2025 NEBRASKA MOSQUITO-BORNE SURVEILLANCE REPORT

NEBRASKA DEPARTMENT OF HEALTH AND HUMAN SERVICES

VECTOR-BORNE DISEASE PROGRAM

CDC WEEK 44:

October 26 – November 1, 2025

All Data is Provisional

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Definitions and Resources

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Report Highlights

Credit: CDC NCEZID-DVBD

- Mosquito-Borne Disease Cases
  - Human WNV disease cases and viremic blood donors have been reported from 16 local health department jurisdictions.
  - To date, no WNV associated deaths have been reported in 2025.
  - Two equine WNV cases have been reported from two counties (Dawson Co. = 1; Scotts Bluff Co. = 1). No positive WNV bird cases have been reported.
- Mosquito Surveillance
  - Mosquito surveillance has ended for the 2025 season. In 2025, 127 WNV positive mosquito pools were detected.
  - The final weekly statewide WNV vector index (VI) decreased from the previous week indicating low human WNV risk in the state.
  - In 2025, three positive Jamestown Canyon virus (JCV) pools were detected and three Cache Valley virus (CVV) positive pools. No positive LACV pools have been detected this season.
- Current Mosquito Surveillance Region WNV Vector Index (VI) Levels - ***Low VI Levels DO NOT equal no risk***
  - Statewide = LOW
  - Central MSR = LOW
  - East MSR = LOW
  - West MSR = LOW

Credit: CDC, NCEZID-DVBD

NEBRASKA MOSQUTIO-BORNE DISEASE SURVEILLANCE

Human Mosquito-Borne Disease Cases

Nebraska Mosquito-Borne Disease Cases, 2025 & 2024

Condition	2025	2024
Chikungunya**	*	*
Dengue**	*	9
Jamestown Canyon	0	0
Malaria**	15	18
West Nile Clinical Cases	51	92
West Nile Blood Donors	10	19
Zika**	0	0

*Data suppressed due to low numbers.
** Reported cases have all been acquired during overseas travel to endemic areas.

- 2025 statewide number of mosquito-borne disease cases reported to the Nebraska Department of Health and Human Services (NDHHS) through CDC week #44 (week ending 11/1/2025).
  - 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 definitions and approved by NDHHS.

Credit: Credit: CDC, NCEZID-DVBD

NEBRASKA MOSQUITO-BORNE ACTIVITY

West Nile Virus

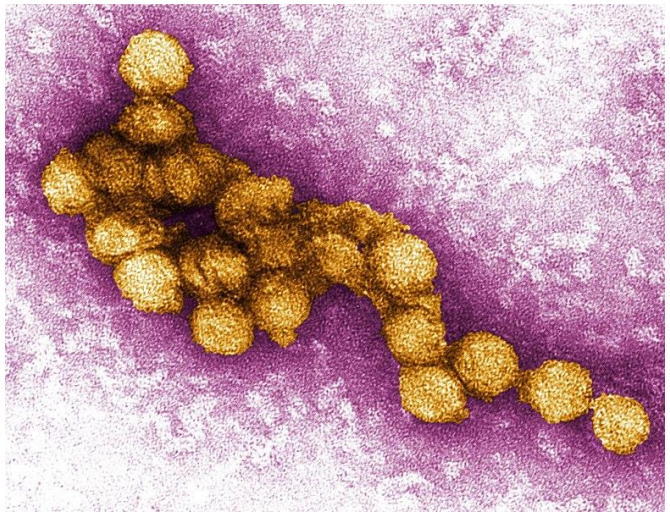


Photo courtesy of Cynthia Goldsmith, P.E. Rollin, USCDCP, CC0, via Wikimedia Commons

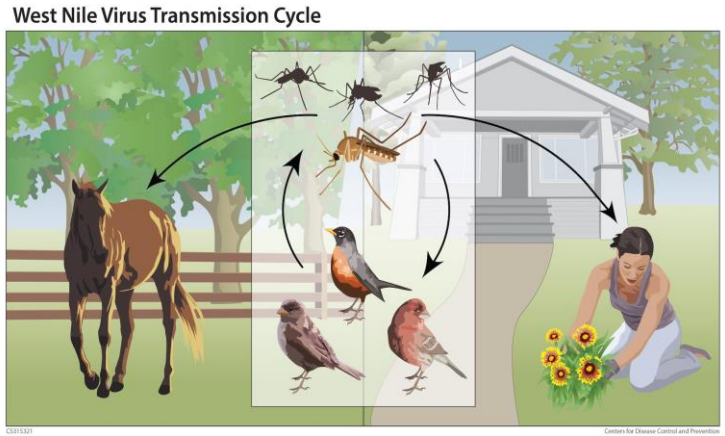


Photo courtesy of CDC, NCEZID-DVBD

- West Nile virus (WNV) human disease cases (n = 50) and presumptive viremic blood donors (n = 10) have been reported in the state from 16 local health jurisdictions. No WNV associated deaths have been reported.
- Two equine WNV cases and no bird WNV cases have been reported.
- Mosquito surveillance has ended for the 2025 season. 1,210 mosquito pools were submitted for testing this season with 127 pools testing positive for WNV. WNV positive pools were found in *Culex pipiens/restuans/salinarius* (n = 51 pools) and *Culex tarsalis* (n = 76 pools) mosquito species.
- The earliest WNV positive mosquito pool (*Culex pipiens/restuans/salinarius*) was detected in CDC week 25 from Dakota County, approximately one week later than in 2024, when WNV was first detected in CDC week 24 from Douglas (n = 1 pool) and Dawson (n = 1 pool) counties.

West Nile Virus

Nebraska West Nile Virus Disease Case Clinical Information, 2025

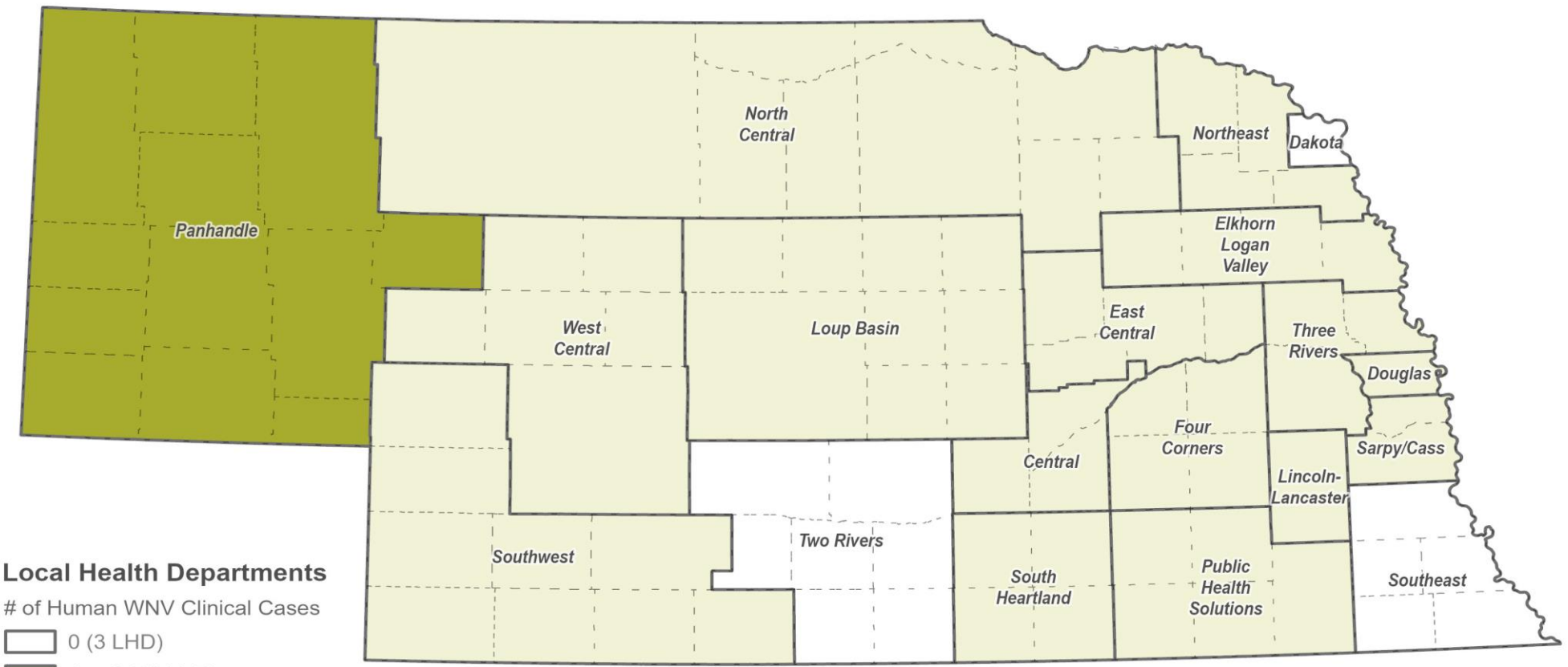
Age Range	#
0-13	*
14-25	*
26-50	17
51-64	*
65+	22
Sex	**#**
Male	29
Female	22
Diagnosis	**#**
WNV Neuroinvasive	20
WNV Non-Neuroinvasive	31
Hospitalized	21
Deaths	0

*Data suppressed due to low numbers.

2025 West Nile Virus Human Clinical Cases

by Local Health Department

Updated: November 4, 2025



Local Health Departments

# of Human WNV Clinical Cases

- 0 (3 LHD)
- 1 to 5 (15 LHD)
- 6 to 10 (0 LHD)
- More than 10 (1 LHD)

County Boundaries

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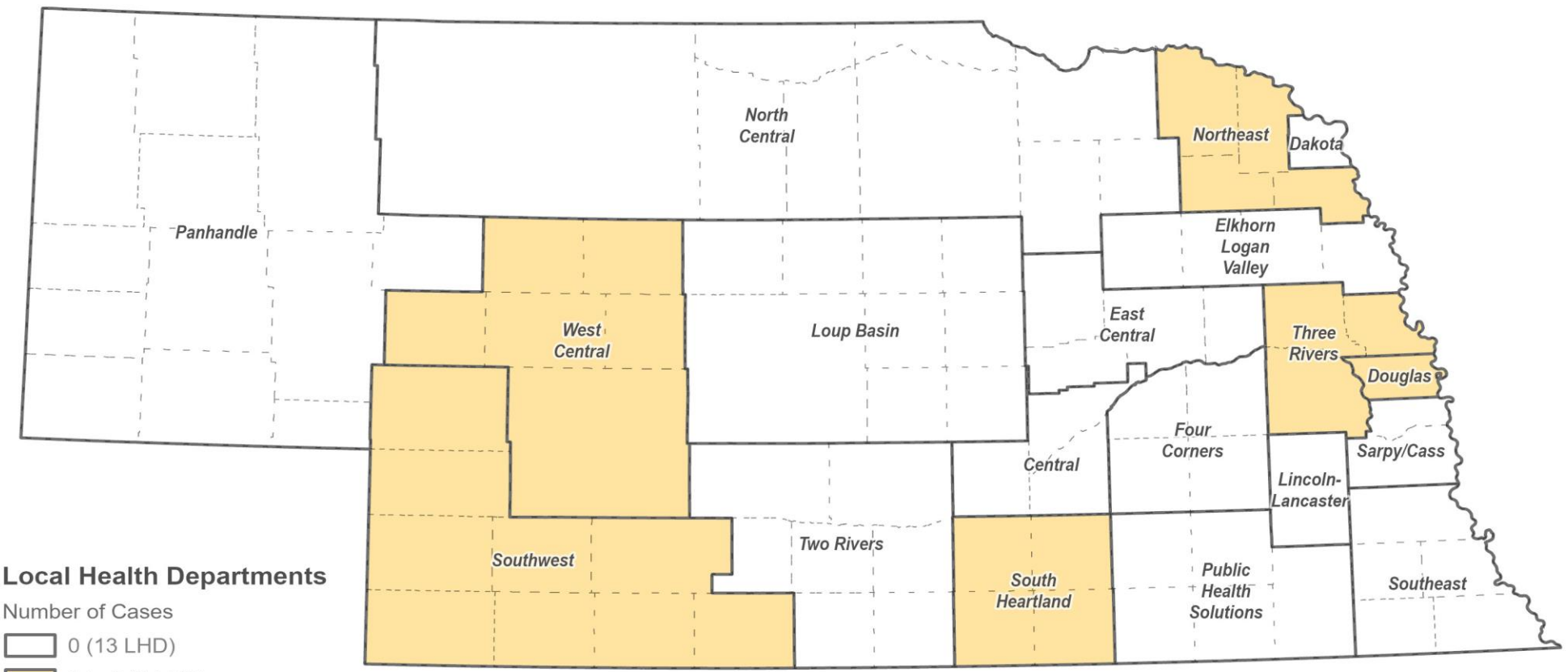
2025 West Nile Virus Blood Donation Cases

by Local Health Department

Updated: November 4, 2025



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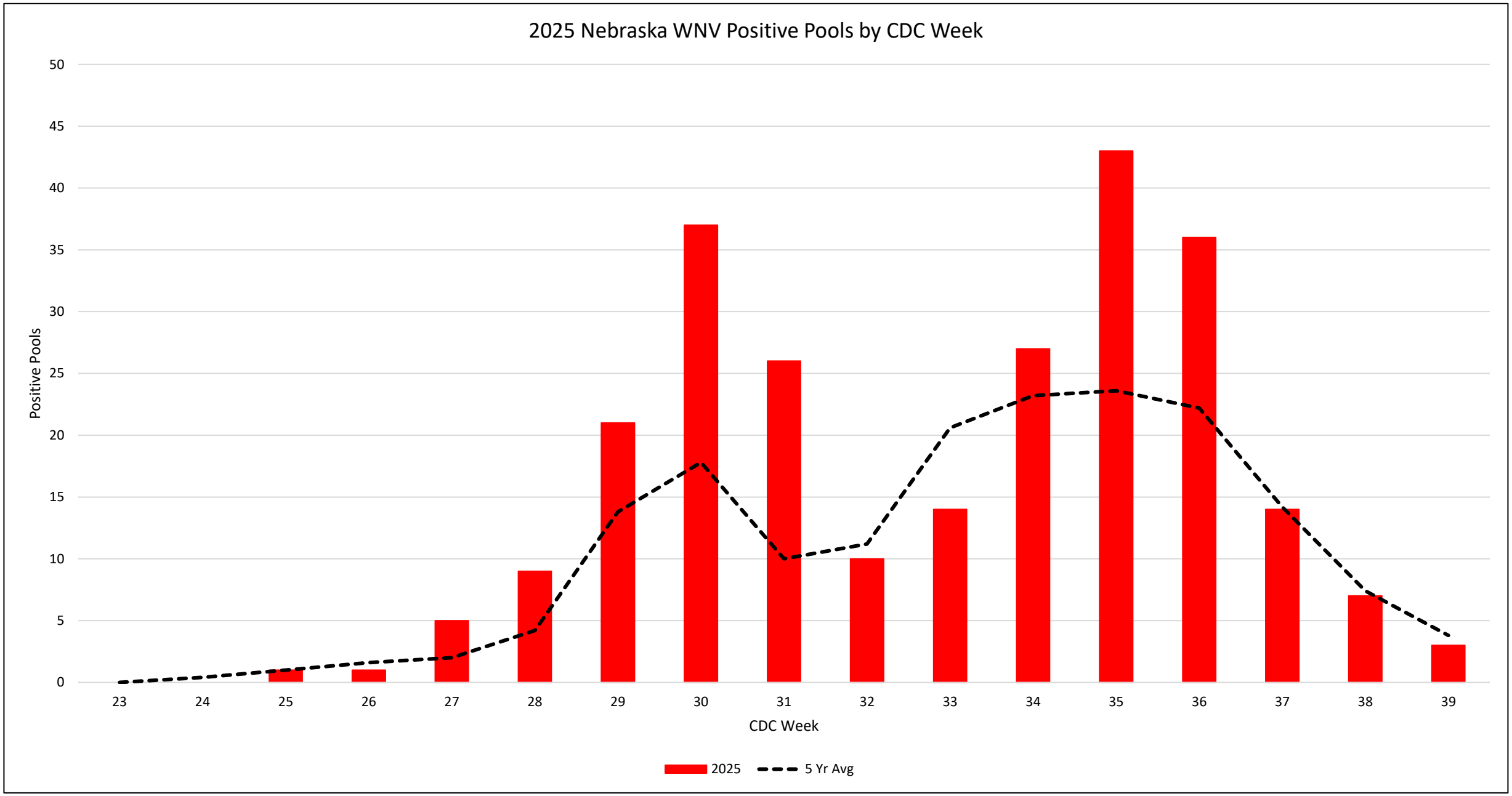
WNV Mosquito Pool Testing 2025

Mosquito Surveillance Region*/County	CDC Week 39 Positive Pools**		Cumulative Positive Pools (thru CDC Week 39)		Cumulative # Pools Tested	Week 39 Vector Index (trend)^
	2025	2024	2025	2024	2025	2025
West Region			**63**	22	302	0.000 (–)
Box Butte Co.			6	5	50	0.000 (–)
Lincoln Co.			9	1	70	0.000 (–)
Red Willow Co.			4		41	0.000 (–)
Scotts Bluff Co.			44	16	141	0.000 (–)
Central Region	**3**	1	**39**	46	402	0.132 (↓)
Adams Co.			11	21	101	0.000 (↓)
Buffalo Co.		NA		NA	51	0.000 (–)
Dawson Co.	2		14	16	75	0.690 (–)
Garfield Co.		1	2	6	32	0.000 (–)
Hall Co.	1		6		87	0.178 (–)
Holt Co.			6	3	56	0.000 (–)
East Region		2	**25**	26	506	0.000 (↓)
Cuming Co.					36	0.000 (–)
Dakota Co.			2		41	0.000 (–)
Dodge Co.			5		31	0.000 (–)
Douglas Co.		1	1	8	66	0.000 (–)
Lancaster Co.			2	4	90	0.000 (–)
Platte Co.			2		31	0.000 (–)
Richardson Co.					37	0.000 (–)
Saline Co.			1		34	0.000 (↓)
Sarpy Co.				4	40	0.000 (–)
Washington Co.			1	1	10	0.000 (–)
Wayne Co.		1	11	5	64	0.000 (↓)
York Co.				4	26	0.000 (–)
Statewide Total	**3**	3	**127**	94	1210	0.037 (↓)

*Mosquito surveillance region (MSR) map can be found here.

** The total positive pools from the two most recent CDC weeks is used to report out the number of positive pools for the shown CDC week. This is due to the staggered mosquito sampling schedule where half of participating counties sample one week and the remaining half sample the following week. Therefore, it takes a full two weeks of sampling to survey all participating counties across the state.

^The vector index is calculated based on *Culex pipiens/salinarius/restuans* and *Culex tarsalis* mosquito species caught in CDC light traps. Mosquito pool testing and mosquito abundance data from the two most recent CDC weeks is used to determine the vector index for the reported CDC week. Please see the "Definitions and Resources" section for additional information on vector index.



* The total positive pools from the two most recent CDC weeks is used to report out the number of positive pools for the shown CDC weeks. For example, CDC week 26's total number of positive pools is the total of the positive pools from CDC weeks 25 and 26. This is due to the staggered mosquito sampling schedule where half of participating counties sample on an even CDC week and the remaining half sample on an odd CDC week. Therefore, it takes a full two weeks of sampling to survey all participating counties across the state.

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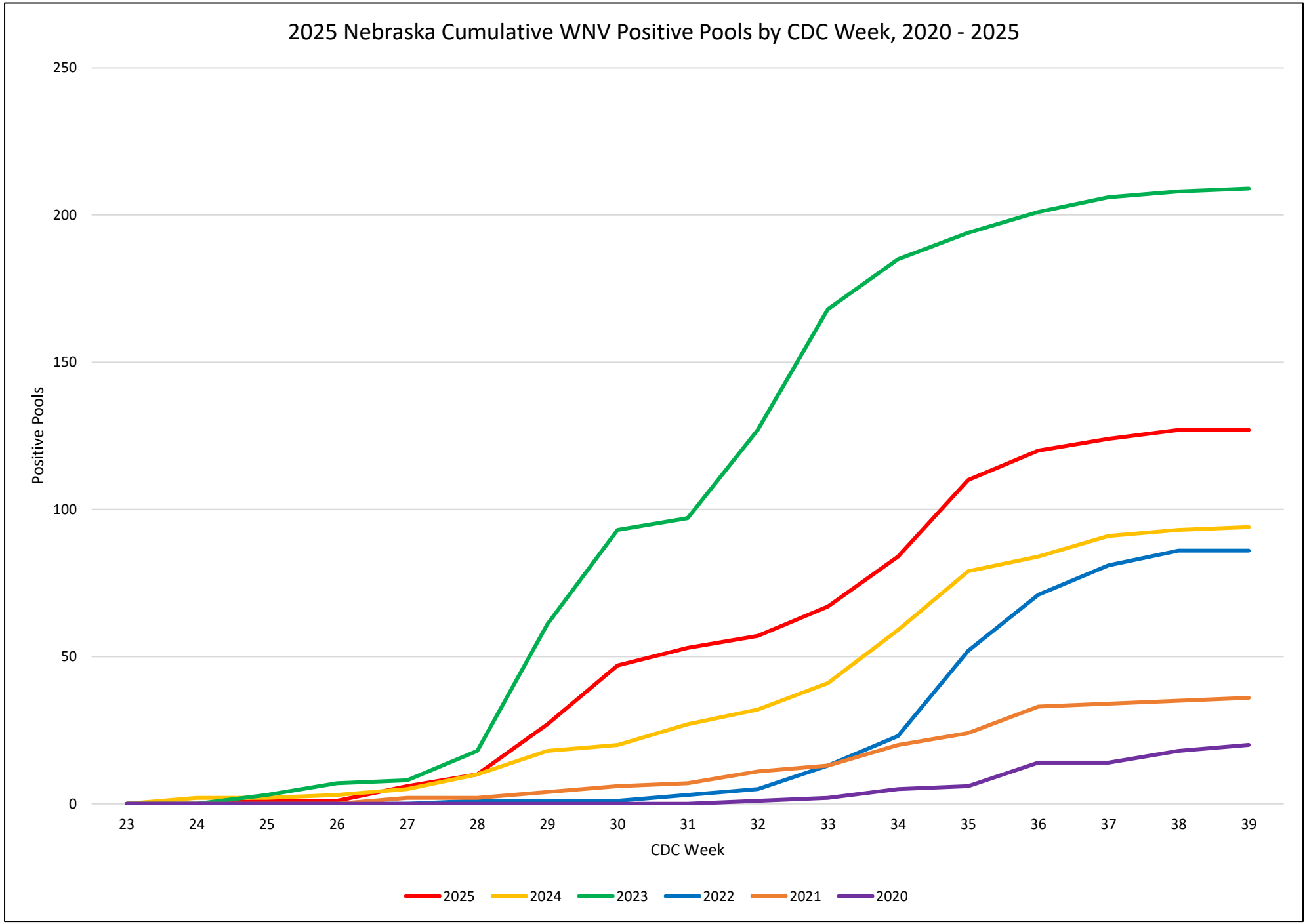
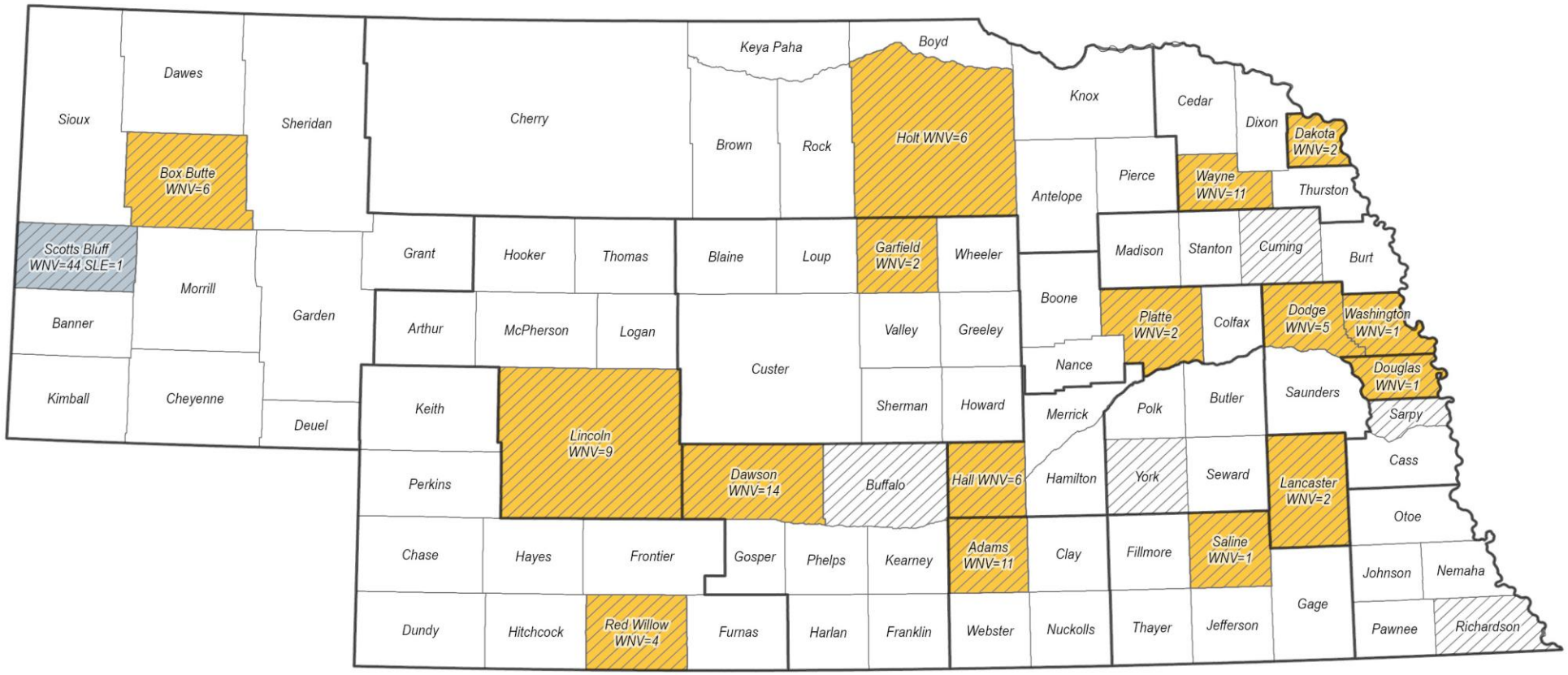

2025 Nebraska Cumulative WNV Positive Pools by CDC Week, 2020 - 2025
250
200
150
100
50
0
Positive Pools
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
CDC Week
2025
2024
2023
2022
2021
2020

2025 CDC Light Trap Mosquito Surveillance

Updated: November 4, 2025



West Nile Virus (WNV)
Positive Pools: 127
Counties with Positive Pools: 17

St. Louis Encephalitis (SLE)
Positive Pools: 1
Counties with Positive Pools: 1

Sample Sizes
Total Pools Tested: 1210
Counties with Traps: 22

Local Health Departments

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West Nile Virus Vector Index Level

Vector Index Level*	What it Means	What You Can Do
None (Off Season)	1. Infection with WNV is unlikely due to unfavorable mosquito conditions (e.g. late fall, winter, and early spring months).	Prepare for the upcoming mosquito season: 1. Eliminate objects and debris that hold water from your yard. 2. Trim vegetation in your yard. 3. Clean out gutters and repair torn or broken window and door screens.
Level 1 (Low)	1. Below average risk of infection with WNV. 2. Low risk DOES NOT equal no risk!	To Prepare: 1. Prepare for the upcoming mosquito season as above if not already done. 2. Be aware of standing water in your yard and fill in low lying areas or treat with mosquito larvicide. To Prevent: 1. Wear mosquito repellent when out between dusk and dawn. 2. Wear long sleeves and long pants when out between dusk and dawn.
Level 2 (Moderate)	1. Average risk of infection with WNV. 2. For Nebraska this means infection with WNV is likely or has already occurred.	To Prevent – same as above plus: 1. Wear mosquito repellent. 2. Wear long sleeves and long pants when possible. 3. Dump standing water twice weekly.
Level 3 (High)	1. Above average risk of infection with WNV. 2. More people may get infected with WNV in your area.	To Prevent – same as above plus: 1. People over 50 or those who are immunocompromised should adjust outdoor activity to avoid peak mosquito hours (between dusk and dawn) where possible.
Level 4 (Very High)	1. Unusually high risk for infection with WNV exists!	To Prevent – same as above plus: 1. People of all ages should adjust outdoor activity to avoid peak mosquito hours (between dusk and dawn) where possible.

*The WNV vector index (VI) level reflects risk of human disease and provides a reliable prediction of outbreak levels of transmission. The VI is calculated for each mosquito surveillance region (MSR) using the two most recent weeks of data from Culex mosquito abundance and WNV infection rates. Please note that VI calculations are used to get an estimate of WNV risk at the mosquito surveillance region (high-level view) and may be different at more local levels.

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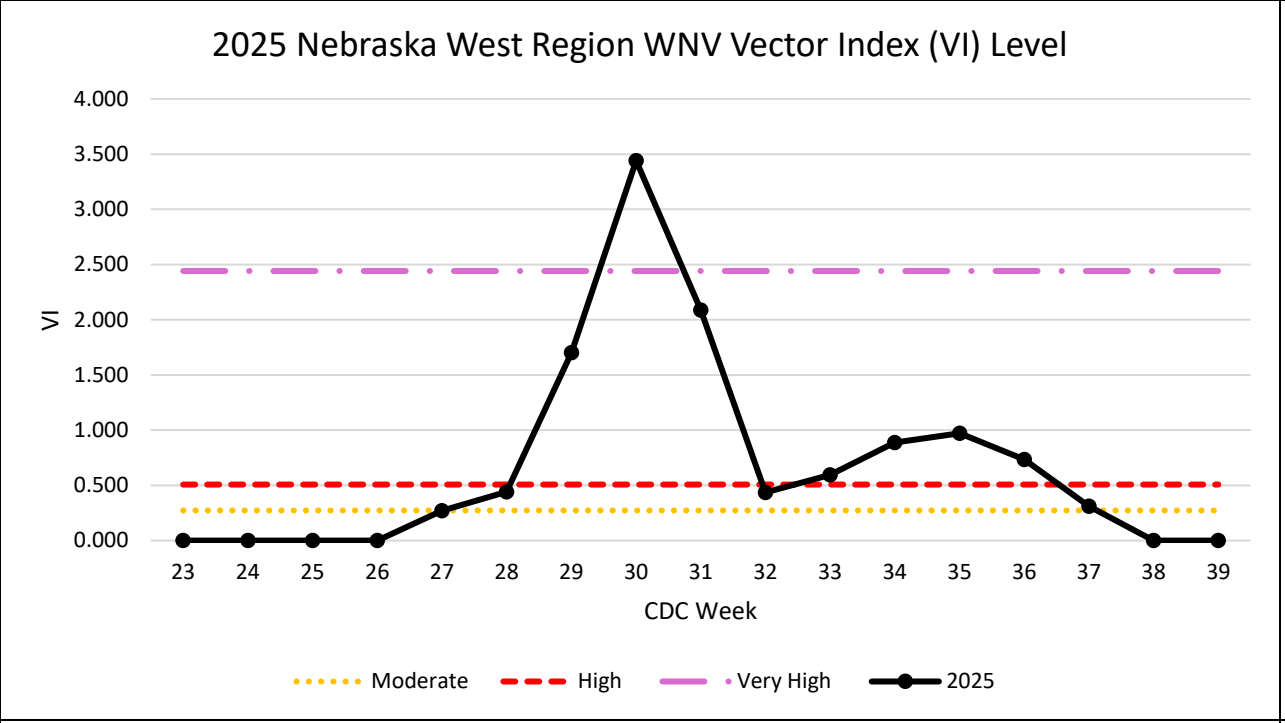
Nebraska WNV Vector Index Levels by Mosquito Surveillance Region, 2025*

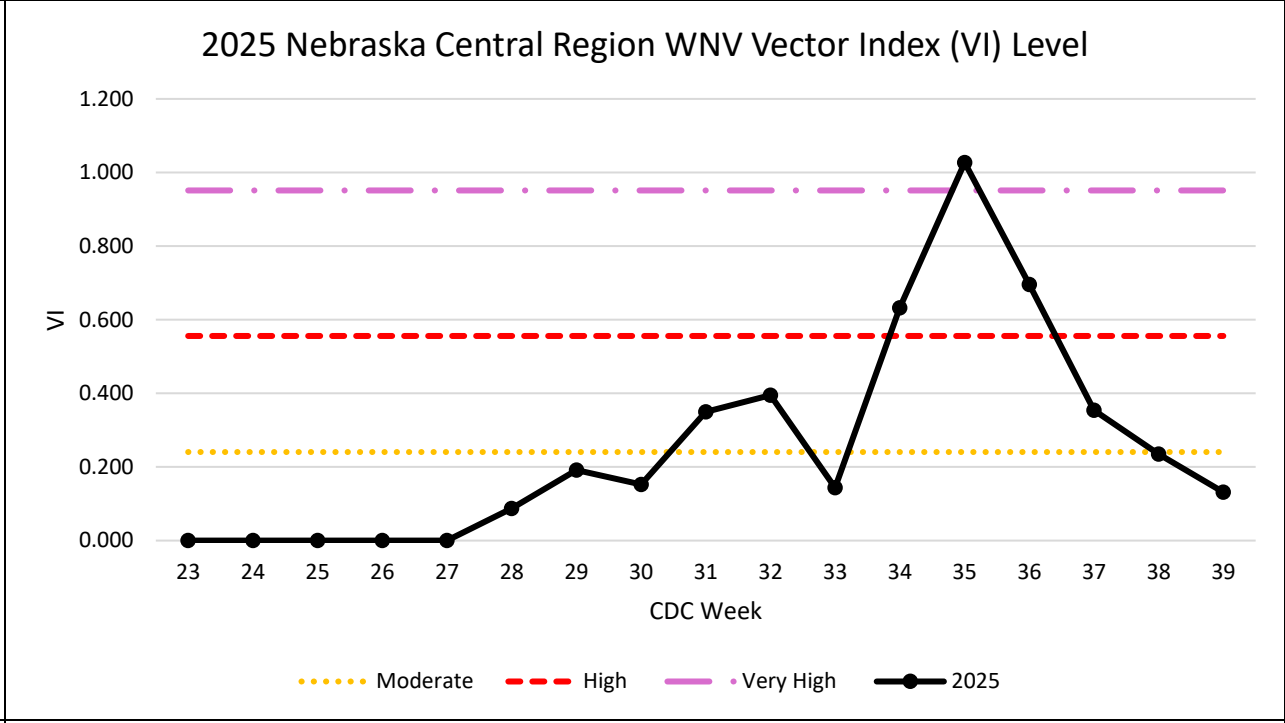
Region	CDC Wk 23	CDC Wk 24	CDC Wk 25	CDC Wk 26	CDC Wk 27	CDC Wk 28	CDC Wk 29	CDC Wk 30	CDC Wk 31	CDC Wk 32	CDC Wk 33	CDC Wk 34	CDC Wk 35	CDC Wk 36	CDC Wk 37	CDC Wk 38	CDC Wk 39
West Region	1	1	1	1	1	2	3	4	4	3	3	3	3	3	2	1	1
Central Region	1	1	1	1	1	1	1	1	2	2	1	3	4	3	2	1	1
East Region	1	1	1	1	1	1	1	1	1	1	2	3	4	4	2	1	1
Statewide	1	1	1	1	1	2	3	4	3	3	3	3	3	4	2	1	1

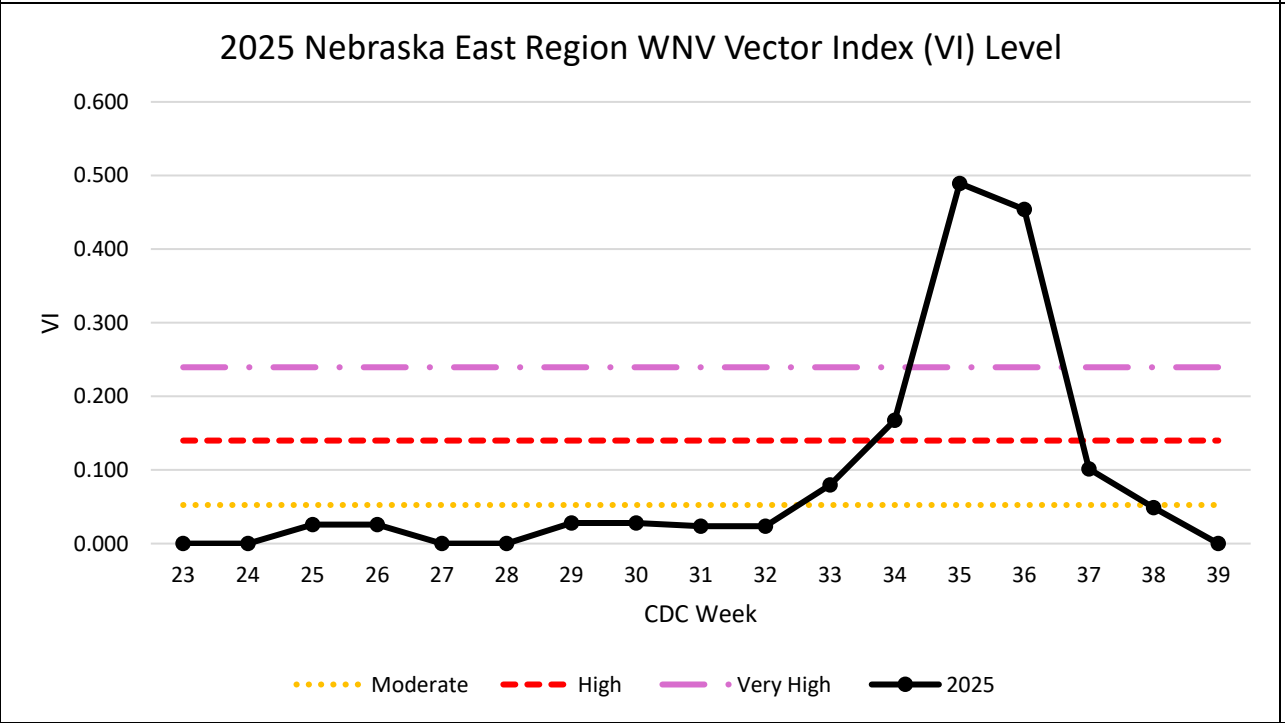
Level 0 = None (Off season)
Level 1 = Low
Level 2 = Moderate
Level 3 = High
Level 4 = Very High

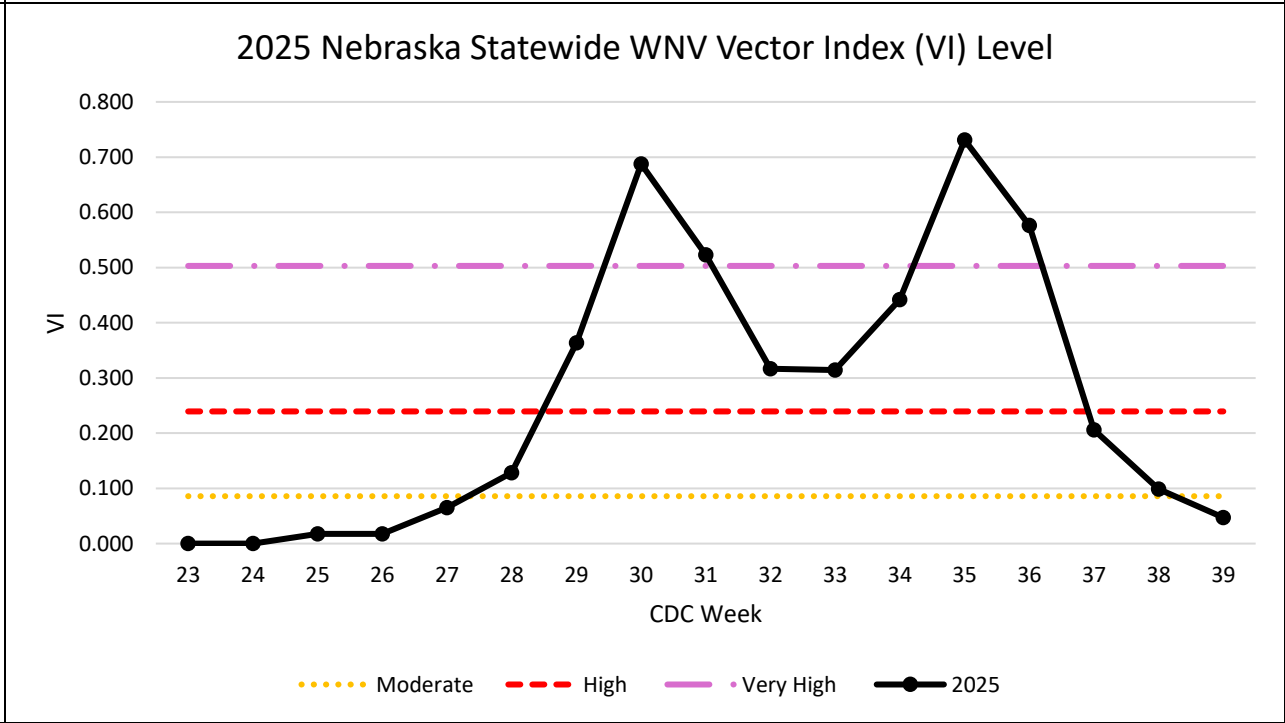
LOW risk DOES NOT equal NO risk.

*Mosquito surveillance region map can be found here.


2025 Nebraska West Region WNV Vector Index (VI) Level
VI
4.000
3.500
3.000
2.500
2.000
1.500
1.000
0.500
0.000
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
CDC Week
Moderate
High
Very High
2025


2025 Nebraska Central Region WNV Vector Index (VI) Level
VI
1.200
1.000
0.800
0.600
0.400
0.200
0.000
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
CDC Week
Moderate
High
Very High
2025


2025 Nebraska East Region WNV Vector Index (VI) Level
VI
0.600
0.500
0.400
0.300
0.200
0.100
0.000
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
CDC Week
Moderate
High
Very High
2025


2025 Nebraska Statewide WNV Vector Index (VI) Level
VI
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
CDC Week
Moderate
High
Very High
2025

Other Mosquito-Borne Viruses

Photo courtesy of CDC, NCEZID-DVBD

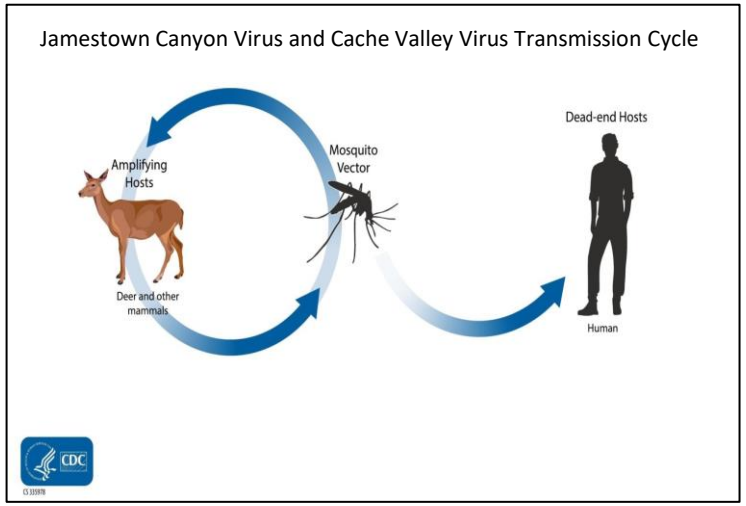


Photo courtesy of CDC, NCEZID-DVBD

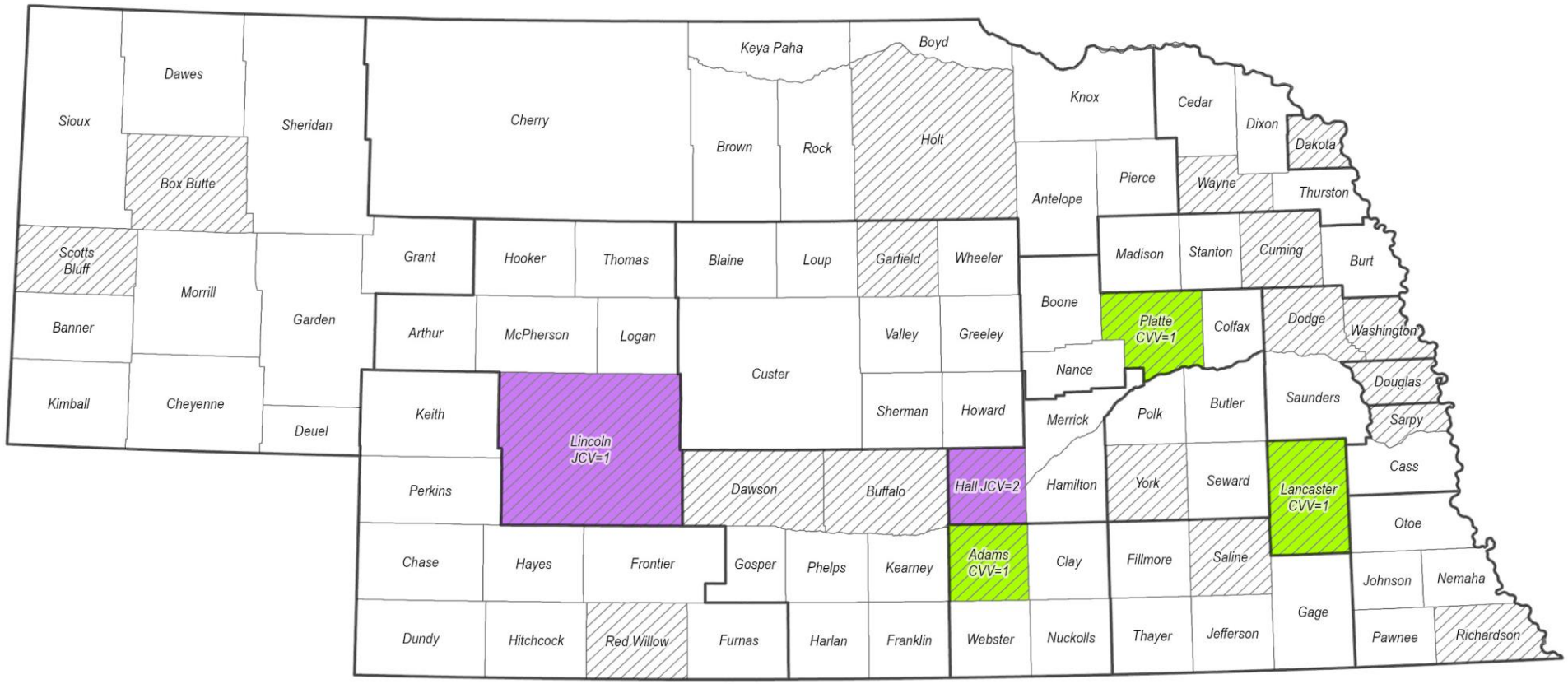
- To date, there have been no St. Louis Encephalitis virus (SLE), Western Equine Encephalitis virus (WEE), Cache Valley virus (CVV), Jamestown Canyon virus (JCV) or LaCrosse Encephalitis virus (LACV) human cases reported in Nebraska.
- 1,141 mosquito pools have been submitted for testing of SLE and WEE this season. One pool has tested positive for SLE, and no pools have tested positive for WEE in 2025.
- 667 mosquito pools have been submitted for testing of CVV, JCV, and LACV this season. Three pools have tested positive for CVV and three pools have tested positive for JCV this season. To date, JCV has been found in *Aedes vexans* (n = 2 pools) and *Aedes trivittatus* (n = 1 pool) species mosquitoes, and CVV has been found in *Anopheles quadrimaculatus* s.l. (n = 3) mosquito species. No positive LACV pools have been detected.

Cumulative Mosquito Pool Testing 2025 (Other Viruses)

Mosquito Surveillance Region/County	SLE		WEE		LACV		JCV		CVV	
	Positive Pools	Pools Tested	Positive Pools	Pools Tested	Positive Pools	Pools Tested	Positive Pools	Pools Tested	Positive Pools	Pools Tested
West Region	**1**	302		302		119	1	119		119
Box Butte Co.		50		50		7		7		7
Lincoln Co.		70		70		80	1	80		80
Red Willow Co.		41		41		14		14		14
Scotts Bluff Co.	1	141		141		18		18		18
Central Region		402		402		182	**2**	182	1	182
Adams Co.		101		101		48		48	1	48
Buffalo Co.		51		51		5		5		5
Dawson Co.		75		75		17		17		17
Garfield Co.		32		32		16		16		16
Hall Co.		87		87		72	2	72		72
Holt Co.		56		56		24		24		24
East Region		506		506		421		421	2	421
Cuming Co.		36		36		12		12		12
Dakota Co.		41		41		22		22		22
Dodge Co.		31		31		20		20		20
Douglas Co.		66		66		123		123		123
Lancaster Co.		90		90		87		87	1	87
Platte Co.		31		31		18		18	1	18
Richardson Co.		37		37		62		62		62
Saline Co.		34		34		10		10		10
Sarpy Co.		40		40		38		38		38
Washington Co.		10		10		3		3		3
Wayne Co.		64		64		23		23		23
York Co.		26		26		3		3		3
Statewide Total	**1**	1210	-	1210	-	722	**3**	722	**3**	722

2025 CDC Light Trap Mosquito Surveillance

Updated: November 4, 2025



Local Health Departments

County Boundaries

Surveillance Findings

- No Traps Deployed
- No Positive Pools
- Positive JCV Pools Only
- Positive CVV Pools Only

Jamestown Canyon Virus (JCV)
Positive Pools: 3
Counties with Positive Pools: 2

Cache Valley Virus (CVV)
Positive Pools: 3
Counties with Positive Pools: 3

Sample Sizes
Total Pools Tested: 722
Counties with Traps: 22

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Photos courtesy of Nebraska Vector-Borne Disease Program

DEFINITIONS AND RESOURCES

Definitions

- CDC week (also known as MMWR week or Epi week)
  - The CDC weeks is the week of the epidemiologic year for which the National Notifiable Diseases Surveillance System (NNDSS) disease report is assigned for the purposes of disease incidence reporting.
  - MMWR week does not fall on the same dates every year. MMWR weeks last from Sunday through Saturday and usually range from 1 to 52 weeks. Week #1 of an MMWR year is the first week of the year that has at least four days in the calendar year.
  - For additional information please see the CDC MMWR weeks document.
  - The CDC week calendar example on the next page for the 2024 CDC weeks.

2025 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
2	5	6	7	8	9	10	11
3	12	13	14	15	16	17	18
4	19	20	21	22	23	24	25
5	26	27	28	29	30	31	

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
31						1	2
32	3	4	5	6	7	8	9
33	10	11	12	13	14	15	16
34	17	18	19	20	21	22	23
35	24	25	26	27	28	29	30
36	31						

SEPTEMBER

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

OCTOBER

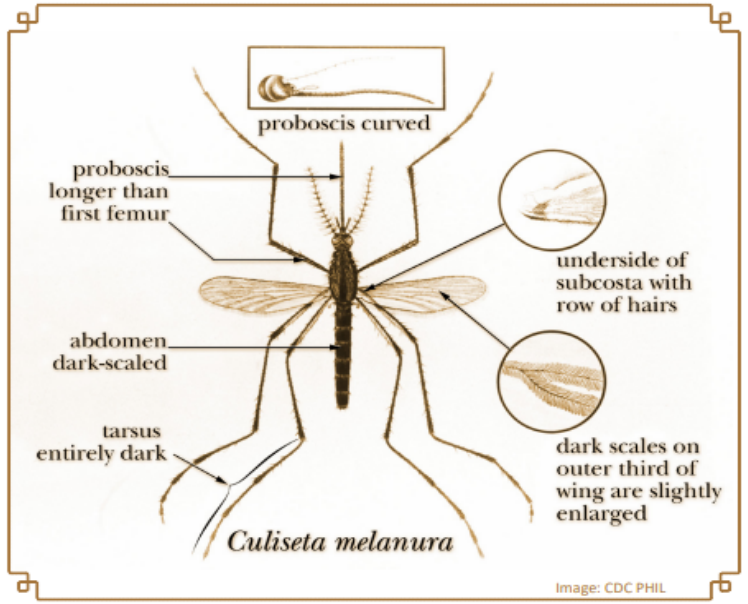
EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
40				1	2	3	4
41	5	6	7	8	9	10	11
42	12	13	14	15	16	17	18
43	19	20	21	22	23	24	25
44	26	27	28	29	30	31	

NOVEMBER

EPI Week #	Sun	Mon	Tue	Wed	Thu	Fri	Sat
44							1
45	2	3	4	5	6	7	8
46	9	10	11	12	13	14	15
47	16	17	18	19	20	21	22
48	23	24	25	26	27	28	29
49	30						

DECEMBER

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



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

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Definitions

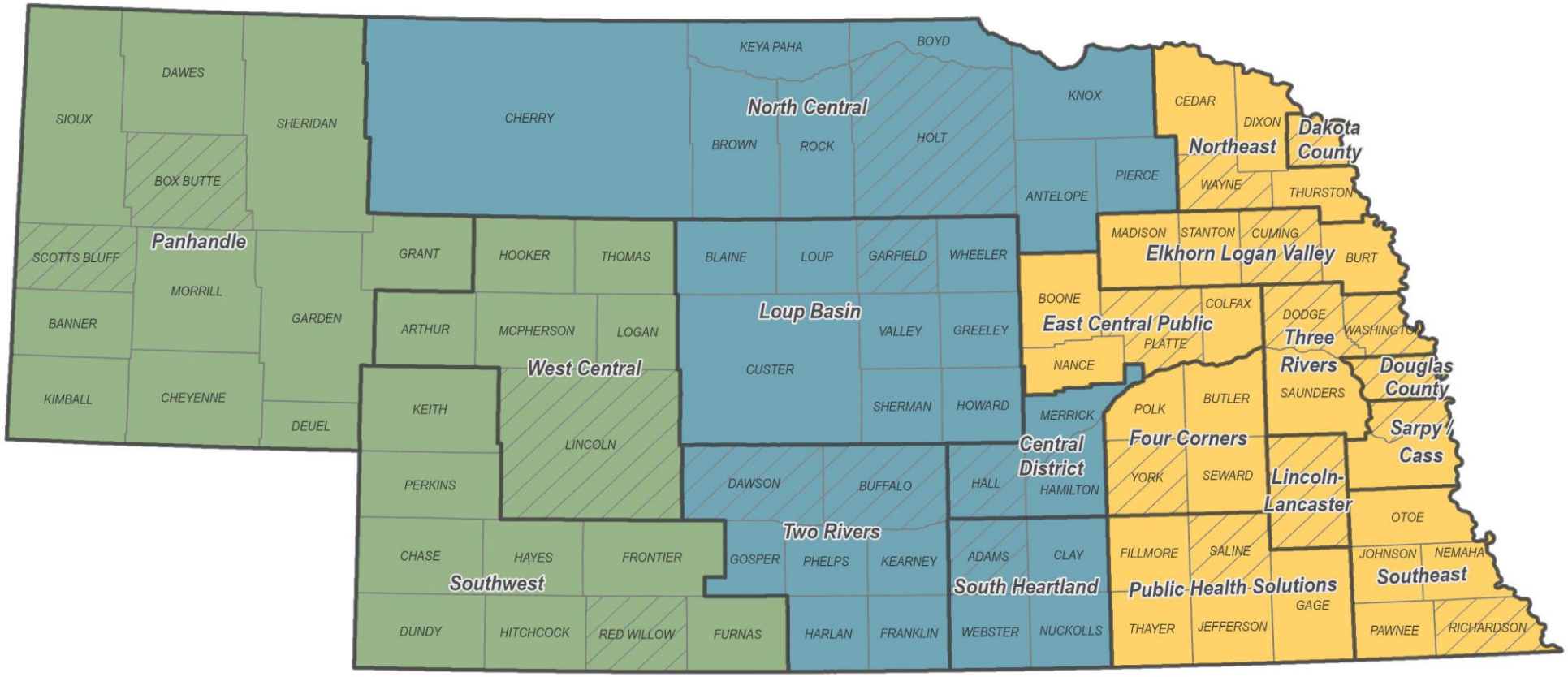
- Mosquito pool
  - A mosquito pool is a group of mosquitoes of the same species (or species group) collected from the same site on the same date. The number of mosquitoes in each pool can range between 1 – 50 mosquitoes. These pools are then tested for the presence of different mosquito-borne viruses.

Photo: Several mosquito pools containing WNV vector mosquitoes collected as part of the Nebraska Department of Health and Human Services mosquito surveillance program.

Definitions

- Mosquito surveillance regions (MSRs)
  - Mosquito surveillance and testing data from counties are grouped into three surveillance regions based on local health department geography. These groupings are used to produce regional aggregates and trends.
  - Please see the next page for a map of the MSRs.

2025 Mosquito Surveillance Trapping Regions



Counties with traps
Counties without traps
Local Health Department Boundary
West Mosquito Surveillance Region
Central Mosquito Surveillance Region
East Mosquito Surveillance Region

N

0 25 50 Miles

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JULY 2025

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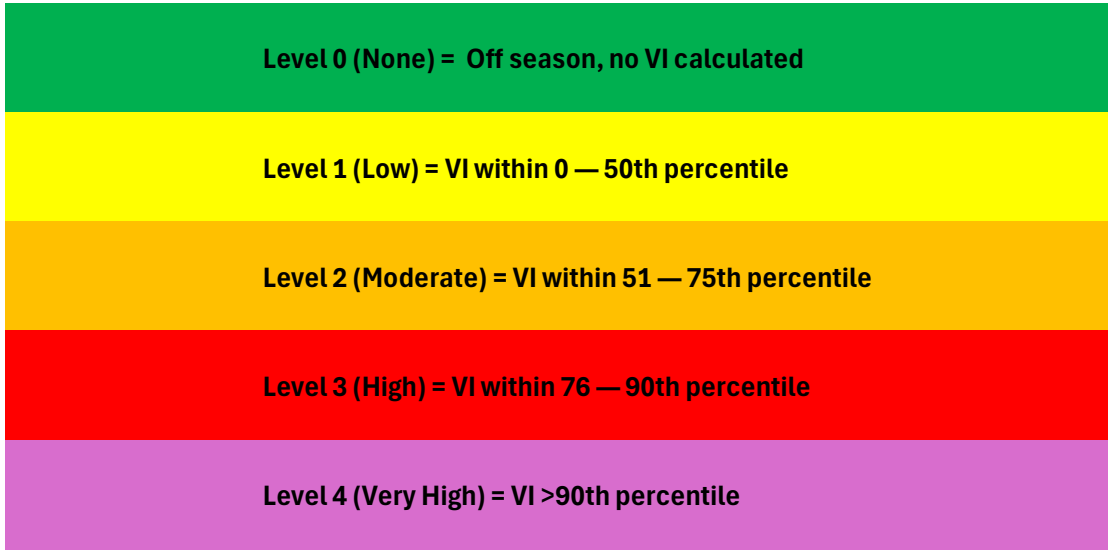
Definitions

- Vector Index (VI)
  - The VI estimates the abundance of infected mosquitoes in an area and incorporates into a single index information on presence, relative abundance, and infection rates of WNV vector mosquitoes (*Culex tarsalis* and *Culex pipiens/salinarius/restuans* species of mosquitoes). The VI is calculated by multiplying the average number of WNV vector mosquitoes collected per trap by the proportion infected with WNV.
  - VI levels summarize how high or low the VI is and reflect the relative risk of human disease. These are then categorized using different classifications: low, moderate, high, very high. Based on where the VI falls within these levels, recommended actions for the public to take are provided for each level.
  - To define VI levels, we used VI data from 2018-2024. This historical data was then divided into five risk groups:



Resources

- CDC Prevent Mosquito Bites Page
- CDC West Nile Virus Page
- CDC Cache Valley Virus
- CDC Jamestown Canyon Virus
- Nebraska Department of Agriculture WNV Page
- Nebraska Department of Health and Human Services Vector-Borne Disease Page
- Nebraska Department of Health and Human Services Interactive Mosquito Surveillance Map
- Nebraska Mosquito and Vector Control Association
- U.S. EPA Insect Repellent Page

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