

1.3.2 Spread and Impact in New Regions



Funding



United States
Department of
Agriculture

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Agriculture

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Collaborating Institutions



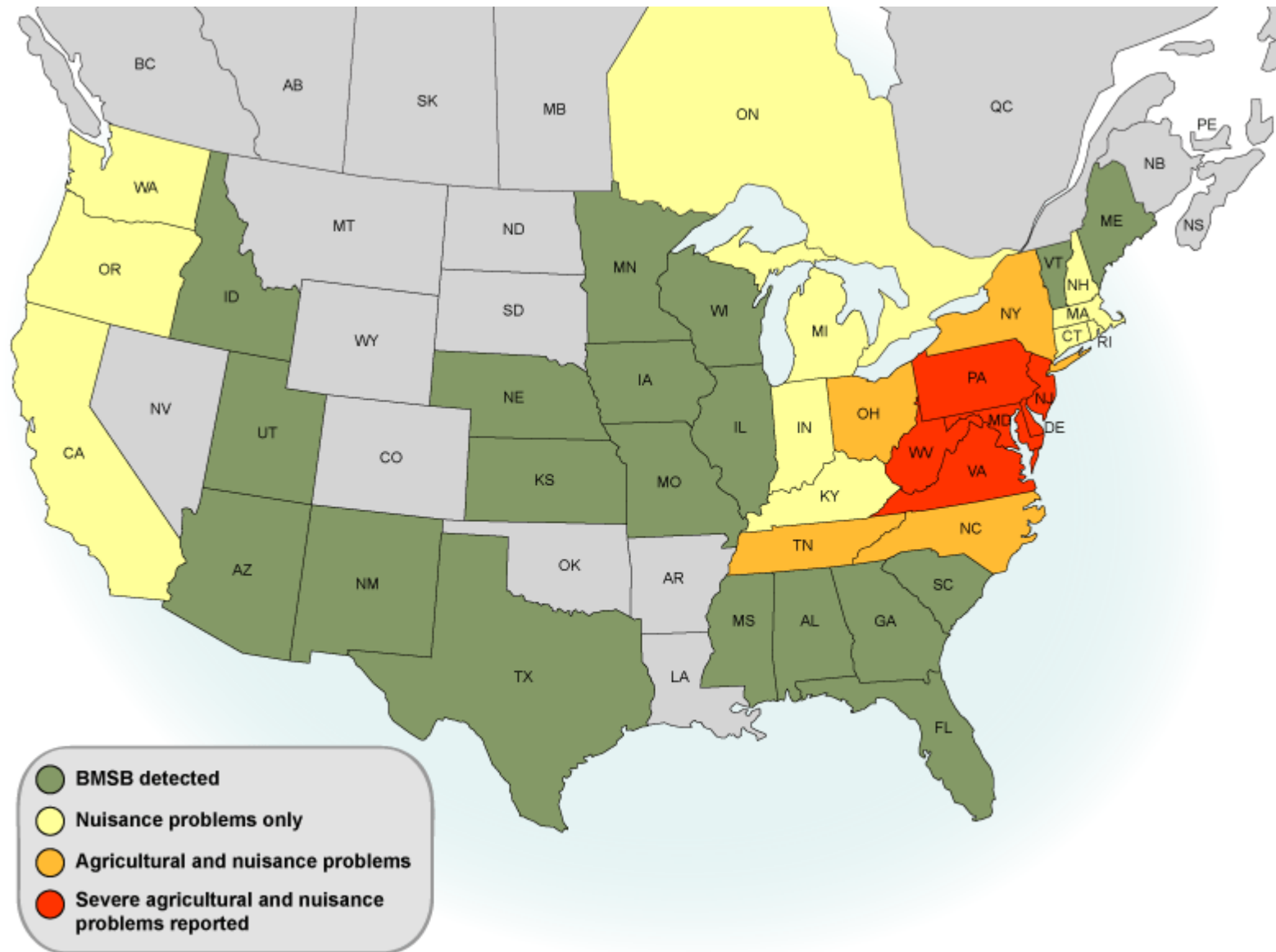
Cornell University



Virginia Tech



BMSB Distribution and Severity Rating – December 2012

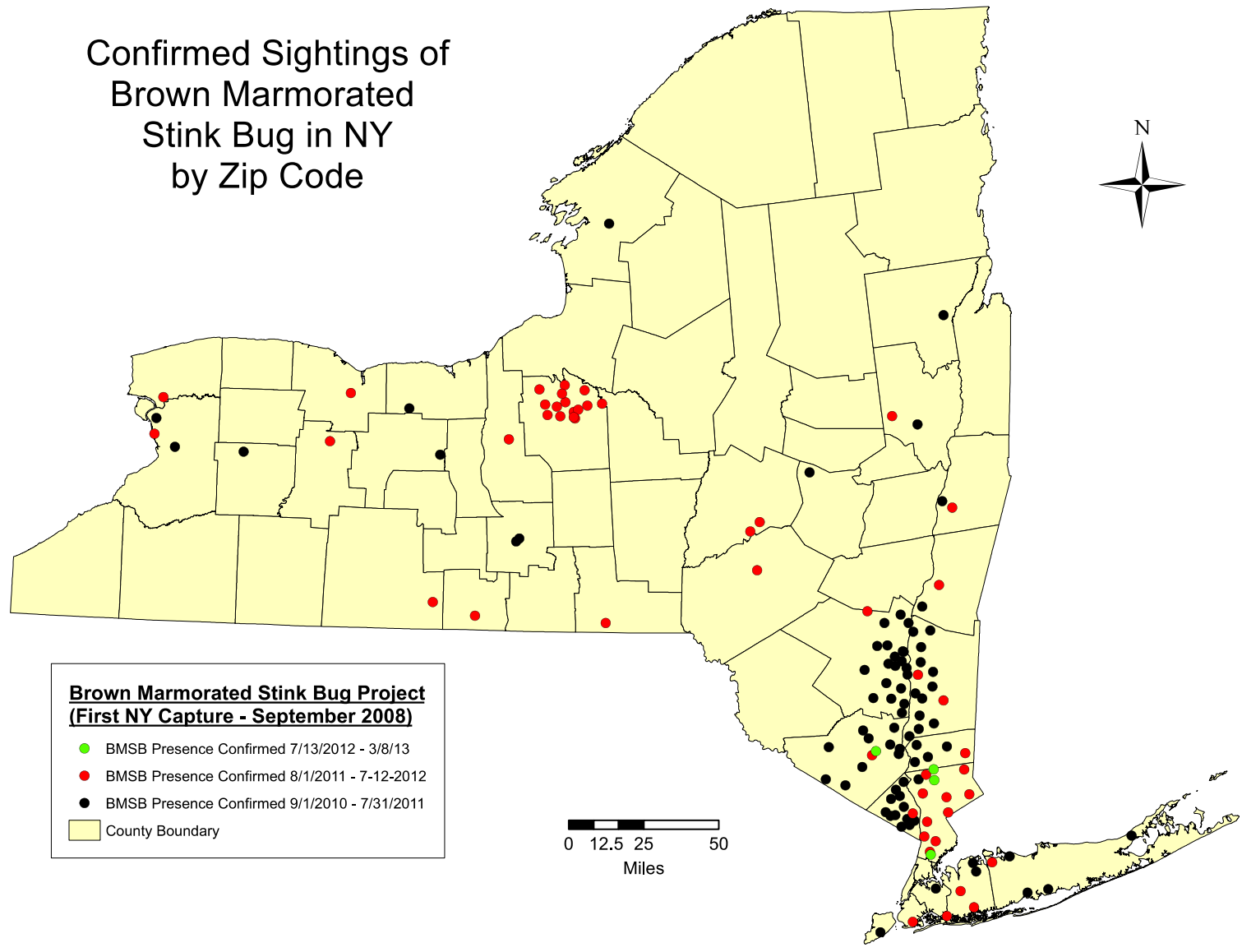


BMSB in New York

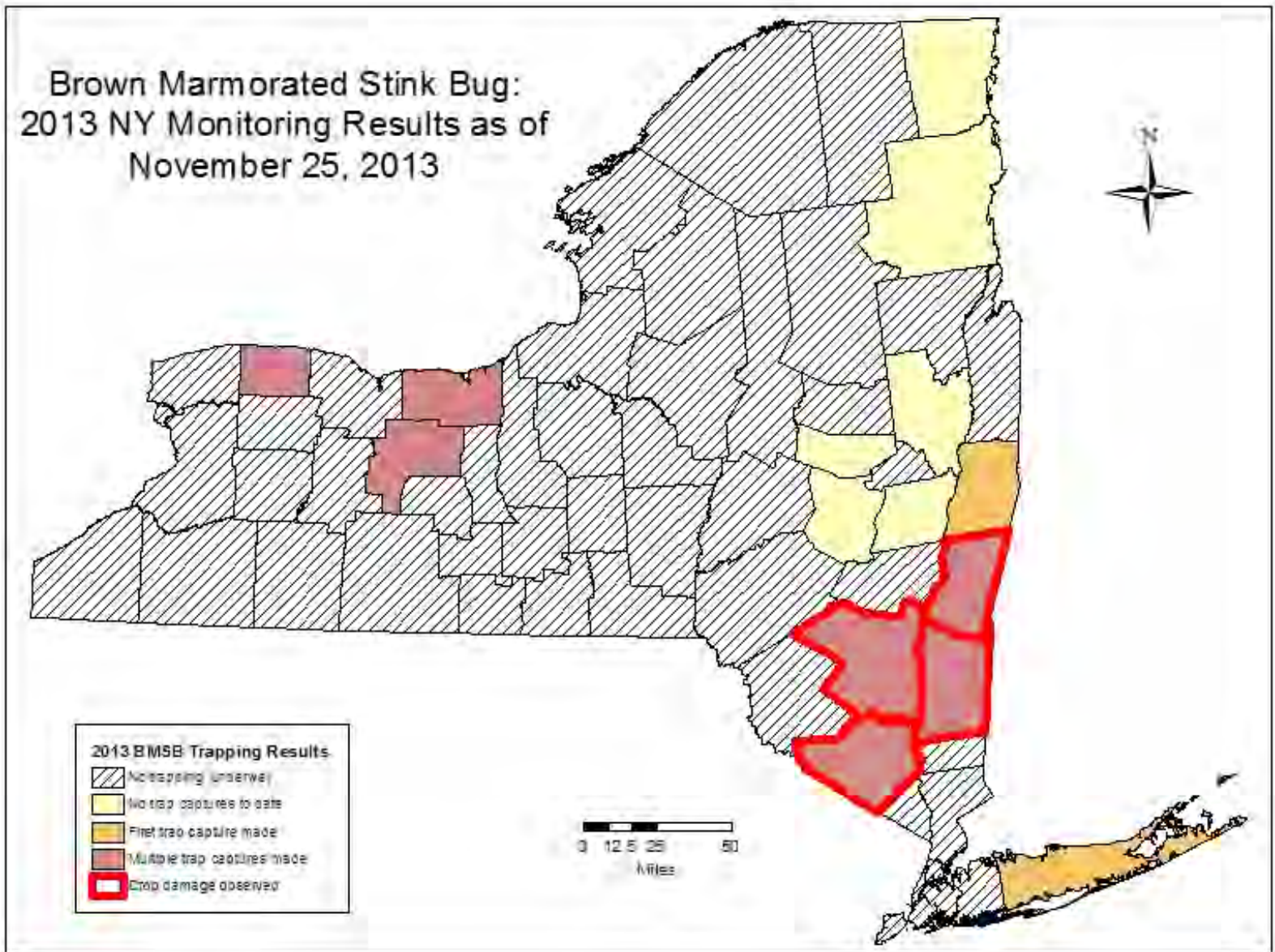
- First adult found in NY in 2007; in the Hudson Valley, 2008; Citizen Science project began in Sept 2010, 445 submissions received as of March 2013. Participant surveys suggest increasing populations in urban environment.
- 2011: 70 Tedders traps set out in major agricultural regions using MDT; adults captured only in Marlboro, NY (Hudson Valley).
- 2012: Traps baited with #10 lure +MDT captured substantial numbers (up to 60+/week) in HV. First BMSB observed on apple, leading to fruit damage, losses >20% in three orchards.
- 2013: Traps (#10 + MDT synergist) captured higher numbers of adults, much earlier, and in new areas of NYS: Western NY plus HV (May 7); Long Island (May 15); Capital District (Aug 19). Little damage noted in tree fruits, but pepper plantings in HV heavily infested.

Urban mapping of BMSB (from Citizen Science submissions) showing population concentrations in New York State

Confirmed Sightings of Brown Marmorated Stink Bug in NY by Zip Code



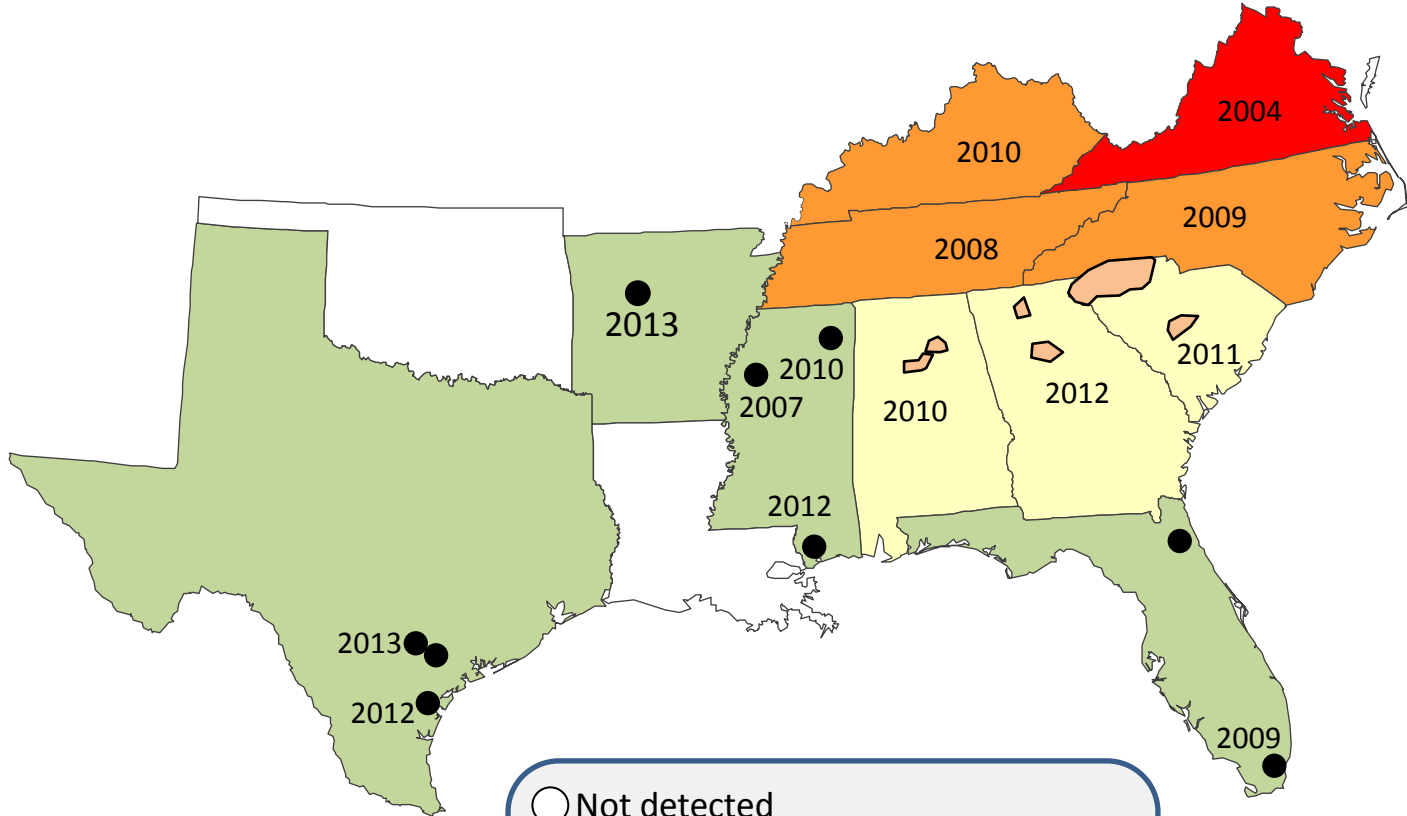
Results from #10 + Synergist baited traps placed in agricultural sites



Situation in Additional Northeastern and Midwestern States

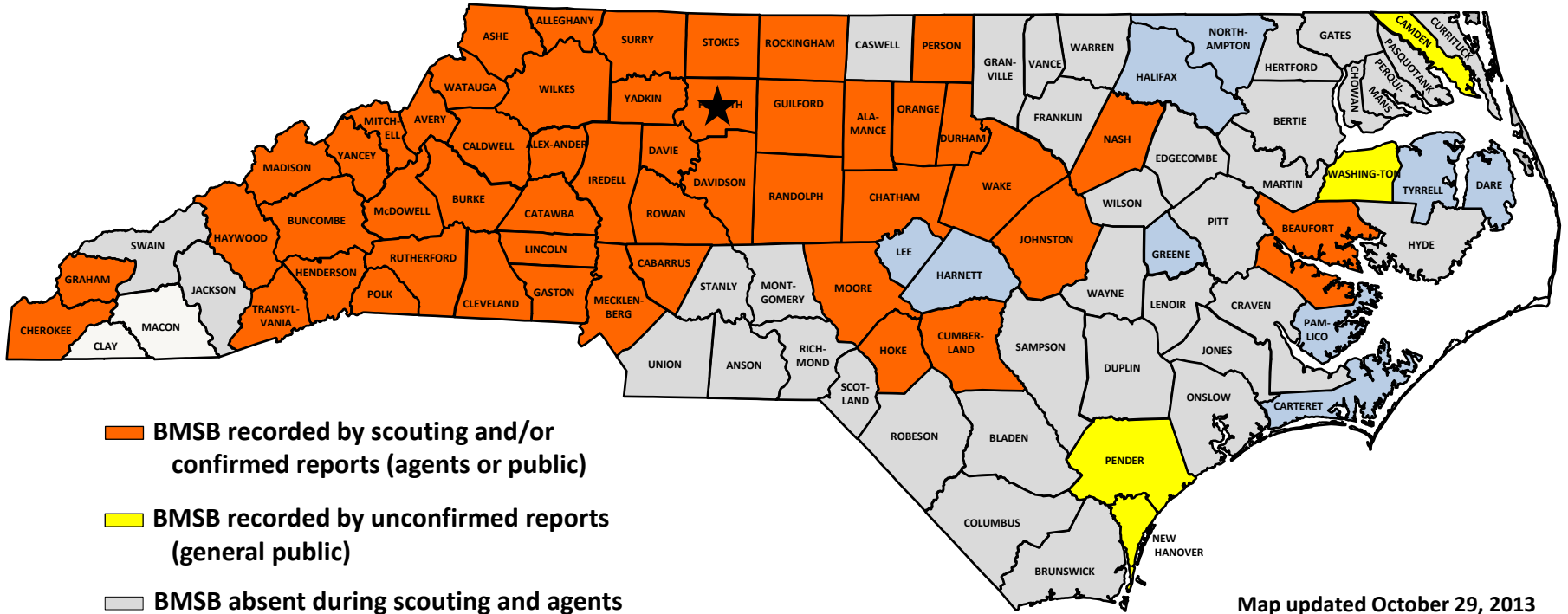
- ME, VT
 - Detections, no established populations known
- CT, MA, NH
 - Low populations, minor nuisance problem
- Ohio
 - Estimated to be in 50% of counties. Homeowner complaints most common.
 - Known hot spots around Columbus, Cincinnati and Youngstown – some agriculture damage in these areas
- Michigan
 - Confirmed in 14 Counties
 - 2 known established populations (Berrien and Ingham Co.)
 - Not considered agriculture pest at this time

Occurrence and Distribution of BMSB in the Southern Region



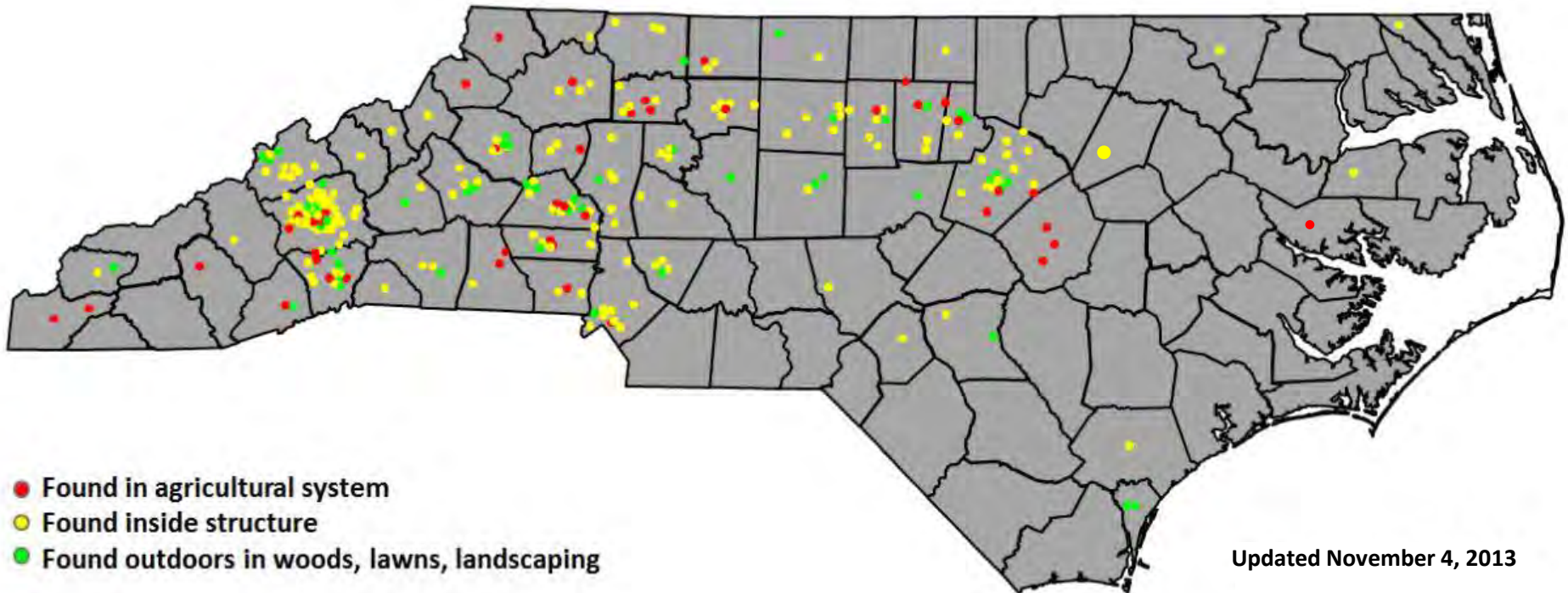
- Not detected
- Detected, not established
- Limited establishment, curiosity
- Agriculture and nuisance problem
- Severe problem

Brown Marmorated Stink Bug Distribution in North Carolina



Brown Marmorated Stink Bug Sightings in North Carolina

Individual Reports



Species complex of stink bug adults observed on wooded tree borders and agricultural crop plants* from May until Oct 2012 to 2013 in two regions of Virginia.

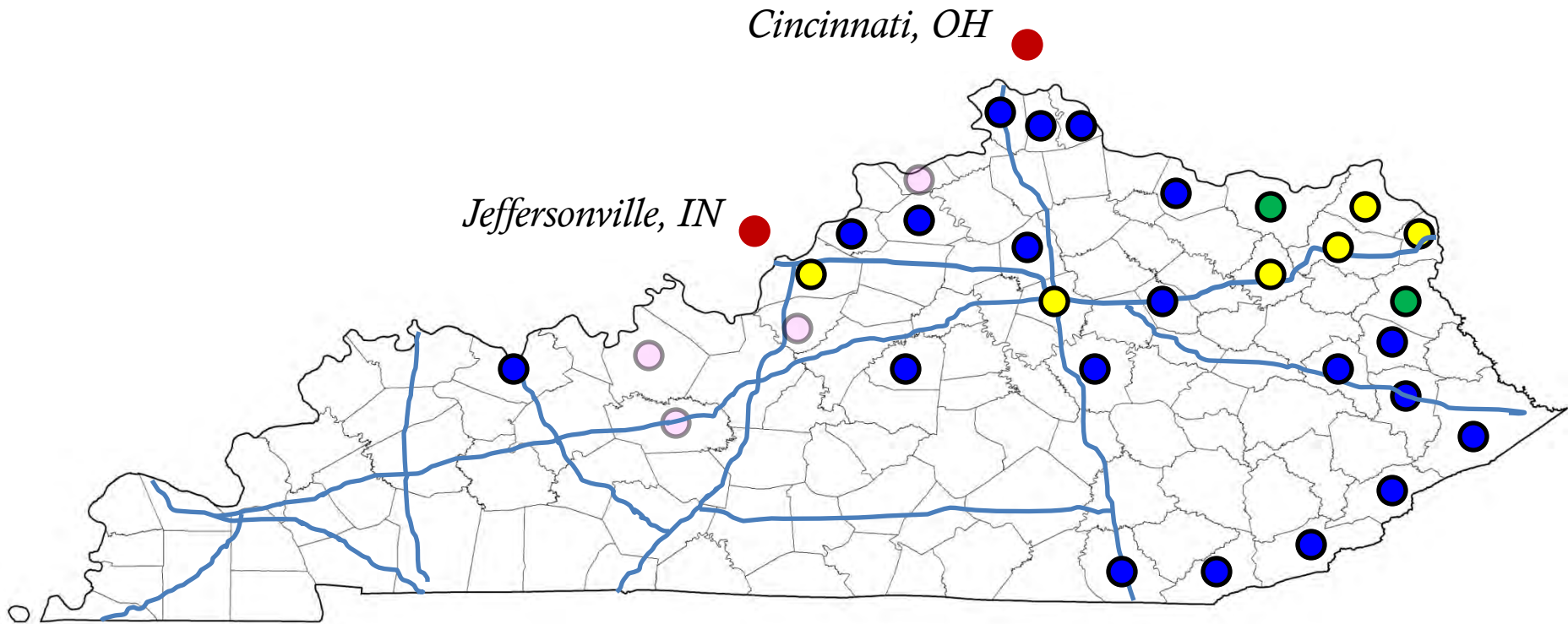
Southwestern

Eastern Shore

Stink bug	2012	2013	2012	2013
<i>Halyomorpha halys</i>	930	311	3	27
<i>Chinavia hilare</i>	10	13	596	128
<i>Euschistus servus</i>	47	14	463	176
<i>Murgantia histrionica</i>	67	2	13	0
<i>Brochymena sp.</i>	10	13	1	0
<i>Oebalus pugnax</i>	0	5	6	1
<i>Thyanta spp.</i>	4	0	11	12
<i>Euschistus tristigmus</i>	7	2	0	0
Other stink bug*	8	1	0	0

* Brassica plants were excluded from the dataset because of the high numbers of harlequin bug, *Murgantia histrionica*, which would skew the data. Harlequin bugs found on non-brassica plants were included.

Brown Marmorated Stink Bug Timeline

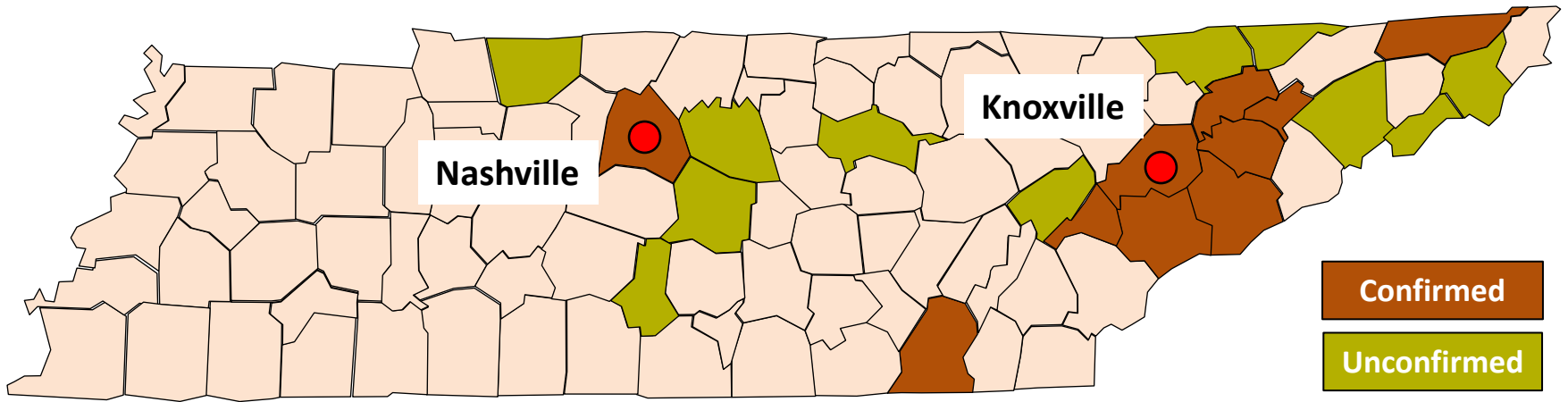


- 2010/11
- 2011/12
- 2012/2013
- Suspected

● *Knoxville, TN*

Courtesy of Ric Bessin, Univ. Kentucky

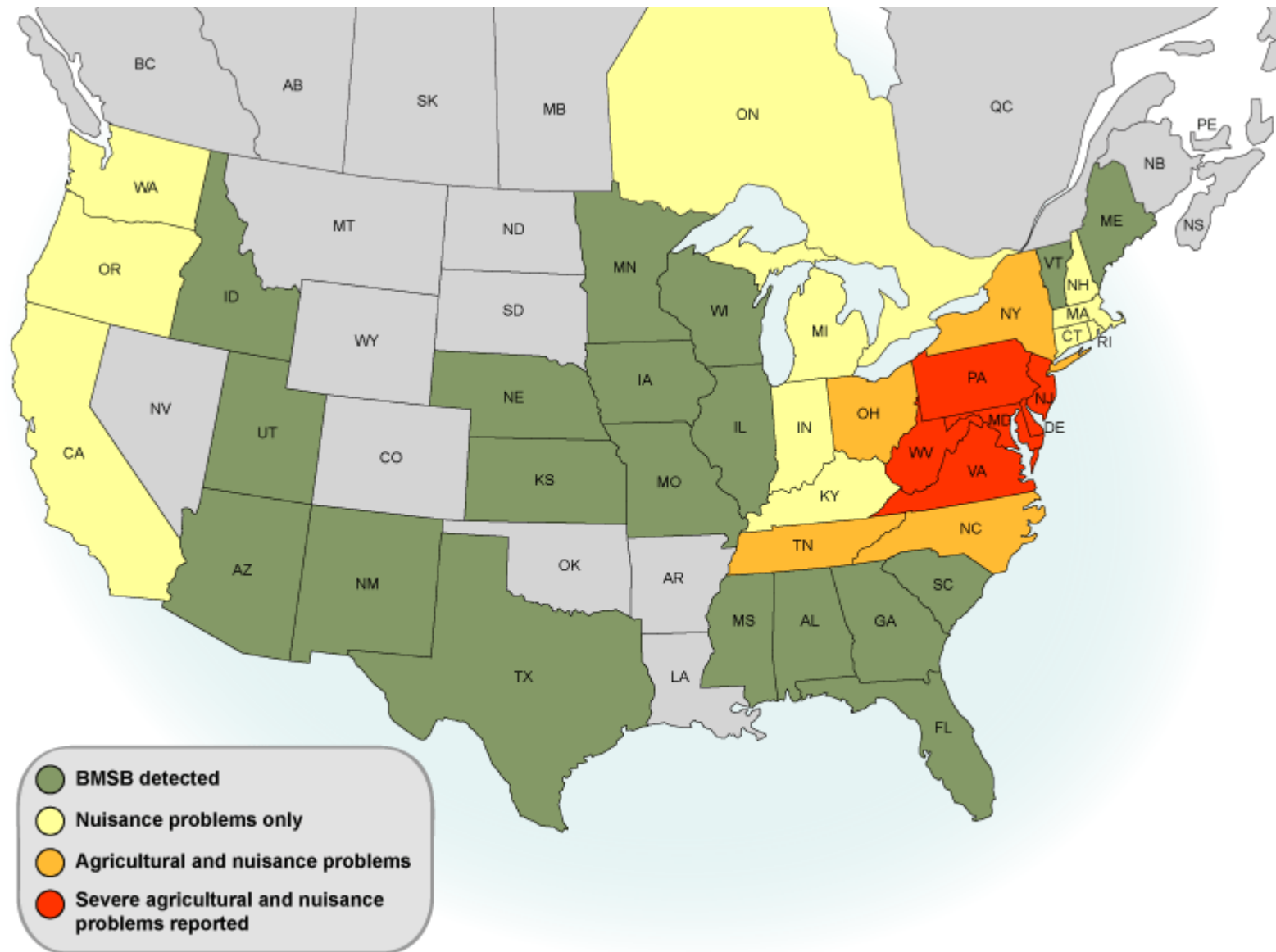
Brown Marmorated Stink Bug



Blount, Carter, Claiborne, **Davidson**, **Granger**, Greene, **Hamblen**, Hamilton, Hancock, **Jefferson**, **Knox**, **Loudon**, Marshall, Montgomery, Putnam, Roane, Rutherford, **Sevier**, **Sullivan**, Unicoi, Wilson

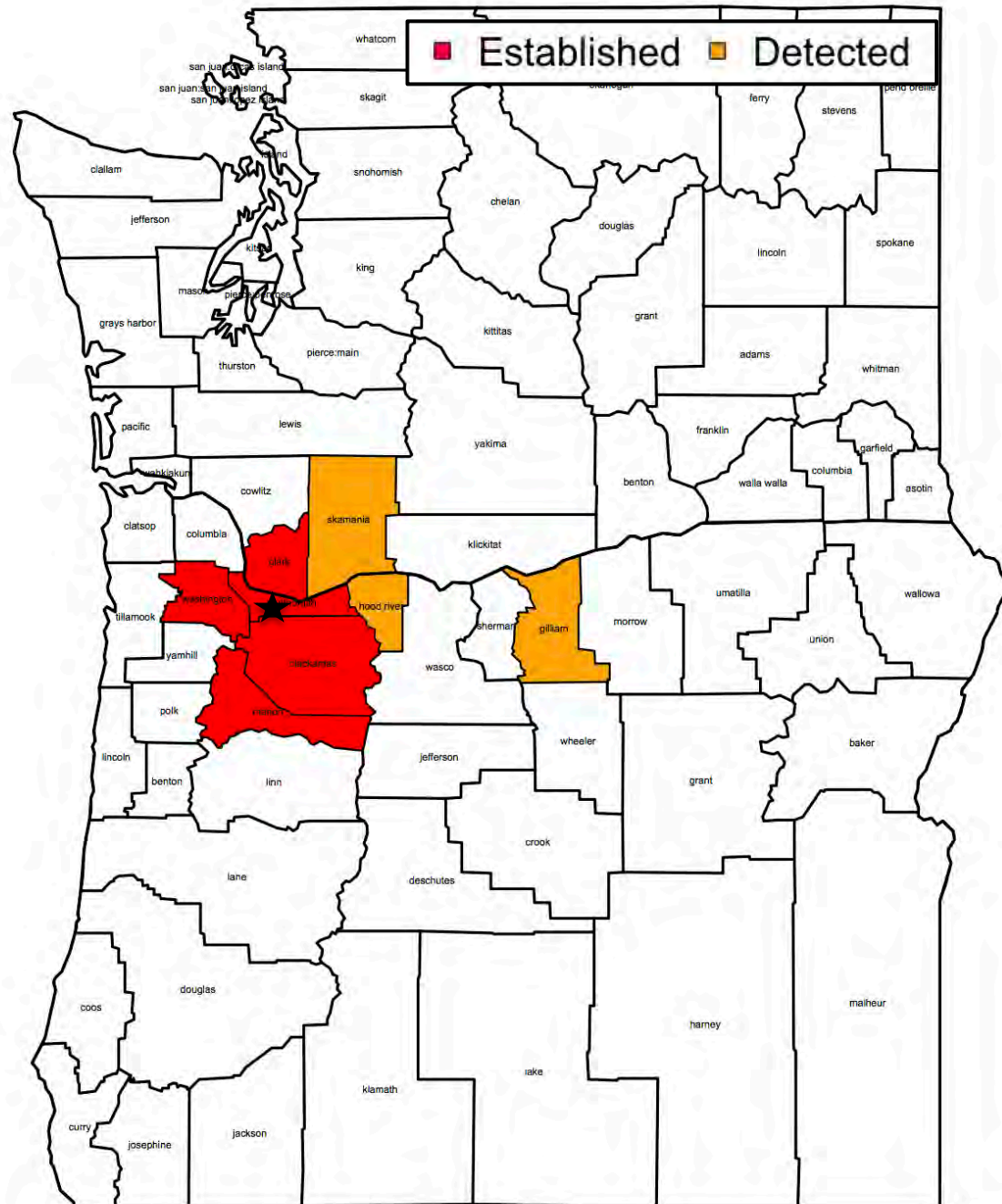
Courtesy of Mary Rogers, Univ. Tennessee

BMSB Distribution and Severity Rating – December 2012



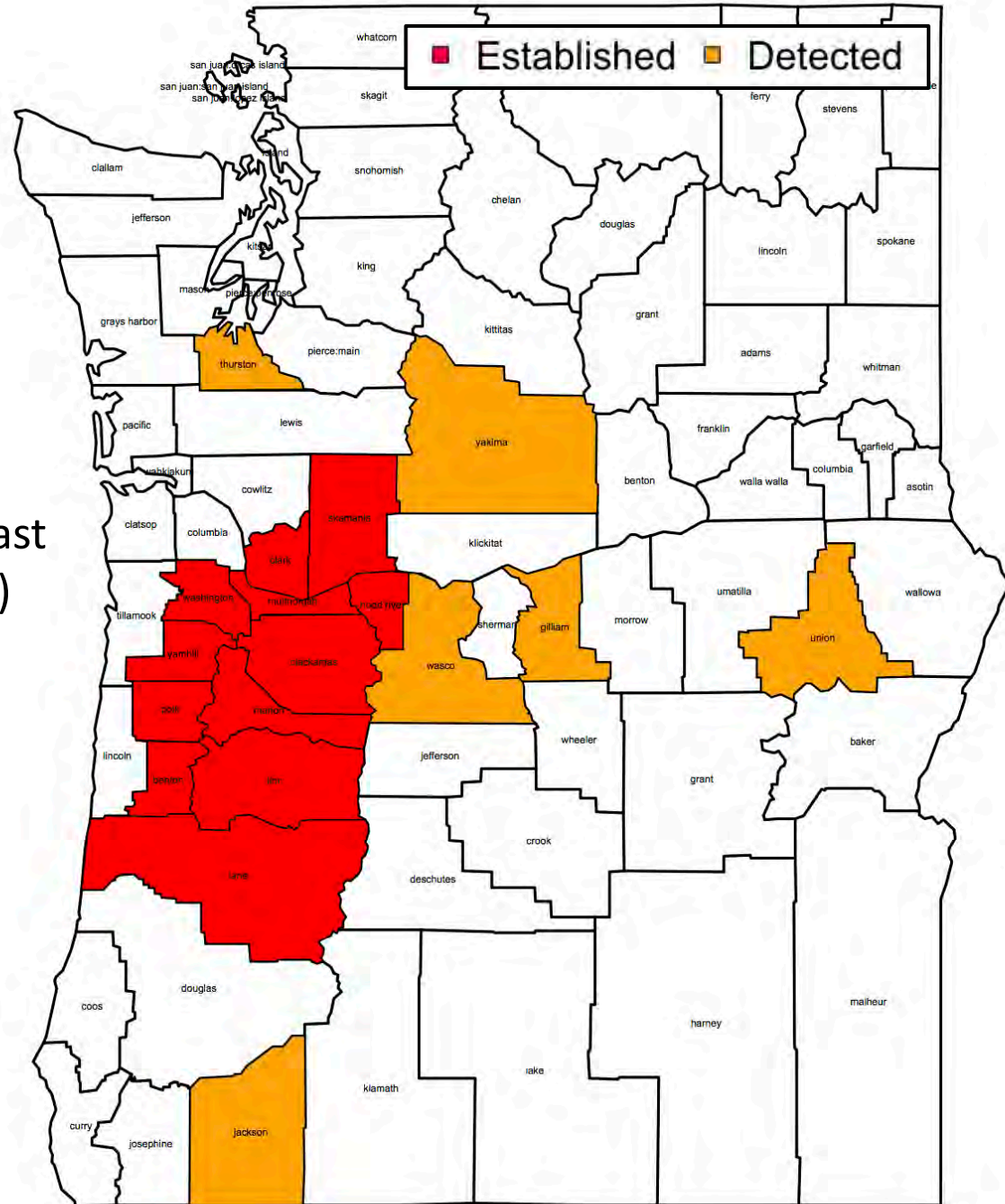
2011: OR/WA

- 2004: Found in Portland (★)
- 2011: Infestation of greater Portland area
- Minor nuisance problems
- Occasional reports or detections from outside the area
- Low numbers of individuals
- No active surveys (pre BMSB SCRI)



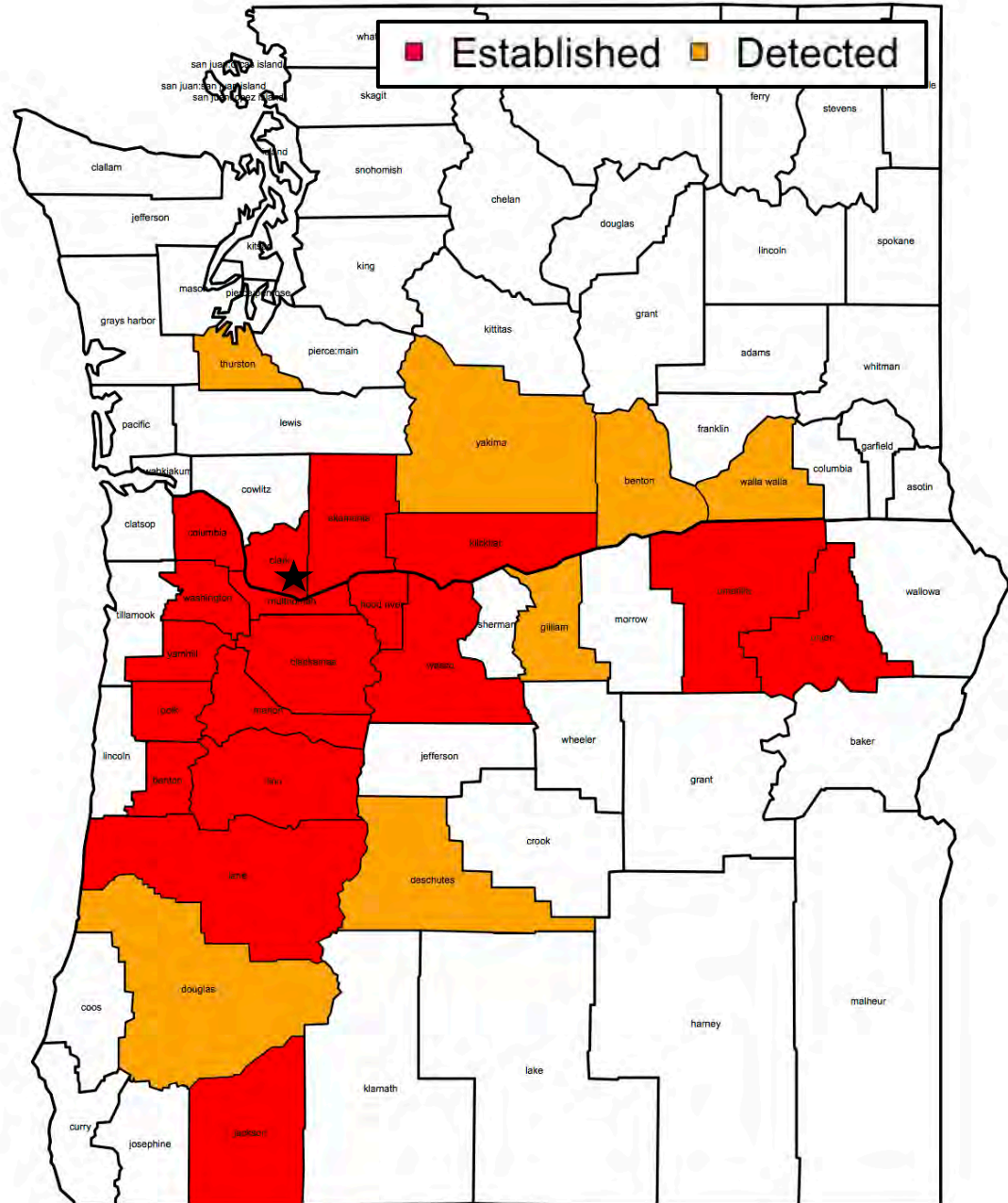
2012: OR/WA

- 2012: Major BMSB expansion
- Columbia Gorge (W-E)
 - Along I-84
- Willamette Valley (N-S)
 - Along I-5
- First finds in desert regions east of the Cascade mts (WA + OR)
- First finds in desert region in Southern OR
- Some nuisance problems
 - Portland area
- First finds on farms
 - Willamette Valley
 - Hazelnut
 - Caneberry
 - Tree Fruit



2013: OR/WA

- 2013: Further expansion East
- Firmly established populations in desert regions (Eastern OR, Southern OR)
- Major nuisance problems
 - Portland area
- Many more BMSB detected on farms, higher numbers
 - Willamette Valley
 - hazelnuts
 - smallfruit/treefruit
- **First economic damage to commercial crops**
 - **Vancouver, WA (★)**
 - Peppers
 - Apples
 - Asian pear





- 16 reports from 11 counties between 2002-2010.

**Sutter
2013**

**Sacramento
2013**

**Los Angeles
2006**