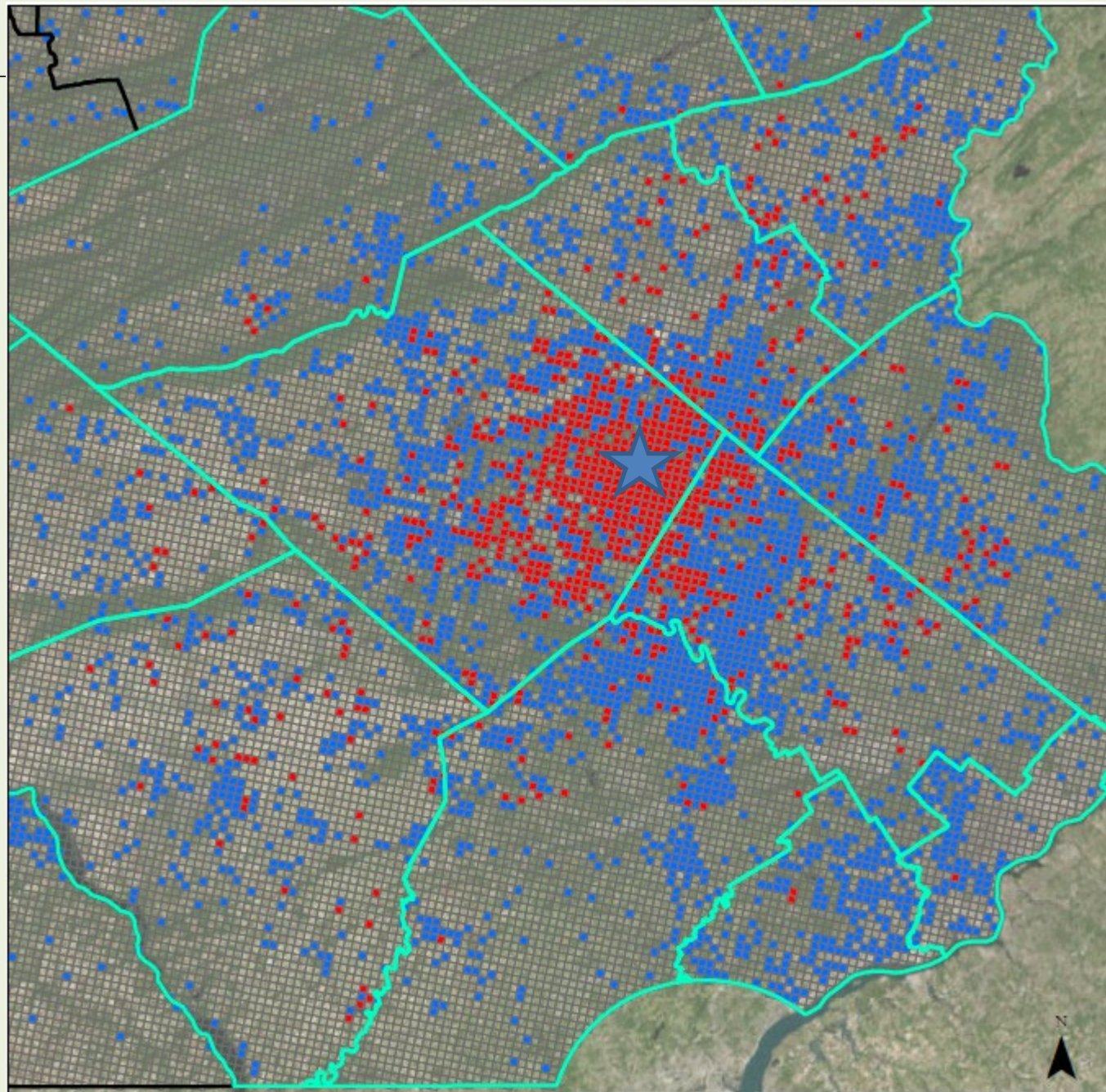

Spotted Lanternfly Quarantine Map
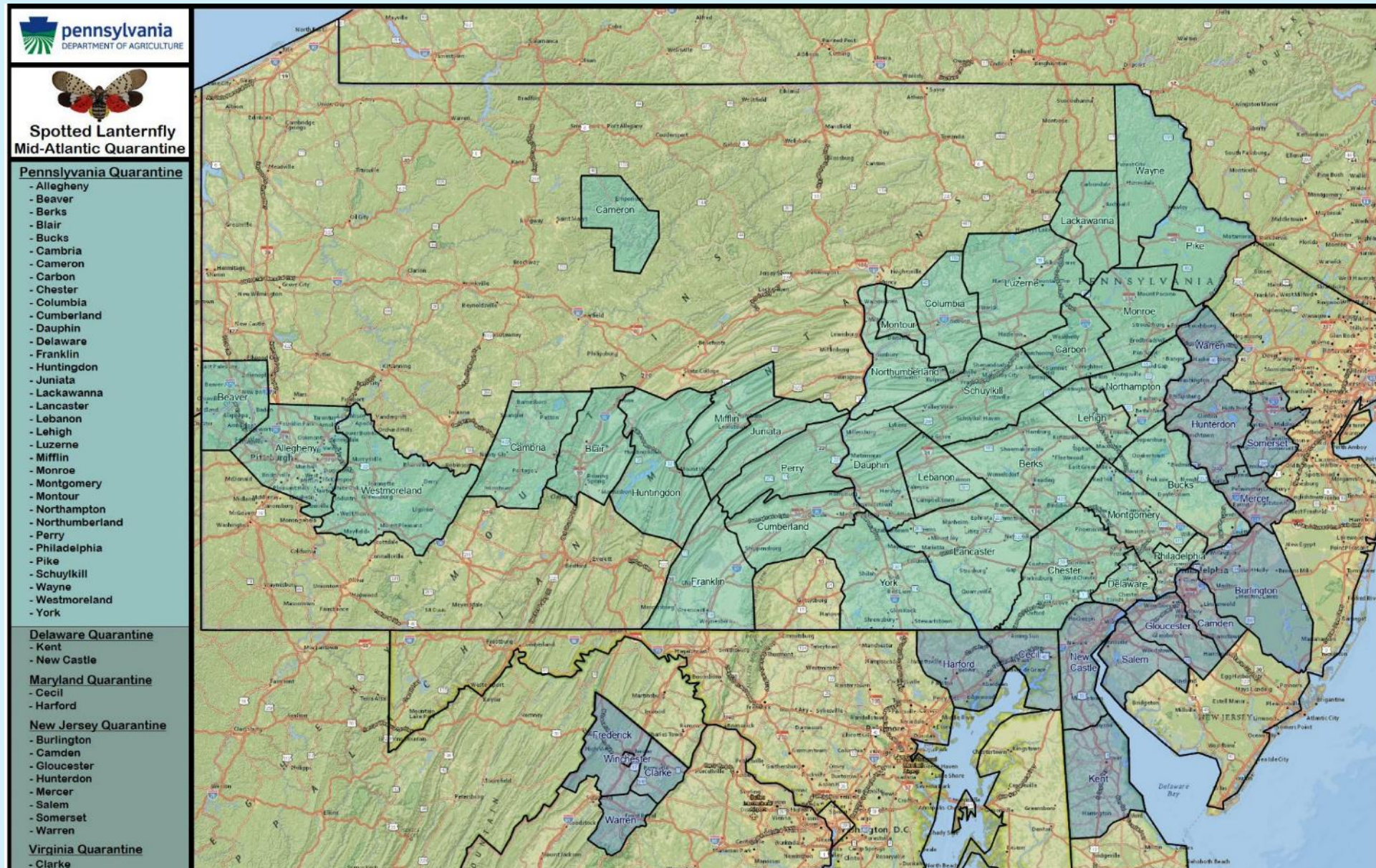Municipalities Under Quarantine as of November 28, 2016

Spotted Lanternfly

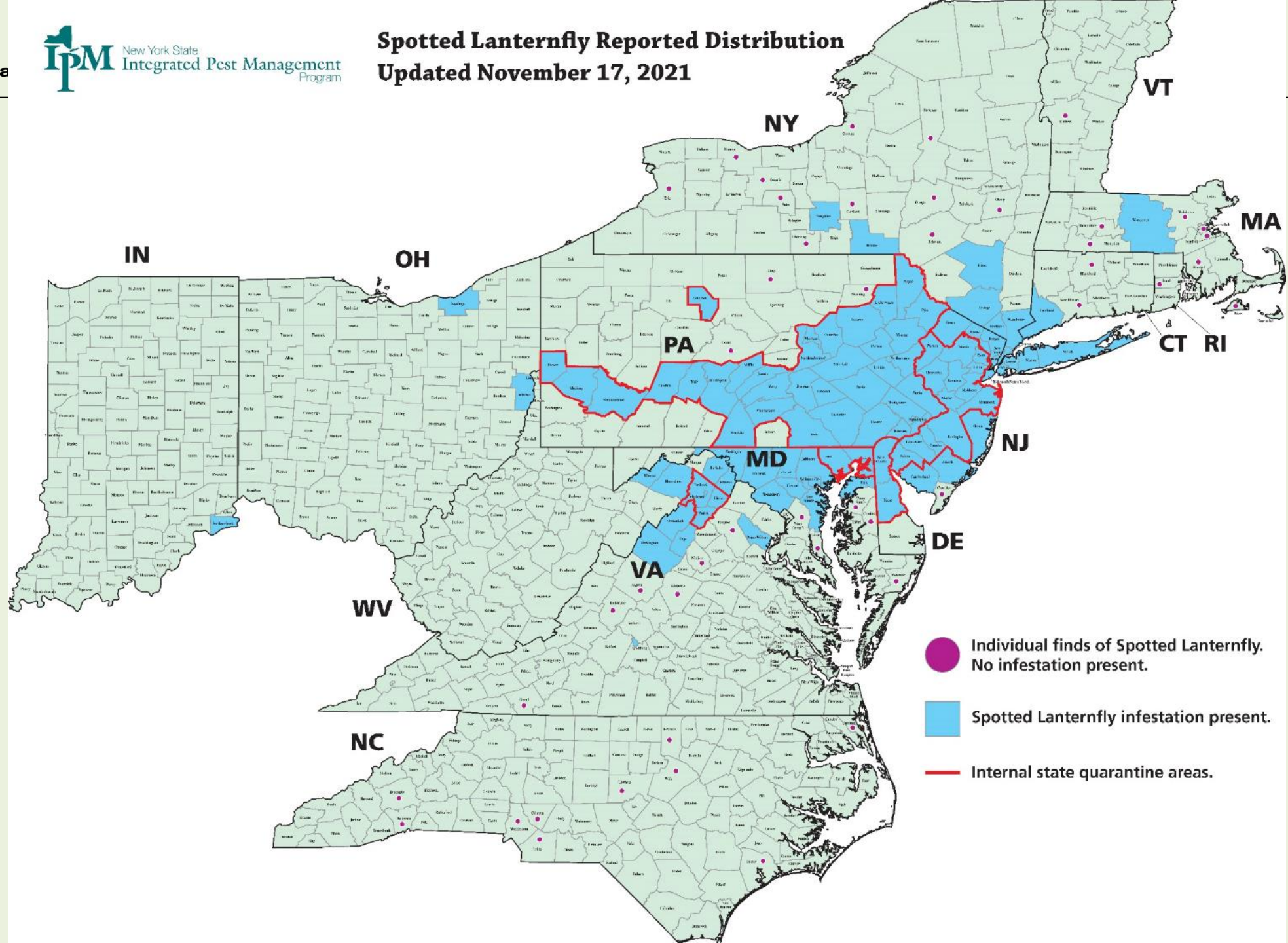➢ **By November 2017, 13 counties were under state quarantine**

Mid-Atlantic Status – March 2021

pennsylvania
DEPARTMENT OF AGRICULTURE

Spotted Lanternfly
Mid-Atlantic Quarantine

Pennsylvania Quarantine
- Allegheny
- Beaver
- Berks
- Blair
- Bucks
- Cambria
- Cameron
- Carbon
- Chester
- Columbia
- Cumberland
- Dauphin
- Delaware
- Franklin
- Huntingdon
- Juniata
- Lackawanna
- Lancaster
- Lebanon
- Lehigh
- Luzerne
- Mifflin
- Monroe
- Montgomery
- Montour
- Northampton
- Northumberland
- Perry
- Philadelphia
- Pike
- Schuylkill
- Wayne
- Westmoreland
- York

Delaware Quarantine
- Kent
- New Castle

Maryland Quarantine
- Cecil
- Harford

New Jersey Quarantine
- Burlington
- Camden
- Gloucester
- Hunterdon
- Mercer
- Salem
- Somerset
- Warren

Virginia Quarantine
- Clarke

Spotted Lanternfly Reported Distribution
Updated November 17, 2021

USDA
United States Depa...

New York State
Integrated Pest Management
Program

Legend:
- ● Individual finds of Spotted Lanternfly. No infestation present.
- ■ Spotted Lanternfly infestation present.
- ▬ Internal state quarantine areas.

State labels: VT, NY, MA, RI, CT, IN, OH, PA, NJ, MD, DE, WV, VA, NC

Chemical Control

➢ **Tree of heaven is a key host**

- o **Remove *Ailanthus* except for several trap trees; treat with a bark spray of a systemic insecticide (dinotefuran).**

➢ **Trap trees are highly attractive**

- o **Chemical residue remains in leaves from June, declining by late September.**

Adult mortality is evident from these pictures taken in August.

Wing-flaring of adults still on the tree trunks indicate poisoning.

Sentinel Trees

Deployment

- Treated with insecticide, checked every 3 weeks

- Periphery of infestation and/or leading edge

- Cooperating with State and Federal partners in multiple states in 2019: PA, NJ, DE, MD, VA, WVA

- Expanded to cooperators in 10 states in 2020
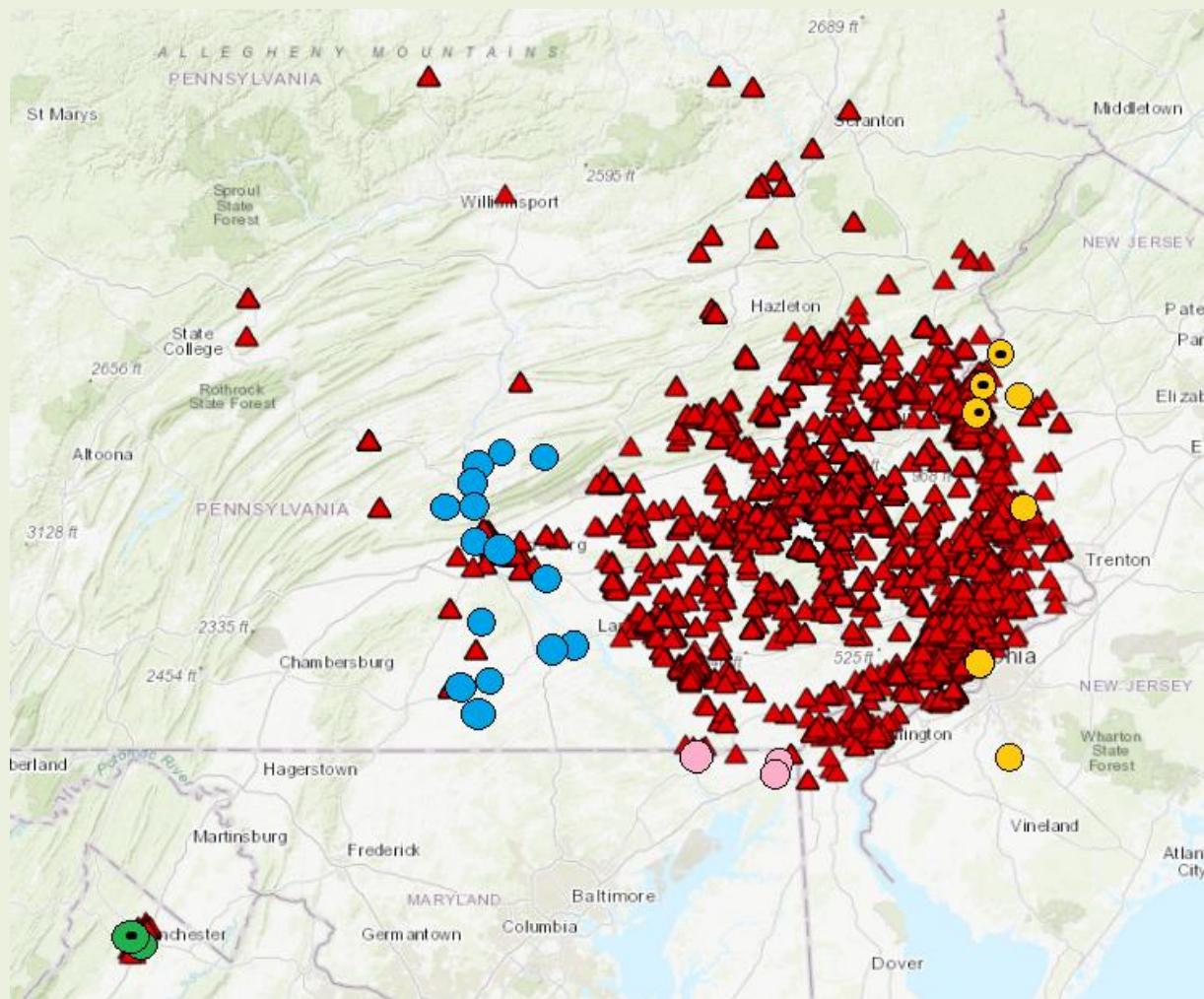
Setting Up Sentinel Trees

- Trees treated with a bark spray of Transect or Safari from the base of the trunk up to 5 feet
  - amounts depending on DBH
  - late June

- A tree watering basin ring is placed at the base flush to the ground, extra drainage holes drilled, and stakes were hammered through into the ground to secure in place

Table 1. Sentinel trees deployed by state along with relevant trap catch and placement information.

	# Traps Deployed / Detections = √ (# SLF)			Trap information / Comments
	2018	**2019**	**2020**	
Pennsylvania	28	27 √ (1)	45 √ (259)	Traps deployed in the vicinity of York and Harrisburg at the leading edge of the SLF infestation. Single positive in 2019 and 15 positive traps in 2020.
Western Pennsylvania			20 √ (11)	Traps near diffuse SLF populations in the Pittsburgh area that were first identified in late 2019. Railyards and similar areas of concern.
Virginia	5 √ (25)	4		Traps were placed along major transportation corridors and areas of concern.

Sentinel Tree: Discussion

- **Traps can be effective at predicting first wave of SLF populations**

- **Meant to be used at the periphery of an infestation where SLF may be suspected**

- **Can also be used when not enough resources or personnel are available**

THANK YOU!!