PUBLIC HEALTH NEWS FOR VETERINARIANS

Public Health News for Veterinarians is a collaborative publication distributed by Local Departments of Health in Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties to inform and update veterinarians about public health and zoonotic diseases.

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Invasive Longhorned Ticks

Pictured: Haemaphysalis longicornis. From left to right: adult female, engorged nymph, and larvae. Photo courtesy of Jim Occi, Rutgers University.

By Alison Kaufman, DVM, MPH & Gabrielle Mastrantuono, Dutchess County Department of Behavioral & Community Health

A year has passed since a New Jersey farmer arrived at the Hunterdon County Health Department covered head to toe in ticks. She reported finding thousands of ticks attached to her 12 year old Icelandic sheep Hannah and crawling all over her own body and clothing while sheering.[1] Subsequent investigations found a high density of ticks, including all three life stages, both on the sheep and in her pasture.[2] Recognizing they had been presented with a potentially exotic species, Hunterdon County Health Officials enlisted assistance in identification from the Center for Vector Biology at Rutgers University.[1] On November 9th, 2017, the National Veterinary Service Lab (NVSL) in Ames, Iowa confirmed Rutgers initial identification of the exotic tick *Haemaphysalis longicornis*, also known as the "East Asian tick," or the "longhorned tick."[2] Though this tick has occasionally been intercepted at quarantine on animals and materials presented for entry at U.S. ports, this discovery represented the first known incursion of the tick in the United States.[2]

In the months following the initial discovery, evidence has mounted that the longhorned tick has likely been present in the United States for some time, and its range expands far beyond Hannah the sheep's pasture. Re-examinations of archived specimens have identified longhorned ticks collected in the U.S. dating back to 2010.[3] In spite of environmental control efforts, on April 17, 2018 NVSL confirmed longhorned ticks successfully overwintered in Hunterdon County,[4] and established populations had been found in several additional New Jersey counties.[5] Subsequently, the ticks were identified in other states including Pennsylvania, West Virginia, Virginia, Arkansas, and North Carolina.[3] On July 17th, New York State joined the list with the announcement that longhorned ticks were discovered in multiple locations in Westchester County. Surveillance and research on longhorned ticks in ongoing in New York State.[6]

Longhorned ticks are native to East Asia, including China, Japan, the former USSR, and Korea. The United States is not the first to have the longhorned tick as an invader. It has also successfully established itself as an invasive pest in parts of Australia, New Zealand, and several Pacific islands.[2] The longhorned tick's ability to reproduce asexually allows for populations to explode at rapid rates, and favors its invasive establishment.[3]

The scope of the medical and veterinary importance of longhorned ticks in the United States is not yet fully understood, and is being actively investigated. Ticks collected in association with the initial discovery were negative for pathogens of medical and veterinary importance.[7] Longhorned ticks are known to have a broad host range with a preference for cattle, sheep and horses. Bites can cause considerable nuisance, skin damage and irritation to humans, livestock, companion animals and wildlife. High density infestations can cause anemia and debilitation in livestock species. In other countries, longhorned ticks are known to transmit bovine theileriosis and ovine babesiosis.[3] In Asia, longhorned ticks have been shown

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Westchester Coyote Attacks

By John Hopper & Michael Condon, Westchester County Department of Health

Photo Courtesy of Yonkers Police Department

Westchester County experienced attacks by two rabid coyotes to date in 2018. These attacks resulted in the death of a dog and the need for rabies post-exposure prophylaxis for thirteen people. In the past ten years, two other coyotes from Westchester County have tested positive for rabies: one in 2016 from Ossining and the other in 2010 from Rye Brook. Since 2004, a total of 8 coyotes from Hudson Valley Region Counties have tested positive for rabies.

The first incident in Westchester this year began in the early evening of February 28th in the Village of Hastings-on-Hudson when a man was attacked by a coyote as he walked to his front door. Evading capture efforts of an Animal Control Officer and Wildlife Trapper, the coyote attacked three more people and killed a dog within half a mile of the first attack. On the afternoon of March 1st, the coyote attacked 3 additional people in Yonkers, several miles south of the first incident. Westchester County Police helicopters and drones enlisted to search for the coyote were able to spot it on a public golf course. A police officer searching the golf course on foot was also attacked and bitten before the incident came to a close when the officer killed the coyote with his firearm. The coyote was confirmed rabid by testing at Wadsworth Rabies Lab on March 3rd.

The second incident occurred in the late afternoon of April 29th at a park in the Town of Mount Pleasant. A coyote attacked a five-year-old girl, biting and grabbing onto her arm. The girl's mother tried pulling her free while kicking the coyote in the head. An off-duty police officer at the park ran over and tackled the coyote. He was able to subdue and hold it until local police arrived and killed it. The coyote was confirmed rabid by testing at Wadsworth Rabies Lab on May 1st.

These incidents serve as a reminder that rabies remains a real threat to pets and people, and can be used by veterinarians to emphasize the importance of the following rabies prevention measures with clients:

- Keep pet rabies vaccinations up to date.
- Do not feed pets outdoors or allow them to roam freely.
- Report known or suspected attacks on pets by wildlife to the local health department promptly.
- Avoid interacting with all wildlife, including coyotes. Although coyote attacks on humans are rare, sick coyotes or ones who have lost their fear of humans, due to feeding intentionally or unintentionally, may show bold or aggressive behavior toward humans.

Additional information on coyotes in New York State and guidance for reducing coyote conflicts can be found at: NYSDEC Tips - Coyote Conflicts: https://www.dec.ny.gov/animals/6971.html

Invasive Longhorned Ticks (continued from front page)

to harbor a number of other medical and veterinary pathogens, but their capacity to act as a vector has not been studied.[3] Veterinarians should advise clients to be vigilant for heavy tick infestations and consistently practice tick bite prevention. Recommended veterinary and medical tick bite prevention strategies do not differ for longhorned ticks and native tick species. To assist in detection of H. Longicornis in New York State, the Department of Agriculture and Markets requests that veterinarians report cases of animals that are heavily infested with ticks to the point of debilitation. Please call the office of the State Veterinarian at 518-457-3502 or dai@agriculture.ny.gov for notification and assistance in coordination of sample submission for identification.

References

1. Wenner Moyer M. Tick Discovery Highlights How Few Answers We Have about These Pests in the U.S. Scientific American. 2018.
2. Rainey T, Occi JL, Robbins RG, Egizi A. Discovery of Haemaphysalis longicornis (Ixodida: Ixodidae) Parasitizing a Sheep in New Jersey, United States. J Med Entomol. 2018;55(3):757-759.
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6. New York State Department of Health. New York State Departments of Health and Agriculture and Markets Urge Precaution Against Ticks. 2018; https://www.health.ny.gov/press/releases/2018/2018-07-17_precaution_against_ticks.htm.
7. Lewis N. Exotic Tick Species Identified in Hunterdon County, New Jersey. USDA APHIS VS District 1 Accredited Veterinarian Newsletter. 2018;4(1):1.

Animal Rabies Testing of Domestic Species, 2017

County	Cats			Dogs			Other Dometic*			Total Domestic		
	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.
Dutchess	33	0	0%	11	0	0%	1	0	0%	45	0	0%
Orange	45	4	9%	31	0	0%	3	0	0%	79	4	5%
Putnam	20	2	10%	6	0	0%	2	0	0%	28	2	7%
Rockland	28	2	7%	4	0	0%	0	0	0%	32	2	6%
Sullivan	16	0	0%	17	0	0%	0	0	0%	33	0	0%
Ulster	31	3	10%	21	0	0%	0	0	0%	52	3	6%
Westchester	70	2	3%	51	0	0%	1	0	0%	122	2	2%
Total	**243**	**13**	**5%**	**141**	**0**	**0%**	**7**	**0**	**0%**	**391**	**13**	**3%**

*Other domestic includes horses, domestic rabbits and sheep
Data Source: NYS Department of Health Rabies Laboratory

Animal Rabies Testing of Wild Species, 2017

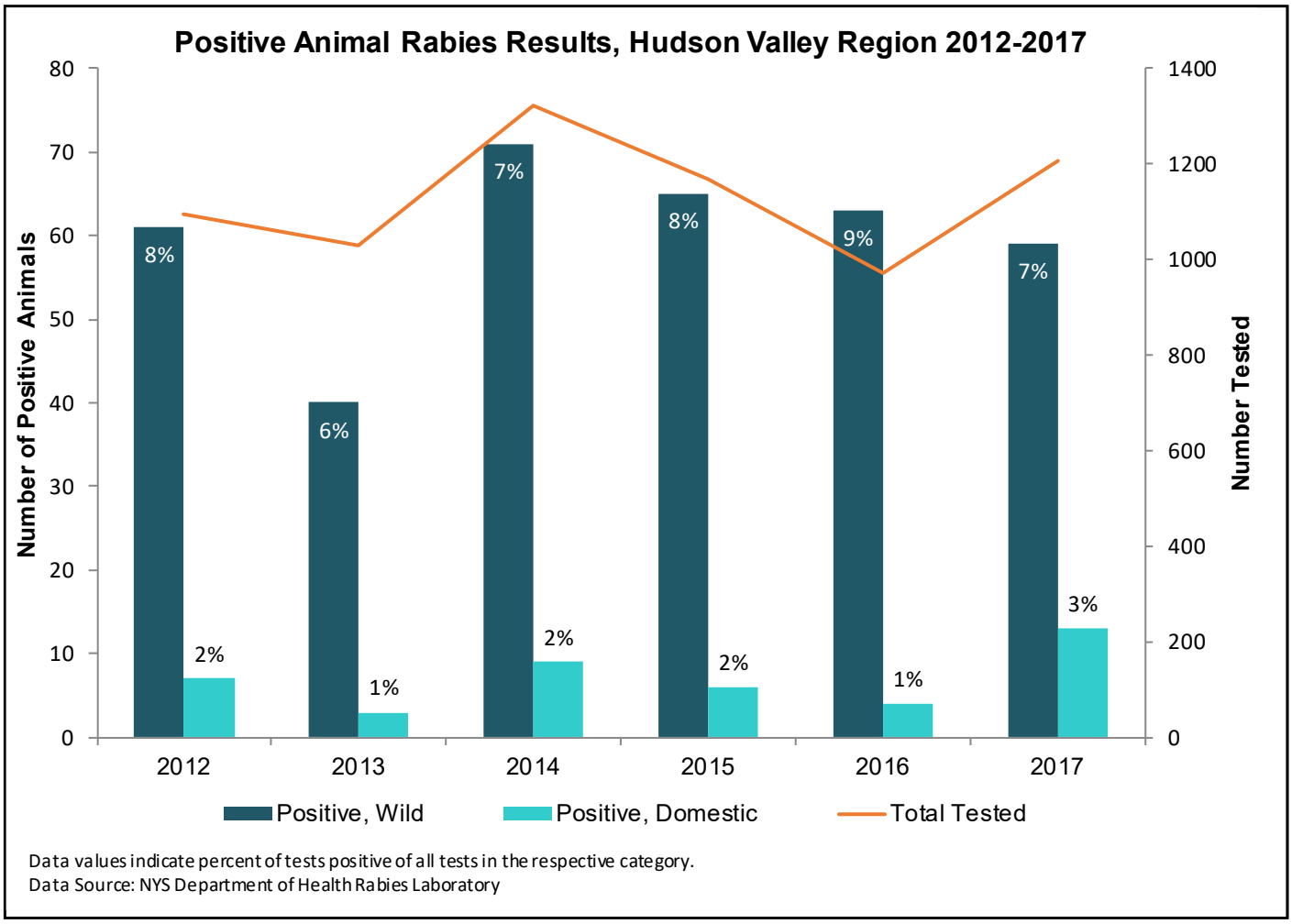
County	Bats			Racoons			Skunks			Other Wild*			Total Wild		
	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.
Dutchess	59	1	2%	7	3	43%	1	0	0%	2	1	50%	69	5	7%
Orange	29	0	0%	6	3	50%	2	0	0%	19	2	11%	56	5	9%
Putnam	94	2	2%	9	7	78%	2	0	0%	8	3	38%	113	12	11%
Rockland	34	4	12%	2	0	0%	2	0	0%	12	2	17%	50	6	12%
Sullivan	8	0	0%	3	0	0%	0	0	0%	9	2	22%	20	2	10%
Ulster	109	0	0%	10	8	80%	1	1	100%	8	1	13%	128	10	8%
Westchester	321	8	2%	37	8	22%	4	0	0%	17	3	18%	379	19	5%
Total	654	15	2%	74	29	39%	12	1	8%	75	14	19%	815	59	7%

*Other wild includes bears, beavers, deer, foxes, squirrels, woodchucks and rodents
Data Source: NYS Department of Health Rabies Laboratory

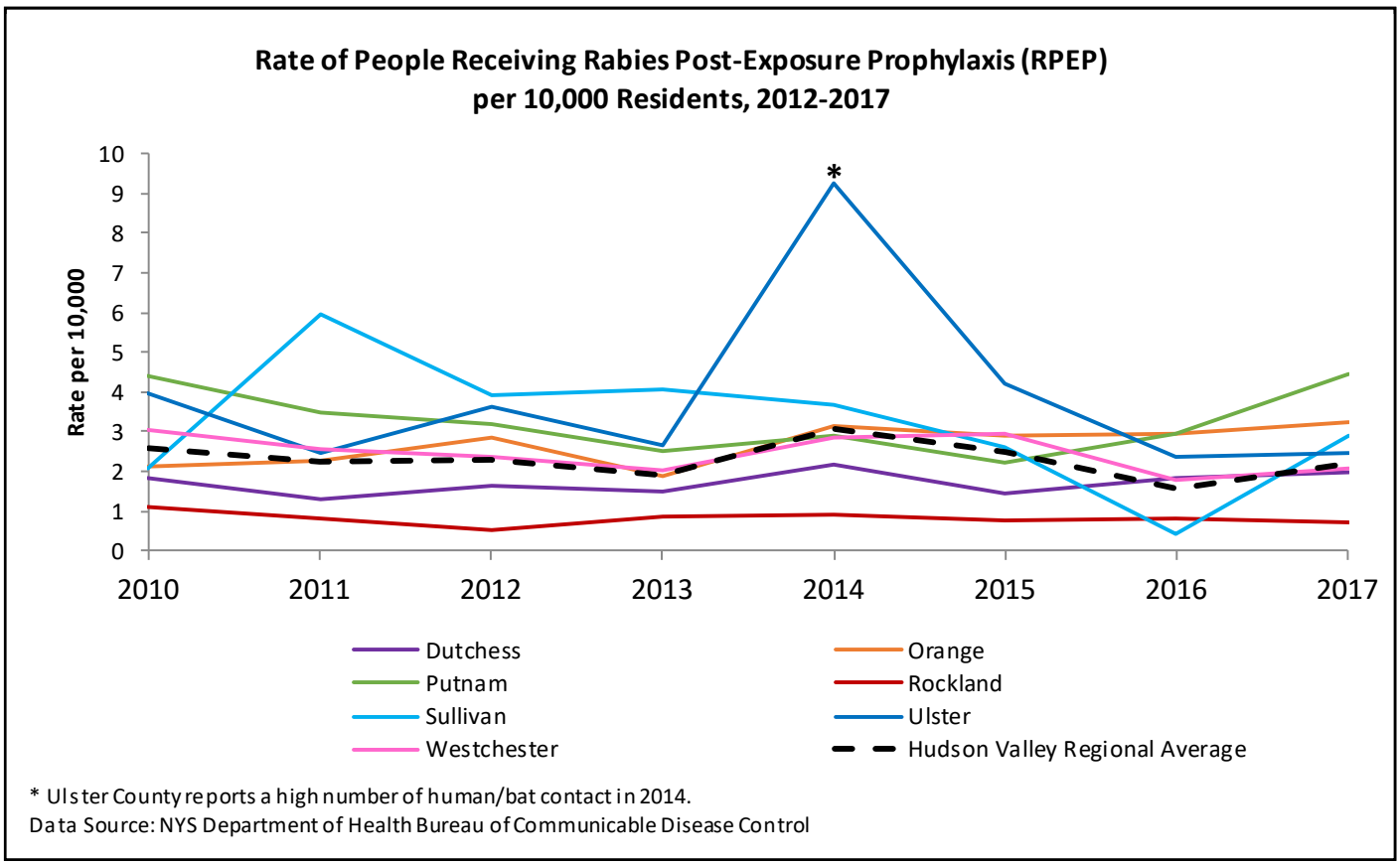
People Receiving Rabies Post-Exposure Prophylaxis by County and Year, 2010-2017

County	2010	2011	2012	2013	2014	2015	2016	2017	Annual Average
Dutchess	54	39	49	45	65	43	54	58	51
Orange	79	84	106	71	119	109	111	123	100
Putnam	44	35	32	25	29	22	29	44	33
Rockland	35	25	17	27	29	24	26	24	26
Sullivan	16	46	30	31	28	20	32	22	28
Ulster	72	45	66	48	167	76	42	44	70
Westchester	288	247	228	194	276	287	176	204	238
Total	**588**	**521**	**528**	**441**	**713**	**581**	**470**	**519**	**545**

Data Source: NYS Department of Health Bureau of Communicable Disease Control



Data values indicate percent of tests positive of all tests in the respective category.
Data Source: NYS Department of Health Rabies Laboratory



* Ulster County reports a high number of human/bat contact in 2014.
Data Source: NYS Department of Health Bureau of Communicable Disease Control

July 11, 2018

Dear Veterinarian:

With another summer season underway, the New York State (NYS) Department of Agriculture and Markets and the NYS Department of Health remind you that arboviruses, including eastern equine encephalitis (EEE) virus, continue to circulate in New York State, posing a potential risk to people, horses, and other animals.

Please include EEE as a differential diagnosis for horses with neurologic signs. Public health relies on EEE cases being promptly reported. EEE mimics a variety of encephalitides including rabies, West Nile virus (WNV), botulism, hepatic encephalopathy, equine protozoal myeloencephalitis (EPM), tetanus, equine herpes virus 1 (EHV-1), lead poisoning, and others. Most equine cases of EEE in NYS occur between mid-August and mid-September, although the earliest onset reported in the past has been July 14 and the latest October 21. The increasingly mild winter seasons are good reason to consider recommending that your clients vaccinate their horses against equine encephalitis viruses every 6 months, or twice a year.

Equine EEE cases have been detected in NYS since 1970, primarily from the four Oneida Lake Basin counties (Madison, Oneida, Onondaga and Oswego). However, EEE has been confirmed sporadically in other areas of the state including Chautauqua, Franklin, Ulster and Wayne Counties in recent years. EEE has also caused fatal infections in pheasants, quail, captive whooping cranes, emus, and, rarely, dogs. There have been twelve human cases of EEE in NYS since 1971.

EEE should be included in the differential diagnosis when evaluating any equid with acute neurologic illness. Because EEE clinically resembles rabies, which is much more common in NYS, horses suspected of having EEE must be promptly evaluated for rabies due to the potential for human and other animal exposure. For postmortem testing of horses with clinically compatible illness, please contact your county health department. Your county health department will arrange for rabies testing at the New York State Department of Health Wadsworth Center Rabies Laboratory. Definitive diagnosis of rabies or EEE requires laboratory testing of brain tissue. After rabies is ruled out, brain specimens will be tested for EEE and other viruses at the Wadsworth Center Arbovirus Laboratory. Additional testing for other diseases can also be arranged through the New York State Veterinary Diagnostic Laboratory at Cornell (NYSVDL). Reporting and testing of neurologic horses helps to ensure timely administration of rabies postexposure treatment when needed, and advances our understanding of the distribution and spread of EEE.

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To obtain the most rapid testing for other potential causes of neurologic disease, it is recommended that veterinarians send specimens to NYSVDL at the same time as the Wadsworth Center. Please contact NYSVDL at 607-253-3900; see http://diaglab.vet.cornell.edu/ for additional information. It is essential that collection of neurologic tissue for testing at NYSVDL does not interfere with the collection of a full cross-section specimen of fresh brainstem and adequate samples of cerebellum required for rabies diagnosis at the Wadsworth Center (see http://www.wadsworth.org/rabies/prof/livestk.htm). When it is not feasible to take a brain specimen (i.e., in ill horses with neurologic signs), please report the case and discuss submission of serum and/or cerebrospinal fluid for viral testing with NYSVDL.

We greatly appreciate your efforts as partners in human and animal health.

Sincerely,

David C. Smith, DVM

Director, Division of Animal Industry
NYS Department of Agriculture and Markets

Andie Newman, DVM, MPH, DACVPM

State Public Health Veterinarian
NYS Department of Health

Cc: Local health departments and NYSDOH regional offices

Equine West Nile Virus & EEE Cases by County and Year, 2012-2017

	2012		2013		2014		2015		2016		2017	
County	**EEE**	**WNV**	**EEE**	**WNV**	**EEE**	**WNV**	**EEE**	**WNV**	**EEE**	**WNV**	**EEE**	**WNV**
Dutchess	0	0	0	0	0	0	0	0	0	0	0	0
Orange	0	0	0	0	0	0	0	0	0	0	0	0
Putnam	0	0	0	0	0	0	0	0	0	0	0	0
Rockland	0	0	0	0	0	0	0	0	0	0	0	0
Sullivan	0	0	0	0	0	0	0	0	0	0	0	0
Ulster	0	1	0	0	0	0	0	0	1	0	0	0
Westchester	1	0	0	0	0	0	0	0	0	0	0	0
Total	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

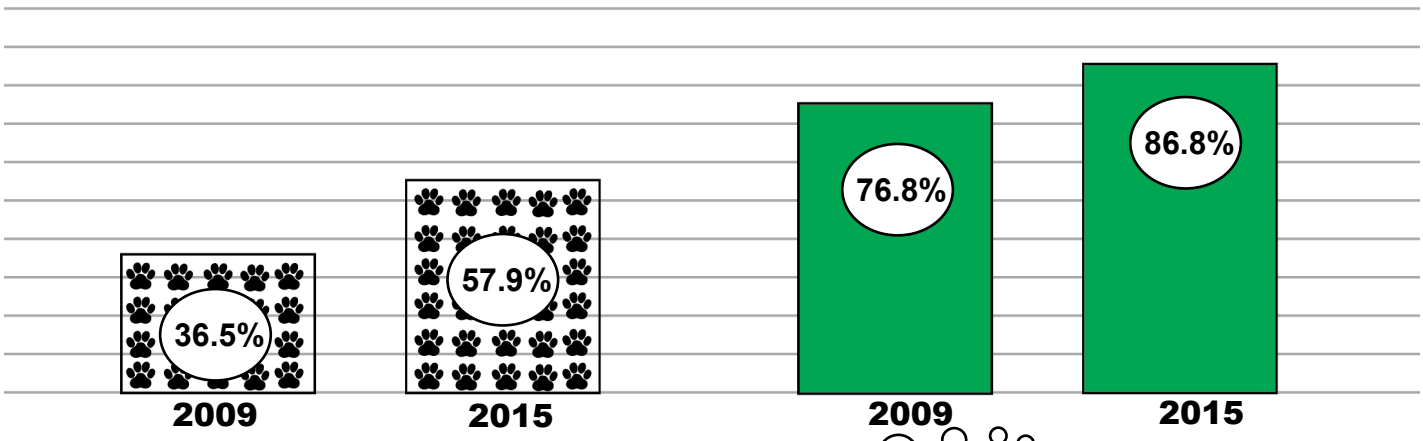
Data Source: EEE: USDA, WNV:NYS Department of Health Division of Epidemiology, USGS Disease Maps

Tick-borne Disease Community Survey Results Highlights

In 2015, the proportion of Dutchess County survey respondents:

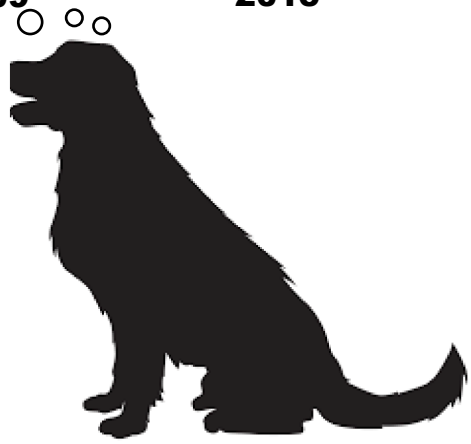
With indoor/outdoor pets increased over 50% to 57.9% from 36.5% in 2009

With indoor/outdoor pets that use tick repellents increased 13% to 86.8% from 79.8% in 2009



Indoor/outdoor pet owners were **1.8** times more likely than other respondents to report having found ticks attached to themselves in the past year.*

*Regardless of resident's region, sex, property type, or frequency of expoosure to high risk outdoor environments.



These findings emphasize the importance of tick repellents and regular tick checks to prevent tick-borne disease in pets and people!

Source: Dutchess County Department of Behavioral & Community Health - Community Tick-Borne Disease Survey, 2009, 2015

Tick-borne Disease Rates in People by County, 2014-2016

Average Annual Rate per 100,000	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS excl NYC
Anaplasmosis	26.8	9.4	13.8	1.5	3.5	28.0	1.6	5.6
Babesiosis	22.8	9.1	18.5	3.6	1.3	8.7	4.1	4.0
Ehrlichiosis	3.2	3.2	6.4	0.7	1.8	1.7	0.6	1.1
Rocky Mountain Spotted Fever	0.6	0.1	0.0	0.3	0.0	0.0	0.2	0.2
Lyme Disease	175.2	154.5	332.5	76.2	125.9	235.5	31.5	58.6

Data Source: NYS Department of Health Division of Epidemiology

COUNTY CONTACT INFORMATION

County	Name	Phone	Email	After-Hours
Dutchess	James Fouts Assoc. Public Health Sanitarian	(845) 486-3404	JFouts@DutchessNY.gov	(845) 431-6465
Orange	Tim Gaeta Princ. Public Health Sanitarian	(845) 291-2331	TGaeta@OrangeCountyGov.com	(845) 293-2331
Putnam	Marianne Burdick Assoc. Public Health Sanitarian	(845) 808-1390 x43160	Marianne.Burdick@PutnamCountyNY.gov	(845) 808-1390 x3
Rockland	Patrice Robertson Rabies Coordinator	(845) 364-2594	RobertPa@Co. Rockland.NY.US	(845) 364-2594 x0
Sullivan	Wendy Salonich PH Program Coordinator	(845) 513-2220	Wendy.Salonich@Co.Sullivan.NY.US	(845) 292-5910
Ulster	James Rodden, Jr. Environmental Health Manager	(845) 340-3021	JRod@Co.Ulster.NY.US	(845) 334-2145
Westchester	Michael Condon Assoc. Public Health Sanitarian	(914) 864-7359	MiC3@WestchesterGov.com	(914) 813-5000

For more information on reportable diseases, visit www.agriculture.ny.gov/AI/disease_rep.html

Questions or Comments about Public Health News for Veterinarians?
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