

Orchard Survey for Exotic Pests

helps reveal

Spotted Wing Drosophila Infestations

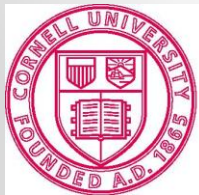
and

Identify Streptomycin-Resistant Fire Blight

in New York



Juliet Carroll
NYS IPM Program

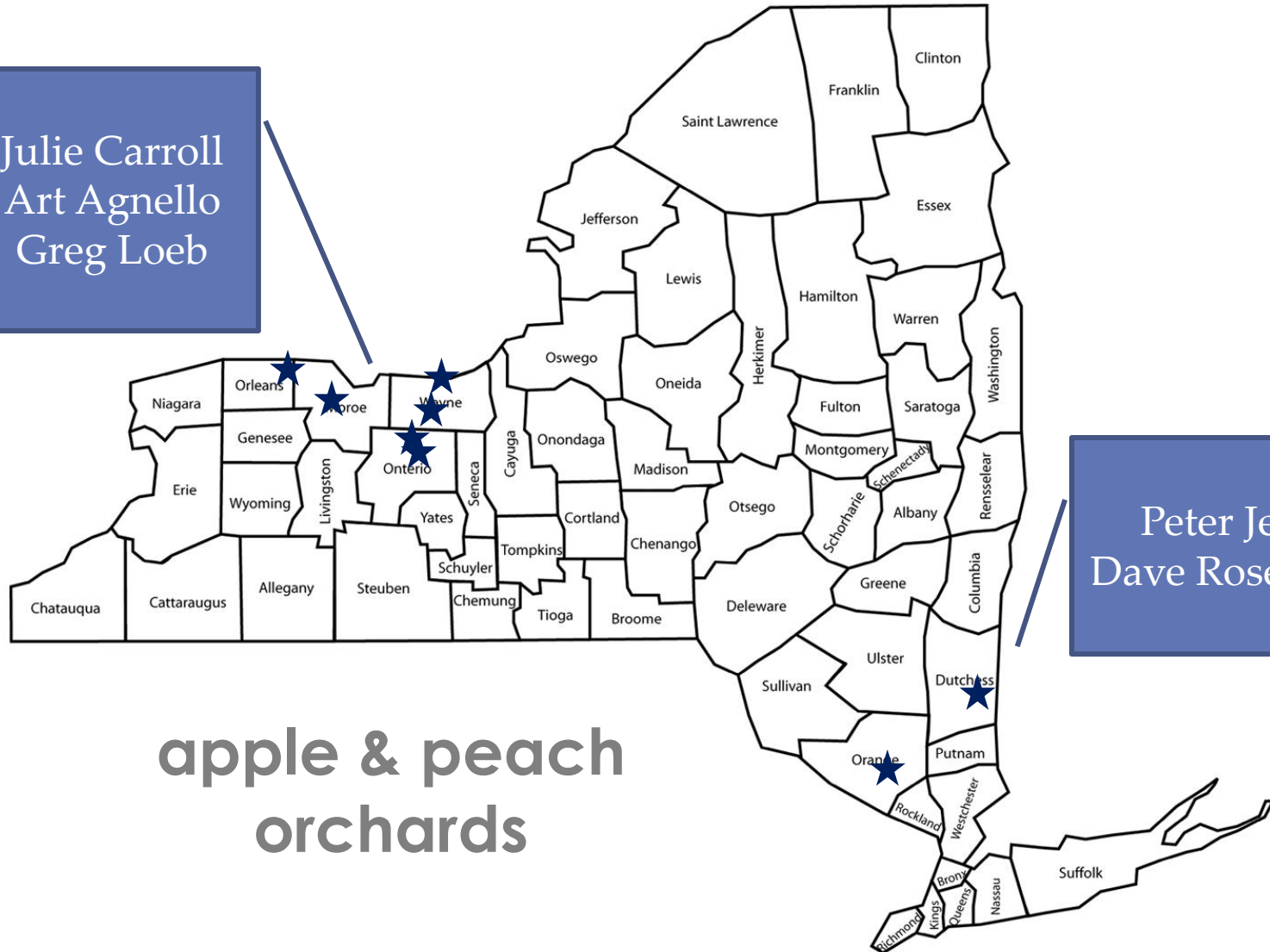


Cornell University
Cooperative Extension



Orchard Survey Locations

Julie Carroll
Art Agnello
Greg Loeb



Peter Jentsch
Dave Rosenberger

Orchard Survey Target Insects

- Asian Gypsy Moth
 - *Lymantria dispar asiatica*
- False Codling Moth
 - *Thaumatotibia leucotreta*
- Light Brown Apple Moth
 - *Epiphyas postvittana*
- Summer Fruit Tortrix
 - *Adoxophyes orana*
- Spotted Wing Drosophila
 - *Drosophila suzukii*



JH Ghent, USDA FS

AGM



Bugwood.org

FCM



N Wright, FL Dept A&CS

LBAM



Bugwood.org

SFT



M Hauser, CA Dept F&A

SWD

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AGM

>700 gypsy moth submitted for molecular analysis



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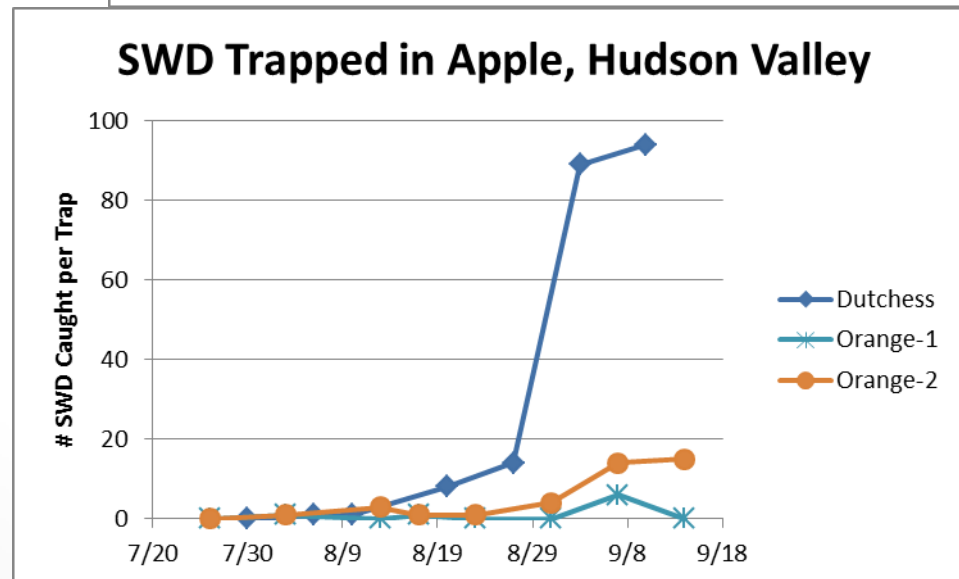
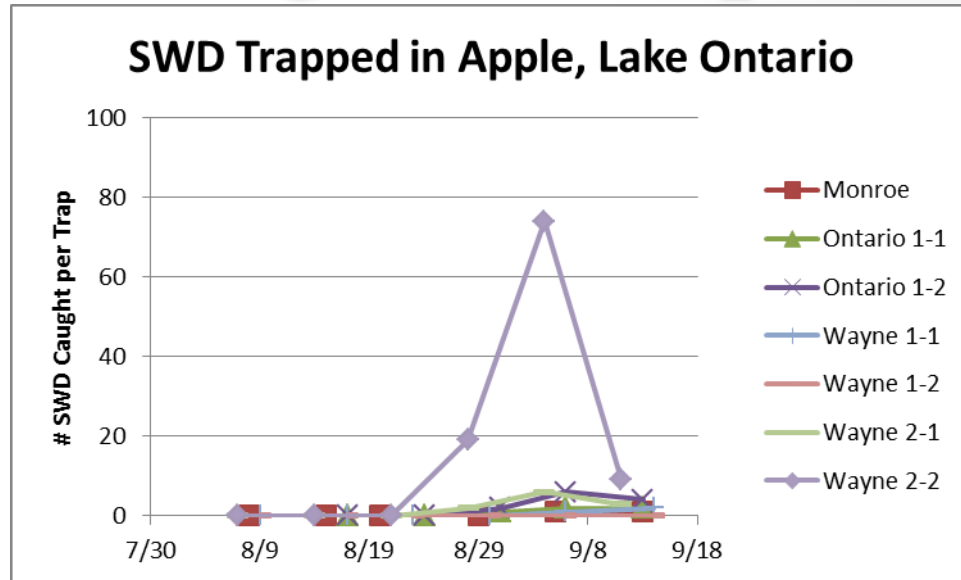
SWD

Spotted Wing Drosophila

Apple Orchards

Low numbers,
peaked early Sept.

Both farms with high
SWD numbers had
berry plantings.



Spotted Wing Drosophila

Peach Orchards

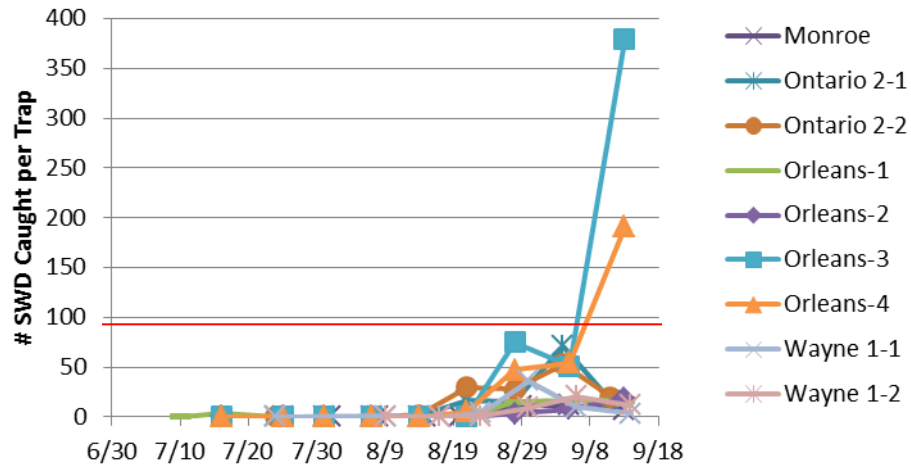
High SWD numbers were trapped in peach orchards, still increasing mid-Sept.

Low crop and few to no sprays?

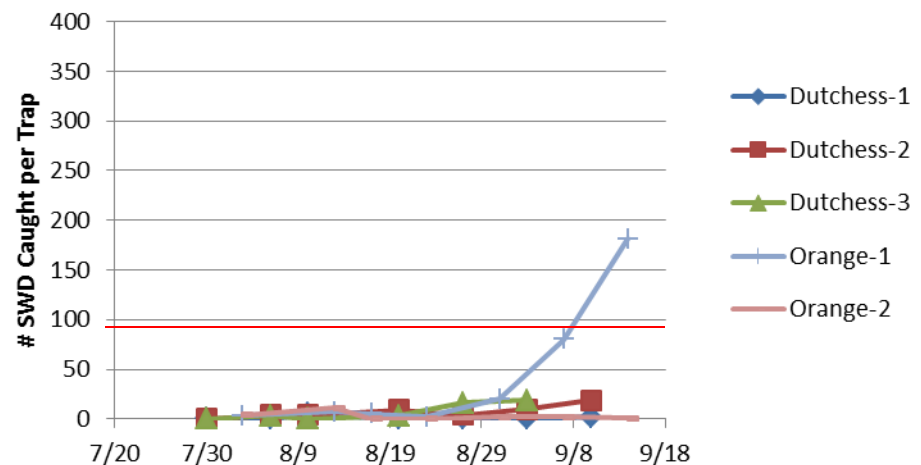
Infesting drops?

Fruit had high populations of fruit flies, ~35% to 50% were SWD.

SWD Trapped in Peach, Lake Ontario



SWD Trapped in Peach, Hudson Valley



Spotted Wing Drosophila

Hedgerows

In all locations trap catch peaked in early September in these unsprayed areas.

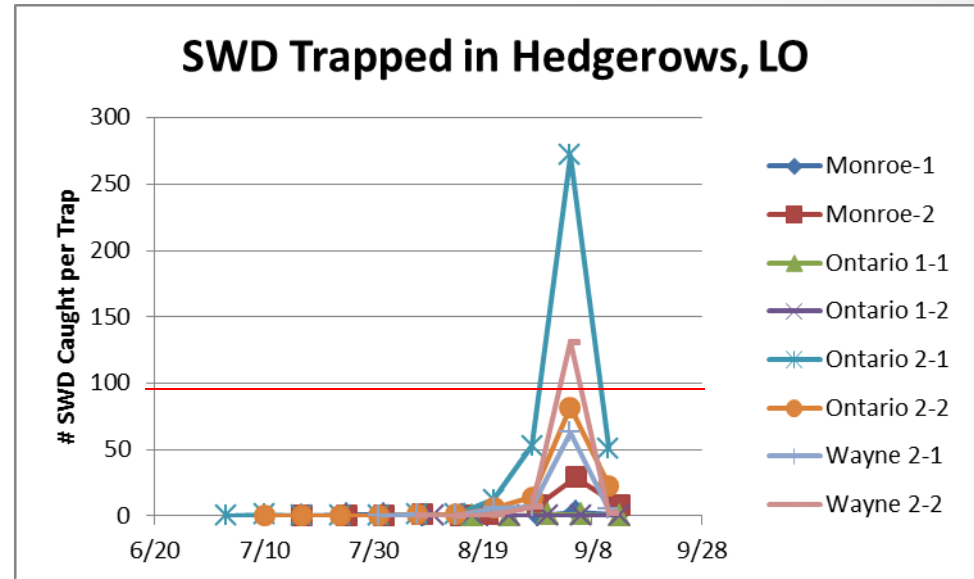
Plants in hedgerows
blackcap raspberry*
buckthorn
pokeweed
Prunus spp.*
sumac**

Tartarian honeysuckle
Virginia creeper***
wild grape**

* no fruit

** no SWD reared out

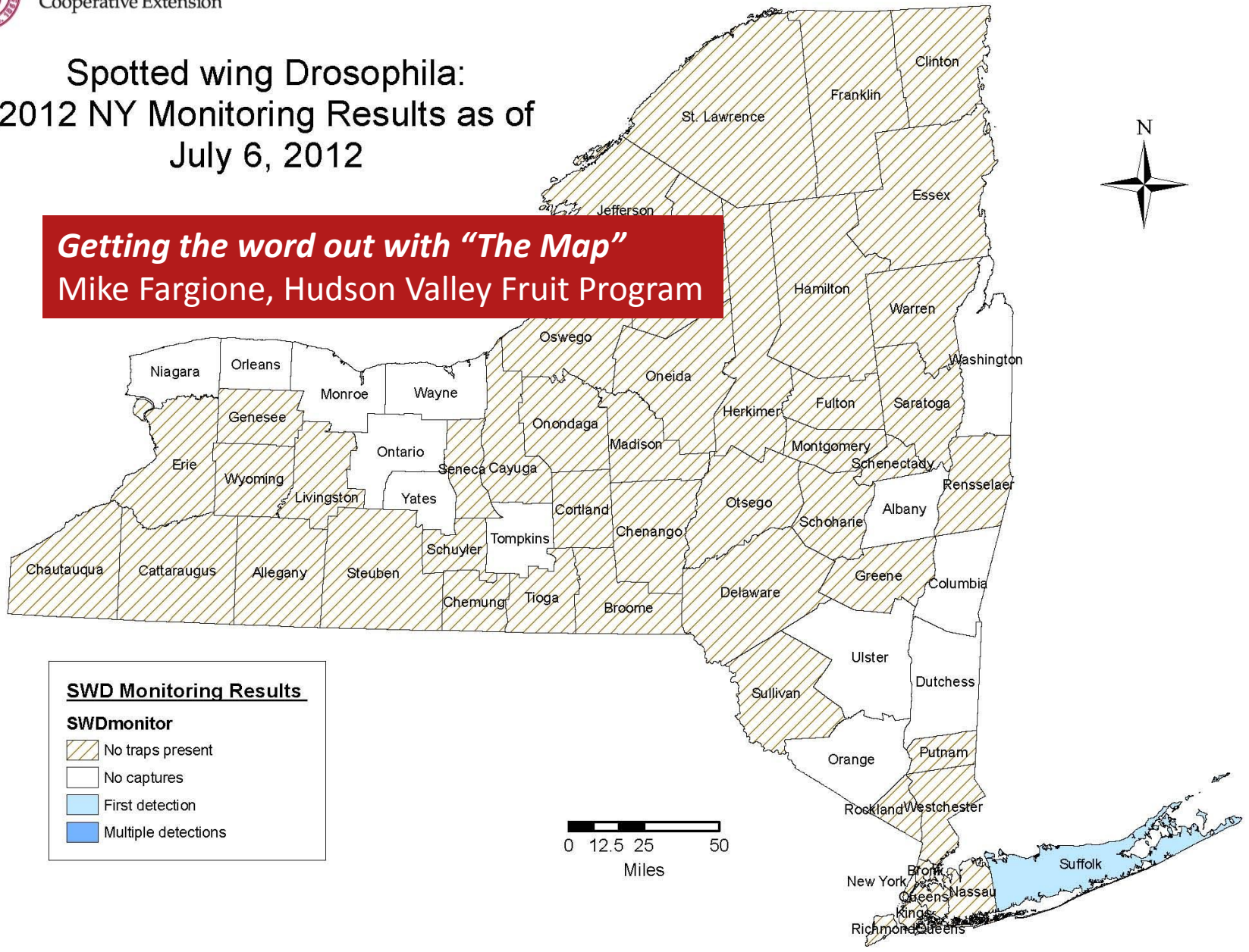
*** in process of rearing test



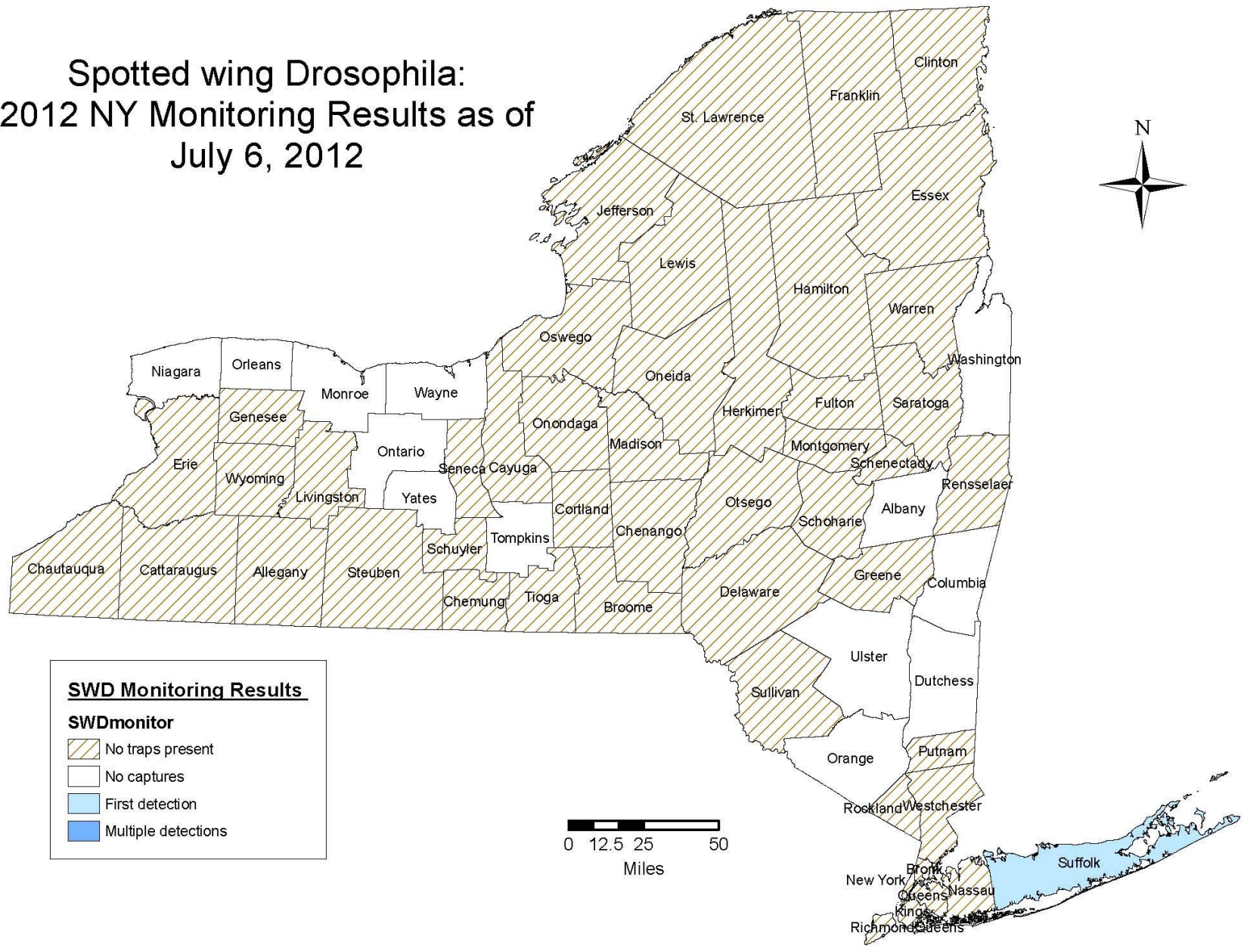


Spotted wing Drosophila: 2012 NY Monitoring Results as of July 6, 2012

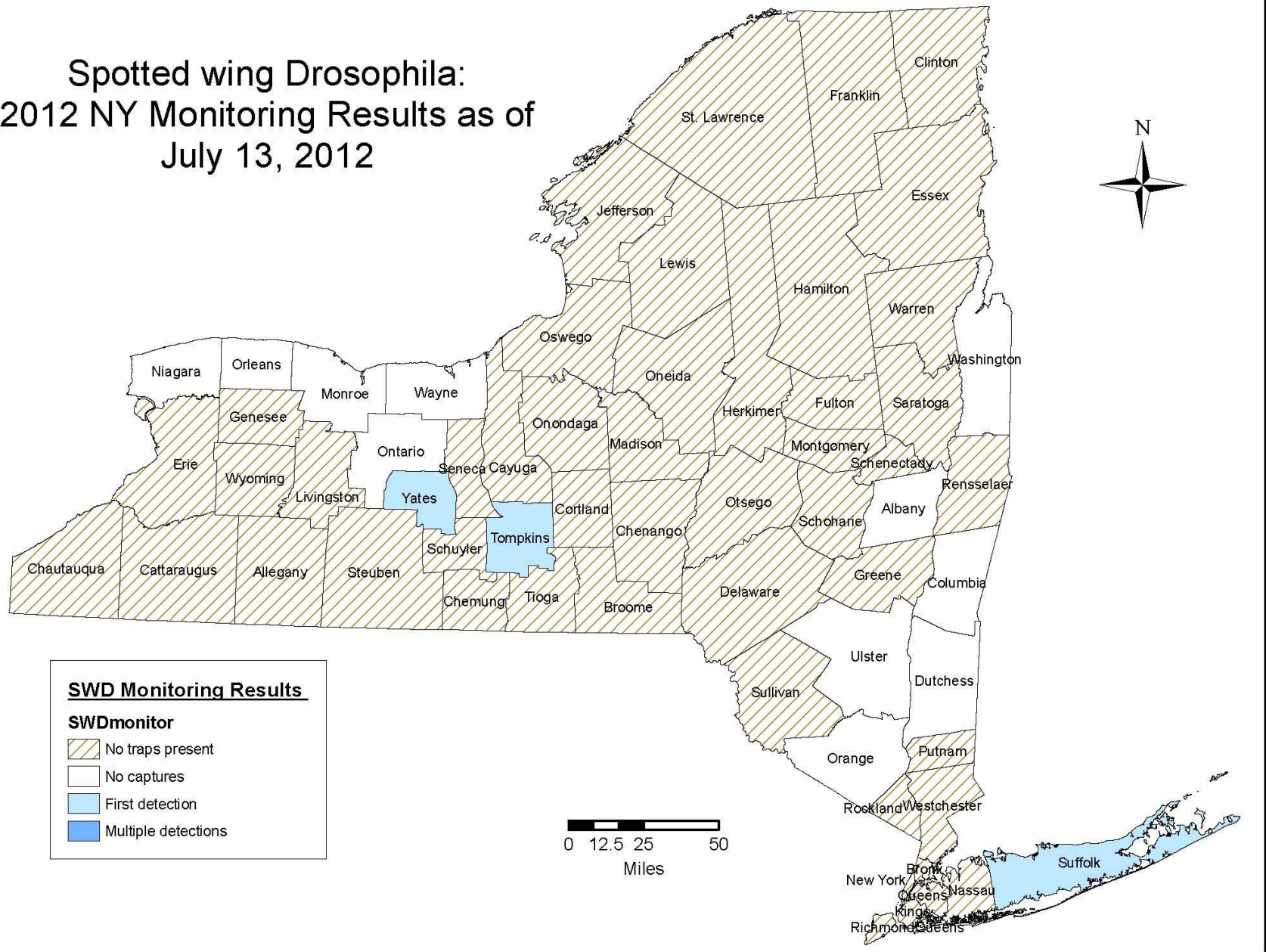
Getting the word out with "The Map"
Mike Fargione, Hudson Valley Fruit Program



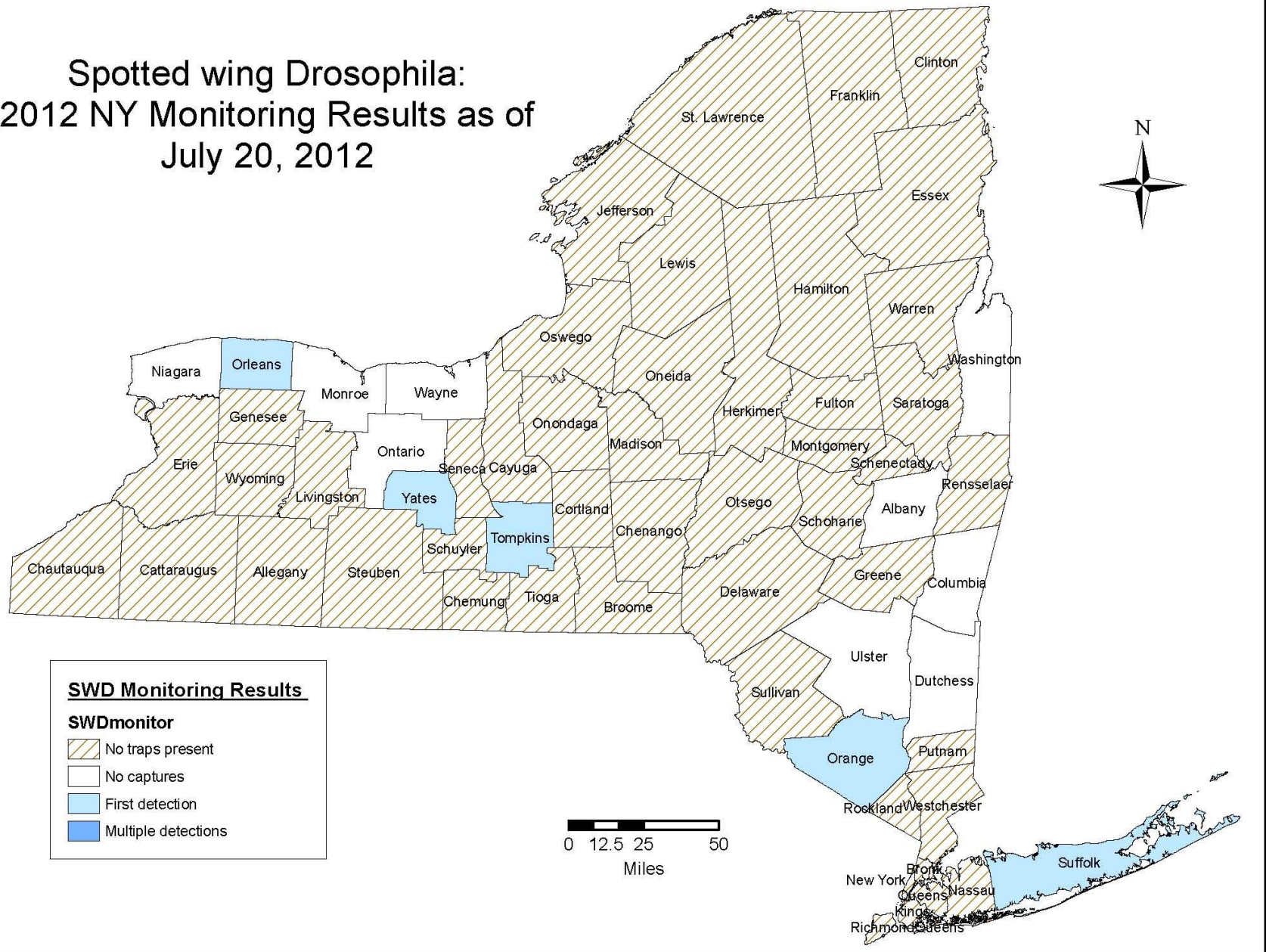
Spotted wing Drosophila: 2012 NY Monitoring Results as of July 6, 2012



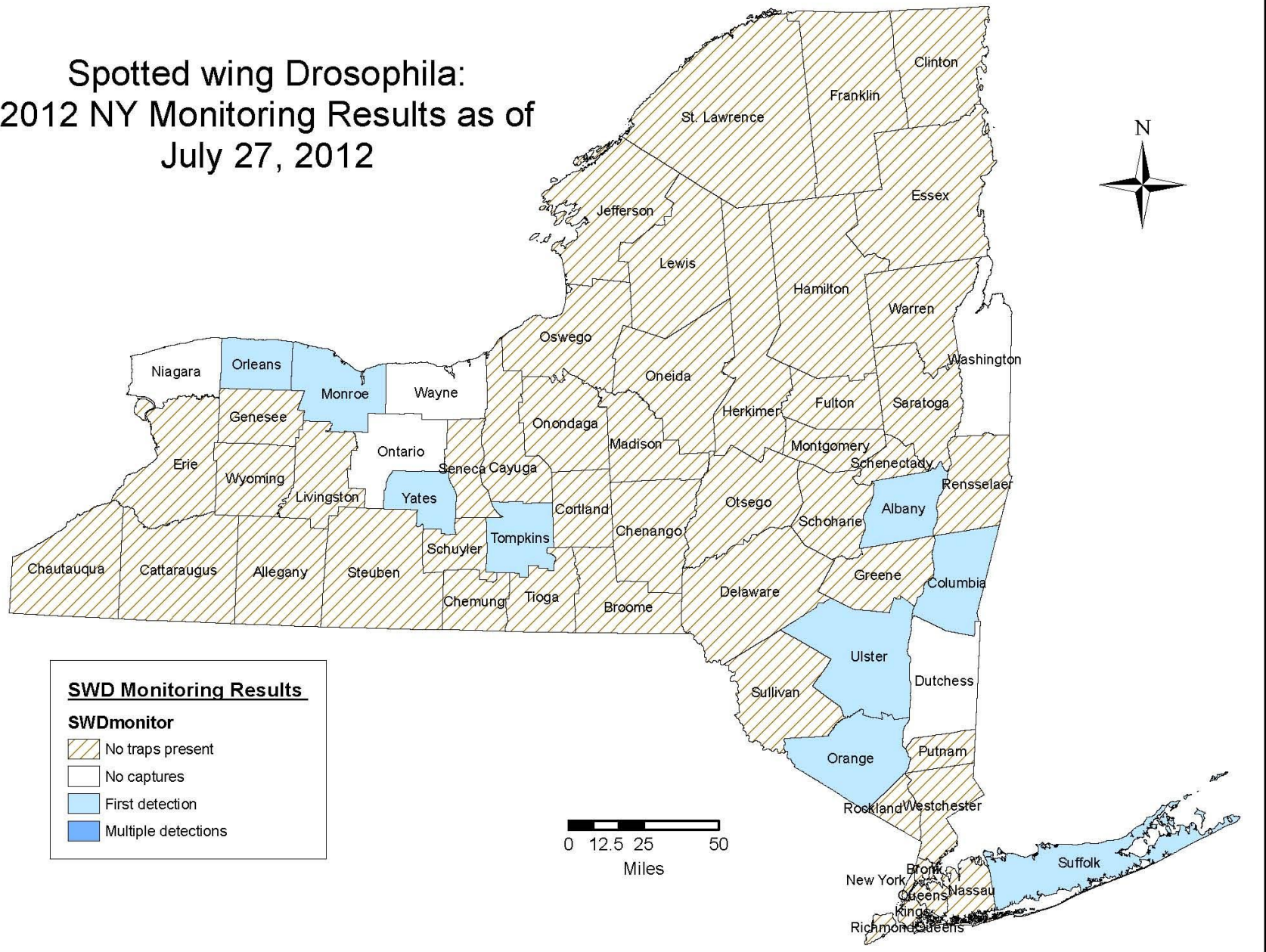
Spotted wing Drosophila: 2012 NY Monitoring Results as of July 13, 2012



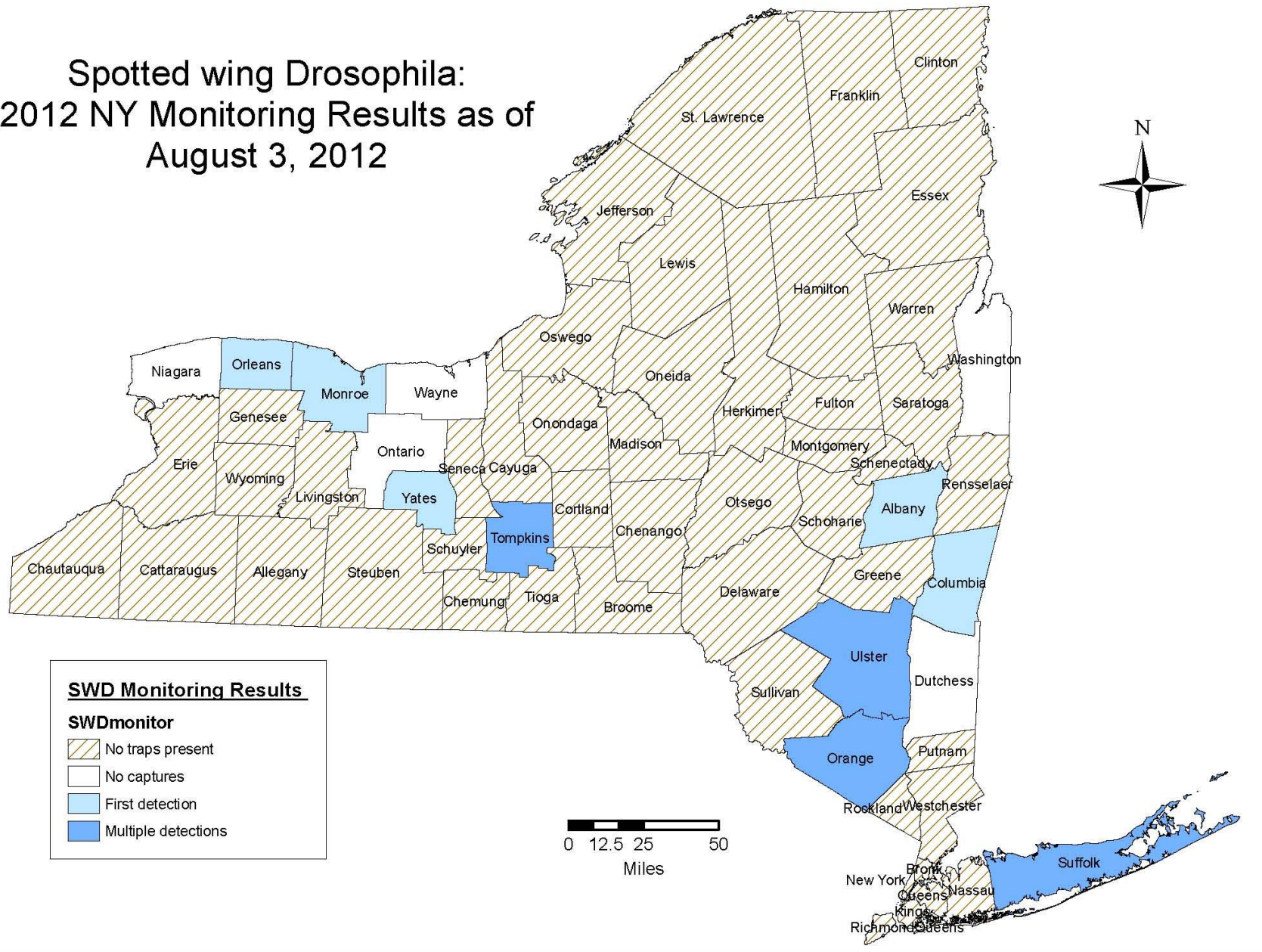
Spotted wing Drosophila: 2012 NY Monitoring Results as of July 20, 2012



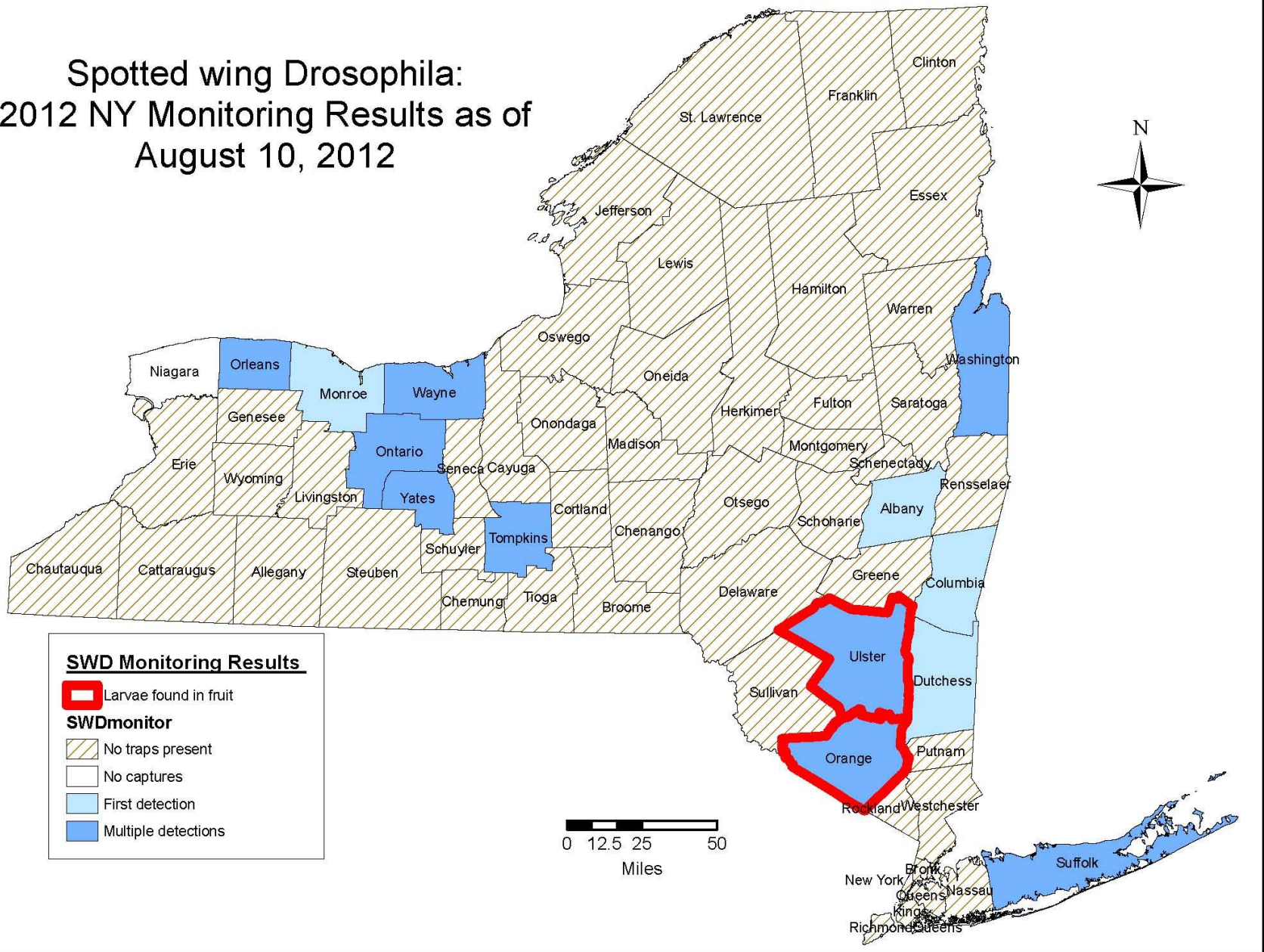
Spotted wing Drosophila: 2012 NY Monitoring Results as of July 27, 2012



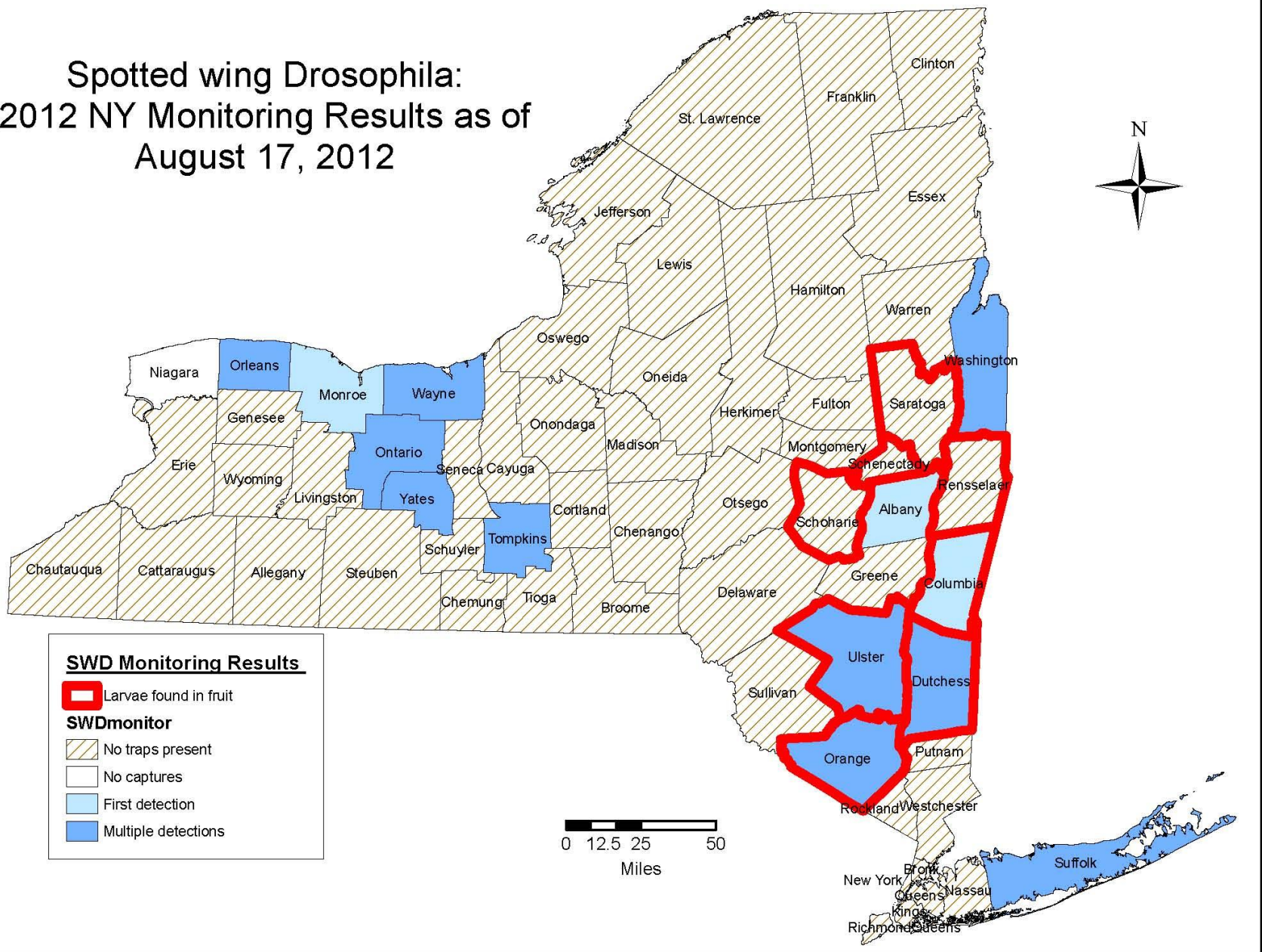
Spotted wing Drosophila: 2012 NY Monitoring Results as of August 3, 2012



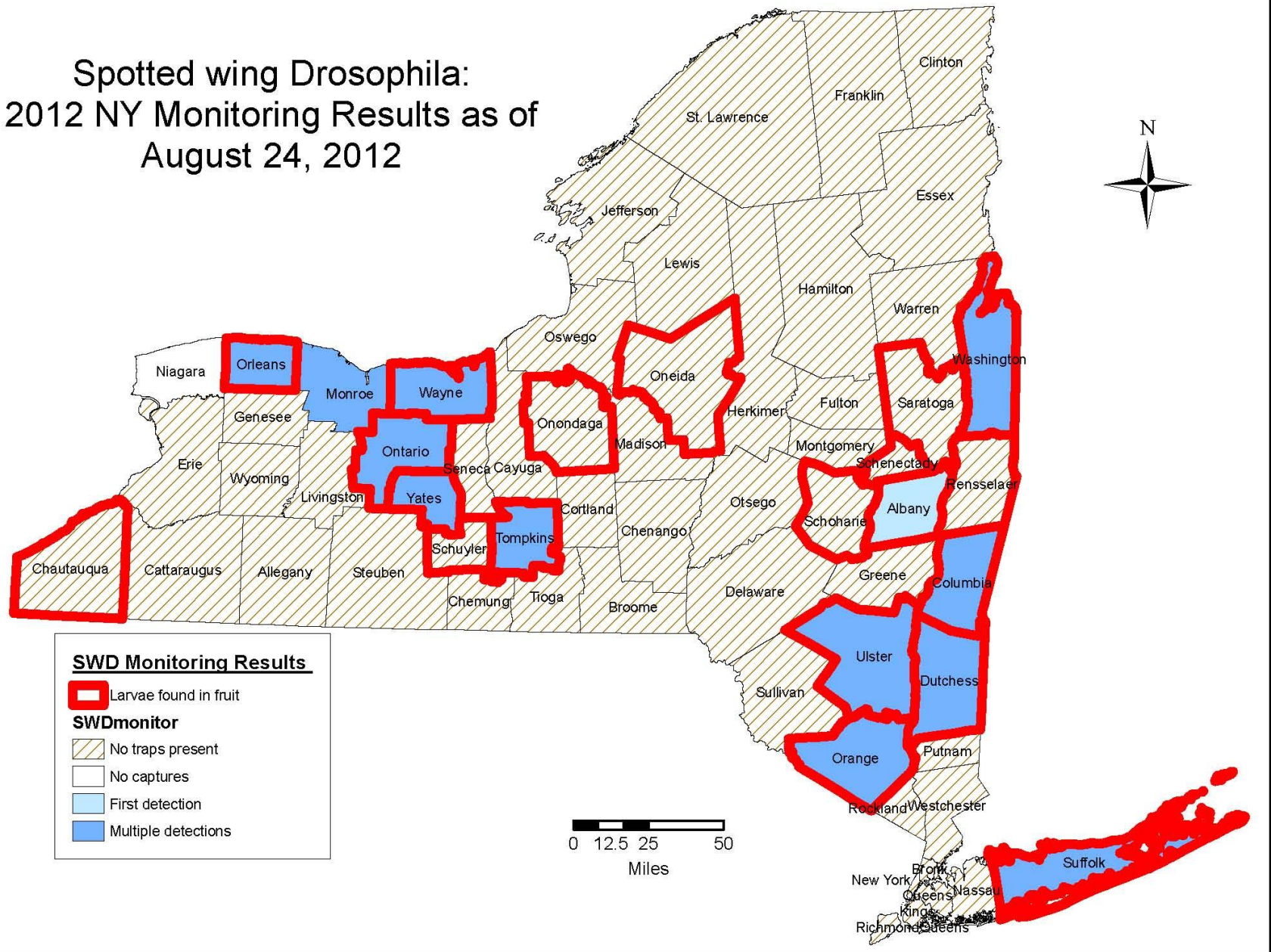
Spotted wing Drosophila: 2012 NY Monitoring Results as of August 10, 2012



Spotted wing Drosophila: 2012 NY Monitoring Results as of August 17, 2012



Spotted wing Drosophila: 2012 NY Monitoring Results as of August 24, 2012



Spotted wing Drosophila: 2012 NY Monitoring Results as of August 31, 2012

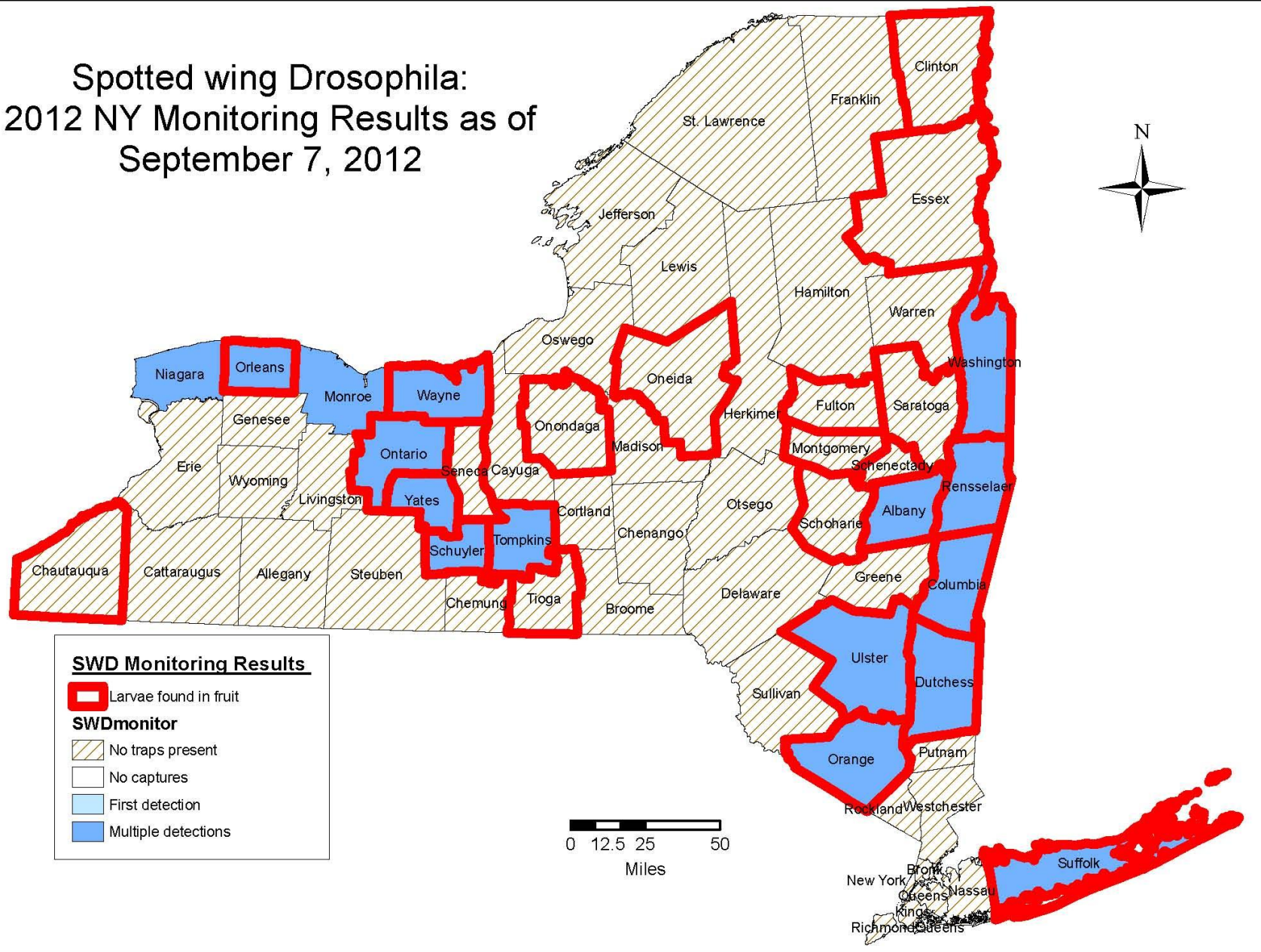
SWD Monitoring Results

- Larvae found in fruit
- SWDmonitor**
- No traps present
- No captures
- First detection
- Multiple detections

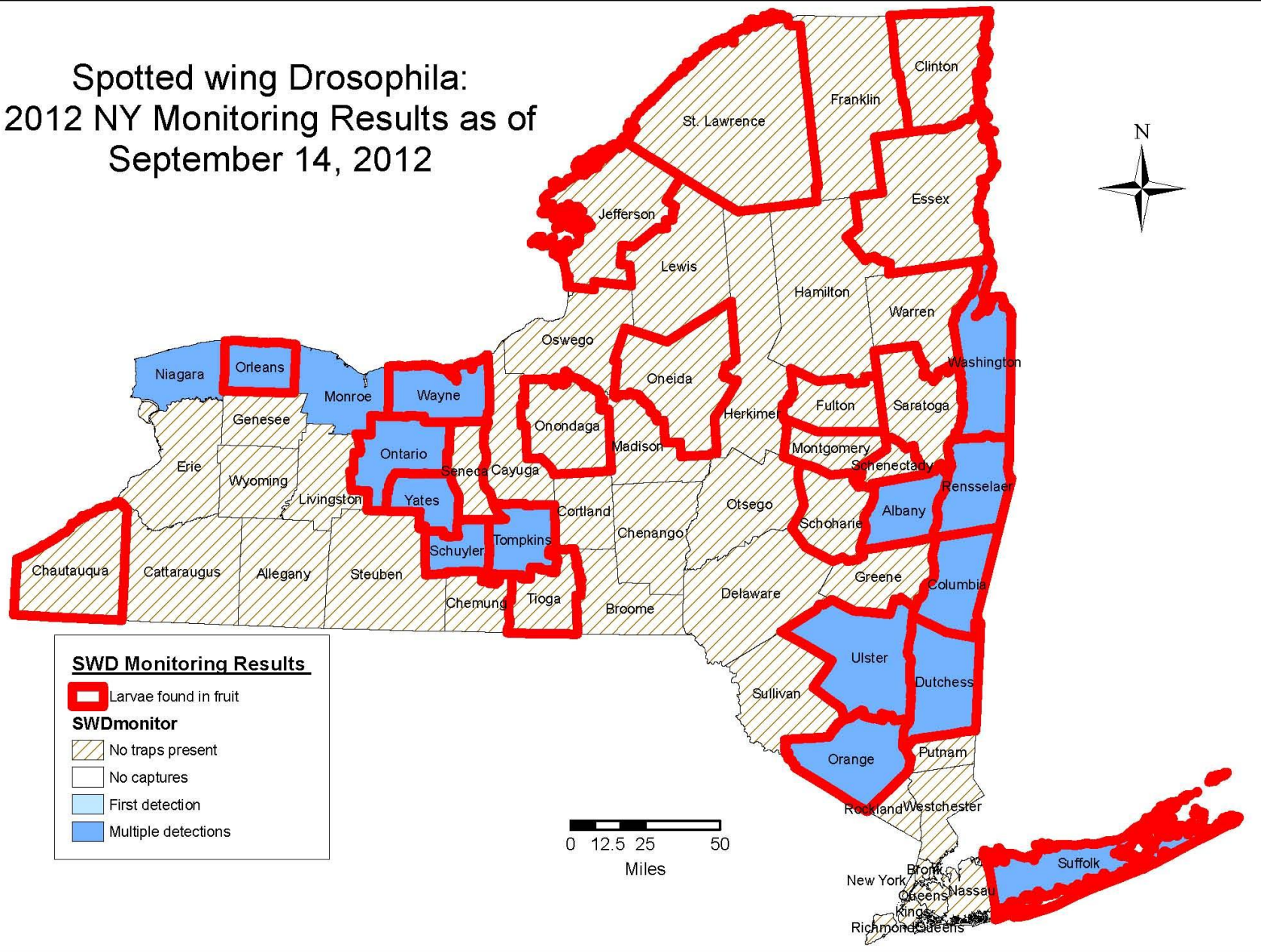
0 12.5 25 50
Miles



Spotted wing Drosophila: 2012 NY Monitoring Results as of September 7, 2012



Spotted wing Drosophila: 2012 NY Monitoring Results as of September 14, 2012



Orchard Survey Target Diseases

- Asiatic brown rot
 - *Monilinia polystroma*
- Strep-Resistant Fire Blight
 - *Erwinia amylovora*



J Carroll, Cornell

SRFB



ABR

K Cox, Cornell

No Asiatic brown
rot was found.
All was American
brown rot.

Strep-Resistant Fire Blight

| County | Samples | # Ea | # Strep Resist. |
|----------------|-----------|------------|-----------------|
| Monroe | 3 | 1 | 0 |
| Ontario | 6 | 5 | 1 |
| Ontario | 7 | 3 | 1 |
| Orleans | 10 | 7 | 1 |
| Wayne | 6 | 5 | 1 |
| Wayne | 10 | 9 | 0 |
| Total | 42 | 30 | 4 |
| Percent | | 71% | 13% |

In 2 of 6 farms, all Ea sampled were strep-sensitive.

In 3 of 4 farms, strep-resistant Ea were newly identified.

Strep-resistant and -susceptible Ea were isolated from the same strike.



**IPM Publications
& Resources**

News

Press Releases

Fact Sheets

Manuals, Brochures
& Articles

Guides & Guidelines>

Pest Reports >

Program Reports >

What's Bugging You?

Invasives & Exotics

Diagnostic Resources

IPM Labeling

[->Home](#) > [invasives](#) [exotics](#)[IPM Events Calendar](#)**Invasive Species & Exotic Pests****IPM against 'invasives' depends
on exclusion, early detection, &
eradication.**

Once an invasive species is introduced and becomes established, causing damage or crop losses, our normal IPM practices may prove ineffective. IPM practices that utilize thresholds, forecasts, cultural practices and optimally-timed effective controls often fail to work against invasive species. The NYS IPM Program staff works periodically with state and federal agencies to survey for these species, some of which are listed here, to support nationwide efforts to prevent introduction of species that could threaten agriculture.

FACT SHEETS[Asian Gypsy Moth](#)[Asiatic Brown Rot](#)[European Grapevine Moth](#)[False Codling Moth](#)[Light Brown Apple Moth](#)[Silver Y Moth](#)[Spotted Wing Drosophila](#)[Summer Fruit Tortrix Moth](#)

Spotted wing drosophila: adult female (left) and adult male (right) on raspberry. Photo: [Hannah Burrack, NC State Univ.](#)

For more information:**New York**

[Bugs & Blights – Agricultural Invasive Species](#), The New York Invasive Species Clearinghouse

[Nuisance & Invasive Species](#), NYS Department of Environmental Conservation

[Alien Invasion](#), New York State Conservationist for Kids, Fall 2009

[Alien Invasion](#), New York State Conservationist for Kids, Fall 2009, 3MB pdf

Article htmls

[History of New York State Invasives](#) by Gina Jack

[Invasives Found in New York State](#) by Gina Jack

USA

[Invasive Species](#), US Fish & Wildlife Service

[Invasive Species Program](#), US Forest Service

“Invasives & Exotics”
fact sheets, including two
from the Vineyard Survey.

nysipm.cornell.edu/invasives_exotics



Acknowledgements



Kelsey Peterson



Anne Alexander



Michelle Marks



Marion Zeufle



Funded by the NYS Dept of Ag & Markets, USDA APHIS CAPS

A person is wearing a white, full-body protective suit, possibly for pest control or agricultural work. The suit has a large, protruding, pinkish nose and a single, large, yellow eye with a black pupil. The person is standing in a tree, surrounded by green leaves. The word "Questions?" is written in large, bold, black letters on the right side of the image.

Questions?