



2024 NEBRASKA TICKBORNE DISEASE REPORT

NEBRASKA DEPARTMENT OF HEALTH AND
HUMAN SERVICES (NDHHS)

VECTOR-BORNE DISEASE PROGRAM

****All Data is Provisional****



TABLE OF CONTENTS

- Summary
- [Nebraska Human Tickborne Disease Surveillance](#)
- [Nebraska Tick Bite Data Tracker](#)
- [Nebraska Active Tick Surveillance Program](#)
- [Resources](#)

Summary

- Tickborne Disease Cases
 - 58 tickborne disease cases were reported in 2024.
 - 36 of the cases were hospitalized.
- Active Tick Surveillance
 - >5,100 total ticks were collected in 2024.
 - >50 sites were sampled.
 - 5 species identified.

Credit: NDHHS Vector-Borne Disease Program, Blacklegged tick (*Ixodes scapularis*) nymph



NEBRASKA HUMAN TICKBORNE DISEASE SURVEILLANCE

Credit: CDC, NCEZID-DVBD

Human Tickborne Disease Surveillance

Nebraska Tickborne Disease Cases, 2023 & 2024

Condition	2024	2023
Anaplasmosis	0	0
Babesiosis	0	0
Ehrlichiosis	17	14
Lyme Disease	6	*
Spotted Fever Group Rickettsioses	8	*
Tularemia	27	11

- Statewide number of tickborne disease cases reported to the Nebraska Department of Health and Human Services (NDHHS)
 - All data is preliminary and subject to change as more information is gathered.
 - Reported cases only include lab confirmed and probable cases meeting [CSTE/CDC case definition](#).
 - Spotted fever group rickettsioses includes Rocky Mountain Spotted Fever (RMSF).

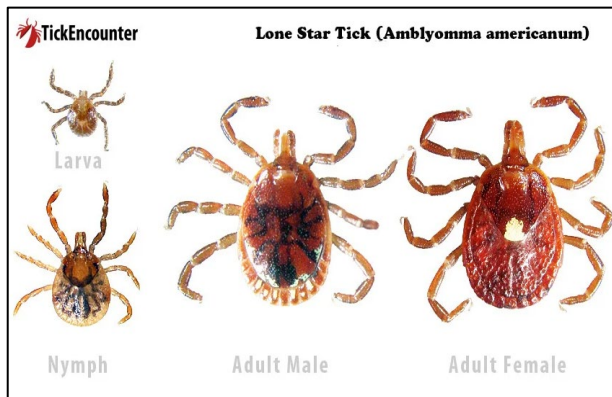
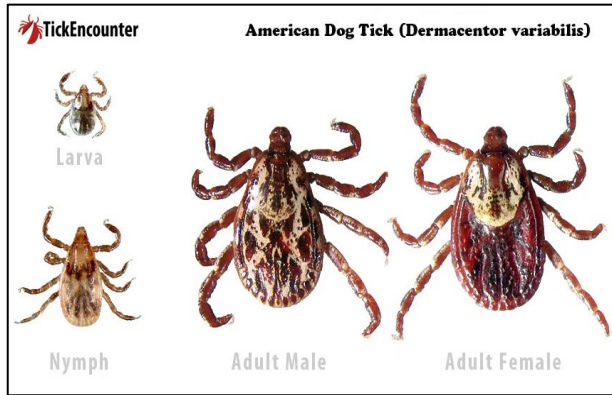
*Data suppressed due to low numbers (1 – 5 cases).



NEBRASKA TICK BITE DATA TRACKER

Credit: NDHHS Vector-Borne Disease Program, Top Row- male (left) and female (right) Gulf Coast ticks (*Amblyomma maculatum*), Bottom Row – male (left) and female (right) American dog ticks (*Dermacentor variabilis*)

Tick Bite Data Tracker

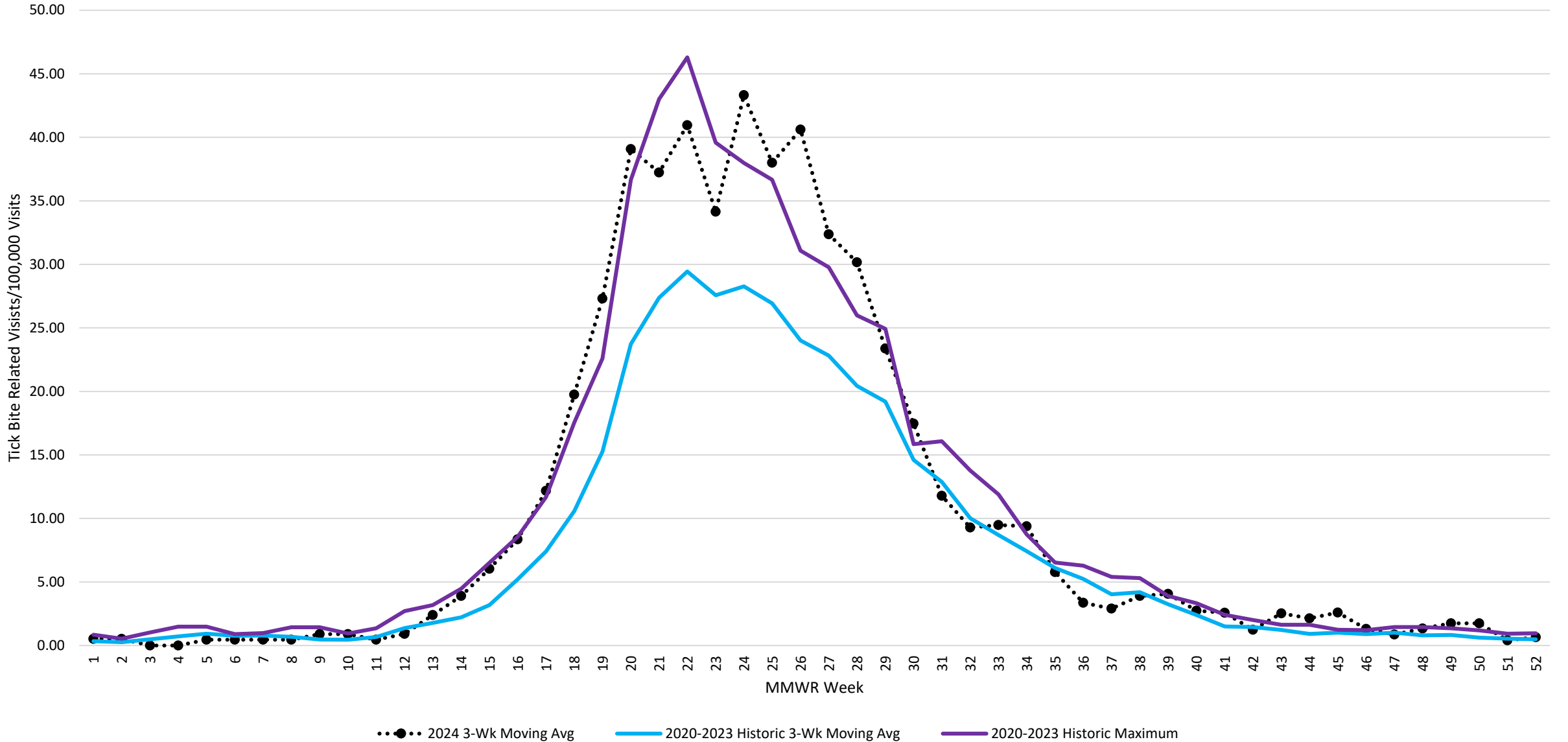


- NDHHS utilizes syndromic surveillance data (ESSENCE) as an indicator for tick activity and tick bite risk.
 - Data comes from emergency departments and outpatient clinic visits.
 - Visits related to tick bites are detected via a query containing various spellings of the word “tick” or combination of “tick” and “bite”.
 - Not all emergency departments and outpatient clinics report data to the NDHHS ESSENCE system and therefore results might not be generalizable to facilities not contributing data.
- In 2024, visits for tick bites were highest from early May to late June and began decreasing in early July. This trend is consistent with the 3-year historic average.
- There were 8 weeks in 2024 when the average number of visits was greater than the historic maximum (see figure on next slide).

Images: Tick Encounter,
<https://web.uri.edu/tickencounter/>

Tick Bite Data Tracker

Emergency Department (ED) & Outpatient Clinic Visits for Tick Bites by Week, Nebraska 2024





NEBRASKA ACTIVE TICK SURVEILLANCE PROGRAM

Credit: NDHHS Vector-Borne Disease Program, active tick surveillance using tick flagging method

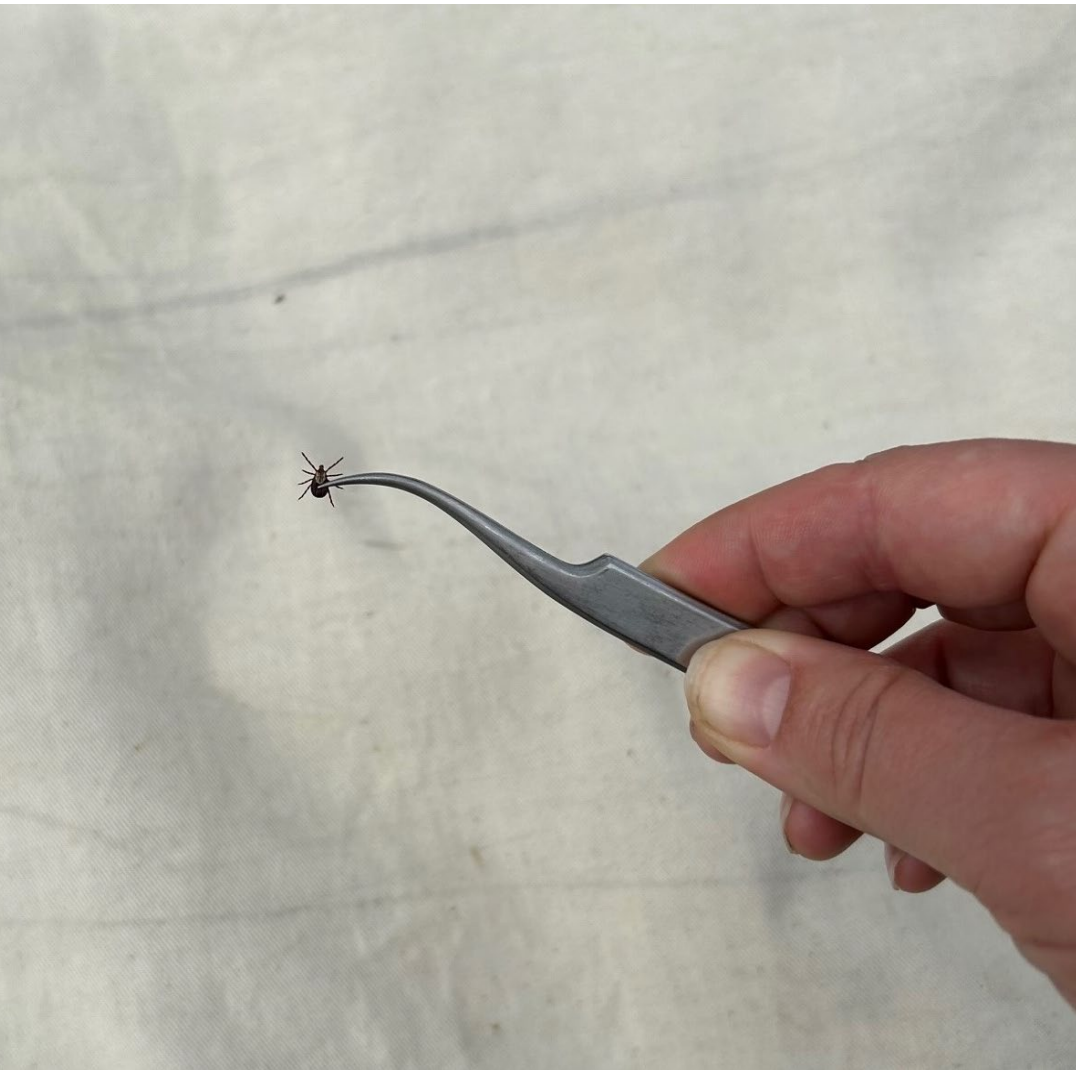
Active Tick Surveillance



- NDHHS provided funding and partnered with 18 of the 19 local health departments and 1 tribal health department to conduct active tick surveillance across the state in 2024
- NDHHS conducted active tick surveillance at sites in the other local health jurisdiction.
- Goals of active surveillance:
 - Classify county status of different tick species in Nebraska
 - Determine presence and prevalence of tickborne pathogens at the county level
 - Data used to provide evidence-based information to stakeholders on where and when people are at risk for exposure to ticks and tickborne pathogens
 - Help explain epidemiological trends of tickborne diseases

Credit: NDHHS Vector-Borne Disease Program, collecting ticks off the tick flag

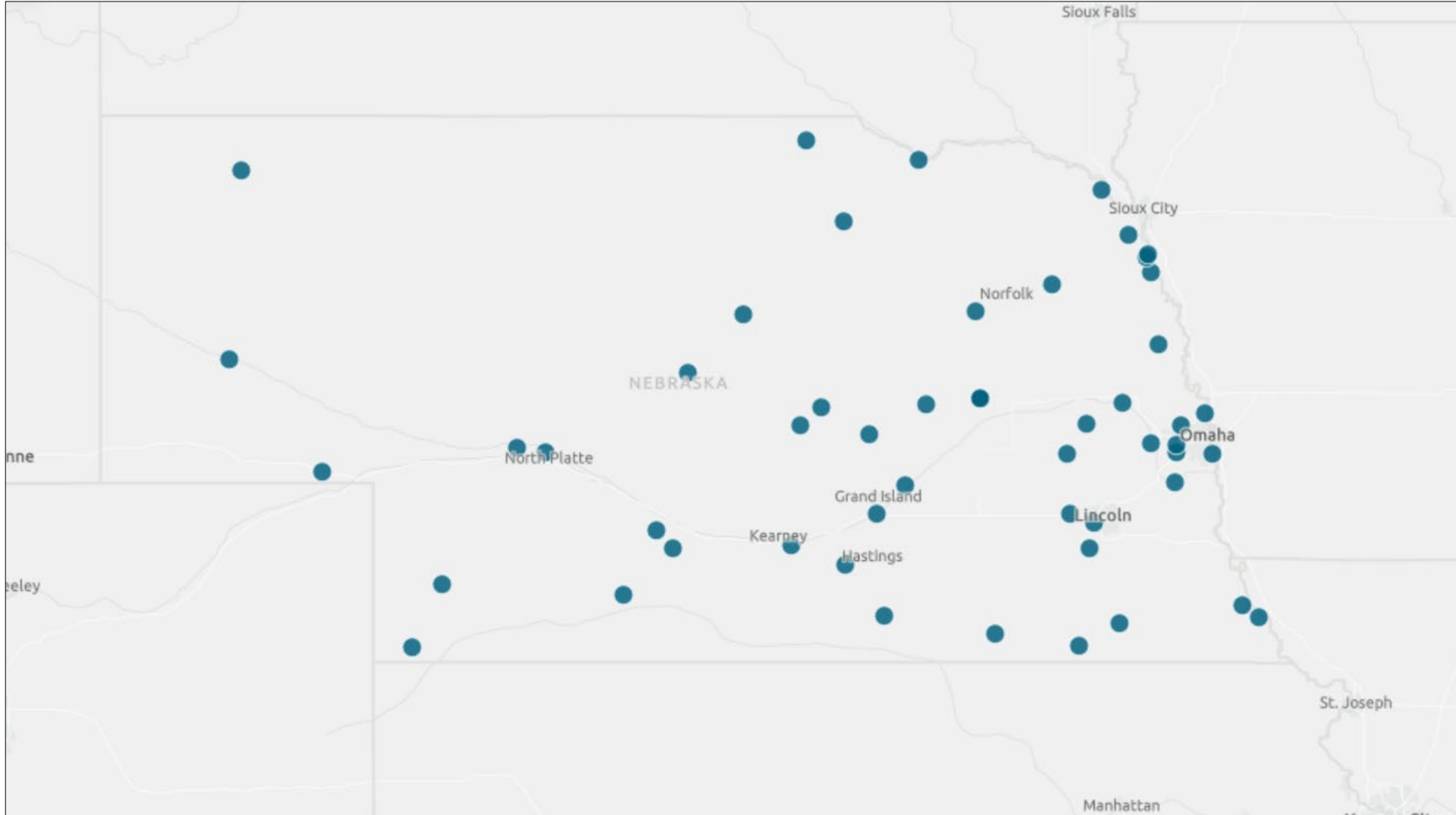
Active Tick Surveillance Results



- 42 counties surveyed
 - 51 sites, 94 total site visits
 - 130,338.5 m² surveyed
 - 5,156 total ticks collected
 - Collection Methods: Tick Flagging & CO2 Traps
 - 5 species were identified during 2024 surveys:
 - Lone star tick (*Amblyomma americanum*)*
 - American dog tick (*Dermacentor variabilis*)*
 - Blacklegged or deer tick (*Ixodes scapularis*)*
 - “Other” rabbit tick (*Ixodes dentatus*)
 - Winter tick (*Dermacentor albipictus*)
- *Medically important ticks that can transmit pathogens to people

Credit: NDHHS Vector-Borne Disease Program,
female American dog tick collected off tick drag

2024 Active Tick Survey Sites



2024 Collected Ticks

Collected Ticks by Sex, 2024			
Species	Female Count	Male Count	Undetermined*
Lone star tick (<i>Amblyomma americanum</i>)	792	694	3358
American dog tick (<i>Dermacentor variabilis</i>)	899	861	1
Winter tick (<i>Dermacentor albipictus</i>)	0	1	0
"Other" rabbit tick (<i>Ixodes dentatus</i>)	0	0	4
Blacklegged or deer tick (<i>Ixodes scapularis</i>)	16	17	1
Total	1707	1573	3364

*Sex was not determined for nymphal or larval ticks

2024 Collected Ticks

Tick Species Counts by Life Stage, 2024				
Life Stage				
Species	Adult	Nymph	Larvae	Total
Lone star tick (<i>Amblyomma americanum</i>)	1486	1220	2138	4844
American dog tick (<i>Dermacentor variabilis</i>)	1760	1	0	1761
Winter tick (<i>Dermacentor albipictus</i>)	1	0	0	1
Rabbit tick (<i>Haemaphysalis leporispalustris</i>)	0	0	0	0
"Other" rabbit tick (<i>Ixodes dentatus</i>)	0	4	0	4
Blacklegged or deer tick (<i>Ixodes scapularis</i>)	33	1	0	34
Total	3280	1226	2138	5156

Nebraska Tick Surveillance Maps

NEBRASKA
Good Life. Great Mission.
DEPT. OF HEALTH AND HUMAN SERVICES

Nebraska Tick Surveillance

American Dog Tick | Blacklegged Tick | Gulf Coast Tick | Lone Star Tick | About the Program

Distribution | Ehrlichiosis | Rocky Mountain Spotted Fever | Spotted Fever Group Rickettsiosis | Tularemia

American Dog Tick
(*Dermacentor variabilis*)

Distribution: The American dog tick is widely distributed east of the Rocky Mountains. Active tick surveillance began in 2021 and is ongoing. This map will be updated with additional data as it becomes available.

Pathogen Transmission: American dog ticks can transmit Rocky Mountain spotted fever, other spotted fever group rickettsia, tularemia, and potentially ehrlichiosis.

Activity Summary: The highest risk of being bitten occurs during spring and summer. Adult females are most likely to bite humans.

Distribution Status: CDC criteria for "established" ticks are at least six ticks or two life stages (larvae, nymphs, adults) collected in a single year. Criteria for "reported" ticks are one to five ticks of the same life stage have been identified.

American Dog Tick Surveillance
County Name: Lancaster
Tick Population Status: Established

CDC criteria for "established" ticks are at least six ticks or two life stages (larvae, nymphs, adults) collected in a single year. Criteria for "reported" ticks are one to five ticks of the same life stage have been identified.

American Dog Tick
Established
Reported
No Known Populations
Not Sampled

© 2024 Nebraska Department of Health and Human Services
301 Centennial Mall South
Lincoln, Nebraska 68509
(402) 471-3121
TDD (800) 833-7352
Contact Us

Visit the link below to view current and historical tick surveillance data.

Data is updated yearly at the end of each surveillance season.

<https://dhhs.ne.gov/TickMaps>

2024 EPI WEEK CALENDAR

Months shown in **RED** are potential "Vector" months

JANUARY							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1		1	2	3	4	5	6
2	7	8	9	10	11	12	13
3	14	15	16	17	18	19	20
4	21	22	23	24	25	26	27
5	28	29	30	31			

FEBRUARY							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
5					1	2	3
6	4	5	6	7	8	9	10
7	11	12	13	14	15	16	17
8	18	19	20	21	22	23	24
9	25	26	27	28	29		

MARCH							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
9						1	2
10	3	4	5	6	7	8	9
11	10	11	12	13	14	15	16
12	17	18	19	20	21	22	23
13	24	25	26	27	28	29	30
14	31						

APRIL							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
14		1	2	3	4	5	6
15	7	8	9	10	11	12	13
16	14	15	16	17	18	19	20
17	21	22	23	24	25	26	27
18	28	29	30				

MAY							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
18			1	2	3	4	
19	5	6	7	8	9	10	11
20	12	13	14	15	16	17	18
21	19	20	21	22	23	24	25
22	26	27	28	29	30	31	

JUNE							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
22							1
23	2	3	4	5	6	7	8
24	9	10	11	12	13	14	15
25	16	17	18	19	20	21	22
26	23	24	25	26	27	28	29
27	30						

JULY							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
27		1	2	3	4	5	6
28	7	8	9	10	11	12	13
29	14	15	16	17	18	19	20
30	21	22	23	24	25	26	27
31	28	29	30	31			

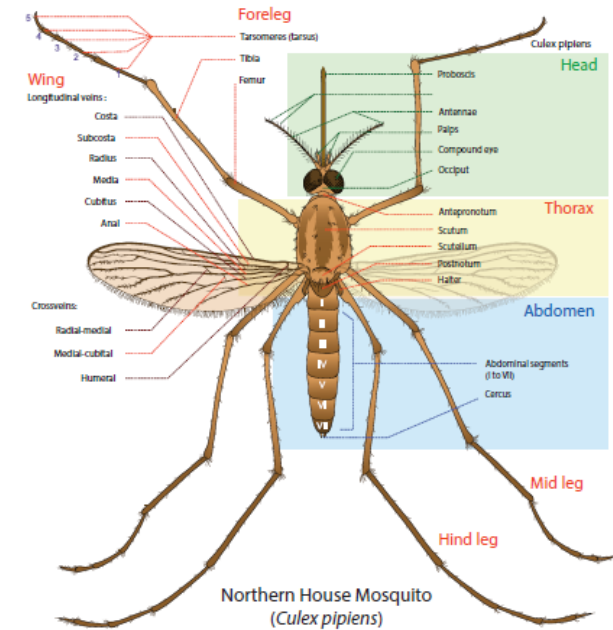
AUGUST							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
31					1	2	3
32	4	5	6	7	8	9	10
33	11	12	13	14	15	16	17
34	18	19	20	21	22	23	24
35	25	26	27	28	29	30	31

SEPTEMBER							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
36	1	2	3	4	5	6	7
37	8	9	10	11	12	13	14
38	15	16	17	18	19	20	21
39	22	23	24	25	26	27	28
40	29	30					


OCTOBER							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
40			1	2	3	4	5
41	6	7	8	9	10	11	12
42	13	14	15	16	17	18	19
43	20	21	22	23	24	25	26
44	27	28	29	30	31		

NOVEMBER							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
44						1	2
45	3	4	5	6	7	8	9
46	10	11	12	13	14	15	16
47	17	18	19	20	21	22	23
48	24	25	26	27	28	29	30

DECEMBER							
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
49	1	2	3	4	5	6	7
50	8	9	10	11	12	13	14
51	15	16	17	18	19	20	21
52	22	23	24	25	26	27	28
1	29	30	31				



Credit: Central Massachusetts Mosquito Control Project: <https://www.cmmcp.org/>



**PREVENT
TICK
BITES!**

- **WEAR REPELLENT**
- **CHECK FOR TICKS DAILY**
- **SHOWER SOON AFTER
BEING OUTDOORS**
- **CALL YOUR DOCTOR IF YOU
GET A FEVER OR RASH**

Resources

- Nebraska Department of Health and Human Services Tick-Borne Diseases Page:
<https://dhhs.ne.gov/Pages/Tick-Borne-Diseases.aspx>
- University of Nebraska – Lincoln Tick Tag Go:
<https://ticktaggo.unl.edu/>
- CDC Tick Webpage: <https://www.cdc.gov/ticks/index.html>
- CDC Tick Bite Data Tracker:
<https://www.cdc.gov/ticks/tickedvisits/index.html>