

Invasive Insects Impacting Woodlands in Virginia

Eric Day

February 11, 2023



**Virginia
Cooperative
Extension**

Virginia Tech
Virginia State University

Updates on the Spongy Moth

Eric Day

January 11, 2023

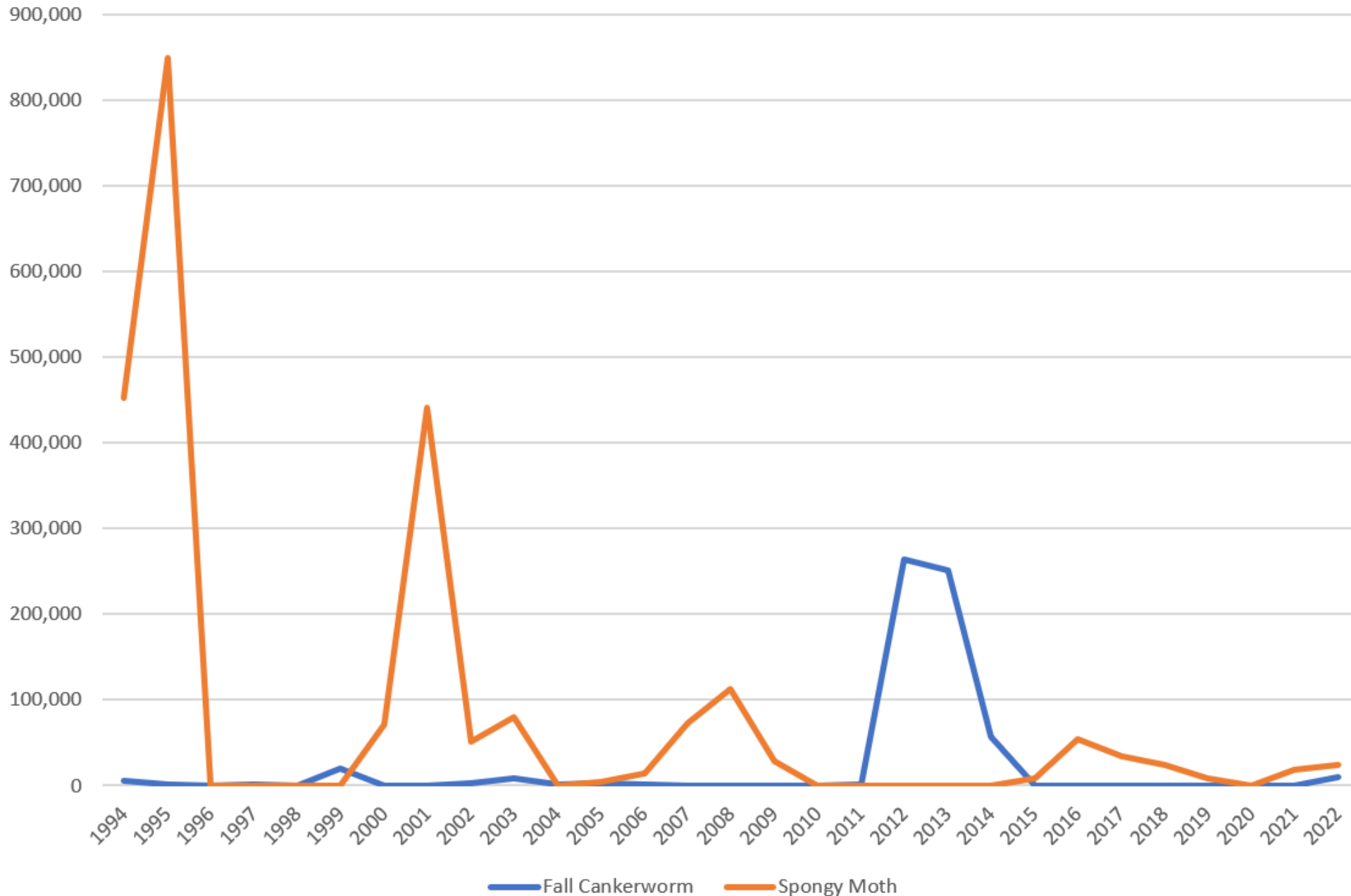


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NAME CHANGE On March 2, 2022,
the Entomological Society of
America officially changed the
common name of *Lymantria dispar*
dispar from gypsy moth to spongy
moth.


Defoliation Data from the Virginia Department Forestry



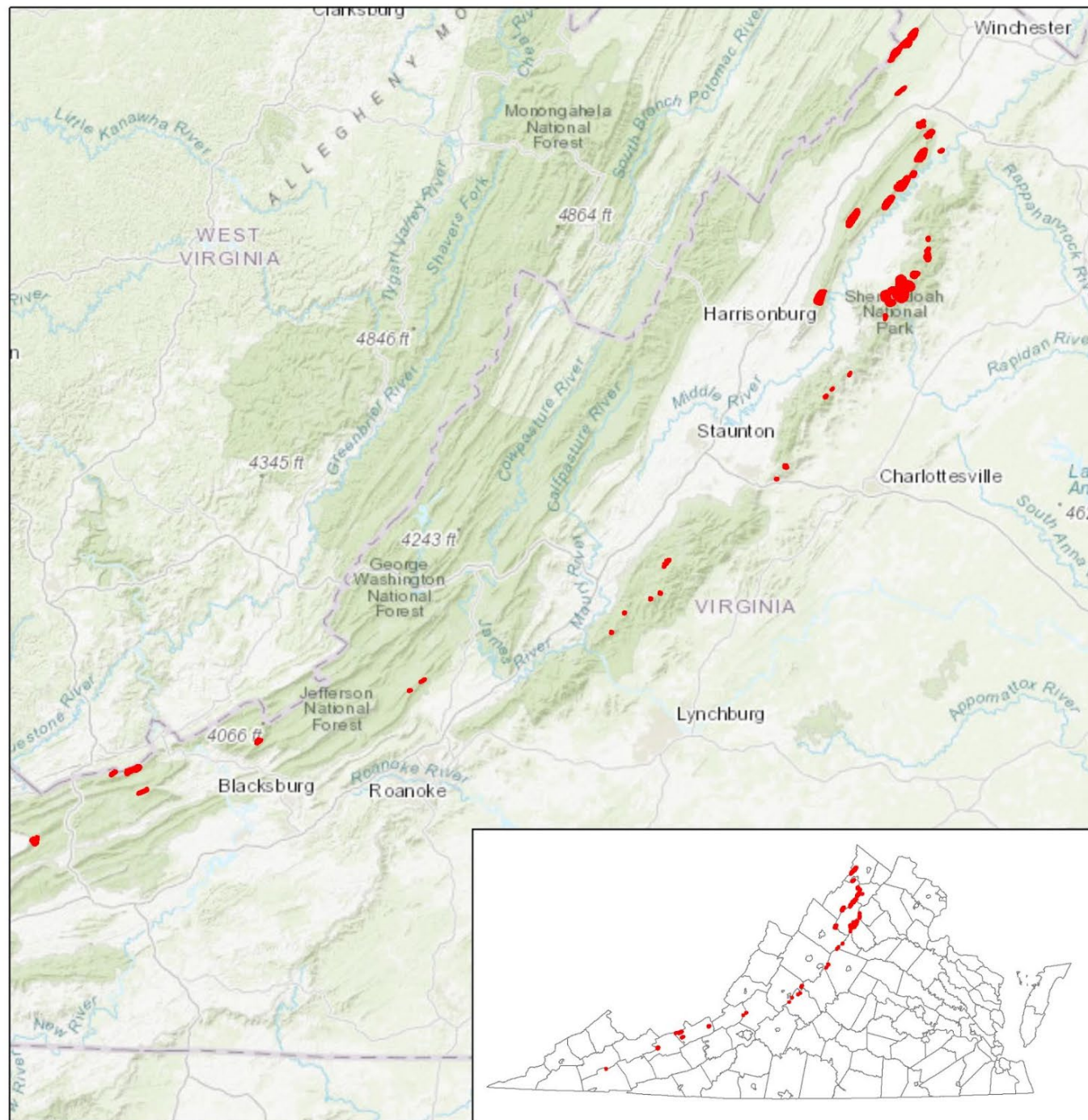
Caterpillar
defoliation
in Virginia
1994 to
present

Spongy Moth Aerial Survey 2022



 Approx. 24,493 acres
with moderate/heavy
defoliation

*Data collected from aerial
surveys conducted by
VDOF and USFS

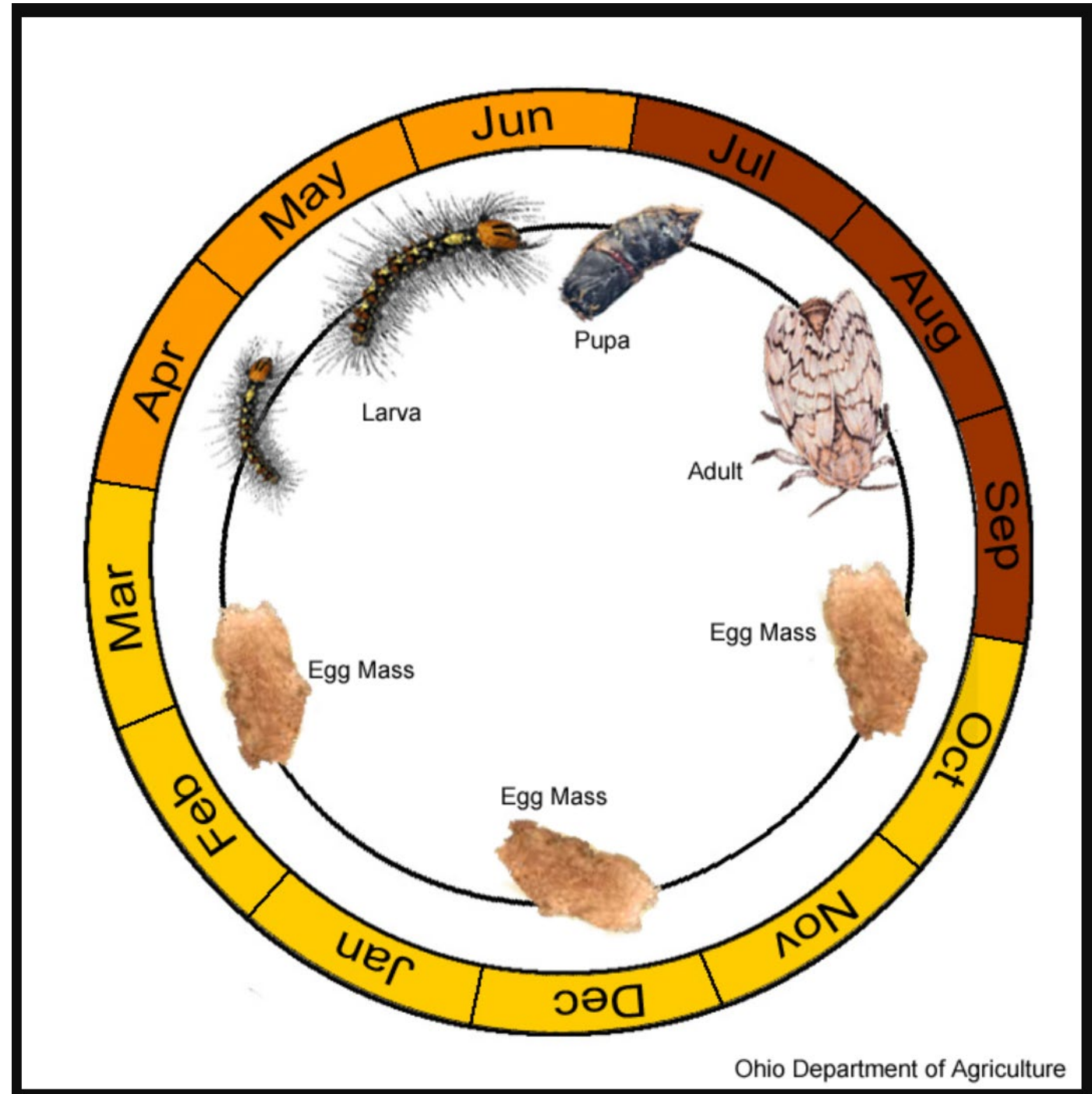


Spongy Moth defoliation 2022

Date from
VDOF and
USFS

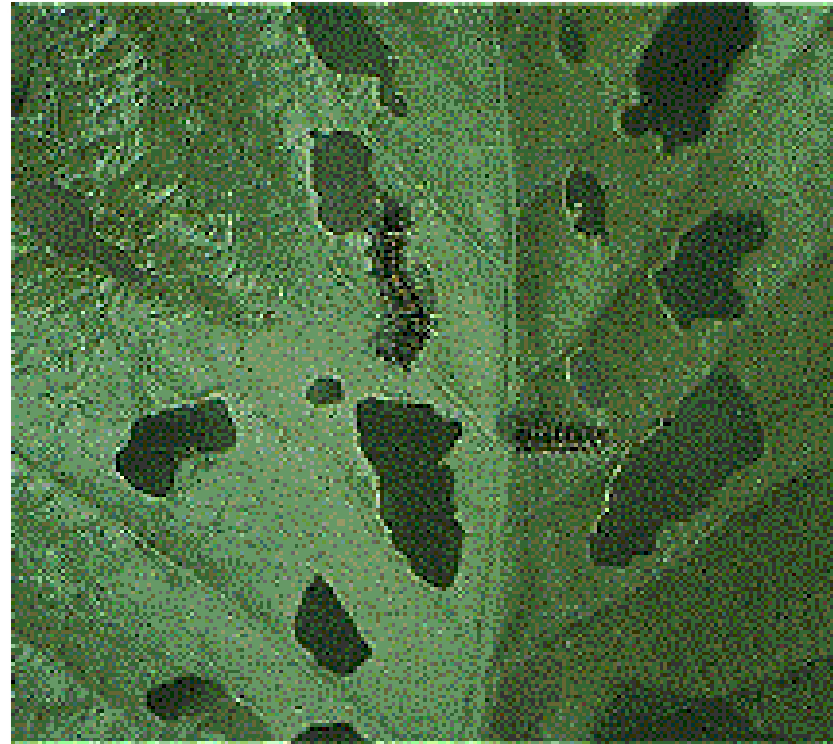
Spongy moth life cycle

Egg hatch can be as early as mid March



Spongy Moth Damage Larvae (April - June)

Shotholes



Partial leaf feeding
by older larvae



Ballooning
by early
instars

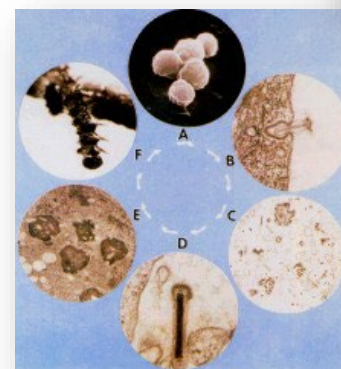
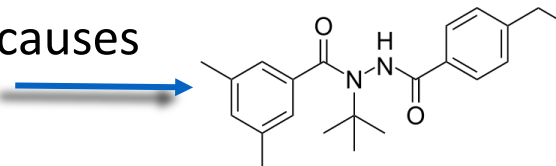
Spongy Moth: Damage

- Mortality heavy during initial periods of defoliation
- Results in change of species composition
- Considered both a forest and landscape pest in Virginia

Spongy Moth Management

For more details, check out <<https://www.slowthespread.org/>>

- **Mimic (Tebufenozide)** – Acts as a molting hormone and causes premature molting
- ***Bacillus thuringiensis (B.t.)*** - bacteria formulated into an insecticide
- **Gypcheck** (virus)
- **Pheromone Disruptant – Disparlure** (7R,8S)-7,8-Epoxy-2-methyloctadecane
 - A 10 carbon chain alkane (c-h)

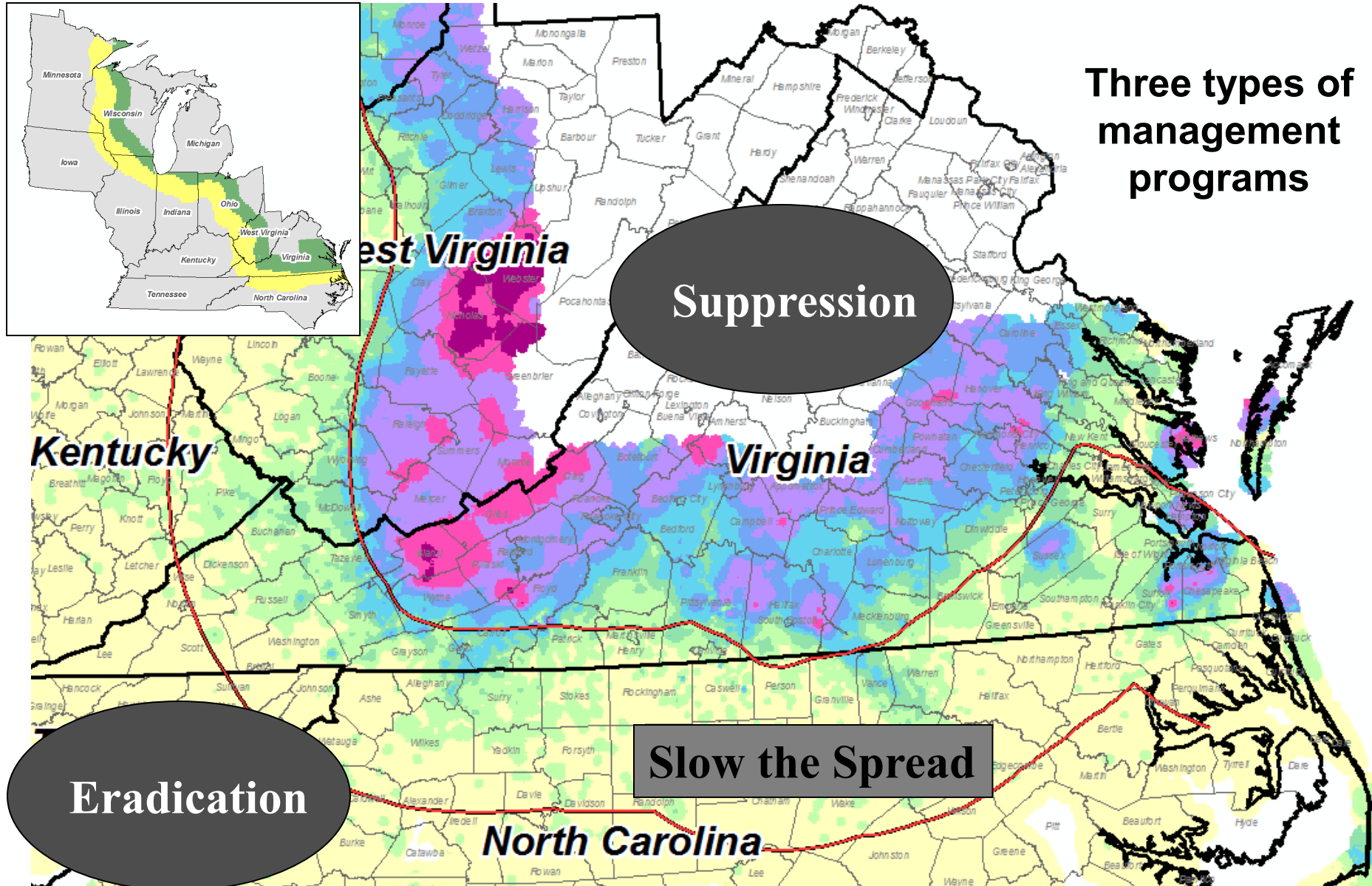


Entomophaga maimaiga

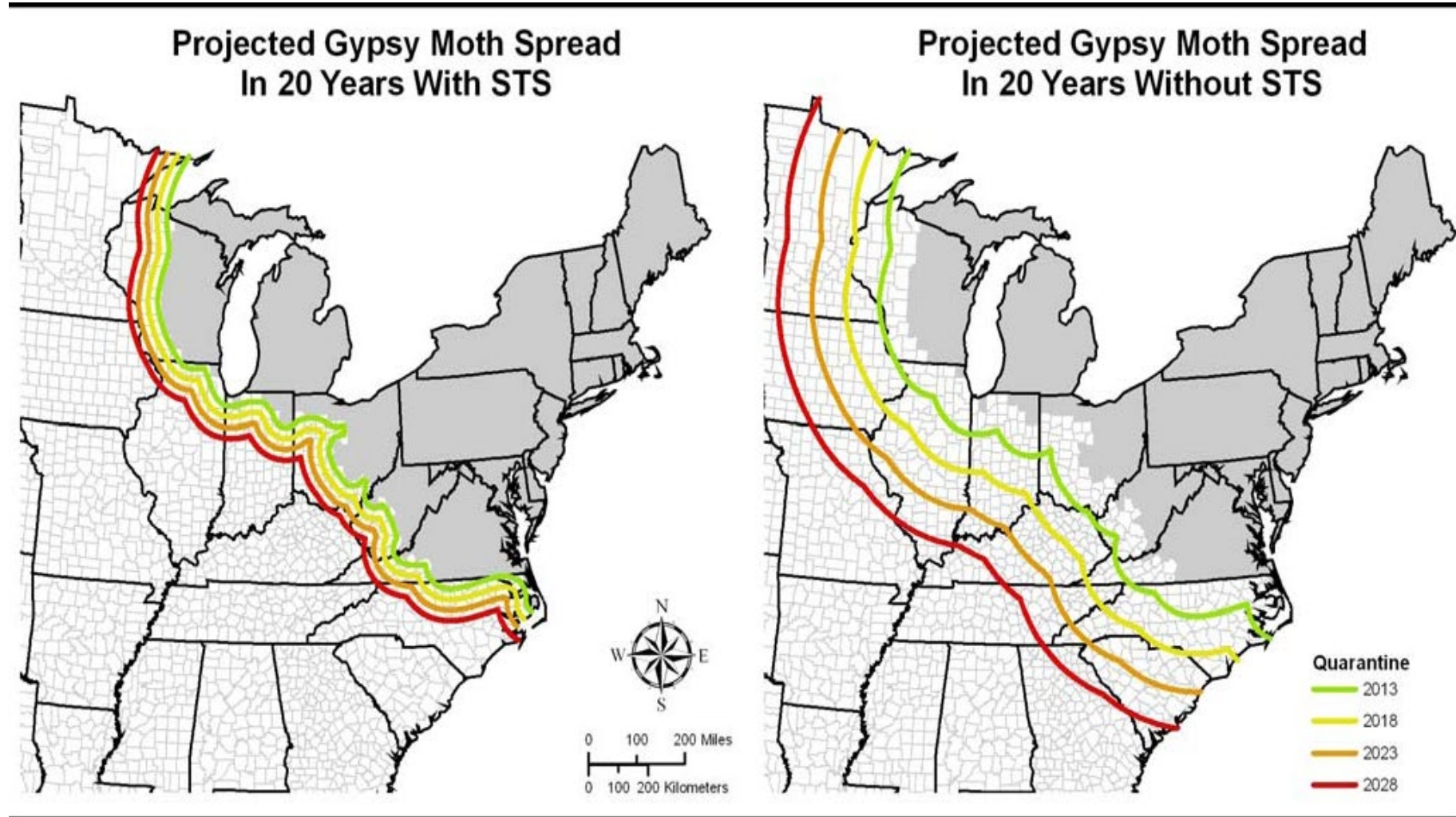
- 1908, shortly after classical efforts began to control of spongy moth populations, North American researchers studied cadavers of Japanese spongy moths which had been killed by an entomophthoralean fungus. The fungus was released in the Boston area between 1910 and 1911, but not successful [\[1\]](#)
- In the early 1980s, another attempt was made to introduce *Entomophaga maimaiga* into the wild. They obtained the sample from the western coast of Japan
- In 1985 and 1986 were made small-scale releases of laboratory spongy moth larvae injected with fungal cells. The locations were New York state and Shendandoah National Park. At the time these releases were not considered to be successful.
- In 1989, cadavers of spongy moths found hanging on tree trunks revealed large resting spores characteristic of *Entomophaga maimaiga*. The fungus found appeared to be the same species as released in 1910, 1911, 1985 and 1986. [\[2\]](#)
- The fungus spread across spongy moth populations over the next several years.
- Best infection during April and May with normal rainfall.



STS Action Area



Gypsy Moth—Slow the Spread, how might it look if no action is taken.



Current 2023 Virginia Spongy Moth Quarantine

Lymantria dispar dispar (**Spongy** Moth) Quarantine in Virginia



Spongy Moth Slow the Spread

2022 Treatments

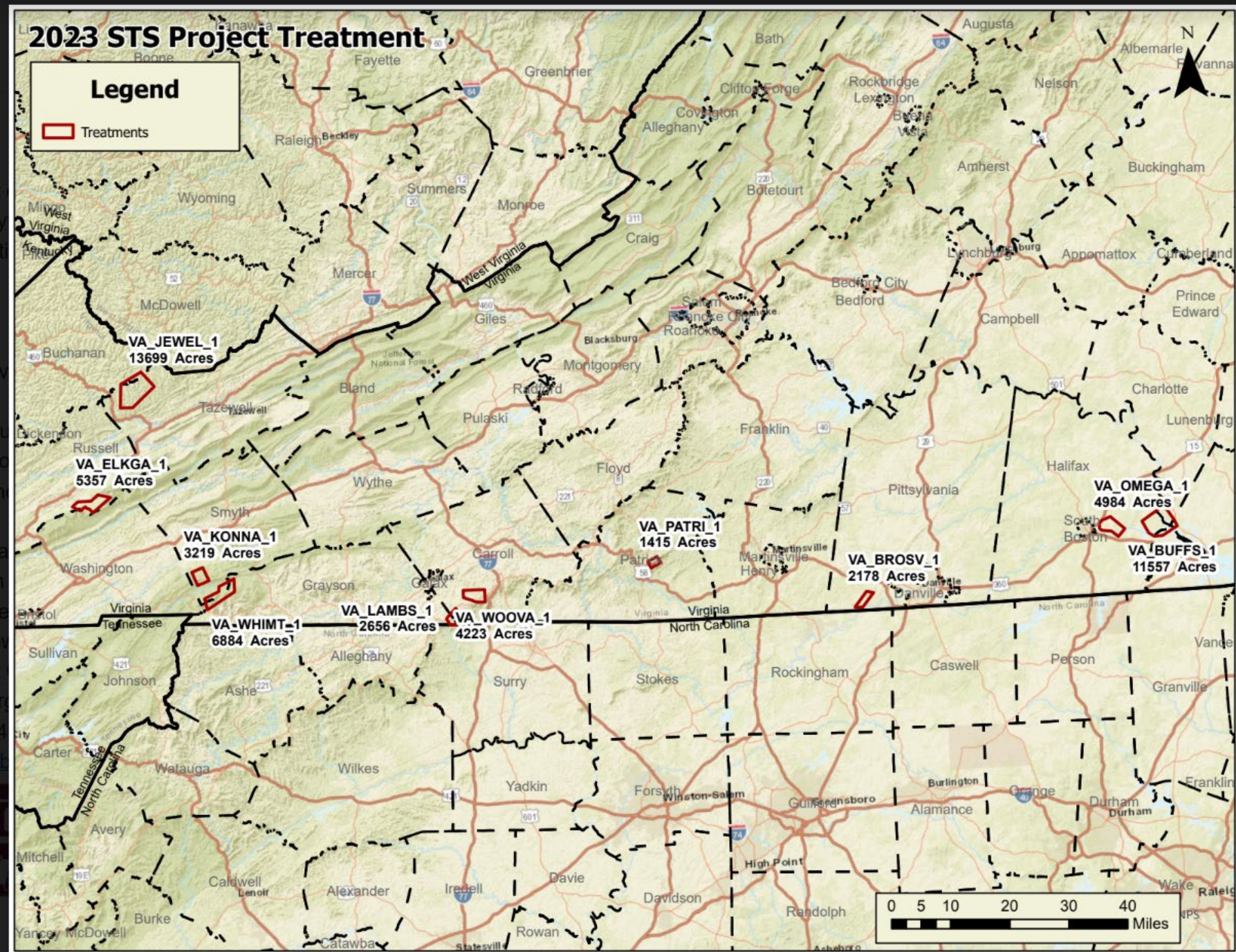
- VA treated 56,311 total acres in 16 spray blocks
- All treatments were completed by June 13, 2022
- 48,111 acres -Mating disruption - Splat
- 8,200 acres -Gypchek

Proposed plan for 2023

10 sites 56072 acres
total

Not finalized yet

The treatment
material will be
Splat, a mating
disruption material.



Emerald Ash Borer

Where are we now?

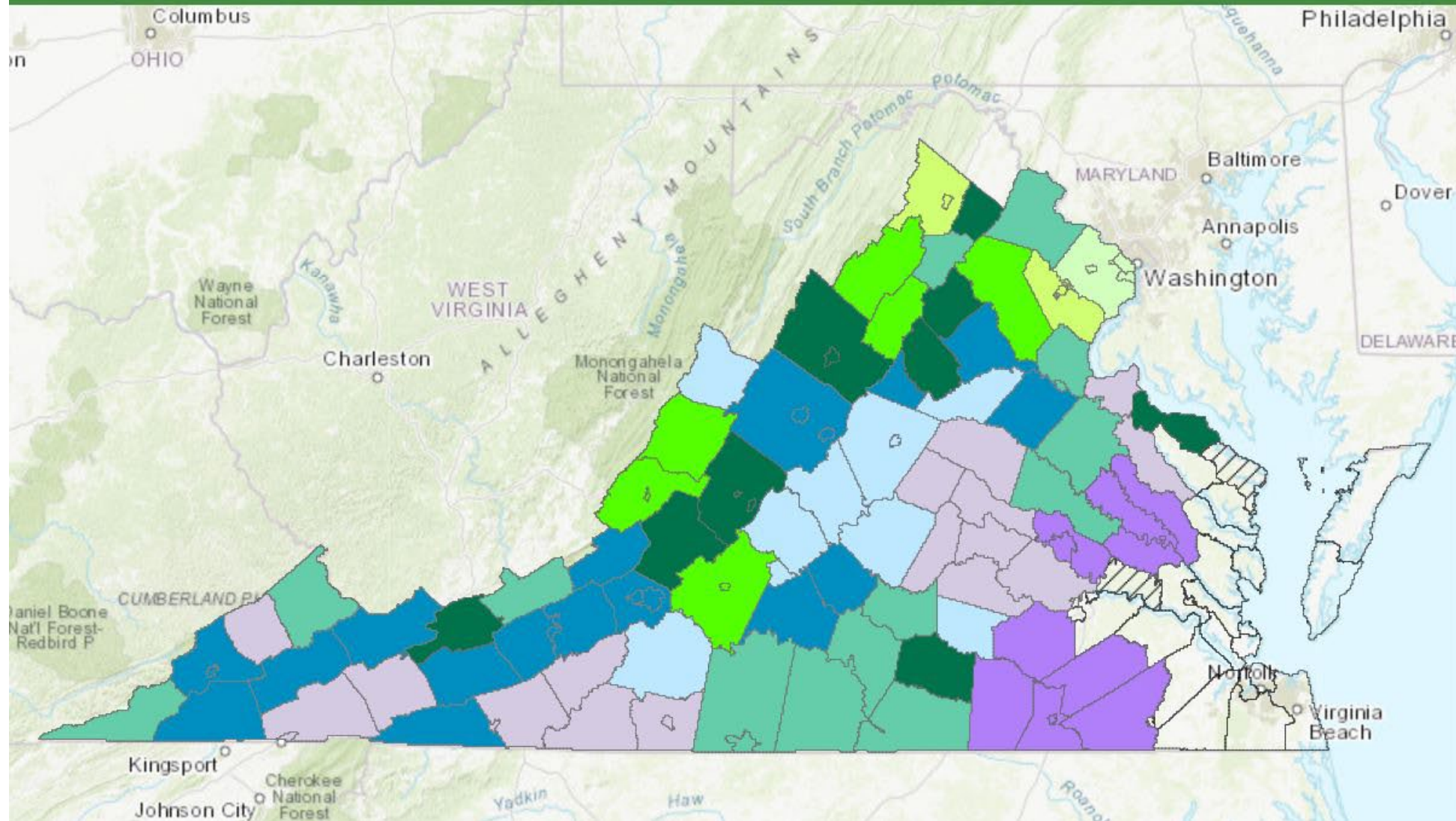
All of Virginia infested except for extreme SE

Losing limbs and starting to fall

Possible to save trees with systemic insecticide if less 30% crown loss

No survivor trees (yet?)





LEGEND

EAB_counties -
EAB_pos_counties

EAB Management considerations

\$50-75 per tree for root collar
systemic (every year)

Injection about \$500 per tree

\$500-1500 or more for tree removal

Brittle trees, best removed before
tree completely dies

Initially small branches fall, then
entire tree: small power outages to
larger power outages

Host trees: All North American Ash,
Fringe Tree in Ohio

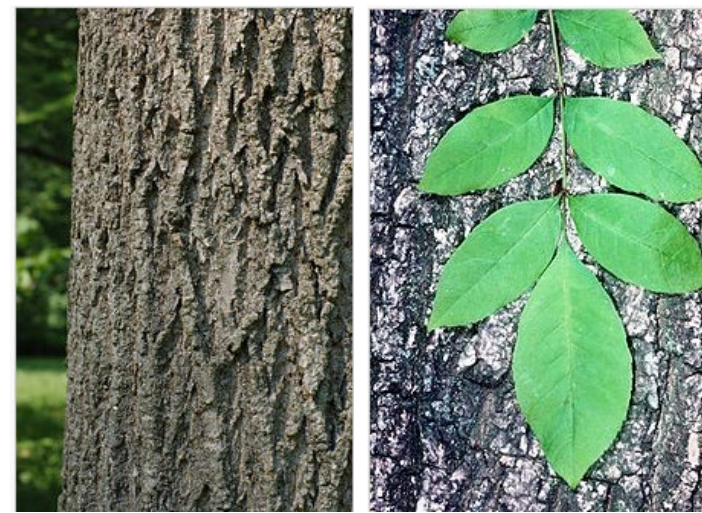




Figure 3. Hemlock woolly adelgid covering a branch of Eastern hemlock (Olivia Andrews, Virginia Tech).

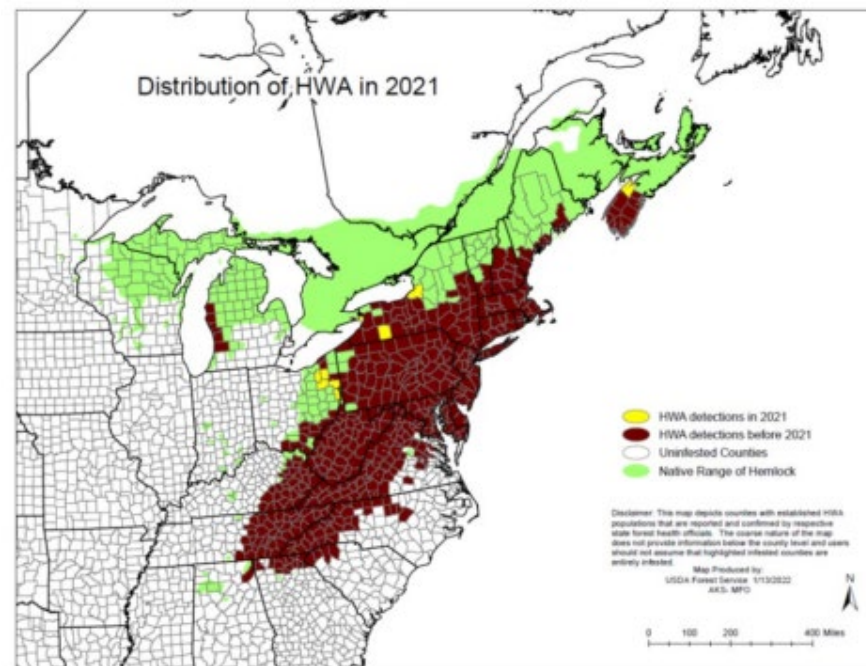


Figure 1. Current range of Hemlock woolly adelgid in the eastern United States (USDA Forest Service).



Figure 2. Nymphs settling into the base of needles (Olivia Andrews, Virginia Tech).

Hemlock woolly adelgid occurs where Eastern and Carolina Hemlock are found. It is still a major mortality factor for hemlocks but biocontrol show great promise.

Salom Lab: Two *Laricobius* species (specialists of HWA), in the order Coleoptera: Derodontidae, have been released since the early 2000s and are now well established throughout the eastern United States.

Leucotaraxis flies, that are active during this second generation of HWA, are being released with the goal of establishment and additional impact.



Red
Imported
Fire Ant
(RIFA) “fire
ants”

Currently Known Distribution of reproducing populations of the Red Imported Fire Ant in Virginia, October 2022



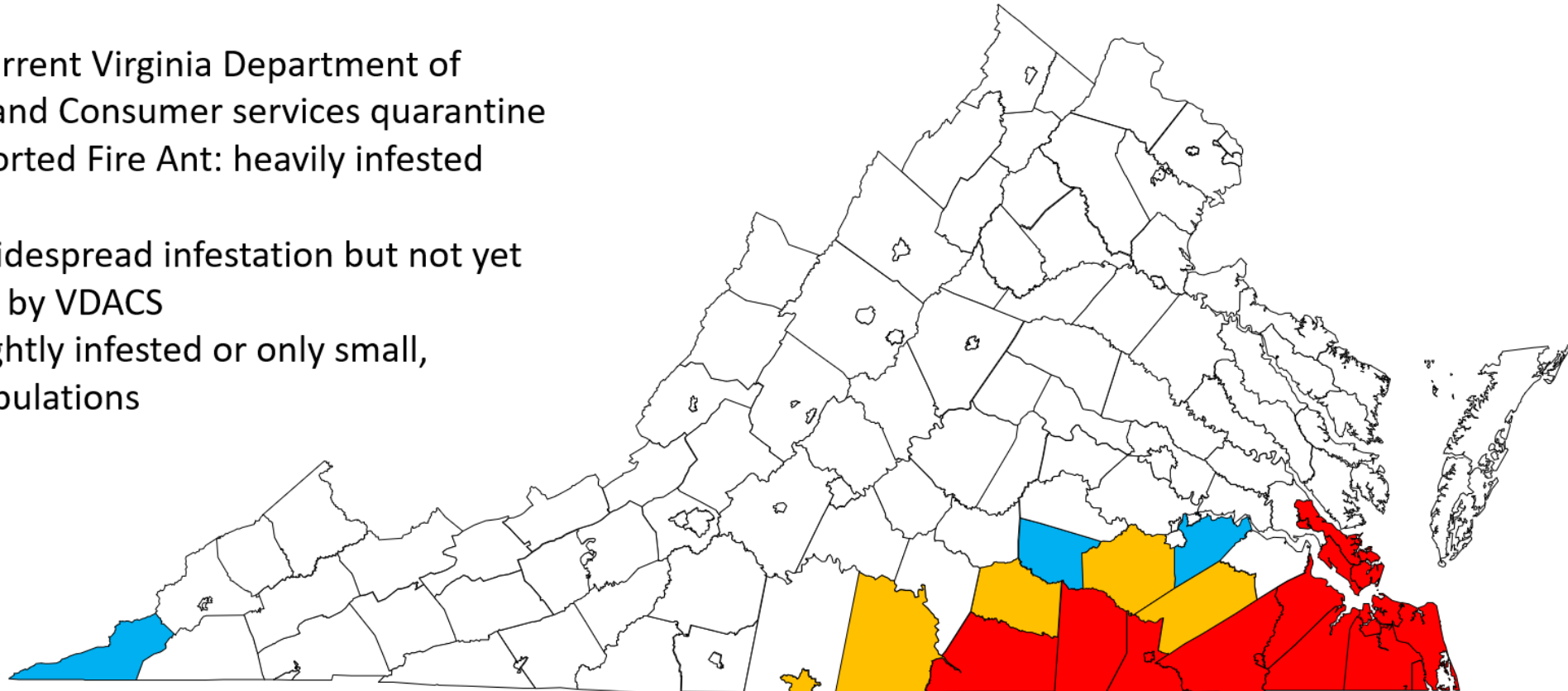
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
ENTOMOLOGY
VIRGINIA TECH.

Insect Identification Lab

Red Current Virginia Department of Agriculture and Consumer services quarantine for Red Imported Fire Ant: heavily infested areas

Orange Widespread infestation but not yet quarantined by VDACS

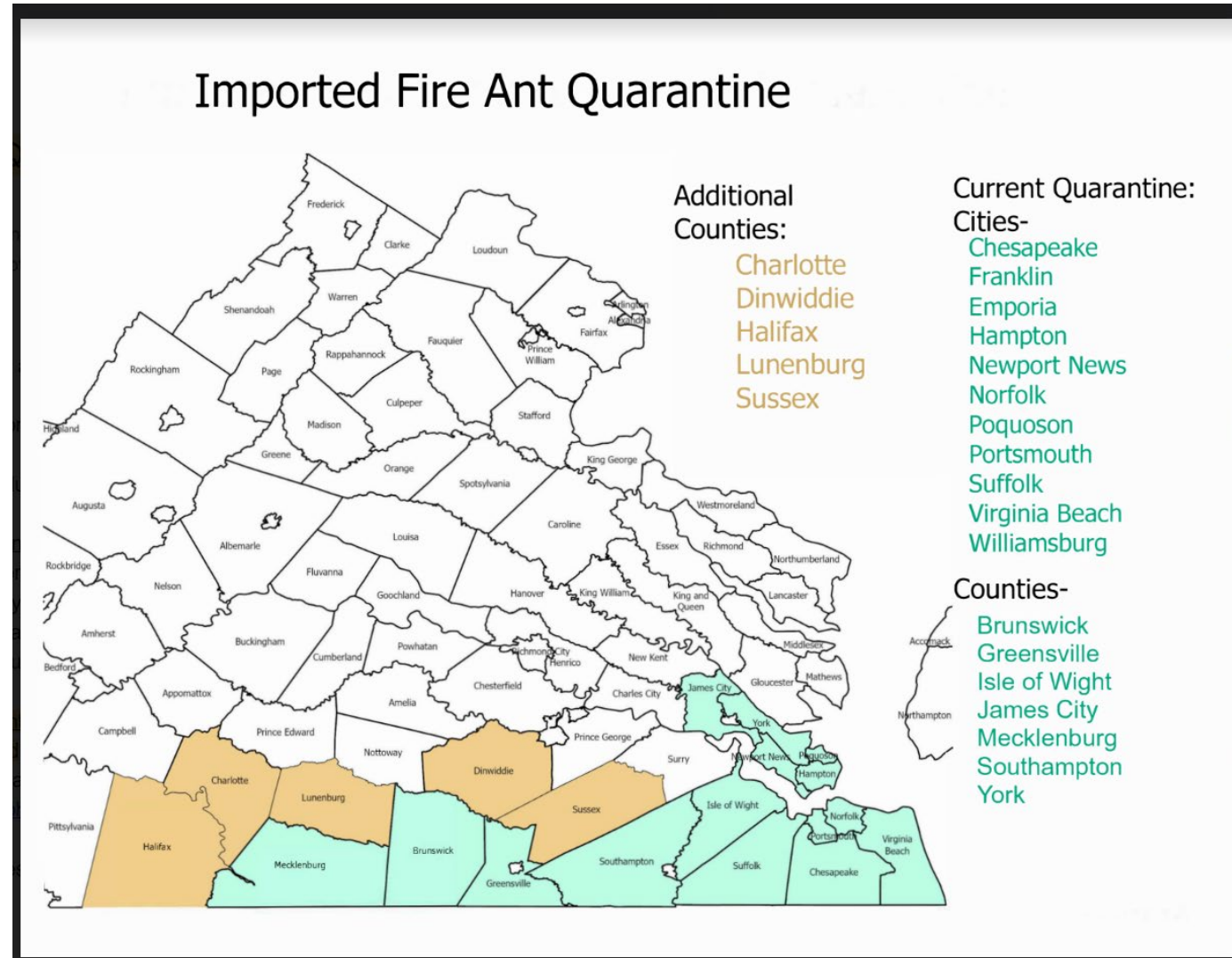
Blue Lightly infested or only small, localized populations



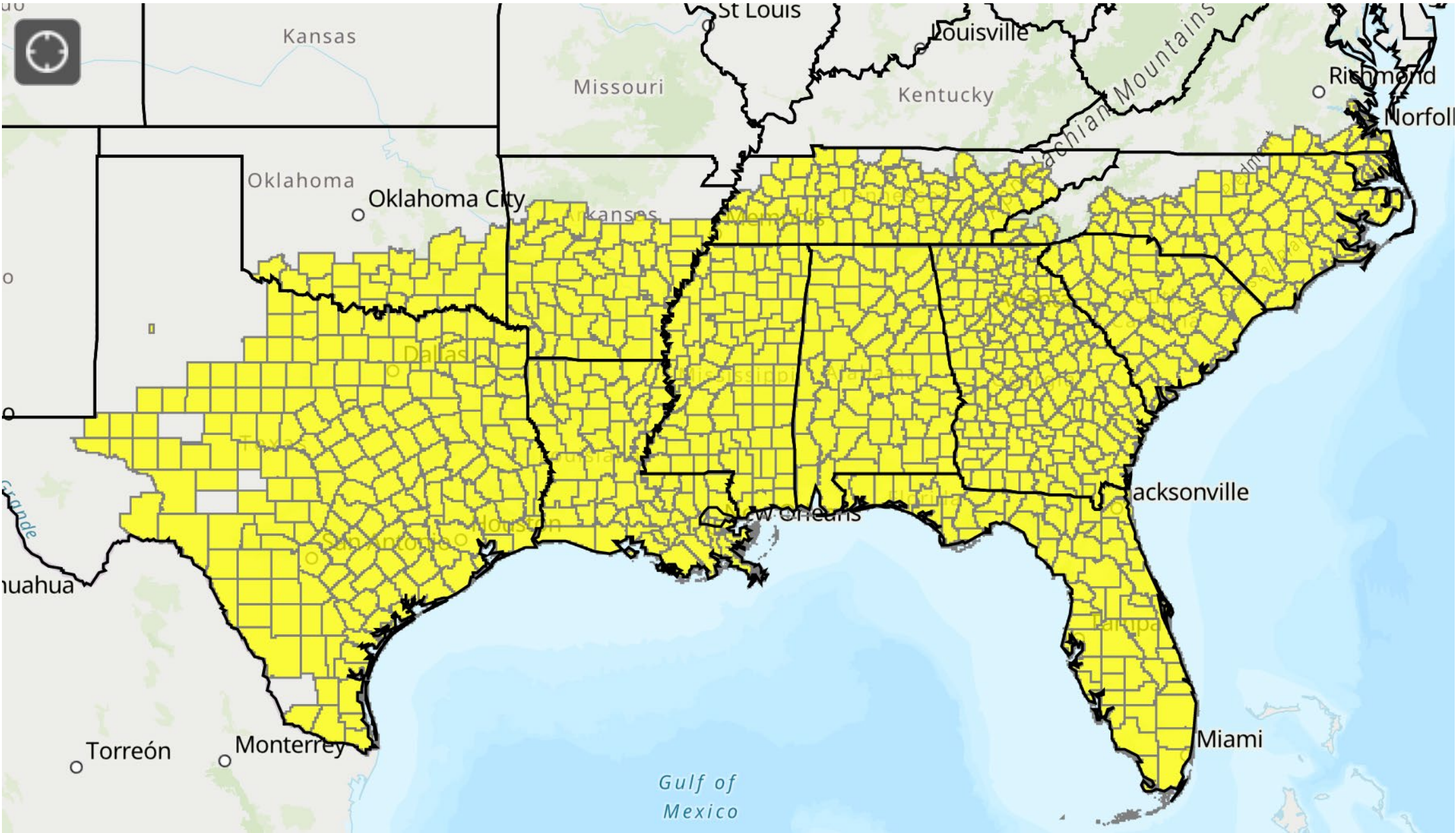
mapsandlocations.com

- First Detected in 1989: Hampton
- Early spread by infested nursery stock
- Over the years single colonies have been detected and eradicated by VDACS in other counties not indicated on this map.
- Limited to far SE Va until 2017
- New records for Brunswick, Mecklenburg, and Greenville in 2017.
- Counties indicated by green most likely a natural spread from infested counties to the south

Fire Ant Quarantine expansion December 2022



Current federal fire ant quarantine. Also included Los Angeles, CA and El Paso TX



Why comply with a quarantine?

- Protects you
- You're not the spreader
- Those you ship to may require an inspection.

Red Imported Fire Ant (RIFA) *Solenopsis invicta*
Small ant, about 1/8 inch in length

*Key features of the
Red Imported Fire Ant*

**2 segmented
club on
antenna**



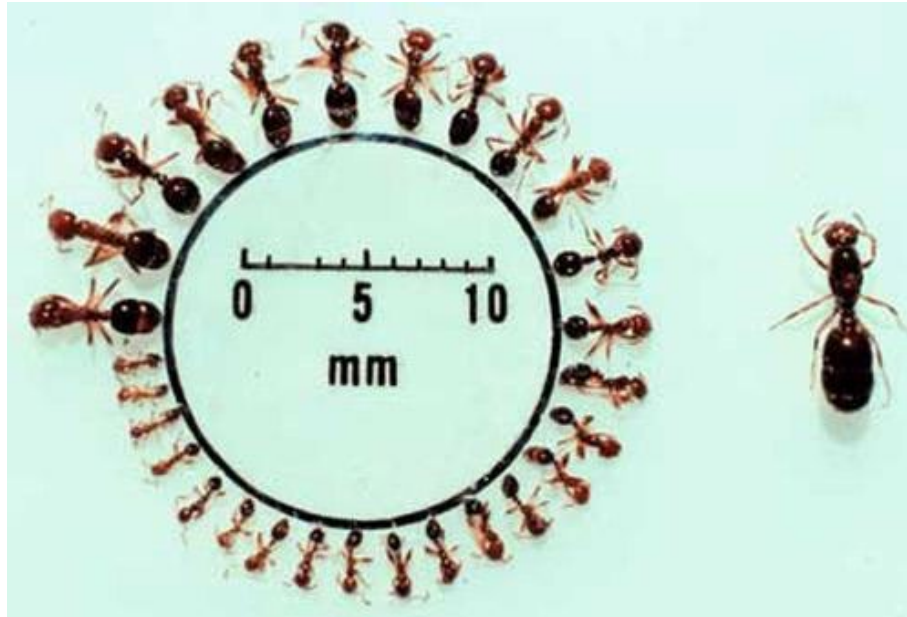
2 segmented waist

Stinger

A look-alike ant is the native Alleghany Mound Ant, it is a mound builder that has a painful bite.

Winter:
Little or no
activity

Spring: Mating flights and new colonies



Summer:
Mound Building
and colony
growth

Fall: Mounds are maximum
size, colony activity slows

Photograph by Sanford
D. Porter, USDA,
Gainesville, FL.

Fire Ants in a cutover situation.

Look for mounds close to stumps, roads, and ditch banks. (September 2021, Lunenburg County)



Worker Safety

Not everyone has a severe reaction, but its important to know about fire ants and to monitor yourself if you are stung.

Red Imported Fire Ants can quickly move into cutover situations once the canopy is gone and develop mounds where trucks and other equipment are moving through or parked.

Check for loose soil before moving any trucks or equipment



Paul Bolstad, University of Minnesota, Bugwood.org



Dealing with Fire Ants

- **The Virginia 2-step followed by the Texas 2-step**
- **Virginia**
 - **Step One: If you are logging in a quarantine county, contact the Virginia Department of Agriculture to see if you need an inspection or permit.**
 - **Step Two: Get a positive identification of the fire ants and control them in the logging area.**

Dealing with Fire Ants

- **The Virginia 2-step followed by the Texas 2-step**
- **Texas 2 Step**
 - **Step One: Bait Treatment**
 - **Step Two: Mound Treatment**

New Fire Ant section in the Virginia Pest Management Guide for loggers and truckers

Horticultural & Forest Crops 2022

PESTS OF FORESTRY AND CHRISTMAS TREES: Christmas Tree Weeds 8-25

Red Imported Fire Ant Management for Foresters and Loggers

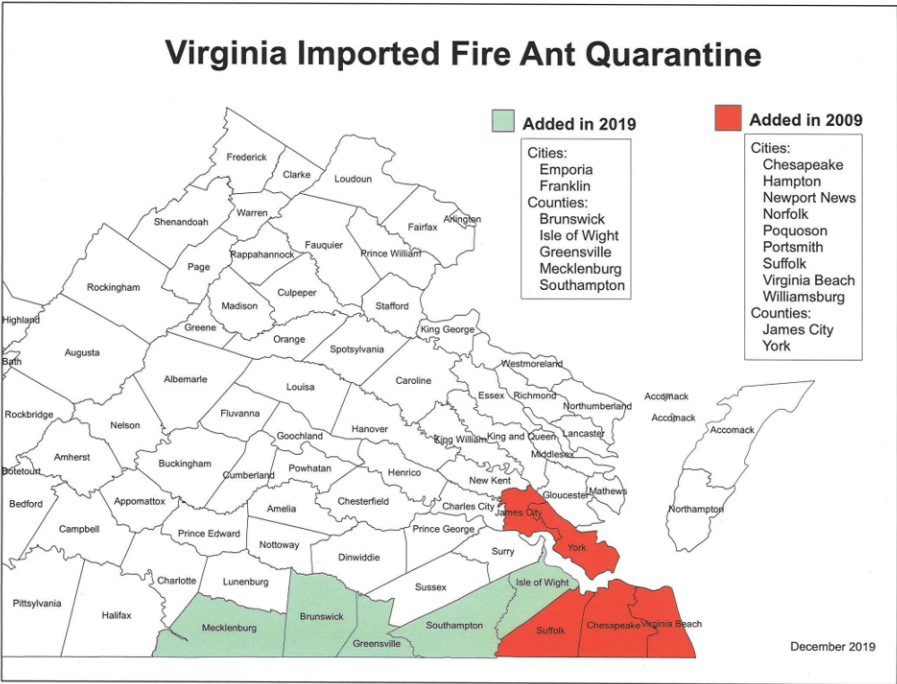
Eric Day, Scott Salom, Lori Chamberlin, Theresa Dellinger, and Katlin DeWitt

This guide is for foresters, woodland owners, and loggers in the Virginia quarantined counties of Brunswick, Greensville, Isle of Wight, James City, Mecklenburg, Southampton, and York and the independent cities of Chesapeake, Emporia, Franklin, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg.

If you suspect a fire ant infestation within the quarantine area, please use caution and contact your local Virginia Cooperative Extension office for identification. If you suspect a fire ant infestation in Virginia outside of the known locations, submit a sample for confirmation to the Insect Identification Laboratory, via your local Virginia Cooperative Extension office.

If you have questions or need a permit because you are moving logs, trucks, or equipment outside of the quarantine area, contact the Virginia Department of Agriculture and Consumer Services (VDACS) Office of Plant Industry Services. Or call 804-786-3515

2021 Fire Ant Distribution and Quarantine in Virginia



For information on who needs to have a permit and inspection, please visit:
<https://www.vdacs.virginia.gov/plant-industry-services-fire-ant-suppression-and-eradication.shtml>

8-26 PESTS OF FORESTRY AND CHRISTMAS TREES: Christmas Tree Weeds

Horticultural & Forest Crops 2022

■ Identification of the Red Imported Fire Ant, (RIFA), *Solenopsis invicta*

Several species of native mound ants that are capable of giving painful stings or bites are found in Virginia. The RIFA is an invasive species that has spread throughout the southeastern United States. It is a small red and black ant that is less than ¼ inch long. It has a thin, two-segmented waist and a two-segmented club on the end of each antenna. Its stinger is at the end of the abdomen and is retracted inside the body when not in use. For detailed information on identification and biology, see Red Imported Fire Ant (RIFA) 444-284 (ENTO-342P) by Dini Miller, Professor and Extension Specialist, Entomology, Virginia Tech; and Hamilton Allen, Graduate Student, Department of Entomology, Virginia Tech, <https://www.pubs.ext.vt.edu/444/444-284/444-284.html>

If you see red imported fire ants for the first time or suspect you have a new county record, please submit a sample to your local Virginia Cooperative Extension office. Specimens will need to be in a jar with rubbing alcohol. Use caution when collecting a sample and avoid being stung. An easy method is to use a plastic container and while wearing gloves and long sleeves, quickly scoop up some soil from the top of the mound where the ants are active and quickly mix in rubbing alcohol. Make sure not to step on an adjacent mound when sampling.

RIFA mounds are usually located in sunny locations in non-compacted soils. Look for them along fences, next to farm buildings, near electrical boxes, base of trees and stumps, and containerized trees. Ant mounds will be about 6-8 inches tall and about 12 inches in diameter. Fire ant colonies may also be located under crop debris and litter including trash.

MANAGEMENT IN WOODED AREAS

Fire ants are not normally a problem on established forestry land and do not need to be controlled if no activity is taking place. Fire ants prefer open and sunny locations but are associated with trees when the trunk or base of the tree is exposed to sunlight. Fire ants have been located as well in forest clearings following timber harvests and during site preparation and reforestation operations. Fire ants are rare in shaded woods in part due to high population densities of native ants. For fire ant problems on the interface of housing and woodland areas see the Fire Ant section in the Virginia Pest Management Guide: Home Grounds and Animals.

BEFORE AND DURING HARVEST

Check along newly established logging roads and edges of loading docks for fire ant mounds. Pay particular attention to the base of trees, fence rows, and on relatively undisturbed soils adjacent to those sites. Soil and sand packed by traffic are not likely to have fire ant mounds.

Insect	Recommended Control	Remarks
Fire Ants (All logging situations in the infested counties)	Step 1, Bait treatment Amdro Pro (hydramethylnon) Extinguish (methoprene) Step 2, Mound treatment acephate bifenthrin dinotefuran lambda-cyhalothrin spinosad	Timing of treatment: Apply when worker ants are actively looking for food, usually in late afternoon or in the evening. To test, put a small pile of bait next to a mound and see if the ants find it within 30 minutes. Baits: Use fresh bait, preferably from an unopened container. Apply when the ground and grass are dry and no rain is expected for the next 24 to 48 hours. Apply baits with hand-held seed spreaders. Don't apply baits mixed with fertilizer or seed. Baits can be applied anytime during the warm season but fire ants in Virginia have peak activity in late summer. Re-apply baits once or twice a year depending on the situation. Step 2 Treat problem mounds that still have ants with a labeled contact insecticide

SPECIAL INFORMATION FOR DRIVERS MOVING LOGS AND EQUIPMENT FROM SITES IN THE QUARANTINE ZONE.

Logs, plant material, soil, and the vehicles that move material are potential carriers of live fire ants. Conveyances (logging trucks, trailers and equipment) may pick up soil on any part of their structure during the course of operations, and this soil may contain RIFA. It is important to check for clumps of soil trapped on the truck or skidder before it leaves the site.

Regulated articles that may be moved by loggers

Under the terms of the Virginia Fire Ant Quarantine, articles that are capable of transporting the red imported fire ant (regulated articles) are prohibited from moving out of the quarantined area unless certified as free of RIFA. Individuals who plan to move regulated articles out of the quarantined area should Contact VDACS' Office of Plant Industry Services to determine options for certifying regulated articles as free of red imported fire ants.



Cultural control

Drenching the mound with boiling hot water will kill the fire ant colony about 60% of the time. This must be done very carefully so as not to get burned.

Home remedies such as grits, molasses, or club soda are not effective.

Chlorine, ammonia, gasoline, or diesel fuel can contaminate the soil and ground water and are not recommended and may be illegal.

Biological control is not available for sale

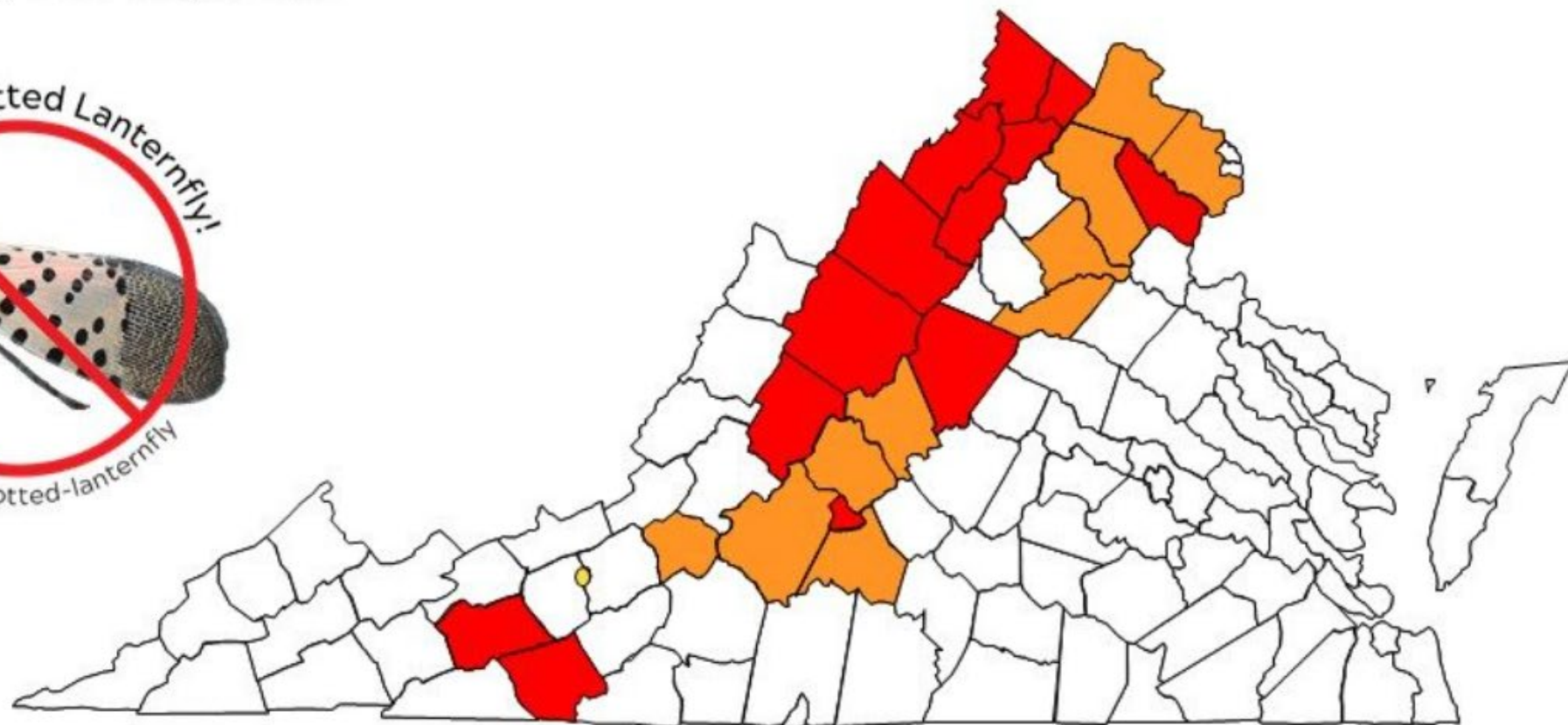


Applying bait to the top of fire ant mound. Photo by Eric Day, Va Tech

Spotted Lanternfly Biology, Life Cycle and Distribution



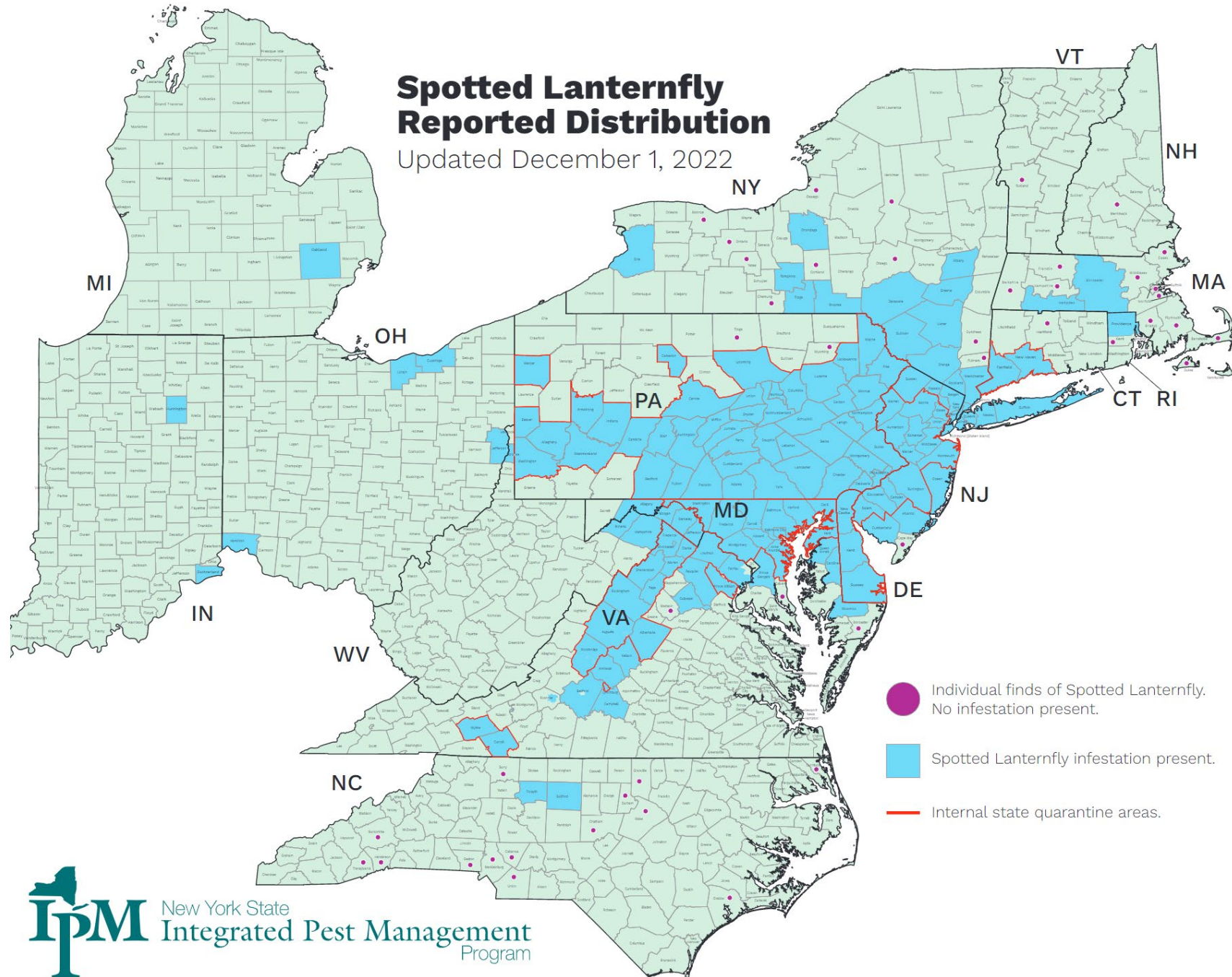
Currently Known Distribution of Reproducing Spotted Lanternfly Populations in Virginia, Oct 27, 2022



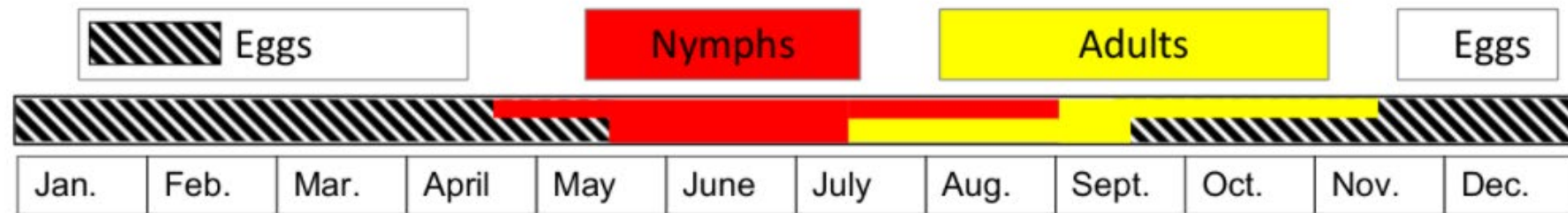
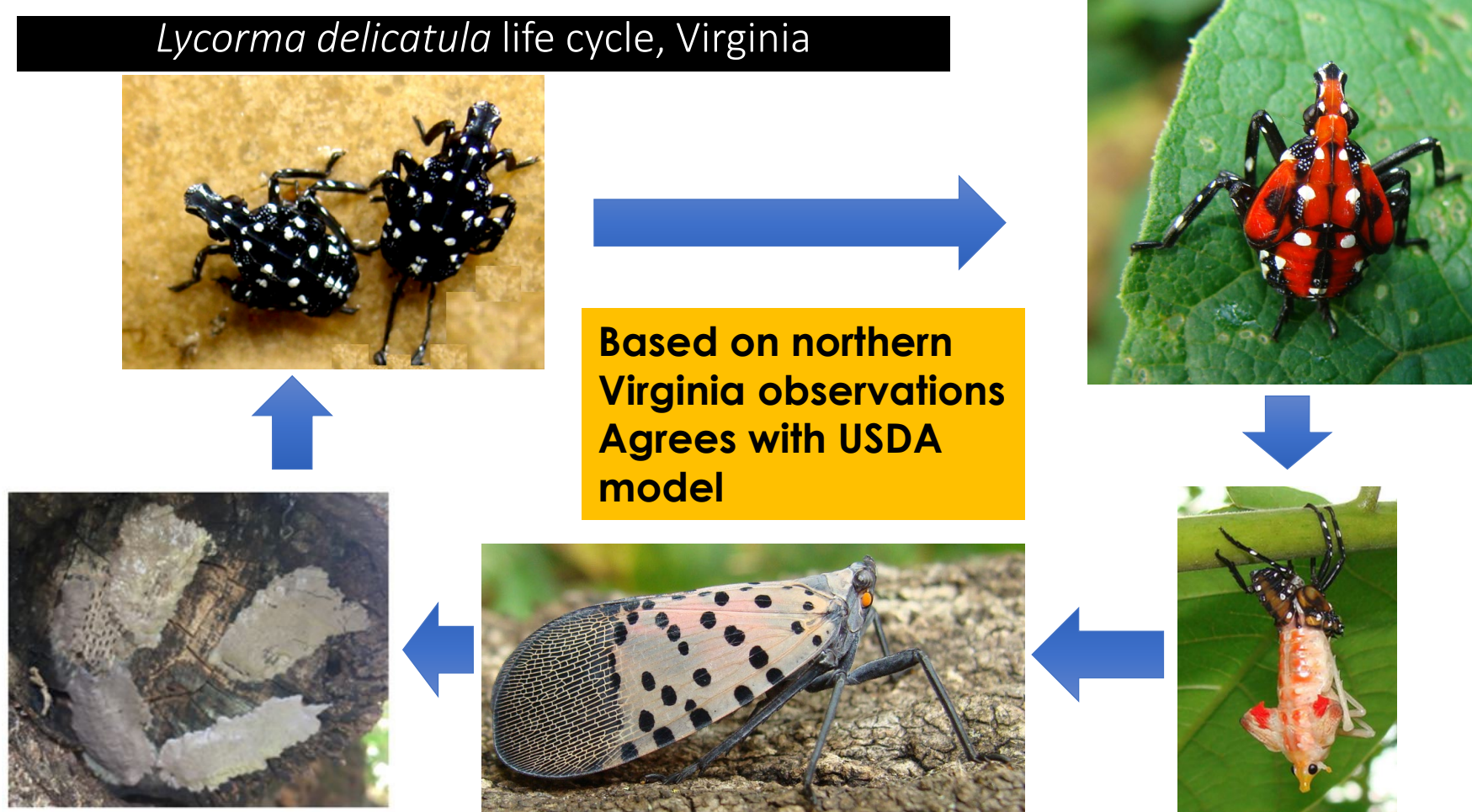
- | | |
|---------------|--|
| Red | Current Virginia Department of Agriculture and Consumer Services (VDACS) quarantine for Spotted Lanternfly |
| Orange | Lightly infested or only small, localized populations and not quarantined by VDACS |
| Yellow | Single interceptions found, but not considered to be reproducing populations |

Spotted Lanternfly Reported Distribution

Updated December 1, 2022



Lycorma delicatula life cycle, Virginia



First egg mass mid-September or 3000 GDD

Fresh
waxy
covering

Old
hatched
eggs with
no
covering

Older egg
masses with
dull covering



September – April: overwintering egg stage.



Dispersal

Nymphs -

All nymphal stages jump or hop from host plant to host plant.

Adults -

Adult spotted lanternflies make repeated migratory flights depending on conditions and food sources.

In Virginia 70 days between first observed adult and first observed egg mass, dispersal is occurring throughout that time.

Combination of 3 to 4 miles through walking, jumping and flying



Hitchhiking, the other Dispersal

Humans are the most common form of movement from infested areas to new non-contiguous locations (jumps)

Nymphs

Can move on cargo but have a high mortality that limits the spread.

Adults

Have repeated short duration flights and can land on vehicles and are commonly encountered flying into open windows. Adults land on products being loaded onto trucks and trains. A single gravid female can lay up to 3 egg masses after being transported.

Eggs masses

Egg masses can be laid on timber and nursery plants. In addition egg masses can be laid on vehicles, metals, artificial and natural surfaces, concrete, and quarry products.

Much like Spongy Moth, anything stored outside in an infested area are potential conveyance's for SLF egg masses.



Spotted Lanternfly Host
list Virginia
Sutphin, Pfeiffer, Day, et
al

46 different hosts and
counting
Prefers: Tree-of-heaven,
walnut, maples, cherry,
and anything next to TOH



- Apple, Crab (e)
- Ash (e)
- Birch, River (e)
- Boston Ivy (e)
- Boxelder (e)
- Burdock
- Cabbage-tree
- Cherry, Wild (e)
- Chestnut, Chinese (e)
- Dogwood, Flowering (e)
- Elm (e)
- Evodia, Korean (e)
- Grape, Table
- Grape, Wild
- Hackberry
- Heptacodium
- Holly, Nellie Stevens, (e only)
- Honeysuckle, Bush (e)
- Honeysuckle, Japanese
- Hornbeam (e)
- Ivy, English
- Ivy, Poison
- Linden, Little Leaf (e only)
- Locust, Black (e)
- Locust, Honey (e)
- Maple, Big Leaf (e)
- Maple, Field (e)
- Maple, Freeman (e)
- Maple, Japanese
- Maple, Norway (e)
- Maple, Red (e)
- Maple, Silver (e)
- Maple, Sugar (e)
- Mimosa
- Mulberry, White
- Oak, Red (e only)
- Oak, Willow (e only)
- Paulownia, Royal (e)
- Pawpaw (e)
- Pine, White (e)
- Rose, Multiflora
- Snowbell, Japanese
- Sumac, Smooth
- Tree of heaven (e)
- Virginia Creeper (e)
- Walnut, Black (e)
- Walnut, English (e)
- Willow, Corkscrew (e)
- Zelcova, Japanese (e)

e = Eggs found (ootheca) and may not be a true host

What's on logging trucks?

Data from Karen Snape, Scott Barrett, Jason Fisher, and Adam Downing.



Paul Bolstad, University of Minnesota, Bugwood.org

UGA1437117

- Birch, River (e)
- Cherry, Wild (e)
- Elm (e)
- Locust, Black (e)
- Locust, Honey (e)
- Maple, Red (e)
- Maple, Sugar (e)
- Oak, Red (e only)
- Oak, Willow (e only)
- Paulownia, Royal (e)
- Pine, White (e)
- Tree of heaven (e)
- Walnut, Black (e)

e = Eggs found (ootheca) and may not be a true host

Spotted Lanternfly and Fire Ants Resources

Spotted Lanternfly, see:

<https://ext.vt.edu/agriculture/commercial-horticulture/spotted-lanternfly.html>



Fire Ant:

https://www.ento.vt.edu/4-H_Entomology/fire_ant/resource_page.html



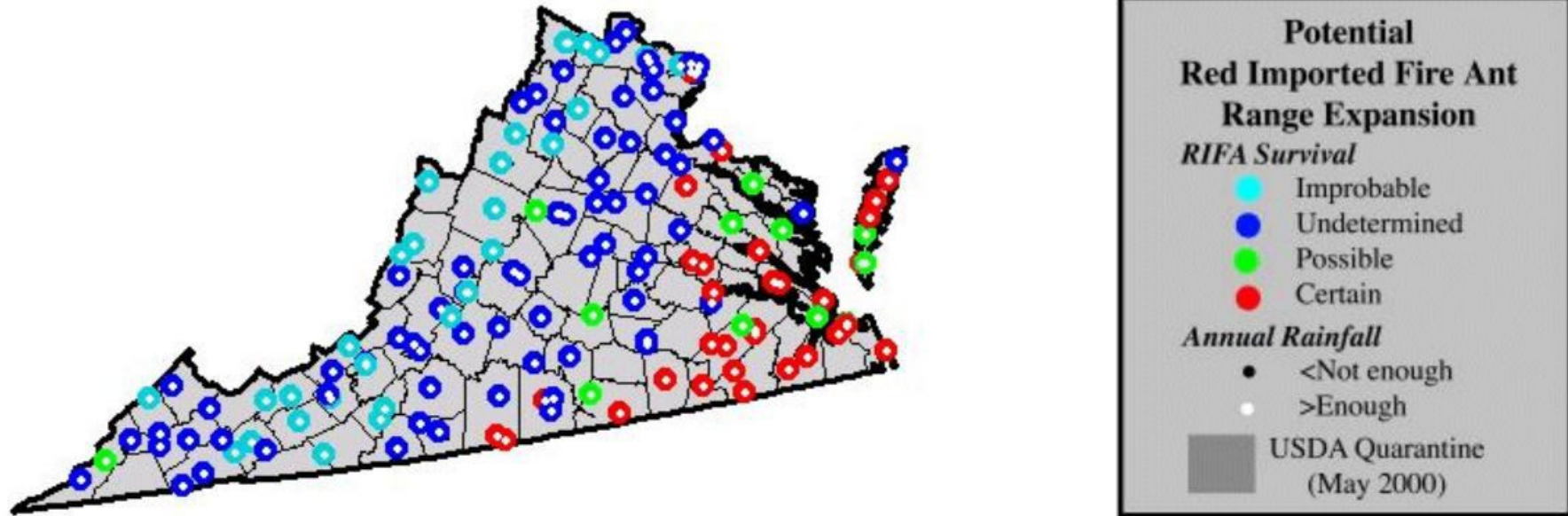


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Are there Fire ants in your future?

Source: Morrison, L.W., S.D. Porter, E. Daniels, and M.D. Korzuhkin. Potential global range expansion of the invasive fire ant, *Solenopsis invicta*. *Biological Invasions* 6: 183-191. 2004

<https://www.ars.usda.gov/southeast-area/gainesville-fl/center-for-medical-agricultural-and-veterinary-entomology/imported-fire-ant-and-household-insects-research/docs/potential-united-states-range-expansion-of-the-invasive-fire-ant/virginia/>

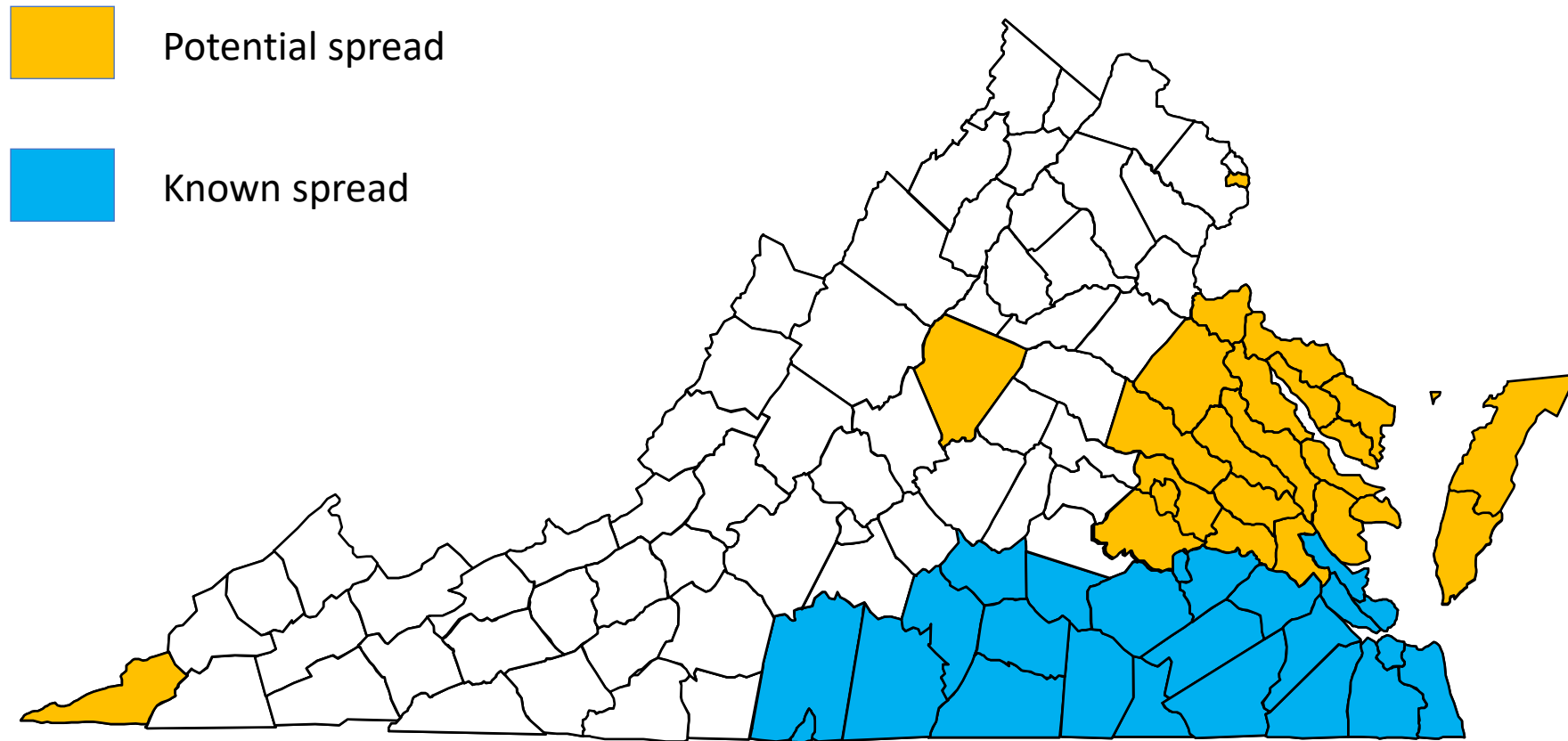


Last Modified: 10/5/2017

0 50 100 150 200 Miles



Overlay of potential spread with known infestations



Possible and certain spread of the Red Imported Fire Ant based on computer model from Morrison et al, 2004

Morrison, L.W., S.D. Porter, E. Daniels, and M.D. Korzhukin. Potential global range expansion of the invasive fire ant, *Solenopsis invicta*. *Biological Invasions* 6: 183-191. 2004

<https://www.ars.usda.gov/southeast-area/gainesville-fl/center-for-medical-agricultural-and-veterinary-entomology/imported-fire-ant-and-household-insects-research/docs/potential-united-states-range-expansion-of-the-invasive-fire-ant/virginia/>

During Harvest

Insect Host	Recommended Control	Remarks
Fire Ants (All logging situations in the infested counties)	<p>Step 1, Bait treatment Amdro Pro (hydramethylnon) Extinguish (methoprene)</p> <p>Step 2, Mound treatment acephate bifenthrin dinotefuran lambda-cyhalothrin spinosad</p>	<p>Timing of treatment: Apply when worker ants are actively looking for food, usually in late afternoon or in the evening. To test, put a small pile of bait next to a mound and see if the ants have found it within 30 minutes.</p> <p>Baits: Use fresh bait, preferably from an unopened container. Apply when the ground and grass are dry and no rain is expected for the next 24 to 48 hours. Apply baits with hand-held seed spreaders. Don't apply baits mixed with fertilizer or seed. Baits can be applied anytime during the warm season but fire ants in Virginia have peak activity in late summer. Re-apply baits once or twice a year depending on the situation.</p> <p>Step 2 Treat problem mounds that still have ants with a labeled contact insecticide</p>

Leaving the site

Inspect the truck before beginning your trip even if it has been on site for only a short period of time. The business owner is responsible for getting the cargo inspected and giving you a copy of the permit before you leave the quarantine area. To obtain a permit, the business owner should contact the Virginia Department of Agriculture and Consumer Services.

Insect Host	Recommended Control	Remarks
Fire Ants (Trucks, skidders, and other conveyances that can carry soil)	Sweep or powerwash soil from all vehicles, trainers, and equipment that is moved from a logging operation in an infested county. Set aside an area to clean conveyances	Trailer landing gear, outriggers, and loader are all have the potential to carry soil infested with fire ants. Conveyances are defined as skidders, trucks, trailers, and any other equipment that can potentially move soil with fire ants. Truckers should consult the USDA brochure entitled Truckers: <i>Don't Let Imported Fire Ants Hitch a Ride</i> at https://www.aphis.usda.gov/plant_health/plant_pest_info/fireants/downloads/ifa-truckers-brochure.pdf



Overwintering stage from mid-September to late April

Old, hatched eggs

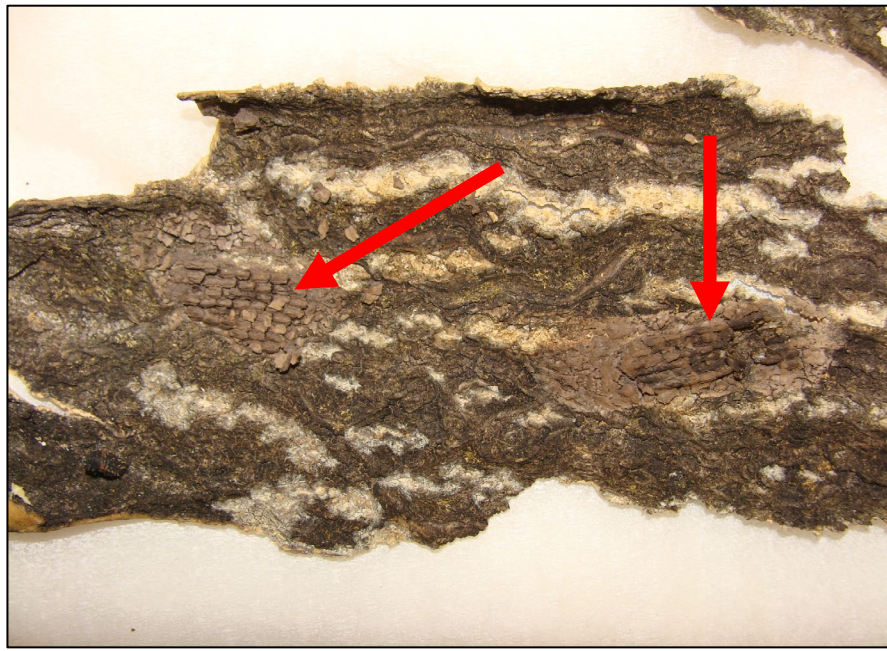
Freshly laid egg mass



Older egg masses



Photos by Theresa Dellinger, Virginia Tech



Spotted Lanternfly Life Cycle in Virginia

The Spotted Lanternfly (SLF) overwinters in an egg mass (diagonal lines) that begins shiny gray but quickly turns to a dull brownish gray. The eggs hatch in early May and the nymphs (red bars) are present until late July when they become adults (yellow bars). Adults start to lay eggs in September. The life stages can overlap and, depending on the time of year, multiple stages can be found at the same time.



Multiple egg masses
Size- about 1.5 inch (33 mm) long



Young nymphs
Size- up to 3/8 inch (4 mm)
long.



Mature nymphs
Size- 7/8 inch (12 mm) long



Adult
Size- about 1 inch (25 mm) long

Eggs

Nymphs

Adults

Eggs



Prepared by Eric Day, Doug Pfeiffer, Theresa Dellinger, Mark Sutphin and Beth Sastre. Photos left to right: Cluster of 5 egg masses; nymphs, showing black with white spots coloration for 1st-3rd stages; red 4th stage; and adult. (Photo of eggs by Mark Sutphin, photos of nymphs and adult by Eric Day)

Red Imported Fire Ant (RIFA)

Solenopsis invicta

Small but packs a big
punch

About 1/16 to 1/4 inch
long

Sting with venom.

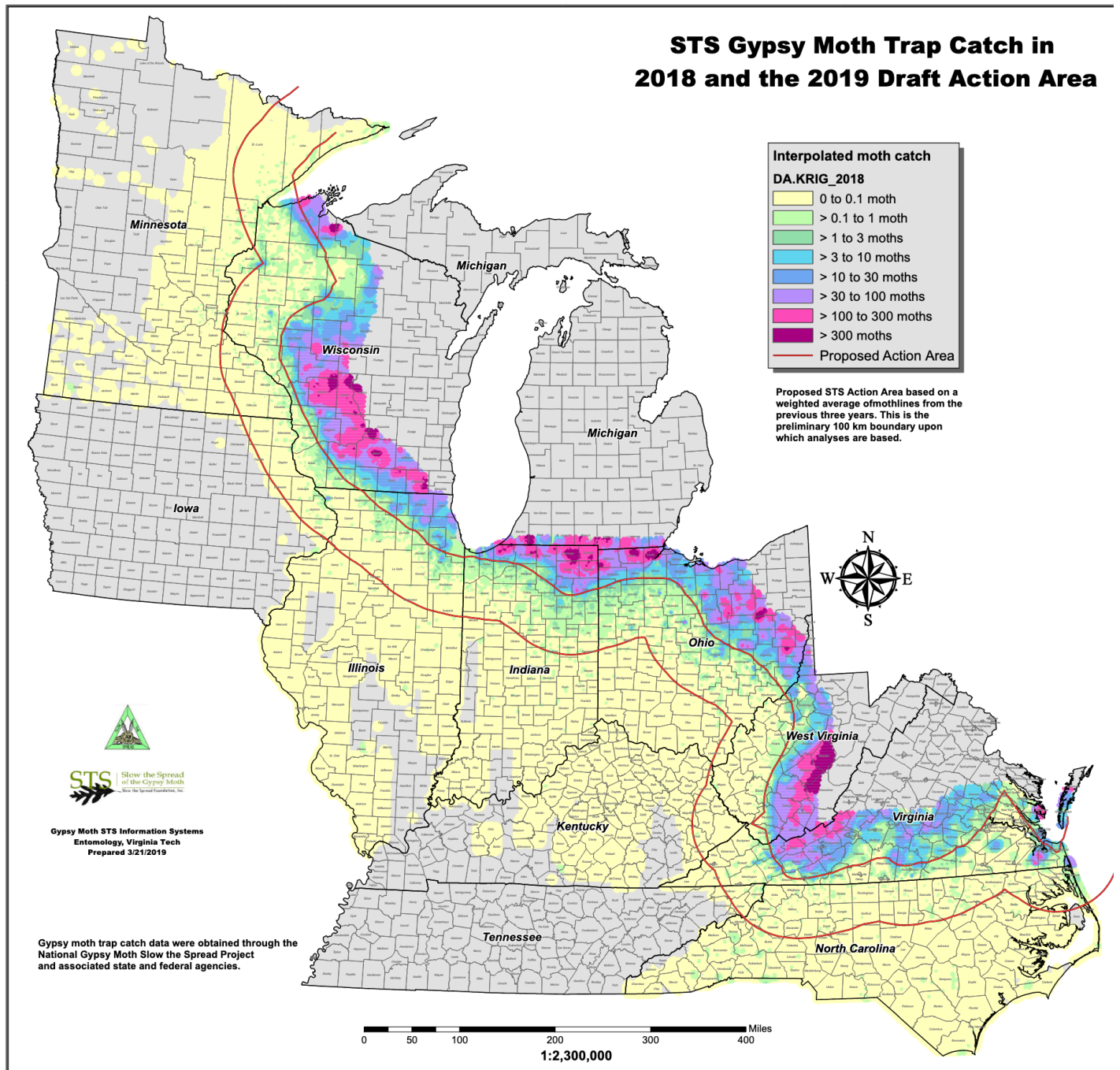


Gypsy Moth Advance

Beyond Boundary:
Eradication

Within Boundary (100 km):
STS

Behind Boundary:
Evaluation/Suppression
Area



Fire ants do not hibernate, but have very reduced activity and can be found about 8-10 inches deep.



Fire Ants in a cutover situation



Fire Ants Resources

Distribution, control, biology, quarantine

https://www.ento.vt.edu/4-H_Entomology/fire_ant/resource_page.html

Red Imported Fire Ant Resource Page

Resources from the Virginia Tech Department of Entomology

Red Imported Fire Ant (RIFA) distribution in Virginia

RIFA is found primarily in southeastern Virginia but has been spreading westward along the southern border. RIFA has been found in the Cities of Chesapeake, Hampton, Newport News, Poquoson, Portsmouth, Suffolk, Virginia Beach, Williamsburg, Emporia, Franklin and Danville; and in the counties of James City, York, Brunswick, Isle of Wight, Greenville, Mecklenburg, Southampton, Lee, Halifax, Charlotte, Lunenburg, Dinwiddie, and Sussex. Additional locations will be added to this list as they are verified by the US Department of Agriculture.

https://www.ento.vt.edu/4-H_Entomology/fire_ant.html

The Fire Ant Quarantine by VDACS only includes locations on its map near transportation corridors or with large, widespread populations of Red Imported Fire Ant. The quarantine covers 7 counties and 11 cities.

<https://www.vdacs.virginia.gov/pdf/fire-ant-quar-map.pdf>

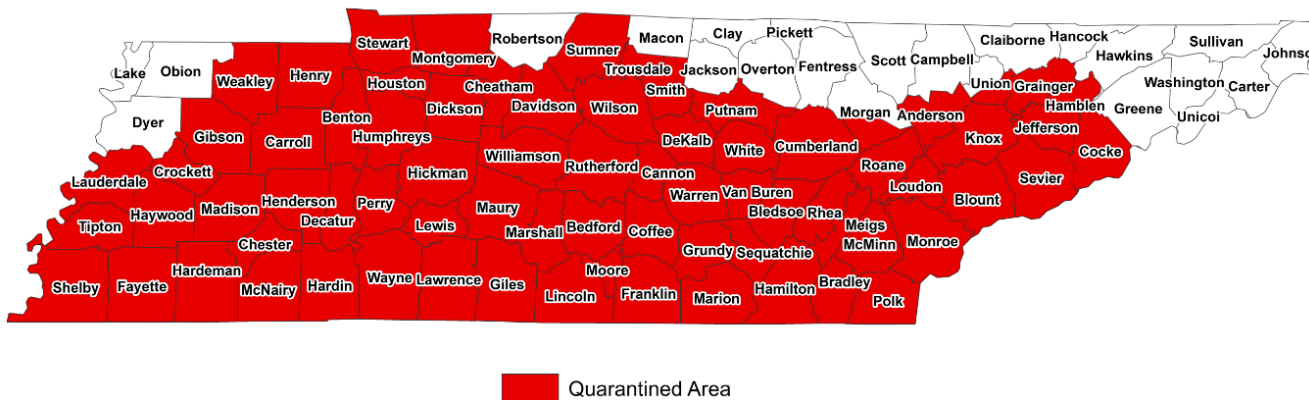


Quarantine expanded in NC and TN

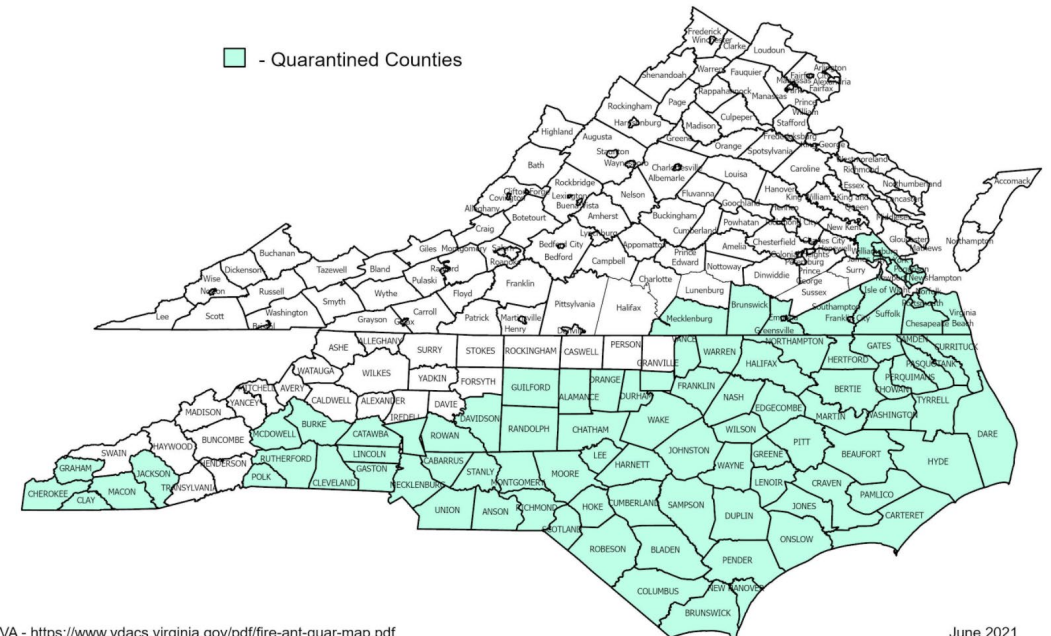
Maps courtesy of Virginia Department of Agriculture and Consumer Services and Tennessee Department of Agriculture.

2021 Imported Fire Ant Quarantine

Effective June 1, 2021



2021 North Carolina and Virginia Imported Fire Ant Quarantines



VA - <https://www.vdacs.virginia.gov/pdf/fire-ant-quar-map.pdf>
NC - <http://www.ncagr.gov/plantindustry/Plant/entomology/documents/ncifaquarantine.pdf>

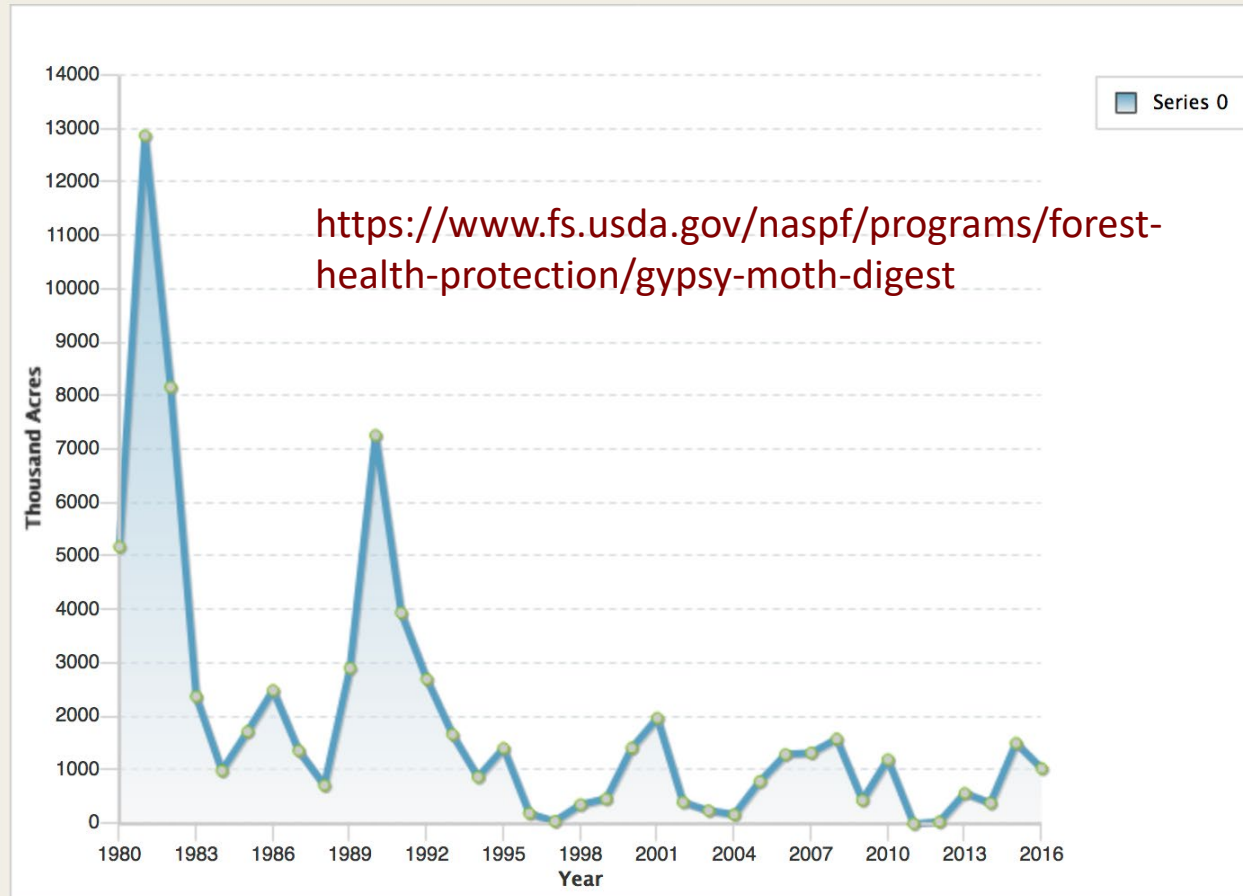
June 2021

Spongy Moth Population Cycles

Defoliation

Chart of Acres Defoliated by Year for 1980 to 2016

[Select New Report](#)





Fire Ant IPM

Identification

Make sure it is not a native mound builder

Thresholds

None for this invasive pest with venom

Control

Registered bait

Follow the label on amount used.

A look-a-like in Virginia, both are mound builders

Allegheny Mound Ant

3-6 mm, usually close to 5 – 6 mm

1 segment waist

Painful bite, but no sting



Red Imported Fire Ant

2-6 mm, but most commonly 2-4 mm

2 segment waist

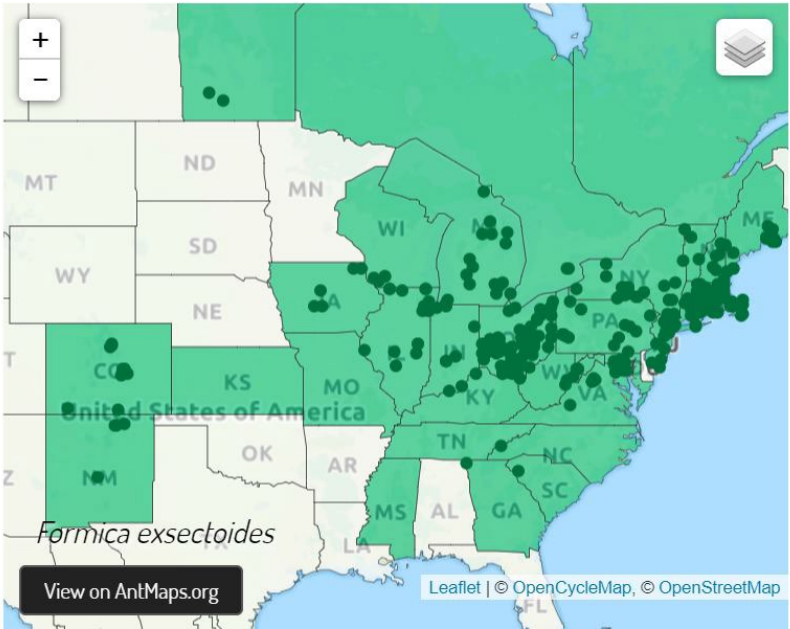
Bites and stings



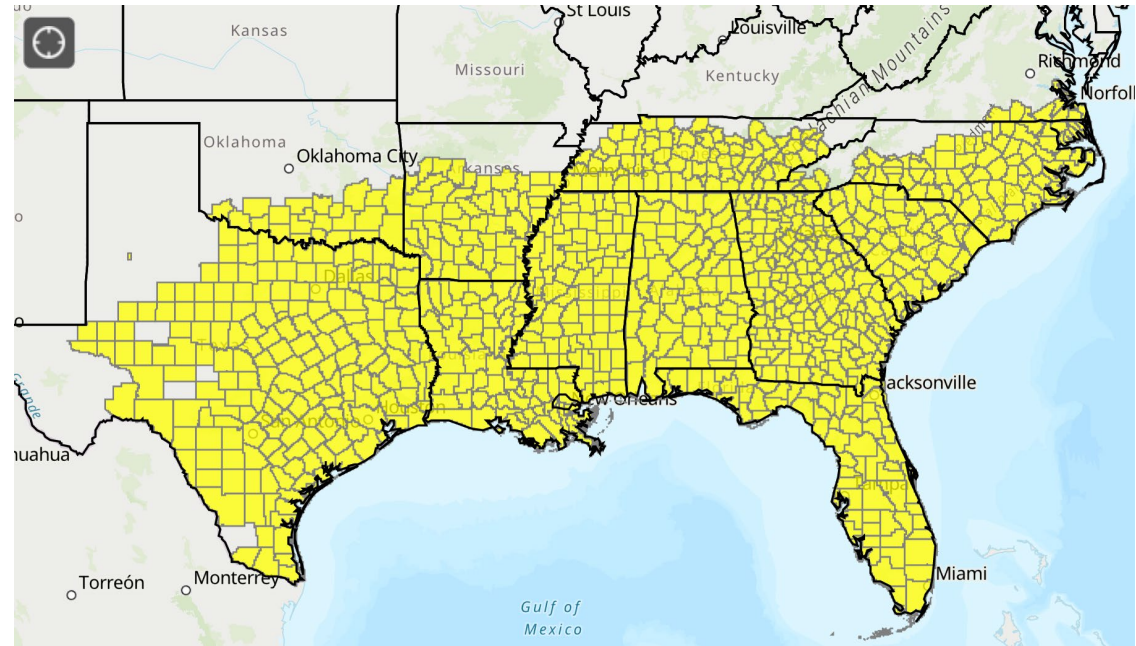
Allegheny mound ant



Distribution based on [AntMaps](#)



Red imported fire ant



SLF Egg hatch 200 GDD



Spotted lanternflies in the months of May and June



Egg hatch and first nymph at **200DD** or late April

Less than ½ inch long. Black with white spots.

Projection on the head, indicated by red arrow.

Quickly jump or hop away.

Spotted lanternflies in late June and July

5/8 inch



Nymph development **200DD – 1120DD**

Slightly bigger than ½ inch long. Projection on the head.

Red coloration in addition to the black with white spots.

Quickly jump or hop away.

Also called the 4th stage.



Adult Stage
starting in mid
July and
continuing to
first hard frost



First Adults 1121DD Early July
Adult spotted lanternflies hold their wings in
tent-like manner.
1 inch or 25 mm in length when resting on
bark.
The wingspan is about 1 ½ or 32 mm long.
The long siphoning mouthpart are held
under the body.
Abdomen has yellow but it is covered by
the wings

Spongy Moth Life Stages

Adults mating (July)



Males are found in traps



Female is flightless,
expect for Asian
Spongy Moth

Spongy Moth Life Stages

Pupae (June - July)



Spongy Moth Life Stages

Egg masses (August - April)



Map from 2020

