

FY24 Nevada Department of Wildlife - CWD Surveillance Summary

Reporting period: July 1, 2023, to June 30, 2024.

Introduction: In fiscal year 2024, the Nevada Department of Wildlife Sampled 229 animals from 25 of 29 management areas for Chronic Wasting Disease, the majority of which were adult mule deer. This represented a significant decline from FY23. We attribute this to a combination of fewer tags available, lower hunter success, and lower hunter participation. All animals were negative. Chronic wasting disease was detected in Bishop, CA; less than 50 miles from the border with Nevada and adjacent to management area 21, an area with low population density but also limited historical sampling. This area will be a focus for increased surveillance for FY25.

Total Samples by Management Area:

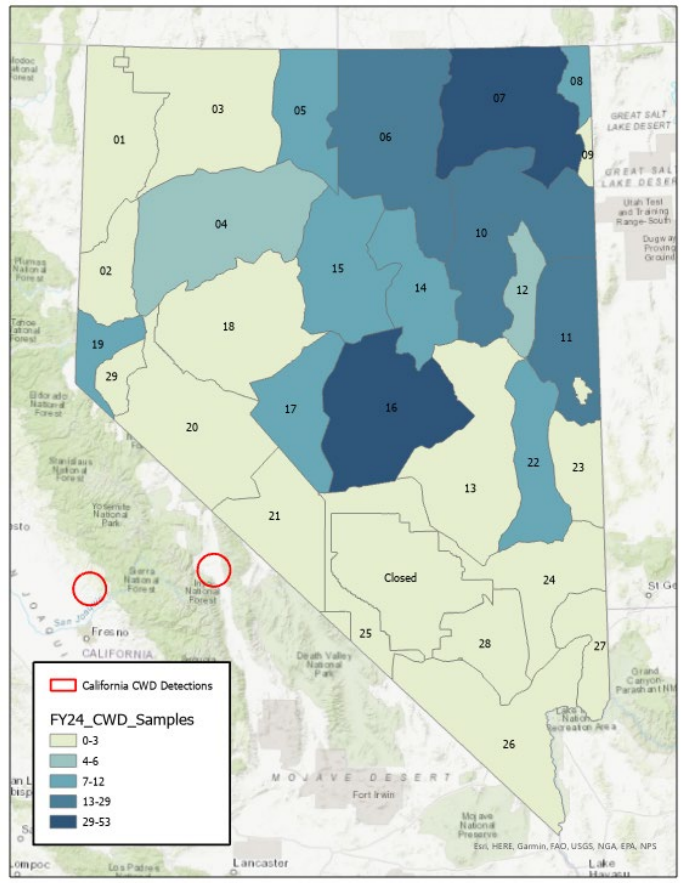
Management Area	Elk	Mule Deer	Total
MA 01	0	1	1
MA 02	0	2	2
MA 03	0	3	3
MA 04	0	4	4
MA 05	0	8	8
MA 06	2	18	20
MA 07	14	39	53
MA 08	7	0	7
MA 09	1	0	1
MA 10	3	18	21
MA 11	7	22	29
MA 12	3	3	6
MA 13	2	1	3
MA 14	0	12	12

MA 15	0	9	9
MA 16	2	2	4
MA 17	0	11	11
MA 18	0	3	3
MA 19	0	11	11
MA 20	0	2	2
MA 21	0	2	2
MA 22	6	3	9
MA 23	2	1	3
MA 24	0	2	2
MA 25	0	0	0
MA 26	0	0	0
MA 27	0	0	0
MA 28	0	0	0
MA 29	0	3	3
Total	49	180	229

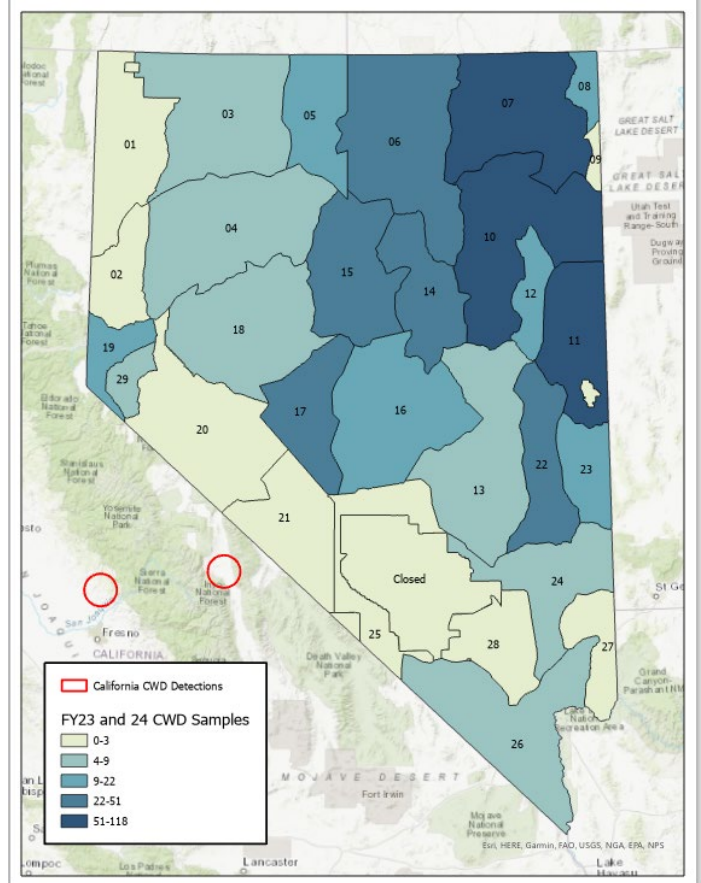
Sampling by Sex and Age Class

	Fawn		Yearling		Adult		Total
	Male	Unknown	Female	Male	Female	Male	
Elk	0	1	1	0	7	40	49
Mule Deer	1	0	1	24	14	137	180

Sampling Effort in FY24:



Combined Sampling Effort in last 2 years:



Confidence of Freedom from Disease

The following describes the confidence we are free from the disease in the last year by using all the data from the last 2 years. This is based on a weighted system where points are given to each sample based on the likelihood that the animal had CWD. The point system was developed by Walsh et. al[1] and has been used to provide weights for modeling using Speedgoat (Missoula, Montana, USA, <https://public.spdgt.com/app/wtsurv>).

These weights are then used to model both the likelihood the area is free of CWD and then prevalence if it exists. The below charts describe our results. The detectable prevalence is the disease prevalence at which would expect to have detected a positive in the specified area with 95% certainty. This means that CWD prevalence is below this prevalence, if not at zero. Thus, if a detectable prevalence is 10%, then the true prevalence is below 10%. The maximum infected population is the population within the area that would be infected if the prevalence were at the maximum, it could be without being detected. The target detection prevalence is below 5%. At a

Weights for Combined SpeedGoat Model		
Descriptions	Mule Deer	Elk
Suspect Female	13.5	3.71
Suspect Male	11.4	1.99
Other (i.e. predator kill)	1.8	0.1
Hunter Harvest Adult Male	1.0	.19
Hunter Harvest Adult Female	0.6	.15

prevalence below 5% there is less likelihood of negative population impacts and it is easier to manage and control the disease. Once the disease becomes highly prevalent it can be extremely difficult to control and may never be reduced to below 5%. We only had 2 Management Areas where, based on the last two years of data, we could detect a prevalence below 5% (dark green). We had another 5 units where we could detect it below 10%. Many units could only detect an extremely high prevalence, suggesting that we are in the dark on the status of CWD for many management units.

Detectable prevalence modeling results from FY23 and 24.							
Management Area	Population Deer	Population Elk	Total Samples	Elk Collected?	Mule Deer Collected?	Detectable Prevalence (95% confidence)	Maximum Infected Deer
01	1200	0	2	N/A	Yes	64%	768
02	975	0	3	N/A	Yes	47%	458
03	3360	0	6	N/A	Yes	32%	1075
04	1950	0	4	N/A	Yes	46%	897
05	1800	120	13	No	Yes	19%	342
06	6900	2110	38	Yes	Yes	9%	621
07	9100	2276	107	Yes	Yes	3%	273
08	700	324	12	Yes	Yes	56%	392
10	10700	1006	83	Yes	Yes	4%	428
11	3900	2300	83	Yes	Yes	6%	234
12	2000	594	21	Yes	Yes	25%	500
13	1500	320	9	Yes	Yes	42%	630
14	3700	30	36	No	Yes	10%	370
15	2600	0	17	N/A	Yes	9%	234
16	1700	750	10	Yes	Yes	36%	612
17	3800	40	22	No	Yes	14%	532
18	1200	0	6	N/A	Yes	36%	432
19	1330	0	13	N/A	Yes	10%	133
20	1330	0	2	N/A	Yes	56%	745
21	340	0	2	N/A	Yes	64%	218
22	2300	1800	29	Yes	Yes	24%	552
23	2400	650	22	Yes	Yes	19%	456
24	1000	110	6	No	Yes	36%	360
26	450	160	5	N/A	Yes	40%	180
29	850	0	7	No	Yes	32%	272
Note: Management Areas 9, 25, 27, and 28 had insufficient data to model detectable prevalence. Modeling performed using the SpeedGoat (https://public.spdgt.com/app/wtsurv) combined deer and elk modeling for CWD prevalence.							

References:

1. Walsh, D.P., *Enhanced surveillance strategies for detecting and monitoring chronic wasting disease in free-ranging cervids*. 2012: US Department of the Interior, US Geological Survey.