2025 RANGE-WIDE STATUS OF BLACK-TAILED AND MULE DEER

Mule Deer Working Group Technical Committee
Western Association of Fish and Wildlife Agencies

Abstract: The purpose of this document is to provide a general overview of the current black-tailed and mule deer (*Odocoileus hemionus*) population status and general abundance trends throughout their range in North America. The Mule Deer Working Group Technical Committee (MDWG) consists of representatives from the 24 state, territorial, and provincial agencies that comprise the Western Association of Fish and Wildlife Agencies (WAFWA). The purpose of the MDWG is to provide a collaborative approach to finding solutions to improve black-tailed and mule deer conservation and management. One of the most common types of information requested of the MDWG is regarding the general population status and trajectory of black-tailed and mule deer populations. Stakeholders are interested in whether mule deer are still declining or in the process of recovering in their jurisdiction. To provide a quick snapshot of the status of this species, we assembled this information by having each agency MDWG representative provide a current population status, as well as general survey and harvest information for their respective jurisdiction. All agencies use very different methods to survey and estimate population parameters and harvest. Some have more rigorous processes than others, based on their resources and management needs. Mule deer populations are below agency goals in most jurisdictions but have been recovering to various degrees for the last decade or more. Of the 23 WAFWA member agencies reporting, mule deer populations over the last 3 years have been increasing in 4, stable in 6, and declining in 11 jurisdictions. Black-tailed deer populations are more difficult to estimate or track trends, but thought to be stable in all 5 jurisdictions.

Black-tailed and
Mule Deer Distribution

Table 1. Range-wide estimation of mule deer population size, harvest, and hunter numbers provided by member agencies of WAFWA. **Click on a state/province/territory name to go directly to that jurisdiction.**

	Estimated Population[1]	3-year Population Trend	2024 Total Harvest	% Males in Harvest	Hunter Numbers
Alberta	150,000	Decreasing	7,825	62%	21,912
Arizona[2]	80,000 – 90,000	Decreasing	8,031	99%	31,497
British Columbia[3]	100,000 - 170,000	Stable	11,089	94%	48,045
California[4]	500,000-1,000,000[4]	Stable	33,014	99%	171,486
Colorado[5]	384,100	Decreasing	28,520	80%	58,312
Idaho	245,000	Increasing	23,898	86%	73,748
Kansas	44,600	Decreasing	1,294	90%	18,550
Montana[6]	249,157	Stable	39,087	86%	147,856
Nebraska[7]	60,000-80,000	Decreasing	5,979	88%	81,673
Nevada	72,000	Increasing	4,270	99%	10,842
New Mexico[5]	80,000 - 100,000	Decreasing	9,103	98%	30,745
North Dakota[8]	14,500 (Badlands)	Decreasing	7,789	63%	9,634
Oklahoma[9]	2,000-4,000	Stable	210	92%	NA
Oregon	171,658	Decreasing	12,299	97%	38,486
Saskatchewan[10]	40,000 – 60,000	Decreasing	6,312	56%	12,482
South Dakota[7,]	115,000	Increasing	6,393	83%	69,553
Texas[2,3]	218,489	Decreasing	8,221	89%	21,153
Utah	295,200	Decreasing	24,721	95%	77,732
Washington[11]	90,000 - 110,000	Increasing	8,533	96%	95,809
Wyoming	230,500	Stable	15,004	95%	34,920
Yukon	1,000	Stable	10	100%	12

[1] Estimated population may be presented as ranges to denote the difficulty and levels of uncertainty in gathering an estimate over a large spatial scale.
[2] Totals for mule deer hunting only.
[3] All data presented are from the most recent year available.
[4] Black-tailed and mule deer numbers combined. "Hunter Numbers" is "number of tags issued," actual number of hunters will be less. Population estimate from 2021.
[5] Estimated population, harvest, and hunters include mule deer and white-tailed deer. These estimates cannot be easily separated because most deer licenses are for either species (In Colorado, approximately 5% of the estimates are white-tailed deer. White-tailed deer comprise approximately 3% of the total harvest in New Mexico).
[6] Hunter Numbers is based on the proportion of all hunters who reported hunting mule deer.
[7] Hunter Numbers reflects total deer hunters including both mule deer and white-tailed deer hunters.
[8] Population estimate is determined for the Badlands, total harvest includes statewide gun and archery harvest, and number of hunters is based on mule deer licenses and any deer gun licenses within mule deer range.
[9] Numbers are difficult to estimate as many permits allow the take of mule deer or white-tailed deer.
[10] Estimates are from 2022 Report.
[11] General season only. Estimate of Hunter Numbers reflects all deer hunters; WA does not estimate hunters by species or subspecies.

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Table 2. Range-wide estimation of black-tailed deer population size, harvest and hunter numbers provided by WAFWA member agencies. **Click on a state/province/territory name to go directly to that jurisdiction.**

	Estimated Population[1]	3-year Trend	Total Harvest	% Males in Harvest	Hunter Numbers
Alaska[2]	326,200–335,200	Stable	13,390	81%	13,051
British Columbia[3]	98,000 - 155,000	Stable	4,585	88%	10,563
Hawaii[4]	No Estimate	Stable	30-50	50-60%	
Oregon	No Estimate	Stable	~30,000	90%	~90,000
Washington[5]	No Estimate	Stable	14,578	92%	95,809

[1] Estimated populations may be presented as ranges to denote the difficulty and levels of uncertainty in gathering an estimate over a large spatial scale.
[2] Deer population size in Alaska is based on ADF&G's population objectives. Objectives were derived based on a combination of habitat capability modeling and expert opinion panels in 2000 by the Alaska Board of Game. Harvest data is for the 2023 hunting season.
[3] All data presented are from the most recent year available.
[4] Estimates are reported for past seasons.
[5] General Season only. Estimate of Hunter Numbers reflects all deer hunters; WA does not estimate hunters by species or subspecies.

Alaska

Sitka black-tailed (SBT; *Odocoileus hemionus sitkensis*) deer are native to Southeast Alaska's temperate rainforests. Due to historic transplants during 1916–1934, SBT deer are established in Prince William Sound and Kodiak Island archipelago. Mule deer and white-tailed deer are not native to Alaska; however, mule deer sightings have been recorded in Alaska and white-tailed deer sightings have been reported just beyond the Canadian border in recent years.

Deer monitoring is difficult in Alaska due to densely vegetated habitat and remoteness. Deer densities differ across their range largely related to geography (e.g., differences in weather, habitat availability, predator populations, hunter harvest). Population objectives for Game Management Units (GMU) were established in 2000 by the Alaska Board of Game. These objectives were based on expert opinion and constitute the best estimate of population levels. Based on these objectives, Alaska's SBT deer population ranges 326,200–335,200.

Alaska Department of Fish and Game (ADF&G) historically used deer pellet count surveys within key watersheds and aerial alpine surveys to assess population trends. These activities were discontinued within most GMUs in 2020. Current monitoring techniques vary by GMU but include deer pellet surveys, post-winter mortality beach surveys, and spring body condition surveys. Projects are assessing deer densities, buck: doe ratios, recruitment, and survival rates within a few GMUs with camera monitoring methods and there is an intensive project in one GMU that is combining movement data, camera grids, and fecal DNA.

SBT deer are an important big game species in Alaska. ADF&G relies on hunters to submit accurate hunt reports to analyze annual harvest and hunter effort, which may be used as coarse indicators of population trends. Harvest and hunter effort varies by location and year (Fig. 1). Federal and state hunting regulations vary by GMU based on perceived local SBT deer abundance. In some GMUs, federal regulations allow rural residents more liberal hunting regulations than non-rural resident and non-resident hunters. Mule deer can be harvested in Alaska year-round, but harvesters must submit samples for disease monitoring efforts.

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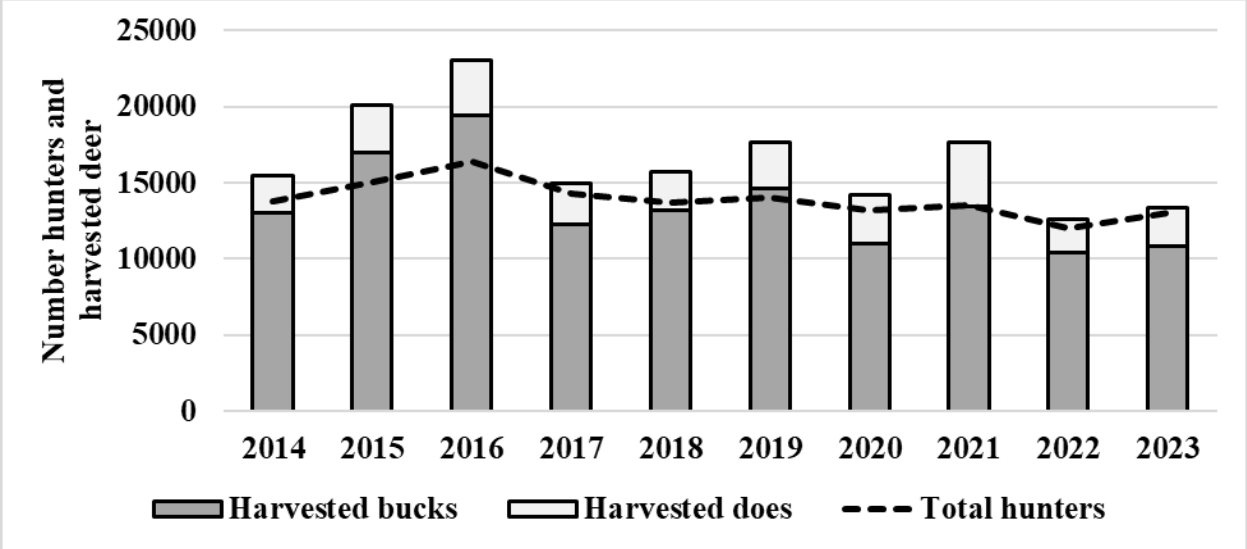

Fig. 1. Statewide Sitka black-tailed deer harvest for regulatory years 2014–2023, Alaska.

-Tessa Hasbrouck, Alaska Department of Fish and Game

Alberta

The 2024 pre-hunting season population estimate of mule deer in Alberta was ~150,000. This represents a continued decrease since the 2021 estimate of 193,000. The population goal for mule deer in Alberta's current management plan (1989) is 97,000. However, a new provincial management plan for mule deer is currently in development and the next iteration will see a change in the provincial population goal that reflects the current state of mule deer management.

The number of antlered mule deer special license applicants decreased in 2024 to 92,679, down from the past 6 years, range of 97,000 to 102,000. Antlerless mule deer special license applicants also increased in 2024 to 43,199 from 41,078 in 2023. Based on hunter harvest surveys for the 2024 hunting season 21,912 mule deer hunters in Alberta directed an estimated 95,544 days hunting mule deer, producing an estimated harvest of 7,825 mule deer (~62% antlered deer), down from 11,179 in 2023 and 15,117 in 2022.

In 2022 Alberta confirmed the intent to manage mule deer in support of maintaining a broader age-class distribution. Informed by discussions with the provincial stakeholder groups, Alberta adjusted the permit setting process to emphasize hunter harvest success as the primary tool used to adjust resident antlered mule deer permits. This led to a decrease in total harvested antlered mule deer from over 8,200 in 2021 to over 4,800 in 2024. Additionally, certain Wildlife Management Units (WMUs) provide unlimited licenses to harvest mule deer where participation, success, and overall harvest is typically low (i.e. remote units and/or low-density mule deer units). Alberta also supports a healthy commercial hunting industry, with approximately 1,500 antlered mule deer licenses available for non-residents through outfitter-guide allocations. There is an unknown number of rights-based hunters in Alberta that do not require a license to hunt for sustenance and thus information on effort and harvest by these groups are unknown.

Alberta implements a big game population monitoring program that aims to survey ungulates on five-year intervals at the WMU scale, although many WMUs undergo longer survey

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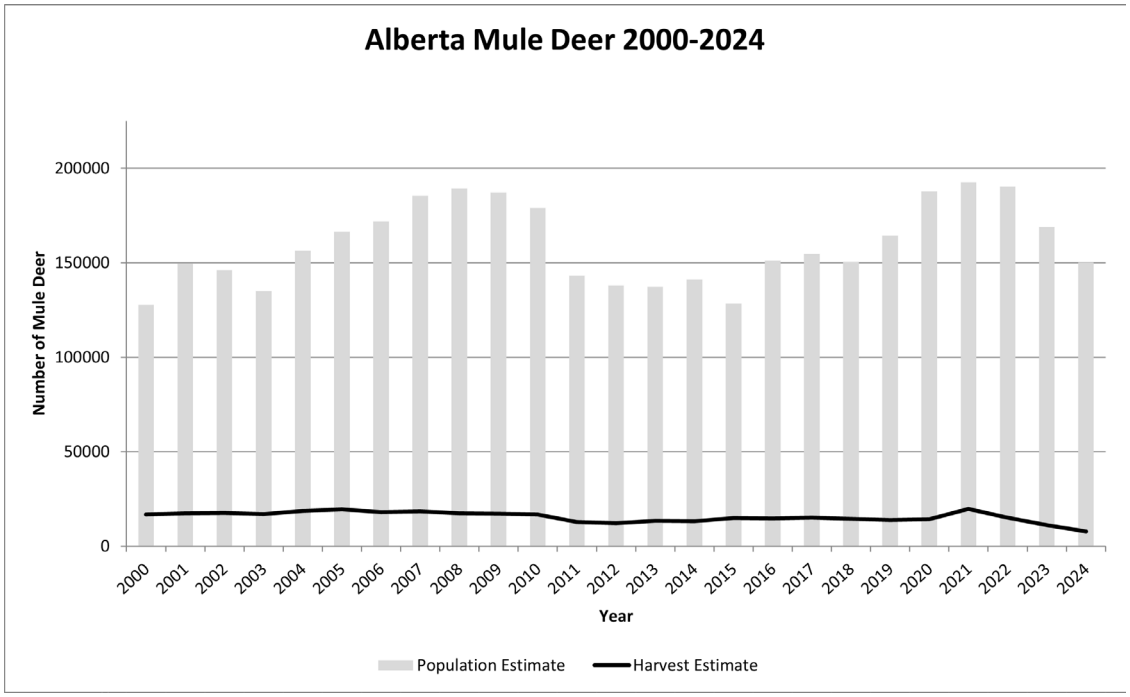
intervals based on funding availability, habitat, and prioritization. This year, in cooperation with several partners, Alberta launched a mule deer collaring program with 112 collars deployed in two study areas. Ninety-two collars were deployed on adult females and 20 collars on adult males. Winter 2025/26 will see the expansion of another study area, or two, and 240 additional collars. Data from the collaring component, including a geofenced highway corridor usage element, combined with mandatory harvest reporting, and coordinated aerial surveys, will be used to address five key objectives: 1) Adult female survival and cause specific mortality. 2) Adult male survival and cause specific mortality. 3) Statistically and financially efficient population monitoring methods/programs. 4) Seasonal movement, natural movement corridors, and seasonal habitat preferences. 5) Regional effects on mule deer abundance and body condition. Results from this program will improve population modelling, engage key stakeholders in mule deer management, and optimize mule deer harvest objectives.

Based on the most recent assessments, average buck to doe and fawn to doe ratios were calculated from surveys flown in Alberta (2024-2025, n=13). The average is 39.2:100 bucks to does (min 16:100, max 62:100; down from 50:100 in 2015-2020), and 61.5 fawns:100 does (min 41:100, max 78:100; down from 68:100 in 2015-2020).

Chronic wasting disease is present in Alberta. Originating along the eastern border, the disease has spread westward and northward and has now been found west of Calgary (in the Great Plains ecoregion), and North of Edmonton (in the Northern Forest Ecoregion). The CWD surveillance program has adapted in recent years resulting in fewer tested heads. The 2024 results are 16.2% positives (n=2, 915) and the discovery of CWD in five additional WMUs. In 2024/25, 26.8% of mule deer tested positive, 8.8% of white-tailed deer, 3.9% of elk, and 3.8% of moose. Elk and moose submitted for testing were primarily from hunter check stations on Canadian Forces Base hunts. In Alberta CWD occurs primarily in mule deer and in males. More information on CWD in Alberta is found at http://alberta.ca/cwd



-Justin Gilligan and Cassandra Hardie, Alberta Forestry and Parks– Hunting and Fishing Branch

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Arizona

In 2024, 8,031 mule deer were harvested (all methods of take). Population parameters indicate the statewide populations are declining in most game management units; drought conditions are impacting recruitment. Most deer populations within the state are surveyed every other year using helicopter or fixed-wing aircraft; however, due to the severe environmental conditions that Arizona is experiencing, supplemental ground and aerial surveys are being conducted in off-cycle years to monitor population ratios and general population health. Mule deer are surveyed during the breeding season to estimate buck:doe and fawn:doe ratios.

The Arizona Hunter Harvest Questionnaire is back on track after experiencing declining response rates from 2016-2018 when the questionnaire changed to an online only response option. In 2018, the questionnaire was provided on the back of the hunt permit-tag and response rates dropped from a historic 40-45% voluntary response to less than 5% response. The 2018 mule deer harvest data was unusable because of wide confidence intervals. For 2024, hunter response rates were at 47.8%, and hunter harvest was estimated using the voluntary mail questionnaire that allowed for an online response option or a mail-in option. Hunters that provided an email address also received a reminder email to submit their questionnaire. For the first time in 2024, hunters were able to opt-in to receive text message reminders for their hunter questionnaire; hunters who opted in to receive text messages also received their hunter questionnaire by text.

Buck:doe ratios for mule deer were managed at 20–30 per 100 and currently the statewide average is 28. Alternative management units were managed at higher buck:doe ratios with added guidelines regarding the age structure of the harvest or hunter density. These units equal about 5% of the opportunity offered annually. The statewide number of fawns per 100 does is 41 which is just within management guidelines (40-50).

Significant harvest reductions have been recommended for the last four years (2021 – 2024); limited draw permits were reduced by 9,200 across the state, a 20% reduction over 4 years. Over-the-counter archery deer hunt opportunity also changed with (1) the establishment of harvest limits by unit and species for the 2022-2023 season and (2) the sale of non-resident over-the-counter archery deer tags was limited to 2,820 for the 2024 calendar year. Both of these implemented changes will continue for the 2025 and 2026 seasons.

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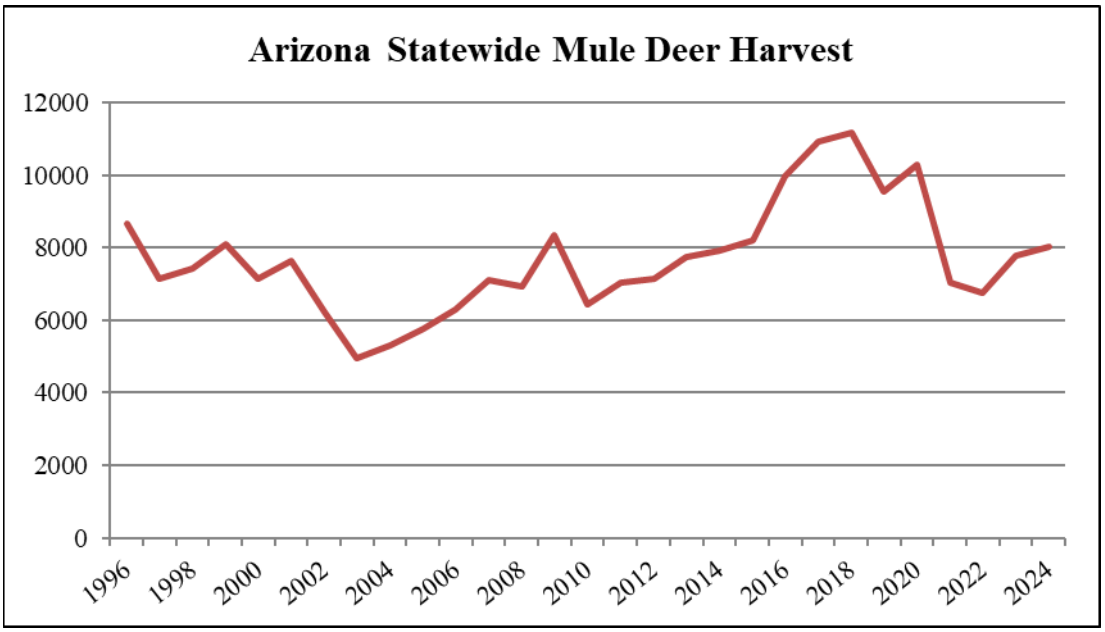

Figure 1. Statewide Mule deer harvest estimates in Arizona from 1996-2024.

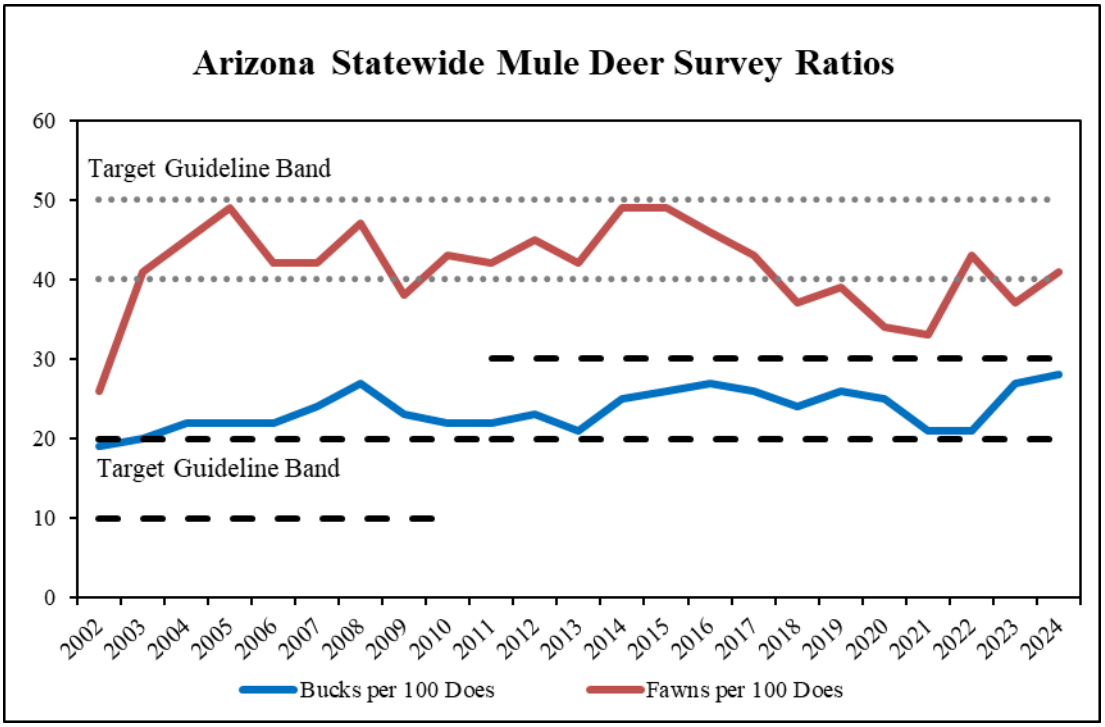

Figure 1. Statewide Mule deer buck to doe and fawn to doe ratios in Arizona from 2002-2024. Guidelines for buck to doe ratios target between 20-30 bucks per 100 does. Guidelines for fawn to doe ratios target between 40-50 fawns per 100 does.

-Erin Butler, Arizona Game and Fish Department

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British Columbia

Mule deer abundance varies throughout the province due to localized differences in habitat quality, predation, winter conditions, and historical and contemporary land use. Extensive wildfires throughout central British Columbia in 2017, 2018, 2021 and 2023 had both positive and negative impacts on mule deer; forage availability increased in many areas especially on summer ranges, but the removal of forest canopies reduced the quality of some winter ranges due to the loss of snow interception and thermal cover. There are concerns that increasing road densities in burned areas could facilitate increased hunter harvest and disturbance. Mule deer hunter numbers and buck harvest had been dropping since a fifteen-year high in 2015 but both increased from their previous year in 2023. The province continues to manage buck harvest through general open seasons using a combination of antler point restrictions (i.e., 4-point or greater) and any-buck seasons in most areas, while other areas have exclusive 4-point or greater seasons. There are also restricted opportunities for antlerless harvest through a draw system.

A landscape-scale research project in the southern interior of British Columbia wrapped up in 2023 after 5-years of collaring and monitoring. Data suggested that deep snow and cold spring temperatures coupled with increasing access had the most negative effect on mule deer survival and population growth rates. Association with early seral habitat afforded by young burns and new cutblocks in the summer improved mule deer survival in British Columbia. The project has scaled back to focus on the proximate versus ultimate factors limiting mule deer populations with a focus on the roles of nutrition and competition in these northern forests.

Chronic Wasting Disease has now been confirmed in British Columbia from six deer (one mule deer) in the Kootenay Region. Population reductions and new orders on mandatory head submissions and transportation restrictions have been implemented in the areas around the detections. These areas border the northwest corner of Montana and northern Idaho.

The previous 2 winters (i.e. 2023/2024 and 2024/2025) were considered relatively mild with below average snow depths and temperatures and likely contributed to improved winter survival for all age classes of mule deer observed during these years. Data in northern British Columbia suggest that data in Northern BC suggest that overwinter fawn survival was relatively good in 2023/24 and 2024/25 and spring recruitment was >40 fawns: 100 does. Recent composition surveys also indicate that buck to doe ratios are generally close to provincial objective of 20 bucks per 100 does post hunt. Continued monitoring of mule deer relative to habitat selection, nutrition, relative competition, and risk of predation is intended to provide evidence of landscape-scale issues limiting mule deer populations in British Columbia.

Trends in the provincial abundance of black-tailed deer vary regionally with recent decreases in southern portions of Vancouver Island and stable populations on northern Vancouver Island. Adeno Hemorrhagic Disease (AHD) on Vancouver Island has reduced local resident populations in recent years and is suspected to still be a factor influencing populations. AHD, coupled with heavy snow and abnormally cold winters have impacted overwinter survival, particularly of juveniles from the winter of 2022/23 through the winter of 2023/24. Predation from wolves and cougars on black-tailed deer continues to be a factor affecting populations in many areas as well as the need for effective measures to conserve high quality habitat at the appropriate spatial scale. Columbian black-tailed deer buck harvest has dropped by approximately 50% since the early 1990s despite a >30% increase in hunter effort. There is some opportunity for antlerless harvest, which is mostly limited to youth hunting on Southern Vancouver Island and the rural and agricultural areas. Harvest is relatively low. In general, Columbian black-tailed deer numbers are

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thought to be most impacted by increased predation and reduced habitat quality. The latter being a major influence during years of high snow fall. Areas of intensive forestry activity have increased road densities and young successional forests. These are assumed to result in increased mortality rates on deer due to the creation of travel corridors for predators (including hunters) and fragmenting or removing important habitat. A study initiated on Vancouver Island in 2023 aims to look at habitat use and mortality factors affecting deer survival. This is expected to be a five-year project with the aim at directing management decisions affecting populations. Maintaining or increasing deer populations will remain challenging given current predator densities and lack of measures available to mitigate disturbance and improve seasonal ranges however this research may identify areas with the most benefit.

Sitka black-tailed deer were introduced to Haida Gwaii, an archipelago off British Columbia's west coast, in the late 1800's and early 1900's as a source of sustenance and sport. The islands are remote and immigration and emigration of deer with the mainland does not occur. The only terrestrial predators are black bears and the density of deer is high to very high, relative to most black-tailed deer populations in British Columbia. This has reduced both the biomass of understory plants and diversity of vegetation on most of the islands. Attempts to reduce numbers through controlled removals have been met with limited success. Hunters living on the islands or that are willing to travel to the islands are offered liberal bag limits and long seasons for bucks and antlerless deer to help manage the population.

British Columbia uses a harvest questionnaire to determine combined general open season, limited entry harvest and hunter effort for mule deer and black-tailed deer. Estimates of harvest and effort are generated for each Wildlife Management Unit.

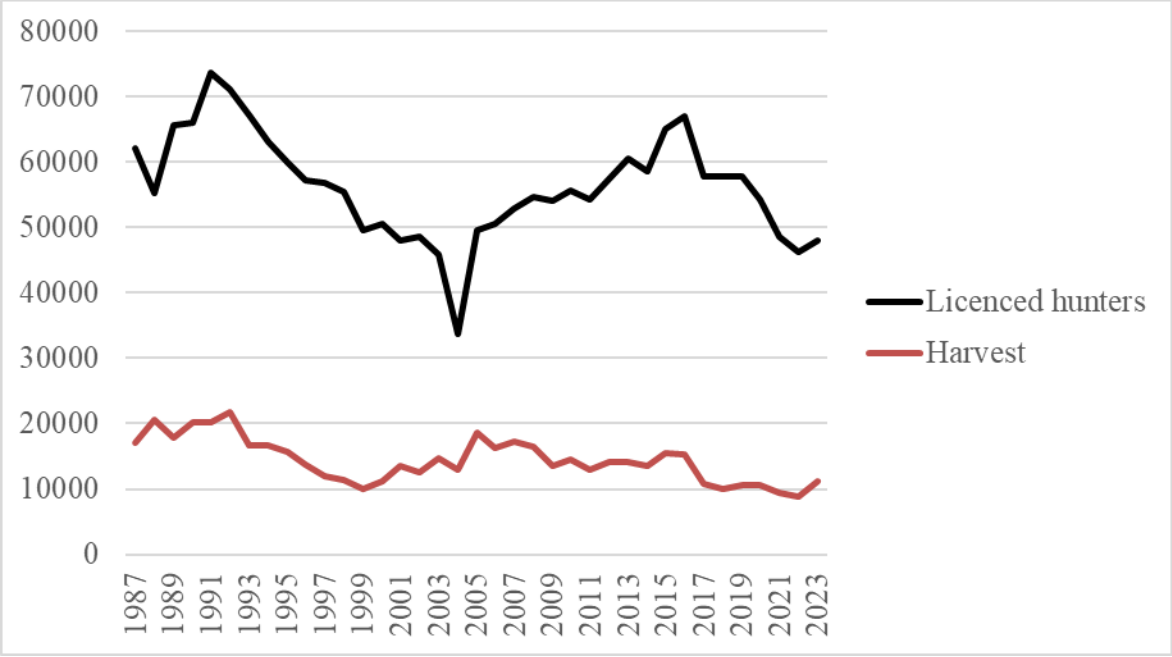

Figure 1. Mule deer hunter and harvest estimates in British Columbia from 1987-2023.

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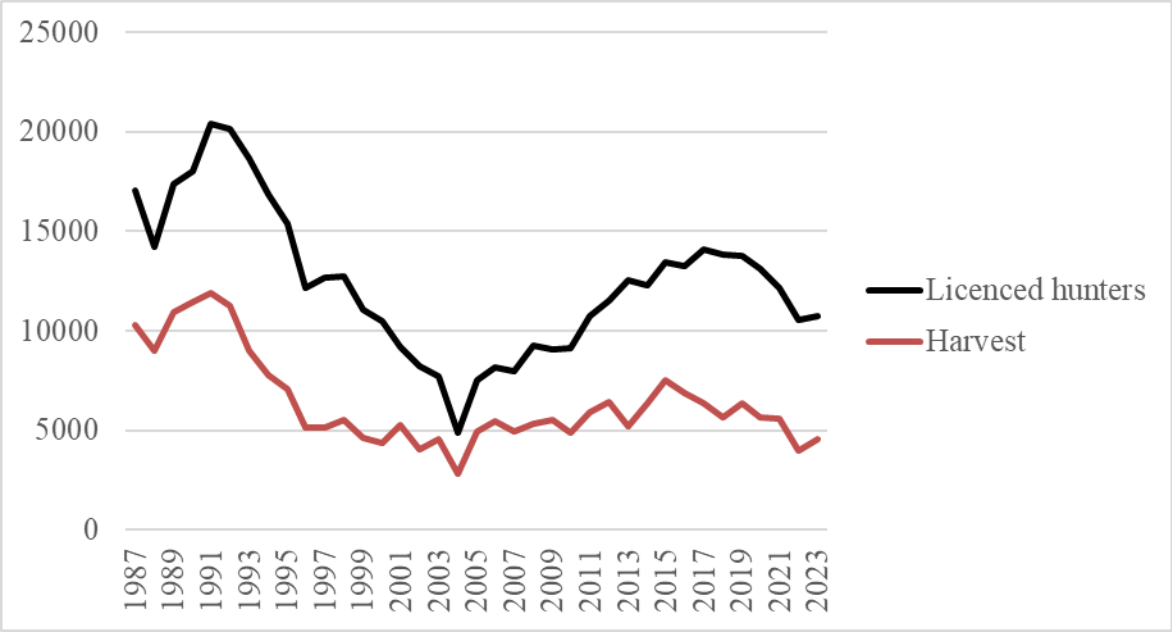

Figure 2. Black-tailed deer hunter and harvest estimates in British Columbia from 1987-2023.

- Andrew Walker, British Columbia Ministry of Water, Land and Resource Stewardship

California

Deer populations in California appear relatively stable at the statewide level; however, the state's diverse habitats support very different local population dynamics. In some areas, such as parts of Nevada County, we see high densities of resident deer that may be reaching levels of overabundance, leading to increased human-wildlife conflict. In contrast, we're concerned about declining or poorly understood trends in migratory populations in the northeast, where habitat loss and landscape change may be impacting movement and survival. To address this, we're investing in additional research and tracking efforts to better understand these migratory herds and inform future management. The California Department of Fish and Wildlife (CDFW) is developing a Statewide Deer Conservation and Management Plan (Plan) that emphasizes adaptive, data-driven decision-making to conserve black-tailed and mule deer across California's diverse landscapes. Recognizing the state's ecological complexity, the Plan will guide the development of region-specific strategies that apply the most effective monitoring methods based on terrain, access, habitat type, and seasonal deer distribution.

To support this effort, CDFW has geographically increased investment in fecal DNA surveys, camera traps, aerial surveys, and expanded its monitoring toolkit to include emerging technologies such as infrared imaging. These methods provide estimates of population density, demographic ratios, and vital rates like survival and recruitment. Using data collected from 2015 to 2024, the Department is developing a statewide baseline population estimate to serve as a foundation for assessing trends and informing future management decisions. Fecal DNA and camera data are analyzed using Spatial Capture-Recapture (SCR), N-mixture, and Royle-Nichols models, which enable robust density estimates while accounting for environmental variation.

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Preliminary modeling places California's combined black-tailed and mule deer population between 500,000 and 1,000,000.

To integrate multiple data streams and estimate key demographic processes, CDFW is implementing an Integrated Population Model (IPM). This approach combines survey data, camera detections, and vital rates within a Bayesian framework. The IPM will be used to estimate the abundance of fawns, does, and bucks in each management unit annually, enabling scenario-based projections and evaluation of management actions. Monitoring vital rates is essential to this effort. CDFW has deployed over 2,500 GPS collars statewide since 2014, with a renewed focus on buck survival using improved collar and ear tag technology.

Since 2001, the estimated statewide deer harvest in California has ranged from approximately 26,000 to 40,000 annually (Figure 1). Year-to-year variation is influenced by multiple factors, including fluctuations in deer abundance, weather conditions before and during the season (e.g., early snowstorms that push migrants out of the high country or arid conditions that concentrate deer at water sources), wildfire-related access restrictions, and the inherent uncertainty in population estimates.

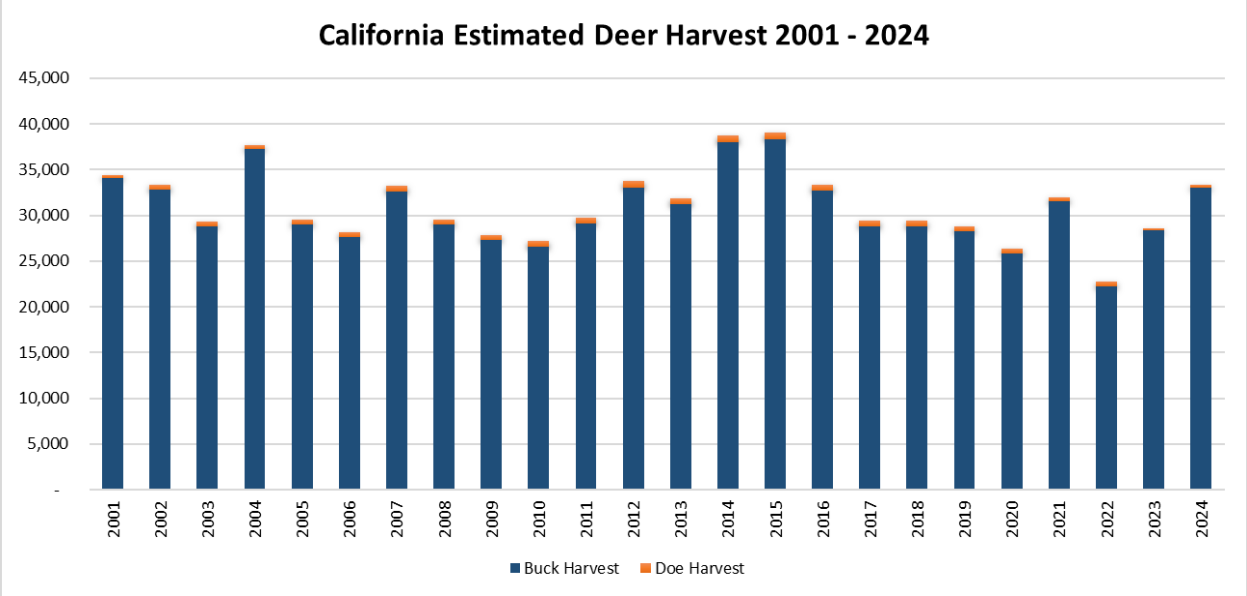

Figure 1. Harvest estimates of California deer 2001 - 2024.

- Brian Leo, California Department of Fish and Wildlife

Colorado

The Colorado mule deer population increased from the 2023 to the 2024 post-hunt estimate but has been on a declining trend over the last several years (Figure 1). The winter of 2022-2023 was above average in severity on the entire Western Slope and was extremely severe in the Severe Winter Zone in the northwestern portion of the state. The statewide post-hunt 2024 deer population estimate is 384,000, up from 376,000 last year. (Figure 1).

Over the last 10 years the population has averaged 412,000 (Figure 1). The decade prior to that was marked by significant declines in the some of the large westernmost herds in the state. The sum of statewide population objective ranges is 389,000-497,000 for all 51 deer herds combined. In 2024, 18 of 51 (35%) deer herds are within Herd Management Plan population

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objective ranges and 25 of 51 (49%) deer herds are below their population objective ranges. For a variety of reasons, many mule deer populations are struggling in Colorado and west-wide. Population objectives that are appreciably higher than population estimates reflect Colorado Parks and Wildlife's (CPW) desire to stabilize, sustain, and increase mule deer populations.

Diverse habitat types and environmental conditions around the state create considerable geographic variability in population performance. Many deer herds on the plains and central mountains are performing well. There is reason for concern about declines, particularly in many of the large westernmost herds in Colorado.

CPW uses spreadsheet models to estimate population size. These models rely on data from age and sex classification, harvest surveys, and survival monitoring. Annual population and sex ratio estimates are compared to long-term Herd Management Plan population and sex ratio objectives for each herd to establish harvest quota recommendations for the next hunting season.

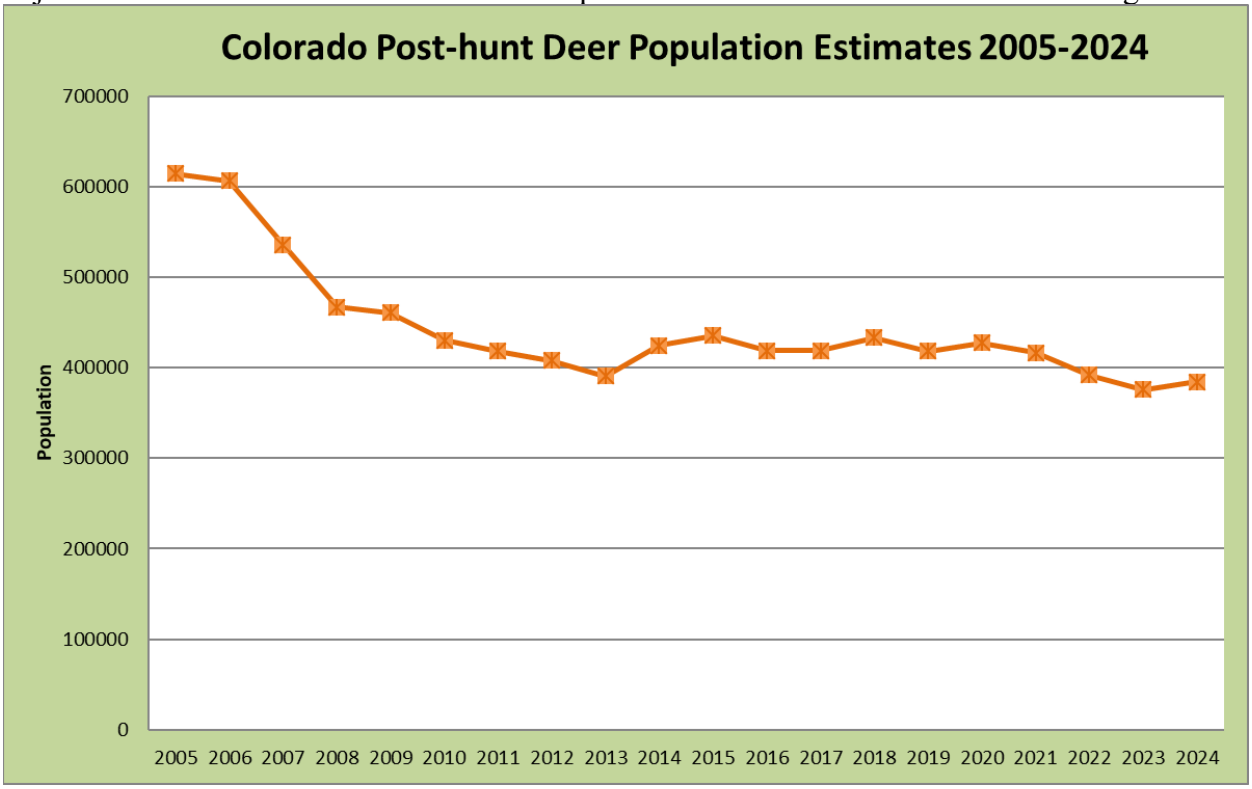

Figure 1. Colorado post-hunt deer population estimates from 2005-2024.

CPW intensively monitors annual adult doe survival and winter fawn survival in five mule deer sentinel herds. We also monitor buck survival in two of these herds. These herds were selected to ecologically and geographically represent mule deer west of Interstate I-25. CPW annually monitors well over 1,000 GPS-collared mule deer in the five intensive monitoring areas and other herds. Survival rates from these sentinel herds are used in deer population models for the rest of the herds west of I-25. Since 1997, annual adult doe survival has averaged 82% and over-winter fawn survival has averaged 68%. Since 2008, annual buck survival in two of the five monitoring areas has averaged 78%.

CPW conducts post-hunt herd inventories primarily with helicopters to estimate the sex ratios of males/100 females and the age ratios of young/100 females. The average of sex ratio objectives for deer herds statewide is approximately 30 bucks/100 does. During the post-hunt herd

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inventories in 2024, CPW staff classified 73,900 deer and observed an average sex ratio of 31 bucks/100 does, up from 30 bucks/100 does in 2023. The statewide average observed age ratio from helicopter inventory was 59 fawns/100 does, compared to 58 in 2023. In addition to survival rates, these ratios are necessary to estimate population size using population models.

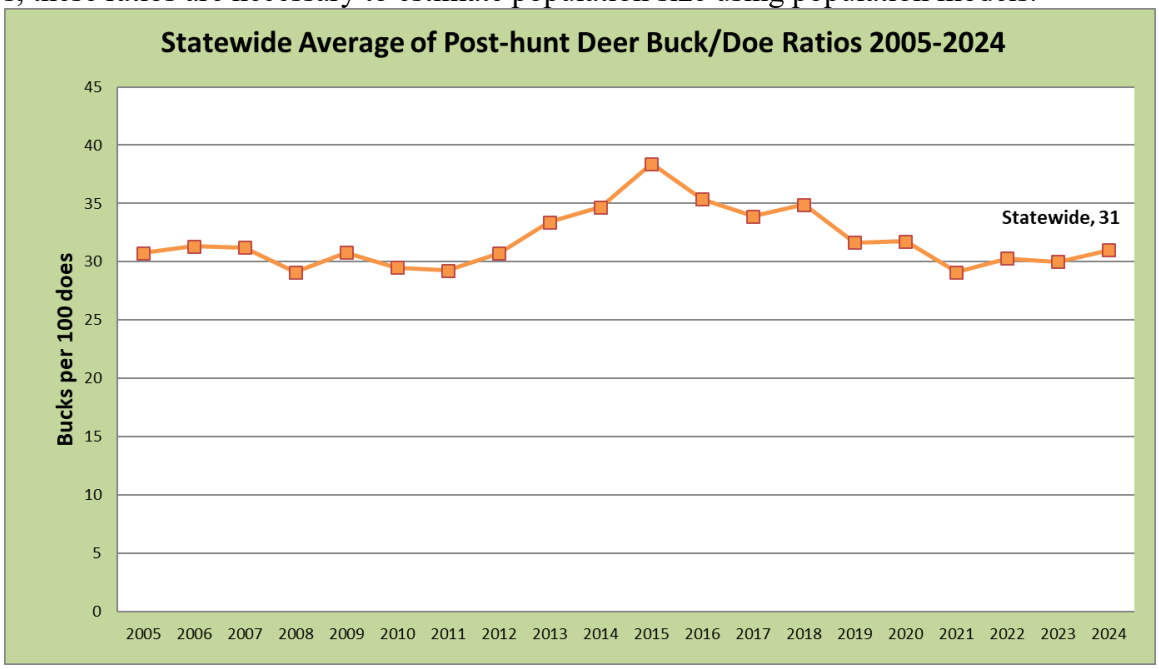

Figure 2. Colorado statewide average of observed post-hunt bucks/100 does for 2005-2024 weighted by herd population size.

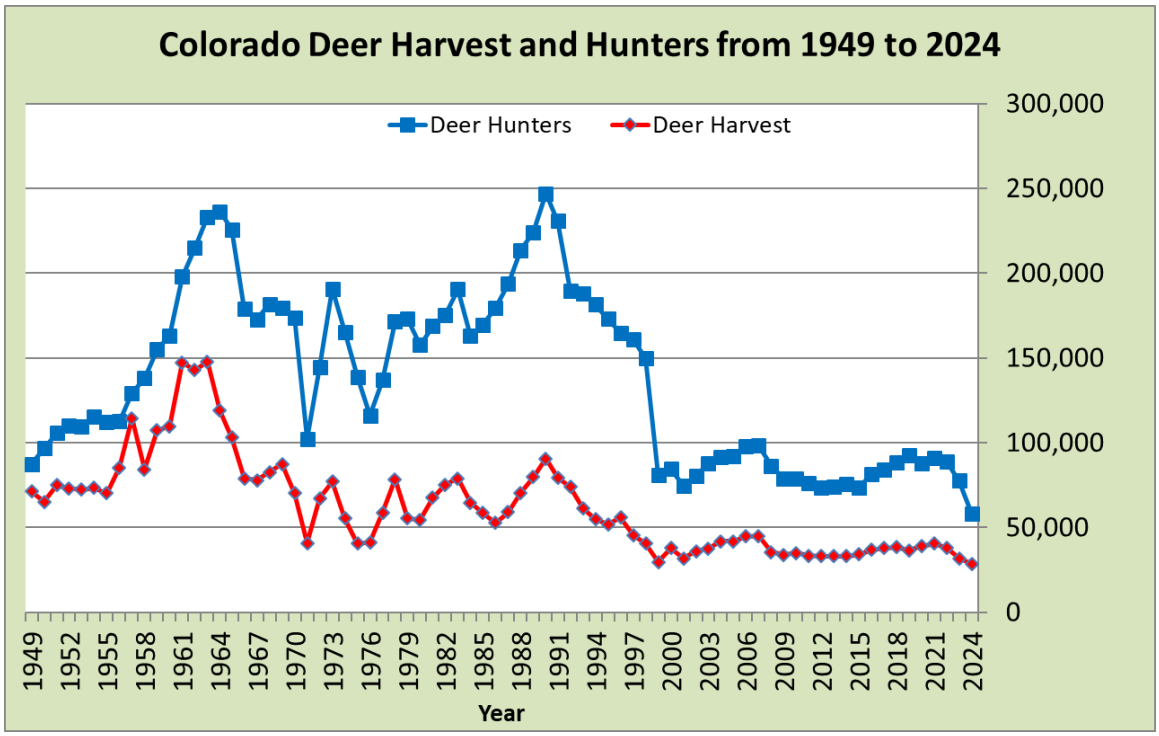

Figure 4. Colorado statewide hunters and harvest from 1949-2024.

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Since 1999, all mule deer hunting in Colorado is by limited license only. Since limitation license numbers and harvest are most stable, but at much lower levels (Figure 4). Based on observed post-hunt sex ratios and an average hunter success rate of 49% for all rifle seasons in 2024, deer hunting continues to be good and Colorado remains a premier destination for mule deer hunters.

-Andy Holland, Colorado Parks and Wildlife

Hawaii (Kauai Island: Introduced Black-tailed Deer)

Since the introduction of the Oregon black-tailed deer to west Kauai in 1961, its range has expanded to the south and east sections of the island. The deer population on Kauai's public hunting areas is estimated to be between 950 to 1050 animals. Population estimates on private lands are not known at this time. Kauai uses the Aldous (1944) browse survey method which was modified to better fit Hawaiian environments.

Kauai experienced 2 major wildfires in 2012, the Kokee forest fires consumed just over 1000 acres of State Forest Reserves and severely impacted much of the deer hunting range. The 2013 deer hunting season was restricted to portions of the range not impacted by the wildfires. In 2014, all black-tailed deer hunting units were re-opened.

In July 2015, two hunting units underwent changes to include year-round hunting and increased bag limits. The changes were needed to address ungulate damage to native forest watershed and to protect threatened and endangered plants. Six deer hunting units remain seasonal during the fall months.

In 2003, the U.S. Fish and Wildlife Service designated Critical Habitat for over 80 species of endangered plant species on Kauai. Between 2007 and 2016, three large watershed ungulate exclusion fences were constructed totaling thousands of acres of the Alakai Wilderness Preserve, Hono O Na Pali Natural Area, and Kuia Natural Area to protect endangered Hawaiian plant species from ungulate damage. Animals within the fences including feral pigs, feral goats, and black-tailed deer were removed through intensive hunting, trapping, and snaring.

Trends in harvest of black-tailed deer from 2003 to 2019 on Kauai public hunting areas.

Year	Buck	Doe	Total
2003	45	19	64
2004	39	12	51
2005	32	8	40
2006	32	2	34
2007	32	4	36
2008	51	2	53
2009	29	0	29
2010	26	0	26
2011	30	0	30
2012[1]	4	0	4
2013[1]	5	0	5
2014[2]	36	0	36

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2015[3]	36	15	51
2016	37	33	70
2017	31	24	55
2018	25	7	32
2019	22	15	37

[1] Two units closed to deer hunting due to wildfires
[2] All units reopened to deer hunting
[3] Two units open to year-round deer hunting

-Thomas Ka'iakapu, Hawaii Division of Forestry and Wildlife

Idaho

Mule deer populations are rebounding following the devastating winter of 2022/2023 which was hard on populations across southern Idaho but particularly severe in some locations, reducing both adult and fawn survival. As a result of the 2022/2023 winter, the commission kept antlerless hunts to a minimum across southern Idaho. Mule deer overwinter fawn survival for the 2023-2024 winter was 77% statewide which is significantly above the 30% survival from 2022-2023 and above the long-term average (57%). Weather conditions during 2024 throughout southern Idaho were average for moisture and temperatures.

The state continues the process of refining population monitoring techniques to allow total population estimates through a combination of aerial sightability surveys, survival estimates, composition surveys, and modeling. Annual mule deer abundance is estimated using an integrated population model that can incorporate data from different population monitoring techniques. Winter 2024 population levels increased to approximately 245,000 mule deer south of the Salmon River drainage compared to the estimated 230,300 mule deer of January 1, 2023, which is an 9% increase. Overall survival of radio-collared fawns from December 2024 through March 2025 has been moderate, fawn survival is measured through May 31st.

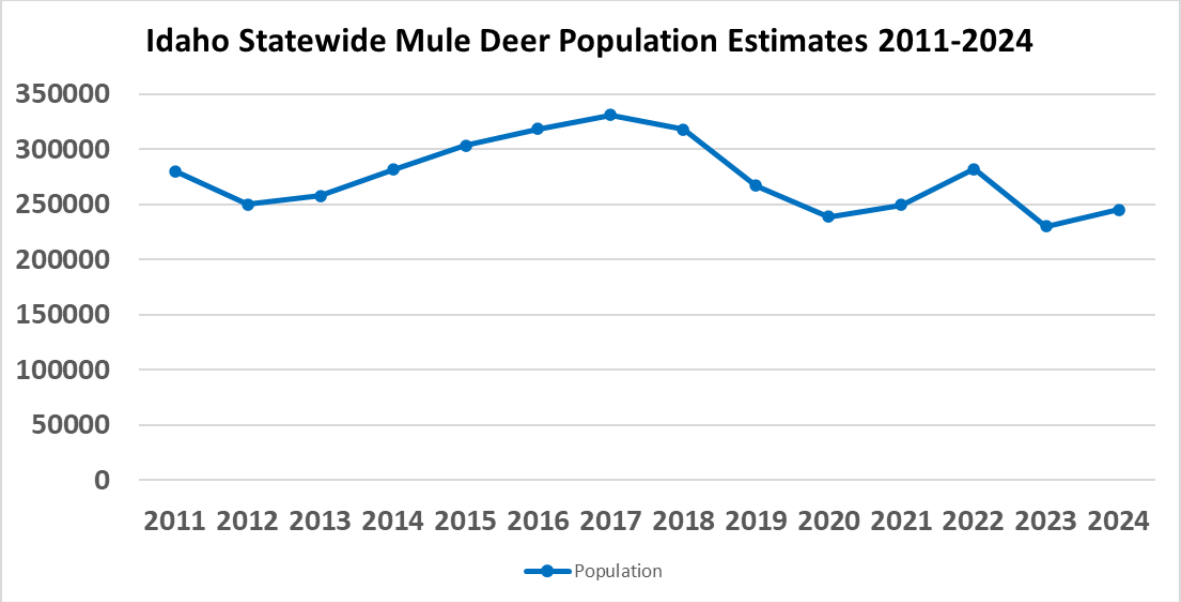

Figure 1. Mule deer population estimates from the Salmon River drainage south. Estimates are midpoint of confidence limits based on an integrated population model.

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Short- and long-term objectives are to increase mule deer numbers. Post-season buck ratios averaged 24 bucks :100 does and December 2024 fawn: doe ratios averaged 68 fawns:100 does which is higher than average.

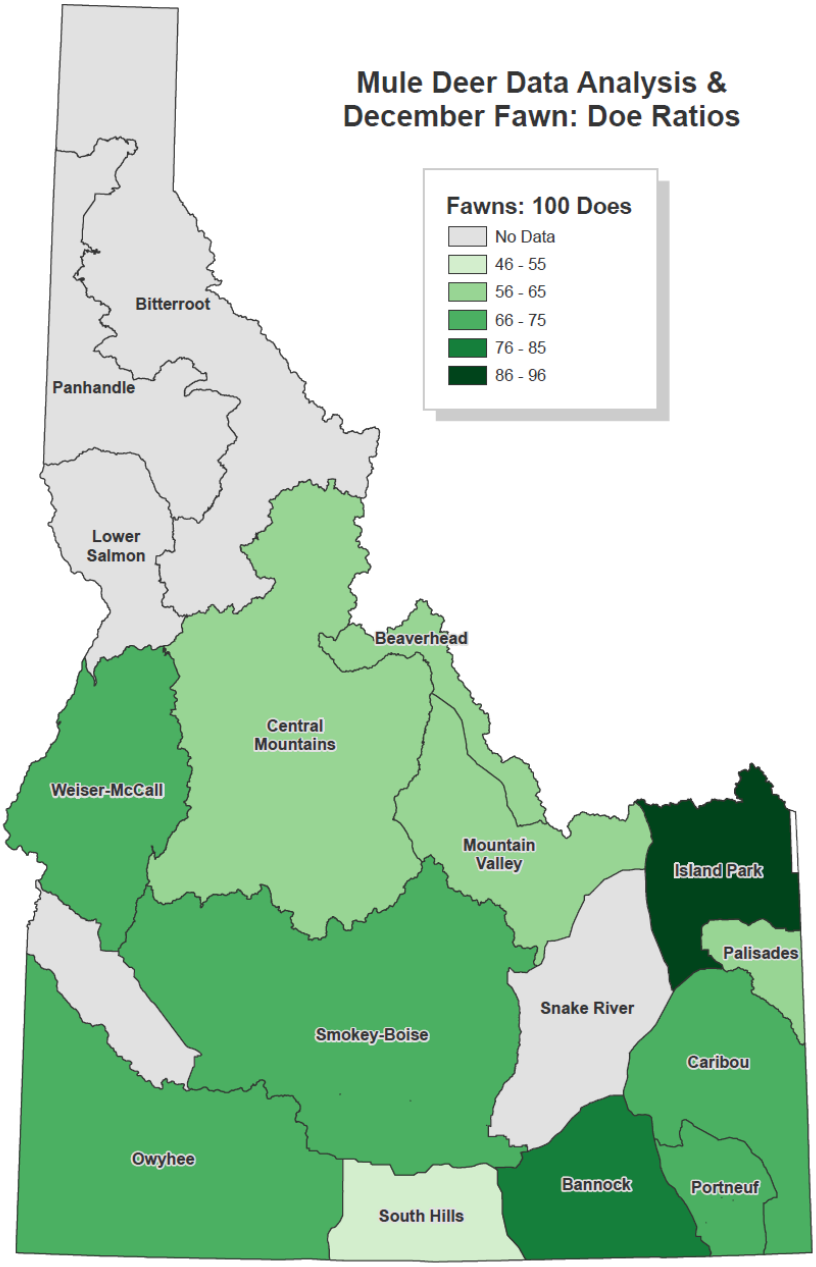

Figure 2. Most recent fawns:100 does by mule deer data analysis unit (2022-2023)

Mule deer harvest in Idaho has been relatively stable since the early 2000s with a notable increase in 2014-2016 corresponding to increased deer numbers during those years. Recent sales data indicate increased demand for mule deer tags from nonresident hunters coming to Idaho. Percent bucks with 4-point-or-better antlers harvested in any weapon-controlled hunts have remained at or above 40% since 2010 and were 67% in 2024.

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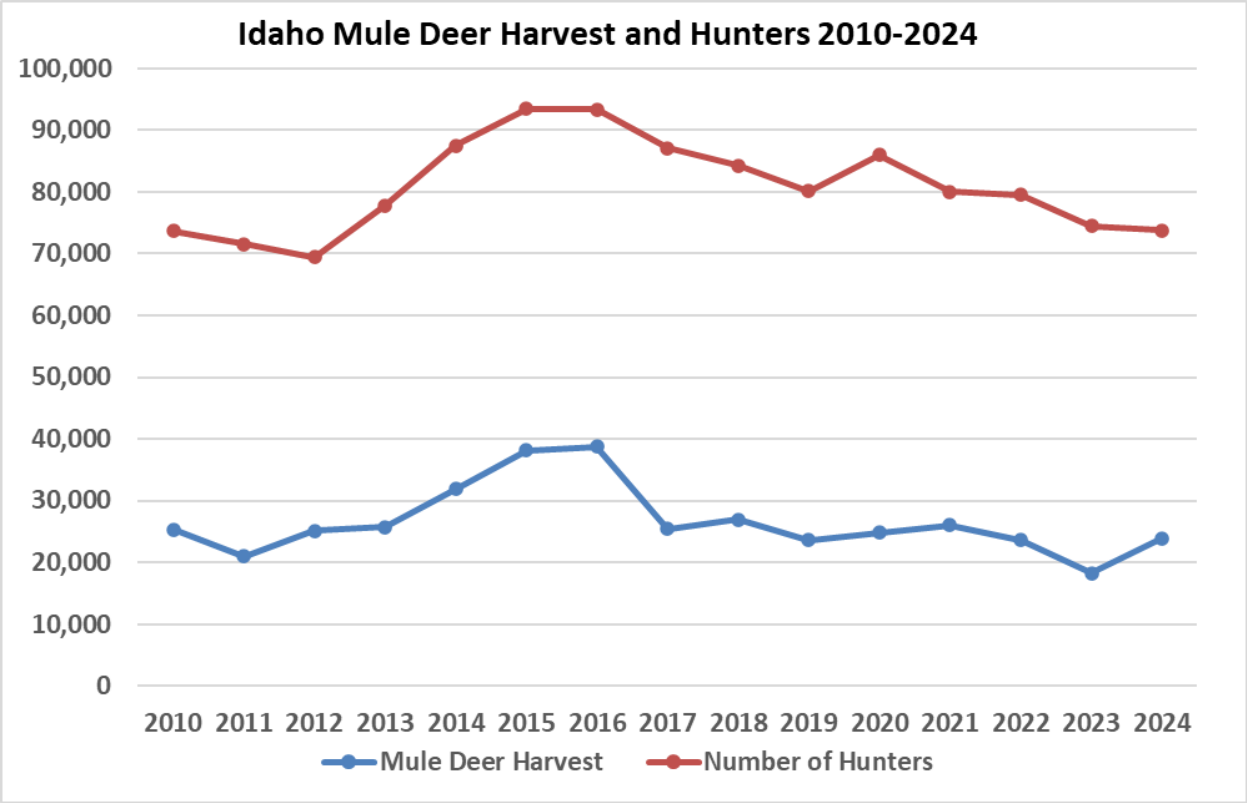

Figure 3. Total Idaho Mule Deer Harvest and Mule Deer Hunters, 2010 – 2023

Idaho detected its first CWD-positive case in November 2021. Since 2021, the department has detected CWD in units adjacent to the first detection, indicating some level of spread. In addition, a new detection was made in white-tailed deer in GMU 1 in the panhandle of Idaho. Since 2021, the department has taken aggressive steps to increase harvest in the areas of detection to obtain more samples for surveillance purposes and to reduce disease prevalence, including increasing tag numbers and an additional surveillance hunt in a portion of GMU 1.

So far, the Department has detected CWD in mule deer, white-tailed deer and elk. During the 2024 hunting season sample prevalence was 0.5% for mule deer and 3.6% for white-tailed deer in all GMU 14 and 0.33% prevalence in white-tailed deer in GMU 1. Elk prevalence is very low.

The Commission expanded the mandatory sampling areas in reaction to the new detections and created a new CWD management zone in GMU 1. Our efforts are now split between the 2 CWD management zones as well as remaining diligent in our surveillance efforts along the Wyoming and Montana borders with current detections. In addition, we conduct focused sampling in other geographic areas in Idaho on a rotational basis. Idaho will continue surveillance and adaptively manage ungulate populations in the affected areas to reduce and maintain low prevalence and reduce the spread of the disease from the positive areas. Since July 1, 2024, 5,751 total CWD samples were taken statewide.

-Toby Boudreau, Idaho Department of Fish and Game

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Kansas

Mule deer populations continue to decline along the eastern tier of counties where mule deer occur in Kansas. A spotlight distance sampling survey was implemented in October - November to estimate density and population size of mule deer in the east and west mule deer hunting zones. The mule deer population in the west zone of Kansas in 2024 was estimated to be 1.8 mule deer/mile^2 (95% CI: 1.1 – 2.7) while the density in the eastern zone was unable to be estimated due to lack of mule deer observations, resulting in a pre-firearm season total population estimate of 44,600 ± 9,700 mule deer. In the west zone, the mule deer buck:doe ratio was 34.1B:100D. Fawn:doe ratio in the west zone was 32.9F:100D. Mule Deer abundance below observable levels along with poor reproductive rates of mule deer in Kansas is a critical concern of KDWP.

The major goal of deer management in Kansas is to maintain herd size at socially acceptable levels. This largely means minimizing landowner damage complaints and deer/vehicle accidents, while maintaining quality hunting opportunities in regard to hunter observations of deer and harvest opportunities. Currently, both hunters and landowners are expressing concern about the declining mule deer population in both zones, thus the current management goal is "more" mule deer and current population levels are below goals.

Management for mule deer receives enthusiastic support from deer hunters. Hunters want more mule deer and fewer hunters competing for permits and hunting locations. Hunting regulations in Kansas have been liberal for white-tailed deer while being restrictive for mule deer. Mule deer could be taken on 17.5% of the either sex deer permits issued in Kansas last year. Landowners received 55.1% of those permits. Each of those permits allowed only one deer to be taken but it could be either a mule deer or a white-tailed deer. By allowing either species to be taken, the permit system generally takes hunters out of the field earlier in the season as compared to a mule deer only permit system and takes pressure off mule deer while allowing approximately 17,000 people on average have the potential to pursue mule deer each year while keeping these hunters' satisfaction higher. Hunters have taken an average of 1,835 mule deer/year during the last 10 years while the average for the last 5 years of 1,552 is 15% lower. In an effort to expand and increase the mule deer population, reductions in the permit quotas have been made in recent years. In 2023, for the seventh consecutive year, no antlerless permits allowing the take of mule deer were issued.

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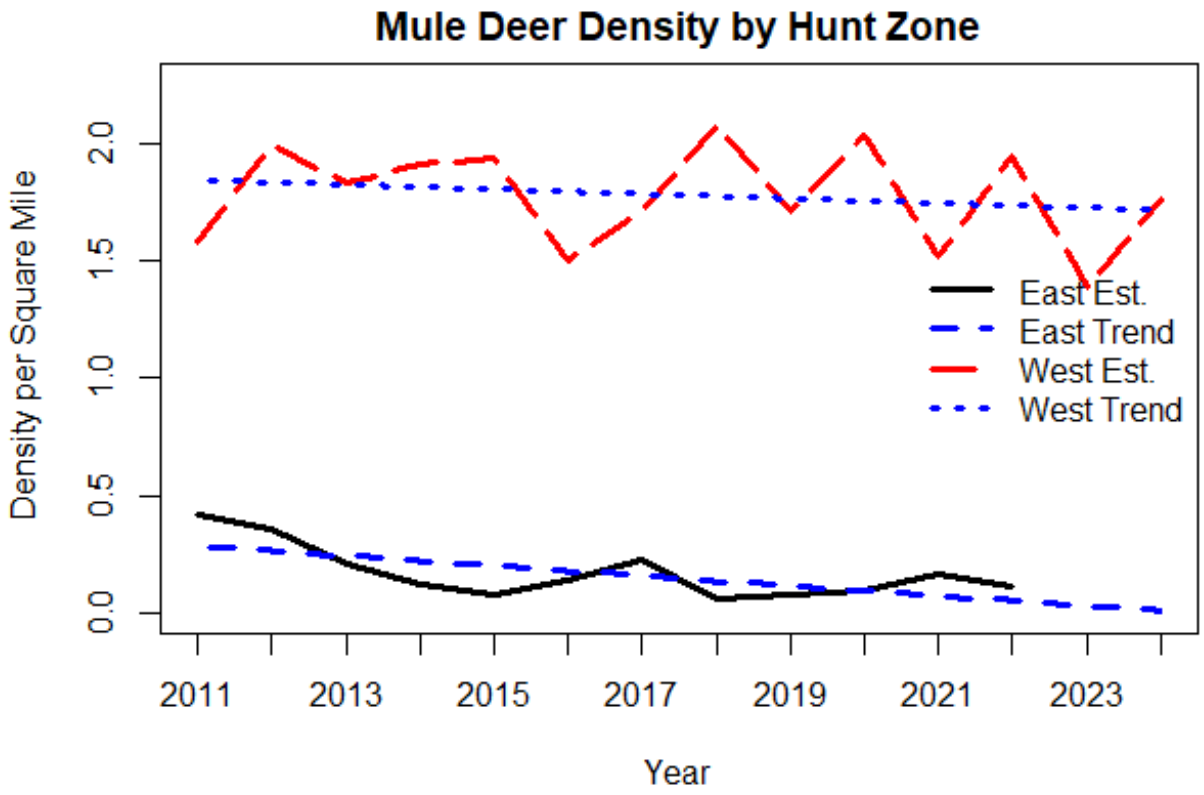

Little information is available on survival, reproductive rates and habitat use of mule deer in Kansas and much has been inferred from studies conducted in other locales. In February 2018, Kansas Department of Wildlife and Parks initiated a three-year study to investigate adult and fawn survival rates, reproductive rates, home range size, habitat use, harvest vulnerability, and inter-species interactions of mule deer and white-tailed deer in western Kansas. This study was completed in 2021. Adult male annual survival was 0.54 ± 0.05 and firearms hunting was the main source of mortality. Adult female survival was 0.78 ± 0.03. Mule deer fawn 10-week survival was 0.28 ± 0.06 with predation and exposure being the leading mortality factors. Habitat use preferences indicate that mule deer rely heavily on Conservation Reserve Program (CRP) grasslands in all life stages and that higher-than-average landscape roughness and elevation were preferred. In the absence of the ability to increase landscape roughness and elevation conservation of mule deer will likely focus on providing high quality grasslands. In 2022 and in 2023, in response to severe drought, CRP grasslands were opened to haying and grazing. The widespread haying and grazing that then occurred is likely to have drastically and negatively altered important mule deer habitat in Kansas. In 2024, timely participation resulted in somewhat improved habitat conditions, particularly improvement in cover availability and structure, likely resulted in the population increase observed during annual surveys. Additional genetic analyses indicate that mule deer in western Kansas suffer from low genetic diversity and that there is some hybridization between mule deer and white-tail deer occurring.

Public interest and concern about chronic wasting disease (CWD) has been renewed recently. CWD prevalence is greatest in the western portion of Kansas where mule deer are endemic. To reduce CWD prevalence, KDWP has maintained elevated white-tailed deer antlerless only permits in deer management units (DMUs) around core CWD areas. Mule deer populations

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in these DMUs may be indirectly affected by increases in whitetail deer harvest pressure or directly through accidental harvest of mule deer.

-Levi Jaster, Kansas Department of Wildlife and Parks

Montana

Montana Fish, Wildlife & Parks relies on harvest and population survey data for making mule deer management recommendations and decisions. Harvest data is collected through annual post hunting season phone surveys that randomly survey a sample of deer hunters that self-report success and effort. The survey provides an estimate of harvest within an 80% confidence interval. Population trend data are collected through aerial surveys of 76 trend survey areas across the state that represent deer across a diversity of habitat types. Additionally, the department is statutorily required to estimate the statewide mule deer population, annually. However, the estimate is based on a crude model and is not used for making management recommendations.

In 2024, 255,120 deer licenses and permits (LPTs) were issued statewide, comprising 219,553 LPTs for residents and 35,567 LPTs for non-residents. Mule deer hunting regulations for many years have included one antlered deer during a 6-week archery season followed by a 5-week rifle season. Antlered mule deer harvest has been viewed as an index of population size and trend. Statewide antlered mule deer harvest increased annually from 2010 through 2016 to a 22 year high of 45,564. In 2024, the statewide mule deer buck harvest estimate was 33,603; this was below the 1960–2023 average of 44,556 (Figure 1).

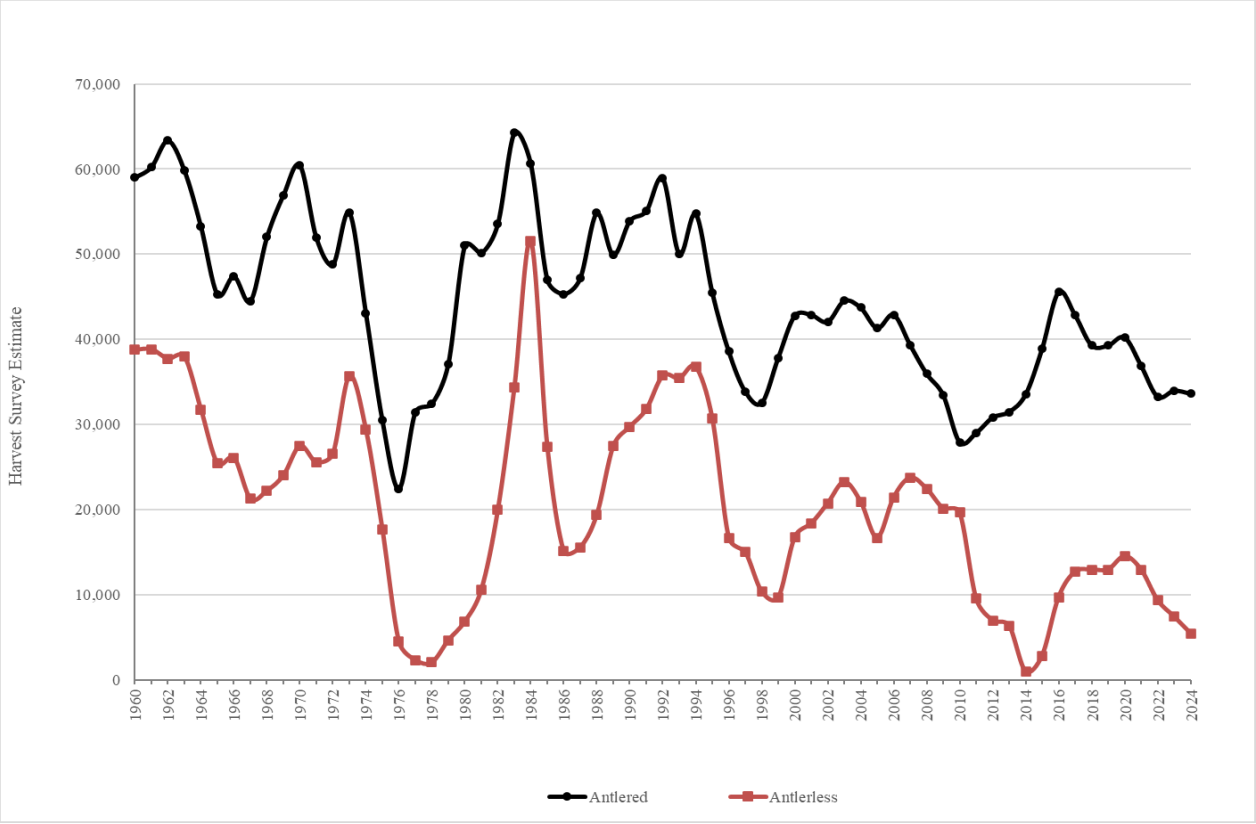

Figure 1. Montana statewide mule deer harvest, 1960–2024.

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The antlered mule deer harvest (Figure 1) and statewide population estimate (Figure 2) suggest that the statewide mule deer population experienced a modern low within years 2010–2012. This low was influenced by severe conditions (extended cold temperatures and deep snow) across the eastern half of the state during winter periods 2009–2010 and 2010–2011. From 2011 through 2017, the statewide population estimate increased from 211,361 to 386,175 (Figure 2) and statewide antlered mule deer harvest increased from 28,985 to 42,851 (Figure 1), suggesting a population increase during that period. Survey and harvest data suggest a slight decline in mule deer statewide since 2017. This decline was likely the result of severe winter conditions across the state during 2018–2019 and from severe widespread drought conditions more recently.

Within the state, long-term mule deer populations have varied. Those across the western third of the state, in the mountain-foothill environments, have generally trended down and remain below historical highs and means. Habitat changes facilitated by conifer forest succession, overuse of browse resources by mule deer, and increased resource competition from growing populations of elk and white-tailed deer are believed to be primary influencers of mule deer trend across the mountain-foothill environments. Populations across the eastern two thirds of the state, in the prairie-breaks environments, have generally remained stable or decreased in response to drought and poor forage conditions.

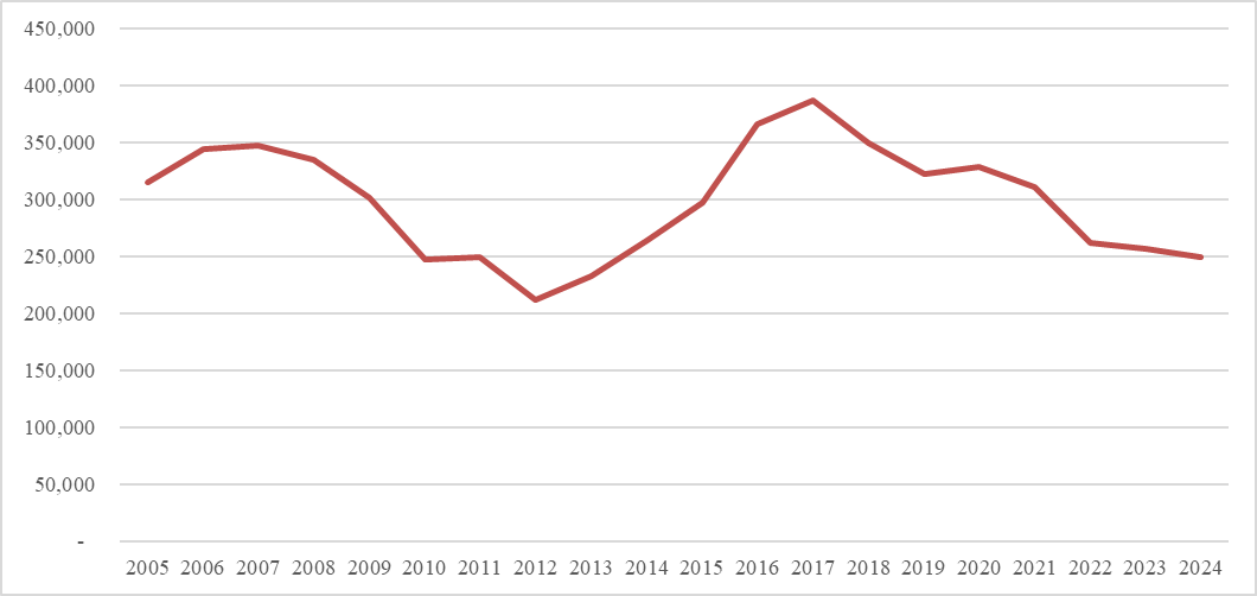

Figure 2. Montana statewide mule deer population estimate, 2006–2024.

The statewide estimate for deer (mule and white-tailed) hunters was 147,856 in 2024, slightly less than the previous 10-year average of 149,740. The average hunter spent 8 days afield. The number of deer hunters in Montana peaked at 201,576 in 1994, decreased to 148,461 in 1999, and has remained relatively stable since that time.

Since 2001, mule deer harvest regulations across Montana have been guided by the state's Adaptive Harvest Management (AHM) plan. This plan provides harvest regulation guidelines for antlered and antlerless mule deer based on recruitment, population surveys, and hunter harvest data for five population management units which were developed based on ecotype. Working

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within these guidelines, biologists have reduced antlerless harvest opportunity as modern populations have trended down (Figure 1).

In early 2024, Montana Fish, Wildlife and Parks initiated development of a new statewide Mule Deer Management Plan. Public concern regarding diminished mule deer populations and other contributing factors have highlighted the need for a comprehensive management approach that builds upon the current AHM strategy. Factors related to harvest, disease, habitat, predation, and interspecies competition will involve evaluating potential trade-offs of various management strategies based on both biological and social considerations.

- Adam Kauth, Montana Fish, Wildlife & Parks

Nebraska

The Nebraska Game and Parks Commission's goal is "To manage big game populations at levels consistent with social and biological carrying capacities and provide opportunities for aesthetic enjoyment and hunting." Population estimates are not calculated or used at the Deer Management Unit (DMU) level. Staff have little confidence in the statewide estimate, which is generated via a basic model, which includes buck harvest, buck survival and herd composition dynamics. Staff bases management objectives and recommendations for each DMU on population trends, agricultural damage complaints, age of harvested bucks, buck harvest, permit demand, deer vehicle collisions, and public input. Mandatory check of all harvested deer is required. We typically collect age data on more than 4,500 mule deer annually. Population trends are based on total adult buck harvest at DMU level. Barring significant change in buck permit allocations these indices provide consistent indicators of annual population and age structure change at DMU level.

Harvest of mule deer bucks was 5,249 in 2024, a 13% increase from 2023 but 46% down from the high in 2017 and the second lowest buck harvest since 1977 (2023 was the lowest). Antlerless mule deer harvest was 730 in 2024. See Figure 1. Total deer harvest in 2024 was 39,324 in Nebraska, of which 15% were mule deer. Mule deer harvest exceeds white-tailed deer harvest in 3 of 18 DMUs and mule deer are abundant in 9 of 18 DMUs across Nebraska. Current management tactics are to increase mule deer populations above current levels.

Historically, buck to doe ratios have remained within desired ranges (20-30 per 100) and fawn production has remained at or above 60%. However, fawn rates have declined over the past 5 years and the buck ratio dropped below 20 in 2021 and has rebounded slightly since. See Figure 2.

From 2018-2020, we collared 240 mule deer does and subsequently caught their fawns to study mule deer doe and fawn survival rates, mortality factors and habitat use in southwest and northwest Nebraska. Preliminary results have shown poorer than expected adult doe (58%) and fawn (~25%) survival.

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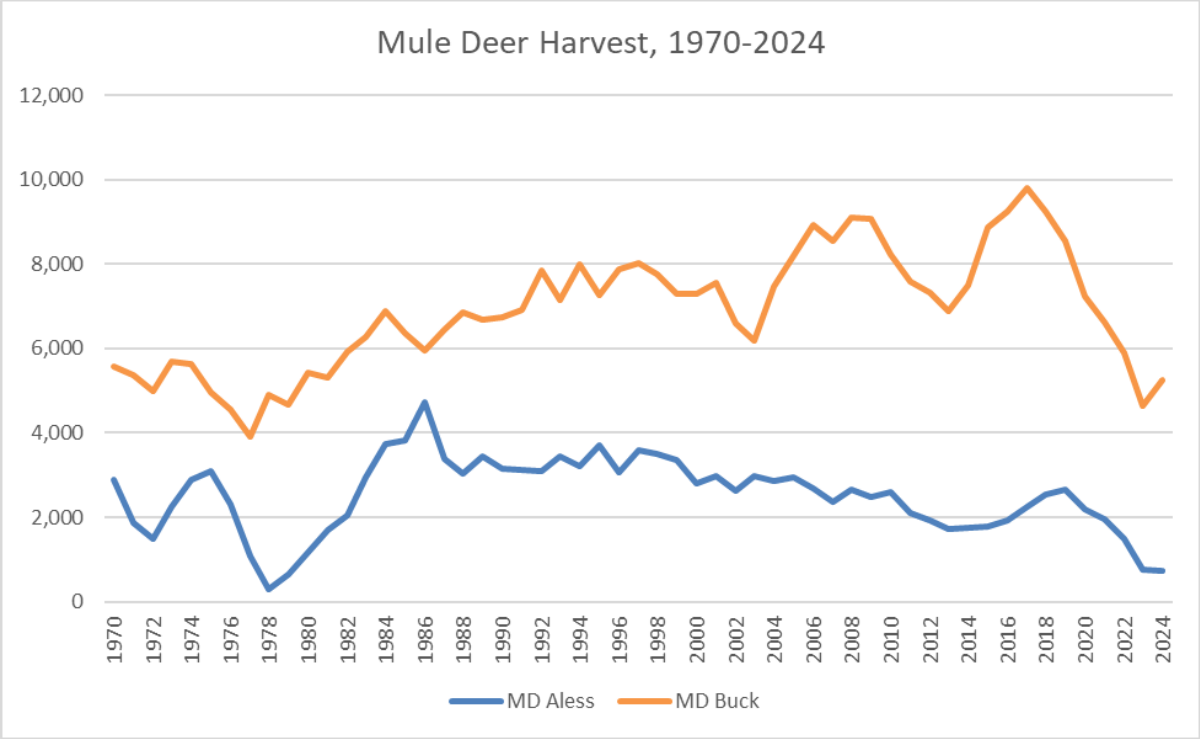

Figure 1. Mule Deer Harvest in Nebraska, 1970-2024.

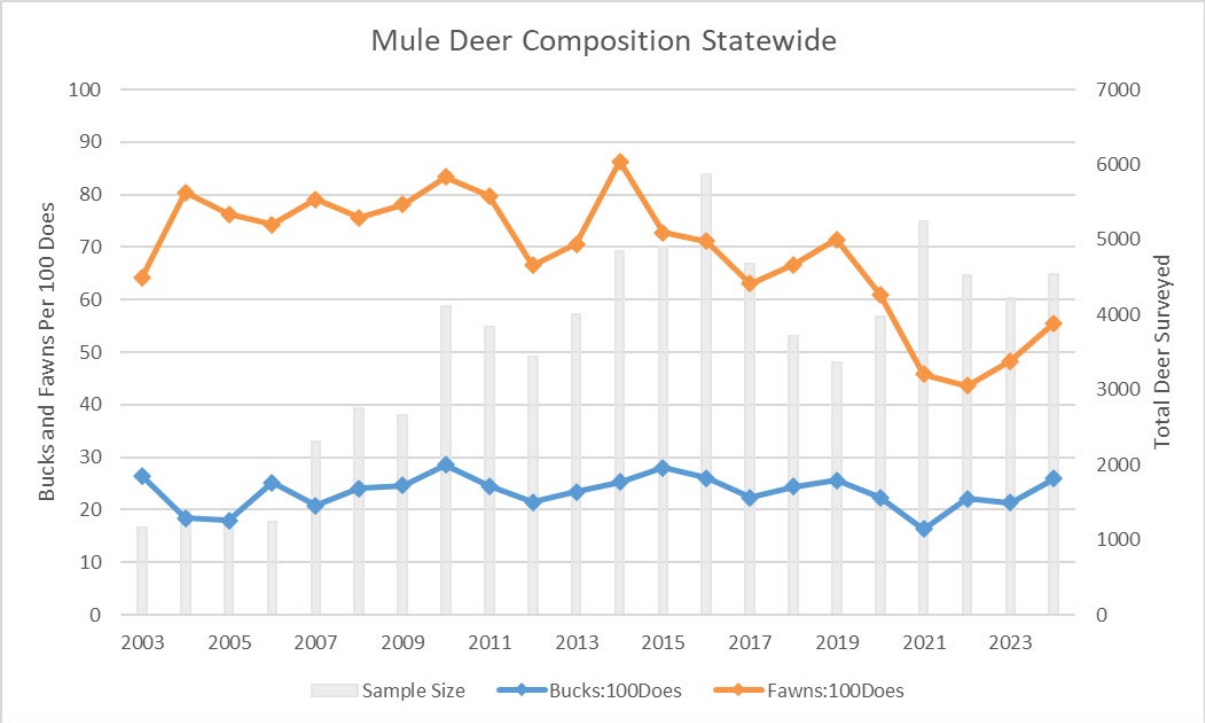

Figure 2. Nebraska Statewide Post Season Mule Deer Herd Composition Survey Results, 2003-2024.

-Luke Meduna, Nebraska Game and Parks Commission.

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Nevada

In 2024, the Nevada Department of Wildlife (NDOW) issued approximately 10,842 mule deer tags, including landowner compensation, PIW, junior, nonresident guided, and other specialty tags. The main draw attracted 60,685 unique applicants for 10,419 tags across all weapon classes, yielding a 17% draw rate (1 in 6).

Statewide harvest success for Any-Legal-Weapon (ALW) hunts reached 44%, well above the 3-year average of 36%. Muzzleloader and archery success rates were also elevated at 38% and 19%, respectively (vs. 3-year averages of 31% and 14%). Junior hunters had strong performance: 57% success in units open to all three weapon types and 48% in primitive-only units. All junior hunts were buck-only. Approximately 4,270 bucks were harvested, with 41% being 4-point or greater, consistent with the 5-year average of 40%.

Fall 2024 classification surveys tallied 19,032 mule deer. Post-season fawn production averaged 63 fawns per 100 does, up from 60 in 2023. The buck ratio was 34 bucks per 100 does, exceeding the 3-year average of 30. Spring 2025 surveys showed a fawn ratio of 41 per 100 adults—the highest in two decades and well above the 5-year average of 31. These indicators reflect strong fawn recruitment, attributed to robust winter moisture and favorable growing conditions.

Fawn recruitment and the condition and productivity of adult females remain the primary drivers of population dynamics. As of April 2025, most of northern Nevada has experienced average to above-average precipitation. NRCS SNOTEL sites reported 100%–190% of median snow water equivalent in the Northern Great Basin as of March 25. These conditions are expected to produce high-quality forage and favorable body condition for northern herds. In contrast, parts of central, southeastern, and Mojave regions remain significantly below average in precipitation, which may limit recruitment and antler development in those areas.

Nevada's statewide mule deer population is estimated at 72,000 heading into the 2025 season, a 6% increase from 68,000 in 2024.

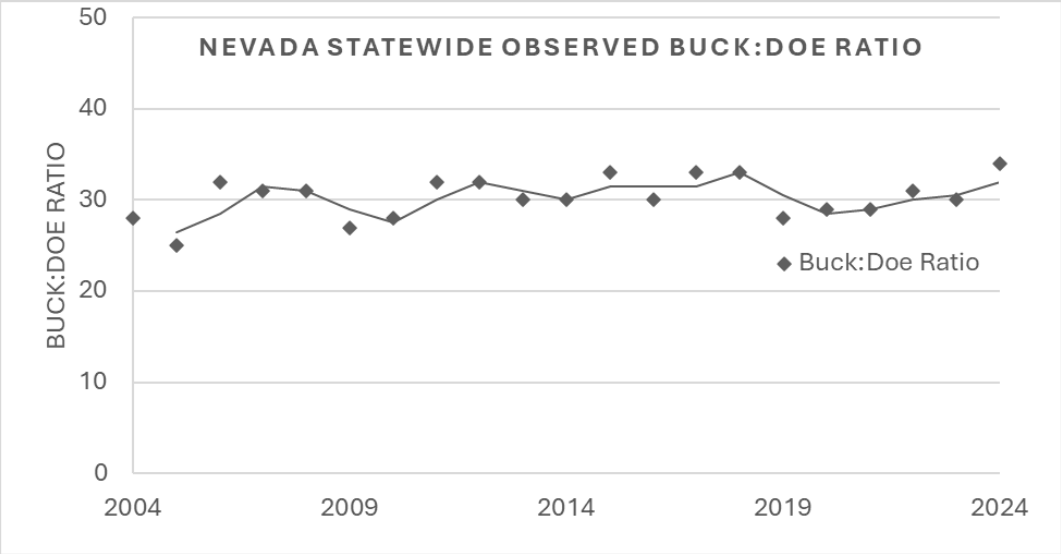

Figure 1. Trends in statewide mule deer buck to doe ratios for Nevada, 2005 to 2024

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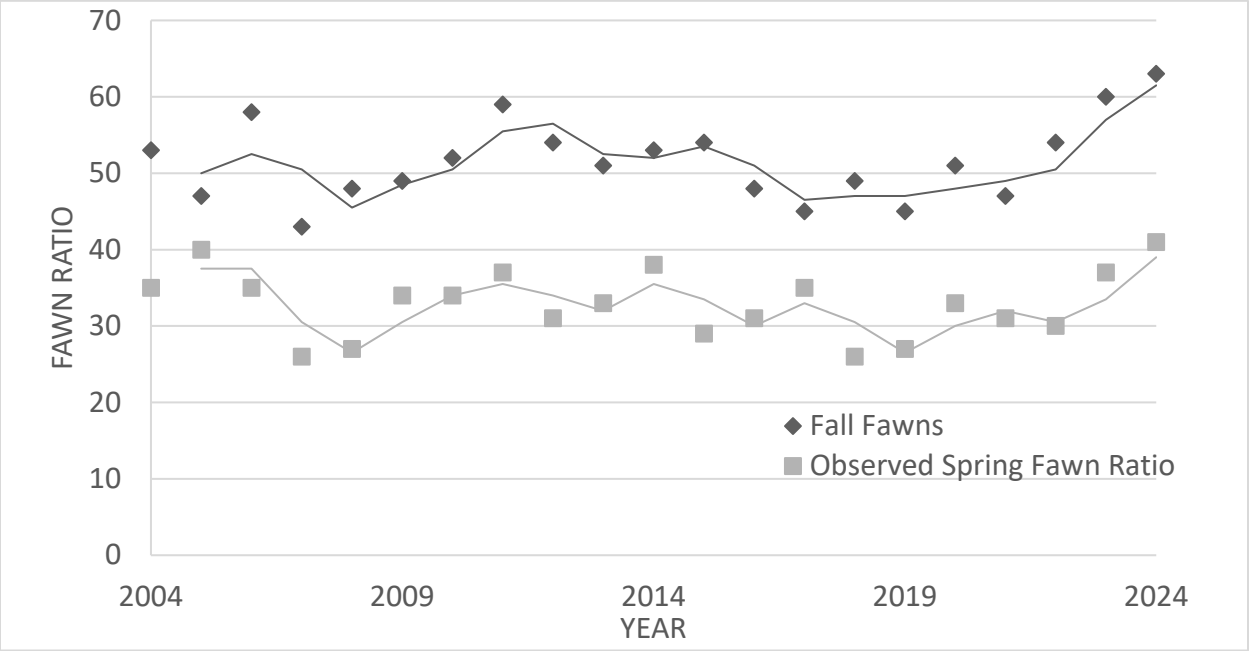

Figure 2. Trends in statewide fawn to doe ratios from 2004 to 2024.

-Cody Schroeder, Nevada Department of Wildlife

New Mexico

Mule deer population growth in New Mexico is highly dependent habitat conditions. This is influenced by the amount and timing of precipitation. If moisture levels and timing are appropriate, fawn survival and recruitment can increase, and consecutive years of good rainfall are important to grow a deer population. During periods of drought, or if the summer monsoon rains arrive late in the summer, fawn survival may be low resulting in declining populations.

In 2024, the majority of New Mexico experienced severe to extreme drought conditions. As such, vegetative health, soil moisture, and streamflow were reduced. In addition, the 2024-2025 winter brought below average snowfall in New Mexico. New Mexico's long-term drought has resulted in reduced recruitment; as a result, populations are below objectives throughout most of the state. Despite the poor recruitment throughout most of the state, areas that burned in 2022 are starting to see an increase in local deer populations.

Post-hunt aerial surveys are conducted annually in December for select Game Management Units (GMUs). The statewide buck to doe ratio was 35 bucks:100 does in 2024 (Figure 1); this is slightly above the long-term average and is within the social parameters set for deer hunting in New Mexico. Statewide fawn recruitment improved slightly last year with an estimated 39 fawns:100 does in 2024. Although recruitment is low for seeing a population increase, it is within the within the parameters for stable populations, albeit at the lower end of these parameters.

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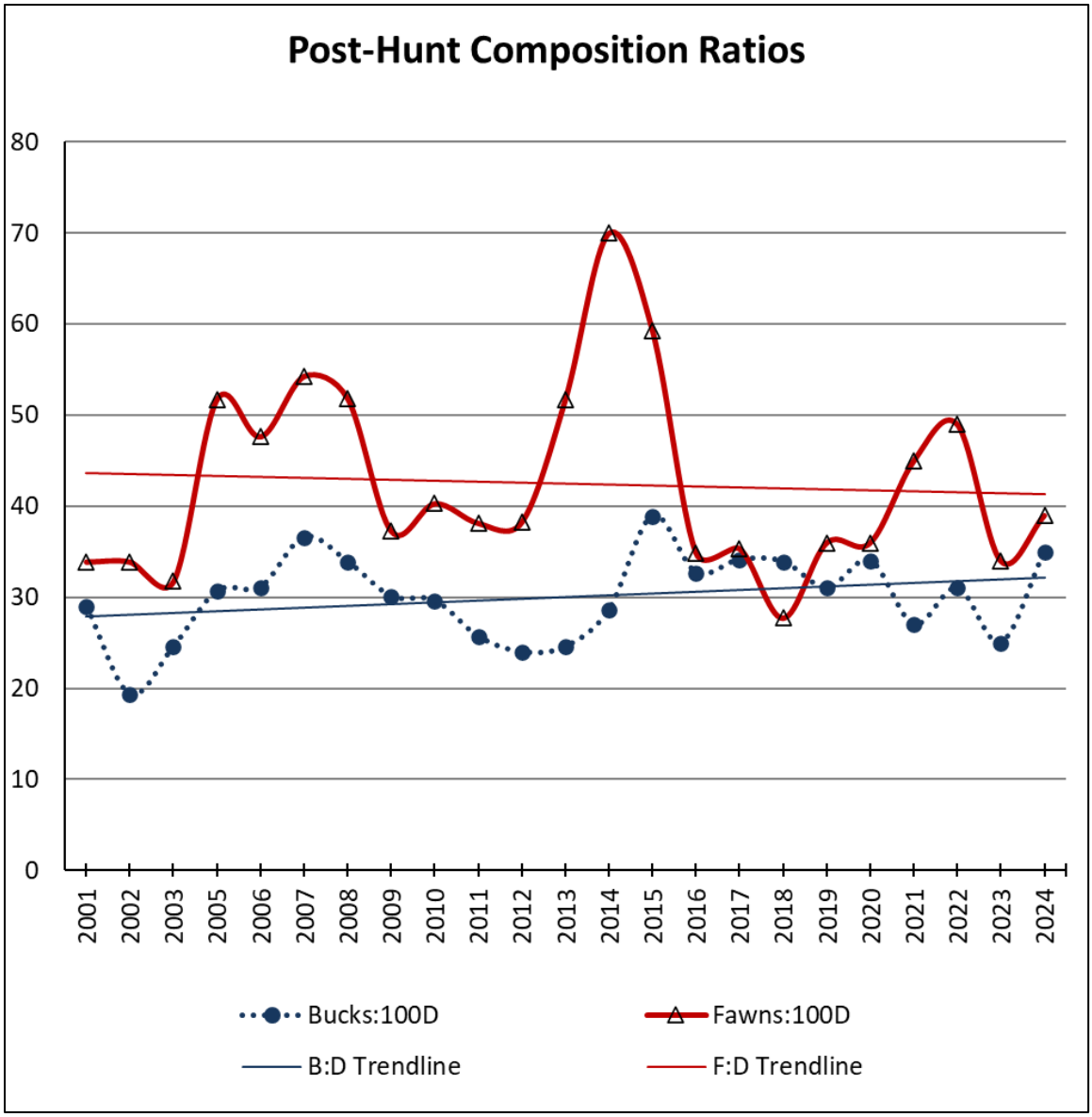

Figure 1. New Mexico statewide composition ratios obtained during post-hunt winter surveys from 2001-2024.

Deer hunting opportunities on public land are issued through the public draw; private land deer hunting opportunities are available over-the-counter with written permission in most areas of the state. Trends in composition ratios obtained from the aerial surveys and success rates are used to adjust the number of deer hunting licenses that are issued through the public draw.

Deer license holders are only permitted to harvest bucks in New Mexico except for a few specific instances where deer are overpopulated near urban areas. An estimated 30,745 hunters harvested 9,103 deer in 2024 (Figure 2). The majority of deer harvested in New Mexico are mule deer with white-tailed deer comprising approximately 3% of the total harvest. Hunter success was approximately 30% during the 2024-2025 hunting season for all weapon types combined. This is equivalent to the long-term average success rate for deer hunters in New Mexico (31%; 2006-2024).

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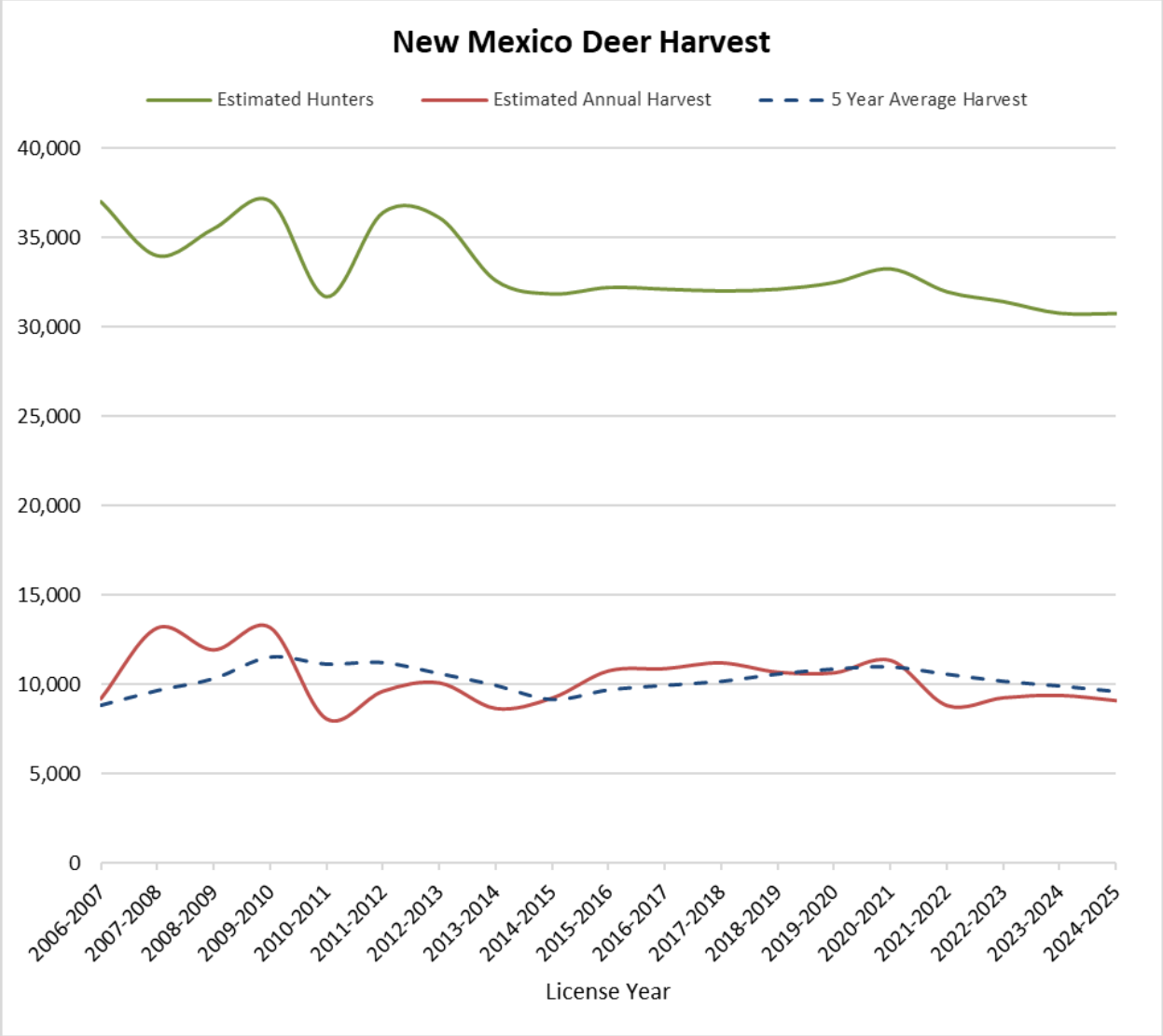

Figure 2. Estimated annual deer hunters and harvest in New Mexico 2006-2024.

-Orrin Duvuvuei, New Mexico Department of Game and Fish

North Dakota

Mule deer in the badlands are stable to declining following poor fawn production since 2022. Mule deer in the badlands declined in 2025 despite the winter of 2024/2025 being mild. Drought conditions have persisted in the western part of the state since 2020 leading to poor fawn production and recruitment. The 2025 spring index was 14% lower than the 2024 index and 18% below the long-term average (Figure 1). Mule deer outside of the badlands are stable to increasing based on hunter observations (Figure 2).

North Dakota has a limited quota license system and a goal of maintaining at least 30 bucks:100 does prior to the gun season and 6 mule deer per square mile in the badlands. A conservative harvest strategy with a limited number of antlerless licenses is being used to

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encourage population growth of mule deer in the badlands. Antlered mule deer gun licenses are a coveted license in North Dakota and currently only 1,200 licenses are available for the 2025 deer gun season.

Buck:doe ratio has remained stable over the last three years, while fawn:doe ratio trended downward during this period due to drought conditions and an extreme winter during 2022/2023. Record low fawn production was observed in 2023. Normal precipitation is needed this spring and summer to improve habitat conditions needed for higher fawn production and recruitment.

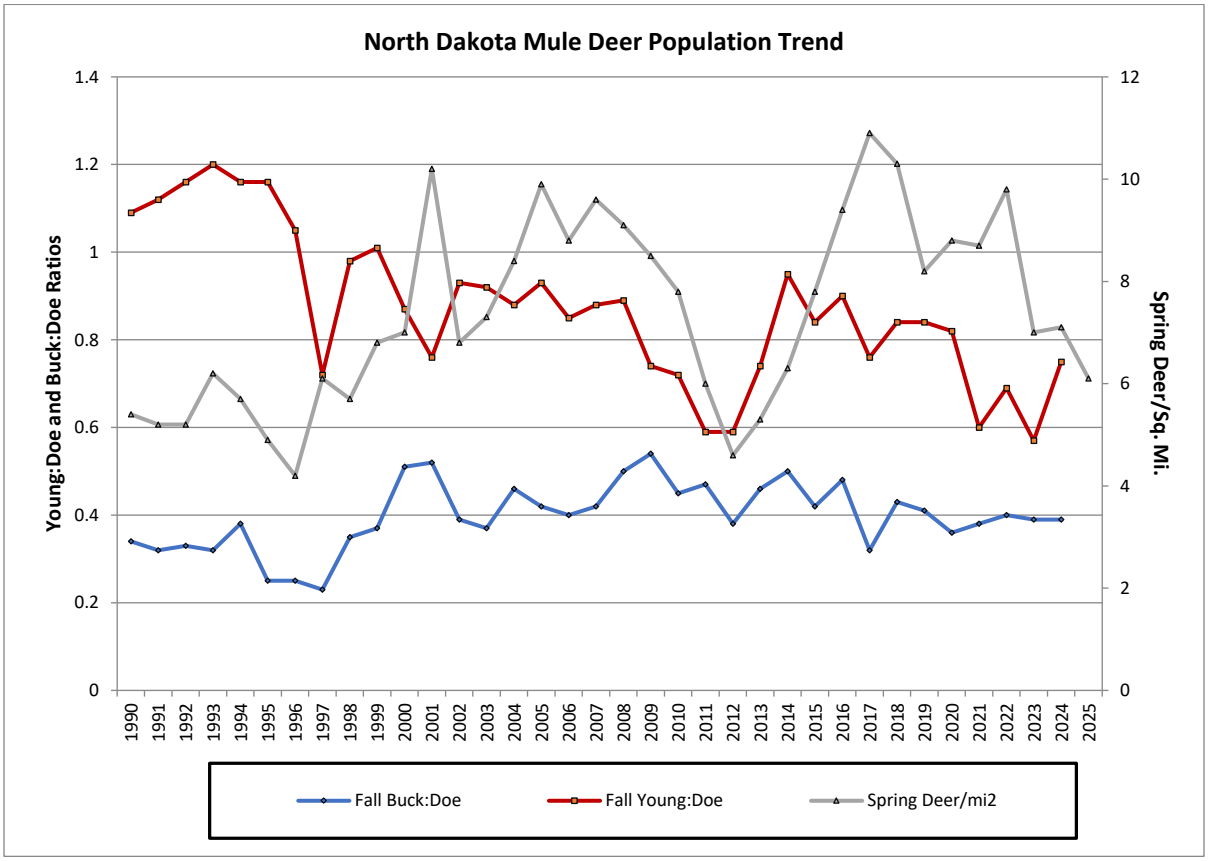

Figure 1. Population trends of badlands mule deer, 1990-2025.

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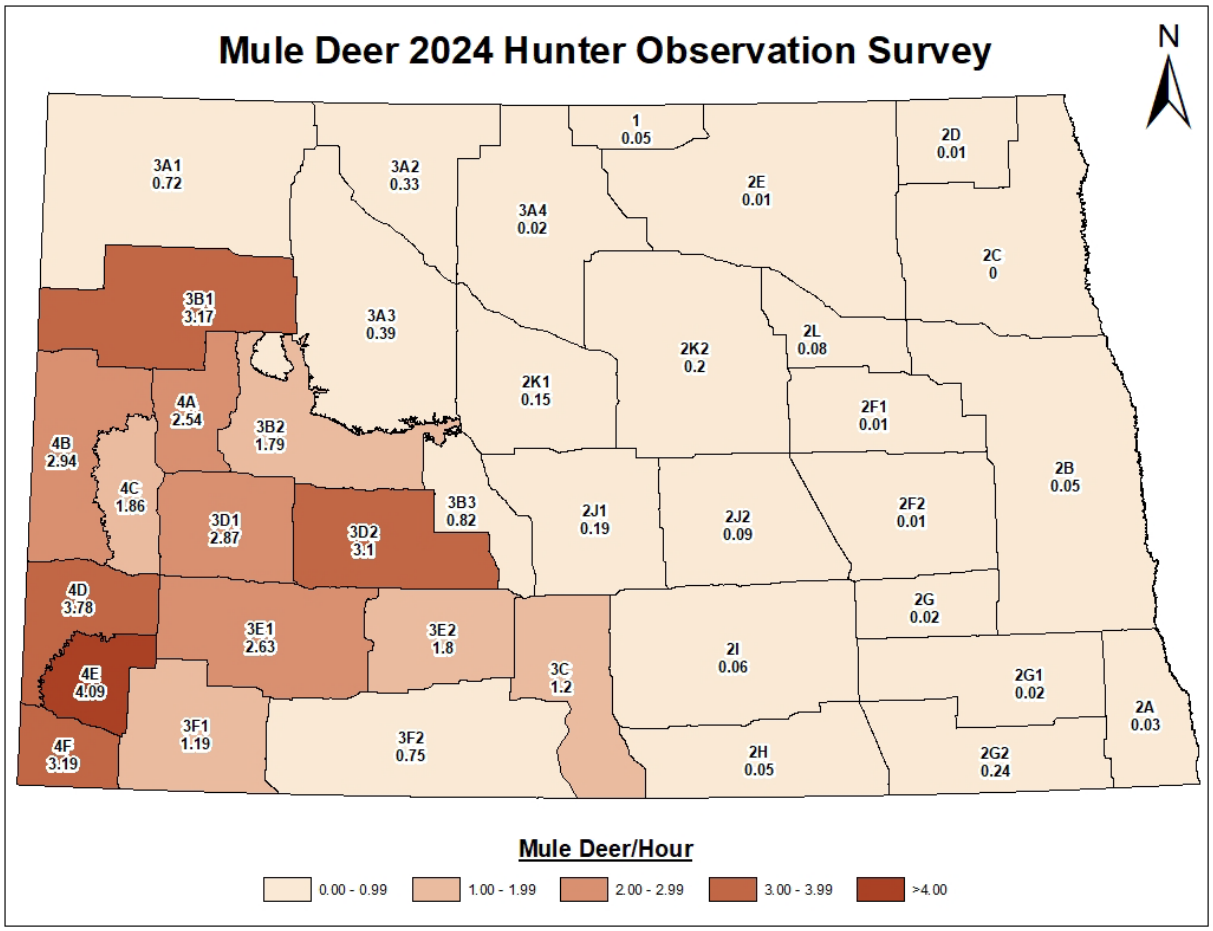

Figure 2. Mule deer sighted per hour based on hunter observations, 2024.

- Bruce Stillings, North Dakota Game and Fish Department

Northwest Territories

The population of mule deer in the Northwest Territories is unknown, but it is believed that there is no viable population. In the last four decades, there have only been two recorded sightings of mule deer, both of which occurred in the southeastern corner of the Nahanni National Park in 1979 and 2003. In 2018, a wildlife officer working for the Government of the Northwest Territories reported an unrecorded sighting of two mule deer just north of the British Columbia/Northwest Territories border near the Liard River. We consider mule deer observations in the Northwest Territories as vagrants because their habitat is probably marginal, and they are not commonly found in this area.

Mule deer were occasionally observed in the Northwest Territories from the 1920s to late 1960s, with white-tailed deer being the predominant species seen since then. It is unclear how long mule deer existed in the Northwest Territories, and their population has completely disappeared from their former range, except in the Nahanni-Liard area where sightings are rare. Mule deer are not hunted in the Northwest Territories, so there is no formal survey or collection of harvest data,

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nor any active research on this species. The decline of mule deer in the Northwest Territories may be caused by a complex of factors, which are not yet fully understood.

- Ève Lamontagne, Department of Environment and Climate Change, Government of the Northwest Territories

Oklahoma

With Oklahoma being the eastern edge for what is considered mule deer habitat, we estimate between 2,000 and 4,000 animals pre-hunting season in our panhandle, NW and far SW portions of the state. A slight increase from previous years. Most harvest occurs on private lands, but opportunities to harvest a mule deer does exist on some of our public hunting areas. Oklahoma does not differentiate between mule deer and white-tailed deer in our tagging system. A statewide deer permit allows the harvest of either species. In general, habitats are beginning to rebound from catastrophic drought conditions. This is aiding a slight increase in populations, with folks beginning to see mule deer in areas that have not held populations in quite some time. The 2024-25 season led to 210 mule deer being harvested

-Dallas Barber, Oklahoma Department of Wildlife Conservation

Oregon

With adoption of Oregon's revised Mule Deer Management Plan in June 2024, Oregon's Rocky Mountain mule deer management is in transition. The transition is guided by delineation of 22 relatively distinct herd ranges as defined by analysis of nearly 2,000 GPS collared animals (Figure 1). These herd ranges now direct all aspects of mule deer management including data collection, monitoring, modeling, and harvest allocation. Processes for biological data collection began changing as herds were defined. New and more rigorous integrated population models have been developed for each unique herd. Transitions in harvest allocation and monitoring will begin for the 2026 seasons with entirely new hunt areas within herd ranges.

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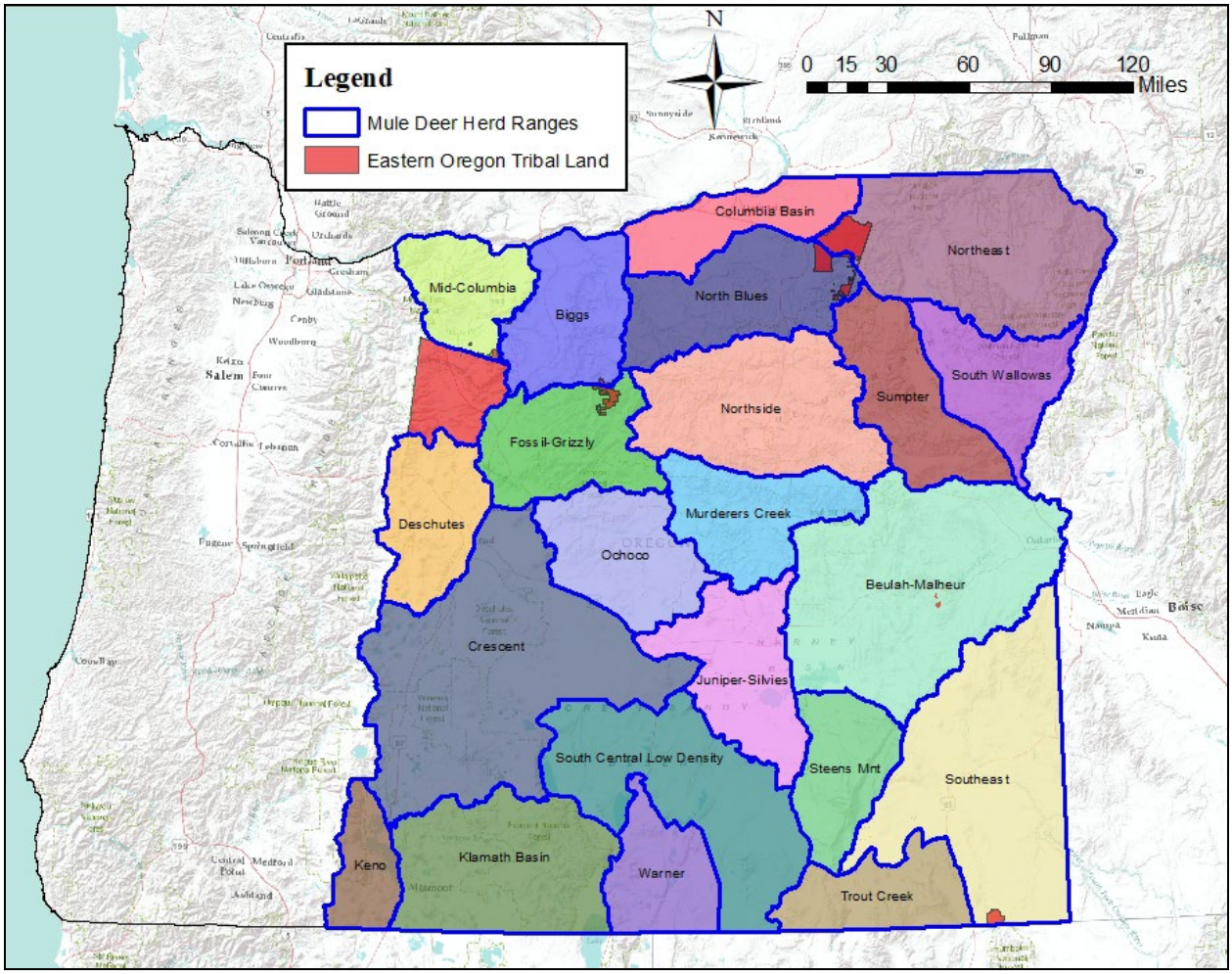

Figure 1. Mule deer herd ranges in Oregon.

Important to this new management model are new management objectives, and population performance (growth rate λ) has been added to population size as a specific objective (Figure 2). This addition provides a more rigorous assessment of the results from management actions. Additionally, population management objectives are evaluated in a tiered approach by level of concern that helps direct and prioritize management actions.

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a) Management Tier Criteria

	Tier 1	Tier 2	Tier 3	Tier 4
Population	Extreme concern	1-25% above Tier 1	26-50% above Tier 1	>50% above Tier 1
Growth rate (lambda) over 5 years	≤ 0.97	≤ 0.98 to 1.0	≥ 1.01 to 1.03	> 1.03

b) Population Concern Matrix

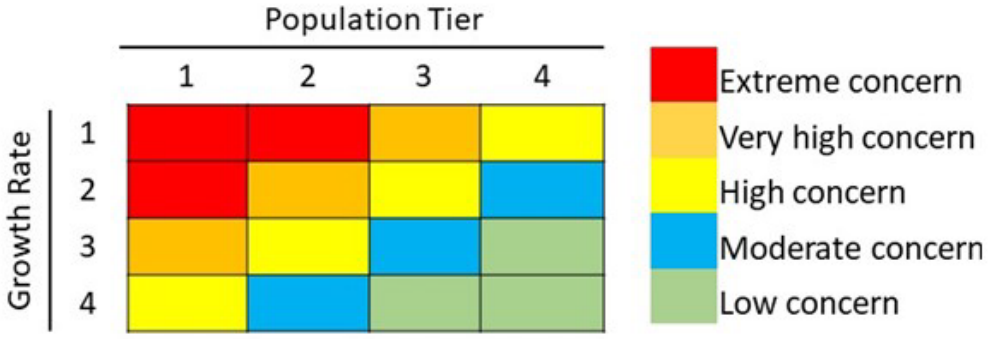

Figure 2. Management Objective tier criteria and concern levels for Mule deer management in Oregon.

Annual survival estimated from radio-collared individuals continues to vary considerably, both temporally and spatially (Table 1). Adult survival ranged from a low of 31% in the Trout Creek herd range in 2022 to a high of 96% in the Klamath Basin herd range in 2019. Similarly, overwinter fawn survival had a similar wide range with 21% in the Murderers Creek herd range in 2024 to 82% in the Klamath Basin during 2023.

Table1. Trends in adult and overwinter fawn survival in Oregon.

	Adult Does							Over-Winter Fawns					
Herd Range	2018	2019	2020	2021	2022	2023	2024	2019	2020	2021	2022	2023	2024
Beulah-Malheur		86%	80%	83%	75%	79%		78%	43%	42%			
Biggs	87%	91%	91%	85%	81%	73%							
Crescent	67%	80%		76%	87%	79%	84%			48%	55%	76%	
Deschutes		64%											
Keno	89%	80%											
Klamath Basin	82%	96%				91%	83%					82%	40%
Mid-Columbia	76%	91%	82%	78%	64%								
Murderers Creek		79%	72%	92%	65%	77%	68%	72%	42%	50%	61%	40%	21%
North Blues			80%	80%	92%	87%		80%	47%				
Northeast							94%						72%

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Northside		83%	79%	84%	79%	89%		76%	58%	63%			
Ochoco	57%												
Southeast	82%	90%	70%	86%	71%	83%							
Steens Mnt	87%	73%											
Sumpter	42%												
Trout Creek		94%	84%	81%	31%								
Warner	91%	83%	69%										
Annual Mean	76%	84%	78%	83%	72%	82%	82%	77%	48%	51%	58%	66%	44%

Oregon's Rocky Mountain mule deer population continues to persist at levels substantially below desired levels, declining about 20% since 2014 to an estimated 171,658 in spring 2025 (Figure 3). Average fawn ratio have hovered in the high 40s to low 50s with average buck ratios in the low 20s. At the herd range level in 2025, 13 of 22 herds (59%) were in the 'Extreme Concern' category, 5 of 22 (23%) were of 'Very High' concern, 3 of 22 (14% were of 'High Concern', and one herd (5%) was of 'Moderate Concern'. No herds were in the 'Low Concern' category.

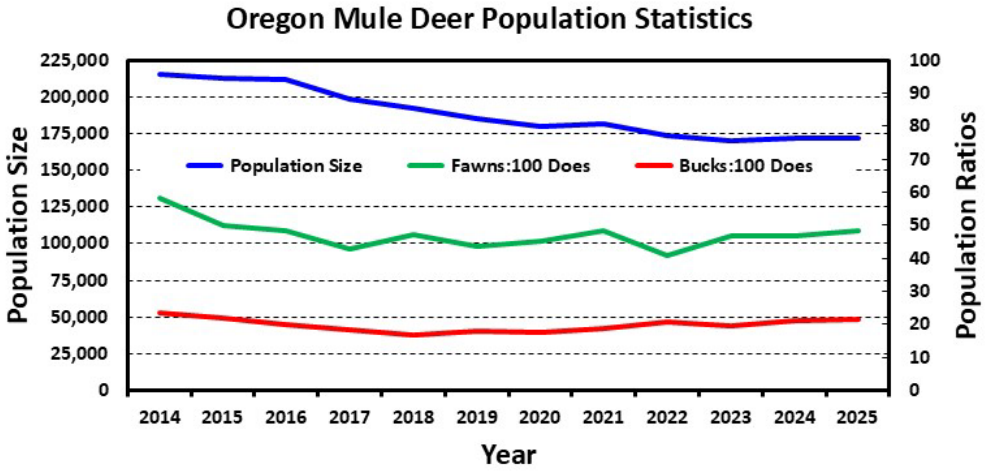

Figure 3. Trends in Oregon's mule deer population and average fawn and buck ratios.

Not surprisingly, the trend in hunter numbers and harvest mimics the declining population size (Figure 4). Since 2014, mule deer hunter numbers have declined 41% to 38,486 with associated harvest declining 45% to an estimated 12,299 in 2025. Oregon's mule deer harvest is overwhelmingly bucks (97%) with very limited female harvest only in areas with relatively high levels of conflict.

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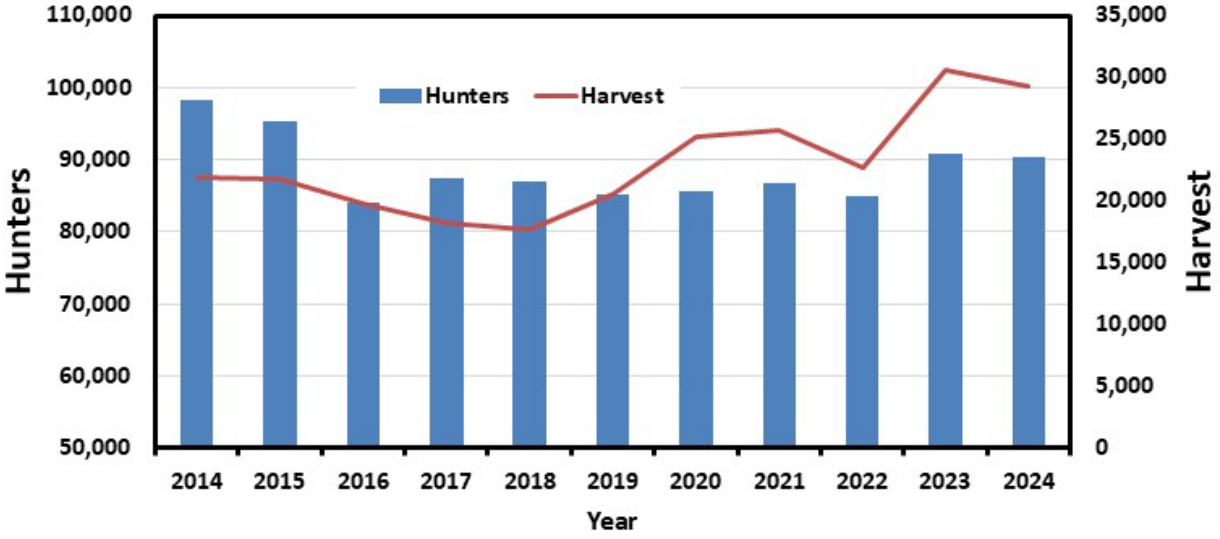

Figure 4. Recent trend in Oregon mule deer hunters and associated harvest, 2014 – 2024.

Oregon does not survey black-tailed deer in a way allowing development of annual population estimates. Density estimates and population modeling developed using non-invasive fecal DNA sampling suggests black-tailed deer populations have stabilized or increased slightly. Data also indicate the ratio of bucks:100 females is much higher than estimated using traditional survey methods. Since 2014, hunter numbers have declined to a low in 2016 (83,897) but have since increased to over 90,000 hunters (Figure 5). Associated harvest has increased from a 208 low of 17,716 to about 30,000 in 2023 and 2024. Generally, around 90% of the black-tailed deer harvest is males.

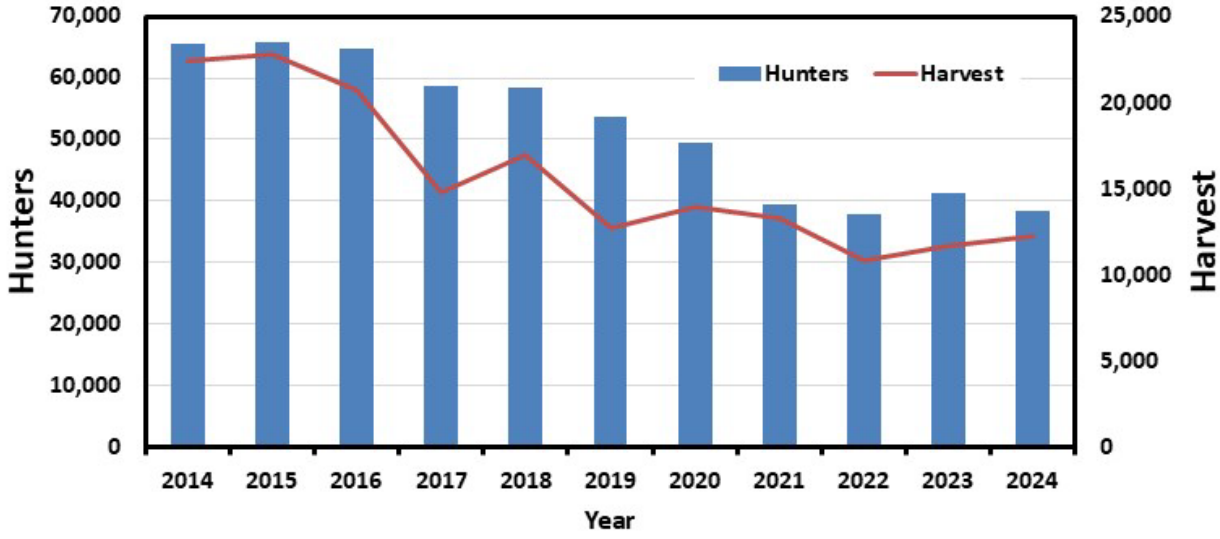

Figure 5. Trend in black-tailed deer hunters and harvest in Oregon 2014 – 2024.

-Don Whittaker, Oregon Department of Fish and Wildlife

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Saskatchewan

Mule deer populations are monitored in Saskatchewan using annual spotlight surveys, hunter harvest surveys and intermittent aerial surveys. Mule deer density varies considerably in Saskatchewan, ranging from 0.05 deer/km^2 in the northern part of their range to > 2.0 deer/km^2 in the southwest portion of the province in average years. Annual spotlight surveys indicate that mule deer populations have declined substantially over the past three years, both in the core of their range across the grassland region and in the peripheral parkland region. The decline is especially pronounced in the southwestern portion of the province, where spotlight and aerial surveys indicate an approximate decline of 50 per cent over the past two years. This decline was driven by a combination of severe winters in 2021 and 2022, ongoing drought conditions, and high prevalence rates of chronic wasting disease (CWD). CWD is increasing in prevalence and distribution across the province in an eastern bearing. In 2024, voluntary hunter surveillance sampling resulted in a province-wide prevalence rate of 39 per cent (i.e. 259 CWD positive/658 testable samples) in mule deer (both sexes). The total number of samples received in 2024 was the lowest in recent years, largely due to a substantial reduction in harvest quotas in response to population declines. A CWD strategy remains in development, though has proved challenging given the establishment of the disease throughout most of the province. Saskatchewan is updating mule deer population estimates, monitoring initiatives and management objectives as part of the ten-year mule deer management plan.

Mule deer hunting license sales and harvest numbers have declined in Saskatchewan over the past three years, likely due to a combination of recent mule deer population declines and subsequent quota reductions, inflation, and the implementation of new land access legislation in 2022. A total of 13,836 mule deer hunting licenses (estimated 12,482 active hunters) were sold in 2023, consisting of 7,492 limited entry either-sex, 3,836 limited entry antlerless, and 2,003 over-the -counter archery-only mule deer licenses. An estimated 6,312 mule deer were harvested in the province in 2024 (Figure 1). Bucks made up 56 per cent of the total estimated harvest, with a total of 3,558 buck mule deer harvested in 2024. Hunters holding limited entry either-sex licenses harvested 3,749 mule deer (3,294 bucks), with a province-wide average success rate of 55 per cent, which was below the previous five-year (2019–2023) average of 68.5 per cent. Limited entry antlerless mule deer hunters harvested 2,249 doe or fawn mule deer, with an average harvest success rate of 57 per cent. Hunters holding over the counter archery mule deer licenses harvested an estimated 314 mule deer (264 bucks), with a provincial average success rate of 19 per cent, which was lower than the previous 5-year average of 23 per cent (2019-2023).

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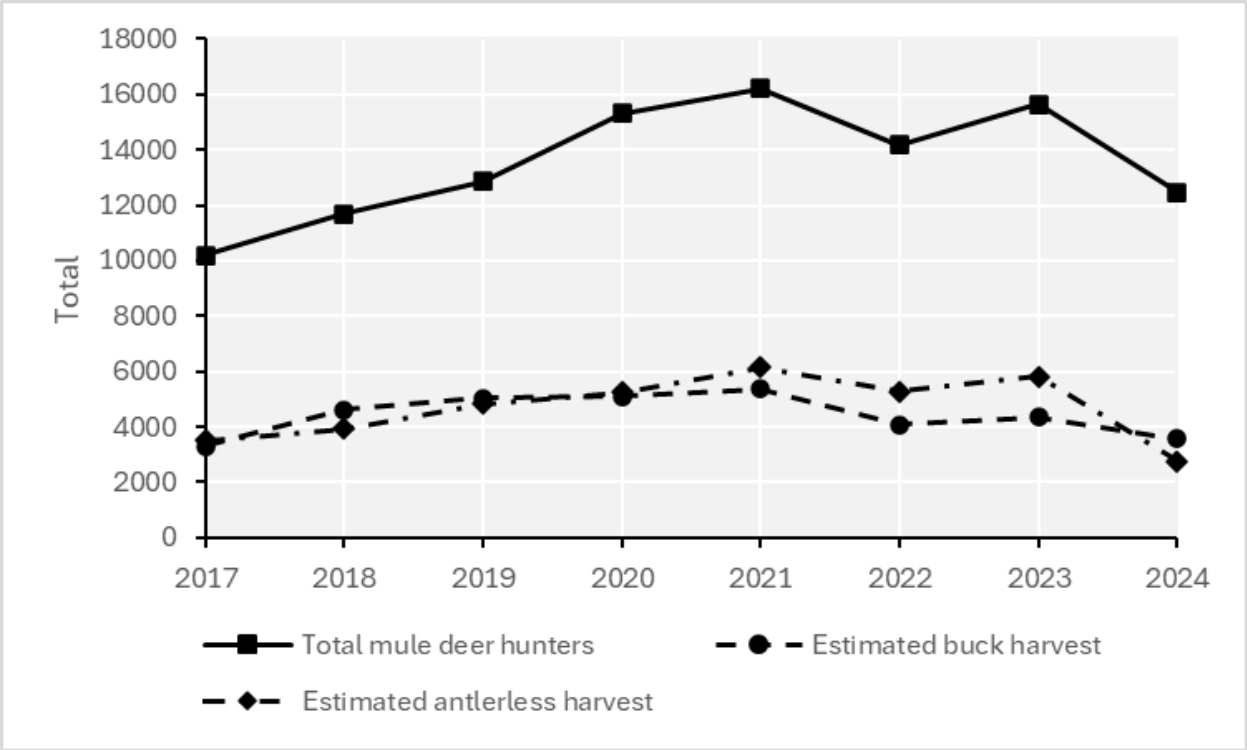

Figure 1. Estimated number of mule deer hunters and harvest in Saskatchewan, 2017-2024.

-Dale Barks, Saskatchewan Ministry of Environment

South Dakota

Mule deer populations in South Dakota are slowly responding to reduced harvest rates in recent years, and results from several surveys provide evidence that populations are increasing. Most hunting unit population objectives are set to increase or substantially increase mule deer numbers; however, several unit objectives have recently been modified as populations approach desired densities (Figure 1). Objectives will be re-evaluated in 2027 during the SDGFP Commission season setting process. Pre-season herd composition ratios varied across Data Analysis Units (DAUs) in 2024 with overall statewide recruitment at 74 fawns:100 does compared to 63 fawns:100 does the previous year. The statewide pre-season sex ratio in 2024 was 38 bucks:100 does (Figure 2).

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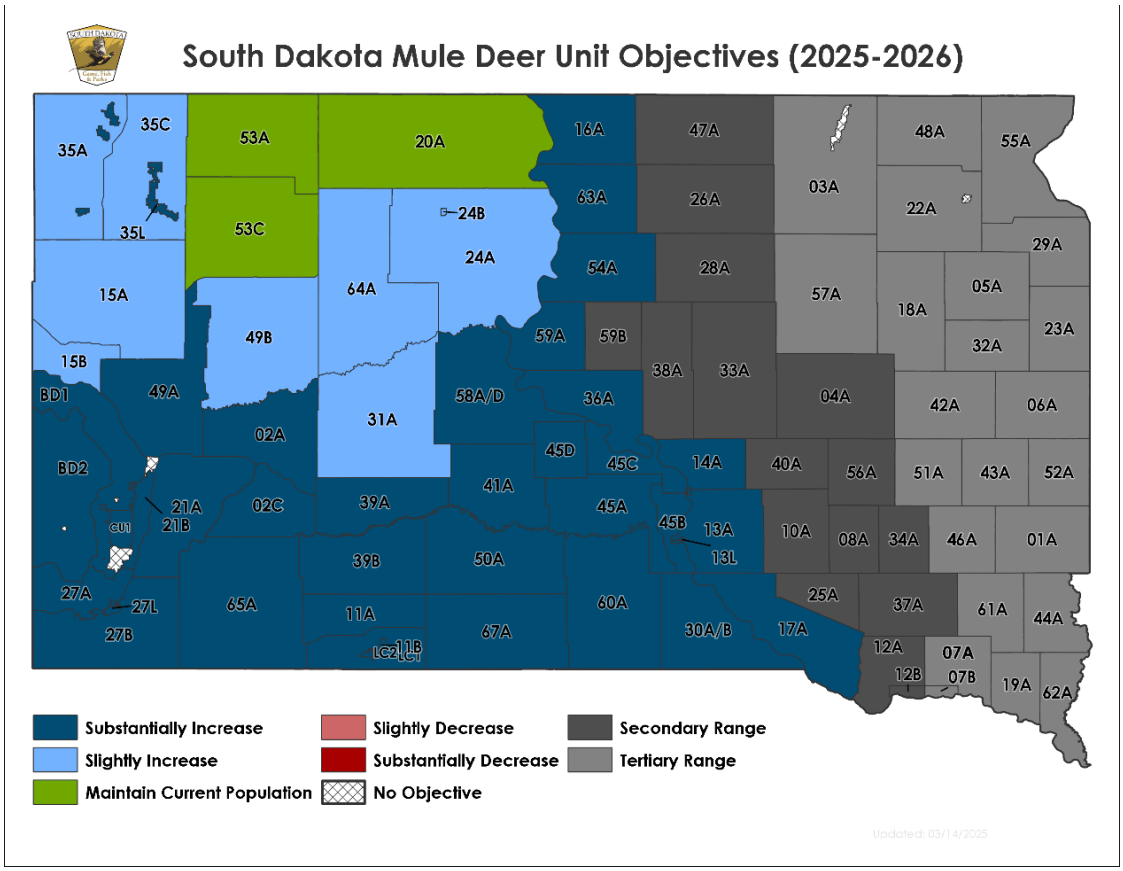

Figure 1. Mule deer population objectives for South Dakota hunting units, 2025-26.

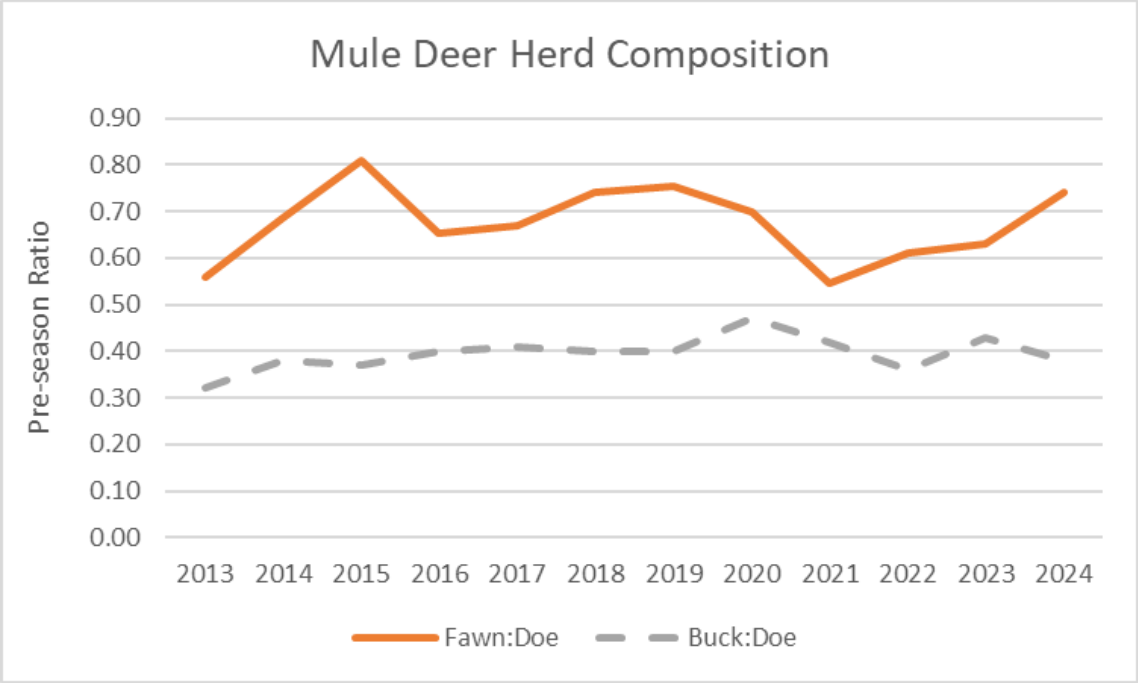

Figure 2. Statewide sex and age ratios from pre-season herd composition surveys in South Dakota, 2013-2024.

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Currently all deer hunters are surveyed via email submission methods. Annual deer hunter surveys are conducted to estimate harvest at each management unit for each species and age/sex cohorts. Statewide mule deer harvest has slowly increased from a low of about 5,400 in 2014 to 6,393 in 2024, mostly due to increased buck harvest since doe harvest has been substantially restricted for the past 11 years (Figure 3). A consistently low mule deer doe harvest of approximately 1,000 – 1,500 has allowed some deer herds of the state to grow to more desirable levels although many areas are still substantially below objective (Figure 1 and Figure 3). The current harvest of antlerless mule deer occurs primarily from youth deer hunters and hunters with "any deer" licenses. Hunting season regulations were modified in 2021 to further restrict youth doe harvest to improve growth rates in areas below objective. The GFP Commission is considering further restrictions to doe harvest by changing firearm "any deer" type of licenses to "any buck".

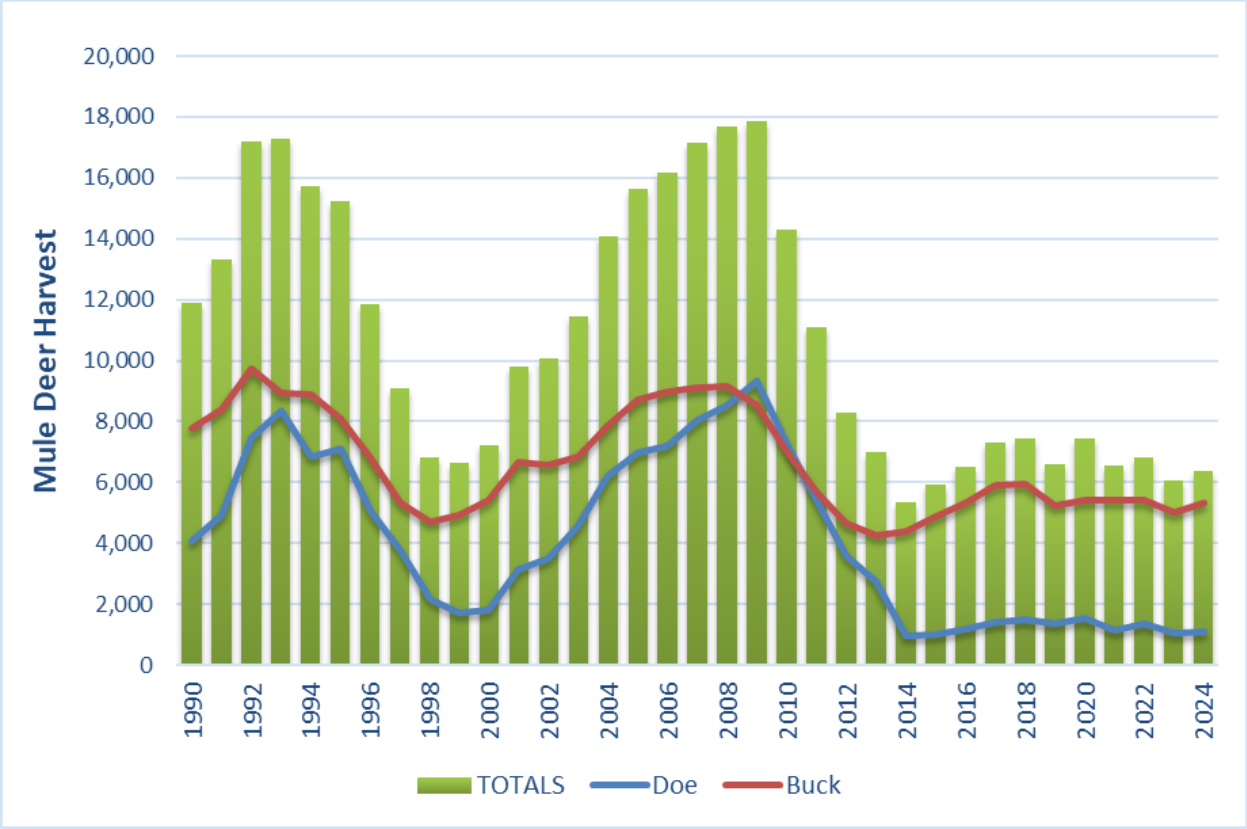

Figure 3. Mule deer harvest from all hunting seasons in South Dakota, 1990-2024.

Radio collaring and survival monitoring efforts have been discontinued in South Dakota, with the exception of one remaining research project in the northwest part of the state. Preliminary annual survival rates for mule deer does in this study area (DAU 1) in 2024 were 84% for adult does. These vital rates, in conjunction with other survey data, are used to model population abundance and trend at the DAU level. The statewide pre-season estimate was 115,000 for 2024 and will be re-assessed for 2025.

-Andy Lindbloom, South Dakota Game, Fish and Parks

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Texas

Texas Parks and Wildlife Department (TPWD) conducts post-season helicopter surveys for mule deer using a stratified random sampling design within monitoring units. In 2011, a sightability model was initiated to improve population estimates. The data are used to determine population trends, estimate population densities, and document herd composition to evaluate the impacts of regulations and management actions on mule deer at ecoregion and monitoring unit scales.

Trans-Pecos

In general, the Trans-Pecos population is on a decreasing trend because of drought conditions since 2020. In addition, aoudad and elk numbers have exploded over the last 10 years in the region and are more than likely compounding the impacts of drought on mule deer. The 2024 mule deer estimate of 90,052 is the lowest since 2011. Surveys were not conducted in 2007, 2010, and 2020. The estimated 2024 fawn crop of 29 fawns:100 does was lower than in 2022 (44 fawns:100 does) and the long-term average of 37 fawns:100 does. The sex ratio for 2024 was 36 bucks:100 does, lower than the 2011–2024 average of 43 bucks:100 does.

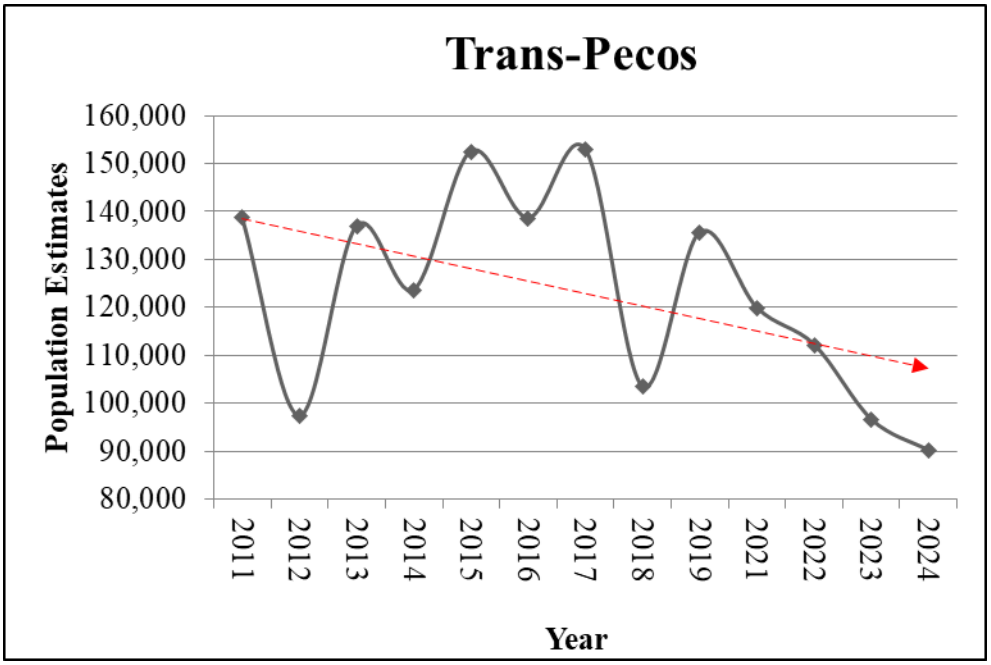

Figure 1. Trends in mule deer population estimates in Trans-Pecos, Texas, 2011–2024.

Panhandle

The Panhandle population trend is on an increasing trend since 2011. However, mule deer numbers have declined after the all-time high documented in 2017 until 2022 when the population seemed to stabilize and then increased in 2023 and 2024. Surveys were not conducted in 2015 and 2020. The 2024 population estimate of 128,437 was near the all-time of 133,048 documented in 2017. Fawn production was 37 fawns:100 does in 2024, which was above the 2023 estimate region average (29 fawns:100 does). The sex ratio for 2024 was 30 bucks:100 does, higher than 2023. Sex ratios have varied from 21 to 36 bucks:100 does since 2011. Sex ratio data indicate a

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higher harvest rate of mule deer bucks compared to the Trans-Pecos in almost every year, but the post-season sex ratio has been above 25 bucks:100 does 9 out of 12 survey years.

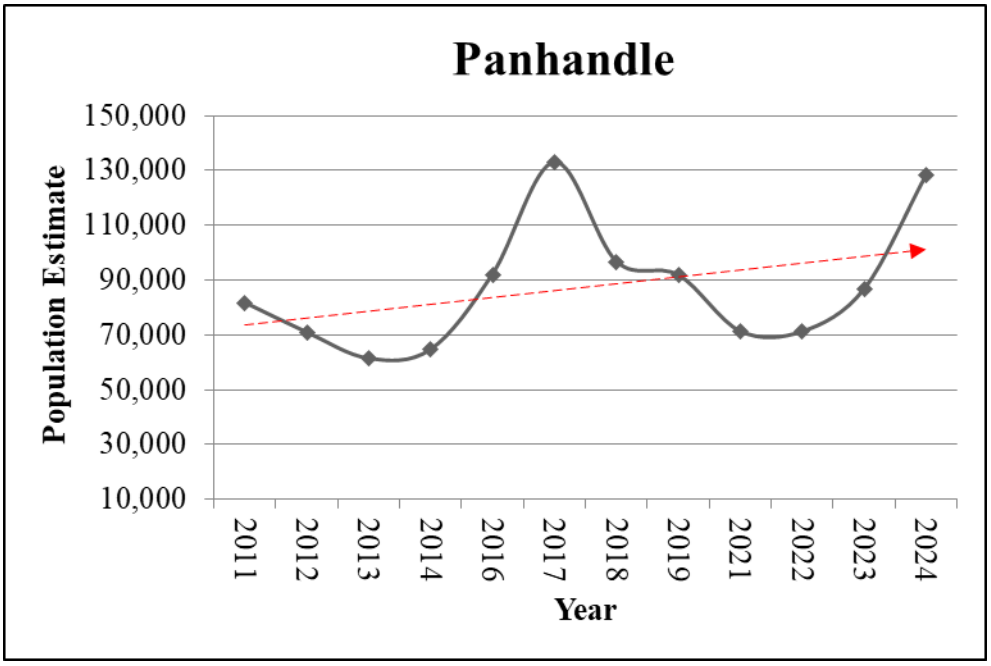

Figure 2. Trends in mule deer population estimates in the Texas Panhandle, 2011–2024.

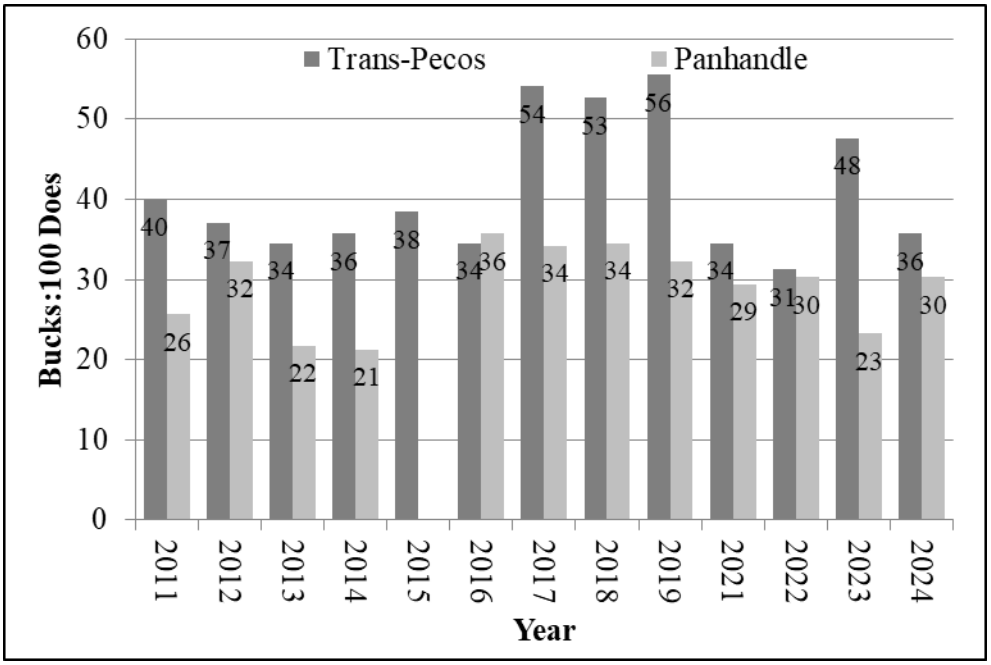

Figure 3. Trends in the number of mule deer bucks per 100 does in the Texas Panhandle and Trans-Pecos areas, 2011–2024.

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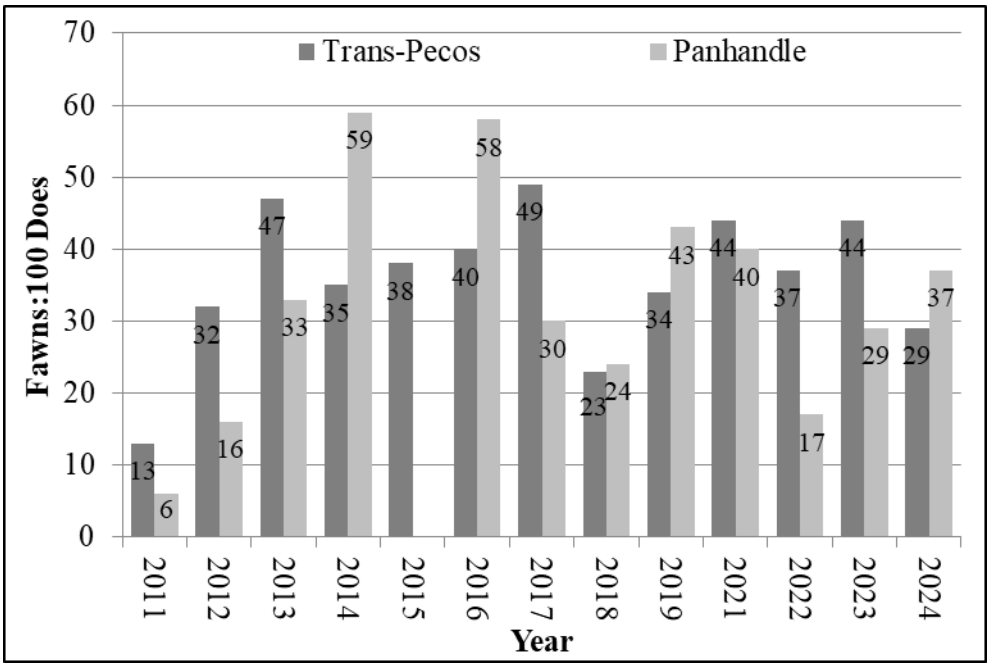

Figure 4. Trends in the number of mule deer fawns per 100 does in the Texas Panhandle and Trans-Pecos areas, 2011–2024.

-Shawn Gray, Texas Parks and Wildlife Department

Utah

Utah's current statewide mule deer population estimate is 295,200 with a statewide population objective of 404,900 (Figure 1). This is an increase of 16,200 deer from the previous year. While we saw deer population growth in 2024 numbers in Utah are still down from severe winter conditions during the winter of 2022/2023. Post-season fawn-to-doe ratios in 2024 were up slightly at 63 fawns per 100 does from 60/100 the previous years. Adult and fawn survival is estimated annually by radio-collaring approximately 500 deer on 7 representative units throughout the state. Statewide survival estimates from Dec. 2023 through Dec. 2024 was for 81% for adult does and 60% for fawns. As of April 2025, over-winter survival looks very positive and Utah is poised for another year of growth in 2025 - barring extreme changes to current weather patterns.

The Utah Wildlife Board approved a new statewide deer management plan in Dec. of 2024. This new plan will be in place for 6 years and includes some significant changes to deer hunting in Utah. Notable changes include more general season units being managed at a lower buck-to-doe ratio of 15-17 to provide more hunting opportunity, decrease chronic wasting disease risk and to increase herd health and productivity. The new plan also explores the implementation of restricted weapon technology on some units including traditional archery equipment (longbows and recurve bows only) restricted muzzleloaders (no 209 primers, no optics) and restricted rifles (no scopes, no semi-autos). These changes will be studied and evaluated for both potential impacts to deer herds and hunter success rates as well as the reception and attitudes of hunters. The revised statewide deer plan also directs the Utah DWR to make automatic annual adjustments to deer permit numbers based on plan metrics and observed data to manage to plan objectives.

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Utah manages for diverse hunting opportunities and attempts to balance quality and opportunity. We have 31 general-season units that are managed for hunter opportunity with a goal of 15-17 or 18-20 bucks per 100 does following the fall hunts. Utah also has limited-entry units that are managed for increased quality at 25-30 bucks per 100 does. In addition, we have 2 premium limited-entry units that are managed for 40-45 bucks per 100 does.

In 1994, Utah issued 97,000 public draw permits for general-season deer units, and the postseason buck-to-doe ratio was 8 bucks per 100 does. Since that time, buck-to-doe ratios have increased as a result of growing deer populations and decreased buck permits, peaking at 23 bucks per 100 does in 2015 (Figure 2). Buck-to-doe ratios on general season units were up slightly in 2024 compared to last year, at 22 bucks per 100 does with 71,525 public draw permits issued for the 2024 season. Utah DWR biologists are recommending increasing permits for the 2025 hunting season to more than 80,000 general season deer permits, final permit numbers will be approved by the Utah Wildlife Board in May 2025.

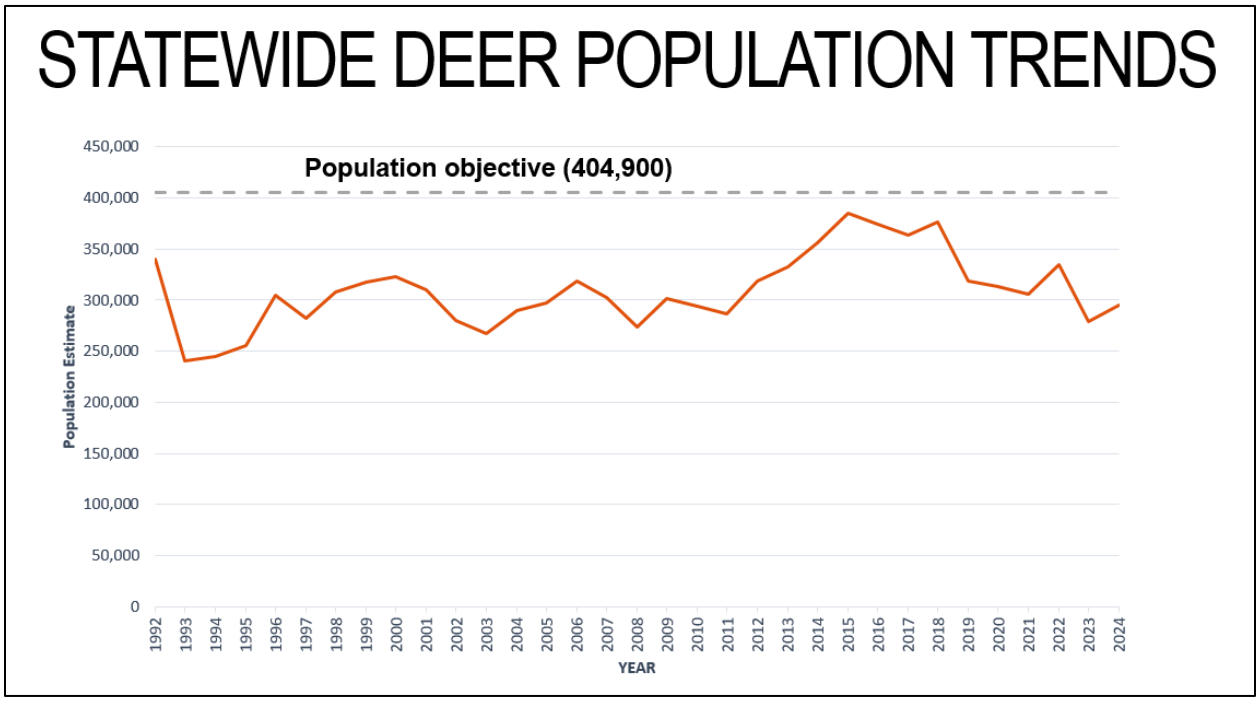

Figure 1. Utah mule deer population estimates from 1992-2024.

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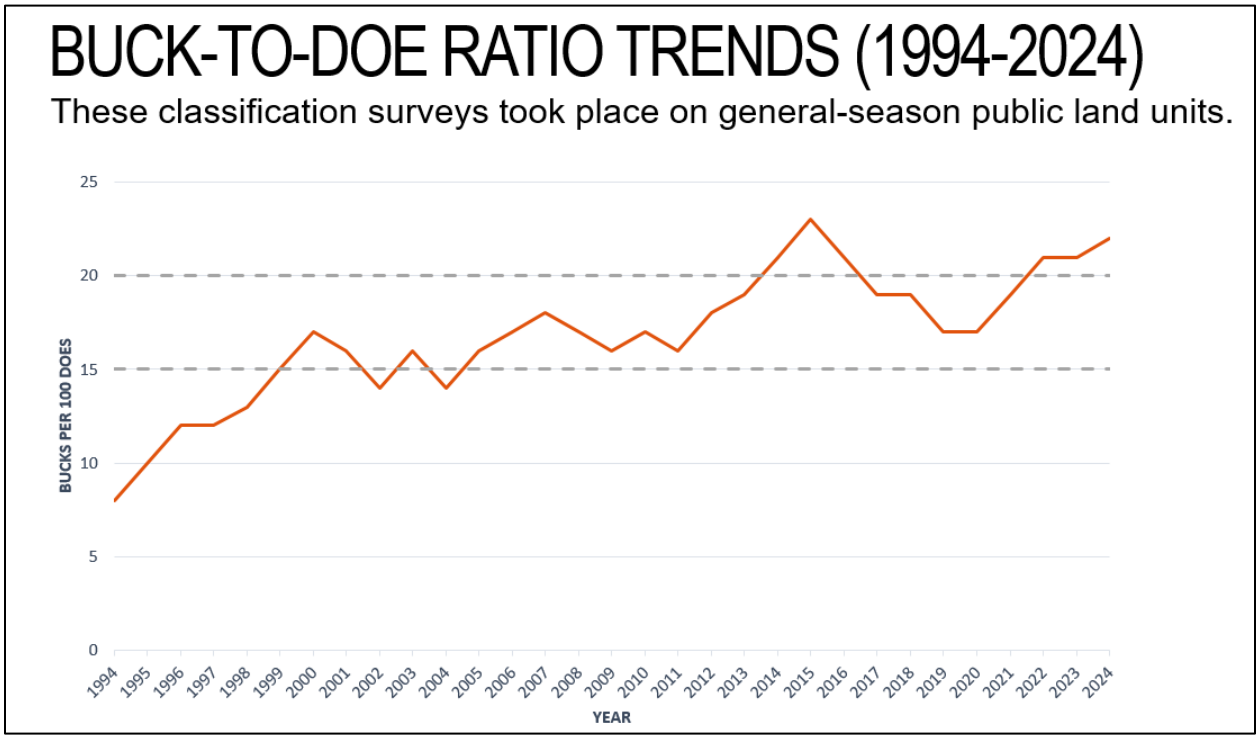

Figure 2. Mule deer general season buck to doe ratios from 1993-2024.

-Dax Mangus, Utah Division of Wildlife Resources

Washington

The statewide deer harvest estimate for 2024 was 27,373 deer (white-tailed deer, black-tailed deer, and mule deer; general and permit seasons combined), up ~20% from 22,724 harvested deer in 2023. Nearly at our recent high of 2020 of 29,435 harvested deer. The dip in harvest is attributed to hemorrhagic disease outbreaks that reduced abundance in the summer and fall of 2021, which likely depressed hunter participation (i.e., fewer hunters in 2021). Lagging impacts of disease outbreaks and extreme drought in 2021, unseasonably hot and dry late-fall conditions in 2022 which kept deer at higher elevations longer, and reduced hunter participation (~9% reduction in general season hunters) are likely culprits for the documented decline in harvest for the 2022 season. Populations within most of Washington's 7 mule deer management zones are generally stable but status varies by region, zone, and locally influential factors (e.g., wildfire, disease). In late summer of 2021, outbreaks of epizootic hemorrhagic disease and bluetongue in eastern Washington caused major and widespread deer mortality. This outbreak primarily affected white-tailed deer, but mule deer were also impacted in many areas. Harvest trends for three of five black-tailed deer management zones are stable to increasing, whereas two zones have exhibited recent declines in harvest. Black-tailed deer abundance, indexed via harvest, generally fluctuates in response to timber harvest rotation/frequency. Loss of black-tailed deer habitat due to encroaching human development continues to be a concern. Eligible Washington hunters can pursue any of three species of deer during a general season with harvest and transport authorized under a single deer tag. WDFW offers limited-entry opportunity via a special permit draw system.

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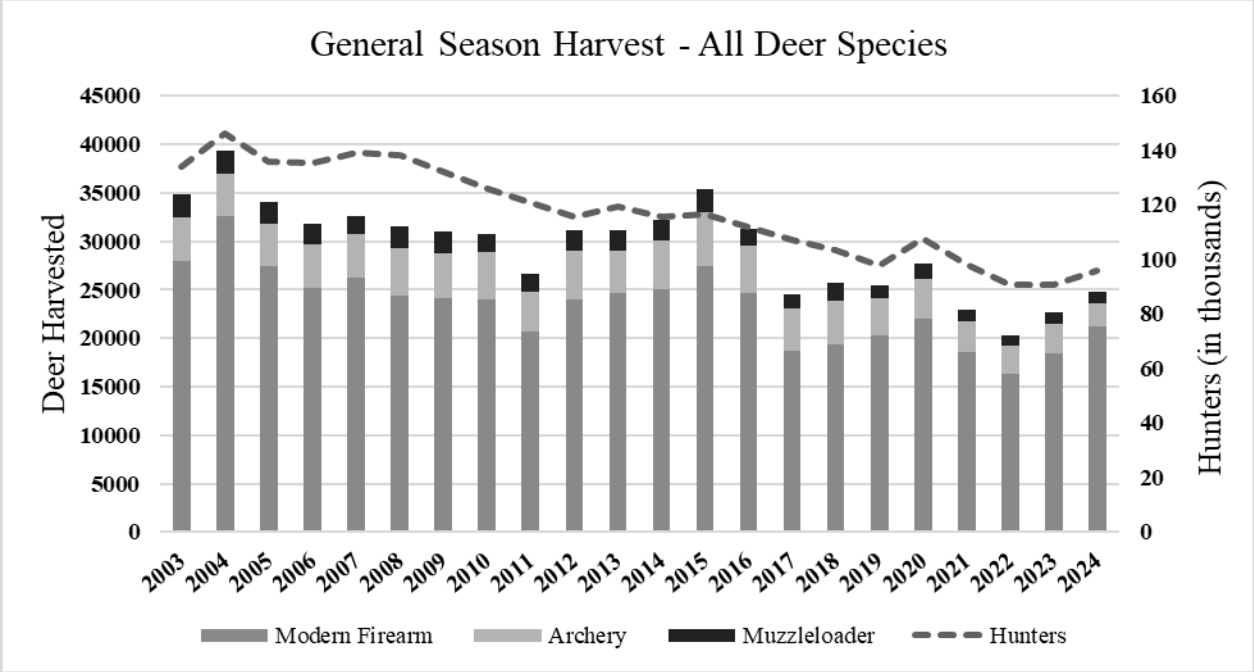
For the 2023 season, WDFW managers have maintained conservative mule and black-tailed deer special permit opportunity (i.e., limited antlerless special permit opportunity) to promote population stability or growth. Habitat management and restoration activities for mule deer are ongoing or in preparation, including movement corridor enhancement and conservation associated with Secretarial Order 3362. Projects include restoration of areas impacted by unauthorized vehicle use, weed control, and restoration of native vegetation on both public and private lands. Related work is planned or ongoing to address deer vehicle collisions, enhance gene flow among mule deer populations, improve crossing structures for irrigation canals (a source of deer mortality), post-fire restoration of shrub steppe habitat, and energy development impact mitigation.



-Samantha Bundick, Washington Department of Fish and Wildlife

Wyoming

Mule deer populations across Wyoming have experienced a significant decline since 2000. This trend appears to be largely influenced by density-dependent factors related to reduced habitat availability and/or quality. Statewide fawn productivity has consistently fallen below the management objective of 66 fawns per 100 does in 18 of the past 25 years. For calendar year 2024 annual adult female survival was 80%, adult male survival was 64% and juvenile survival ranged between 50-70% as measured by the Department's focal herd program consisting of five mule deer herds across the state.

Despite the overall population decline, postseason buck-to-doe ratios have increased, ranging from 26 to 38 bucks per 100 does, with an average of 32:100 since 2000. However, the broader population trend remains concerning: an estimated 314,400 mule deer—a 58% decrease—have been lost since 2000. Correspondingly, mule deer harvest numbers have dropped 66% over the same period. Following the 2024 hunting season, the Wyoming Game and Fish Department

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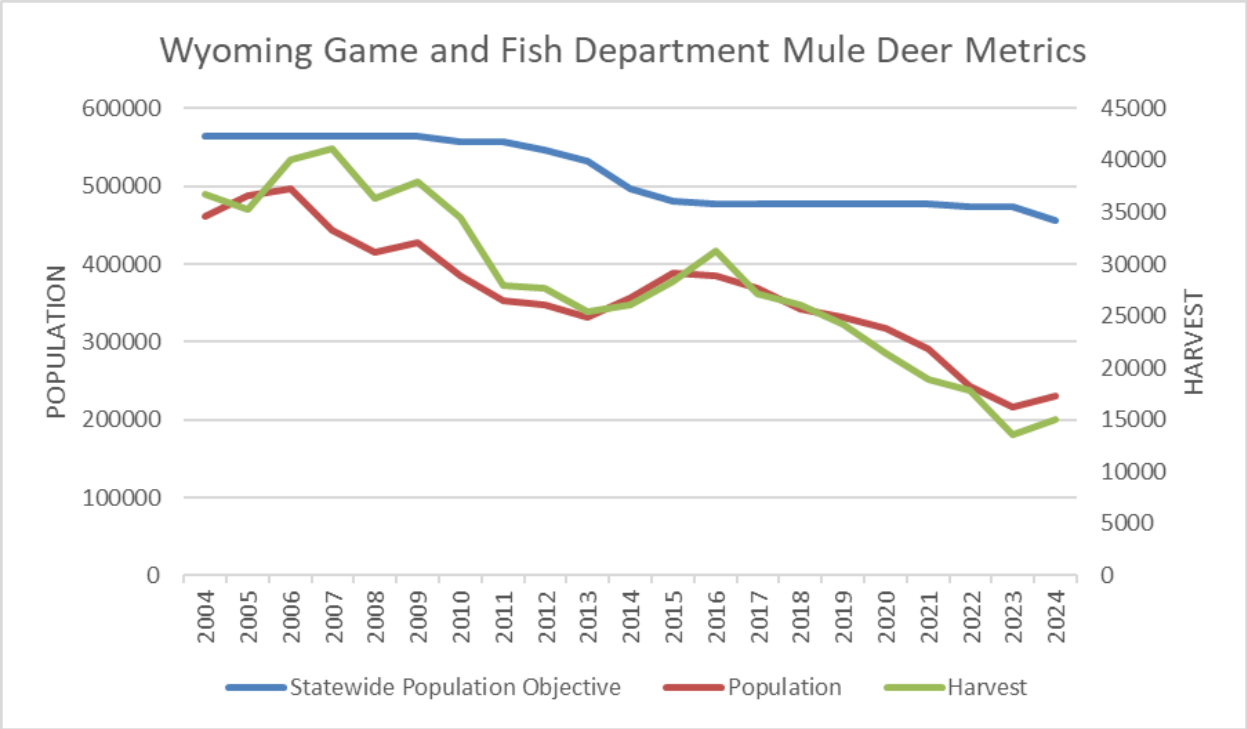
estimated the statewide mule deer population at approximately 230,500 which is ~50% below the management objective of 455,600. This sharp decline is attributed both to long-term population losses and a shift in population estimation methods. Since 2022, Wyoming has adopted Integrated Population Models (IPMs), which have produced significantly different figures compared to previous spreadsheet-based estimates.

Of Wyoming's 37 mule deer herd units, only three (9%) are currently at objective, while 34 herds (92%) remain below objective. No herds are above objective. In response to these declines, hunting opportunities in recent years have been largely restricted to buck-only harvests.



- Ian Tator, Wyoming Game and Fish Department

Yukon

In recent years, dedicated funding has supported a focused study in the agricultural-wilderness matrix north of Whitehorse—the area with the highest deer density in the Yukon and where nearly all licensed hunters choose to hunt. The study has three main components: a long-term camera grid, a collaring program to study habitat selection and migration corridors, and an aerial survey to estimate population size and composition.

To date, a grid of 50 cameras has been deployed for long-term monitoring. More than 100 winter deer captures have been conducted, resulting in the collaring of 20 does with GPS collars (collecting location data every 4 hours), 6 does with solar-powered collars (fixing every 15 minutes under optimal conditions), and 3 bucks with solar cellular ear tags. Preliminary movement data show that about half of the collared deer remain in the study area year-round, while the other half migrate significant distances to summer ranges before returning for winter. One doe was recorded traveling 150 km. Collar data will be analyzed in 2027.

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In November 2024, an aerial population survey was conducted using an electric/solar-powered fixed-wing drone equipped with infrared and RGB cameras. The footage is currently under review, with results expected by summer 2025. This will represent the first quantitative population estimate of deer in the Yukon.

The first regulated deer hunting season was introduced in 2006. Licensed hunters must apply through a lottery system for one of ten male-only permits issued annually. Interest remains high, with 400–500 applicants each year. Since 2010, two additional youth permits have been issued annually. First Nation beneficiaries are entitled to harvest deer under their subsistence rights following the effective date of their final agreements; however, harvest data are not currently available. In the 2024 season, the licensed harvest totaled 10 deer (including 2 under youth permits), and 29 vehicle collisions involving deer were documented. Annual licensed harvests typically range from 4 to 9 deer.

-Sophie Czetwertynski, Yukon Department of Environment

Acknowledgements

Information in this report was provided by MDWG members from the 24 Western Association of Fish and Wildlife Agencies (WAFWA) and compiled by Luke Meduna. Contributors are listed after their respective state, province, or territorial report. We would also like to thank WAFWA Leadership Sponsor Tom Finley and also Greg Sheehan and Steve Belinda of the Mule Deer Foundation for their support.

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