

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.

In This Issue:

Watch the Water: Harmful Algal Blooms - pg 1

Zoonotic Highlights:

Swine Brucellosis in NYS - pg 2

Avian Flu in Cats - pg 5

Leptospirosis - pg 5

Zoonotic Disease Statistics

Tickborne Disease Data - pg 3

Rabies Data - pgs 3- 4

Local Contact Information & Animal Disease Reporting Requirements -

Back Cover

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WATCH THE WATER: HARMFUL ALGAL BLOOMS

During warm weather, the occurrence of Harmful Algal Blooms (HABs) in waterbodies around the Hudson Valley increases. HABs are overgrowths of cyanobacteria (also known as blue-green algae) that produce potent toxins that can affect humans and animals. HABs may present as strongly colored water with a paint-like or oily appearance. They are most often green but can range from blue-green to red or brown. Toxins in these blooms are colorless, water soluble and fast acting with no known remedies or means of prevention.^{1,2} Blooms are most likely to occur after warm, sunny and calm periods during the summer and fall, with water temperatures between 60°F and 86°F, or after a large storm runoff.³ HABs thrive in high nutrient environments rich in phosphorus and nitrogen which can come from treated or untreated sewage or runoff from farm and lawn fertilizers.⁴

The New York State Department of Environmental Conservation receives reports and does testing for HABs in water bodies. In 2016, 23 water bodies in the Hudson Valley were reported and confirmed to have HABs, a 28% increase from the previous year. Of those 23 with confirmed HABs, 7 were determined to have great enough quantities of cyanotoxins to potentially cause serious health effects in people and animals. An additional 21 waterbodies were reported and visually suspected of having HABs.³

Humans and animals can be exposed to HABs through direct contact, inhalation, or ingestion during activity in or around freshwater. Persons exposed to cyanotoxins may experience skin, eye, nose or throat irritation, abdominal pain, headache, vomiting, diarrhea or neurological symptoms. Pets, livestock and wildlife may exhibit symptoms within 30 minutes to a few hours of cyanotoxin exposure. Clinical signs of exposure may include excessive salivation, vomiting, fatigue, staggering, difficulty breathing, convulsions or jaundice. Dogs are especially vulnerable due to behaviors such as swimming in or drinking from possibly

contaminated water, or grooming after swimming.⁵ In severe cases, dogs can die within an hour of exposure.¹ Domestic pets may also become poisoned by contaminated blue-green algae dietary supplements.⁵

It is difficult to tell if an algal bloom is harmful based on visual appearance, so it is best to avoid swimming, bathing, recreating in or drinking from water with a bloom. If a HAB is suspected, anyone may report the waterbody to the State's Department of Environmental Conservation (DEC). The DEC will make a determination about the presence of cyanobacteria in the waterbody through visual observations or laboratory sampling and post notifications to their website.⁶

To view HABs Notifications, visit www.dec.ny.gov/chemical/83310.html

To report a Suspicious Algal Bloom to the DEC: www.dec.ny.gov/docs/water_pdf/suspalgformedit.pdf

In the spirit of One Health, we encourage veterinarians to stay informed and support the reporting of any possible HABs in the area to limit both human and animal exposures. For more information, please check out the CDC's Veterinarian Reference Card at: www.cdc.gov/nceh/hsb/hab/habsveterinarian_card.pdf

References:

1. Dogs and Harmful Algal Blooms (HABs). NYS Department of Environmental Conservation. www.dec.ny.gov/docs/water_pdf/habspets.pdf. Published August 2004.
2. What is a Harmful Algal Bloom? National Oceanic and Atmospheric Administration. www.noaa.gov/what-is-harmful-algal-bloom. Published April 27, 2016.
3. Harmful Algal Blooms (HABs) Archive Page. NYS Department of Environmental Conservation. www.dec.ny.gov/chemical/83332.html. Updated May 22, 2017.
4. Harmful Algal Blooms & the Environment. Centers for Disease Control and Prevention. www.cdc.gov/habs/environment.html. Updated May 26, 2017.
5. Harmful Algal Bloom (HAB)-Associated Illness. Centers for Disease Control and Prevention. www.cdc.gov/habs/illness-symptoms-freshwater.html. Updated May 26, 2017.
6. Harmful Algal Blooms (HABs). NYS Department of Environmental Conservation. www.dec.ny.gov/chemical/77118.html.



Photo Credit: Ohio Wetlands Association

A Human Sentinel for an Animal Disease Problem:

A Multiagency Investigation of Swine Brucellosis in New York State

By Andie Newman DVM MPH, Angie Maxted DVM PhD, David Smith DVM

Swine brucellosis is caused by infection with *Brucella suis*. In swine, brucellosis causes economically important reproductive losses. A national eradication program exists. The organism is zoonotic and can be maintained in both domestic and feral swine. The disease has been eradicated in commercial swine in the United States, but is enzootic in feral swine in other regions of the country, especially Texas and southeastern states. In New York (NY), *B. suis* had not been detected in swine since the 1980's. No feral swine sightings have been reported in NY since 2014.



In April 2016, the Wadsworth Center confirmed *B. suis* in a blood culture isolate from a woman aged 68 years. The woman had been ill with bronchitis and had recovered with antibiotic therapy. She reported contact with approximately 30 head of swine on her farm. The NY State Department of Agriculture and Markets was notified and conducted testing of swine on the woman's farm; testing at the USDA NVSL revealed *B. suis* infection of the herd. The herd was depopulated. No feral swine sightings had been reported on this farm.

NYSDAM, with the assistance of USDA, conducted a traceback and traceforward of swine sourced into and out of the herd. Herd tracing revealed that a number of other small farms had exchanged animals with the index farm. The agricultural investigation unfolded over the following 6 months and involved herds in other states. These herds were quarantined and tested. All the epidemiologically linked herds were transitional ("pasture pork") herds.

In NY, NYSDAM and USDA coordinated management of infected herds. Six positive herds were depopulated, and the premises were cleaned and disinfected prior to the reintroduction of swine. Positive swine in NY were prohibited from being slaughtered for food.

Persons who had direct contact with infected herds (e.g., farmers, farmhands, and veterinarians) or the human isolate (i.e., laboratory staff) were educated about their potential risk of exposure. They were offered combinations of symptom monitoring, serologic monitoring to identify sub-clinical or emergent infections, and antibiotic postexposure prophylaxis, depending on their risk of exposure. No further human illnesses were reported, but one exposed farmer seroconverted over the course of the monitoring period.

An extensive public health and agricultural response was conducted following the diagnosis of a human case of brucellosis. Laboratory testing suggested that *B. suis* had been circulating among NY transitional swine herds for at least the past several years. Current USDA surveillance for *B. suis* primarily targets mature boars and sows from commercial swine herds but is missing growing sector of at-risk swine in transitional herds.

Southern Shelter Animals Receive the Support They Need

Ahead of Hurricanes Harvey and Irma, animal advocates worked quickly to clear shelters in Texas and Florida to make room for anticipated lost or displaced pets. Organizations such as the Humane Society, Wings of Rescue and the ASPCA undertook efforts to transport the animals already populating shelters in affected areas to shelters in the North East, particularly here in the Hudson Valley. As of yet, there is no estimate of how many animals have been affected by the hurricanes. Lessons learned from Hurricane Katrina, and the resultant passage of the Pets Evacuation and Transportation Standard (PETS) Act of 2006, have been credited with increased State and local emergency preparedness to address the needs of households with pets and service animals in disaster or emergency events.

To learn more about the PETS Act, visit the AVMA's website at:

<https://www.avma.org/KB/Resources/Reference/disaster/Pages/PETS-Act-FAQ.aspx>

Animal Rabies Testing of Domestic Species, 2016

County	Cats			Dogs			Other Domestic*			Total Domestic		
	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.	Total Tested	Total Pos.	% Pos.
Dutchess	29	0	0%	12	0	0%	3	0	0%	44	0	0%
Orange	30	0	0%	28	0	0%	2	0	0%	30	0	0%
Putnam	15	0	0%	5	0	0%	0	0	0%	20	0	0%
Rockland	15	1	7%	1	0	0%	1	0	0%	17	1	0%
Sullivan	11	1	9%	11	0	0%	1	0	0%	23	1	4%
Ulster	27	1	4%	12	0	0%	2	0	0%	41	1	2%
Westchester	70	1	1%	26	0	0%	0	0	0%	96	1	1%
Total	197	4	2%	95	0	0%	9	0	0%	301	4	1%

*Other domestic includes cattle, ferrets, horses, domestic rabbits, and goats

Data Source: NYS Department of Health Rabies Laboratory

Animal Rabies Testing of Wild Species, 2016

County	Bats			Raccoons			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	37	2	5%	7	6	86%	5	2	40%	8	1	13%	20	9	45%
Orange	45	2	4%	12	5	42%	5	2	40%	8	0	0%	25	7	28%
Putnam	61	2	3%	3	0	0%	2	0	0%	2	0	0%	7	0	0%
Rockland	31	1	3%	4	2	50%	3	1	33%	3	1	33%	10	4	40%
Sullivan	9	0	0%	1	1	100%	3	2	67%	1	0	0%	5	3	60%
Ulster	42	2	5%	7	5	71%	1	1	100%	13	3	23%	21	9	43%
Westchester	286	8	3%	32	7	22%	11	5	45%	20	2	10%	63	14	22%
Total	521	17	3%	66	26	39%	30	13	43%	55	7	13%	151	46	30%

*Other wild includes foxes, woodchucks, coyotes, moose, opossums, bears, deer, and rodents

Data Source: NYS Department of Health Rabies Laboratory

Individuals (Humans) Receiving Rabies Post-Exposure Prophylaxis by County and Year, 2010-2016

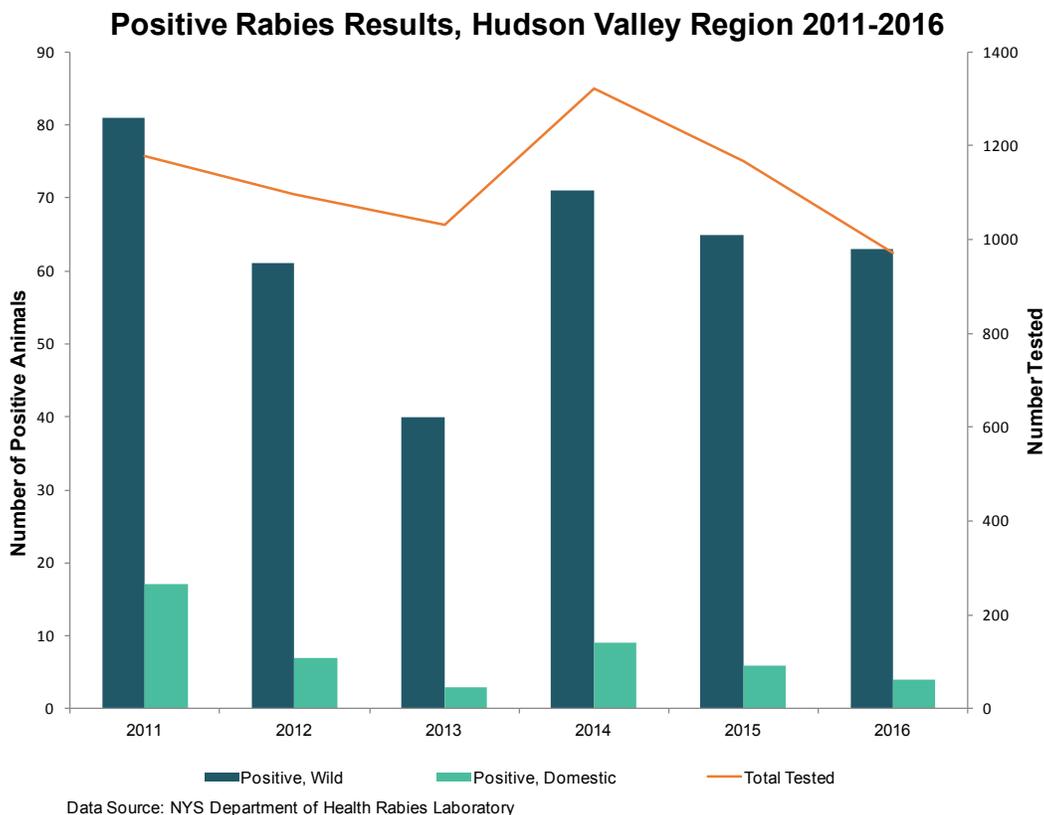
County	2010	2011	2012	2013	2014	2015	2016	Annual Average
Dutchess	54	39	49	45	65	43	54	50
Orange	79	84	106	71	119	109	111	97
Putnam	44	35	32	25	29	22	29	31
Rockland	35	25	17	27	29	24	26	26
Sullivan	16	46	30	31	28	20	32	29
Ulster	72	45	66	48	167	76	42	74
Westchester	288	247	228	194	276	287	176	242
Total	588	521	528	441	713	581	470	549

Data Source: NYS Department of Health Bureau of Communicable Disease

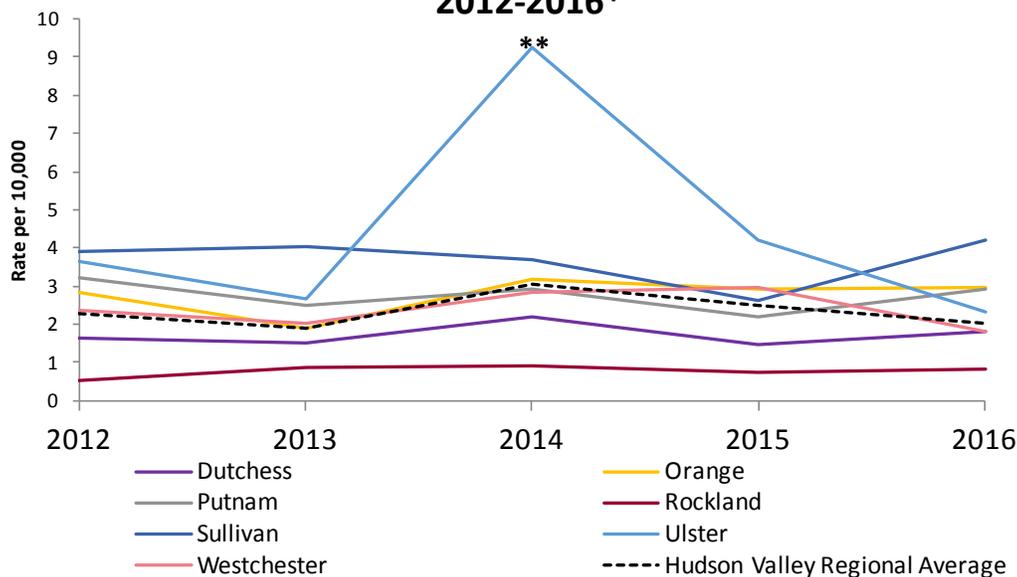
Tick-borne Disease Rates (Humans) by County 2013-2015

Average Annual Rate per 100,000	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS excl NYC
Anaplasmosis	22.6	7.9	16.4	1.3	2.2	17.9	1.5	4.7
Babesiosis	22.4	8.9	21.5	3.9	0.9	6.7	4.8	4.1
Ehrlichiosis	2.5	2.7	5.0	1.0	1.3	1.3	0.5	0.9
Rocky Mountain Spotted Fever	0.3	0.4	0.0	0.6	0.0	0.2	0.2	0.2
Lyme Disease	179.4	172.1	314.9	83.6	124.4	249.1	28.3	59.3

Data Source: NYS Department of Health Division of Epidemiology



Rate of Individuals Receiving Rabies Post-Exposure Prophylaxis (RPEP) per 10,000 Residents, 2012-2016*



*As of the date of analysis, 2016 population estimates are not available from the US Census American Community Survey. 2016 rates are based on 2015 population estimates.

**Ulster County reports a high number of human/bat contact in 2014.

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

Avian Flu in Cats

In November and December of last year, there was an outbreak of avian influenza in cats in Animal Care Centers of New York City (ACC) shelters. Nearly 500 cats in shelters in Manhattan, Brooklyn, and Staten Island tested positive for low pathogenic avian influenza A, H7N2. Feline infections with avian influenza viruses are uncommon, and this was the first report of H7N2 identified in cats.¹ Being a novel event, there was no prior knowledge of expected clinical course, duration of shedding, or transmissibility of the virus in cats.² The virus spread quickly through the population, with most cats exhibiting mild to moderate symptoms including lethargy, anorexia, nasal and ocular discharge, and sneezing.^{2,3} The ASPCA oversaw a response effort in which cats in the affected shelters were moved to a temporary shelter in Queens for quarantine until they were clinically healthy and tested negative. ACC shelters were cleaned and sanitized prior to re-opening to resume normal operations.⁴



The New York City Department of Health and Mental Hygiene screened ACC staff (employees and volunteers) and persons who adopted cats from the shelters in the weeks prior to the outbreak for illness. ACC staff and a subset of adopters were tested for the H7N2 virus, regardless of symptoms. One veterinarian, who cared for sick cats at the shelter and collected respiratory secretions without using respiratory personal protective equipment, tested positive for H7N2. This is the third reported human case of H7N2 in the United States and first associated with cat exposure. The infected individual recovered fully after a brief, mild illness. There was no evidence of human-to-human transmission.¹ However, finding the virus in a new species is concerning because it means the virus has changed in a way that may pose a new health threat to animals and humans. The outbreak serves as a reminder to veterinarians and physicians to be vigilant for zoonotic viruses with pandemic potential such as H7N2.³

References:

1. Daskalakis D. 2016 DOHMH Health Alert #52: Update on Avian Influenza A H7N2 Infection in Cats in NYC Shelters. New York City, NY: NYC Dept of Health and Mental Hygiene.
2. Slavinski S. 2016 Veterinary advisory #1: Influenza A, H7N2 Identified in Cats from Animal Care Centers of New York City Facility in Manhattan. NYC, NY: NYC Dept of Health and Mental Hygiene.
3. H7N2 Questions & Answers. Centers for Disease Control and Prevention. www.cdc.gov/flu/fluincats/h7n2-cat-questions-answers.htm.
4. Animal Care Centers of NYC's Cats Quarantines for H7N2 Virus Receive care, Monitoring at ASPCA Temporary Shelter. NYC Health. www1.nyc.gov/site/doh/about/press/pr2017/acc-cat-flu.page.

Leptospirosis in Humans

In February of this year, the New York City Department of Health and Mental Hygiene reported its first ever cluster of leptospirosis infections in humans. Three cases were identified in a one block section in the Concourse area of the Bronx and linked to a single building with rodent infestations. All three individuals were hospitalized with acute renal and hepatic failure. Two developed pulmonary hemorrhages, and there was one fatality. These cases serve as a reminder that leptospirosis is a zoonotic disease that can cause severe illness in animals and people. Leptospirosis is spread mainly by contact of mucous membranes or open wounds with urine of infected animals (such as rats), contaminated water, soil or food.¹

Exposure to infected wildlife, or environments contaminated by infected wildlife, can result in clinical cases of leptospirosis in species such as dogs, sheep, goats, pigs, horses and cattle. To reduce infections in domestic species, veterinarians are encouraged to utilize vaccines available for cattle, swine, and dogs.² If a patient is diagnosed with leptospirosis, clients and staff should be advised of precautions to prevent transmission including, avoiding contact with urine, disinfection of contaminated areas, hand washing after contact with the patient, and use of personal protective equipment during patient care.³

For more information, please visit the Center for Food Security & Public Health's website:

www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=leptospirosis&lang=en

References

1. Daskalakis D. 2017 Alert #3: Leptospirosis Cluster in the Concourse area of the Bronx. New York City, NY: NYC Dept of Health and Mental Hygiene.
2. Spickler AR, Leedom Larson KR. Leptospirosis. The Center for Food Security & Public Health Safety. www.cfsph.iastate.edu/Factsheets/pdfs/leptospirosis.pdf.
3. Leptospirosis. American Veterinary Medical Association. www.avma.org/public/PetCare/Pages/Leptospirosis.aspx.

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 Principal Public Health Sanitarian	(845) 291-2331	TGaeta@OrangeCountyGov.com	(845) 291-2331
Putnam	Marianne Burdick Assoc. Public Health Sanitarian	(845) 808-1390 x43160	Marianne.Burdick@PutnamCountyNY.gov	(845) 808-1390 x3
Rockland	Rick Price Rabies Coordinator	(845) 364-2594	PriceR@Co.Rockland.NY.US	(845) 364-2594 x0
Sullivan	Wendy Salonich PH Program Coordinator	(845) 513-2200	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 Senior Sanitarian	(914) 864-7359	Mic3@WestchesterGov.com	(914) 813-5000

ANIMAL DISEASE REPORTING REQUIREMENTS:

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

Questions or Comments about Public Health News for Veterinarians?
Contact Alison Kaufman, DVM, MPH at (845) 486-3425 or Akaufman@DutchessNY.gov.
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