



**Florida Tick-Borne Disease Surveillance
July 26 – September 12th, 2012**

Tick-borne disease surveillance in Florida includes confirmed and probable cases of *Ehrlichia chaffeensis* or human monocytic ehrlichiosis (HME), *Anaplasma phagocytophilum* or human granulocytic anaplasmosis (HGA), Rocky Mountain spotted fever (RMSF) or other spotted fever rickettsiosis (SFR), and Lyme disease that meet case definitions. The following cases have been reported from July 26th to September 12th, 2012.

Florida acquired HME: Two cases, with exposure in St. Johns County were reported. Case's county of residence included Flagler (1) and St. Johns (1).

Florida acquired RMSF / SFR: Five cases, with exposure in Alachua (1), Citrus (1), Jackson (1), and Sumter (2) counties were reported. All cases were exposed in their respective counties of residence.

Non-Florida or unknown acquired HGA: One case with exposure in Minnesota (1). Sarasota County was the county of residence.

Non-Florida or unknown acquired RMSF / SFR: Three cases were reported with exposure in North Carolina (1), Tennessee (1), and one case's exposure was undetermined. Case's counties of residence were Polk (1), Hillsborough (1), and Sumter (1) respectively.

Florida acquired acute Lyme disease: Four cases, with exposures in Alachua (1), Flagler (1), and Putnam (2) counties were reported. Case's county of residence was Marion (1), Flagler (1), and Putnam (2) counties respectively.

Non-Florida or unknown acquired acute Lyme disease: Twelve cases, with exposures in Connecticut (1), Maine (1), New Jersey (1), Northeast US (1), Pennsylvania (2), Rhode Island (2), Vermont (1), and Wisconsin (2) were reported. Case's county of residence included Alachua (1), Brevard (1), Collier (1), Flagler (1), Hillsborough (1), Martin (1), Palm Beach (1), Polk (2), Sarasota (1), and St. Lucie (2).

Year to Date Tick-Borne Disease Summary

Florida acquired HME: Twelve cases with an onset date in 2012 have been reported. Cases were exposed in Alachua (4), Leon (3), Flagler (1), Lafayette (1), St. Johns (2), and Wakulla (1). Cases were reported by Leon (3), Alachua (2), Bay (1), Brevard (1), Flagler (2), Lafayette (1), St. Johns (1), and Wakulla (1) counties.



Non-Florida or unknown acquired HME: Three cases with an onset date in 2012 have been reported. Exposures were determined to be Arkansas (1), North Carolina (1), and Tennessee (1). Cases were reported by Lee, Sumter, and Duval counties respectively.

Florida acquired HGA: One case with an onset date in 2012 has been reported. Exposure and county of residence was Columbia County.

Non-Florida or unknown acquired HGA: Two cases with an onset date in 2012 have been reported. Cases were exposed in Minnesota (1) and Virginia (1). Cases were reported by Sarasota (1) and Pasco (1) County respectively.

Florida acquired RMSF / SFR: Nine cases with an onset date in 2012 have been reported. Cases were exposed in Alachua (2), Citrus (1), Jackson (1), Lake (1), Leon (1) Marion (1), and Sumter (2) counties. Cases were reported by Alachua (2), Brevard (1), Citrus (1), Jackson (1), Orange (1), and Sumter (3) counties.

Non-Florida or unknown acquired RMSF/ SFR: Six cases with an onset date in 2012 have been reported. Locations of exposure: Arkansas (1), Georgia (1), North Carolina (1), Tennessee (1) and unable to be determined (2). Cases were reported by Hillsborough (1), Jackson (1), Miami-Dade (1) Polk (1), Putnam (1), and Sumter (1) counties.

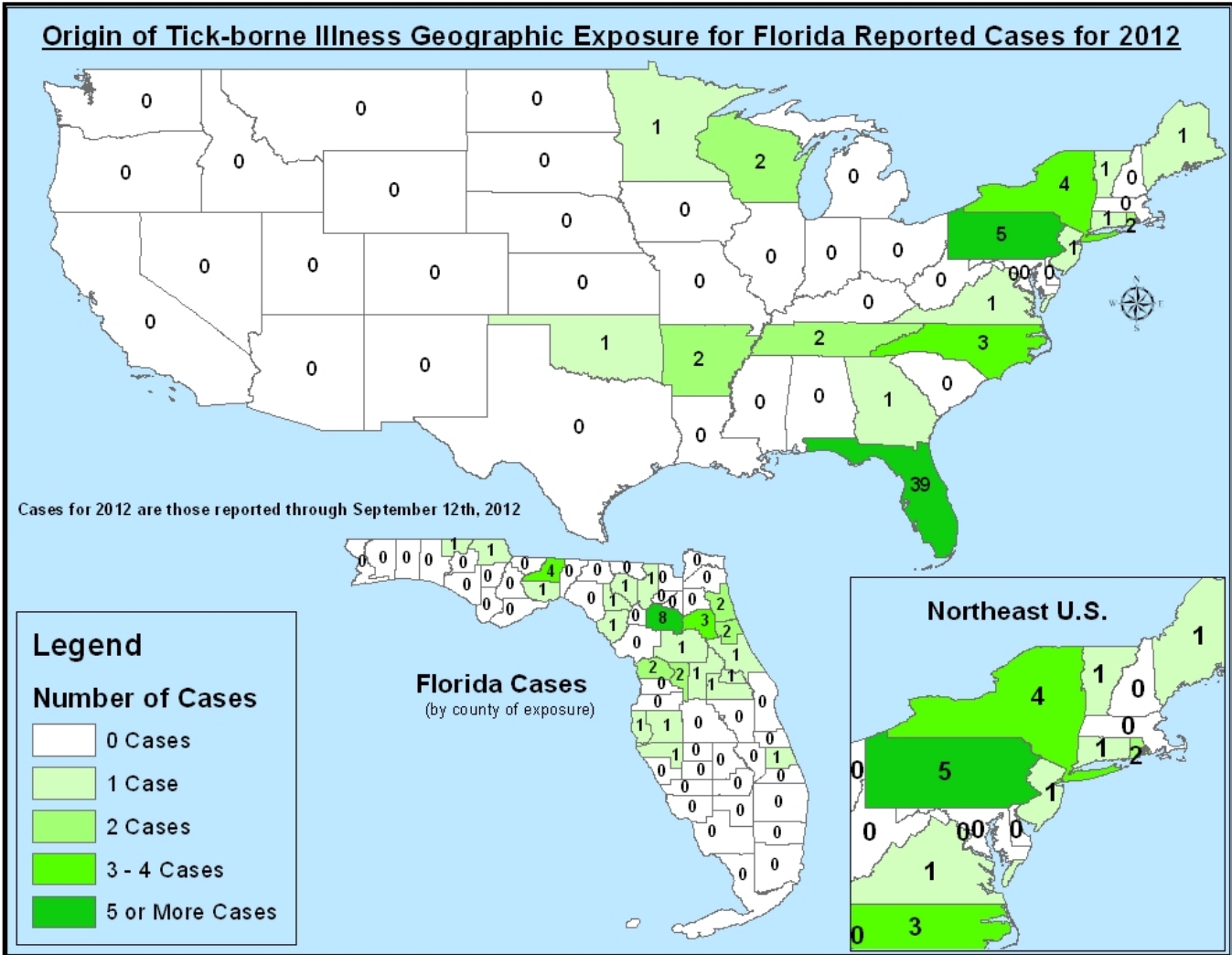
Florida acquired acute Lyme disease: Seventeen cases with an onset date in 2012 have been reported. Cases were exposed in Alachua (2), Citrus (1), Dixie (1), Flagler (1), Hillsborough (1), Holmes (1), Manatee (1), Orange (1), Pinellas (1), Putnam (3), Seminole (1), St. Lucie (1), Suwannee (1), and Volusia (1) counties. Cases were reported by Citrus (1), Flagler (1), Hillsborough (2), Holmes (1), Manatee (1), Marion (1), Miami-Dade (1), Pinellas (2), Putnam (3), Seminole (1), St. Lucie (2), and Volusia (1).

Non-Florida or unknown acquired acute Lyme disease: Twenty-two cases with an onset date in 2012 have been reported. Locations of exposure: Connecticut (1), Maine (1), New Jersey (1), New York (4), Northeast US (1), North Carolina (1), Oklahoma (1), Pennsylvania (5), Puerto Rico (1), Rhode Island (2), Vermont (1), and Wisconsin (2). Florida counties reporting these cases include: Alachua (1), Brevard (1), Broward (1), Collier (1), Flagler (1), Hillsborough (3), Lee (1), Martin (1), Palm Beach (2), Pasco (1), Pinellas (1), Polk (2), Sarasota (1), St. Lucie (3), and Volusia (2).



Year to Date Tick-Borne Diseases by Geographic Location

2012 Cases of Tick-borne Infections Exposure Location			
Location	# of cases	Location	# of cases
Florida	39	Maine	1
Pennsylvania	5	Minnesota	1
New York	4	New Jersey	1
North Carolina	3	Northeast US	1
Arkansas	2	Oklahoma	1
Rhode Island	2	Puerto Rico	1
Tennessee	2	Vermont	1
Wisconsin	2	Virginia	1
Connecticut	1	Undetermined	2
Georgia	1		





Year to Date Tick-Borne Disease Cases by County

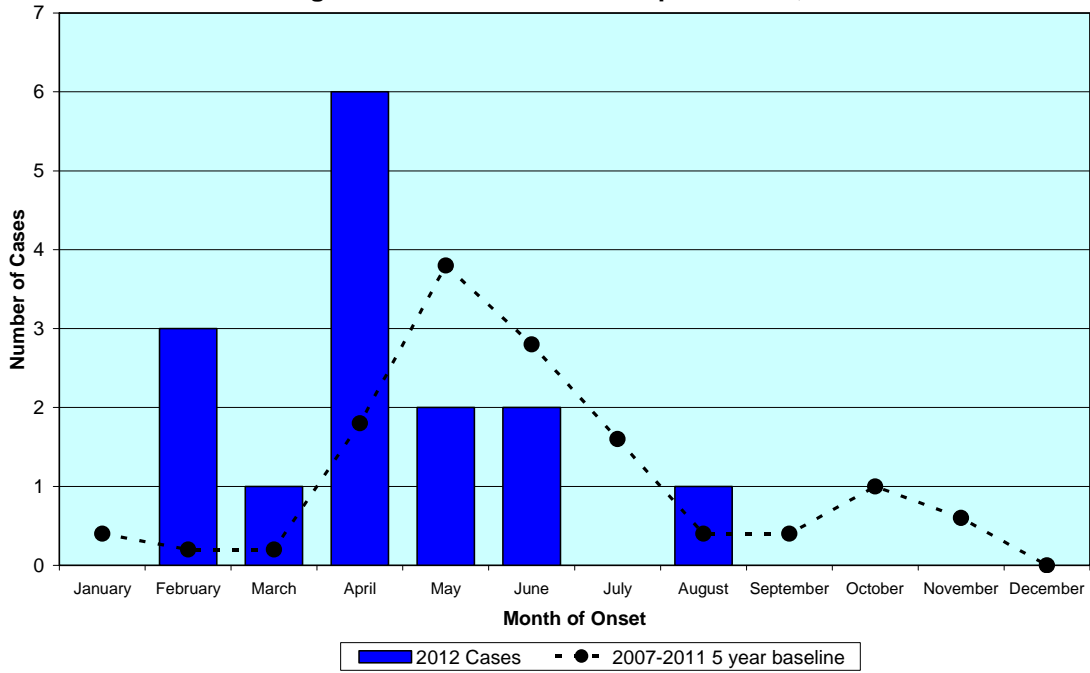
Tick-Borne Disease Activity by County of Exposure									
Disease	HME		HGA		RMSF/SFR		Acute LYME		Totals
	FL	Non-FL	FL	Non-FL	FL	Non-FL	FL	Non-FL	
Origin	FL	Non-FL	FL	Non-FL	FL	Non-FL	FL	Non-FL	All
Alachua	4	0	0	0	2	0	2	1 (I)	9
Brevard	0	0	0	0	0	0	0	1 (I)	1
Broward	0	0	0	0	0	0	0	1 (I)	1
Citrus	0	0	0	0	1	0	1	0	2
Collier	0	0	0	0	0	0	0	1 (I)	1
Columbia	0	0	1	0	0	0	0	0	1
Dixie	0	0	0	0	0	0	1	0	1
Duval	0	1 (I)	0	0	0	0	0	0	1
Flagler	1	0	0	0	0	0	1	1 (I)	3
Hillsborough	0	0	0	0	0	1 (I)	1	3 (I)	5
Holmes	0	0	0	0	0	0	1	0	1
Jackson	0	0	0	0	1	1 (U)	0	0	2
Lafayette	1	0	0	0	0	0	0	0	1
Lake	0	0	0	0	1	0	0	0	1
Lee	0	1 (I)	0	0	0	0	0	1 (I)	2
Leon	3	0	0	0	1	0	0	0	4
Manatee	0	0	0	0	0	0	1	0	1
Marion	0	0	0	0	1	0	0	0	1
Martin	0	0	0	0	0	0	0	1 (I)	1
Miami-Dade	0	0	0	0	0	1 (I)	0	0	1
Orange	0	0	0	0	0	0	1	0	1
Palm Beach	0	0	0	0	0	0	0	2 (I)	2
Pasco	0	0	0	1 (I)	0	0	0	1 (I)	2
Pinellas	0	0	0	0	0	0	1	1 (I)	2
Polk	0	0	0	0	0	1 (I)	0	2 (I)	3
Putnam	0	0	0	0	0	1 (I)	3	0	4
Sarasota	0	0	0	1 (I)	0	0	0	1 (I)	2
Seminole	0	0	0	0	0	0	1	0	1
St. Johns	2	0	0	0	0	0	0	0	2
St. Lucie	0	0	0	0	0	0	1	3 (I)	4
Sumter	0	1 (I)	0	0	2	1 (U)	0	0	4
Suwannee	0	0	0	0	0	0	1	0	1
Volusia	0	0	0	0	0	0	1	2 (I)	3
Wakulla	1	0	0	0	0	0	0	0	1
Totals	12	3	1	2	9	6	17	22	72

Legend: FL = Florida acquired, Non-FL=Non-Florida or unknown origin, I=imported, U=Unknown

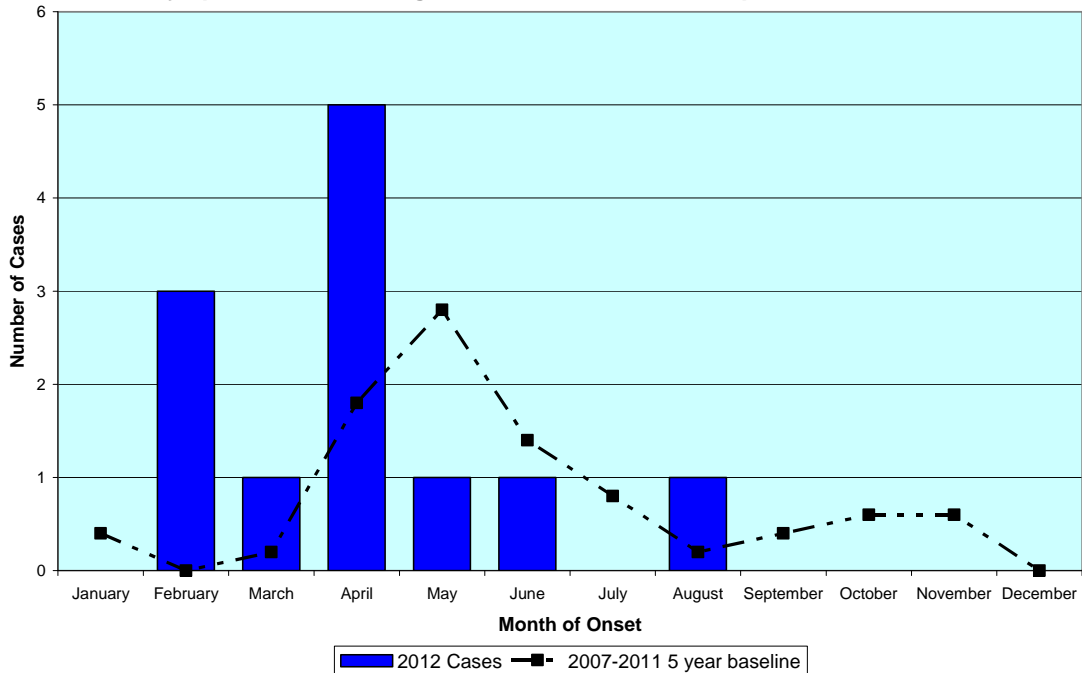


Monthly Tick-Borne Disease Summary

All Human Monocytic Ehrlichiosis Cases By Month of Symptom Onset Among Florida Residents as of September 12, 2012

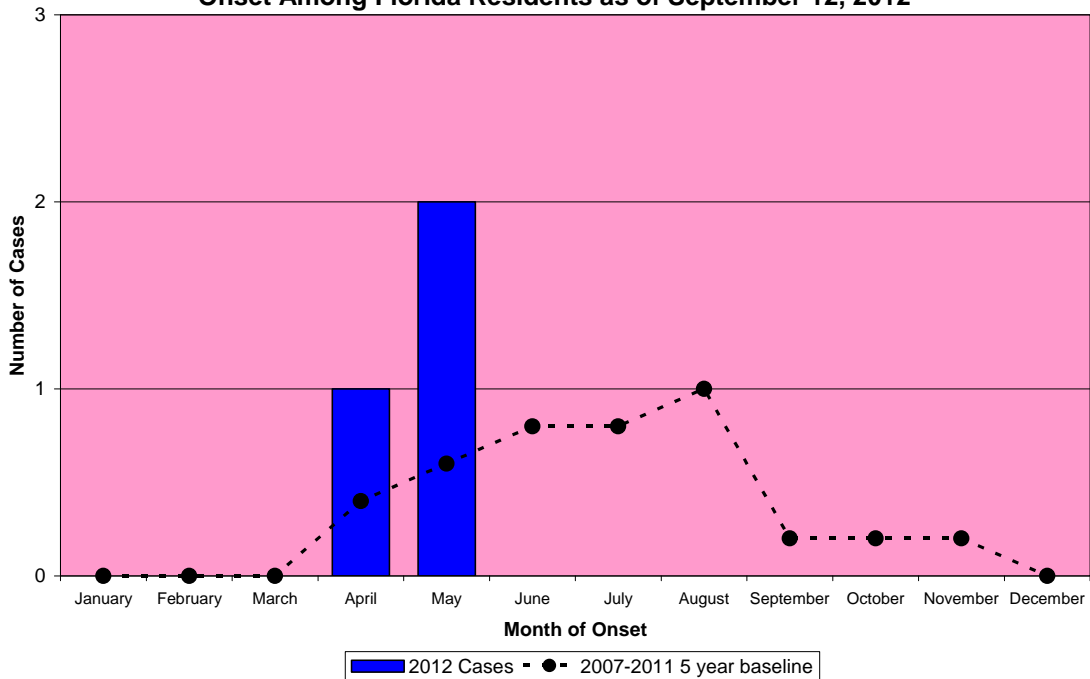


Florida-Acquired Cases of Human Monocytic Ehrlichiosis By Month of Symptom Onset Among Florida Residents as of September 12, 2012

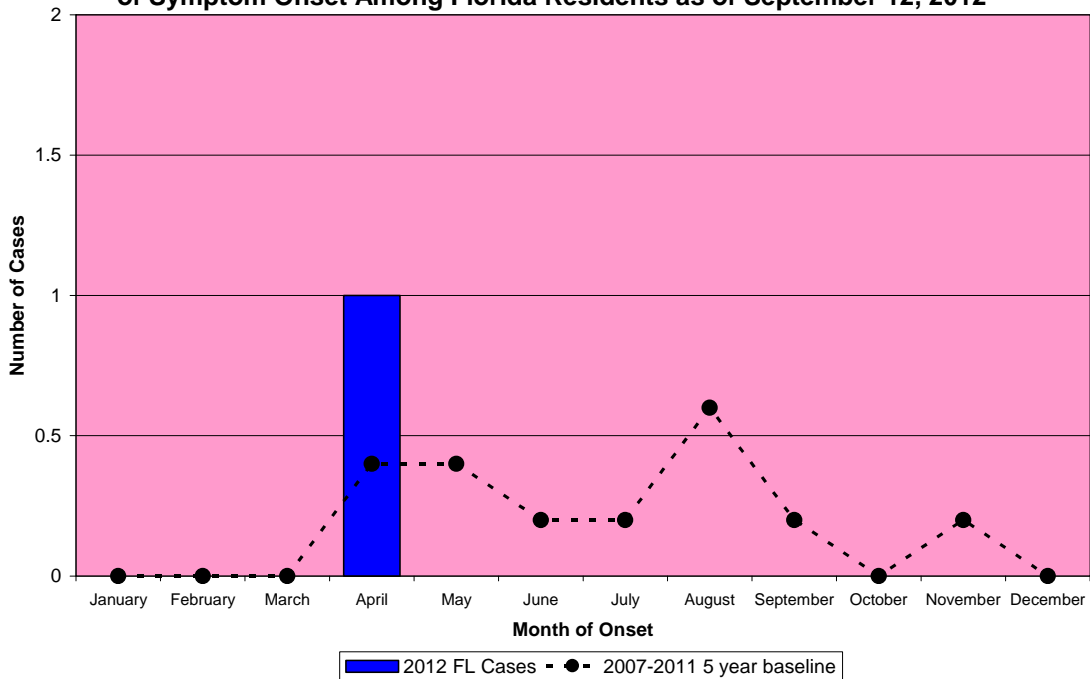




All Human Granulocytic Anaplasmosis Cases By Month of Symptom Onset Among Florida Residents as of September 12, 2012

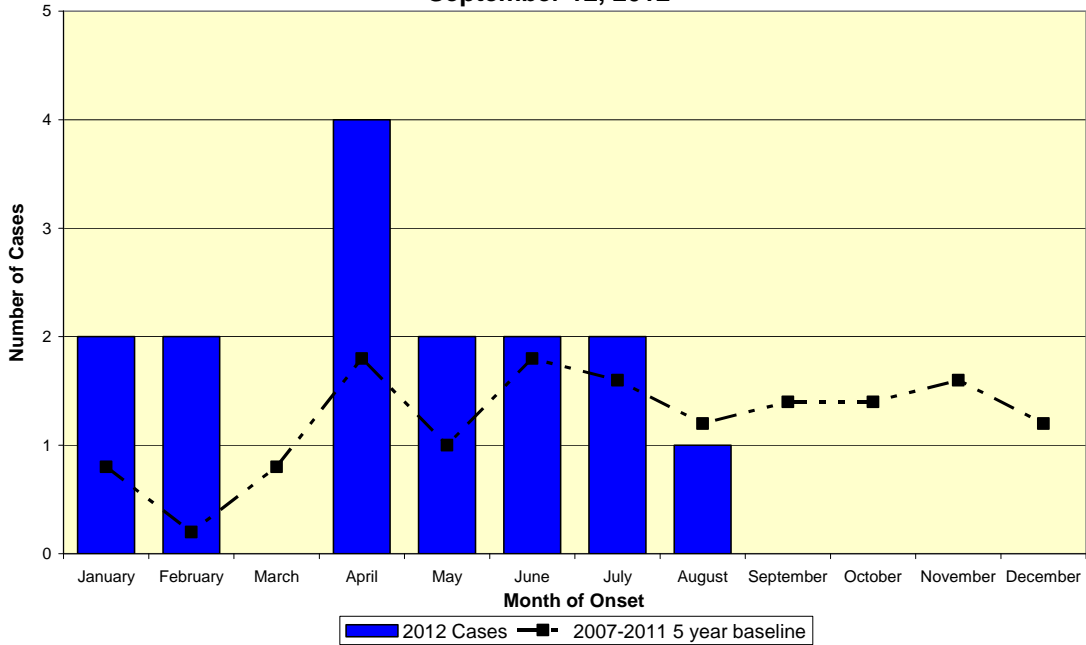


Florida-Acquired Human Granulocytic Anaplasmosis Cases By Month of Symptom Onset Among Florida Residents as of September 12, 2012

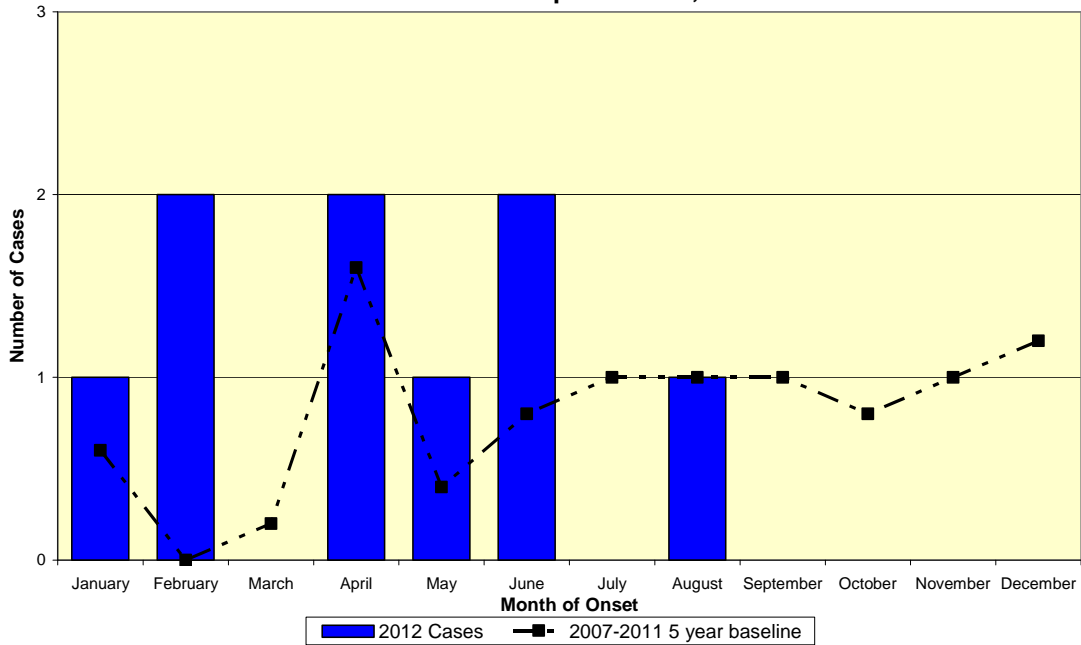




**All Rocky Mountain Spotted Fever / Spotted Fever Rickettsiosis Cases
By Month of Symptom Onset Among Florida Residents as of
September 12, 2012**

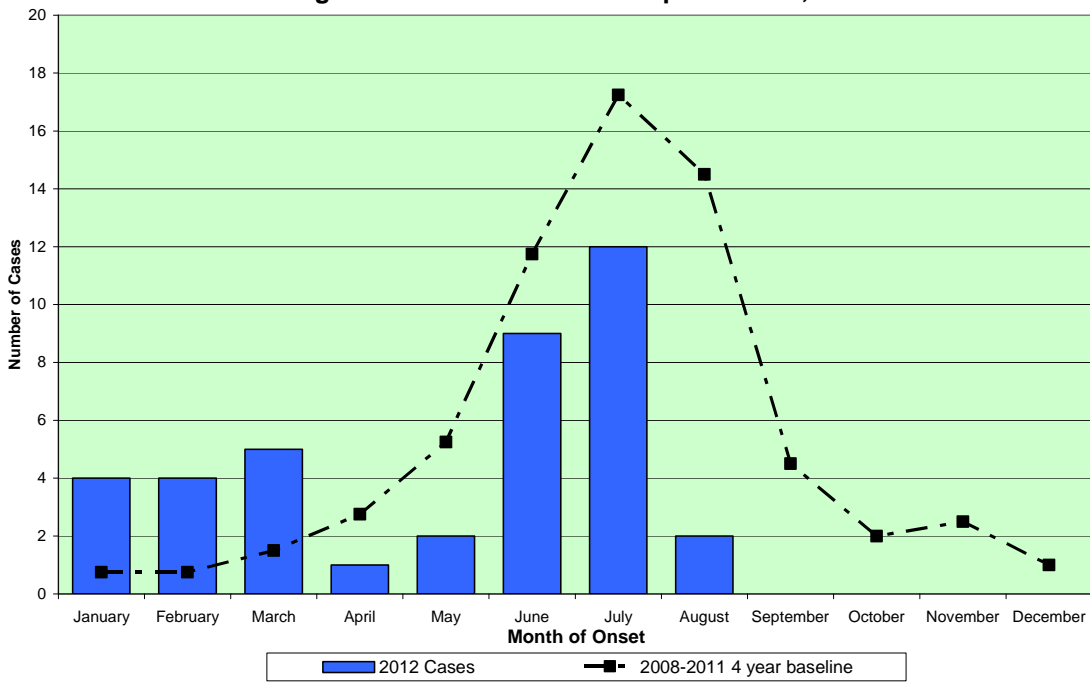


**Florida-Acquired Rocky Mountain Spotted Fever / Spotted Fever
Rickettsiosis Cases By Month of Symptom Onset Among Florida
Residents as of September 12, 2012**

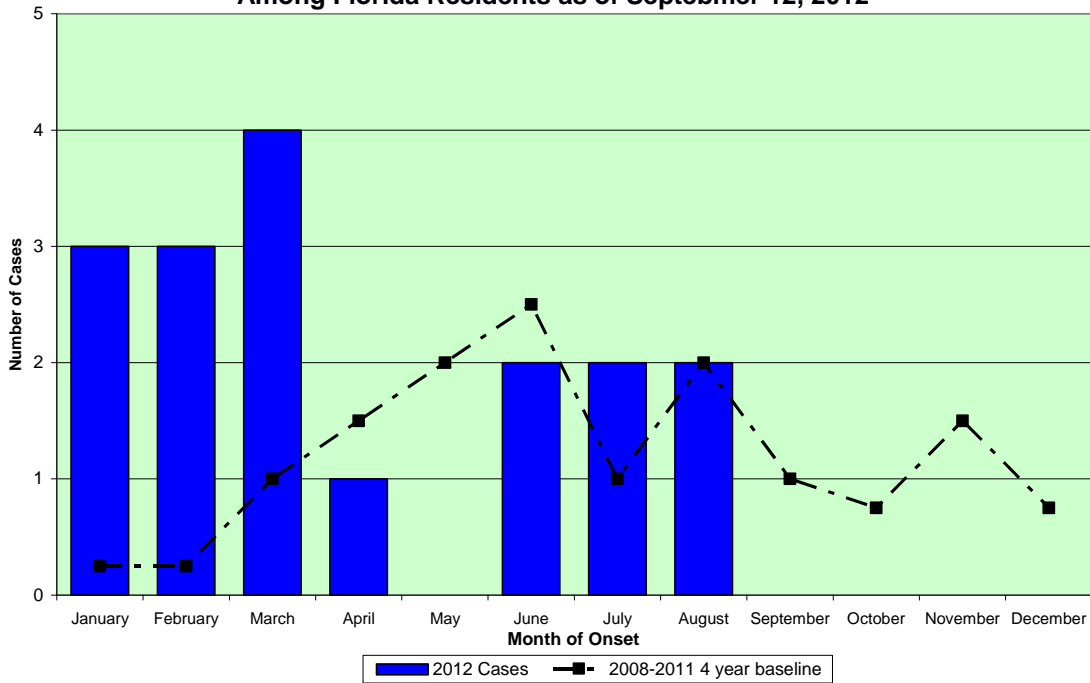




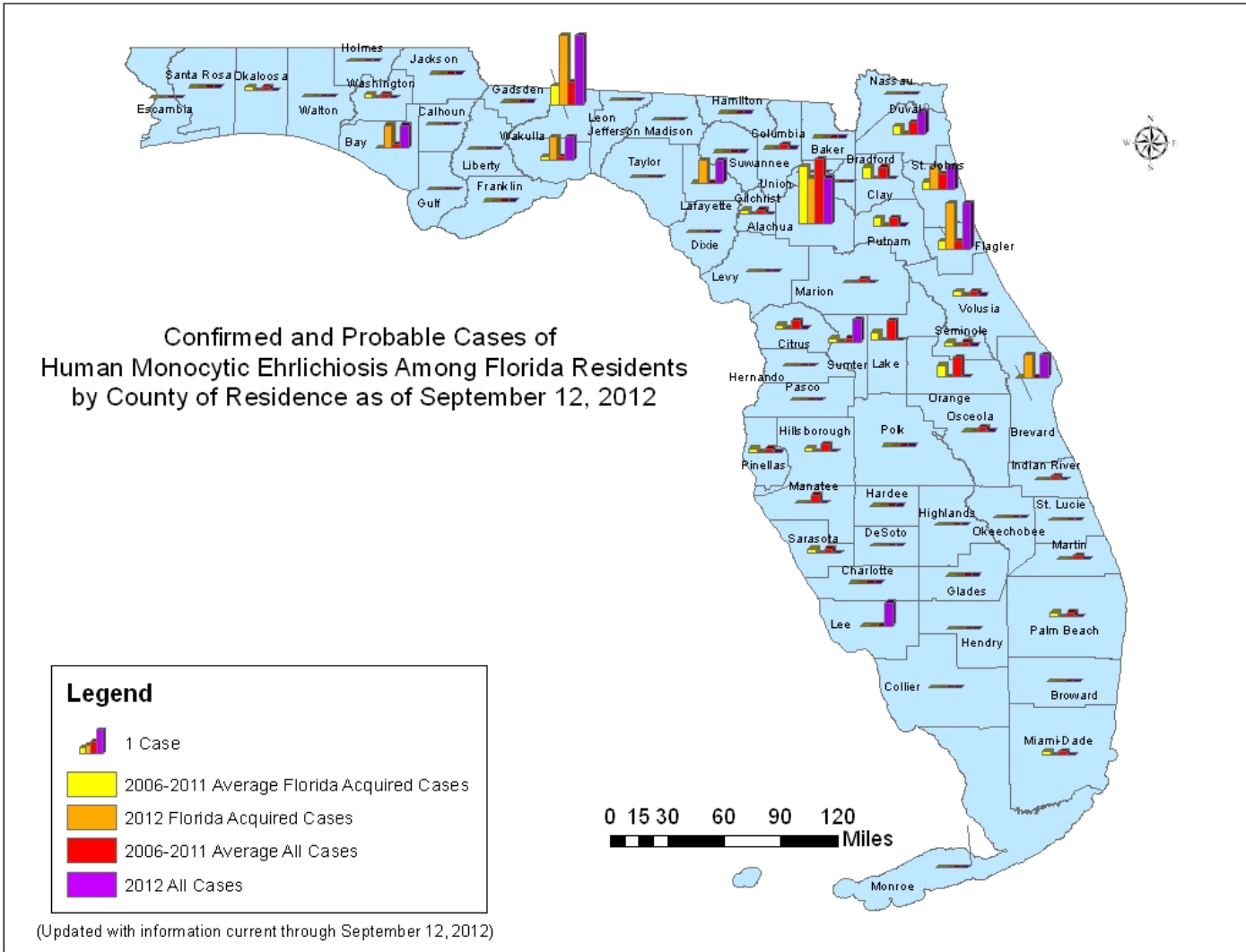
**All Acute Lyme Disease Cases By Month of Symptom Onset
Among Florida Residents as of September 12, 2012**

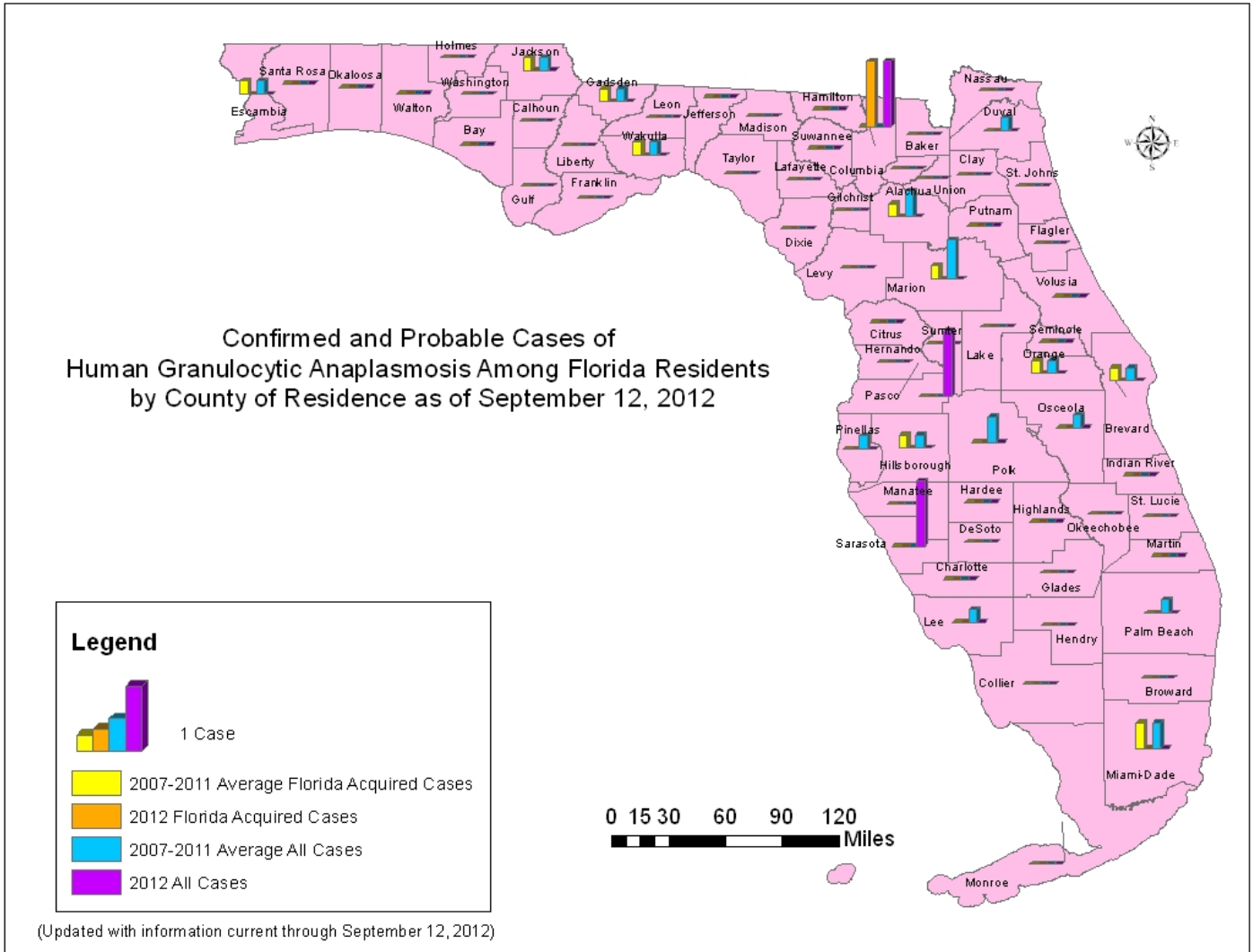


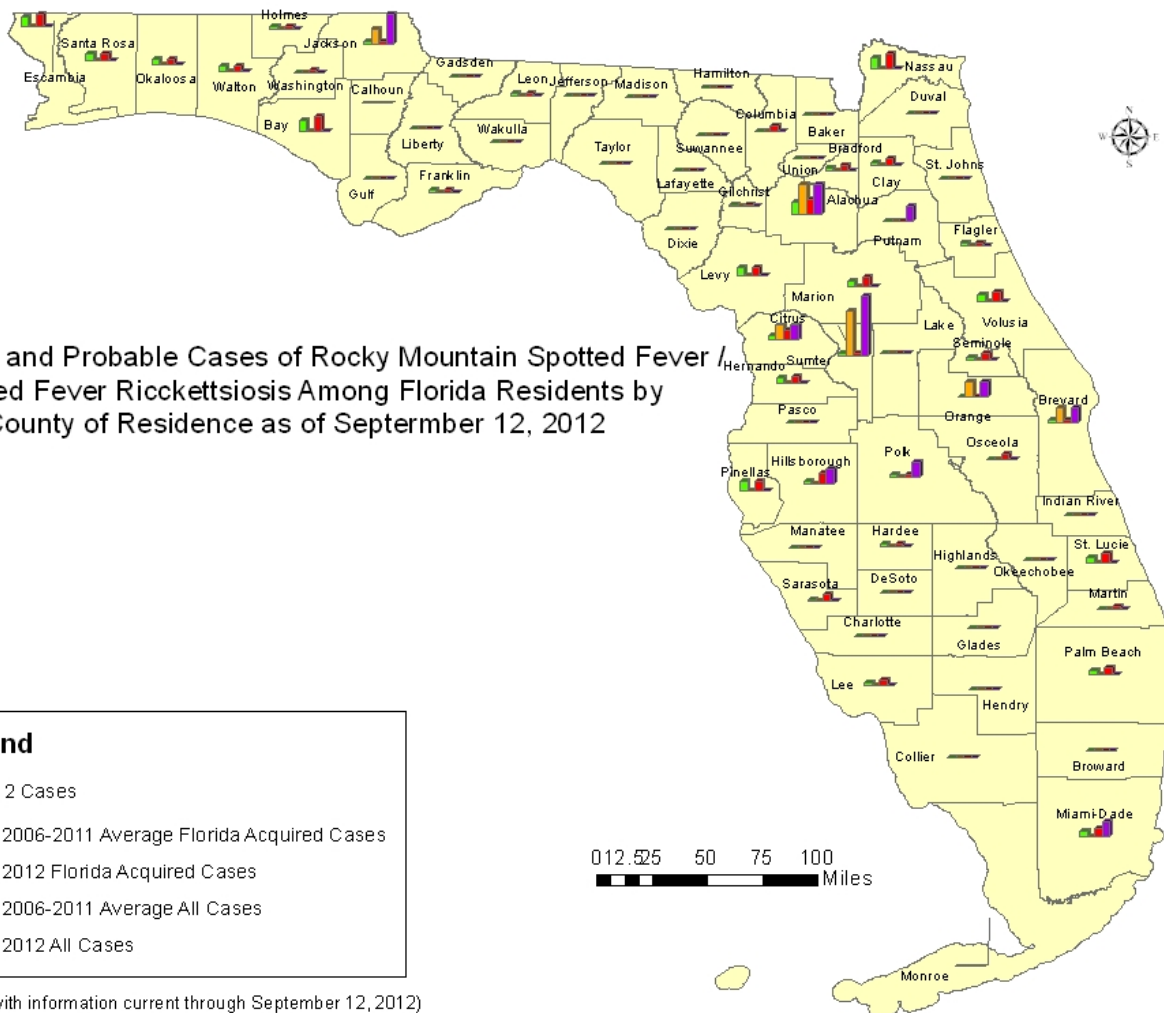
**Florida-Acquired Lyme Disease Cases By Month of Symptom Onset
Among Florida Residents as of September 12, 2012**

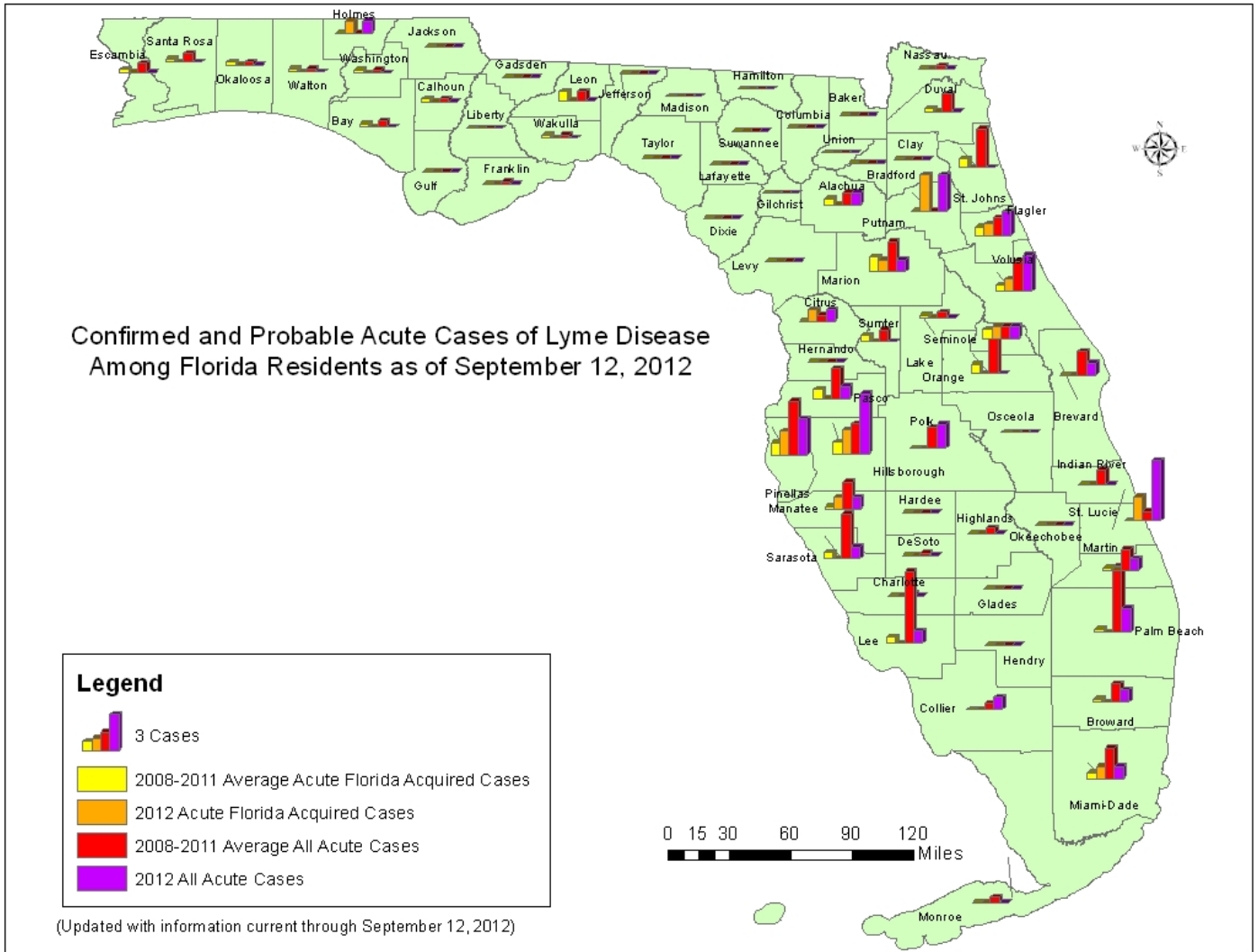


Maps of Tick-Borne Disease Cases by County











Spotlight on a Novel Tick-borne Illness

Two residents of Missouri with a history of tick bites were initially suspected to have ehrlichiosis. Following investigation, both residents were found to be infected with a novel phlebovirus (in the bunyavirus family) which is being called the Heartland virus. One other tick-borne phlebovirus, severe fever with thrombocytopenia syndrome virus (SFTSV), was recently discovered in China. The Heartland virus cases presented with fever, fatigue, anorexia, diarrhea, thrombocytopenia, and leukopenia. The suspected vector for this pathogen is the lone star tick, *Amblyomma americanum*, which is present in Florida and is also the vector for *Ehrlichia* infections. Although similar in clinical presentation to *Ehrlichia* infections, treatment with doxycycline is not effective for Heartland virus infections. Therefore, Heartland virus infections might be a consideration when suspect ehrlichiosis patients fail to improve within a few days of appropriate treatment. For more information on this new tick-borne illness see the August 30th, 2012 edition of the New England Journal of Medicine linked here: <http://www.nejm.org/doi/full/10.1056/NEJMoa1203378>

Acknowledgements and Data Sources

Contributors: James Matthias, MPH, Danielle Stanek, DVM, and Carina Blackmore, DVM, PhD, Florida Department of Health.

For more surveillance information, please see the DOH website at:

http://www.doh.state.fl.us/Environment/medicine/arboviral/Tick_Borne_Diseases/Tick_Index.htm

Data are provided by county health departments, Florida Department of Health, Bureau of Public Health Laboratories-Jacksonville, private health care providers and laboratories. Tallies are organized into those where exposure to the infected tick most likely occurred: in Florida or a total case count which includes cases with exposures in and outside Florida as well as for cases where exposure location was not definitively determined. This report is in large part designed to increase awareness of current tick disease transmission so the report focuses on cases acquired in 2011. Acute Lyme disease cases include patients with symptoms of less than 30 days duration at the time of diagnosis, without late clinical signs such as intermittent arthritis. Reporting is inherently delayed as most testing for tick-borne illness is based on antibodies which can take 2-4 weeks to form and generally requires an acute and convalescent serum sample to be definitive.