2018 Rabies Annual Summary
Wadsworth Center Rabies Laboratory
New York State Department of Health

April D Davis, DVM, PhD; Kim Appler, BA; Jodie Jarvis, BS; Andrew Hirsbrunner, MS; and Bellamy Reynolds, MS

In 2018 the Rabies Laboratory tested a total of 7,974 samples, 6,256 of which were submitted from around New York State, including 46 from New York City. Additional samples were submitted from around the United States for confirmatory testing and/or rabies variant typing. Of the 6,256 samples submitted from within NY State, 322 (5.1%) were positive. Of the 1718 samples submitted from out of state, 275 (16%) were positive for rabies.

The data presented in this report is based on specimens received from NY State unless otherwise noted.

As in previous years, the majority of specimens submitted were bats, 2,959 (47.3%); followed by raccoons, 873 (14%); cats, 1,011 (16%); dogs, 599 (9.6%); other "wild" animals, 248 (4%); skunks, 180 (2.9%); rodents/lagomorphs, 130 (2%); gray and red foxes, 111 (1.8%); other domestic animals, 88 (1.4%); and cattle, 54 (0.8%).

Included in the rodent/lagomorph animal group were woodchucks (56), beavers (5), chipmunks (5), muskrats (2), and rabbits (2). The other wild animal category included deer (97), coyotes (29), fishers (25), bobcats (22), bears (12), otters (7), and porcupines (2). Other domestic animals included horses (42), goats (29), sheep (12), alpacas (7), and pigs (2).

In New York State during 2018, rabies virus infection was present in 322 animals including 125 raccoons, 106 bats, 26 skunks, 20 cats, 8 other wild animals, 3 rodent/lagomorphs, 1 cattle, and 1 dog.

The overall incidence of rabies was lower than in previous years; 26% of the foxes submitted to the laboratory for testing were positive followed by 14.4% of the skunks, 14.3% of the raccoons, 3.6% of bats, 3.2% other wild animals, 2.3% of rodent/lagomorphs, 2% of the cats, 1.9 % of the cattle and 0.2% of the dogs.

Of the 1011 cats submitted for rabies testing, 503 were owned, 424 were reported as feral/wild/barn cats; the status of the remaining cats is unknown. Overall, 28% of the owned cats submitted to the rabies laboratory for testing were not current on their rabies vaccine, 24% were unvaccinated, and 19% were currently vaccinated. Twenty cats submitted to the laboratory were diagnosed as rabid, 3 were owned, 15 were feral, and 2 were of unknown history. From the 3 owned cats that were diagnosed with rabies in 2018, the vaccine history of 2 were unvaccinated and 1 was unknown. Of the 15 that were considered feral, the vaccination status for 7 (47%) were unvaccinated, 6 (40%) were unknown, and 1 (7%) was not current. The majority (85%) of rabid cats had a history of biting and/or scratching a human. Almost half (42%) had a confirmed history of biting and/or scratching a human and the remaining 58% had an unknown or suspected exposure to another animal.

Conversely, the majority of dogs (93%) submitted for rabies testing are described as owned and vaccinated (58%). Twenty-seven percent of the owned dogs had an unknown vaccination history and 11% were not current. One dog from New York State was positive for

rabies. An investigation revealed the animal was an unvaccinated puppy that was found in Northern Quebec and imported into New York State.

During 2018, 3.6% (n=106) of the 2959 bats submitted to the laboratory were positive for rabies. Big brown bats were the most commonly submitted species (2798, 95%), followed by little brown bats (81, 2.7%), unidentified bats (24, 0.8%), red bats (12, 0.4%), silver haired bats (35, 1.1%), hoary bats (6, 0.2%), and tricolored bats (2, 0.06%). The 106 rabies positive bats included 100 big brown bats, 3 little brown bats and 3 hoary bats. There were also 151 bats that were unsatisfactory for rabies testing due to tissue decomposition or inadequate amount/type of tissue.

Similar to previous years, more than half of the bats submitted for rabies testing had a history of human contact (1689, 57%). Of these 1689 bats, 141 were positive or inconclusive for rabies and would require rabies post exposure prophylaxis for the exposed individual. Domestic animals with bat exposures occurred less frequently, 541 (18%) of the submitted bats had contact with a domestic animal (dog, cat, agricultural animal) and in 58 of the cases (10.7%), the bat specimen was positive or inconclusive.

All rabies positive specimens were variant typed during 2018 using a real time RT-PCR assay. Almost all host species were infected with their homologous rabies virus variant with the exception of a little brown bat infected with a variant associated with big brown bats, a canine infected with a red fox variant, and a red fox infected with a big brown bat variant.

Whole genome sequencing (WGS) continues to be performed on selected samples from throughout New York and surrounding states. None of the samples were less than 24 hrs old and many were more than 48 hours old, demonstrating the ability to use WGS on less than pristine tissue (https://wwwnc.cdc.gov/eid/article/26/6/19-1700_article).

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In 2019 the Rabies Laboratory tested a total of 7,225 samples, 6,393 of which were submitted from around New York State, including 59 from the 5 boroughs of New York City. The percentage of rabies positive samples submitted from within NYS was slightly higher than the previous year (6%, n=383). Of the 832 samples submitted from our out of state cooperators, 175, 21% were positive for rabies.

The data presented in this report is based on specimens received from NY State unless otherwise noted.

As in previous years, the majority of specimens submitted were bats, 2,754 (43%); followed by cats, 1,067 (16.7%); raccoons, 925 (14.5%); dogs, 653 (10.2%); other "wild" animals, 323 (4%); skunks, 242 (3.8%); gray and red foxes, 135 (2.1%); rodents/lagomorphs, 119 (1.3%); other domestic animals, 117 (1.9%); and cattle, 59 (0.9%).

In 2019, animals in the other wild animal category included deer (140), coyotes (51), fishers (22), bobcats (22), bears (13), otters (4), and porcupines (3). Other domestic animals included horses (52), goats (37), sheep (16), pigs (9) and alpacas (7). The rodent/lagomorph group was comprised of woodchucks (51), rabbits (12) muskrats (9), beavers (7), and chipmunks (5).

In New York State during 2019, rabies virus infection was diagnosed in 383 animals including but not limited to 172 raccoons, 94 bats, 40 skunks, 35 foxes, 24 cats, 5 horses, 4 woodchucks, 2 deer, and 1 each of bobcat, fisher, and dog.

The overall incidence of rabies was lower than in previous years in the other wild animal group (1.6% vs 3.2%). Conversely, in some animals the incidence of rabies was higher than in 2018 this includes raccoons (18.6% vs 14.3%), skunks (16.5% vs 14.4.%), and rodents and lagomorphs (4.8% vs 2.3%). The incidence remained virtually unchanged in foxes (25%), cats (2.2%), cattle (1.7%) and dogs (0.2%). However, a significance $p < 0.5$ was not assessed.

Of the 1,067 cats submitted for rabies testing in 2019, 520 were owned, 428 were reported as feral/wild/barn cats, and the status of the remaining cats was unknown. Overall, 27% of the owned cats submitted to the rabies laboratory for testing were not current on their rabies vaccine, 25% were unvaccinated, and 19% were up to date on rabies vaccination. Twenty-four cats (2.2%) submitted to the laboratory were diagnosed as rabid; 13 were feral, 8 were owned, and the ownership status of 3 was listed as unknown.

From the 8 owned cats that were diagnosed with rabies in 2019, all were reported to be unvaccinated. Of the 13 that were considered feral, the vaccination status for 9 (69%) was considered unknown, 3 (23%) were unvaccinated, and 1 (8%) was not current.
The majority (85%) of rabid cats had a history of biting and/or scratching a human and 4 of the rabid cats (13%) had also bitten another animal.

Unlike cats, 95% of the dogs were owned. The majority of dogs (54%, n=324) submitted for rabies testing were described as owned and vaccinated, whereas 26% (n=154) of the owned dogs had an unknown vaccination history, 14% (n=84) were not current, and 6% (n=36) were unvaccinated. This was the second year in a row a dog in New York State was diagnosed with rabies. The rabid dog was reported to be an owned, unvaccinated puppy infected with raccoon rabies variant.

Over half (1537, 56%) of the bats submitted for testing had a history of human contact. One hundred and thirty-nine (9%) of the bats with a history of human contact were either rabies positive or unsatisfactory for testing, both of which may justify the use of rabies prophylaxis.

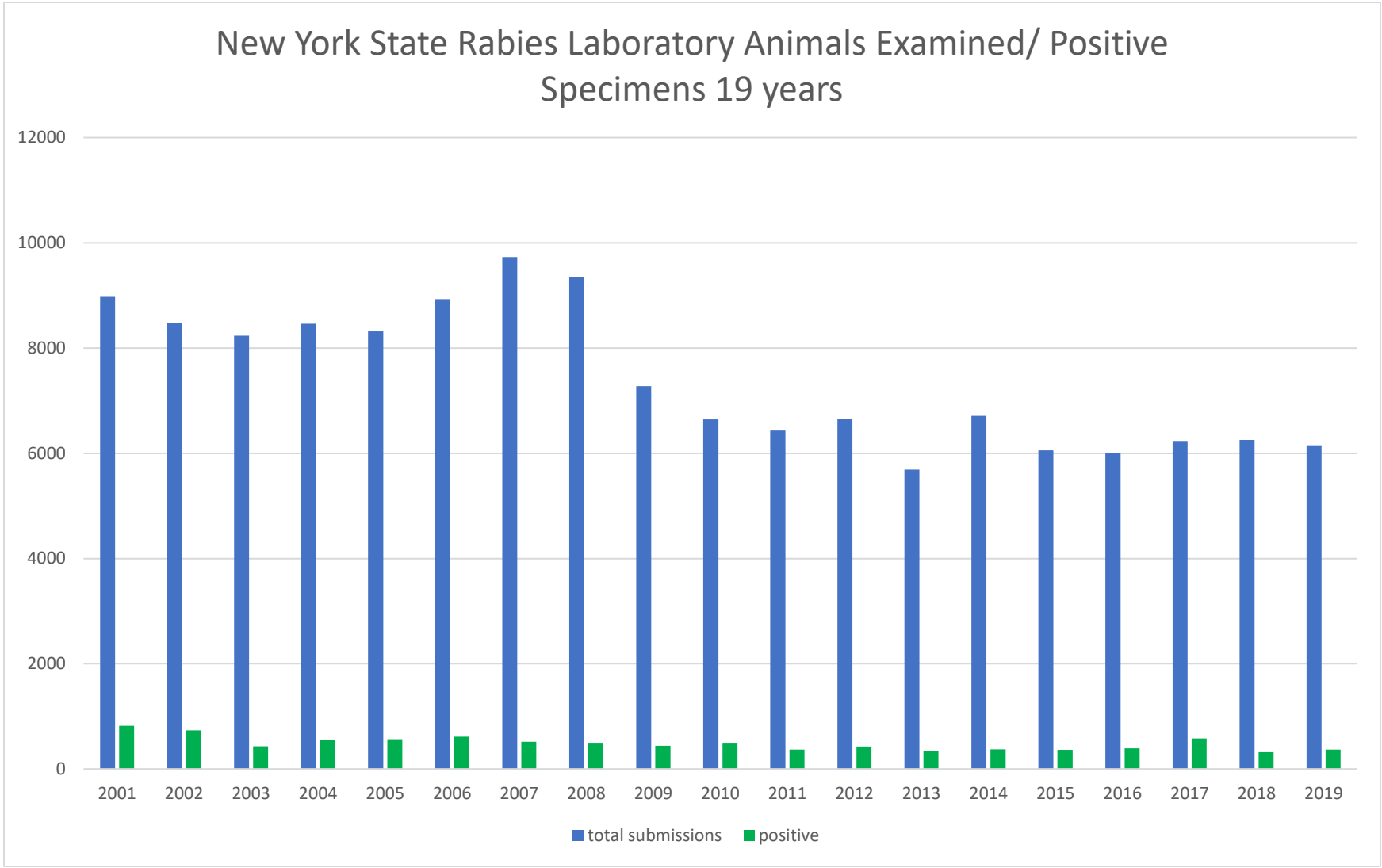
There were 49 people bitten by raccoons in 2019 and in 14 (29%) of those cases, the raccoons were positive for rabies.

In 2019, 223 domestic and agricultural animals, such as horses and cattle, had an exposure to a raccoon. In 43% of the cases the raccoon tested positive for rabies. Overall, dogs were the most likely animal, domestic or agriculture species, to interact with a rabid animal.

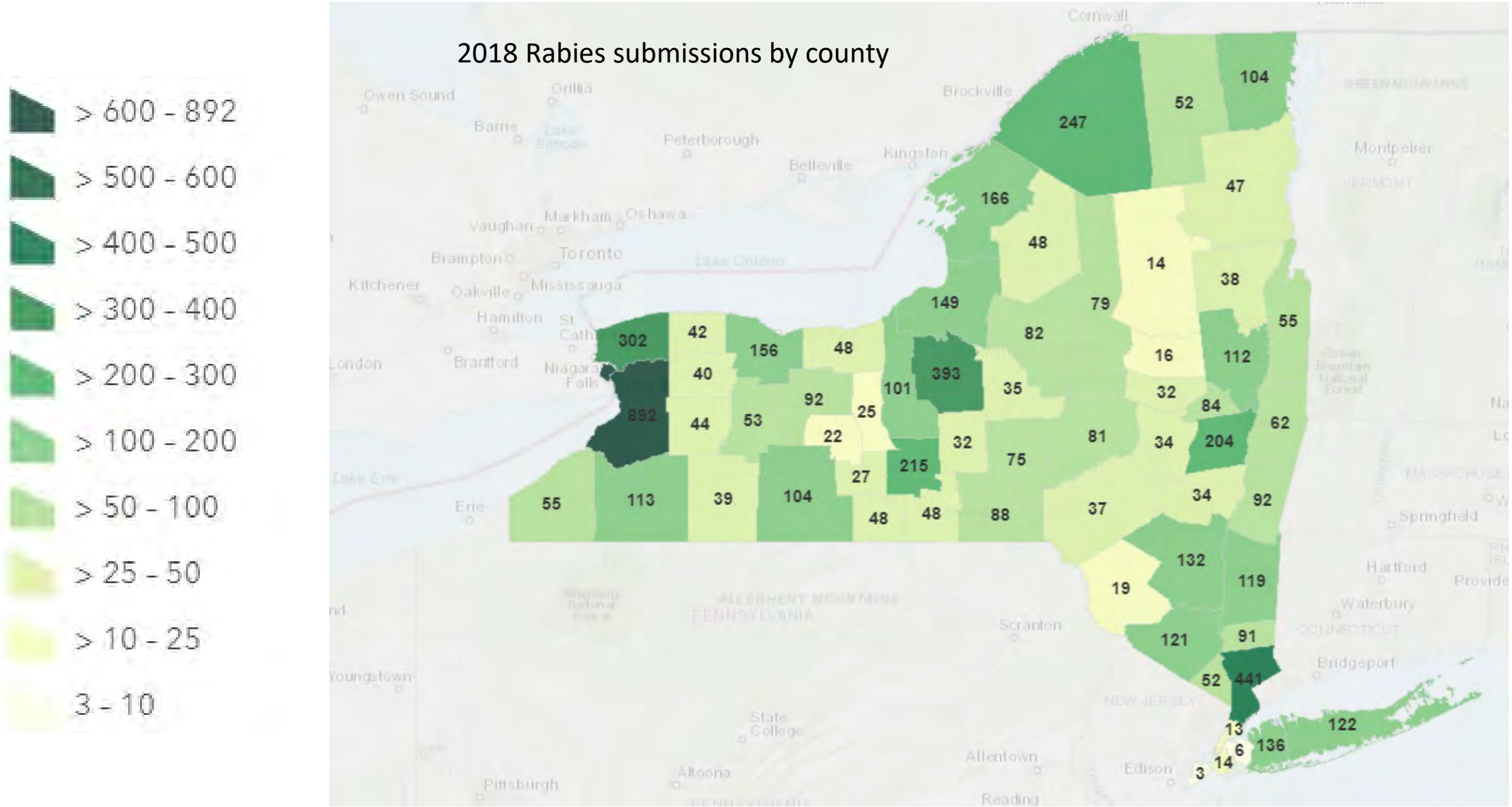
All rabies positive specimens were variant typed during 2019. All rabid terrestrial animals were infected with raccoon rabies with the exception of a gray fox that was infected with big brown bat rabies. All bat species were infected with a homologous rabies virus variant except a little brown bat that was infected with a big brown bat variant.

In 2019 we began releasing results for samples that were inclusive on dFAT using a molecular assay and if specimen met certain public health criteria.

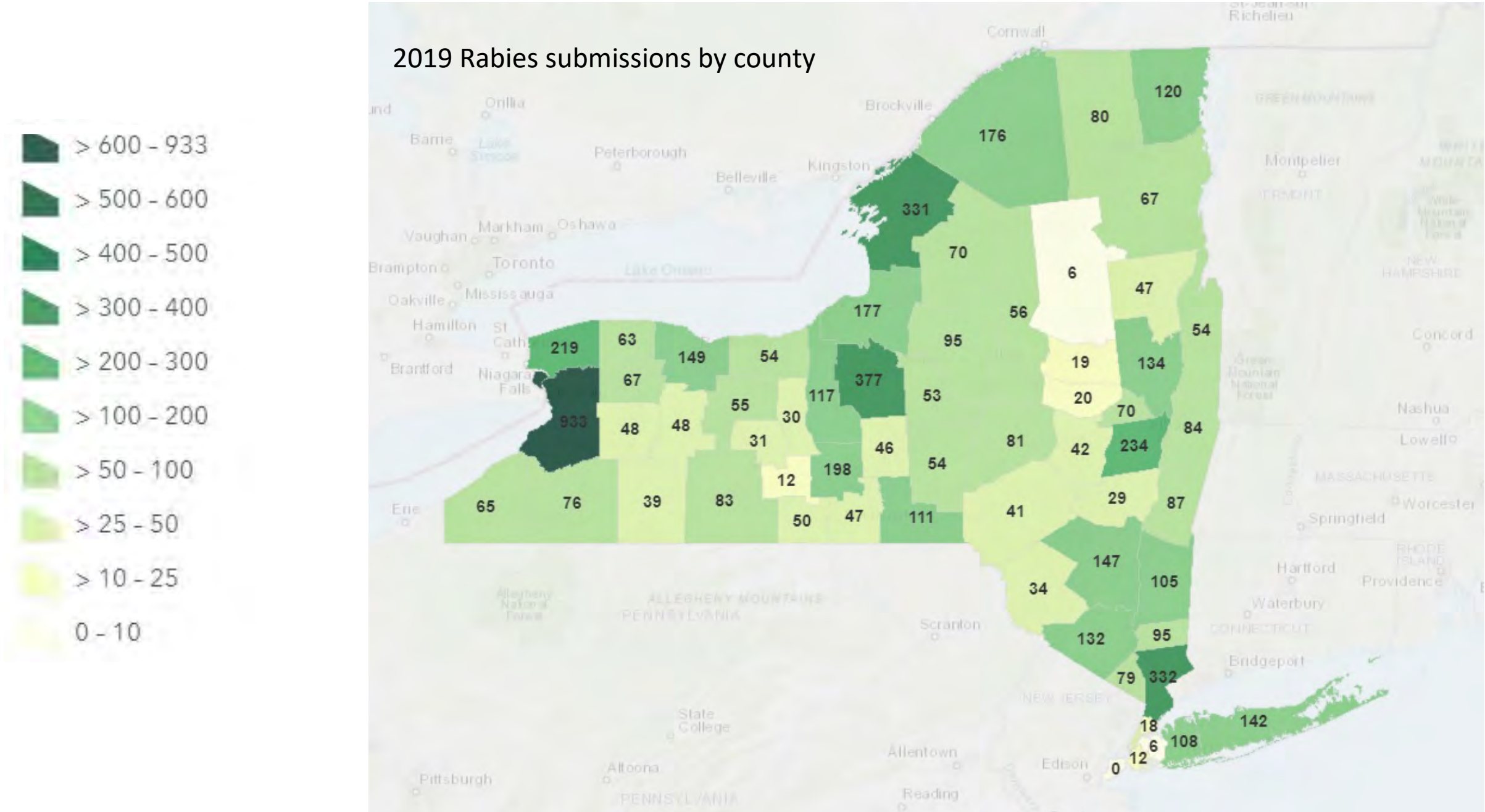
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Specimens Received																	
Animal specimens	8236	8459	8318	8928	9730	9345	7275	6642	6430	6657	5689	6710	6055	7200	9235	7974	7224
Human Sera	2105	2258	2179	2000	2167	1529	1272	1042	694	1086	877	885	830	1227	1087	849	1072
Animal Sera-serum neutralization	852	2108	2806	1290	1389	3003	1503	1815	753	1080	2524	8486	7238	4966	4481	2,890	3,522
Animal-variant typing	166	160	17	138	132	88	92	82	83	31	64	89	207	553	611	622	573
Human-Diagnostic testing	5	6	8	8	3	4	2	4	10	0	1	1	2	1	2	3	1
Specimens Tested																	
Direct Fluorescent Antibody	8236	8459	8318	8928	9730	9345	7275	6642	6430	6657	5689	6710	6055	7200	9235	7947	7224
Neutralization for rabies antibody	2957	4366	4985	3290	3556	4532	2775	2857	1717	2166	3401	9371	8789	5797	4256	5697	4036
Cell culture virus isolation	169	177	152	151	128	116	110	104	104	110	135	110	53	79	2	0	0
Variant Typing	166	160	17	138	132	88	91	82	83	200	64	56	53	553	611	622	573
PCR/cell culture parallel testing	0	0	0	0	0	0	0	0	0	1500	0	220	0	760	1292	0	0
PCR only for backup testing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	79	104	1267	1188
Human Diagnostic Testing														4	8	12	4
Workload Performed																	
Direct Fluorescent Antibody	15100	18200	17500	17225	16450	15525	11449	10398	20138	24429	17352	25840	30378	19317	24939	16639	20481
Neutralization for rabies antibody	3553	5842	6949	4193	4528	6634	3827	4128	2244	2922	4359	14987	14057	6456	6326	6563	5094
Cell culture virus isolation	830	800	85	690	660	440	460	410	415	2000	135	220	265	1	2	3	1
Monoclonal Antibody Testing	166	160	17	138	132	88	92	82	83	400	174	N/A	N/A	1	N/A	N/A	N/A
Human Diagnostic Testing	45	54	72	72	27	36	18	36	90	0	78	25	27	29	20	84	28
PCR variant typing										31	64	89	207	685	835	622	573
PCR testing										9576	648	916	2463	2280	3876	4530	4250
WGS testing										N/A	N/A	N/A	N/A	N/A	3	46	41
DFAT Positive screening procedure										735	805	759	636	714	727	719	205
Non-Specific Staining Procedure.										75	46	60	65	77	158	161	152
Canine Distemper testing in Wildlife																54	30


New York State Rabies Laboratory Animals Examined/ Positive Specimens 19 years
12000
10000
8000
6000
4000
2000
0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
total submissions
positive

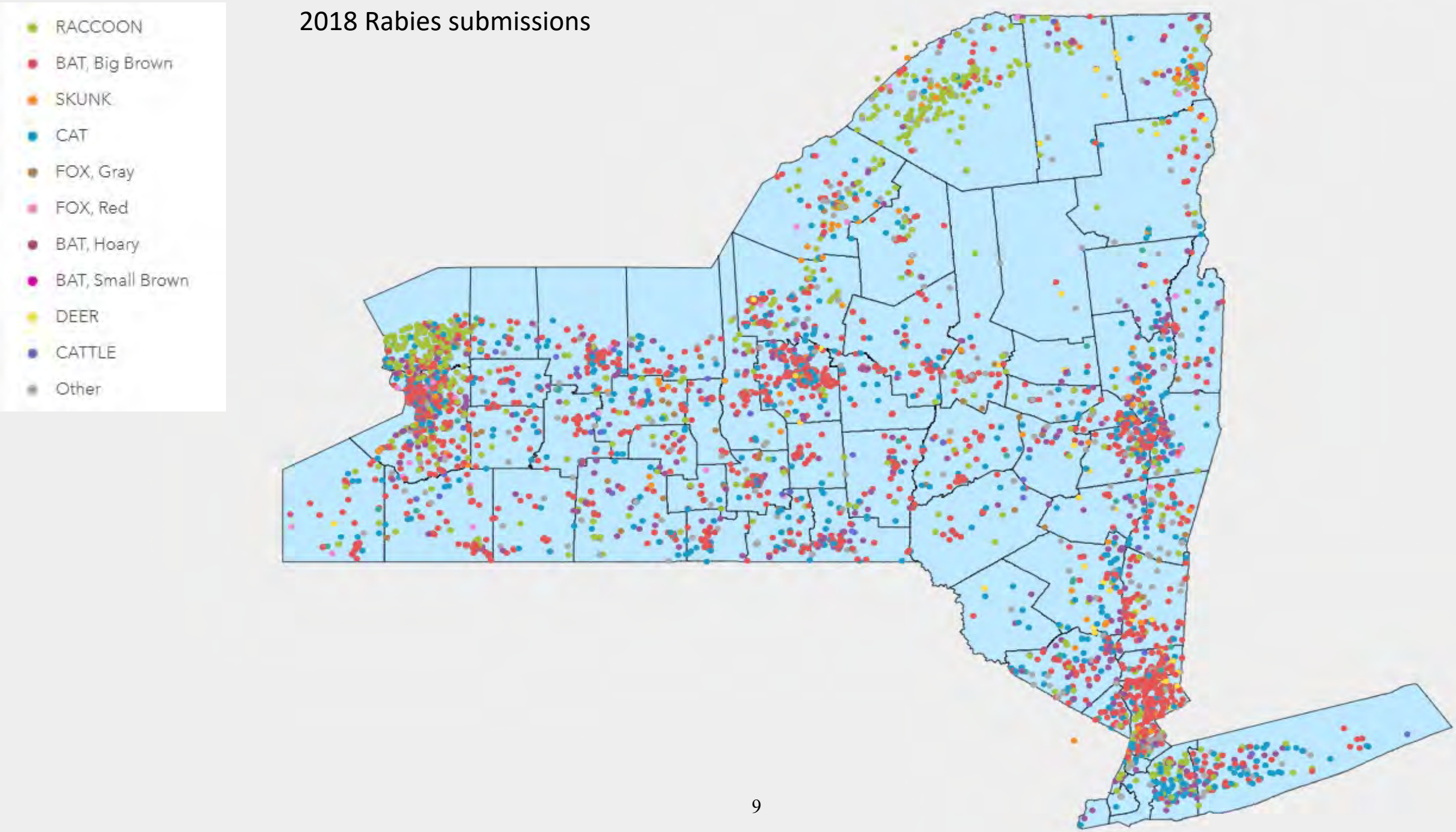
2018 Rabies submissions by county



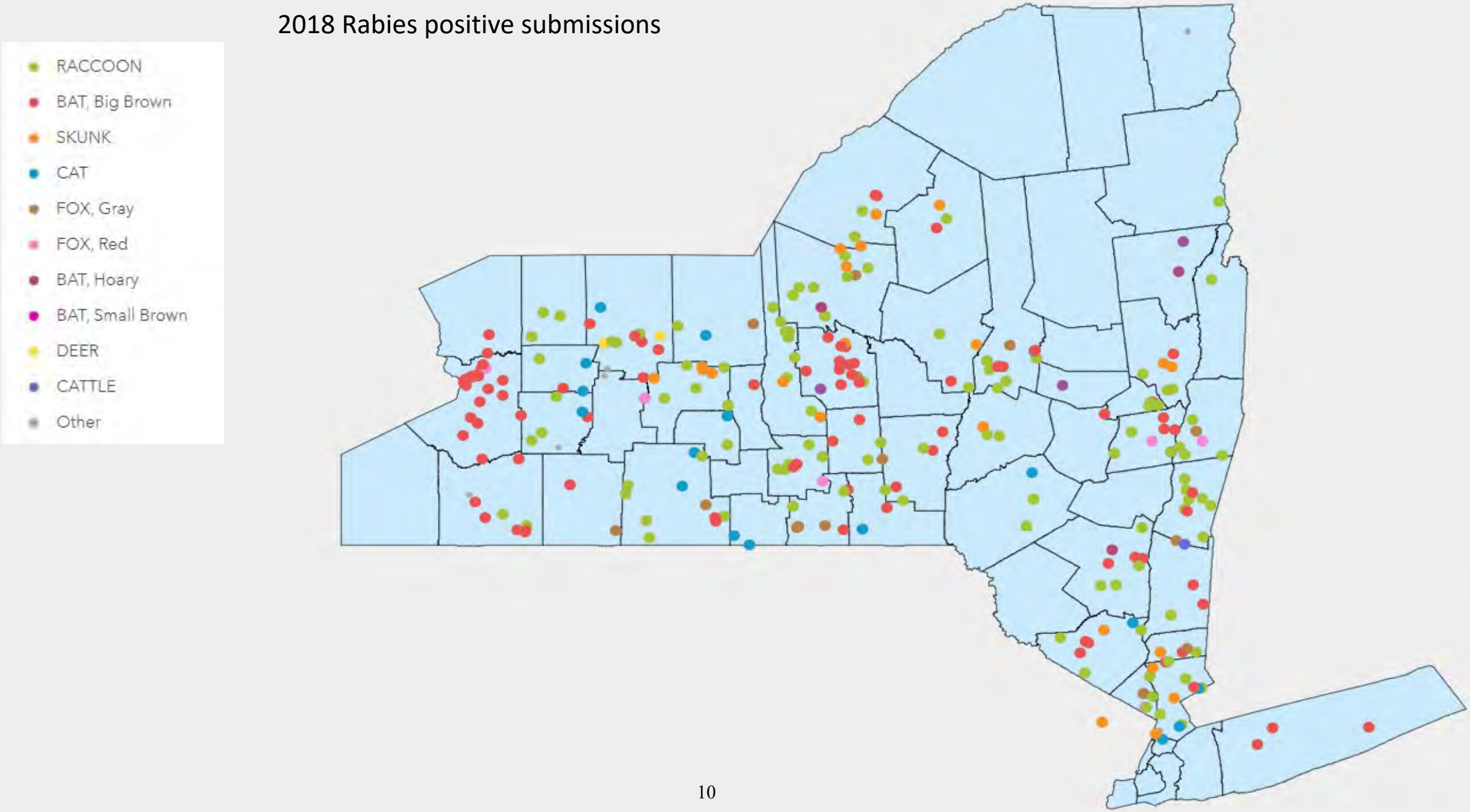
2019 Rabies submissions by county



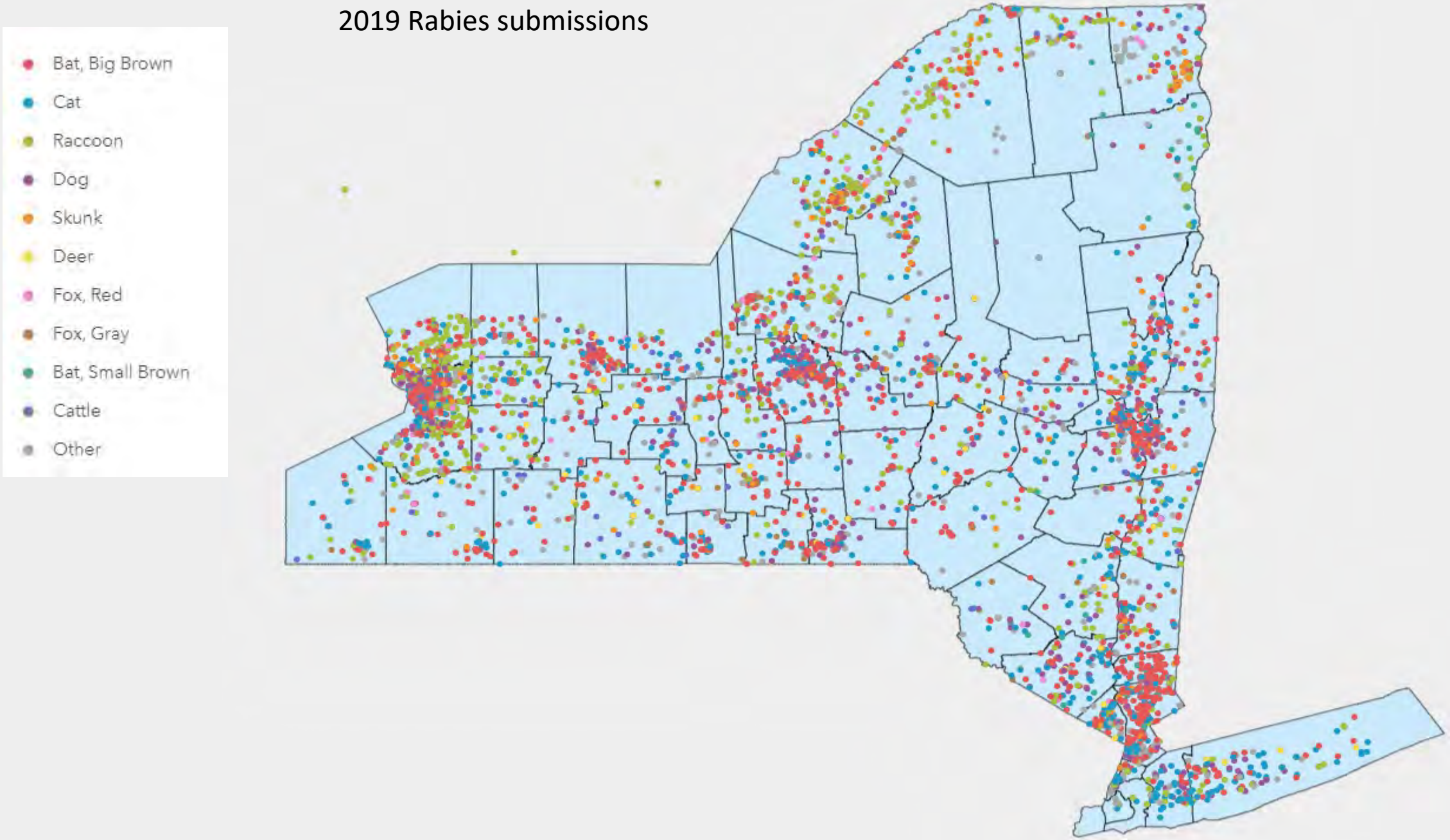
2018 Rabies submissions



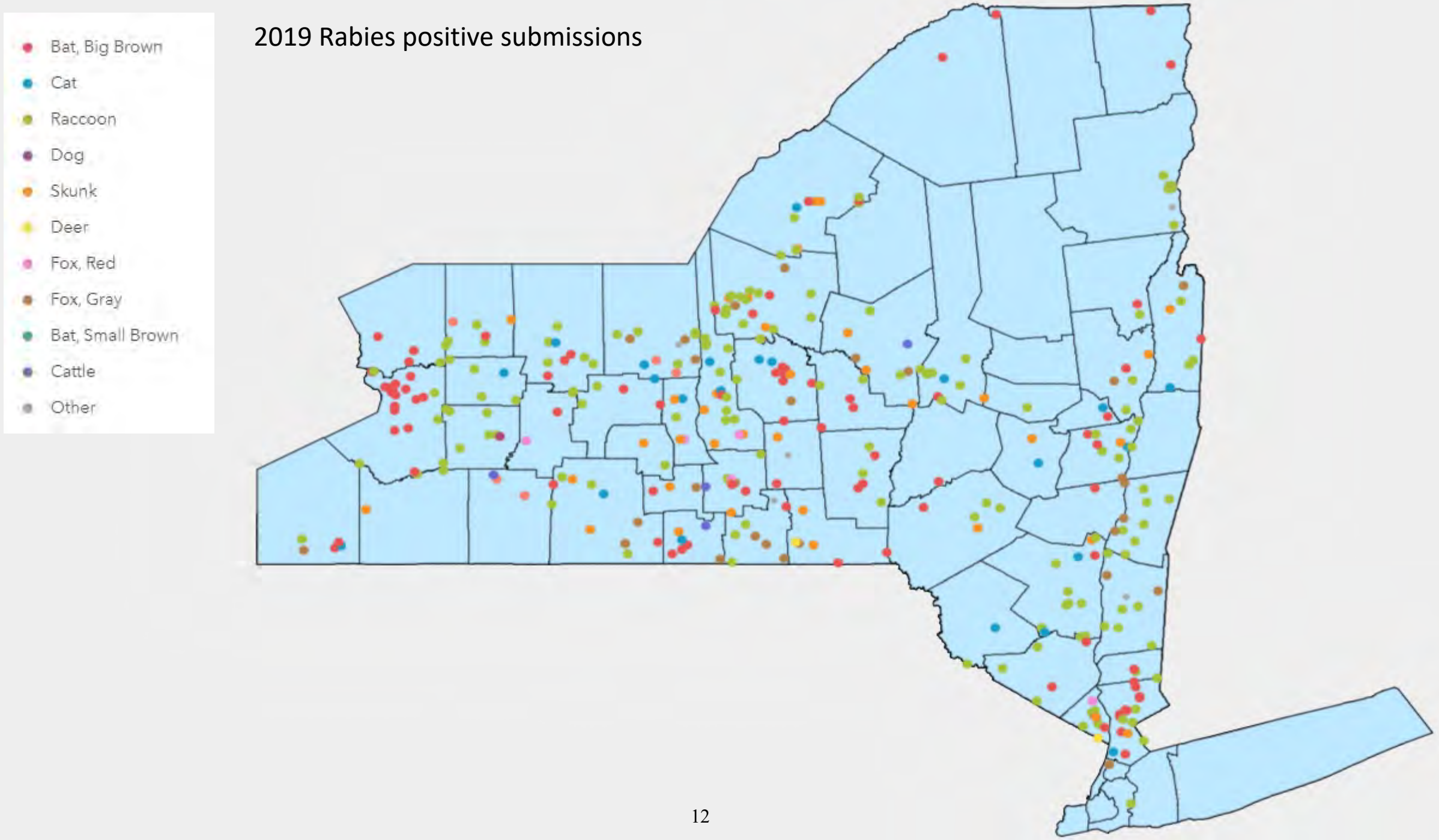
2018 Rabies positive submissions

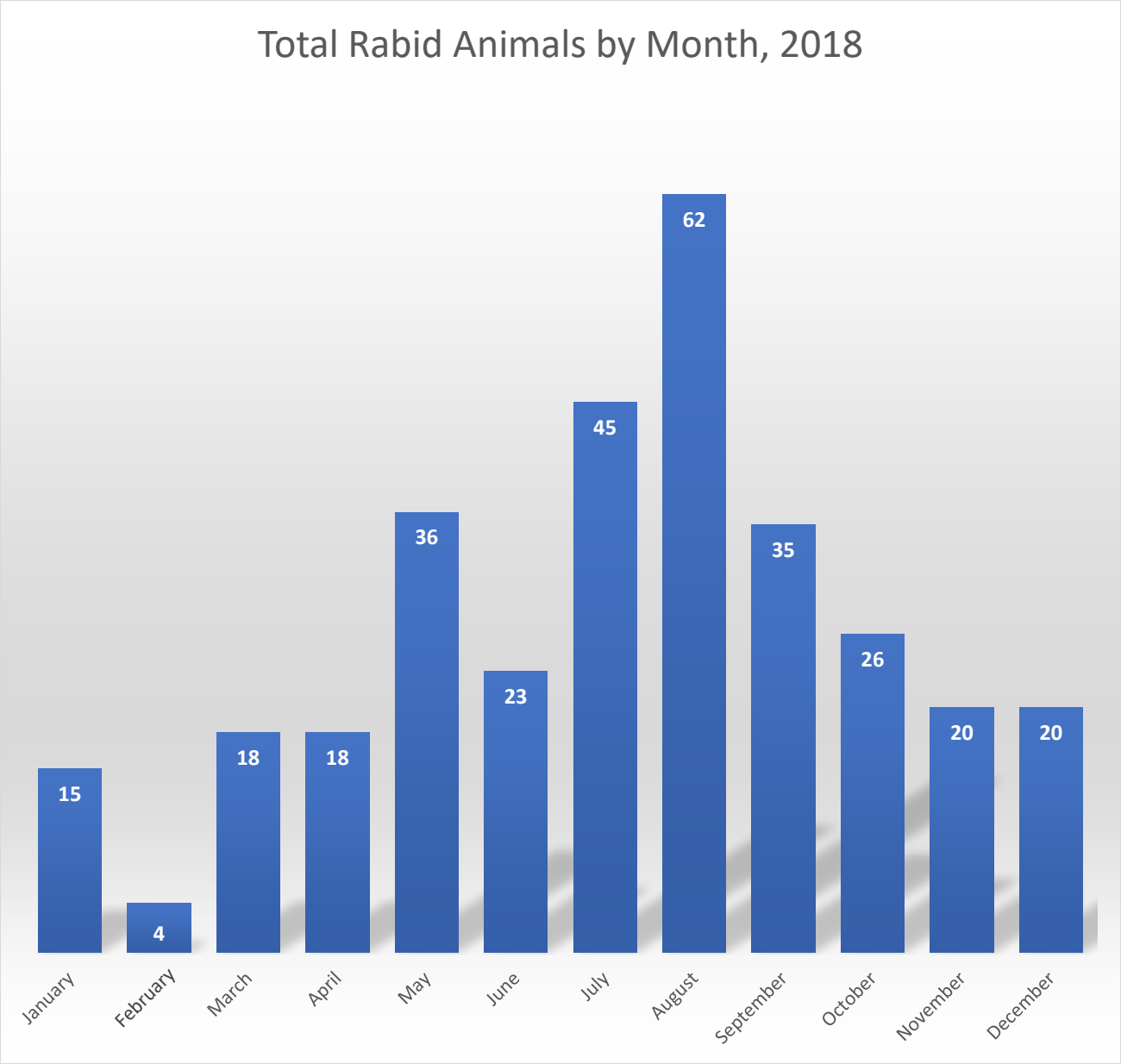


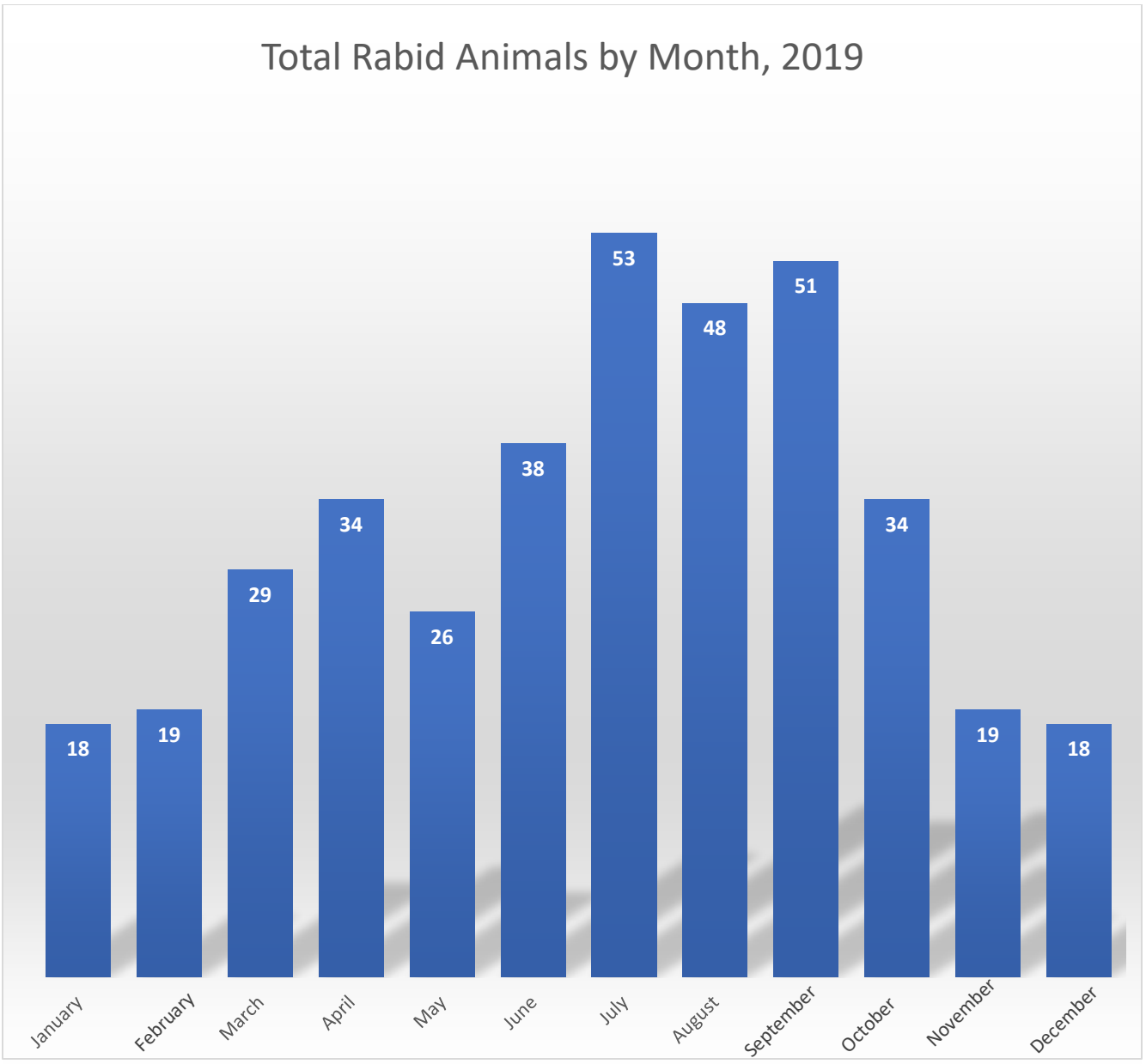
2019 Rabies submissions



2019 Rabies positive submissions




Total Rabid Animals by Month, 2018
15
4
18
18
36
23
45
62
35
26
20
20
January
February
March
April
May
June
July
August
September
October
November
December


Total Rabid Animals by Month, 2019
18
19
29
34
26
38
53
48
51
34
19
18
January
February
March
April
May
June
July
August
September
October
November
December

Report of N.Y. State Dept. of Health Rabies Laboratory

01/01/2018 to 12/31/2018

Number examined ... Number positive

COUNTY	Dogs		Cats		Cattle		Other Domestic		Skunk		Fox		Bats		Raccoons		Rodents Lagamorphs		Other Wild		Total Rcvd	Total Positive
Albany	20	0	36	1	1	0	2	0	4	1	1	1	111	3	10	5	12	0	6	0	203	11
Allegany	3	0	4	0	0	0	1	0	0	0	1	1	21	2	4	0	1	0	5	1	40	4
Bronx	1	0	2	0	0	0	0	0	1	1	0	0	2	0	1	0	1	0	0	0	8	1
Broome	12	0	24	1	0	0	2	0	0	0	1	0	36	0	1	1	1	0	10	0	87	2
Cattaraugus	4	0	6	0	2	0	3	0	0	0	3	0	68	5	11	2	2	1	11	0	110	8
Cayuga	12	0	7	0	0	0	3	0	3	2	2	1	61	0	8	7	2	0	4	0	102	10
Chautauqua	2	0	10	0	0	0	1	0	0	0	2	0	30	0	6	0	2	0	3	0	56	0
Chemung	5	0	9	2	0	0	0	0	1	0	1	0	30	0	0	0	0	0	3	0	49	2
Chenango	11	0	11	0	0	0	0	0	0	0	2	1	43	4	7	3	1	0	2	0	77	8
Clinton	15	1	9	0	1	0	0	0	32	0	2	0	16	0	26	0	0	0	3	0	104	1
Columbia	1	0	17	0	3	1	6	0	7	1	2	1	31	2	15	9	4	0	5	0	91	14
Cortland	4	0	7	0	0	0	0	0	0	0	0	0	18	1	2	2	0	0	1	0	32	3
Delaware	2	0	9	1	1	0	0	0	0	0	1	0	17	0	5	2	0	0	2	0	37	3
Dutchess	10	0	7	0	2	0	5	0	3	0	2	1	78	3	9	2	1	0	2	1	119	7
Erie	114	0	134	0	0	0	1	0	12	0	13	1	505	21	94	0	10	0	11	0	894	22
Essex	0	0	9	0	1	0	1	0	4	0	4	0	16	0	8	1	2	0	2	0	47	1
Franklin	8	0	4	0	0	0	0	0	2	0	2	0	13	0	16	0	1	0	6	0	52	0
Fulton	4	0	5	0	0	0	0	0	0	0	0	0	4	0	1	1	1	0	0	0	15	1
Genesee	5	0	12	2	0	0	1	0	0	0	0	0	17	1	1	1	1	0	2	0	39	4
Greene	6	0	4	0	1	0	1	0	0	0	0	0	10	0	2	0	1	0	4	0	29	0
Hamilton	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	8	0	14	0
Herkimer	2	0	8	1	5	0	0	0	1	0	2	1	47	4	8	5	2	0	3	0	78	11
Jefferson	7	0	20	0	1	0	1	0	40	2	10	0	49	2	37	2	1	0	5	0	171	6
Kings	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	0
Lewis	2	0	5	0	0	0	5	0	3	1	3	0	23	1	5	1	2	0	0	0	48	3
Livingston	7	0	8	0	0	0	3	1	0	0	0	0	20	0	5	1	1	0	8	0	52	2
Madison	3	0	8	0	0	0	1	0	0	0	0	0	21	0	0	0	0	0	1	0	34	0
Monroe	14	0	35	2	0	0	1	1	1	1	1	0	91	5	11	4	1	0	4	2	159	15
Montgomery	3	0	7	0	0	0	4	0	0	0	0	0	11	1	3	0	0	0	2	0	30	1
Nassau	22	0	58	0	0	0	0	0	1	0	0	0	10	1	49	0	2	0	1	0	143	1
New York	3	0	3	1	0	0	0	0	1	0	0	0	2	0	12	0	13	0	0	0	34	1
Niagara	20	0	36	0	1	0	4	0	3	0	1	0	60	2	176	0	1	0	3	0	305	2
Oneida	6	0	16	0	0	0	1	0	1	1	0	0	54	1	4	2	0	0	1	0	83	4
Onondaga	36	0	56	0	0	0	3	0	4	1	3	1	275	13	6	1	2	0	6	0	391	16
Ontario	3	0	18	0	4	0	1	0	4	3	2	1	43	0	11	6	0	0	3	0	89	10
Orange	25	0	31	1	0	0	3	0	1	1	0	0	47	3	8	3	6	0	4	0	125	8
Orleans	3	0	6	0	2	0	1	0	0	0	0	0	14	0	4	3	2	0	7	1	39	4
Oswego	14	0	22	0	0	0	6	0	5	2	5	2	72	1	20	8	3	0	3	0	150	13
Otsego	2	0	10	0	3	0	1	0	2	1	0	0	46	0	4	2	3	0	8	0	79	3
Putnam	2	0	6	0	0	0	1	0	1	1	1	1	76	1	2	1	3	0	1	0	93	4
Queens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Rensselaer	10	0	13	0	0	0	2	0	0	0	5	3	17	0	7	4	3	0	5	0	62	7
Richmond	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Rockland	1	0	13	0	0	0	0	0	0	0	5	4	22	0	6	3	3	0	1	0	51	7
Saratoga	25	0	31	0	1	0	2	0	10	2	5	0	22	1	8	3	3	0	4	0	111	6
Schenectady	14	0	15	0	1	0	2	0	1	0	1	0	42	2	6	4	0	0	3	0	85	6
Schoharie	7	0	9	0	1	0	2	0	2	0	0	0	6	0	4	0	1	0	5	0	37	0
Schuyler	3	0	5	0	0	0	0	0	0	0	1	0	8	0	2	0	0	0	5	0	24	0
Seneca	2	0	2	0	1	0	1	0	0	0	0	0	18	1	0	0	1	0	0	0	25	1
St. Lawrence	3	0	8	0	2	0	6	0	8	0	11	0	38	0	159	0	1	0	14	0	250	0
Steuben	18	0	20	2	3	0	1	0	2	0	2	1	34	2	14	6	0	0	10	1	104	12
Suffolk	9	0	44	0	0	0	2	0	0	0	0	0	40	3	14	0	5	0	6	0	120	3
Sullivan	5	0	7	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	3	0	18	1
Tioga	3	0	15	0	1	0	0	0	0	0	3	3	19	2	2	2	2	0	3	0	48	7
Tompkins	10	0	19	0	7	0	0	0	3	1	5	3	157	7	7	5	5	2	6	0	219	18
Ulster	20	0	32	0	0	0	0	0	7	1	0	0	55	5	8	7	6	0	9	0	137	13
Warren	14	0	7	0	0	0	0	0	0	0	1	0	9	2	0	0	2	0	5	0	38	2
Washington	6	0	15	0	4	0	2	0	0	0	1	0	20	0	5	3	2	0	2	0	57	3
Wayne	4	0	14	1	2	0	2	0	0	0	1	1	19	0	3	1	0	0	3	0	48	3
Westchester	25	0	49	2	0	0	1	0	10	3	2	0	310	3	29	8	9	0	6	2	441	18
Wyoming	2	0	10	2	3	0	1	1	0	0	0	0	20	1	3	3	0	0	6	0	45	7
Yates	3	0	3	1	0	0	1	0	0	0	0	0	10	0	3	1	0	0	2	0	22	2
Total	599	1	1011	20	54	1	88	3	180	26	111	29	2962	106	873	125	130	3	248	8	6,256	322

Any unlisted county had no specimens processed during the reporting period.

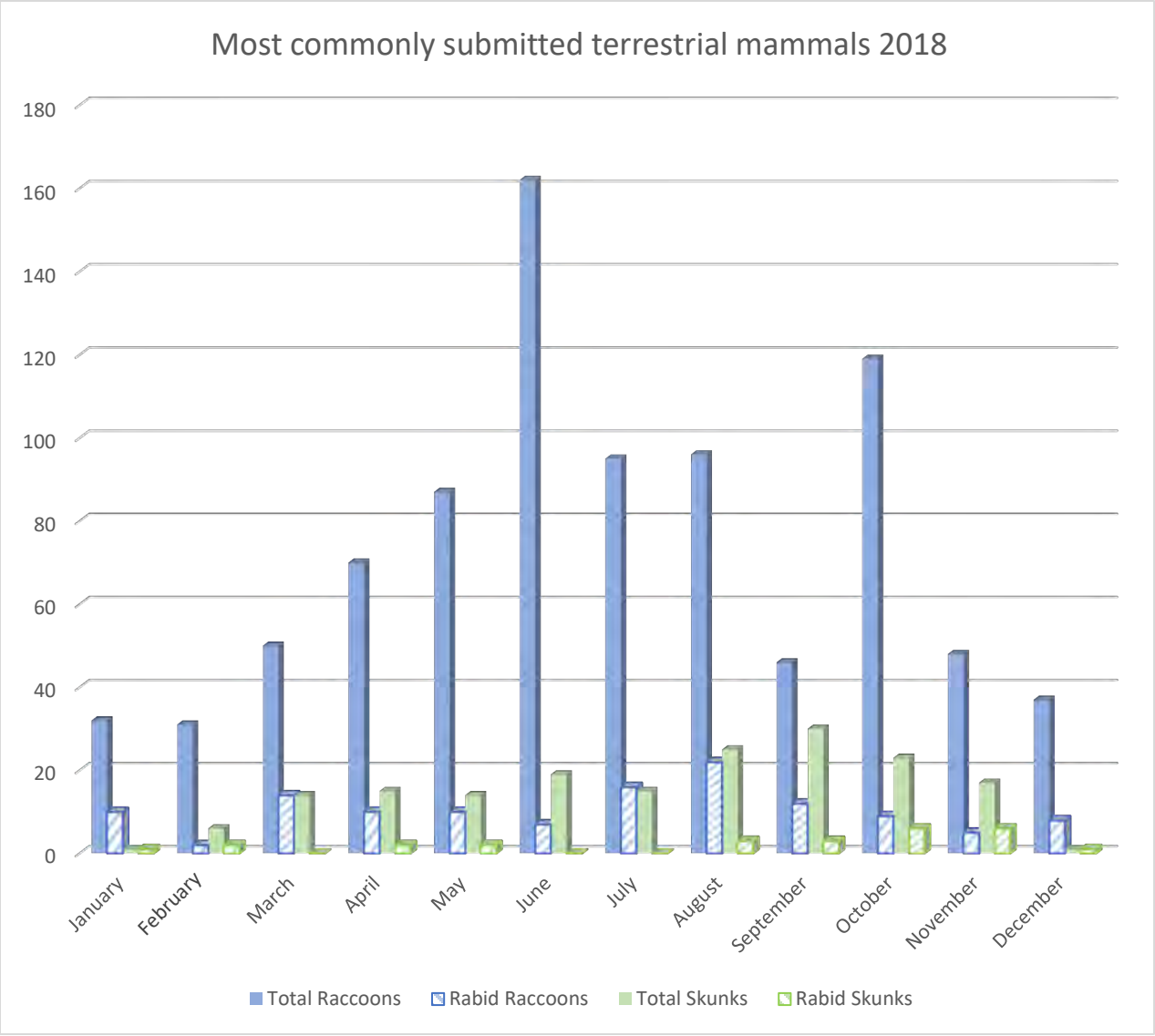
Report of N.Y. State Dept. of Health Rabies Laboratory

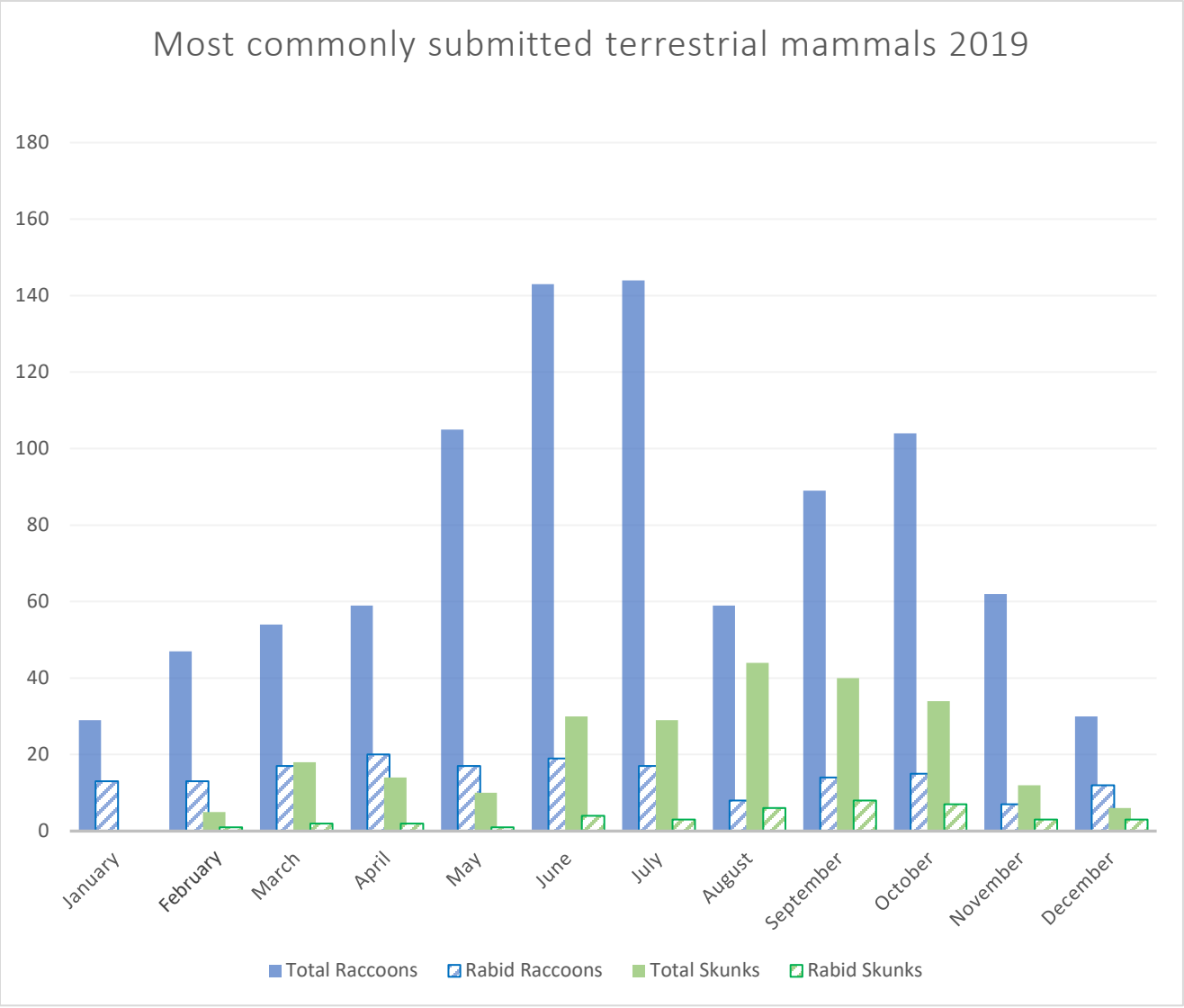
01/01/2019 to 12/31/2019

Number examined ... Number positive

COUNTY	Dogs		Cats		Cattle		Other Domestic		Skunk		Fox		Bats		Raccoons		Rodents Lagamorphs		Other Wild		Total Rcvd	Total Positive
Albany	34	0	46	1	1	0	7	0	4	1	3	1	112	2	10	5	11	0	4	0	232	10
Allegany	1	0	4	0	2	1	4	2	0	0	0	0	16	0	3	0	2	0	7	0	39	3
Bronx	3	0	3	0	0	0	0	0	0	0	0	0	2	0	2	0	6	0	0	0	16	0
Broome	22	0	18	0	0	0	3	0	3	2	1	1	51	2	0	0	2	0	7	0	107	5
Cattaraugus	1	0	12	0	1	0	3	0	2	1	2	0	35	0	13	1	1	0	7	0	77	2
Cayuga	11	0	19	2	0	0	1	0	5	4	1	1	57	1	16	9	2	0	4	0	116	17
Chautauqua	1	0	18	1	1	0	5	0	1	0	2	1	21	2	13	1	0	0	4	0	66	5
Chemung	4	0	13	1	2	1	1	0	2	1	1	1	20	3	3	0	1	0	1	0	48	7
Chenango	4	0	10	0	1	0	0	0	1	0	2	0	23	3	6	3	2	0	5	0	54	6
Clinton	13	0	9	0	2	0	4	0	29	0	2	0	24	2	16	0	0	0	21	0	120	2
Columbia	6	0	19	0	2	0	4	0	1	0	4	2	30	0	18	9	1	0	2	0	87	11
Cortland	9	0	7	0	2	0	0	0	1	1	2	0	16	3	0	0	0	0	9	0	46	4
Delaware	2	0	3	0	1	0	2	0	1	1	1	0	16	1	8	3	1	0	5	0	40	5
Dutchess	7	0	27	0	0	0	3	0	2	0	3	2	44	0	10	6	2	0	7	1	105	9
Erie	126	0	118	0	0	0	3	0	9	0	9	0	490	18	148	6	12	0	20	0	935	24
Essex	3	0	5	0	0	0	0	0	8	0	0	0	23	1	20	12	1	0	14	0	74	13
Franklin	6	0	5	0	3	0	4	0	3	0	4	0	18	2	22	0	2	0	7	0	74	2
Fulton	3	0	5	0	1	0	0	0	0	0	0	0	9	0	0	0	0	0	1	0	19	0
Genesee	3	0	15	1	1	0	2	0	0	0	1	0	16	0	28	5	0	0	2	0	68	6
Greene	4	0	4	0	0	0	1	0	0	0	1	1	13	1	3	0	1	0	3	0	30	2
Hamilton	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	6	0
Herkimer	4	0	7	1	2	0	0	0	1	1	1	0	29	1	7	7	2	0	3	0	56	10
Jefferson	13	0	19	1	1	0	0	0	75	3	14	0	75	2	129	4	2	0	7	0	335	10
Kings	0	0	1	0	0	0	0	0	0	0	0	0	3	0	1	0	5	0	2	0	12	0
Lewis	4	0	10	0	3	0	4	0	6	0	1	0	28	0	11	2	1	0	5	0	73	2
Livingston	2	0	12	0	0	0	3	0	0	0	2	1	16	1	2	1	0	0	8	0	45	3
Madison	10	0	8	1	2	0	0	0	0	0	0	0	25	3	9	2	0	0	2	0	56	6
Monroe	17	0	23	1	0	0	2	0	2	0	2	0	84	3	8	6	1	0	11	0	150	10
Montgomery	2	0	2	0	2	0	3	0	0	0	0	0	7	0	2	1	1	0	1	0	20	1
Nassau	21	0	58	0	0	0	1	0	1	0	0	0	11	0	12	0	5	0	2	0	111	0
New York	2	0	6	0	0	0	0	0	1	0	0	0	3	0	11	0	4	0	0	0	27	0
Niagara	13	0	18	0	1	0	1	0	11	0	5	0	61	3	106	2	1	0	2	0	219	5
Oneida	11	0	19	0	1	1	5	0	8	4	2	2	38	0	8	2	1	0	1	0	94	9
Onondaga	67	0	60	2	1	0	2	0	3	1	1	1	230	7	4	1	2	0	7	0	377	12
Ontario	3	0	10	1	4	0	1	0	0	0	0	0	32	2	2	2	0	0	4	0	56	5
Orange	25	0	34	0	0	0	1	0	2	0	5	1	42	2	12	4	2	0	8	0	131	7
Orleans	2	0	11	0	1	0	1	1	1	1	2	0	30	1	11	3	2	1	4	0	65	7
Oswego	16	0	10	0	2	0	9	0	12	4	11	2	70	3	40	17	1	0	7	0	178	26
Otsego	4	0	12	0	0	0	0	0	1	0	1	0	52	1	1	0	0	0	10	0	81	1
Putnam	1	0	9	0	0	0	0	0	1	0	0	0	79	1	3	3	2	0	0	0	95	4
Queens	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
Rensselaer	15	0	10	1	1	0	4	0	2	0	0	0	38	0	7	5	1	0	5	0	83	6
Rockland	3	0	30	0	0	0	0	0	3	1	2	1	20	1	11	5	8	2	3	1	80	11
Saratoga	13	0	44	0	0	0	2	0	6	1	6	1	41	1	12	3	5	0	3	0	132	6
Schenectady	13	0	24	1	0	0	0	0	1	0	0	0	31	1	1	0	3	0	1	0	74	2
Schoharie	10	0	16	1	0	0	2	0	1	1	0	0	8	0	3	0	1	0	4	0	45	2
Schuyler	0	0	2	0	0	0	2	0	1	1	1	1	4	1	0	0	0	0	2	0	12	3
Seneca	3	0	4	0	0	0	4	0	3	2	0	0	8	0	4	1	0	0	3	0	29	3
St. Lawrence	4	0	12	0	1	0	2	0	11	0	5	0	66	1	62	0	0	0	14	0	177	1
Steuben	8	0	23	1	3	0	2	0	3	3	3	3	22	2	11	4	1	0	10	0	86	13
Suffolk	23	0	45	0	0	0	0	0	0	0	2	0	37	0	14	0	2	0	14	0	137	0
Sullivan	5	0	9	1	1	0	1	0	0	0	2	0	7	0	2	1	3	0	4	0	34	2
Tioga	4	0	8	0	0	0	2	0	0	0	5	4	19	1	4	3	0	0	8	1	50	9
Tompkins	12	0	22	0	3	1	2	0	4	2	7	3	131	2	9	3	2	0	9	0	201	11
Ulster	15	0	31	3	2	0	3	0	1	1	4	1	47	1	29	10	4	0	10	1	146	17
Warren	8	0	8	0	0	0	1	0	1	0	1	0	26	1	2	1	0	0	2	0	49	2
Washington	7	0	8	1	2	0	1	0	1	1	4	1	21	1	4	3	1	0	1	0	50	7
Wayne	4	1	16	1	3	0	3	2	0	0	3	3	14	0	6	5	2	0	3	0	54	12
Westchester	17	0	48	1	0	0	1	0	6	1	0	0	245	10	8	4	6	0	2	0	333	16
Wyoming	1	0	5	0	3	0	3	0	0	0	2	0	12	0	15	6	1	1	5	0	47	7
Yates	7	0	11	0	0	0	2	0	1	1	1	0	5	0	1	1	0	0	2	0	30	2
Total	653	1	1066	24	59	4	117	5	242	40	135	35	2754	94	925	172	119	4	323	4	6,393	383

Any unlisted county had no specimens processed during the reporting period.


Most commonly submitted terrestrial mammals 2018
180
160
140
120
100
80
60
40
20
0
January
February
March
April
May
June
July
August
September
October
November
December
Total Raccoons
Rabid Raccoons
Total Skunks
Rabid Skunks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May
June
July
August
September
October
November
December
Total Raccoons
Rabid Raccoons
Total Skunks
Rabid Skunks

New York State Rabies Laboratory

Confirmed Rabies 14 Years

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2016*	2017	2017*	2018	2018*	2019	2019*
Bat	118	81	127	104	112	79	68	64	114	83	98	102	81	34	73	58	106	17	94	5
Bear	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beaver	-	1	-	-	-	-	-	-	1	-	1	-	-	-	-	-	1	-	-	-
Bobcat	-	-	-	-	-	1	-	-	-	2	1	-	2	-	-	2	2	1	1	2
Camel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cat	19	21	25	17	24	27	43	38	22	9	25	23	25	1	28	14	20	9	24	-
Cattle	2	9	6	-	6	3	6	7	5	6	5	5	6	-	1	1	1	-	4	-
Coyote	1	1	-	-	1	-	2	-	-	-	1	2	2	1	1	-	2	2	-	-
Deer	3	2	-	2	2	-	2	1	5	2	-	2	2	-	1	1	4	-	2	-
Dog	1	1	1	1	1	-	1	1	-	-	-	-	-	-	1	-	1	-	1	-
Donkey	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Elk	-	-	-	-	-	-	-	-	-		-	1	-	-	-	-	-	-	-	-
Fisher	-	-	-	1	-	2	-	-	-	1	-	-	3	-	-	-	-	-	1	-
Fox	-	-	-	-	1	-	-	-			1	-	-	-	-	-	-	-	-	-
Fox, Gray	25	21	25	17	12	14	31	21	21	27	17	17	18	1	21	18	21	39	29	10
Fox, Red	5	3	6	8	7	10	3	5	7	4	6	10	5	3	2	6	8	-	6	2
Goat	-	-	-	-	-	1	-	1	1	-	-	-	1	-	1	-	1	-	-	-
Guineapig	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Horse	-	2	2	2	1	1	2		1	-	1	1	1	-	1	-	1	-	5	-
Mink	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Mule	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Opossum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
Otter	1	-	1	-	-	-	-	1	1	2	-	-	-	-	1	-	-	-	-	-
Pig	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Rabbit	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Raccoon	264	357	320	282	263	226	250	162	186	147	166	133	156	37	113	165	125	141	172	102
Sheep	-	-	-	-	-	1	1				1		2	-	1		1		-	-
Skunk	104	89	95	75	63	72	85	62	53	50	45	66	79	66	38	52	26	45	40	32
Woodchuc	5	3	4	6	4	3	5	7	7	3	4	3	8	1	4	2	2	3	4	2
Total	548	592	612	515	498	440	499	370	425	336	372	365	536		608		322	257	383	155

* Out of State Specimens Tested by NYS

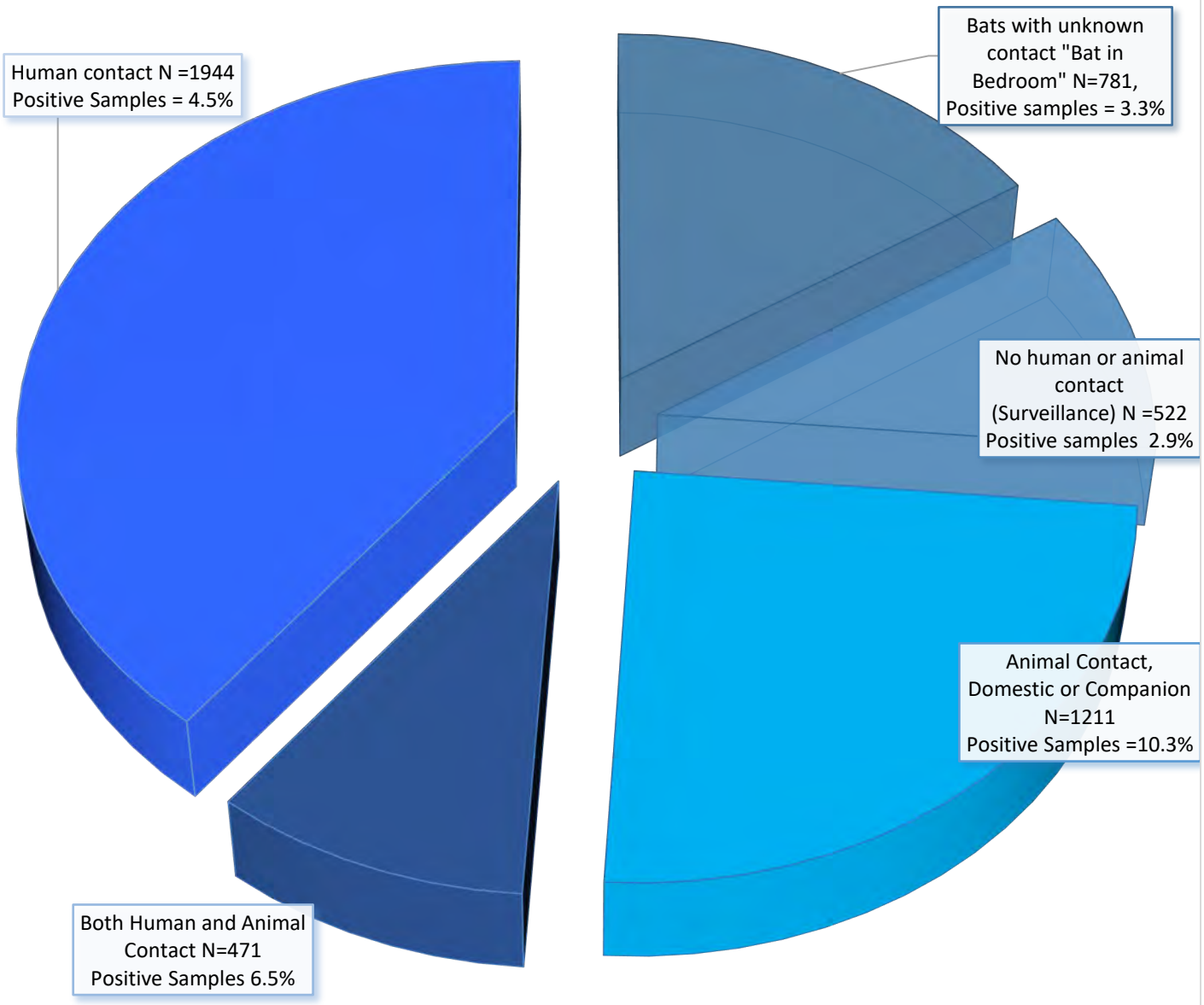
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	**total**
Alpaca	0	0	0	0	0	0	9	5	6	6	4	11	9	4	6	7	7	7	**81**
Bat spp	65	52	32	50	49	125	176	39	16	10	20	10	16	18	15	22	21	19	**755**
Bat, Big Brown	2703	2993	2510	2819	2919	2958	3158	2685	2537	2573	3299	2521	3239	2977	2581	2707	2801	2588	**50568**
Bat, Hoary	10	5	1	6	43	159	6	9	5	6	4	5	6	7	5	0	6	1	**284**
Bat N Long Ear	50	44	57	55	43	46	64	37	29	15	0	8	5	12	2	5	4	0	**476**
Bat, Pipistrille	43	47	6	5	1	5	8	4	6	0	17	3	1	2	0	2	2	3	**155**
Bat, Red	38	25	13	24	50	61	15	27	16	11	31	35	20	9	10	16	12	18	**431**
Bat, Silverhaired	12	17	9	14	54	103	13	14	12	17	24	18	25	23	24	14	35	52	**480**
Bat, Small Brown	906	832	967	883	986	888	917	483	245	159	150	97	68	83	92	145	81	69	**8051**
Bat, Small footed	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**
Bear	10	6	6	12	17	19	12	7	8	2	8	11	15	18	20	15	12	13	**211**
Beaver	3	1	4	2	6	5	6	4	2	1	2	7	3	7	5	10	5	7	**80**
Bobcat	0	5	1	4	3	4	1	2	0	2	9	14	1	5	5	18	22	25	**121**
Cat	1675	1669	1560	1440	1502	1662	1478	1397	1331	1250	1107	1035	1134	1014	1000	1009	1011	1067	**23341**
Cattle	114	109	86	91	97	73	62	80	70	70	64	71	86	79	83	71	54	59	**1419**
Chipmunk	16	14	21	7	6	14	9	9	6	5	3	4	5	6	8	7	5	5	**150**
Coyote	14	23	21	15	18	12	12	12	9	7	11	12	8	15	20	10	29	51	**299**
Deer	82	103	87	124	106	126	103	61	41	48	111	107	65	63	74	119	97	140	**1657**
Dog	767	827	759	706	695	715	708	658	651	719	660	601	660	599	635	634	599	653	**12246**
Donkey	0	1	0	1	1	0	0	4	2	7	5	2	1	4	2	1	3	3	**37**
Elk	0	0	0	0	0	0	8	1	1	0	1	0	2	1	0	2	0	0	**16**
Ferret	18	13	23	19	8	9	20	7	15	2	7	3	3	5	3	6	2	6	**169**
Fisher	2	1	5	3	9	6	0	2	2	2	15	22	7	6	18	11	25	22	**158**
Fox	1	1	2	3	3	3	5	2	2	3	1	3	5	2	2	2	1	2	**43**
Fox,Gray	80	50	68	124	112	33	41	43	91	46	38	48	41	29	41	51	55	60	**1051**
Fox, Red	108	58	66	57	57	71	63	45	34	62	66	43	69	50	43	47	55	73	**1067**
Gemsbok	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	**1**
Gerbil	1	0	0	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	**6**
Goat	25	36	33	32	36	24	31	27	32	27	34	32	22	25	32	37	29	37	**551**
Guinea Pig	5	1	0	1	2	0	0	0	0	1	0	1	0	0	0	0	0	0	**11**
Hamster	6	1	10	9	1	0	6	1	4	1	0	1	0	1	0	0	1	0	**42**
Horse	40	49	39	49	40	28	38	30	40	33	36	45	38	43	36	28	42	52	**706**
Llama	5	6	11	10	7	10	0	4	3	1	3	1	1	0	0	0	1	1	**64**
Mink	5	4	7	4	2	6	2	0	6	4	5	1	2	4	4	3	6	4	**69**
Mole	3	2	4	2	2	0	2	2	1	0	0	0	1	0	1	0	0	0	**20**
Monkey	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	**4**
Moose	1	13	1	3	8	3	6	3	6	0	5	2	3	4	14	1	9	7	**89**
Mouse	19	0	14	17	14	9	6	2	4	1	2	2	2	4	4	3	6	5	**114**
Mule	0	10	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	**12**
Muskrat	13	10	15	18	14	19	15	14	10	6	6	5	6	12	6	5	2	9	**185**
Oppossum	71	71	89	85	132	150	140	70	49	34	23	39	41	35	27	42	25	27	**1150**
Otter	0	3	2	1	1	1	1	0	1	1	13	12	0	1	4	2	7	4	**54**
Pig	2	2	2	0	4	1	3	2	4	2	3	3	2	1	5	5	2	9	**52**
Porcupine	8	5	6	4	7	4	5	6	1	2	4	6	7	0	7	7	2	3	**84**
Rabbit	24	11	19	15	9	9	3	8	3	3	2	1	13	2	6	5	2	0	**135**
Rabbit, Domestic	26	26	14	17	10	7	14	13	9	2	9	3	1	2	5	3	4	9	**174**
Rabbit, Wild	7	5	6	4	5	5	3	3	3	2	1	2	2	2	0	4	2	3	**59**
Raccoon	803	562	1321	1127	1349	1820	1720	1063	954	876	522	575	702	623	784	820	873	925	**17419**
Rat	6	4	6	8	4	5	3	4	1	1	1	3	2	20	5	3	5	2	**83**
Rat, Domestic	3	1	4	1	3	1	5	4	1	0	0	0	0	0	4	0	0	2	**29**
Rat, Wild	12	13	3	5	3	5	2	3	4	0	1	0	0	1	0	7	4	0	**63**
Sheep	12	16	15	16	10	9	15	11	13	10	9	15	16	8	12	15	12	16	**230**
Shrew	3	1	0	1	0	1	0	1	0	0	0	0	0	0	0	3	0	1	**11**
Skunk	40	260	337	279	303	319	260	224	194	290	206	176	218	171	219	199	180	242	**4117**
Squirrel	11	11	14	3	10	16	10	6	6	2	10	4	3	3	6	0	2	3	**120**
Squirrel, Flying	5	16	4	0	8	5	6	5	1	4	5	2	0	3	0	3	3	4	**74**
Squirrel, Grey	100	85	54	35	41	35	50	29	24	19	17	18	32	28	30	29	31	18	**675**
Squirrel Red	3	2	4	2	8	4	2	2	3	0	4	0	1	0	0	1	2	0	**38**
Vole	4	6	3	2		7	6	3	4	1	0	0	0	0	2	0	0	0	**38**
Weasel	4	6	10	2	8	12	3	1	5	2	4	3	1	4	1	1	3	9	**79**
Woodchuck	119	90	99	93	93	107	95	83	77	78	69	42	81	52	88	73	56	51	**1446**
Other wild	15	12	9	9	6	12	2	4	6	4	2	0	5	7	5	3	1	1	**103**
total	**8118**	**8236**	**8459**	**8320**	**8926**	**9731**	**9352**	**7268**	**6609**	**6430**	**6653**	**5685**	**6696**	**6094**	**6001**	**6233**	**6256**	**6387**	

Common species submitted for testing 2002-2018

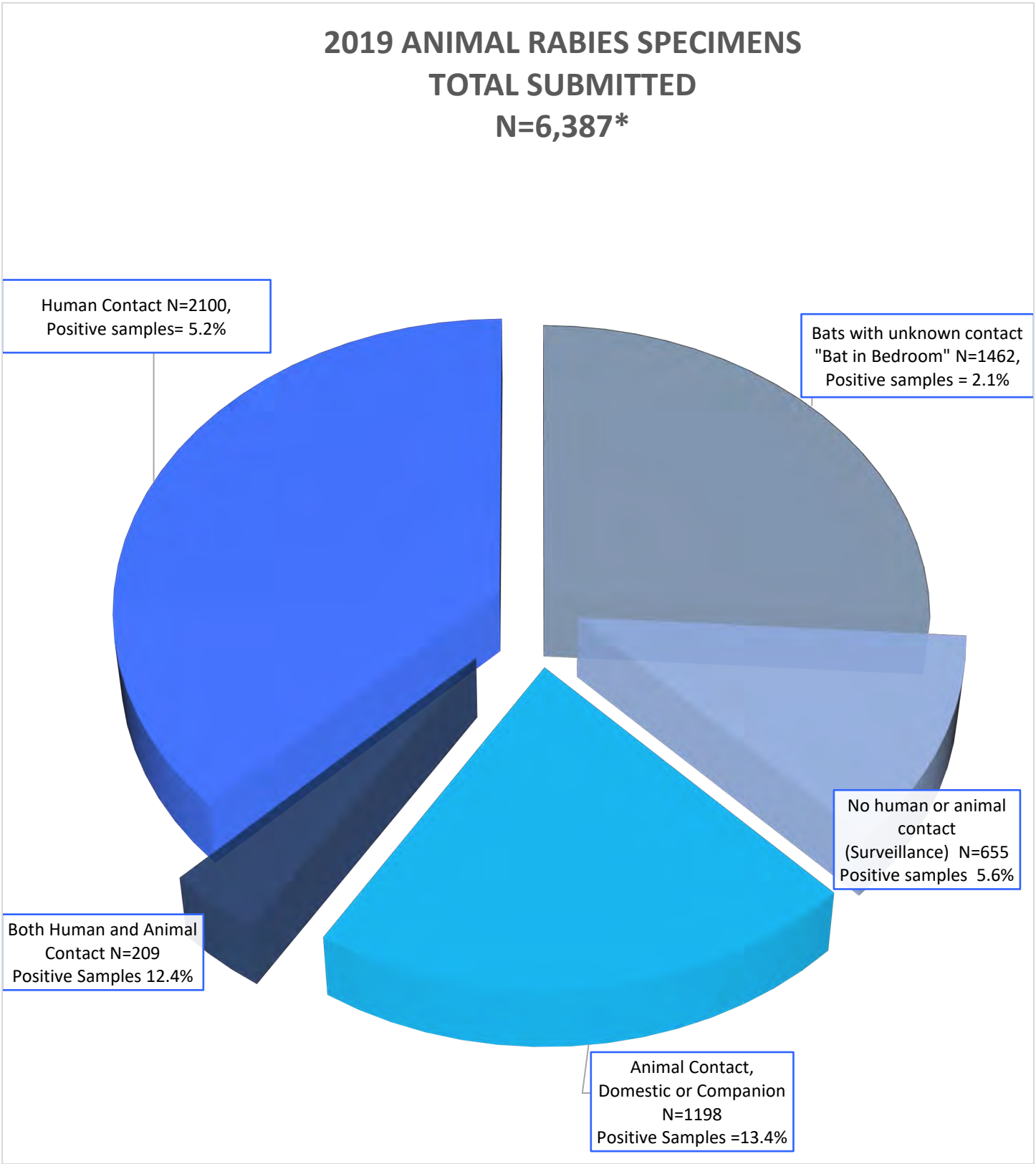
CATS	POSITIVES	TOTAL	% POSITIVE	**DOGS**	POSITIVES	TOTAL	% POSITIVE
2002	29	1675	1.73%	2002	3	768	0.39%
2003	27	1669	1.62%	2003	1	827	0.12%
2004	18	1560	1.15%	2004	1	759	0.13%
2005	21	1440	1.46%	2005	1	706	0.14%
2006	25	1502	1.66%	2006	1	695	0.14%
2007	17	1662	1.02%	2007	1	715	0.14%
2008	24	1478	1.62%	2008	1	708	0.14%
2009	27	1397	1.93%	2009	0	658	0.00%
2010	43	1331	3.23%	2010	1	651	0.15%
2011	38	1250	3.04%	2011	1	719	0.14%
2012	22	1107	1.99%	2012	0	660	0.00%
2013	9	1035	0.87%	2013	0	601	0.00%
2014	25	1135	2.22%	2014	0	660	0.00%
2015	23	1041	2.20%	2015	0	599	0.00%
2016	25	999	2.50%	2016	0	635	0.00%
2017	28	1001	2.80%	2017	1	625	0.10%
2018	20	1011	1.97%	2018	1	599	0.17%
2019	24	1067	2.20%	2019	1	653	0.15%

SKUNK	POSITIVES	TOTAL	% POSITIVE	**RACCOON**	POSITIVES	TOTAL	% POSITIVE
2002	172	403	42.68%	2002	393	803	48.94%
2003	74	260	28.46%	2003	195	562	34.70%
2004	103	337	30.56%	2004	253	1321	19.15%
2005	86	279	30.82%	2005	334	1127	29.64%
2006	95	303	31.35%	2006	320	1349	23.72%
2007	75	319	23.51%	2007	282	1820	15.49%
2008	63	260	24.23%	2008	263	1720	15.29%
2009	72	224	32.14%	2009	226	1063	21.26%
2010	85	194	43.81%	2010	250	654	26.21%
2011	62	290	21.38%	2011	162	876	18.49%
2012	53	206	35.73%	2012	186	522	36.63%
2013	50	176	28.41%	2013	147	575	25.57%
2014	45	218	20.60%	2014	166	702	23.60%
2015	66	172	38.38%	2015	133	622	21.30%
2016	79	219	36.07%	2016	156	783	19.92%
2017	35	187	18.72%	2017	104	804	12.94%
2018	26	180	14.44%	2018	125	873	14.30%
2019	40	242	9.90%	2019	172	925	18.60%

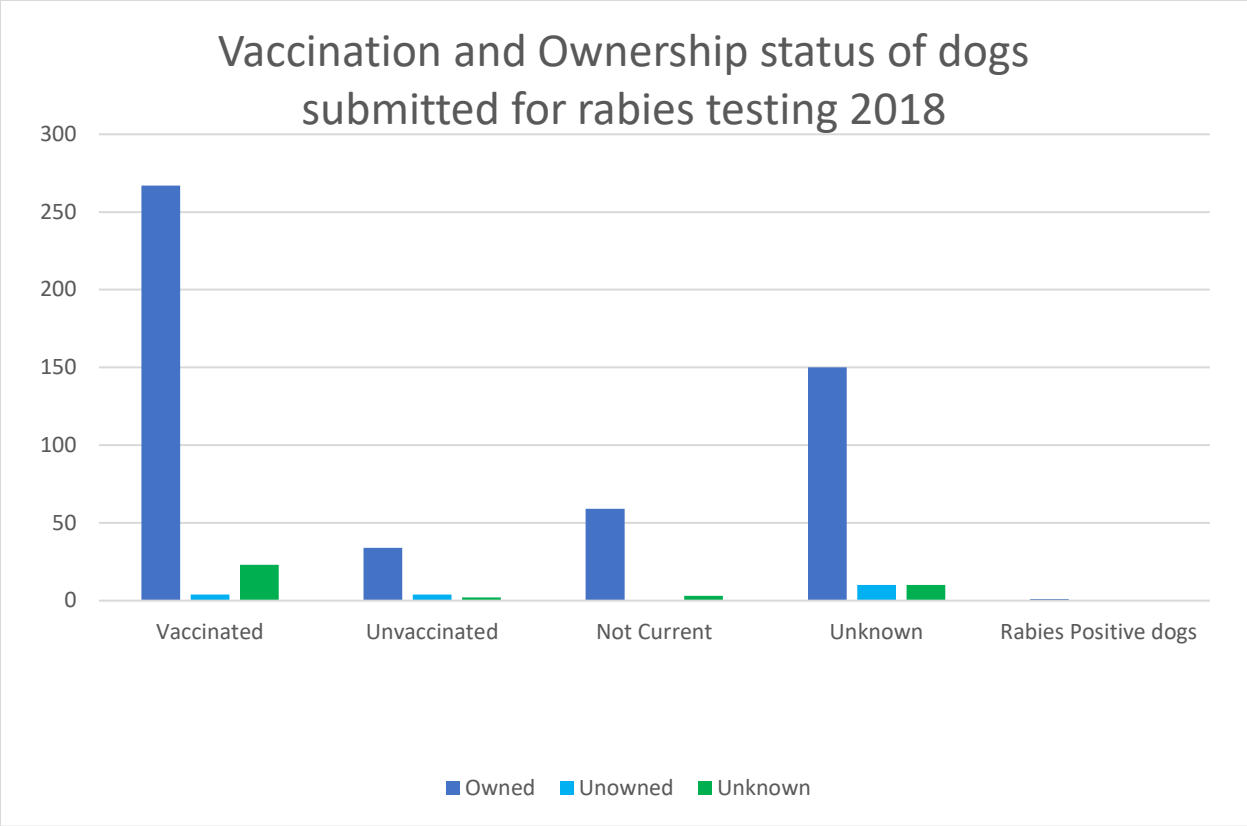
2018 ANIMAL RABIES SPECIMENS
TOTAL SUBMITTED
N=6,256*

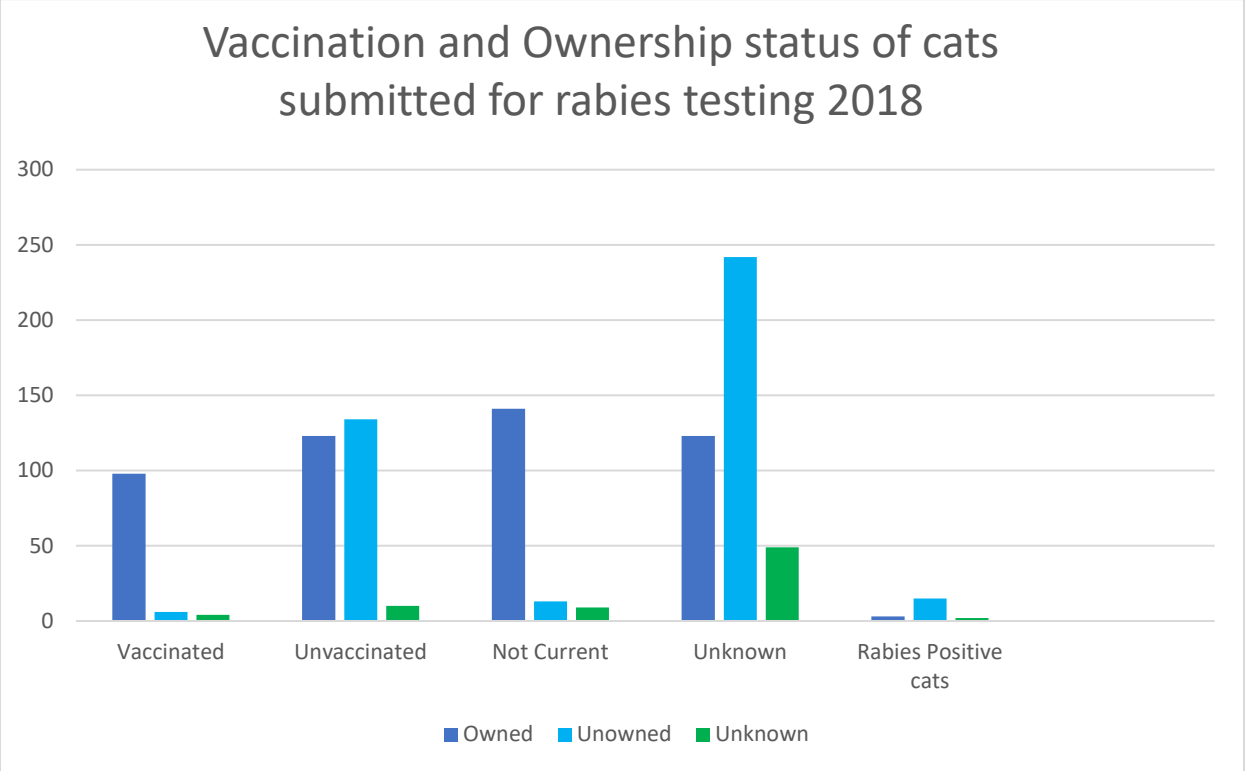


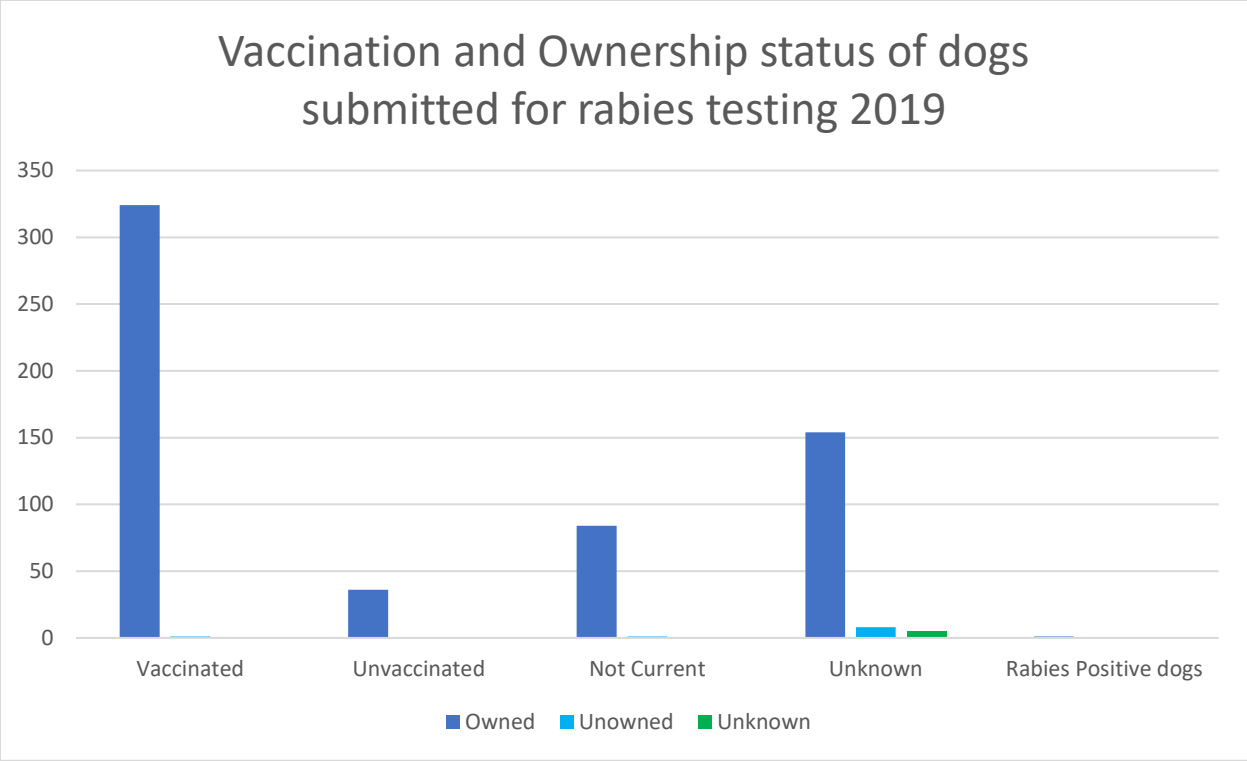
***Numbers may not add up to 6,256 due to no or "unknown" response**

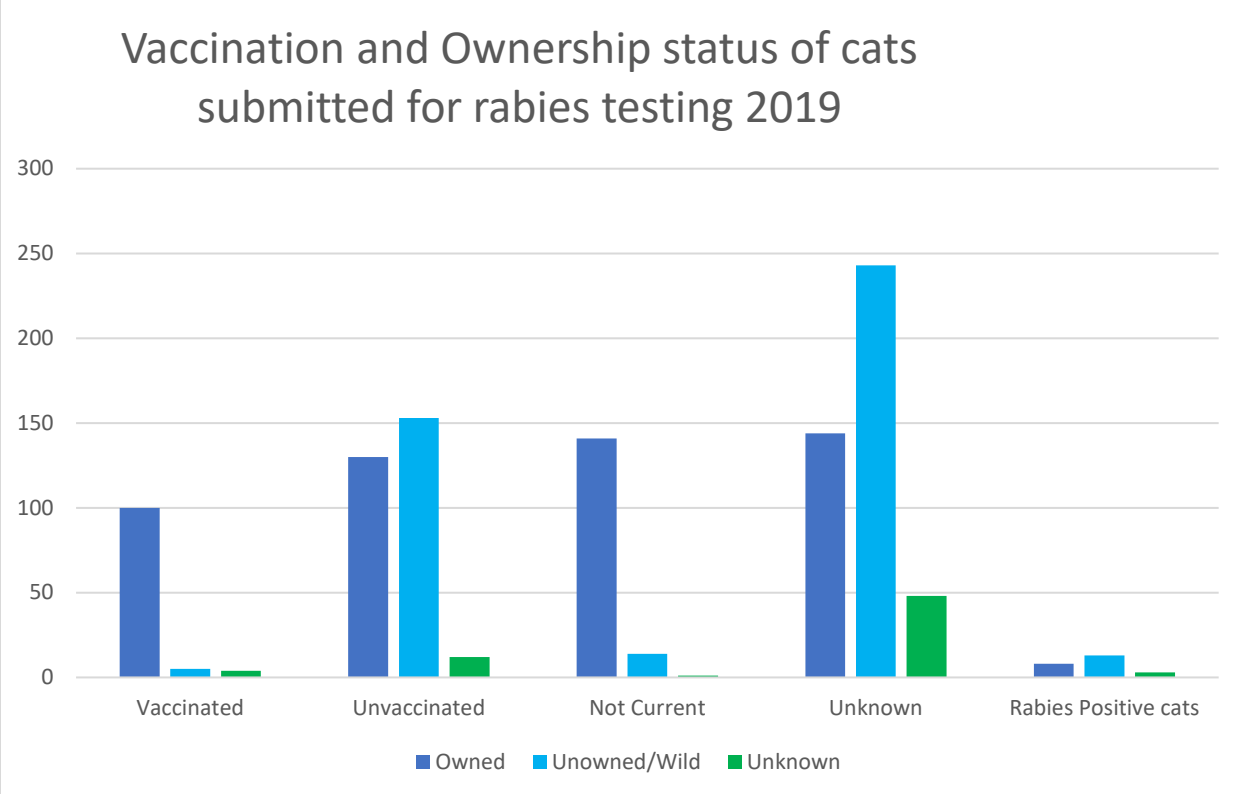


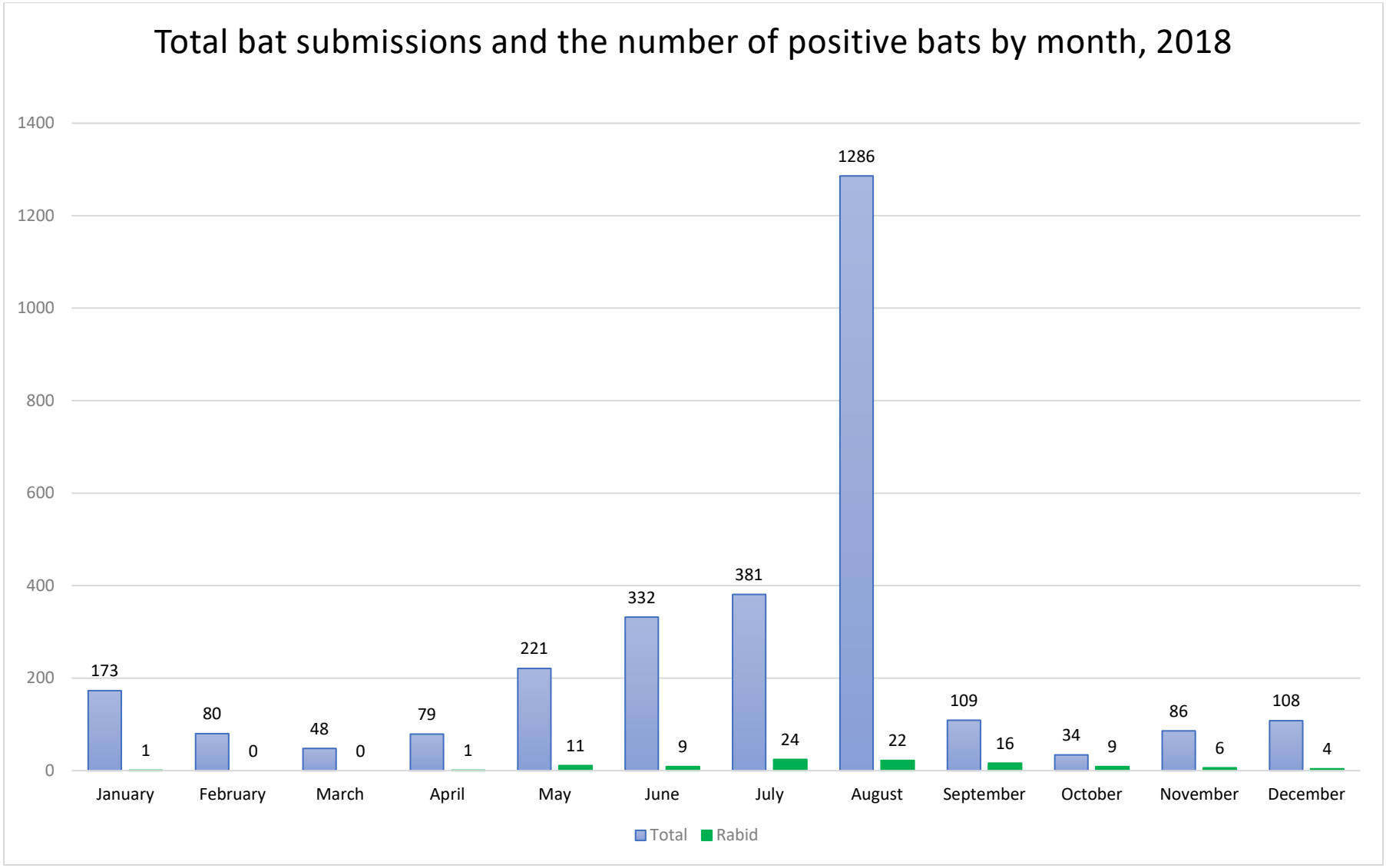
***Numbers may not add up to 6,387 due to no or "unknown" response**

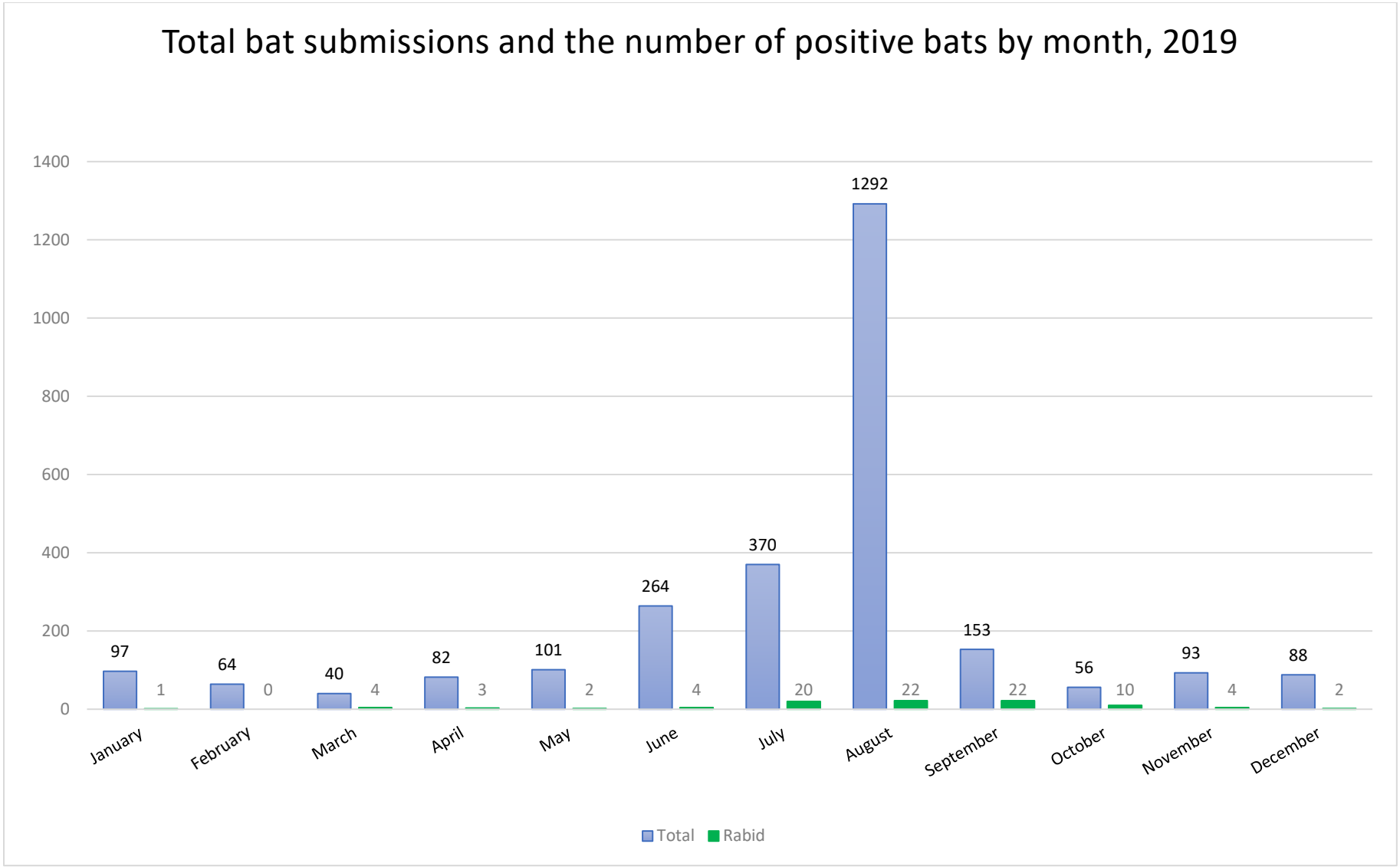

Vaccination and Ownership status of dogs submitted for rabies testing 2018
300
250
200
150
100
50
0
Vaccinated
Unvaccinated
Not Current
Unknown
Rabies Positive dogs
Owned
Unowned
Unknown


Vaccination and Ownership status of cats submitted for rabies testing 2018
300
250
200
150
100
50
0
Vaccinated
Unvaccinated
Not Current
Unknown
Rabies Positive cats
Owned
Unowned
Unknown


Vaccination and Ownership status of dogs submitted for rabies testing 2019
350
300
250
200
150
100
50
0
Vaccinated
Unvaccinated
Not Current
Unknown
Rabies Positive dogs
Owned
Unowned
Unknown


Vaccination and Ownership status of cats submitted for rabies testing 2019
300
250
200
150
100
50
0
Vaccinated
Unvaccinated
Not Current
Unknown
Rabies Positive cats
Owned
Unowned/Wild
Unknown


Total bat submissions and the number of positive bats by month, 2018
1400
1200
1000
800
600
400
200
0
173
1
80
0
48
0
79
1
221
11
332
9
381
24
1286
22
109
16
34
9
86
6
108
4
January
February
March
April
May
June
July
August
September
October
November
December
Total
Rabid


Total bat submissions and the number of positive bats by month, 2019
1400
1200
1000
800
600
400
200
0
97
1
64
0
40
4
82
3
101
2
264
4
370
20
1292
22
153
22
56
10
93
4
88
2
January
February
March
April
May
June
July
August
September
October
November
December
Total
Rabid

Bat Submissions	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	4358	3298	2886	2791	3544	2697	3380	3081	2729	3629	2958	2750
Positive	112	79	69	64	114	83	98	102	81	73	106	94
Negative	3982	3035	2601	2521	3202	2433	3137	2811	2501	2700	2701	2472
Unsatisfactory	264	184	196	206	228	183	145	168	147	100	151	184

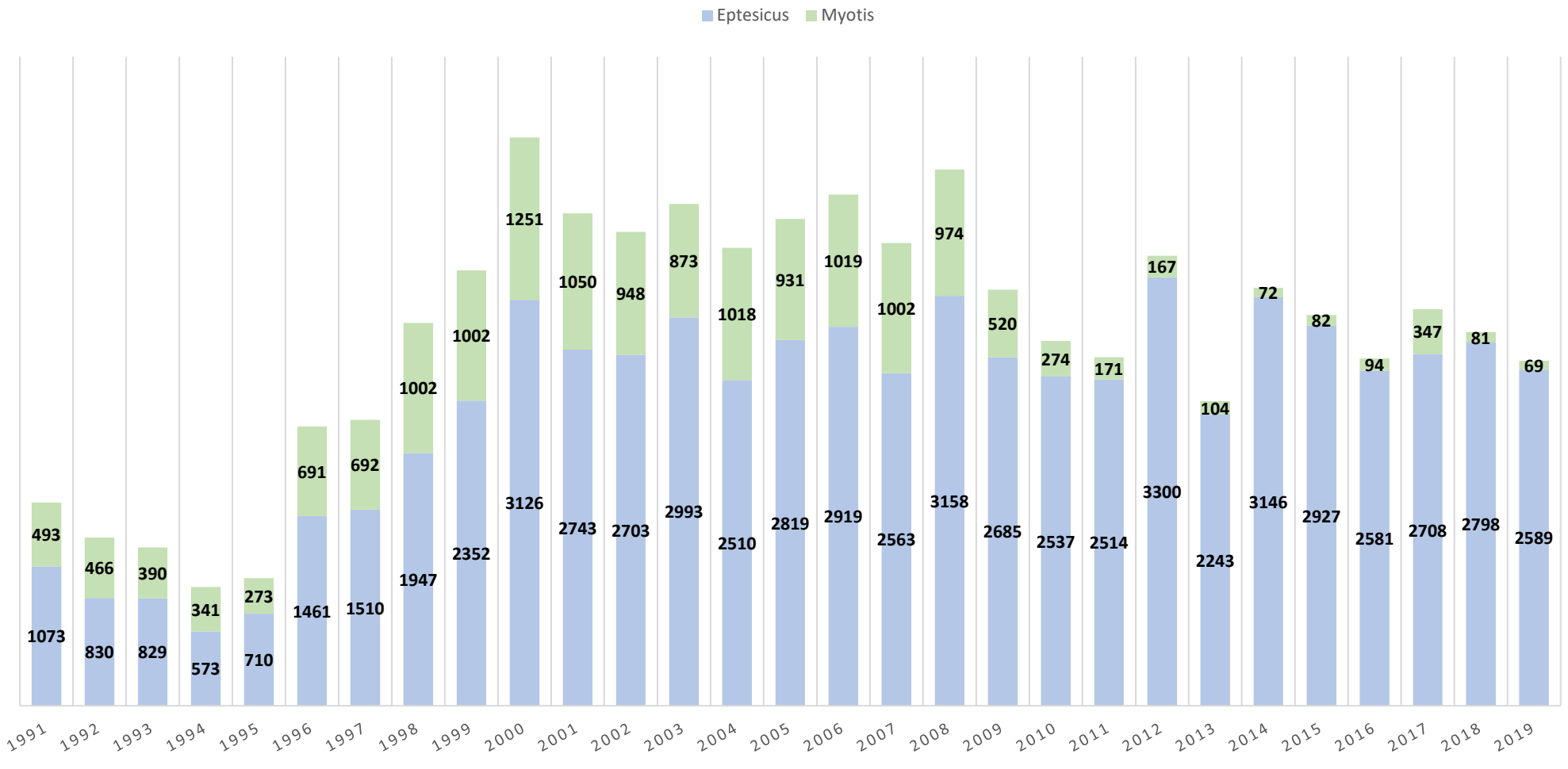
Contact with Humans	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	1920	1925	1883	1762	2318	1718	1959	2954	1556	1610	1688	1537
Positive	43	41	39	43	56	48	53	93	39	32	58	53
Negative	1768	1795	1726	1603	2121	1573	1827	2701	1455	1511	1547	1398
Unsatisfactory	109	89	119	116	141	97	79	160	74	62	83	86

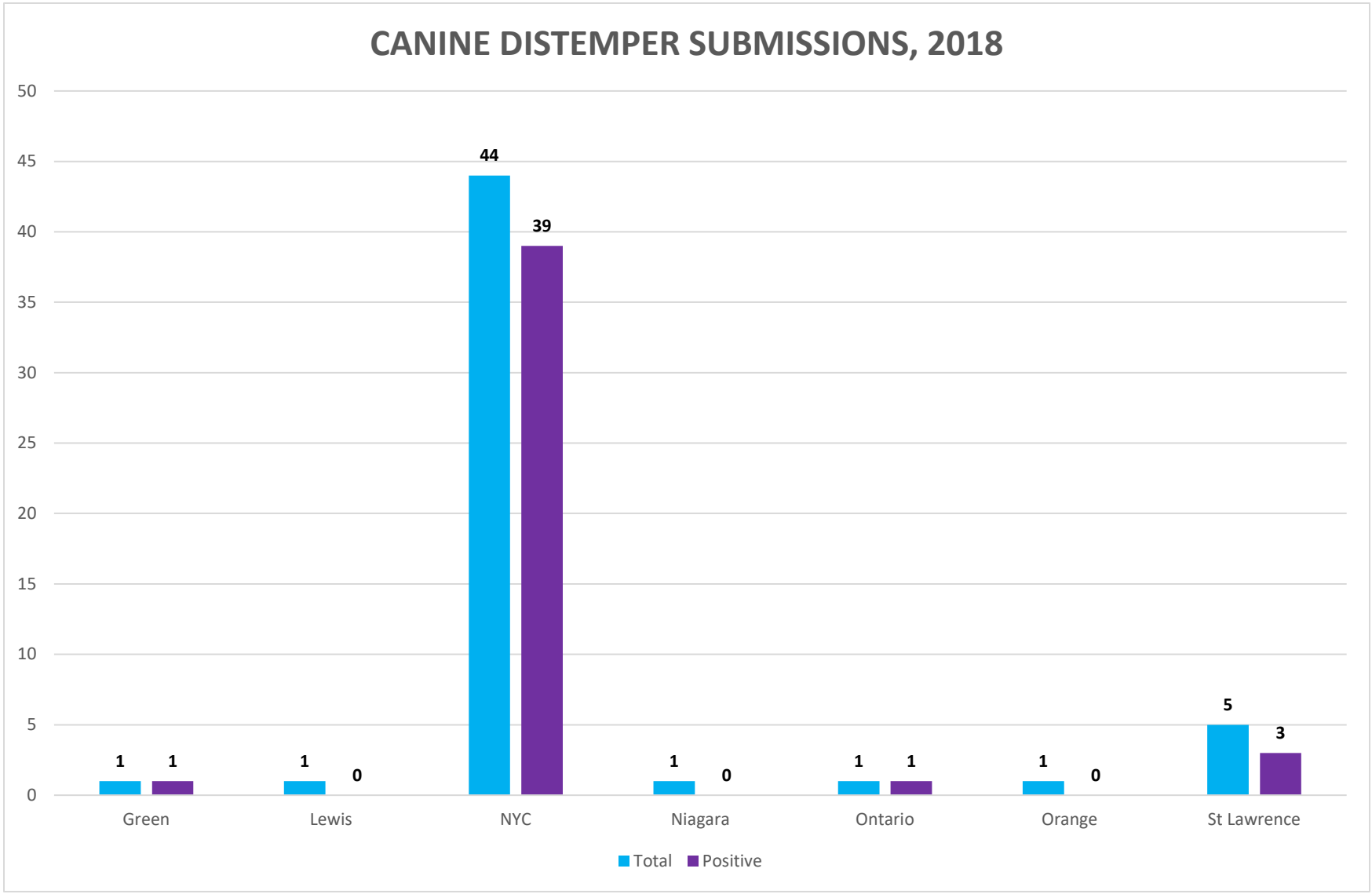
Contact with Cats	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	919	726	359	506	608	305	419	646	400	424	411	410
Positive	26	14	7	11	20	6	19	16	8	8	13	13
Negative	839	665	341	450	548	274	368	596	370	400	375	386
Unsatisfactory	54	46	11	45	40	24	32	34	18	17	23	11

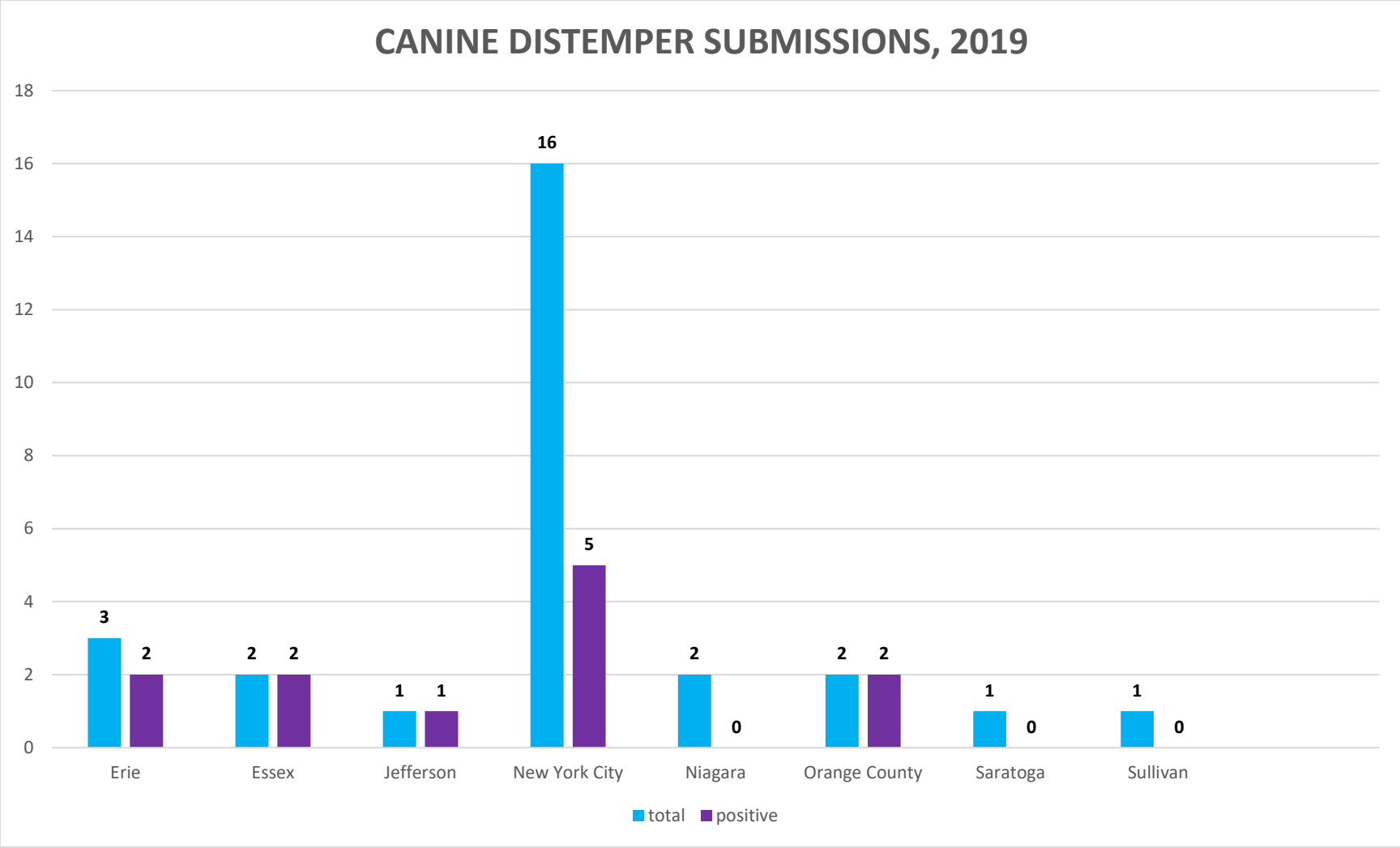
Contact with Dogs	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	417	339	169	201	451	221	271	349	143	189	224	158
Positive	14	14	4	10	22	8	18	13	13	15	15	9
Negative	364	303	149	177	40	196	230	307	117	166	194	135
Unsatisfactory	39	22	16	14	26	16	23	29	13	11	15	14

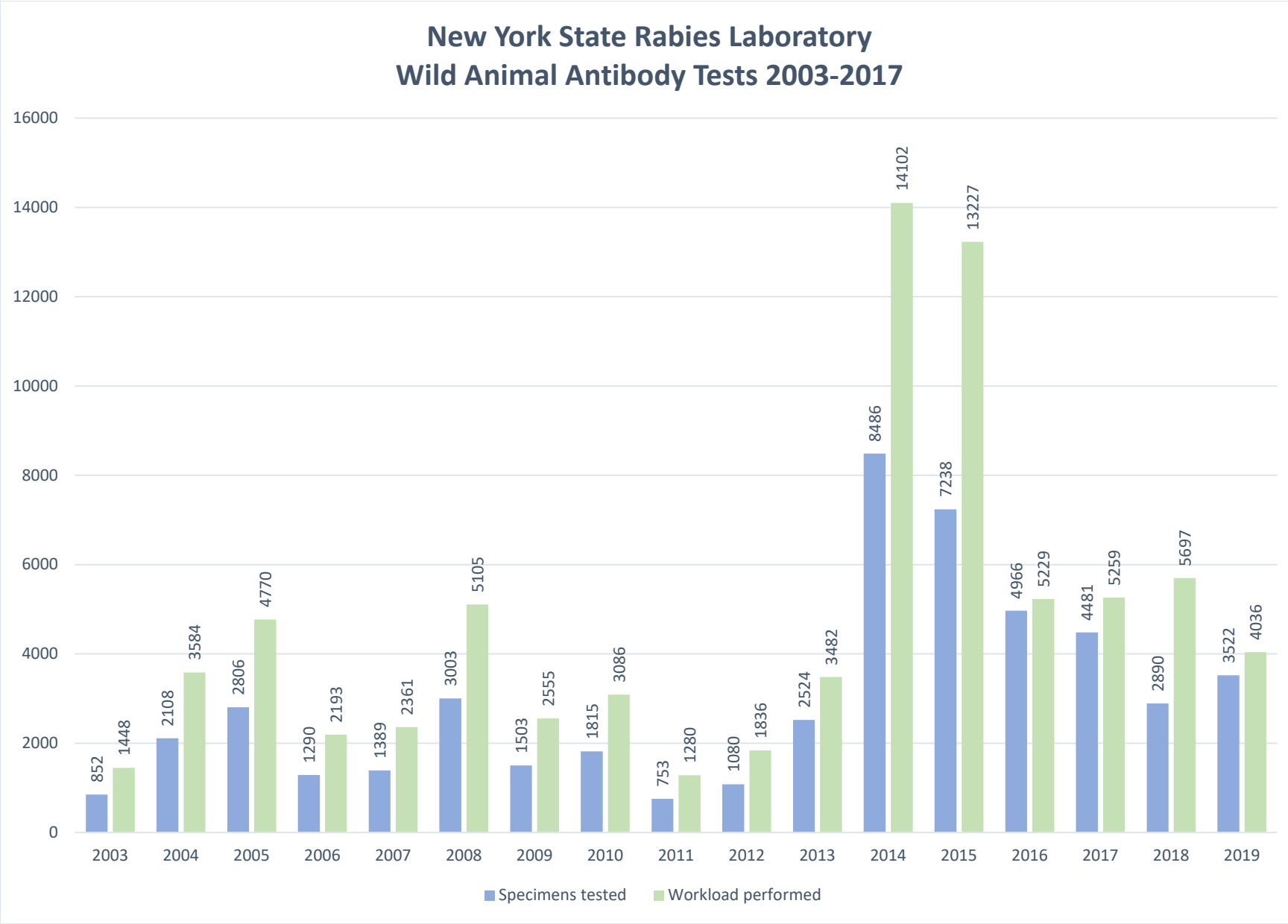
Bat in the bedroom	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	Previously not counted						1971	1674	1639	1757	1891	1627
Positive							54	55	37	36	66	42
Negative							1857	1534	1516	1651	1731	1481
Unsatisfactory							30	84	86	70	94	104

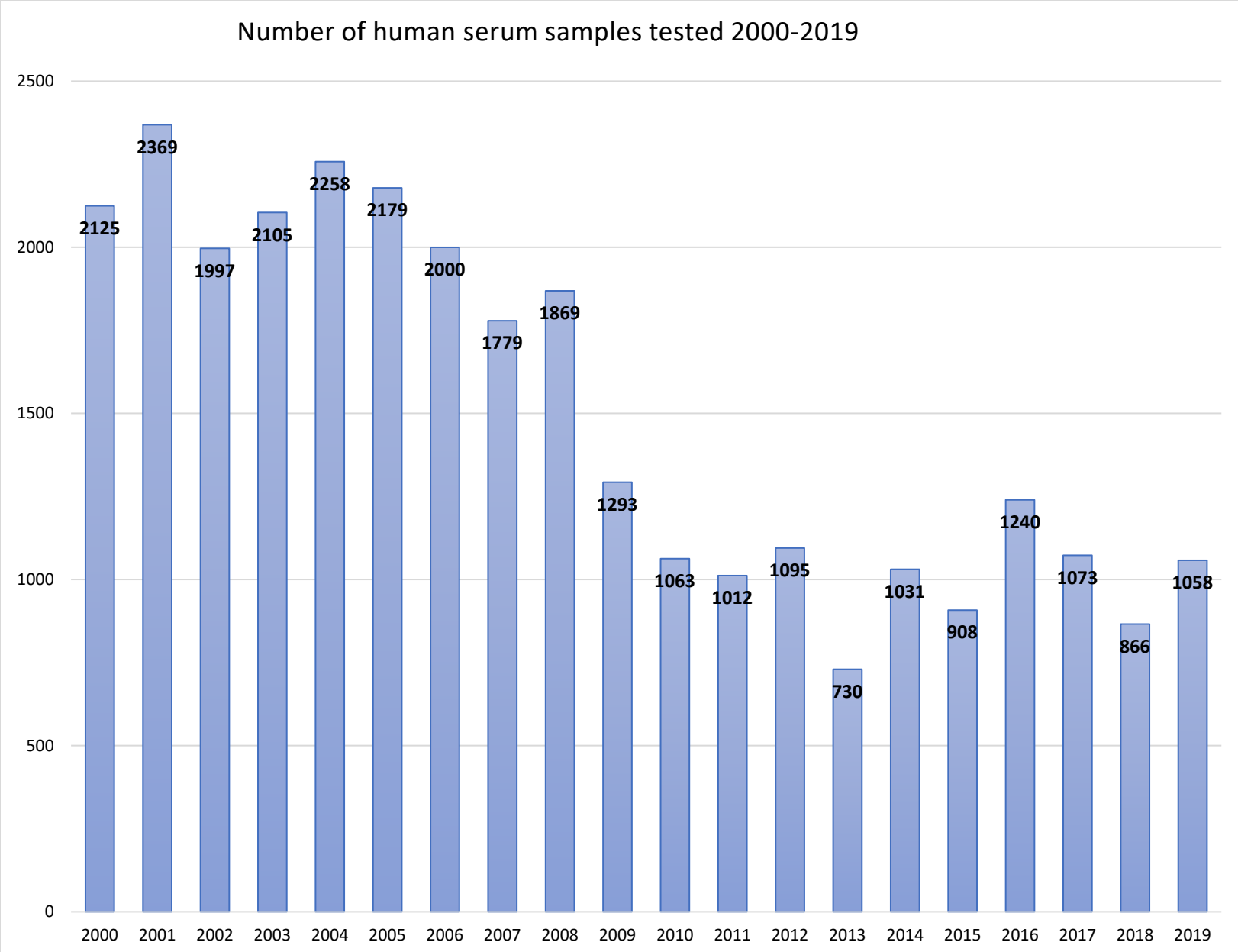
1991-2019 *EPTESICUS* AND *MYOTIS SPP*. BATS SUBMITED TO THE NEW YORK STATE RABIES LABORTORY



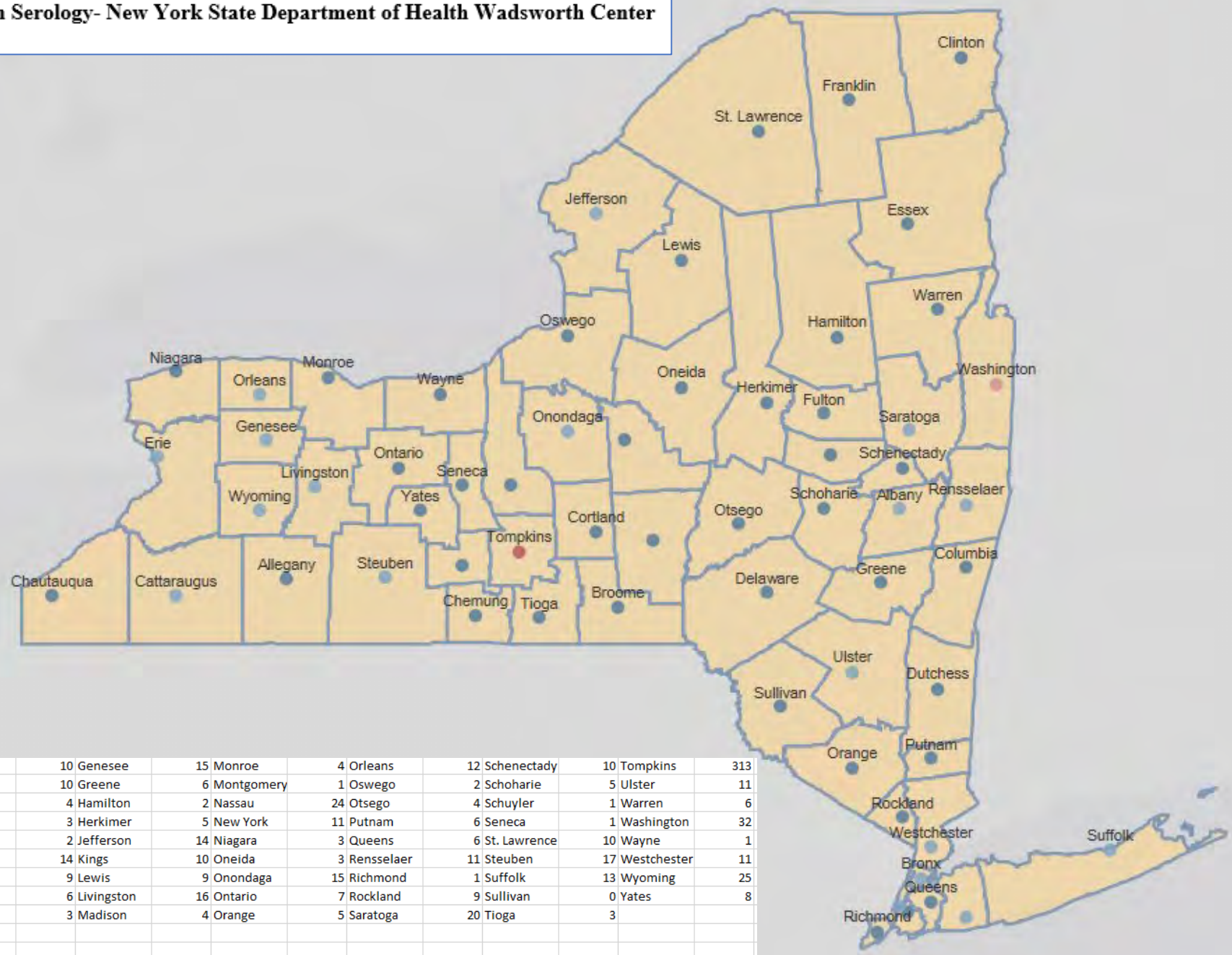

CANINE DISTEMPER SUBMISSIONS, 2018
50
45
40
35
30
25
20
15
10
5
0
1
1
1
0
44
39
1
0
1
1
1
0
5
3
Green
Lewis
NYC
Niagara
Ontario
Orange
St Lawrence
Total
Positive


CANINE DISTEMPER SUBMISSIONS, 2019
18
16
14
12
10
8
6
4
2
0
3
2
2
2
1
1
16
5
2
0
2
2
1
0
1
0
Erie
Essex
Jefferson
New York City
Niagara
Orange County
Saratoga
Sullivan
total
positive


New York State Rabies Laboratory
Wild Animal Antibody Tests 2003-2017
16000
14000
12000
10000
8000
6000
4000
2000
0
852
1448
2108
3584
2806
4770
1290
2193
1389
2361
3003
5105
1503
2555
1815
3086
753
1280
1080
1836
2524
3482
8486
14102
7238
13227
4966
5229
4481
5259
2890
5697
3522
4036
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Specimens tested
Workload performed


Number of human serum samples tested 2000-2019
2500
2000
1500
1000
500
0
2125
2369
1997
2105
2258
2179
2000
1779
1869
1293
1063
1012
1095
730
1031
908
1240
1073
866
1058
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019

2018 Rabies Human Serology- New York State Department of Health Wadsworth Center

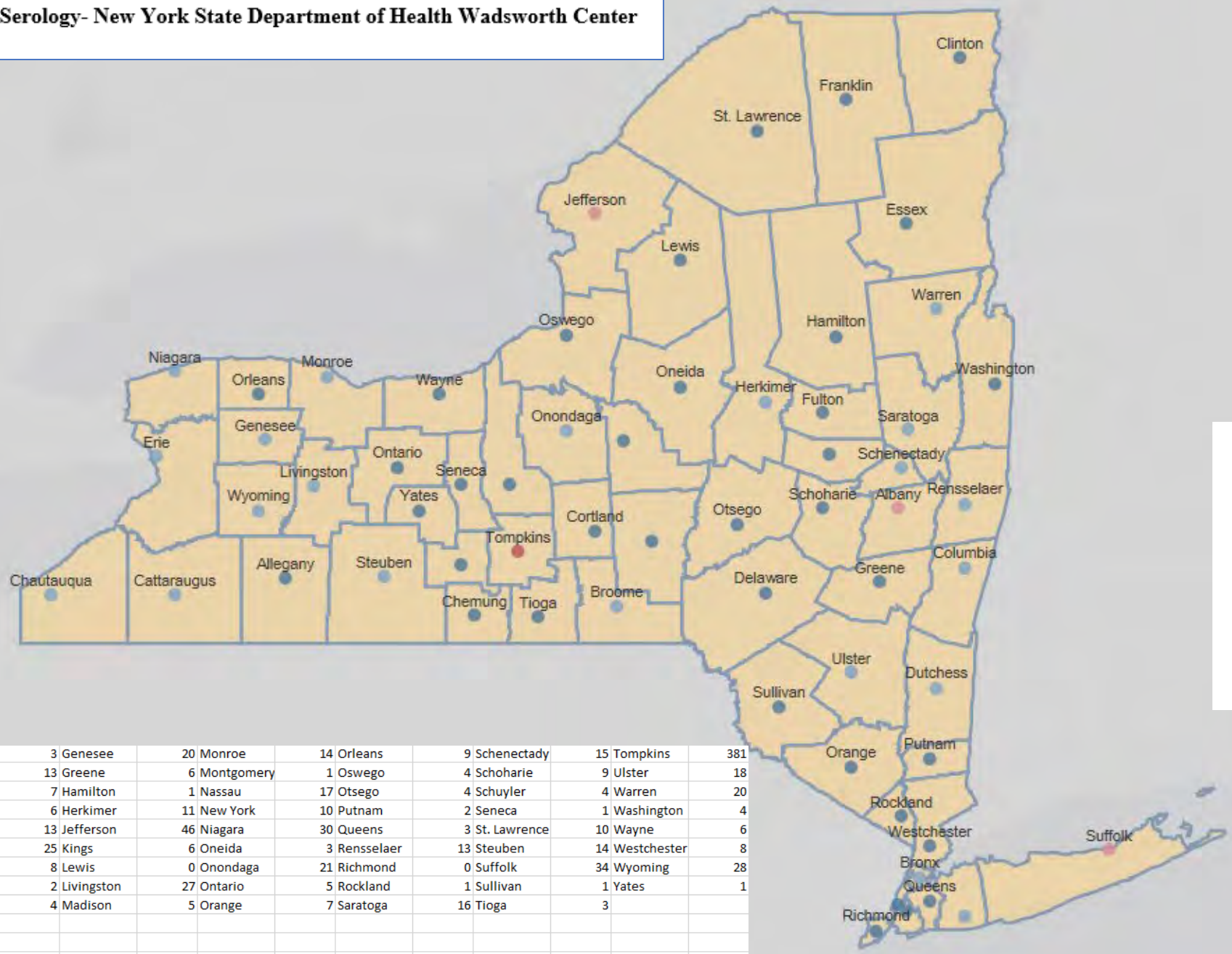


Serology Number

- > 60 - 312
- > 30 - 60
- > 11 - 30
- 0 - 11

Albany	28	Clinton	10	Genesee	15	Monroe	4	Orleans	12	Schenectady	10	Tompkins	313
Allegany	4	Columbia	10	Greene	6	Montgomery	1	Oswego	2	Schoharie	5	Ulster	11
Bronx	13	Cortland	4	Hamilton	2	Nassau	24	Otsego	4	Schuyler	1	Warren	6
Broome	4	Delaware	3	Herkimer	5	New York	11	Putnam	6	Seneca	1	Washington	32
Cattaraugus	20	Dutchess	2	Jefferson	14	Niagara	3	Queens	6	St. Lawrence	10	Wayne	1
Cayuga	3	Erie	14	Kings	10	Oneida	3	Rensselaer	11	Steuben	17	Westchester	11
Chautauqua	2	Essex	9	Lewis	9	Onondaga	15	Richmond	1	Suffolk	13	Wyoming	25
Chemung	6	Franklin	6	Livingston	16	Ontario	7	Rockland	9	Sullivan	0	Yates	8
Chenango	1	Fulton	3	Madison	4	Orange	5	Saratoga	20	Tioga	3		
Not represented on map													
Out of State	15												

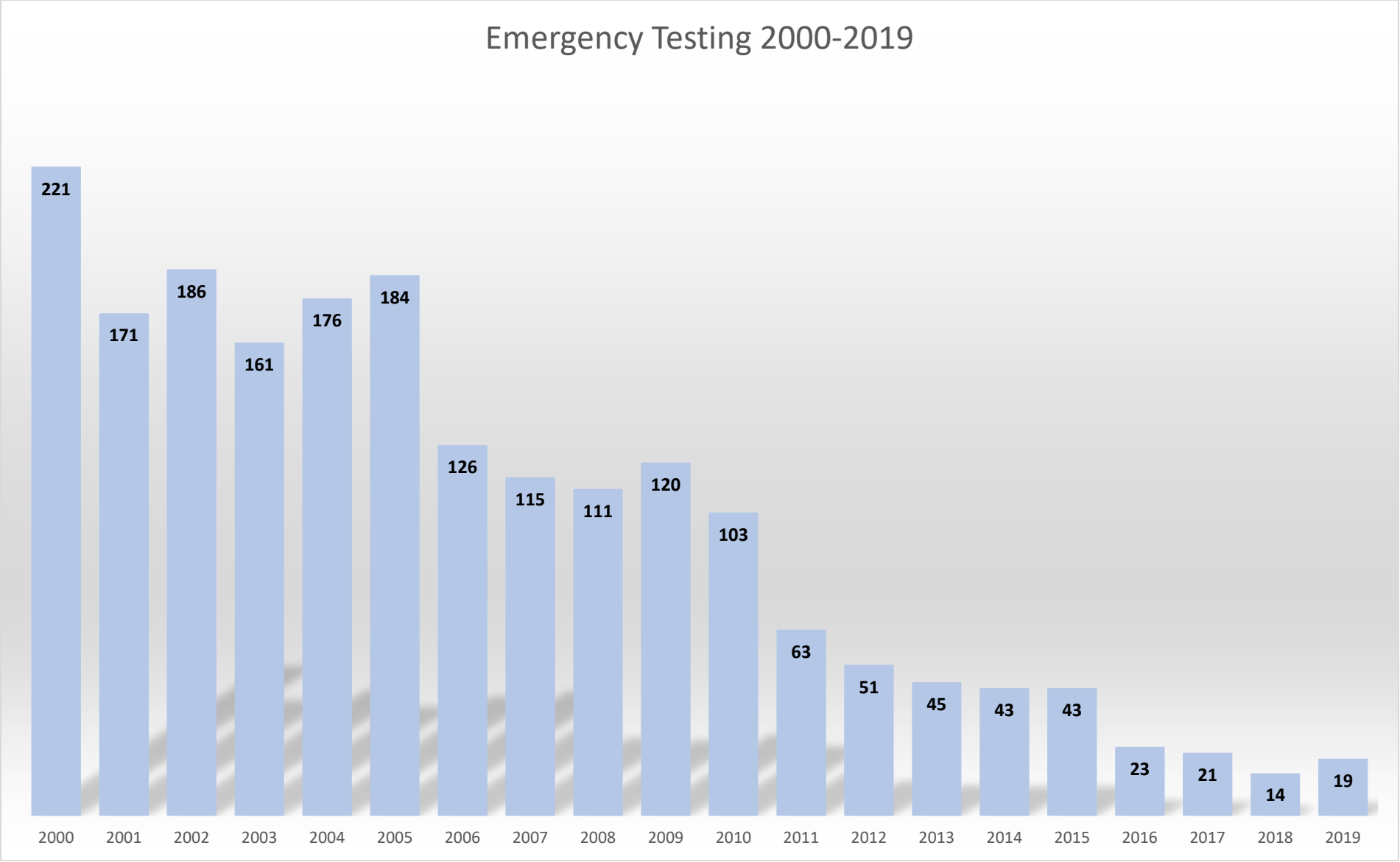
2019 Rabies Human Serology- New York State Department of Health Wadsworth Center



Serology Number

- > 60 - 381
- > 30 - 60
- > 10 - 30
- 0 - 10

Albany	40	Clinton	3	Genesee	20	Monroe	14	Orleans	9	Schenectady	15	Tompkins	381
Allegany	9	Columbia	13	Greene	6	Montgomery	1	Oswego	4	Schoharie	9	Ulster	18
Bronx	12	Cortland	7	Hamilton	1	Nassau	17	Otsego	4	Schuyler	4	Warren	20
Broome	12	Delaware	6	Herkimer	11	New York	10	Putnam	2	Seneca	1	Washington	4
Cattaraugus	22	Dutchess	13	Jefferson	46	Niagara	30	Queens	3	St. Lawrence	10	Wayne	6
Cayuga	7	Erie	25	Kings	6	Oneida	3	Rensselaer	13	Steuben	14	Westchester	8
Chautauqua	11	Essex	8	Lewis	0	Onondaga	21	Richmond	0	Suffolk	34	Wyoming	28
Chemung	2	Franklin	2	Livingston	27	Ontario	5	Rockland	1	Sullivan	1	Yates	1
Chenango	6	Fulton	4	Madison	5	Orange	7	Saratoga	16	Tioga	3		
Not represented on map													
Out of State	3												
unkown	28												


Emergency Testing 2000-2019
221
171
186
161
176
184
126
115
111
120
103
63
51
45
43
43
23
21
14
19
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019

Summary of NYC Animals Rabies Testing by County and Animal, 2018

January - December 2018; Tested at NYC Public Health Lab (PHL) or NY Wadsworth Center

ANIMAL	BRONX			KINGS (BROOKLYN)			NEW YORK (MANHATTAN)			QUEENS			RICHMOND (STATEN ISLAND)			OUT OF TOWN (tested at PHL)			NYC Total (excludes out of town)		
	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos
BAT	4	0	0.0	8	0	0.0	8	0	0.0	3	0	0.0	1	0	0.0	0	0	0.0	24	0	0.0
CAT	23	1	4.3	34	0	0.0	30	0	0.0	30	0	0.0	20	0	0.0	2	0	0.0	137	1	0.7
DEER	1	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	1	0	0.0	0	0	0.0	2	0	0.0
DOG	7	0	0.0	6	0	0.0	16	0	0.0	8	0	0.0	2	0	0.0	0	0	0.0	39	0	0.0
GROUNDHOG	0	0	0.0	0	0	0.0	0	0	0.0	1	0	0.0	1	0	0.0	0	0	0.0	2	0	0.0
OPOSSUM	4	1	25.0	3	0	0.0	1	0	0.0	7	0	0.0	4	0	0.0	0	0	0.0	19	1	5.3
RACCOON	51	5	9.8	72	0	0.0	94	0	0.0	94	1	1.1	22	4	18.2	0	0	0.0	333	10	3.0
SKUNK	15	2	13.3	0	0	0.0	2	0	0.0	4	0	0.0	2	0	0.0	0	0	0.0	23	2	8.7
OTHER	2	0	0.0	3	0	0.0	13	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	18	0	0.0
TOTAL	**107**	**9**	**8.4**	**126**	**0**	**0.0**	**164**	**0**	**0.0**	**147**	**1**	**0.7**	**53**	**4**	**7.5**	**2**	**0**	**0.0**	**597**	**14**	**2.3**

Notes:

From Jan-Dec 2018, 14 animals tested rabies-positive:12 at PHL (4 Staten Island and 1 Queens raccoon; 5 raccoons, 1 cat, and 1 opossum from the Bronx) + 2 at Wadsworth (2 skunks from the Bronx).

Other includes 1 chipmunk, 1 gopher, 2 mice, 7 rats, 7 squirrels. 1 opossum and 3 raccoons were unable to be tested.

Summary of NYC Animals Rabies Testing by County and Animal, 2019

January - December 2019; Tested at NYC Public Health Lab (PHL) or NY Wadsworth Center

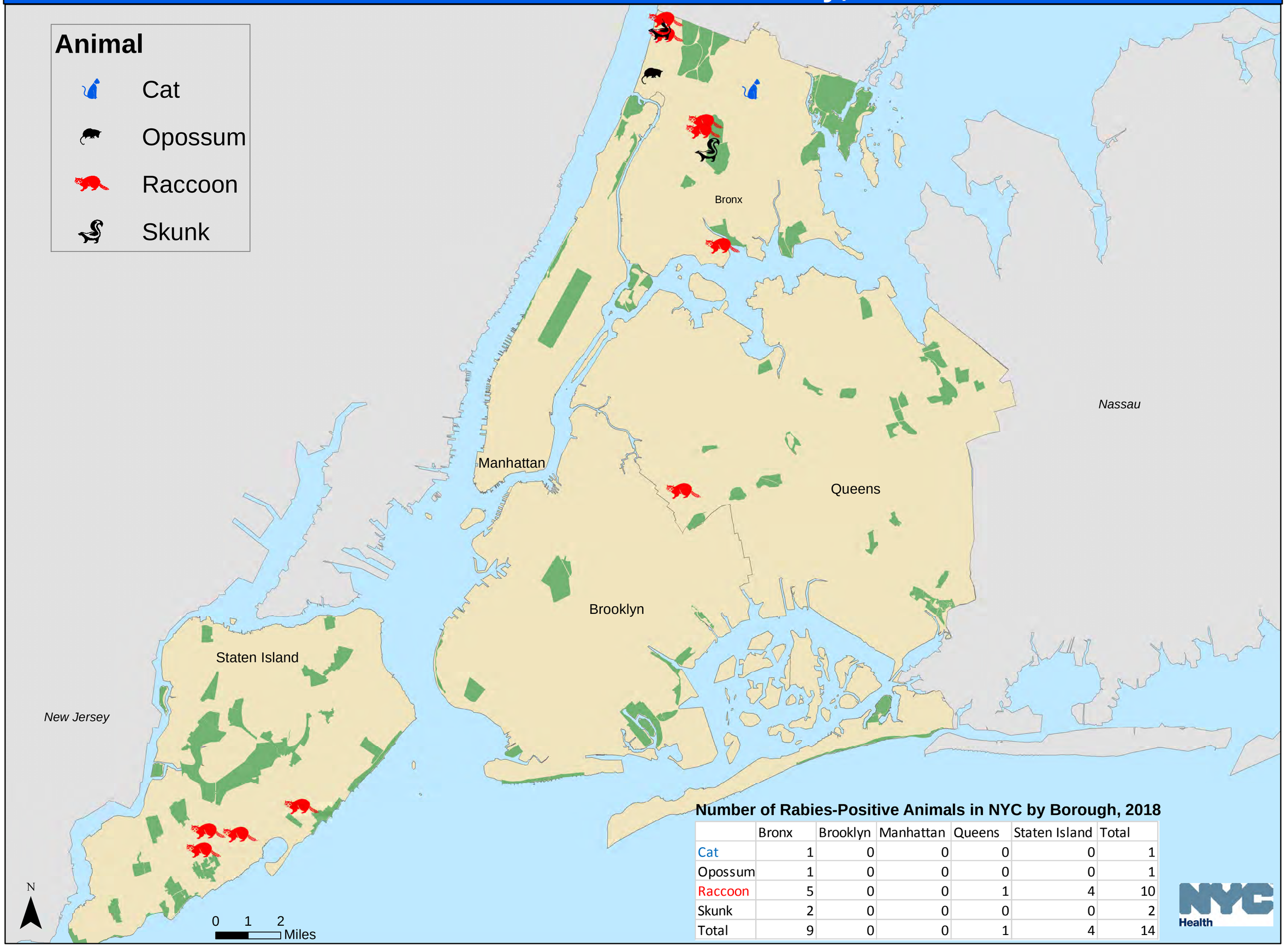
ANIMAL	BRONX			KINGS (BROOKLYN)			NEW YORK (MANHATTAN)			QUEENS			RICHMOND (STATEN ISLAND)			OUT OF TOWN (tested at PHL)			NYC Total (excludes out of town)		
	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos
BAT	5	0	0.0	9	0	0.0	15	1	6.7	7	0	0.0	2	0	0.0	4	0	0.0	38	1	2.6
CAT	20	1	5.0	30	0	0.0	39	0	0.0	29	0	0.0	22	0	0.0	1	0	0.0	140	1	0.7
DOG	10	0	0.0	6	0	0.0	13	0	0.0	12	0	0.0	2	0	0.0	0	0	0.0	43	0	0.0
GROUNDHOG	0	0	0.0	0	0	0.0	1	0	0.0	0	0	0.0	4	0	0.0	0	0	0.0	5	0	0.0
OPOSSUM	2	0	0.0	7	0	0.0	1	0	0.0	10	0	0.0	3	0	0.0	0	0	0.0	23	0	0.0
RACCOON	31	2	6.5	110	0	0.0	43	9	20.9	164	0	0.0	76	10	13.2	0	0	0.0	424	21	5.0
SKUNK	9	0	0.0	0	0	0.0	5	1	20.0	9	0	0.0	2	0	0.0	0	0	0.0	25	1	4.0
OTHER	6	0	0.0	5	0	0.0	5	0	0.0	2	0	0.0	1	0	0.0	0	0	0.0	19	0	0.0
TOTAL	**83**	**3**	**3.6**	**167**	**0**	**0.0**	**122**	**11**	**9.0**	**233**	**0**	**0.0**	**112**	**10**	**8.9**	**5**	**0**	**0.0**	**717**	**24**	**3.3**
BAT	5	0	0.0	9	0	0.0	15	1	6.7	7	0	0.0	2	0	0.0	4	0	0.0	38	1	2.6

Notes:

In 2019, 24 animals tested rabies-positive at PHL: 1 cat and 2 raccoons from the Bronx; 1 bat, 9 raccoons and 1 skunk (raccoon variant) from Manhattan; and 10 racoons from Staten Island.

Other includes 1 ferret, 3 mice, 1 rabbit, 1 rat and 13 squirrels. 1 opossum and 3 raccoons were unable to be tested.

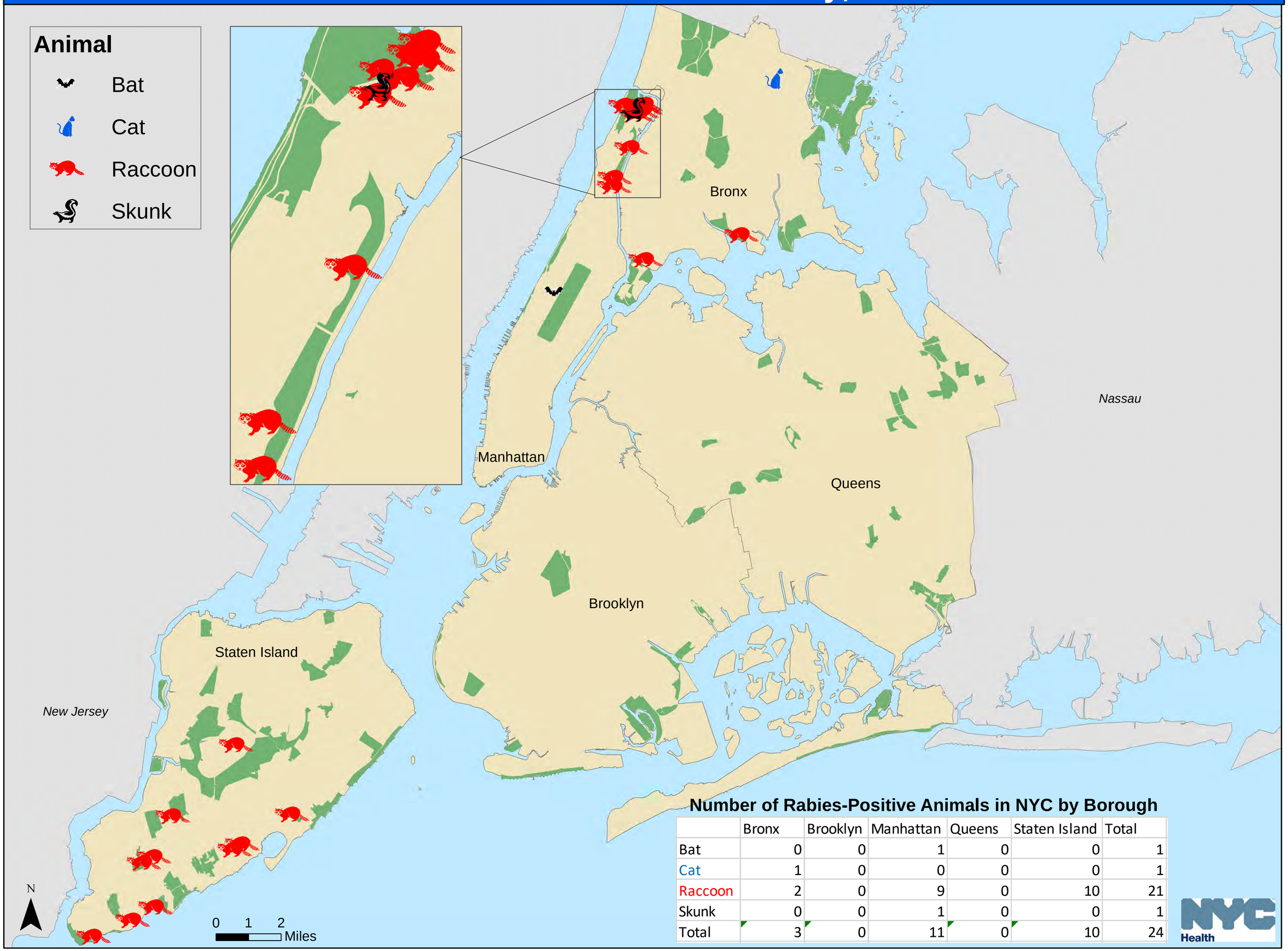
Animal Rabies in New York City, 2018



Number of Rabies-Positive Animals in NYC by Borough, 2018

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total
Cat	1	0	0	0	0	1
Opossum	1	0	0	0	0	1
Raccoon	5	0	0	1	4	10
Skunk	2	0	0	0	0	2
Total	9	0	0	1	4	14

Animal Rabies in New York City, 2019



Number of Rabies-Positive Animals in NYC by Borough

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total
Bat	0	0	1	0	0	1
Cat	1	0	0	0	0	1
Raccoon	2	0	9	0	10	21
Skunk	0	0	1	0	0	1
Total	3	0	11	0	10	24

NYC Animal Rabies Testing Compared to Previous Years by County

Jan-Dec 2015-2019; Tested at NYC Public Health Lab (PHL) or NY Wadsworth Center

COUNTY	2015			2016			2017			2018			2019		
	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos
BRONX	62	1	1.6	54	2	3.7	94	18	19.1	107	9	8.4	83	3	3.6
BROOKLYN	108	1	0.9	65	1	1.5	46	0	0.0	126	0	0.0	167	0	0.0
MANHATTAN	83	0	0.0	59	0	0.0	77	0	0.0	164	0	0.0	122	11	9.0
QUEENS	322	0	0.0	76	1	1.3	51	0	0.0	147	1	0.7	233	0	0.0
STATEN ISLAND	34	4	11.8	32	1	3.1	25	0	0.0	53	4	7.5	112	10	8.9
Total	**609**	**6**	**1.0**	**286**	**5**	**1.7**	**293**	**18**	6.1	**597**	**14**	**2.3**	**717**	**24**	**3.3**

NYC Animal Rabies Testing Compared to Previous Years by Animal

Jan-Dec 2015-2019; Tested at PHL or Wadsworth

ANIMAL	2015			2016			2017			2018			2019		
	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos	# tested	# pos	% pos
BAT	42	2	4.8	19	1	5.3	18	0	0.0	24	0	0.0	38	1	2.6
CAT	79	0	0.0	82	0	0.0	78	2	2.6	137	1	0.7	140	1	0.7
DOG	33	0	0.0	33	0	0.0	37	0	0.0	39	0	0.0	43	0	0.0
GROUNDHOG	1	0	0.0	4	0	0.0	0	0	0.0	2	0	0.0	5	0	0.0
OPOSSUM	24	0	0.0	7	0	0.0	4	0	0.0	19	1	5.3	23	0	0.0
RACCOON	405	4	1.0	120	4	3.3	104	12	11.5	333	10	3.0	424	21	5.0
SKUNK	15	0	0.0	4	0	0.0	22	4	18.2	23	2	8.7	25	1	4.0
OTHER	10	0	0.0	17	0	0.0	30	0	0.0	20	0	0.0	19	0	0.0
Total	**609**	**6**	**1.0**	**286**	**5**	**1.7**	**293**	**18**	**6.1**	**597**	**14**	**2.3**	**717**	**24**	**3.3**