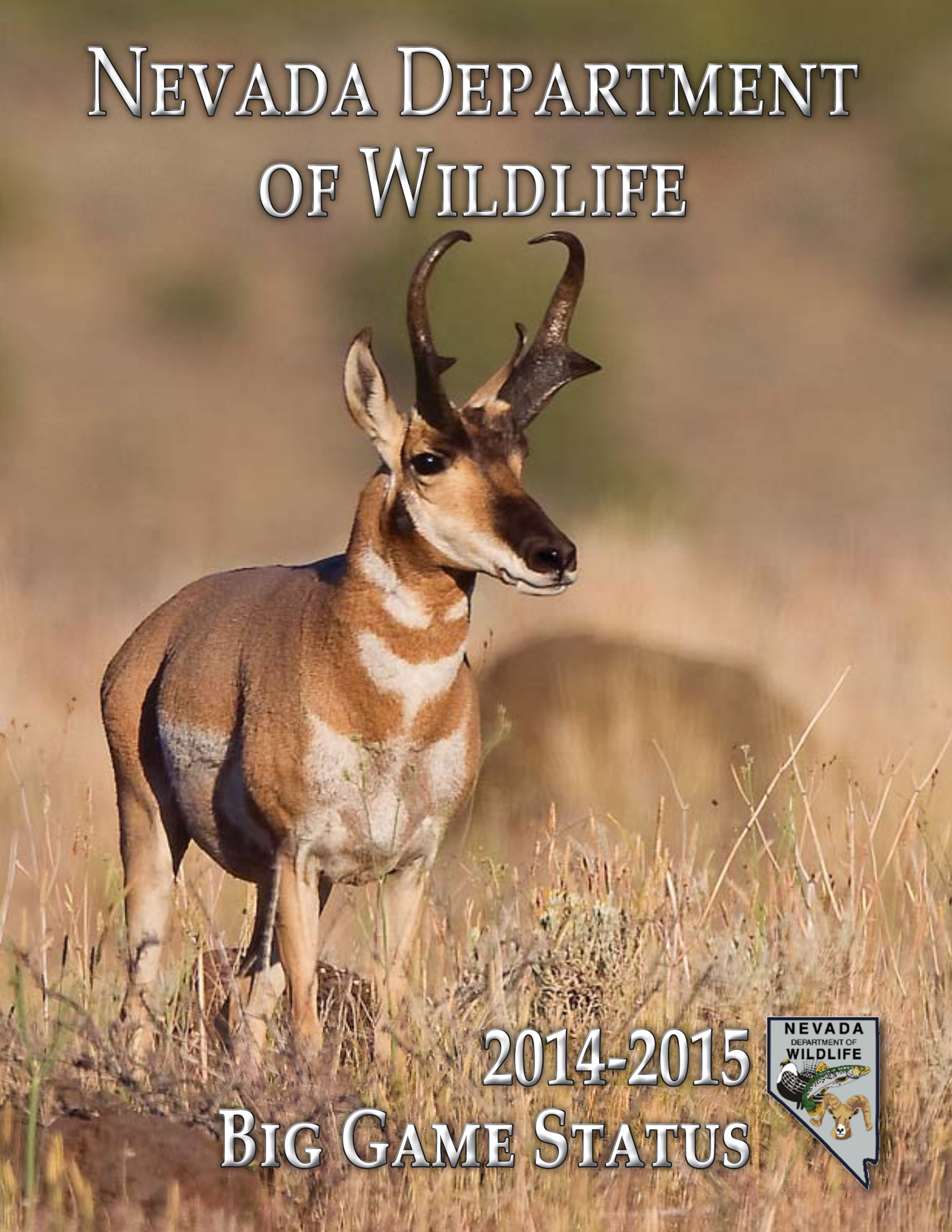
Nevada Department of Wildlife



2014-2015 Big Game Status

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NEVADA DEPARTMENT OF WILDLIFE

2014-2015 BIG GAME STATUS

This Program Receives Federal Aid for the Nevada Department of Wildlife (NDOW) Wildlife Restoration, Game Management Grant F14AF00488.

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Federal Aid Project

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BIG GAME STATUS STATEWIDE SUMMARY

MULE DEER

Nevada hunters purchased 22,643 mule deer tags in 2014 which was slightly lower than the 22,992 sold in 2013. The decrease in tag sales was reflective of a decrease in the 2014 quota and resulted in a total deer harvest of about 9,000 compared to the 9,400 deer harvested in 2013. Of the 8,978 deer reported by hunt questionnaires in 2014, 7,413 were bucks and 1,434 were does. The 2014 statewide hunter success for all deer hunters was 44%, which was nearly identical to the hunter success observed during 2013.

The 2014 post-season aerial survey observations were down from the 2013 survey with about 19,500 mule deer classified statewide compared to 21,400 in 2013, and 34,000 deer classified in 2012. Statewide fawn production was slightly higher during 2014 with 53 fawns:100 does counted for the fall post-season surveys. The post-season buck ratio was measured at 30 bucks:100 does. This buck ratio meets the statewide management objective and continues to provide a good balance of hunter opportunity and quality experience. The 2013 spring deer surveys classified 16,460 deer compared to 27,888 during spring 2013. The survey results showed a slight improvement over the 2013 survey with 38 fawns:100 adults observed, likely due to extremely mild winter conditions.

Nevada's mule deer populations have been declining over the past several years. The 2015 population is estimated to be about 99,000 mule deer, down from the estimated 108,000 in 2014. The drop in the model-generated estimate for the deer population may not necessarily indicate the precise magnitude of the decline. Models were adjusted to better incorporate recent trends in harvest data, survey results, and radio telemetry information from several mule deer studies throughout the state. Nonetheless, the 2015 population estimate of 99,000 mule deer marks the first time since the 1970s that the population has dropped below 100,000 animals. Tag quota recommendations have been lowered in many areas of the state in response to this population change.

To address declining mule deer populations and concerns from sportsmen about hunting opportunities across the state, NDOW has been working with our partners and federal land management agencies to implement habitat enhancement projects throughout the state and incorporate predation management actions where appropriate. To date, more than 750,000 acres have been slated for restoration efforts and habitat improvement projects over the next 5-10 years. Many of these projects are already being applied on the ground. However, challenges remain with funding large scale habitat projects, and complying with NEPA requirements can be challenging and time consuming. Additionally, persistent drought conditions and lack of a significant snow pack in 2015 has exacerbated some of the stressors of rangeland conditions and mule deer including competition for resources with other grazing animals.

The Game Division continues to conduct a large-scale research and monitoring study that was initiated in 2011. The results of this study have provided valuable information with regards to survival rates, body condition, and migration corridors. To date over 800 radiotelemetry collars have been deployed on mule deer throughout the state since the study began. During January 2015, NDOW deployed an additional 35 GPS satellite radiotelemetry collars in the Eastern Region and 25 GPS satellite radiotelemetry collars in the Western Region to gather baseline information on survival, migration patterns, and habitat use. The data gathered will enhance our understanding the relationship between habitat conditions, predator populations, and population performance, especially given the challenges that mule deer herds face in the coming decade.

PRONGHORN ANTELOPE

Nevada pronghorn hunters received a total of 3,954 tags for all hunts in 2014, although there were numerous people who turned tags back in or did not hunt. This represents a 3.7% increase over the number of tags available in 2013. A total of 980 tags in 15 different hunt unit groups were allocated for doe antelope in 2014. This represents a 29% increase in the number of female antelope tags available in 2014. Totals of 1,747 bucks and 543 does were harvested during the 2014 pronghorn seasons. Draw odds

for the Resident Any Legal Weapon buck antelope hunt averaged 6:1 for all areas in 2014, while the draw odds for doe hunts averaged 3:1. According hunt questionnaire data, 27% of the bucks harvested during the 2014 seasons had a horn length of 15" or more compared to 24% in the 2013 hunts.

In 2014, Nevada Department of Wildlife game biologists classified a total of 13,334 pronghorn during composition surveys. These consisted of 2,488 bucks, 7,220 does, and 2,546 fawns which provide a ratio of 34 bucks:100 does:35 fawns. At the time that most surveys are conducted, pronghorn fawns born in 2014 are considered recruited into the population with minimal mortality occurring until they turn 1-year old in May 2015. The 35 fawns:100 does fawn ratio represents a fawn recruitment class that should allow for a stable statewide population or slightly increasing trend under mild winter conditions as we experienced in 2014-2015 winter months. Both 2014 fawn and buck ratios are identical to the ratios observed during the 2013 pronghorn surveys.

Pronghorn continue to do well in Nevada, despite ongoing and intensifying drought. Although the northwestern areas of Nevada are experiencing exceptional drought conditions, other areas in the state have received closer to normal amounts of precipitation, including some timely rainstorms. The snowpack was nearly non-existent during the winter of 2014-15, which may result in poor range conditions and dry water sources for pronghorn in 2015. Due to extensive wildfires in recent decades, large expanses of habitat that was formerly utilized by mule deer is now more suitable for antelope. Antelope numbers have increased markedly in recent years likely due to vastly increased amounts of suitable habitat.

The 2015 statewide estimate for pronghorn is 28,500; up 4% from the 2014 estimate of 27,500. This increase is primarily attributed to growth in herds in the Eastern Region, where decades of fires have increased habitat for pronghorn and the effects of drought have not resulted in lower recruitment or movements of animals into adjacent states as is the case in northwestern Nevada.

ROCKY MOUNTAIN ELK

Nevada's elk resource continues to provide substantial elk hunting opportunity for the sportsmen of the state. The sale of 11,016 total elk tags, including 2,065 antlerless elk management tags, in 2014 resulted in the harvest of 3,474 elk compared to 7,936 tags sold in 2013 with a harvest of 2,857 elk. The 2014 reported elk harvest consisted of 1,288 bulls and 2,186 antlerless elk. The 2013 reported elk harvest consisted of 1,209 bulls and 1,648 antlerless elk. Bull quality remains high with 72% of harvested bulls reported as being 6-points-or-better (73% in 2013). Additionally, the statewide percent of 2014 harvested bulls with main beam lengths 50+ inches increased to 34% compared to the long-term average of 28%. Harvest strategies were designed to maintain elk herd numbers within individual unit population objectives. Last year several new hunt strategies were implemented to increase elk harvest while at the same time attempt to minimize hunter congestion. Hunt strategies included September antlerless hunts, management antlerless tags combined with both deer antlered hunts and bull hunts, wilderness antlerless hunts and spike hunts. In units where elk populations are below objectives, elk harvest management is designed to allow those populations to increase. The Department's Elk Management on Private Lands Program continued to be a success and benefit to landowners with 131 elk-incentive tags sold for an estimated revenue generation of more than $1,310,000.00 for private landowners in 2014.

There were 12,947 elk classified during aerial winter composition surveys; yielding statewide ratios of 38 bulls:100 cows:48 calves compared to the previous year when 13,547 animals were classified, yielding ratios of 34 bulls:100 cows:35 calves. The 2014-15 calf recruitment was the highest in 10 years. Despite the excellent recruitment the statewide population estimate only increased by 6% going from 17,500 last year to 18,500 for 2015.

Nevada's elk harvest management continues to be based on meeting population objectives within the guidelines of the state's Elk Species Management Plan. Only 6 unit groups, all located in northern Elko County, are above these objectives. Hunt strategies will continue to be aimed at bringing the elk populations in these unit groups to objective levels.

DESERT BIGHORN SHEEP

The Department made 287 tags available in 2014, compared to 275 in 2013. Hunter success continued to be strong at 89% compared to 91% in 2013. Hunters averaged 4.6 days in the field compared to the 20-year average of 6.0 days and 5.8 in 2013. The 2014 statewide average age of harvested rams was 6.4 years compared to the 10-year average of 6.5. The statewide average unofficial B&C score was 152 2/8 points, a decline from 153 5/8 in 2013, likely due to limited horn growth during the multi-year drought that most herds have been experiencing. There were 11 170+ B&C rams harvested from 9 different units statewide.

The first ewe hunts were offered in 2014 to reduce a select number of bighorn herds with population estimates that had exceeded their sustainable management levels. Opportunities to remove animals for transplant in lieu of ewe hunts were evaluated based on the following primary criteria: 1) lack of separation of release sites from domestic sheep or goats, 2) risk of disease transmission from source bighorn stock to resident bighorn at or near transplant sites, 3) lack of pathogen profiles for source herds or herds to be augmented. Only 1 herd that was overpopulated was selected for transplant source stock in 2014. There were a total of 163 applicants for the 85 desert bighorn ewe tags in 3 separate units. A total of 62 ewes were harvested for a 74% hunter success.

The statewide desert bighorn surveys classified 5,837 desert bighorn. This represents an increase when compared to 4,207 in 2013. Observed lambs were 33 lambs per 100 ewes compared to 34 lambs per 100 ewes in the 2013 survey. The statewide desert bighorn population estimate increased from 8,900 adults in 2014 to 9,600 in 2015. This increase was from a few herds that showed above-average lamb recruitment and corrections to a few herds that had been underestimated based on recent survey totals. The 2015 desert bighorn population estimate is the highest documented since the major bighorn extirpation in the early 1900s.

In mid-October 2014, pre-screening for disease was conducted to ensure herd health status of potential transplant source herds had not changed. Pre-screening of source herds is in accordance with recent protocols developed by the WAFWA Wildlife Health Committee (WHC). A total of 20 bighorn sheep were captured, sampled and released in the Muddy Mountains. Test results showed that bighorn remained negative for the presence of the respiratory bacteria *Mycoplasma ovipneumoniae (M. ovi.).* Over the course of 2 days in early November 2014, 71 bighorn were captured from the Muddy Mountains and translocated by Utah Division of Wildlife Resources (UDWR) to the Glen Canyon National Recreation Area.

Disease surveillance and detection continues to be a priority effort statewide for all bighorn herds. Disease sampling has been conducted through both 1) passive disease surveillance and 2) active disease investigation. Samples are screened for bacteria, virus, parasites and trace mineral levels in addition to genetic analysis and archiving.

A total of 124 desert bighorn from 17 herds were captured and screened specifically for disease or sampled during a marking project in 2014. The primary effort was focused on herds within the Esmeralda and Mineral County due to concerns that signs of disease had been noted in a number of herds within this meta-population and *M. ovi* had been confirmed in the Lone Mountain herd in 2013. Ten herds were sampled and the presence of M. ovi confirmed in all but one by either blood testing (indicating exposure to the bacteria) and/or nasal swab (confirming the presence of the bacteria). Preliminary genetic sequencing of the strain of *M. ovi* recovered indicates that it matches a strain associated with a die-off in California's White Mountains in 2005 as well as that recovered from Lone Mountain sheep during the 2013 disease investigation effort. Additional surveillance was conducted in Bare Mountain, the Last Chance Range and the Spring Mountains. *M. ovi.* had been confirmed in the Spring Mountains in 2013 and was suspected in the Last Chance Range due to proximity and in the Bares due to reports of clinical disease. Strain typing of the M. ovi bacteria is pending. Individual herd response may vary to respiratory pathogens and the bacterial strain virulence is thought to be one key factor. Strain typing can also provide insight into the origin of the bacteria. If strains match others identified in neighboring herds then it is likely being spread by the bighorns. If the strain is novel then there has likely been a new exposure to a domestic sheep or goat. In the North Eldorado's 26 sheep were captured and collared in collaboration with Arizona Department of Game and Fish for the Boulder City bypass project. This herd was confirmed

M. ovi positive during sampling efforts in 2013 and continues to show exposure and shedding of the bacteria. An additional 6 animals were also sampled in the Hot Creek Range. Although adjacent to the Pancake Range herd which suffered a die-off in 2011 and continues with poor lamb recruitment, to date the Hot Creek herd remains negative for *M. ovi.*

A total of 131 desert bighorn hunters submitted samples for *M. ovi.* testing (56 heads from rams and ewes and 88 lung and liver samples). Samples were received from 34 different desert bighorn hunt units throughout the state. Nine units (212, 213, 252, 253, 261, 262, 263, 265, and 282) were positive for *M ovi.* Two of these units were newly infected. Hunt Unit 253 was used as source stock for transplants into Mineral County in 2013 and was confirmed *M. ovi* negative at that time. Unit 252 had last been confirmed negative during sampling for capture and transplant in 2011. This rapid status change of herd health profiles has been the impetus to add disease pre-screening to our bighorn sheep capture and translocation protocols.

Through ongoing passive surveillance and active disease investigation we are establishing health profiles for each of Nevada's bighorn herds. The results of this on-going effort provide wildlife managers with the critical information they need to maintain healthy and productive bighorn sheep populations and to make informed decisions prior to management actions.

CALIFORNIA BIGHORN SHEEP

A total of 66 tags were issued for California bighorns in the 2014 season. These included 6nonresident tags, as well as 1 Heritage tag, 1 Dream tag, and 1 Partnership in Wildlife tag. Two tag-holders chose to return their tags, but were returned too late to be reissued to alternates. Tag-holders harvested a total of 58 rams for a success rate of 88%. Hunters spent an average of 6.1 days to harvest their rams. The average age of rams harvested was 7.0 years with 4 rams harvested that were aged at 11 years. The average Boone and Crockett score was 153 1/8 inches, with only one ram scoring over 170 inches. The number of applicants has continued to increase over time with a total of 5,932 applicants for the resident tags and 6,104 applicants for the nonresident tags in 2014.

The first ewe hunt was initiated in 2014 in Unit 068 – the Sheep Creek Mountains. The 068 ewe hunt was initiated due to habitat type conversion to predominately nonnative invasive vegetation from past wildfires, livestock overutilization, and chronic drought. This population will be managed at an appropriate level that is sustainable to current habitat conditions. A total of 15 tags were issued which resulted in the harvest of 10 ewes for a 67% hunter success rate. Forty-one people applied for this hunt. A total of 15 sheep were also captured from the Sheep Creeks and transplanted into Unit 011 as an additional management tool to reduce the herd to a sustainable management level.

Nevada Department of Wildlife game biologists classified a total of 981 California bighorns on aerial surveys in 2014. These consisted of 252 rams, 528 ewes, and 201 lambs which results in a sex and age ratio of 48 rams:100 ewes:38 lambs. The ratio of rams classified increased from 2013, while the ratio of lambs decreased slightly compared to the 2013 ratio of 39 lambs:100 ewes.

The statewide estimate of California bighorns is 1,900 and showing a stable population trend with some individual herds declining, while others are growing.

Range conditions throughout much of the California bighorn habitat has suffered from ongoing and intensifying drought. The US Drought Monitor describes the drought across these areas as "extreme" and "exceptional". There is no higher classification of drought. Although what precipitation has occurred has been somewhat timely, much of the California bighorn habitat is in drastic need of precipitation to sustain these populations. With no relief from these conditions, we will likely see lower survival rates as well as movement of bighorns out of traditional areas as they are forced to seek more reliable water and adequate forage conditions. Taking these actions exposes sheep populations to hazards such as roads and fences, risk of disease contact, as well as potentially placing them at higher risk of predation.

Only one capture and translocation operation was conducted for California bighorns during 2014. A total of 15 sheep, consisting of 13 ewes and two young rams were captured from the Sheep Creek Mountains and transplanted into the Massacre Rim to augment the existing herd in Unit 011. Two months prior to the capture a percentage of the herd was sampled to ensure that the herd status was *Mycoplasma ovipneumoniae* negative as this bacteria plays a significant role in bighorn sheep pneumonia complex. Test results confirmed the herd remains M. ovi negative which allowed the capture and translocation to occur.

Disease surveillance and detection continues to be a priority effort statewide for all bighorn herds. Disease sampling has been conducted through both 1) passive disease surveillance and 2) active disease investigation. Passive disease surveillance consists of performing in depth herd health screening during captures for transplant or marking/collaring operations as well as testing lung and sinus tissue recovered from hunter harvested animals. Active investigation occurs when animals are targeted due to specific disease concerns. Samples are screened for bacteria, virus, parasites and trace mineral levels and samples are also collected for genetic analysis and archiving.

The Santa Rosa Range (Unit 051) experienced a die-off event in 2003-04 and has struggled to recover population numbers since that time. Archived tissues from the die-off were re-sampled and *M. ovipneumoniae* was isolated indicating that it was involved in the die-off. This herd has been sampled for disease over the past 3 years and was sampled again in 2014. A total of 18 animals were tested throughout the range and results confirm the presence of M. ovi by either blood testing (indicating exposure to the bacteria) and/or nasal swab (confirming the presence of the bacteria) throughout. Ram movements along the contiguous range north into Oregon have been well documented and the Oregon Department of Fish and Wildlife have confirmed the presence of M. ovi related pneumonia in their adjacent California bighorn population. Genetic typing of the *M. ovipneumoniae* strains isolated from the Nevada and Oregon sheep is pending

In 2011 the Snowstorms (unit 066) suffered and all age die-off from pneumonia. *Mycoplasma ovipneumoniae* was recovered from animals sampled during the die-off and then again during sampling in 2012. Herd performance has remained poor due to annual lamb loss from pneumonia. In 2014 NDOW agreed to participate in a collaborative study with Washington State University, Idaho Department of Fish and Game and South Dakota State University to study if ewes that once infected, and that remain chronic carriers and continue to shed M. ovipneumoniae from their noses (”super shedders”) are infecting the lambs. Eleven sheep (10 ewes and 1 ram) were captured in December and shipped to Brookings, South Dakota. The project is a multi-year effort involving the study of lamb survival in ewe groups comprised of animals with varying M. ovi shedding status. It is hoped that by further understanding the role of these “supper shedders” in annual lamb losses that practical management actions can be developed to mitigate the ongoing impact of a die-off. Eight animals were also captured sampled, marked and released to allow ongoing monitoring of herd performance and movement.

Five animals were also captured for health sampling and additional collaring from Hay’s Canyon Range herd (Unit 013). This population was reestablished in 2013. In a commitment to conduct on-gong health monitoring these animals were retested with their health status remaining unchanged.

A total of 17 California bighorn hunters submitted samples for *Mycoplasma ovipneumoniae* testing (6 heads from rams and ewes and 11 lung and liver samples). Samples were received from 9 different Hunt Units. To date all samples have tested negative although some results are still pending.

Through ongoing passive surveillance and active disease investigation we are establishing a health profiles for each of Nevada’s bighorn herds. The results of this on-going effort provide NDOW Game Division biologists and veterinarian staff with the critical information they need to maintain healthy and productive bighorn sheep populations and to make informed decisions prior to management actions.

ROCKY MOUNTAIN BIGHORN SHEEP

Only 5 Rocky Mountain bighorn sheep tags were issued in 2014, 2 fewer than in 2013. Four bighorn hunters were successful. The average age of the harvested rams was 7.0. The average days hunted of 12 days by

all tag holders more than doubled the long-term average of 5.3 days hunted. Demand from Nevada residents for Rocky Mountain bighorn ram tags is still extremely high with 4,110 applicants in the 2014 main draw in addition to 2,817 applicants who purchased a bonus point for Rocky Mountain bighorn.

Aerial and/or ground surveys in 2014 – 2015 were conducted in Units 074, 091, 101, 114, and 115. A total of 164 bighorns were classified with ratios of 56 rams:100 ewes:44 lambs. The 2 herds that allowed for the statewide lamb:ewe ratio to improve from last year's survey were the newly reintroduced East Humboldt herd (62:100) and Mount Moriah herd in Unit 114 (57:100).

The statewide 2015 Rocky Mountain bighorn sheep population is estimated to be only 230 animals, a 12% decline from 2014. This decline is primarily due to a conservative estimate of the remaining bighorn in the Badlands/Contact herd in Unit 074 that is likely experiencing an all-age die-off.

It is unfortunate that many of our Rocky Mountain bighorn herds are currently struggling through chronic low lamb survival, with some having suppressed adult survival and unable to sustain herd numbers. Based on long-term and current data and observations, a combination of polymicrobial bacterial pneuomina and predation are the likely causes of our inability to build and sustain Rocky Mountain bighorn herds. We are certainly not alone in this arena, as many western states have bighorn herds that are declining or at low numbers.

As part of a larger research project in monitoring potential disease transmission between mountain goats and bighorn sheep on the East Humboldt Range, intensive ground monitoring efforts were again conducted from May – September 2014 on the transplanted Rocky Mountain bighorn from Alberta. In addition, periodic aerial telemetry surveys and monitoring of satellite collars were conducted year round on the marked ewes and rams. It was estimated that the East Humboldt Range bighorn herd consists of 8 rams (including 5 yearling rams), 15 adult ewes, 6 yearling ewes, and 13 lambs born in 2014.

Both passive disease surveillance and active disease investigation was conducted on 4 of our Rocky Mountain Bighorn herds in early 2015. Since the 2009-2010 die-off in the Ruby Mountains and East Humboldt Range, NDOW has regularly sampled the survivors in the Ruby Mountains. Seven sheep were sampled, some showing evidence that they may have cleared the infection, however the presence of blood titers to the bacteria indicates that chronic shedders of *M. ovipneumoniae (M. ovi.)* remain in the population. In 2012, 20 Rocky Mountain bighorn were reintroduced into the East Humboldt's from Alberta, Canada. Thirteen of the original transplanted animals were resampled in January 2015. To date they remain negative for *M. ovi.*

Six sheep were live sampled from the Badlands/Contact herd (unit 074) in addition an older ewe, who had been collared in early 2014, and was believed to potentially be a survivor from the 1999 die-off, was found dead and submitted for complete necropsy. Severe, chronic pneumonia was found on this animal and *M. ovi.* was recovered from lungs and sinus indicating that she was a chronic shedder. The remaining sheep showed evidence of exposure to and presence of the *M. ovi* bacteria.

One additional ewe was collared on the Great Basin National Park (Unit 115). To date all animals sampled from this herd remain negative for *M. ovi*.

Three Rocky Mountain bighorn hunters submitted samples for *Mycoplasma ovipneumoniae* testing (1 head and 2 tissue samples). To date the samples have tested negative although some results are still pending.

MOUNTAIN GOAT

See pages 116-117 for the statewide mountain goat report.

MOUNTAIN LION

See pages 118-124 for the regional mountain lion reports.

BLACK BEAR

See pages 125-129 for the statewide black bear report.

WEATHER AND CLIMATE EFFECTS

This year's summary of Nevada weather and climatic data which likely impacted big game herds was obtained from active SNOTEL sites throughout northern Nevada from October 2014 through April 2015. Precipitation for the water year 2015 (October – April) was below average for most water basins from 41% - 50% of the long-term median values (Table 1). When evaluated in the long- term context precipitation levels have been consistently low across much of Nevada since 2012 (Figure 1). Water basin measurements from Snotel sites for snow water equivalent (SWE) data (snowpack metric) through 1 April 2015 ranged between 2% to 49% of long term median, with the lowest being the Walker River Basin while the highest was in the Snake River Basin (Table 1). That same data in a geographic display of Nevada's major water basin SWE values through 24 April 24 2015 is depicted in Figure 3. Without snowpack many of Nevada's high elevation summer ranges will be extremely dry which could have a profound impact on juvenile survival and body condition of our big game animals going into next winter. Although the 2010-2011 fall and winter precipitation was close to record setting in most water basins, the last 3 years have experienced a dramatic reduction in precipitation and snowpack. Expect low fawn ratios to continue statewide in response to low precipitation and snowpack. Antler growth and body condition is also expected to diminish if late spring and summer moisture do not return to normal levels.

NDOW's Western Region continues to struggle from the effects of prolonged drought conditions. According to the U.S. Drought Monitor, a good portion of the Western Region is under what is classified as "exceptional drought", with the remainder of the region under "Extreme Drought" (Figure 2). The Climate Prediction Center is predicting continued drought for the remainder of 2015. According to the U.S. climate data, western Nevada received 92% of the average annual precipitation (1981-2010 normals) during calendar year 2014. This information was obtained by comparing the totals for Reno, Denio, Fallon, Gerlach, Winnemucca, Yerington, and Lovelock. There was a great deal of variation in precipitation throughout the Western Region with some areas receiving as little as 68% of average while other areas received as much as 116% of average as compared to the long-term climate data. August precipitation provided some much needed relief, when approximately 241% of average August precipitation fell across the Western Region. Western Region game biologists reported observing good to outstanding range conditions following these rains. These habitat conditions should have allowed terrestrial wildlife in the Western Region to enter winter in good condition. Very little snow or cold temperatures were observed throughout the winter of 2014-15, so big game animals likely did not suffer much winter loss attributed to inclement weather. For 2015, the year-to-date totals for precipitation appear quite dismal. For the calendar year through 1 April, the average precipitation received across the Western Region is approximately 38% of average. Should these dry conditions continue, range and habitat conditions for big game animals will be severely lacking. With little to no snow pack available in the higher elevations, free water may also be harder to find during the upcoming warm season.

Table 1. Water basin climate data from Snotel monitoring stations throughout Nevada and the Sierra Nevada for snow water equivalent (inches) as of 1 April 2015 and total precipitation (inches) from 1 October 2014 – 1 April 2015 in inches (Natural Resources Conservation Service, *Current data may not provide a valid measure of conditions).

BASIN		Snow Water Equivalent			Total Precipitation		
Data Site Name - elev. ft	Unit(s)	Current	Median	**% of Med**	Current	Avg	**% of Avg**
NORTHERN GREAT BASIN				**23**			**78**
Disaster Peak - 6,500	31	0	1.9	0	10.2	15.5	66
Sheldon - 5,800	33	0	0	*	7.5	5.6	134
TRUCKEE RIVER				**14**			**53**
Mt Rose Ski Area - 8,801	194	13.3	36.8	36	22.5	45.4	50
Big Meadow - 8,249	194	0	18.4	0	14.1	26.6	53
CARSON RIVER	192			**2**			**47**
WALKER RIVER	201			**20**			**45**
JARBIDGE/SNAKE RIVER				**49**			**75**
Pole Creek R.S. - 8,330	72	14.3	19.3	74	8.3	11.7	71
BRUNEAU RIVER				**33**			**81**
Big Bend - 6,700	061/071	0	7.7	0	8	10.3	78
Bear Creek - 8,040	071/072	9	18.5	49	16.4	21.8	75
Seventysix Creek - 7,100	071/072	0	9.8	0	10.7	13.7	78
OWYHEE RIVER				**24**			**78**
Fawn Creek - 7,000	62	4.2	15.8	27	16.3	21.6	75
Jack Creek Upper - 7,250	62	7.9	16.7	47	16.6	19	87
Laurel Draw - 6,697	62	0	8.6	0	14.4	17.7	81
Taylor Canyon - 6,200	068/062	0	1.3	0	6.6	8.1	81
LOWER HUMBOLDT RIVER				**18**			**70**
Big Creek Summit - 8,695	173	4.8	16.9	28	8	15.8	51
Buckskin Lower - 6,915	51	0	8.5	0	10.9	16.1	84
Granite Peak - 8,543	51	6.7	21.2	32	15	22.9	66
Lamance Creek - 6,000	51	0	6.6	0	16	19.8	81
UPPER HUMBOLDT RIVER				**15**			**66**
Draw Creek - 7,200	72	1.9	10.4	18	10.4	13.8	75
Dorsey Basin - 8,100	101/102	0	12.8	0	14.4	20.6	70
Green Mountain - 8,000	102	0	13.5	0	14	20.5	68
Lamoille #3 - 7,700	102	0	12.7	0	10	19.7	51
CLOVER VALLEY				**32**			**84**
Hole-in-Mountain - 7,900	101	5.3	16.5	32	19.7	23.4	84
EASTERN NEVADA				**16**			**50**
Berry Creek - 9,100	111	4.9	14.9	33	7.4	15.4	48
Diamond Peak - 8,033	141	0	3.5	0	7	12.8	55
Ward Mountain - 9,200	221	0	12.3	0	6.9	14.1	49

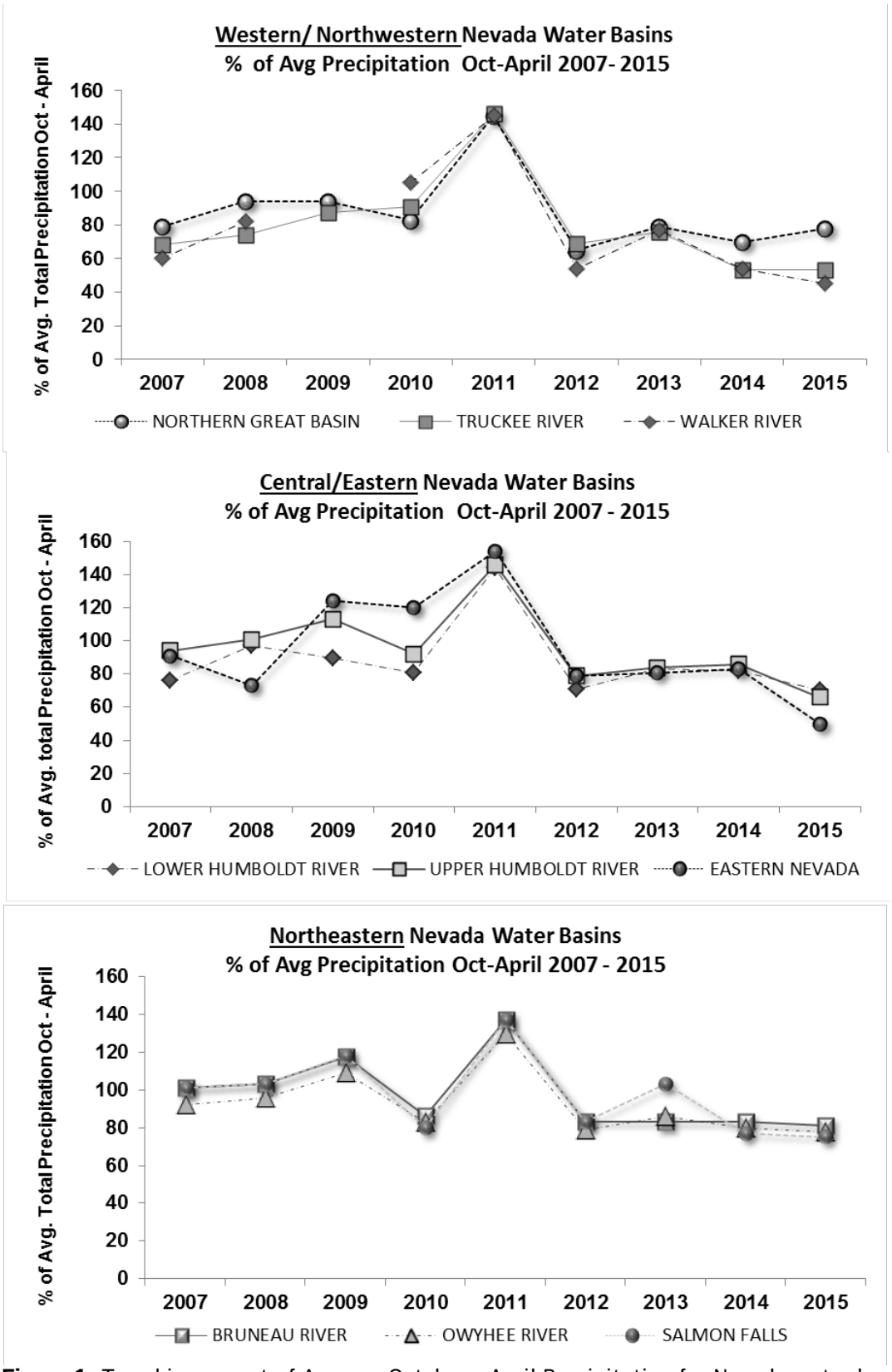

Figure 1. Trend in percent of Average October – April Precipitation for Nevada water basins from 2007 – 2015 (SNOTEL sites, Natural Resources Conservation Service).

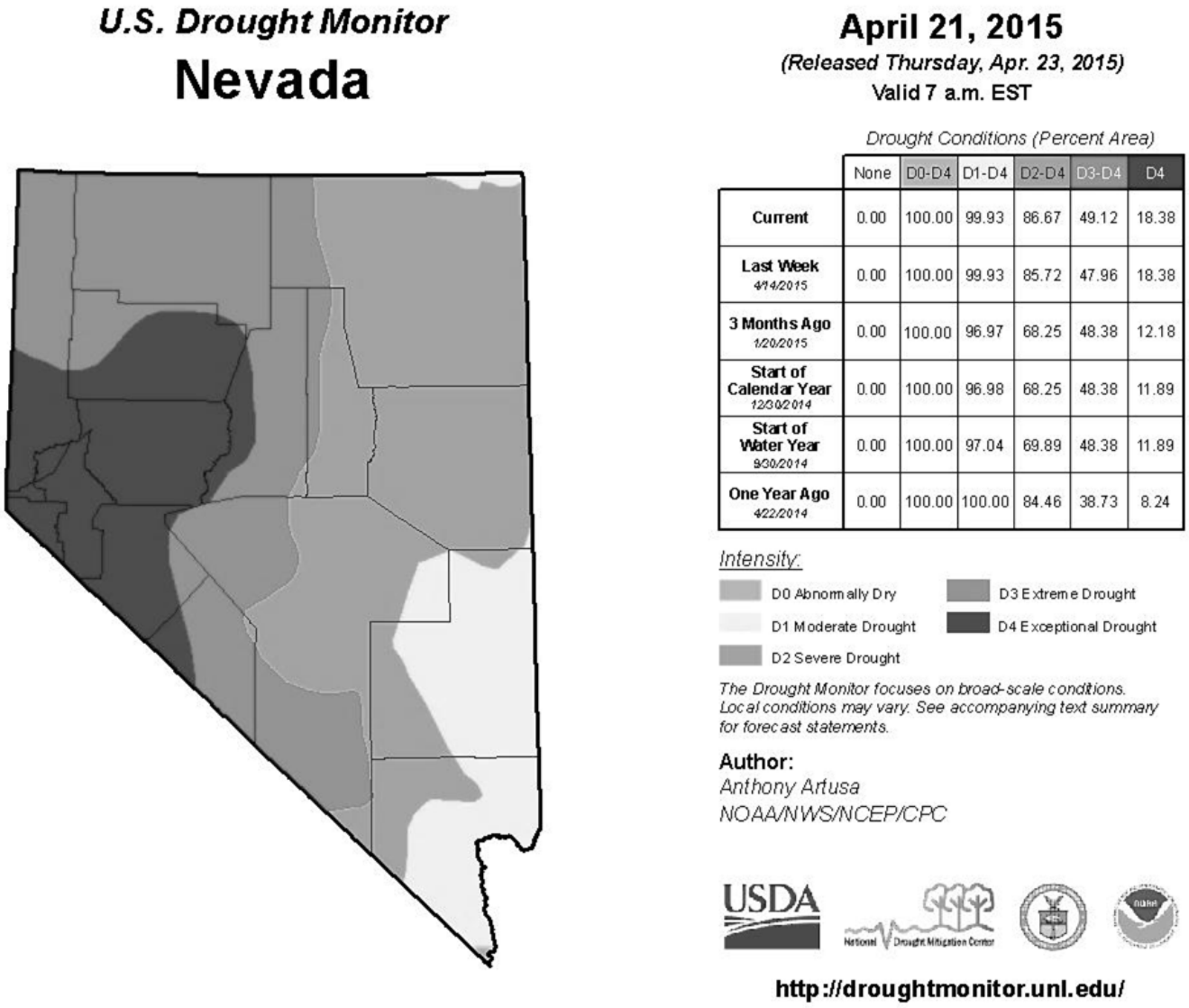

Figure 2. US drought monitor index for the state of Nevada. The entire state is under drought conditions including those areas in white within Lincoln and Clark County which are considered Moderate Drought (D1) intensity. Data was generated on 21 April 2015 from the USDA funded website: http://droughtmonitor.unl.edu.

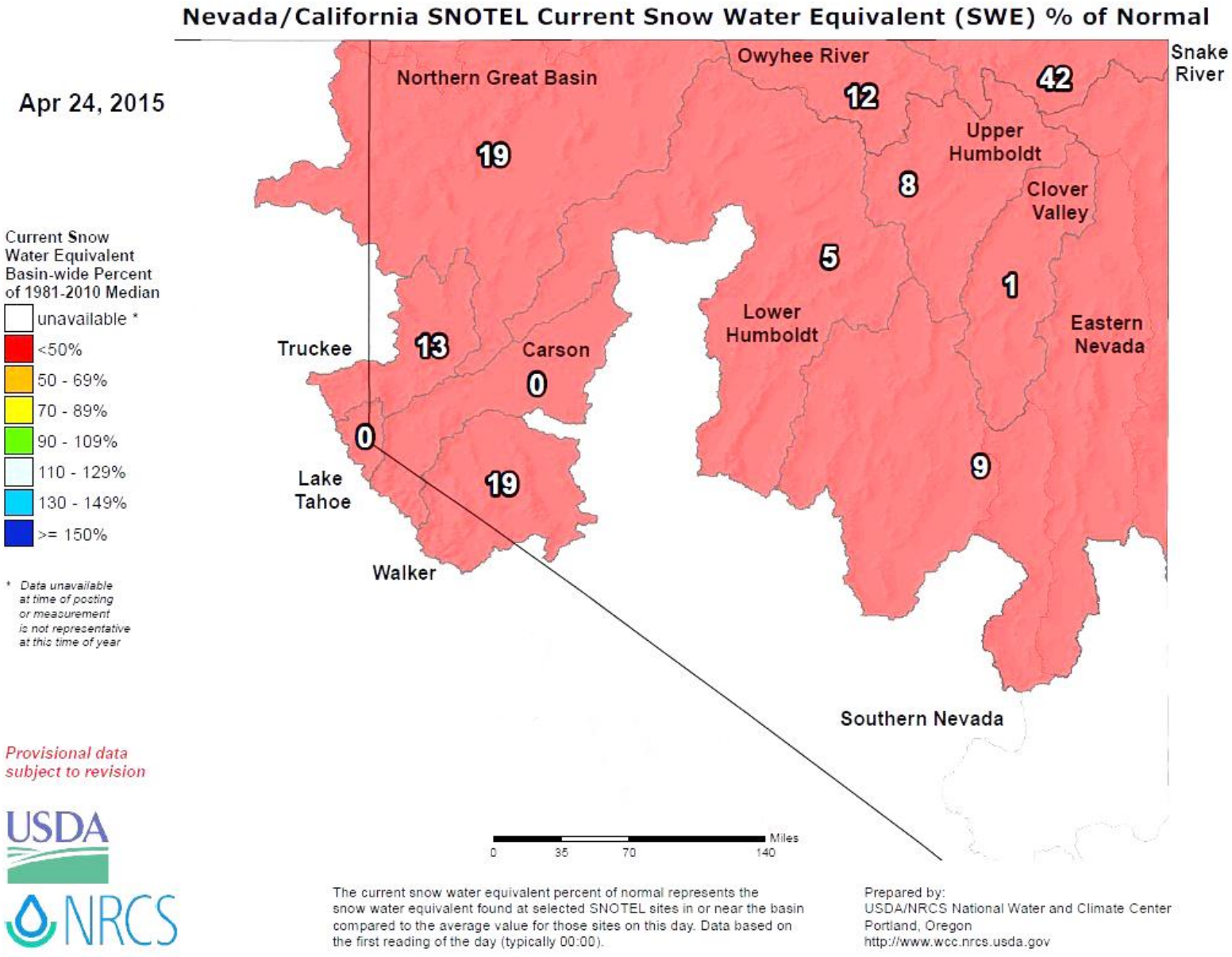

Figure 3. Percent of normal snow water equivalent (SWE) for the state of Nevada and portions of California. Data was generated on 24 April 2015 from the USDA funded website: http://www.wcc.nrcs.usda.gov.

MULE DEER

Units 011 – 015: Northern Washoe and Western Humboldt Counties

Report by: Chris Hampson

Hunt Results

Hunter success rates for the 2014 rifle hunting seasons were generally down again this past year due to the long-term drought conditions and extremely warm temperatures during the fall and winter. The late season hunters had an especially difficult time locating mule deer due to the extremely warm temperatures and poor hunting conditions. Youth hunter success rates were similar to previous years and have generally been more consistent during the past as parents commit to putting in the extra time that is needed for them to be successful.

Due to the warm conditions and little to no snow accumulations this past winter, Interstate mule deer populations did not migrate in large numbers from their summer ranges in California onto their winter ranges in Nevada. As a result, hunters harvested fewer deer and had lower hunter success rates during the late season rifle hunt in unit 015. Another contributing factor for the lower success rate in unit 015 may have been the challenging road conditions caused by significant rainfall which made many of the major access roads impassable for hunters attempting to access and hunt in unit 015.

Mule deer harvest objectives for most Management Area 1 hunt units were not met this year due to the very dry and warm conditions, despite the anomaly in the unit 015 late season hunt. Mule deer summer ranges throughout Western Nevada have been extremely dry for several years and the lack of water and quality forage have forced mule deer and other wildlife to move off of the upper elevation summer/fall ranges into lower elevation transitional ranges where the best forage and water are more readily available. These areas generally have more tree cover and are usually more difficult to hunt.

Survey Data

Post-season helicopter surveys took place in mid-November 2014. The surveys were conducted in unit group 011-013 and in hunt unit 014. The surveys classified a total of 838 mule deer and resulted in an average composition ratio of 35 bucks:100 does:53 fawns. Mild conditions once again made locating mule deer more difficult on survey as deer were scattered over wide areas. Good green-up was observed throughout most of the mountain ranges in northwestern Nevada, which contributed to the scattered nature of the deer.

Spring composition surveys were flown by NDOW biologists in March 2015 with a total of 684 deer classified within Management Area 1 units. The composition ratio for the sample was 38 fawns:100 adults. This mimics the adult to fawn ratio observed in 2013.

Habitat

A large wildfire burned 15,000 plus acres in hunt unit 011 during the summer of 2014. Significant mule deer winter range in the areas of Little Coleman and Coleman Creeks was lost this past year. The 2014 Coleman Fire burned into portions of the old Barrel Springs Fire and re-burned areas where previous restoration efforts has occurred and were beginning to recover. Restoration of the 2014 Coleman Fire began this past fall and winter and additional plantings of bitterbrush and sagebrush is planned for the spring of 2015.

Additional reseeding of the Lost Fire which burned in the summer of 2012 was completed this past fall and winter. Only a limited amount of restoration could be accomplished in 2013 due to the lack of available sagebrush seed. Bureau of Land Management aerially reseeded portions of the burned area this past fall with native shrub species in an effort to bolster the recovery of the burned areas.

Despite, the lack of snow accumulations during the winter of 2014-15, occasional rainfall and warm temperatures resulted in an extensive green-up throughout most of the fall and winter. Mule deer were able to disperse and take advantage of the good quality forage. Unfortunately, the significant rainfall was quickly absorbed into the soil and did not help to recharge the flows to springs or significantly increase the water levels in important lakebeds. The lack of snowmelt and runoff this spring will once again result in very dry conditions heading into the summer of 2015.

The outlook for the 2015-16 water year is poor and another very dry year is expected. This would be the fourth consecutive dry year and would continue a trend that has become all too common since Nevada's record dry year in 2007. Important upper elevation lakebeds that have been completely dry by early summer will once again be empty in 2015. Many of the spring sources that started to dry up back in 2013 are expected to remain dry and many others may go dry this summer. Habitat conditions and water availability this summer are predicted to be very poor.

Population Status and Trend

Mule deer populations in the northwestern portion of the state have had to contend with some of the driest conditions in recent decades. The long-term drought has impacted flat plateau type country much more than it has the steep and higher elevation mountain ranges. Flat plateau country usually dries out much more quickly during extended drought conditions due to the fact that these areas are more exposed and generally hold less moisture. Water availability this coming summer will once again be a serious concern. Due to the extremely dry conditions mule deer have been moving off of traditional summer ranges much earlier in the year.

The change in the distribution of mule deer in the fall and winter has resulted in lower hunter success rates and more hunters reporting having observed less deer. Deer hunters are generally traditionalists and often hunt upper elevation summer ranges during the fall. However, in recent years, most of the deer have left these areas by the middle of summer due to the lack of free water and good quality forage on their summer ranges.

Extensive wildfires over the past few years have also impacted mule deer and important mule deer habitat within Management Area 1. These same wildfires also burned critical summer, transitional, and winter range on the California and Oregon sides of the border. The loss of important browse species, as well as thermal and escape cover will negatively impact the herds for the long-term.

Restoration efforts have been somewhat successful but have been limited by seed availability and the extremely dry conditions. Many of these burned areas will take up to a decade or more for vegetative conditions to once again provide adequate browse and escape cover for mule deer.

The 2015 mule deer quotas and recommendations are expected to mimic current deer population trend.

Units 021, 022: Southern Washoe County

Report by: Chris Hampson

Hunt Results

Hunter success rates within Management Area 2 have remained stable over the course of the past few years despite the extended drought conditions. Mule deer living within the mountain ranges of Management Area 2 have remained on their summer ranges through the fall because upper elevation ranges have not been impacted as badly by the drought as most of the flat plateau country in portions of northern Washoe County.

Hunters have continued to concentrate their efforts on the upper elevation hunt areas and have had good success hunting mule deer. Resident rifle hunters in unit 022 have enjoyed good success for several

consecutive years. The 4-point and better in the harvest has also been strong in hunt unit 022 over the past four or five years.

Youth tag holders have also experienced good success in recent years and harvested between 75 and 85 percent bucks during the 2014 season. The total number of bucks harvested in Management Area 2 was slightly below management objectives this past year. Hunters harvested 10 less deer than expected in hunt unit 021 and 6 less bucks in unit 022. Drought conditions and warm temperatures during the hunting seasons are thought to be the main reasons for the lower harvest levels.

In 2014, there were no major changes to the hunting season structure for mule deer hunts within Management Area 2. The only slight change was the rifle season ran until November 2nd this past year in unit 022 instead of ending on October 31st like it did in 2013.

A high percentage of the deer harvested within unit 021 are mule deer that migrate into Nevada in the fall or early winter from California hunt unit X6B and X7A. There is a small resident herd that also provides additional harvest opportunity for Nevada's hunters. The hunting season is a late season hunt that begins the third week of December and runs to January 1.

Mule deer that reside in hunt Unit 022 are resident deer that simply drop in elevation in the winter. The rifle hunting season is the more traditional 29-day season that begins during the first week of October.

Survey Data

Post-season surveys for the Interstate mule deer herds have typically been conducted by California Fish and Game. Interstate mule deer are normally located on the California side of the line on upper elevation summer ranges during the fall. However, no surveys have been conducted in recent years due to the cancellation of these surveys several years ago. NDOW conducts the spring survey of Interstate mule deer because many of the deer winter on the Nevada side of the line during average to above average winters.

Fall surveys in Nevada hunt unit 022 have not been conducted for many years due to the low density and scattered nature of the relatively small deer herd. Spring surveys in 022 are conducted by NDOW when deer are concentrated on lower elevation winter range.

Spring composition surveys were conducted in March 2015 with the NDOW helicopter. In unit 021, a total of 227 deer were classified on their winter range in the Petersen Mountains. These totals provide a ratio of 38 fawns:100 adults. In unit 022, a total of 103 mule deer provided a fawn to adult ratio of 35:100. Ground surveys were also conducted to supplement the sample in 022. Mule deer in 022 were found to be scattered and not located on traditional winter ranges.

Habitat

According to the U.S Drought Monitor, a large portion of Management Area 2 was categorized as "exceptional drought" conditions for much of the 2014-15 water years. This is the most severe classification for drought intensity that is used. Other portions of northern Washoe County are listed as being in "extreme drought" which is the second most severe classification of impacts from drought. Forage quality and water availability suffer the most during these types of long-term drought conditions. Important water sources throughout Northwestern Nevada have dried up and are not expected to improve or begin flowing this coming year.

Mule deer distribution changes immensely during these types of events as water and forage dry up and deer are forced to move to areas that have more reliable water and better forage. Some recent observations include animals moving into adjacent hunt units and or crossing state lines in order to locate reliable water sources.

No major wildfires occurred within Management Area 2 this past summer; however, wildfires over the past few decades have significantly impacted mule deer habitat within the region. Mule deer habitat within this management area has been compromised and fragmented due to extensive and frequent wildfires. Only a small fraction of the mule deer habitat in the Petersen Mountains remains intact. Cheat grass has also invaded many of the lower elevation disturbed sites. Sagebrush is slowly returning to some of the northern and eastern aspects within the burned areas. Over the next decade the plants will hopefully reach a height that will help to provide better escape and thermal cover for mule deer; however, these areas that are starting to recover only represent a small portion of the mule deer habitat that was lost to wildfires over the past several decades.

Restoration following the wildfires has met with some success but has also been limited by the lack of spring moisture and competition from annual grasses. The fire cycle throughout much of Management Area 2 has been shortened considerably especially in the Petersen Mountains where wildfires have become almost commonplace.

The protection and maintenance of the remaining stands of sagebrush and bitterbrush will be critical to the future of the Management Area 2 deer herds. Additional protection and restoration of important spring sources within the Virginia Mountains is planned for the summer of 2015. The Nevada Department of Wildlife working with partners such as Washoe County, Carson City BLM, NRCS, Nevada Bighorns Unlimited, The Coalition for Nevada's Wildlife, and the Cold Spring Homeowners Association have all been involved in providing much needed labor and funding to help improve wildlife habitat within the region.

Population Status and Trend

Hunter success rates for mule deer hunters in hunt units 021 and 022 indicate that the hunters experienced another good year of hunting for mule deer in the mountain ranges of southern Washoe County. Hunters also reported observing good to fair numbers of mature bucks within the two hunt units. The 4-point or better in the harvest was once again fairly strong.

Drought conditions are expected to continue into their fourth consecutive year. However, the good news is that an excellent green-up was present in most areas of southern Washoe County over the course of the winter. This should allow deer to enter into the summer in fairly good condition.

Unfortunately, due to the fact these deer herds live in close proximity to the Reno/Sparks area, human encroachment issues will continue to be a major problem for the deer herds in Management Area 2 over the long-term.

Quota recommendations for the Management Area 2 deer herds for the 2015 hunting seasons are expected to be similar to slightly higher than the previous year's quotas.

Units 031, 032, 034, 035: Western Humboldt County

Reported by: Ed Partee

Survey Data

Two different helicopter surveys were conducted for deer in Management Area 3. The post-season or fall survey was conducted in early November and took place over the course of two days. During these flights, 628 deer were classified, which is below the previous year's total of 1182. The number of deer surveyed has dropped over the last two years, which may been due to challenging survey conditions and not directly related to the population of deer. Overall, ratios obtained from these surveys were 29 bucks:100 does:46 fawns. The past 5-year average for these units was 34 bucks:100 does:51 fawns. This year's ratios have dipped slightly when compared to the five year average.

Spring deer surveys this year were conducted during mid-March. These flights were conducted over a two day period. Both days were conducive for flights with calm winds and good light for observations. A total

of 898 deer was classified which is down from the total of 1,030 that was classified during the previous year's survey. This year's survey yielded a ratio of 56 fawns:100 adults. This ratio is up significantly from the 2014 spring survey ratio of 37 fawns:100 adults. The 2015 spring survey ratio was above the 5-year average of 40 fawns:100 adults.

Habitat

Management Area 3 has received less precipitation than normal during the last two years. During the last winter, very little snowfall accumulated across much of MA 3. With the lack of winter precipitation, spring moisture will be desperately needed to sustain these herds. The lack of moisture has spread these herds out throughout the range during the spring flights.

Fire rehabilitation efforts that have taken place in unit 031 have responded well. The past couple of years have experienced good spring and summer moisture which has benefited the burned areas. With the additional funding and efforts of sportsman's organizations, BLM, and NDOW, we are starting to see this area rebound slightly. Naturally, the upper elevations are producing much higher quality vegetation which has helped sustain these herds.

Population Status and Trend

Population estimates for Management Area 3 have remained static for the last two years. With the recovery efforts that have taken place in unit 031, we have seen a rebound in the fawn recruitment and survival in this area. All of Area 3 has seen slight increases in fawn production this last year partly due to the mild winter. All units in Management area 3 will be struggling this year with the lack of snow that was received throughout the winter months. Competition for forage will definitely have an effect on these herds and growth is unlikely. Winter range in most of these units remains the limiting factor for these populations. Many of the traditional winter use areas have been converted to annual grass due to fires.

Unit 033: Sheldon National Wildlife Refuge; Washoe and Humboldt Counties

Report by: Chris Hampson

Hunt Results

Intensive horse gathering activities were conducted by the USFWS on the Sheldon during August and September 2014. The road closures and restrictions temporarily closed portions of the Sheldon for the horse gathering operations. The horse and burro captures took place for two two-week periods during the months of August and September. Pronghorn and mule deer hunters were the most affected by the temporary closures. The Sheldon has now completed the horse and burro removal effort and will no longer be restricting access for these reasons.

Hunter success rates and the quality of bucks taken during the season can be negatively affected by road closures or other restrictions. However, hunter success rates on the Sheldon have steadily declined over time as the drought and above average temperatures continue. The dry conditions began back in 2007, which was the driest year on record in Nevada. The winter of 2011 was the only above-average winter since that time.

Drought conditions on the Sheldon have been extreme and the lack of snowfall this past year will once again result in poor water availability and very dry conditions this summer. Summer ranges on the Sheldon are very dry and mule deer and pronghorn have been forced to leave upper elevation summer ranges and have had to travel longer distances to find reliable water and forage.

Hunters during the early rifle season had a hunter success rate of just 25%, while the late season tag holders had a success rate of 43%. This equates to a 15% drop in hunter success rates in 2014 when compared with the previous year. The 4-point or better in the harvest figures for all Sheldon hunts

combined increased this year from 36% in 2013 to 44% in 2014. Hunting conditions were very poor as very warm temperatures and little to no snowfall occurred throughout the entire mule deer hunting season.

Youth hunters continue to enjoy good success and had a respectable 63% hunter success rate. The young hunters reported harvesting a total of 16 bucks and 4 does in 2014.

A total of 54 mule deer bucks were harvested from the Sheldon in 2014. The harvest objective for the Sheldon was not met this year and fell 34% below projected levels. In 2013, hunters fell just one buck short of meeting the harvest objective of 82 bucks. Impacts from the current long-term drought and well above normal temperatures are believed to have played a major role in the lower hunter harvest observed this year.

Survey Data

Post-season deer surveys on the Sheldon continue to be more difficult as mule deer have been scattered and not concentrated on their typical upper elevation summer ranges. Intensive horse gathering activities that have taken place each year in August or September are also believed to have also played a role in scattering mule deer and other wildlife throughout the Sheldon.

The lack of snowfall and warm temperatures has also made locating mule deer during spring surveys extremely difficult. Mule deer have been so scattered over the past couple of years that locating good numbers of deer on the Sheldon in the springtime is not plausible. Making things more difficult is that the fact that many of the Sheldon mule deer also migrate in the winter to surrounding hunt units or even north into Oregon.

Fall surveys were difficult and only 64 deer were classified in over two hours of survey effort. Mule deer were widely scattered and in small groups. The small sample provided a composition ratio of 53 bucks:100 does:60 fawns.

Spring surveys were unsuccessful in locating deer on a few of the traditional winter ranges so the decision was made to cancel the reminder of the survey because it was determined to not be cost effective to continue. The average fawn ratios from surrounding hunt units will be used in this year's quota development process. Conservative quota recommendations will be made until such time that the current severe drought cycle has ended.

Habitat

The winter of 2014-15 resulted in very little snow accumulations on the Sheldon. In fact, the month of January, normally one of the wettest months, had zero precipitation or snowfall receipts this past winter. On average, temperatures were between 6 and 10 degrees above normal this past winter. Significant storm fronts during the first two weeks of February finally provided significant moisture but due to the warmer than normal temperatures fell in the form of rain.

Habitat conditions are expected to worsen this coming summer as a result of the extremely mild winter. Water availability this summer is expected to be below levels experienced during the summer and fall of 2014. If precipitation amounts continue to decline, mule deer may once again be forced to move from crucial summer ranges due to the persistent drought conditions. Deer will concentrate on north slopes and move down in elevation to locate the best water and forage available.
In both the short and long-term, mule deer populations on the Sheldon have and will be impacted by the significant loss of habitat due to fires. These expansive fires have burned between 50 to 60 percent of the best mule deer summer range on the Sheldon. Large fires burned critical habitat on Catnip Mountain, Badger Mountain, Alkali Peak, Devaney Mountain, Mahogany Mountain and Bald Mountain. Some of these burns were prescribed fires that burned out of control and consumed much larger acreage than what was planned. Loss of important mule deer habitat will impact the herd into the future.

Population Status and Trend

The population estimate and recruitment of juveniles in the Sheldon deer herd continues to be on a decline. Due to the long-term drought, more conservative recommendations will be made for mule deer hunting quotas for the 2015 hunting season.

Quotas are expected to be below those allocated during the 2014 hunting seasons.

Units 041, 042: Western Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Post-season surveys were not performed last year. Spring ground surveys were attempted in early-March however a statistically valid sample size was not attained. Quota recommendations are expected to remain static compared to past years.

Population Status and Trend

Western Pershing County's mule deer population continues to demonstrate a stable population trend. This herd is expected to remain stable with minimal yearly growth or decline due to significant conversion of habitat by wildfires and limited annual precipitation. Mule deer inhabit the Seven Troughs, Selenite, Eugene, Nightingale, Sahwave, Trinity, Majuba, Antelope, Lava Beds and Kamma mountain ranges.

Units 043 - 046: Eastern Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Post-season helicopter surveys were not conducted last year. Limited spring surveys were conducted using a combination of aerial and ground methods. Mule deer were difficult to locate during both survey attempts due to animals being widely dispersed across the landscape, likely due to mild conditions and early spring green up. A total of 173 mule deer were observed that resulted in ratio of 47 fawns:100 adults.

Population Status and Trend

Eastern Pershing County's mule deer recruitment rate has been below maintenance level for the past two years; however, the 2015 observed spring fawn ratio shows improvement. Unfortunately, the accuracy of this estimate is uncertain due to poor survey results. Currently the population estimate remains at 2,700 mule deer. A robust survey in future years are expected to improve the parameter estimates for this population. Management objectives will continue to target a post-season buck ratio of 30 bucks:100 does.

Unit 051: Santa Rosa Mountains; Eastern Humboldt County

Report by: Ed Partee

Survey Data

Post-season helicopter flights were conducted in early November this past year with 325 deer classified and a ratio of 38 bucks:100 does:52 fawns. The buck and fawn ratios are both up slightly from the five-year average.

Spring survey flights were conducted in mid-March with good conditions during these flights. A total of 650 deer were surveyed which is a little higher than the 533 deer surveyed the previous year. The number

of deer classified on this flight has increased the last two years. The spring fawn ratio for this survey was 46 fawns: 100 adults. This recruitment rate is a slight increase over the five-year average.

Habitat

No additional loss of habitat occurred in this unit last year. This winter experienced a major lack of precipitation with very little snowfall. Summer range in this unit was fair throughout 2014 due to timely spring and summer precipitation. With the lack of winter snowpack this unit will need much spring and summer rain to sustain the vegetation. Past fires are starting to show signs of recovery due to the amount of efforts that have taken place. In the lower elevations additional fire rehabilitation efforts continue to take place through cooperative efforts between BLM, Forest Service, NDOW, and Friends of Nevada Wilderness. Several bitterbrush and sagebrush plantings have taken place to help in the recovery of this area. The success of these fire restoration efforts will depend on the amount of precipitation received.

Population Status and Trend

The population estimate for unit 051 was about 2,500 mule deer in 2015. Several adjustments were made to the population model to better reflect past helicopter surveys and trends in harvest data. With moderate fawn recruitment no major increases are expected at this time. Winter fawn loss was minimal with the mild winter that occurred.

Units 061 - 062, 064, 066 – 068: Independence and Tuscarora Ranges; Elko County

Report by: Matthew Jeffress

Hunt Results

There were 1,467 rifle buck tags (resident and nonresident) available in 2014. The quota represents a 10% decrease over 2013 quotas. The average hunter success rate for all rifle buck hunters was 47%, which represents a 4% increase from 2013. The percentage of bucks with 4-points or better was 39%. For more specific hunting results, please refer to 2014 Harvest Tables in the Appendix.

Survey Data

A fall helicopter survey was not conducted in 2014.

A spring helicopter survey was conducted in March of 2015. A total of 3,383 deer was classified that yielded a ratio of 42 fawns:100 adults. This was identical to the ratio observed during the 2014 spring survey, indicating good fawn recruitment for Area 6 deer during the past two years.

Habitat

Below-average snowpack and spring precipitation made for a 3rd dry summer in 2014. As of early March 2014, the snowpack for northern Elko County ranged between 40-60% of normal. Given the deficit of soil moisture since 2011, 2014/2015 snowpack was below what was needed to offset four years of drought. Timely spring and summer rains in 2014 allowed upper elevations to remain in good condition with respect to grass and forb growth. The summer rains did little for deeply rooted browse species over the long term and as of late March little snow remained throughout Area 6. In early April, a spring storm in the Bull Run Range and Independence Mountains dropped more than 12 inches of snow. This moisture should aid in the growth of forbs and grasses crucial for pregnant does and antler growth of bucks, however the moisture was too late to saturate mid to low elevation soil profiles. We continue to lose mountain brush communities at an accelerated rate; with fires consuming important mule deer habitat each year since 2011. Several fires burned within the unit group during the spring and summer months of 2012. The 5 largest fires, Willow, Browns Gulch, Mustang, Lime and Homer primarily burned summer and transitional mountain brush communities. Deer rely heavily on these mountain brush communities for building fat reserves prior to being forced onto degraded winter range. The 5 fires combined burned over 91,000

acres. Portions of each fire have negatively impacted mule deer. Mountain brush communities lost to the Willow Fire and Mustang Fire represented the last large intact blocks of habitat remaining for mule deer as they transition from summer range to degraded winter ranges. To further compound the loss of the 42,000 acres consumed by the 2012 Willow Fire, in 2013 another 20,000 acres of habitat was lost in the North Tuscarora Range and South Independence Range. BLM and NDOW, in cooperation with landowners, Elko Bighorns and Midas NBU, seeded much of what was lost in the Red Cow, Water Pipe and Wieland fires with wildlife friendly seed mixes, including a new cultivar Snowstorm Forage Kochia. In addition to losses of sagebrush due to wildfires, much of the existing islands of low to mid elevation Wyoming sagebrush throughout Area 6 are exhibiting signs of stress and death. This is likely a result of drought in the form of a lack of deep soil moisture due to below average snowpack over the past four winters. Snowpack is needed to sustain deeply rooted mature sagebrush. It is believed drought stress in combination with insect infestations, particularly Aroga moth, are leading to the large scale losses of sagebrush islands in Area 6. On a positive note, areas where sagebrush has received adequate moisture has led to recruitment of many young, shallow rooted plants more capable of capitalizing on shallow moisture received throughout the year.

While hopeful for full establishment of seeded species, NDOW is mindful of the challenges associated with fire rehab, especially with sagebrush. Between the years of 1999 and 2011, over 1.5 million acres of rangeland burned in Area 6, much of which was important deer habitat. In response to the significant amount of habitat loss, tens of thousands of acres of winter range has been reseeded with desirable forage species. Success of those seedings is heavily reliant on timely moisture, proper grazing practices, and prevention of reoccurring wildfires. While positive recovery has been observed at mid to upper elevations, recovery of critical low-elevation winter range continues to be a struggle in Area 6. Even with these struggles, the BLM Roosters Comb Seeding and NW Sheep Seeding have persisted through four years of drought. Livestock exclusionary fences exist around the perimeter of both the Roosters Comb and NW Sheep seedings. NDOW continues to ask BLM to develop a grazing management plan for the 25 Allotment. As of early 2015 there is no planned start for a rangeland health assessment for this allotment, which encompasses winter range for close to half of the Area 6 deer herd. The last allotment evaluation for the 25 Allotment dates back to the 1970's. Greater than a million dollars has been spent on fire rehab and habitat enhancement projects to provide forage and cover for wildlife throughout the Izzenhood and Sheep Creek Ranges. Many of these past investments near the Izzenhood Range and Sheep Creek Range have been lost or greatly compromised due to a combination of unregulated livestock grazing and drought conditions. NDOW again encouraged Elko BLM to consider wildlife values when setting annual grazing plans for the 25 Allotment and other allotments throughout the Elko District. Conversations between Elko BLM and NDOW this winter and spring were promising; however no definitive decisions were made prior to the start of the 2015 grazing season. Of great concern are the large bare areas along the face of the Sheep Creek Range and Black Mountain; visible from the I-80 corridor. Without proper grazing management and adequate precipitation, the face of the Sheep Creeks will provide very little in the form of forage and cover for wintering wildlife in 2015/ 2016. This February a large cheatgrass die-off along the face of the Sheep Creek Range between Battle Creek and Rock Creek was seeded with Wyoming sagebrush, Immigrant forage kochia, Sandberd bluegrass and Western yarrow. A total of 1,340 acres was seeded using an every other swath pattern for an overall affected area of 2,680 acres. Below average precipitation will likely affect the success of this seeding, however we are hopeful spring rains can facilitate the germination of desirable seed within the treated areas. April storms were likely too late for sagebrush, but limited moisture received may help facility germination of grass species and forage kochia plantings. The project was funded by sportsmen in cooperation with private landowners with permission from the BLM Tuscarora Field Office.

Even with gold prices around $1,200 per ounce, mining activity continues to increase throughout Area 6. Direct and indirect impacts to mule deer migration corridors remain the highest concern with increased mining and exploration. NDOW is hopeful mining companies will continue to follow recommendations of the January 2012 Area 6 Mule Deer Working Coalition publication on habitat management practices. In an effort to better delineate mule deer migration corridors through the Carlin Trend, 40 adult mule deer does were fitted with GPS collars between December 2012 and January 2013. Data obtained from the collars will help support management recommendations for maintaining suitable corridors for migrating deer. Of

equal importance, location data obtained from the collars will allow NDOW to identify important stop over sites, winter range and sites for targeted habitat enhancements. Proposed legislation to sell public land to large mining companies has the ability to negatively impact many species, in particular mule deer. Significant migration corridors and winter range occur on public lands adjacent to mineral rich districts. The conversion from public to private ownership would allow new projects or expansions to shortstop the NEPA process, likely not allowing NDOW or the public to voice concerns over impacts to Nevada's wildlife.

Population Status and Trend

The population estimate for the Area 6 deer herd mirrors last year's estimate. The stable population was planned with harvest objectives of last season's hunts designed to maintain the population within the confines of the carrying capacity of Area 6 winter range. Given limited available winter habitat during prolonged periods of snow and below-zero temperatures, it is imperative to structure harvest towards maintaining an overall population below 10,000 deer. Post-season buck ratios above 30 introduce extra competition for limited forage, likely leading to high over-winter fawn loss and decreased body condition of all deer. The same can be said for allowing the overall population to outgrow the carrying capacity of seasonal habitats. Too many deer competing for limited forage can decrease body condition of all deer and, under unfavorable environmental conditions, can lead to all age mortality events.

This deer herd is capable of increasing rapidly due to the excellent summer habitat and high fawn producing capabilities associated with Area 6. That being said, it is imperative to remember poor winter range conditions in Area 6 will dictate long-term population levels as it has done since the 1960's. Targeted winter range restoration will only be successful with proper grazing practices in place to ensure the long term viability of such investments and to ensure the seedings benefit wildlife in the form of forage and cover during critical winter months.

Recommended buck quotas for 2015 will be similar to 2014 quotas. As was the case last year, doe harvest is necessary to maintain the deer population within the confines of the carrying capacity of winter range. Population management through the implementation of doe harvest will alleviate competition among deer for limited resources during moderate to severe winters. The recommended doe harvest for 2015 will be similar to the 2014 quota, primarily to address concerns about the recent loss of past restoration efforts and the overall decrease in carrying capacity of Area 6 winter range. New for 2015 is the split season structure for any legal weapon antlerless deer hunts. The split season structure should alleviate congestion during October deer and elk hunts in Area 6.

Unit 065 Piñon Range: Southwestern Elko County

Report by: Scott Roberts

Hunt Results

There were 95 tags issued in 2014 across all weapon classes for both residents and nonresidents, with 66% of all tag holders being successful in harvesting deer. Fifty-one percent of the harvested bucks were 4 points or better, which was below the previous 10-year average of 62%. For more specific harvest results please refer to Harvest Tables in the Appendix Section.

Survey Data

An aerial deer survey was conducted in Unit 065 in November of 2014. A total of 583 deer was classified; yielding ratios of 40 bucks:100 does:65 fawns. The survey was conducted very near the peak of the rut and resulted in both a record sample size and a record high fawn ratio.

A spring deer survey was conducted in March of 2015 in conjunction with a sage grouse lek flight in the South Fork PMU. A total of 305 deer was classified, yielding a ratio of 37 fawns:100 does.

Habitat

Snowpack figures recorded at Snotel sites in the water basins located within and adjacent to this unit group range from 40%-57% of historic medians (NRCS website). As of early March, 2015 the US Drought Monitor Index has this entire area classified as exhibiting moderate to severe drought conditions. Last year's drought conditions were tempered by the above average late spring/summer rains that were received. The well timed rains led to improved grass and forb production throughout the unit group, which led to the above average recruitment level.

In February, 2014 the Elko BLM released a district wide EA to address the Management and Mitigation for Drought Impacted Rangelands (BLM website). The implementation of the management measures outlined in the EA will be paramount in protecting the stressed and compromised habitat on public lands through throughout this unit group for the duration of the current drought

Mineral exploration throughout the area continues to be a concern as companies are concentrating on much of the higher elevations of the Piñon Range. Most of the areas with increased drilling represent some of the most productive summer range in Unit 065.

Population Status and Trend

This deer herd experienced a modest increase over last year's estimate. A break from the current drought pattern and improved range conditions will be needed to maintain this growth pattern.

Units 071 – 079, 091: Northeastern Elko County

Report by: Kari Huebner

Hunt Results

The 2014 hunter success for the early and late season any-legal-weapon hunts were down from 2013. Hunter success for the early hunt dropped from 51% to 45%, while the late hunt dropped from 63% to 62% success. In 2013 the harvest of 4-point or better bucks was 22% early and 57% late. This year harvest of 4-point or better bucks was slightly higher in the early season with 23% and lower in the late season with 53%.

The 2014 archery success was 13% for the early season, slightly down from 14% last year. Late season success dropped from 28% in 2013 to 26% in 2014.

Survey Data

Post-season helicopter surveys were flown in mid December this year. A total of 4,332 mule deer was classified; yielding a ratio of 23 bucks:100 does:43 fawns. The fall fawn ratio was the lowest ever observed in a post-season survey for this herd. Spring surveys were not flown this year due to the early migration of mule deer back to summer ranges.

Habitat

Deer habitat in this unit group has been reduced following the large wildfires that occurred in the area since 1999. Invasive weeds such as cheatgrass and mustard have invaded deer habitat and now dominate many of the lower elevations. Even in areas where perennial grasses and forbs are found, it is taking years for shrubs such as sagebrush and bitterbrush to return to these burned areas that provide much needed nutrition in these summer and transitional ranges.

The majority of the Area 7 deer herd winters south of Interstate 80 in the Pequop and Toano Mountains. As these deer attempt to make their way to winter range from Jarbidge and other summer ranges, they are often struck by vehicles either on Highway 93 or Interstate 80. During the fall of 2010, 1 overpass and

2 under-crossings near Ten Mile Summit on Highway 93 were functional for the fall deer migration. By the fall of 2011, another overpass and 1 under-crossing were completed on HD Summit on Highway 93. Some deer have been coming around the southern fence end at this crossing. Another under-crossing and 4 miles of exclusionary fencing will be added in 2015 to correct the issue. Four crossings are slated to be constructed on Pequop Summit in the spring of 2016. Deer-vehicle- collisions have been reduced each year the crossings have been in place, making the road safer for motorists as well as deer. These migration routes for deer are crucial for habitat connectively.

Seventy-five deer have been radio collared in a collaborative effort between NDOW, Newmont Mining Corp. and UNR in the Pequop winter range. As of the spring of 2015, there were 20 collars still active. The collar data has and will continue to be used to assess impacts from exploration and potential mine development in Long Canyon on wintering and migrating deer and to better define migration corridors and winter use areas.

Population Status and Trend

Data indicate the Area 7 deer herd experienced a significant set-back during the winter of 2001-02. Since then this deer herd has been stable. Due to a combination of recent fires, drought conditions, and possible plant senescence, it is highly unlikely deer habitat in Area 7 can support the high numbers of deer documented in past decades. The low fawn ratio indicates that the deer herd is at carrying capacity. An antlerless hunt has been added to help address the current habitat issues.

Recent deer collaring has been instrumental in better understanding migration triggers, timing, pathways, length of migrations (some deer are moving more than 100 miles to winter range) and seasonal use patterns for the Area 7 Deer Herd. The information garnered through the collars may also help identify potential habitat projects to address limiting factors for this deer herd.

Unit 081: Goose Creek Area; Northeastern Elko County

Report by: Kari Huebner

Survey Data

Post-season helicopter surveys were flown in mid-December of 2014. A total of 402 mule deer was classified; yielding a ratio of 27 bucks:100 does:42 fawns.

Habitat

The 081 deer herd's winter range and some summer range were significantly impacted by the West Fork Fire in 2007. The fire burned 154,943 acres of prime winter habitat. The fire burned very hot and left few islands of habitat. Although the area was intensely seeded the 1st winter following the fire, it could take many years until the brush community fully recovers in this area.

Population Status and Trend

Overall this is a relatively small, resident deer herd although there is likely some migration from both Idaho and Utah. The magnitude of migration from surrounding states is dependent on weather conditions during the hunting season and timing of the hunt. In an attempt to take advantage of these later migrations, the muzzleloader and any legal weapon hunts have been scheduled later than in previous years. The intended result was to harvest more of the migratory herd and lessen the harvest on the small resident deer populations in the area. Hunter success increased again this past year during the any legal weapon season. This herd has been managed as a trophy area in the past and with current challenges such as the reduction of winter range, the recommended tag quota will remain conservative.

Units 101 - 109: Southern Elko and Northwestern White Pine Counties
Report by: Caleb McAdoo

Hunt Results

The long-term hunt success rate for the early rifle season remains at about 25%. However, in recent years this success had been elevated to 31% in 2012, and 28% in 2013. This is likely due in part to the addition of the early-mid-late season structure. For 2014, the mid-season success rate was 25%, which was down from 27% last year. Both the early and middle season success rates have been on a steady decline over the last 3 years, but are still above the long-term average. The 2014 late season hunter success was 47% which was down from 53% in 2013. Additionally, 1000 antlerless tags were issued and yielded success rates of 44%, slightly down from 48% in 2013. The percent of 4 points or better harvested in Area 10 in the 2014 season was 27% which was well below the 10-year average of 33%. The statewide average of 4 points or better in the harvest was 37% for 2014. The percentage of 4 points or better harvested has been on a noticeable and sharp decline since 2010. For specific 2014 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

Post season aerial deer surveys were conducted during the late fall of 2014 during the rut. A post-season observed buck ratio of 29 bucks:100 does was observed from a sample of 6,233 deer. The observed fawn ratio from the fall survey was 59 fawns:100 does and was the highest observed fall fawn ratio since 1999 in Area 10. A spring helicopter survey was conducted in late March 2015. During this survey, 8,526 deer were classified, yielding a ratio of 36 fawns:100 adults. This was up by 5 points from last year's spring survey and marks the highest observed fawn recruitment in Area 10 since 2004. Despite poor survey conditions, the spring sample size of 8,526 deer was the third highest spring sample since 1976.

Habitat

The single biggest threat to the Area 10 Deer Herd at this time continues to be the proposed expansion of Bald Mountain Mine (Bald Mountain Mine North and South Expansion EIS). While past mining operations in the area have afforded the necessary movement corridors for migrating deer through the mine site, NDOW and members of the public remain concerned that the proposed expansion could have negative population level effects to mule deer and could be potentially devastating by curtailing the life-history strategy of mule deer migration. However, NDOW is hopeful that the final mine facility design features identified in the EIS will reduce the negative impacts which would likely come from such a mining operation. NDOW remains committed to working with the BLM and Bald Mountain Mine to find the most effective solutions for mule deer passage through the mine operation areas, while still allowing access to mineral reserves.

Area 10 was again spared from large catastrophic wildfires in the summer of 2014. Throughout much of the unit group, sagebrush "die-offs" continue to occur, however the majority of these are in lower elevation habitats.

Generally speaking, 2014 was a very mild year with very little snow. In some portions of the unit group, most notably unit 104 and 105, monsoonal rains again occurred in late summer and early fall. Snow levels were insignificant on transition and winter ranges, and unlike 2013 which had decent snowpack, even the high elevations are well below average for moisture. The Ruby Mountain and East Humboldt Range snowpack level are about 53% of normal for 2014-15. Unless late season storms or significant summer precipitation occur, habitat conditions are likely to be severely compromised this year.

The Department of Wildlife, along with land management agencies, continue to work on several large-scale mule deer habitat enhancement projects in Area 10 such as the Overland\Big Wash pinyon-juniper thinning project and the Spruce Mountain Restoration Project. These Projects were initiated to improve mule deer winter and transitional range by setting back the successional stage of the area to a more browse dominated site. These efforts should increase wildlife diversity and reduce the potential of

catastrophic wildfires by reducing the fuel load. These areas are, and have been, extremely important winter and transitional range for thousands of mule deer that reside in Management Area 10. Efforts were initiated in the Spruce Mountain area in the fall/winter of 2013 and over 1,000 acres have been treated. An additional 2,500 acres are planned to be treated in 2015.

Population Status and Trend

The Area 10 deer herd has been stable with the exception of 2 winter-related loss events, 1 in the mid 1980's and the other in the winter of 1992-1993. Additionally, an unprecedented growth period occurred in the late 1980's and was likely a density-dependent response to the winter loss in the mid-80's coupled with ideal weather conditions. While recovering from 1992-1993 winter mortality losses, the Area 10 deer population showed an upward growth trend from 1997 through 2007. In 2008, the herd began to stabilize near the current population level. In recent years fawn recruitment has increased and is likely attributed to an aggressive doe harvest strategy. While carrying capacity can be difficult to define the observed fawn recruitment values provide further evidence that the population had stabilized to approximate the available habitat.

Significant adjustments were made to the Area 10 deer population model this year to better reflect recent observations in recruitment, harvest data, and survey results. A more conservative "minimum population size" was used to account for variation in recruitment and survival rates. Because of the data gleaned from 5 years of consistent fall and spring surveys, coupled with annual survivorship information obtained from a large scale radio-collaring project in Area 10, an adjustment to the population estimate was made using the minimum population size concept. This approach to modeling brought the estimated population size from 24,000 down to a minimum estimate of 18,000. The decrease in the modeled population estimate merely reflects those changes in methodology and is not necessarily indicative of a true population decline of that magnitude. The harvest objective of 30 bucks:100 does will continue for this herd and recent surveys indicate that objective is currently being met. Both harvest and survey data suggest that the male age structure is more heavily represented by younger aged bucks. Management recommendations will be aimed at promoting a more even age structure of adult bucks in the population and to increase opportunities harvesting mature bucks.

The Department of Wildlife continues to place a large emphasis on mule deer populations by investing time and resources into beneficial projects and scientifically sound research to increase understanding of the population dynamics of mule deer resources. From 2010 through the present, the Department of Wildlife, in cooperation with the University of Nevada, Reno, initiated mule deer migration and survivorship studies in areas, 10, 15, and 19, with goals of identifying age and sex specific mortality rates; defining summer, winter, and transitional ranges to help prioritize population enhancement projects; and to determine costs and benefits of various mule deer migration strategies. Bald Mountain Mine has also contributed collars as part of their baseline data collection for the North and South Operations EIS. For Area 10, over 325 radio-telemetry collars have been deployed. These on-going studies have provided valuable insight to the population dynamics of these herds.

Units 111 – 113: Eastern White Pine County

Report by: Kody Menghini

Hunt Results

The 2014 harvest, for all hunts, was 413 deer (362 antlered deer, 51 antlerless deer). This was the highest harvest since 2008. Of the bucks harvested, 25% were 4-points or better, which is similar to the 5 year average of 26%. For more specific harvest results, please refer to the Harvest Tables in the Appendix Section.

Survey Data

A fall survey was not conducted in 2014. A spring helicopter survey was conducted in late February and early March of 2015. A composition count of 2,327 mule deer yielded a ratio of 26 fawns:100 adults. The 10-year average for fawn recruitment has been about 30 fawns:100 adults for this herd, indicating a poor recruitment year for Area 11 mule deer.

Habitat

Habitat and climatic conditions have been highly variable since 2007. The reported precipitation values at the Ely Airport between June and August of 2014 were 140% of normal. The late summer green-up will most likely have a positive effect on body condition of mule deer entering winter. However, the Ely Airport and the Berry Creek Snotel Site were both reporting 46% of normal precipitation (late-March) for the current water year, which will likely effect summer nutrition and water availability for mule deer.

Long-term habitat potential for mule deer is slowly declining due to the encroachment of pinyon and juniper (P/J) trees into mountain brush habitats. Over the past several years, habitat enhancement projects have included 2 new water developments and several thousand acres of chaining and other P/J removal projects in Unit 112. A 5,700 acre shrub enhancement project was completed on the east side of Unit 111. Numerous other projects with potential benefits to mule deer are in the planning stages. These include a large scale project in Unit 111 to reduce conifer encroachment, a burning project in white fir and aspen habitats, a green-stripping project in Duck Creek Basin, and a multi-agency project on the east side of the Schell Creek Bench to re-establish native shrubs, forbs, and grasses on crucial deer winter ranges. In June 2012, the Range and North Schell fires burned approximately 15,000 acres on the west side of the Duck Creek Range and from the Muncy Creek drainage north on the east side of the Schell Creek Range. Although this fire may negatively impact mule deer in the short-term, a net positive benefit for mule deer is expected in the long term outlook.

Population Status and Trend

This population had slight increases between 2012 and 2014 with more favorable weather patterns. The population estimate for 2015 is showing a slight decrease with lower fawn recruitment experienced this past winter. Even with the slight decrease this population is remains stable and has a good age structure of male and females.

Units 114 – 115: Snake Range; Southeastern White Pine County

Report by: Kody Menghini

Hunt Results

A sample of 104 bucks harvested was reported for all hunts in 2014. Of the bucks harvested, 45% were 4 points or better, which is similar to the 5-year average of 46%. For more specific harvest results, please refer to the Harvest Tables in the Appendix Section.

Survey Data

A fall helicopter survey was not conducted in 2014. A spring survey was conducted in early March of 2015. Survey conditions were excellent with fresh snow and minimal wind. A sample of 582 deer resulted in a composition of 26 fawns:100 adults, up from the 2014 spring sample of 448 deer which resulted in a ratio of 26 fawns:100 adults. The previous 10 year-average (2005-2014) spring sample has been 460 deer with fawn recruitment of 28 fawns:100 adults.

Habitat

Long-term habitat potential for mule deer is slowly declining due to encroachment of pinyon and juniper trees into mountain shrub and sage-steppe habitats. In some areas, recurrent drought has resulted in loss of native vegetation and expansion of cheatgrass and noxious weeds. Large-scale projects designed to control the encroachment of trees without imposing long-term impacts to shrub communities will be needed to reverse this trend. Great Basin National Park is developing plans to utilize prescribed fire to create openings in expansive areas of conifers, many of which hold the remnants of aspen stands that are being crowded by conifers such as white fir. These actions could benefit mule deer far into the future.

Population Status and Trend

Since the winter of 1992-93 this population has only experienced 4 years of positive population growth. The Snake Range continues to be plagued by drought which has negative impacts on high quality vegetation that mule deer need for survival and recruitment. For 2015, the mule deer population has exhibited a slight decrease. Since 2009 approximately 53 mountain lions have been removed by Wildlife Services (including sport harvest) for the enhancement of mule deer populations in the Snake Range. Unfortunately, these predator removal efforts do not appear to have produced any measurable benefits to the deer population. It is likely that habitat conditions and precipitation may be the limiting factors for this deer herd. Even with the static population growth, a limited harvest strategy has maintained a robust male age structure and the herd remains strong. This area continues to produce quality mature bucks, with a higher than average 4 point or better buck harvest (about 45%) compared to the statewide average (37%) indicating quality hunting opportunity remains strong.

Unit 121: North Egan, Cherry Creek Ranges; White Pine and Elko Counties

Report by: Scott Roberts

Hunt Results

The 2014 combined harvest of 206 deer (198 bucks, 8 does) was 11% higher than the previous 10-year average. The harvest of 4 point or better buck was 32%, which is slightly higher than the previous 10-year average of 30%. For specific 2014 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

There was no post-season deer survey conducted in 2014.

An aerial spring mule deer survey was conducted during March 2015. A sample of 2,163 deer was classified in Unit 121, yielding a ratio of 45 fawns:100 adults. The survey represented a record high sample for this unit. The mild winter conditions allowed the deer that winter in the southern portion of the unit to stay in the highly productive transitional range in upper Smith Valley. This productivity was illustrated by the fact that 67% of the surveyed deer came from this portion of the unit and that the fawn ratio (56 fawns:100 does) was more than double the ratio (27 fawns:100 does) that was surveyed in the rest of the unit.

Habitat

The exceptional precipitation that was received in late summer and early fall over the past 3 years has produced spring-like range conditions with significant forage production. The deer herd has benefitted from the improved conditions and entered the past 3 winters in excellent shape.

The Snow Creek Fire burned about 1,100 acres of mountain brush and mixed conifer on the south face of the Snow Creek drainage in Unit 121. As with past high elevation fires in this area the resulting burn should provide excellent deer summer range in coming years. Pinyon and juniper (P/J) encroachment

continues to plague a significant portion of this unit. Several large scale habitat enhancement projects are proposed in the near future. The Combs Creek project has been approved to reduce or remove P/J on 7,000 acres of high quality habitat on BLM managed lands in the southern portion of Unit 121. Several thousand acres were treated in 2014, with the remainder to be treated in the near future. This project will protect and enhance some of the most productive summer and winter range that Area 12 has to offer. This year's survey demonstrates the significance of this area as a majority of the unit's deer herd spent most of the winter in or around this project.

Population Status and Trend

The spring fawn ratio was significantly above the previous 10-year average and was indicative of a growing population. The planned enhancement of thousands of acres of summer, winter, and transitional habitat could allow for ample population growth in coming years.

Units 131 - 134: Southern White Pine, Eastern Nye and Western Lincoln Counties

Report by: Mike Podborny

Survey Data

The post-season herd composition survey was conducted in December 2014 by helicopter. There were 908 deer classified yielding ratios of 32 bucks:100 does:70 fawns. The survey was conducted during the rut with poor snow cover and warm temperatures. A few areas of lower deer density in Units 132 and 133 were not surveyed due to severe weather. This survey resulted in an observed fawn ratio greater than 70 fawns:100 does for the first time since 1987. The previous post-season survey was conducted in December 2013 with 1,030 deer classified; yielding ratios of 36 bucks:100 does:60 fawns. In March 2015, a helicopter spring deer survey was conducted with 873 deer classified yielding a ratio of 41 fawns:100 adults. There was very little snow during the spring survey but some green-up had deer mainly along the migration trail at lower elevations. Several groups of deer totaling more than 70 animals were classified high in the White Pine Range of Unit 131 during the spring survey. These deer were also found during the December post-season survey in the same area indicating they did not migrate. This was unusual as deer from Unit 131 usually migrate south into Unit 132, independent of weather. The spring fawn recruitment was the highest since 2001. The 2014 spring survey resulted in 1,228 deer classified with a ratio of 30 fawns:100 adults. The 10-year-average spring fawn to adult ratio was 32.

Habitat

Spring rains in April 2014 improved range conditions leading into the summer with August monsoon rains refreshing range conditions and filling guzzlers in White Pine and Eastern Nye counties. The August rains were not as substantial as in 2012 and 2013 but habitat conditions for deer improved before winter throughout this unit group. The winter of 2014-15 was warm and dry with many record high temperatures in February reducing the minimal snow pack. The lack of winter snow for 3 years has resulted in springs going dry in many parts of the deer summer range. The long-term quality and quantity of summer ranges are slowly being reduced by conifer encroachment thereby lowering the carrying capacity for mule deer. Since the summer of 2010, the Forest Service has hired crews with chainsaws to cut small pinyon and juniper trees encroaching into open grass and brush zones of the White Pine, Grant and Quinn Canyon Ranges. This project will be ongoing for several years and will prevent tree domination of some brush communities, maintaining their value for deer and other wildlife. The Bear Trap fire a 10,600 acre wild fire in the Grant Range Wilderness burned some high elevation mule deer summer range along with some thick pinyon and juniper forest in July 2014. The firefighters managed to keep the fire in the steep canyons and not on the Scofield bench, which has recovered from a 1999 burn. The new fire burned some resident deer summer range but the important winter range remains intact.

Population Status and Trend

The harvest of 356 bucks was the highest in this unit group since 1989 when 355 bucks were harvested. The change in management philosophy in 25 years can be demonstrated in both point class of harvest and post-season buck ratios. In 1989 the observed post-season buck ratio was 15 bucks:100 does and 25% of bucks harvested were 4 points or better. In 2014, the post-season buck ratio was 32 bucks:100 does and 42% of bucks harvested were 4-points or better. The buck ratio obtained during the post-season survey decreased from 36 bucks:100 does to 32 bucks:100 does due to an increase in quotas aimed at lowering the buck ratio to the recommended rate of 30 bucks:100 does. The modeled population estimate for 2015, incorporating high fawn recruitment, increased from 3,900 deer to 4,200 deer.

Units 141 - 145: Eureka and Eastern White Pine Counties

Report by: Mike Podborny

Survey Data

There was no post-season herd composition survey conducted this year. In November 2013 the last post-season survey was conducted by helicopter with 1,342 deer classified yielding ratios of 28 bucks:100 does:49 fawns. In March 2015, a helicopter spring deer survey was conducted with 1,381 deer classified yielding a ratio of 41 fawns:100 adults. The previous spring survey in 2014 resulted in 1,215 deer classified; yielding a ratio of 38 fawns:100 adults. In 2008 and 2009 the spring surveys resulted in near record low fawn to adult ratios of only 19:100 and 21:100 respectfully. The 10-year-average spring fawn recruitment was 32 fawns:100 adults.

Habitat

Spring rains in the first half of 2014 resulted in the southern half of the area with slightly above- normal precipitation. August and September rains in southern Eureka County added to these good conditions which improved range conditions during the fall. The Cortez Range (Unit 141) received little rain and was in extreme drought conditions for the 3rd consecutive year and range conditions were poor. The lack of snow throughout the unit group has available water for all wildlife decreasing as springs dry up. A round-up of private horses in the Cortez Range and Crescent Valley of Unit 141 was conducted in February 2015 with over 1,800 horses gathered and removed. The high number of horses and continued drought were likely having a negative effect on deer and other wildlife in the Cortez Range. There are an estimated 400 to 500 horses remaining in the area. The BLM conducted a horse round-up in the Fish Creek and Mountain Boy ranges of Unit 145 in February 2015 removing 423 horses. The BLM was going to release 300 horses back onto the range well over their own appropriate management level. A court injunction filed by Eureka County stopped the release of any of the horses. The horses are still in holding facilities at the time of this report waiting for a final decision by the court. The BLM conducted a horse round-up in the Diamond Mountain in January 2013; removing 792 horses. Eureka County and the Eureka County Advisory Board to Manage Wildlife have organized crews with chain saws to cut pinyon and juniper trees on private range lands in the Diamonds and Roberts Mountains. The funding came from Eureka County, The Wildlife Heritage account and the NDOW Private Lands Program. The removal of horses should provide for a short term or immediate improvement of range conditions while the reduction of trees will benefit deer and other wildlife in the future. Planning is ongoing to conduct tree removal on BLM lands as well.

Population Status and Trend

The spring fawn recruitment increased for the 3rd consecutive year and resulted in a population increase from 3,900 deer in 2014 to 4,100 deer in 2015. The good fall conditions following the 3rd year of monsoon summer rains, a very mild winter and the removal of nearly 800 horses from the Diamonds in recent years are all possible reasons for the positive trend in this deer herd. In the spring of 2014 Eureka County hired a private trapper to hunt coyotes with over 100 coyotes removed prior to fawning which may have also attributed to the positive fawn recruitment. The model was adjusted downward and quotas were reduced in 2014 resulting in a reduction in the buck harvest by 6%. The percent of 4-points and greater in the

harvest decreased to 28% and is below the statewide average of 37%. The low samples compared to historic numbers, low harvest levels, below average 4-points or better in the harvest all indicate that the Area 14 deer population is still at low levels and not growing as strongly as neighboring herds.

Units 151, 152, 154, 155: Lander and Western Eureka Counties

Report by: Jeremy Lutz

Hunt Results

There were 162 rifle buck tags (resident and nonresident) and 446 (units 152 and units 155) resident rifle antlerless tags available during the 2014 season. Hunters harvested 123 bucks and 170 does from Management Area 15 during the 2014 hunting season. Four point or better bucks resulted in 37% of the harvest in 2014 which was slightly higher than the 31% reported in 2013.

Survey Data

A fall helicopter survey was conducted in November 2014. A total of 1,449 deer was classified yielding ratios of 39 bucks:100 does:61 fawns. This is the 3nd highest fall sample recorded for this management area amidst fairly aggressive doe quotas during the 2014 season.

Due to the unseasonably warm and dry weather in February and March, no spring deer surveys were performed in Management Area 15 in 2015.

Habitat

Drought has plagued Area 15 for the 4th consecutive year which has resulted in limited growth of essential mule deer forage. Forb production and leader growth of shrubs have been very poor. Deer were utilizing stream and riparian habitats by early summer as these areas offered the only nutritious vegetation available. Many springs and perennial streams were found dry by August once again.

A much needed rain storm was received in the spring of 2014 with a series of rain events across Northern and Central Nevada. Annual and perennial grasses responded positively and a noticeable “green-up” was observed across the landscape.

Unfortunately, according to the U.S. Drought Monitor, most of Lander and Eureka counties have experienced severe drought conditions over the last 5 years. As of March 5, 2015, most of Management area 15 has been identified in the severe and extreme drought categories with the long-term forecast holding in this dry pattern. February of 2015 observed many long standing records for “days without precipitation” and “days above normal temperatures” and has been recorded as the warmest and driest month in Nevada history.

In June 2012, the Battle Mountain BLM signed a record of decision for the Battle Mountain District Drought EA. Due to the severity of range conditions attributed to the 2011 to present drought, several range stocking rates were adjusted and will continue to be implemented across much of Lander and Eureka counties. In 2013, the Battle Mountain BLM issued 2 grazing decisions within the district based on livestock non-compliance. The Battle Mountain’s (Unit 151) and Bates Mountain (Unit 155) will be rested from livestock for the duration of the drought plus 1 growing season. The Battle Mountain BLM should be commended for their actions associated with drought issues. Without a doubt, wildlife have benefited from these progressive actions in public land management.

Population Status and Trend

Deer went into the winter of 2014-2015 in poor body condition but the mild winter conditions likely contributed to high fawn survival. This population may ultimately be regulated by the amount and timing of precipitation received in MA 15. During extended periods of drought this population will decline and

fawn recruitment is expected to decline. Because of these severe drought conditions, a female harvest strategy will be used to manage the population at lower densities in accordance with the current habitat conditions.

Units 161 - 164: North-Central Nye and Southern Lander and Eureka Counties

Report by: Tom Donham

Hunt Results

2014 was the eighth consecutive year of the Any Legal Weapon, Early/Late split season structure, mule deer hunt in both Management Area (MA) 16, and 17. In 2007, the season changed from a single 23-day season to a split 16-day Early/Late season structure. The split season is intended to allow those sportsmen willing to deal with larger crowds and comparatively more difficult hunting conditions a greater chance of obtaining a deer tag on a regular basis, while at the same time offering a hunt later in the fall with significantly smaller crowds, and cooler temperatures, for those sportsmen willing to wait longer between deer tags.

Since the inception of the split hunt, the MA 16 Early Resident Any Legal Weapon season success has averaged 42%, while the Late Resident Any Legal Weapon season success has averaged 60%. During the same 8-year period, the average harvest percentage of 4-points or better during the early and late seasons has been 31% and 56%, respectively.

Survey Data

Aerial post-season composition surveys were conducted in MA 16 during early December 2014. During the survey, a total of 1,292 mule deer was classified as 191 bucks, 734 does, and 367 fawns. The sample obtained during the 2014 fall survey was the highest seen since 1990 when a total of 1,322 deer was classified. The 2014 observed fawn ratio indicates the herd experienced average production in 2014. This is also the second consecutive year in which the observed fawn ratio in MA 16 was slightly above that seen in MA 17. Typically, the opposite is true. While the observed buck ratio was somewhat below levels observed in 2012 and 2013, the timing of the survey in 2014 was such that the peak of the rut had passed, and the observed buck ratio was likely biased low. In comparison, the 2013 fall mule deer survey in Area 16 saw a total of 801 deer classified as 157 bucks, 450 does, and 194 fawns.

Due to the unavailability of NDOW aircraft and pilots during the spring of 2015, spring deer surveys were not conducted in central Nevada during the survey period. However, due to a very mild, warm winter, central Nevada deer populations are expected to have experienced little overwinter fawn mortality. The 2014 spring deer survey saw a total of 848 deer classified as 681 adults and 167 fawns.

Population Status and Trend

The MA 16 mule deer population has remained relatively static for most of the past decade. Regularly occurring periods of drought, excessive feral horse numbers, aging of browse species, and increasing P/J densities have collectively managed to keep mule deer populations in central Nevada from experiencing any significant growth.

More recently, three consecutive years of drought during the winter/spring period in central Nevada have acted to maintain the static trend. Thankfully, good amounts of monsoonal moisture received during the summer and early fall has provided some much needed relief, but overall habitat conditions continue to suffer.

The MA 16 mule deer population is believed to be relatively static due to recent reductions in fawn production and recruitment caused primarily by drought conditions.

Units 171 - 173: Northwestern Nye and Southern Lander Counties
Report by: Tom Donham

Hunt Results

The 2014 mule deer season represents the eighth consecutive year of the 16-day Early/Late split Any Legal Weapon season in Management Area (MA) 17. The split season is intended to allow those willing to deal with larger crowds and comparatively more difficult hunting conditions a greater chance of obtaining a deer tag on a regular basis, while at the same time offering a hunt later in the fall with significantly smaller crowds, and cooler temperatures for those sportsmen willing to wait longer between deer tags.

Since the inception the split hunt, the Early Resident Any Legal Weapon season success has averaged 27%, while the Late Resident Any Legal Weapon season success has averaged 39%. During the same 8-year period, the average harvest percentage of 4-points or better during the early and late seasons has been 27% and 44%, respectively.

Survey Data

The 2014, MA 17, post-season aerial mule deer composition survey effort took place in early December. A total of 1,338 deer was classified as 266 bucks, 724 does, and 348 fawns. While the observed fawn ratio was slightly below average, it is still an improvement over the very low rate seen in 2013. This year also represents the second consecutive year that the observed fawn ratio in MA 17 fell slightly below that seen in MA 16. Historically, the opposite has been the case. While production and recruitment remains somewhat depressed in MA 17, the observed buck ratio remains strong. In comparison, the 2013 fall survey saw a total of 1,488 mule deer was classified as 285 bucks, 889 does, and 314 fawns.

Due to the unavailability of NDOW aircraft during the spring of 2015, spring deer surveys were not conducted in central Nevada during the survey period. However, due to a very mild, warm winter, central Nevada deer populations are expected to have experienced little overwinter fawn mortality. The most recent spring survey occurred in 2013 when a total of 576 mule deer was classified as 456 adults, and 120 fawns.

Population Status and Trend

Consistent periods of drought have plagued central Nevada during most years over the past decade or more. This, along with various other factors, has resulted in very little overall growth of mule deer populations and a relatively static trend.

More recently, drought conditions experienced over the past three winter/spring periods in central Nevada have resulted in three consecutive years of depressed production and recruitment of fawns in MA 17. While some much needed relief has come in the form of summer and fall monsoonal moisture patterns, overall, conditions continue to suffer.

Due to reduced fawn recruitment, the MA 17 mule deer population is currently experiencing a static to slightly decreasing trend.

Units 181 - 184: Churchill, Southern Pershing, and Western Lander Counties
Report by: Jason Salisbury

Survey Data

There was no post-season deer survey conducted in 2014. A small ground survey in March 2015 resulted in the classification of 91 mule deer, yielding a ratio of 34 fawns:100 adults.

Habitat

In the summer of 2014, a fire consumed a high elevation pinyon and mahogany stand on the west face of the Desatoya Mountains. The fire burned approximately 333 acres. The Nevada Department of Wildlife reseeded approximately 170 acres of this fire with a native forb and grass mix. The fire burned extremely hot in the dense conifer zones. The seeding was necessary to provide soil stabilization and seed stock to allow for quicker recovery. Fires like this are important in creating new shrub and grassland openings in the dense conifer stands.

The Desatoya Mountain Habitat Resiliency, Health, and Restoration Project aims to improve habitat and prevent any future habitat loss. The goal is to reduce conifer stands by cutting 100% of pinyon and juniper from 17,400 acres and 20-75% of pinyon and juniper from 14,170 acres. These projects will enable mountain shrub and grass communities to enhance vigor and productivity for the mule deer herd.

In 2012, the BLM removed a total of 433 feral horses from the Desatoya Horse Management Area (HMA). The removal of these horses, especially on the top of the Desatoya Mountains, will help alleviate long-term conflicts between mule deer and feral horses for available water and forage.

Springs and riparian areas have also been identified in the Clan Alpines, as well as the Desatoya Mountains, for protective fencing projects. Fencing key riparian areas with pipe-rail fences will allow for increased flow of water while providing un-grazed grass and forb areas.

Population Status and Trend

Population trend for the Area 18 herd appears to be relatively stable. The winter of 2014 was mild with very few days experiencing sub-zero temperatures allowing the deer herd to have considerable time foraging in the higher elevations. A critical component of mule deer habitat is the availability of high quality forage. Anecdotal evidence suggests a wide-spread "green up" was prevalent throughout the winter 2014-2015, which likely contributed to higher fawn survival and recruitment. The 2014 harvest data indicates that 36% of harvested bucks were 4-point or better with the ten-year average being about 38%.

Unit 192: Carson River Interstate Herd; Douglas County

Report by: Carl Lackey

Survey Data

Post-season survey flights were conducted in January 2014. Survey conditions were good, although deer were difficult to locate due to the drought and resulting lack of snow that would concentrate the deer. Biologists classified 223 deer with a ratio of 22 bucks:100 does:58 fawns. A spring survey was not conducted for this hunt unit.

Habitat

There were no significant changes to the habitat occupied by this deer herd in 2014. The majority of this herd uses the eastern slopes of the Carson Range as crucial winter range, migrating from the Tahoe Basin and Hope Valley summer ranges. Drought conditions have persisted since 2011 in western Nevada. Mild winters have likely eased over-winter survival of fawns but the lack of a significant snow pack may have negative long-term effects on browse species.

Population Status and Trend

The modeled pre-hunt population estimate is between 900-1000 animals and it has been at this approximate level for several years. Survey and harvest data indicate this deer herd has been static over the last several years, with fawn recruitment rates compensating for adult mortality. Point-class data in

the harvest reports indicates a robust male age structure for this population. NDOW and the University of Nevada, Reno continue to study this deer herd, providing survival rates, mortality data, and migration information from over 100 collared deer.

Unit 194, 196: Carson Range and Peavine Mountain Interstate Herd; Washoe and Carson City Counties

Report by: Carl Lackey

Survey Data

Post-season survey flights were conducted in January 2014. Survey conditions were good, but deer were difficult to locate due to the drought and resulting lack of snow that would normally concentrate the deer. Biologists classified 498 deer with a ratio of 33 bucks:100 does:63 fawns. A spring survey flight was not conducted.

Habitat

Urban sprawl and the accompanying human recreation associated with it are the most negative issues facing the Carson Front deer herds. Continued drought since 2011 has the potential to affect fawn recruitment and body condition of deer entering the winter of 2015-16. The majority of this herd uses the eastern slopes of the Carson Range as crucial winter range, migrating from their summer range in the Tahoe Basin or the Truckee, California area.

Population Status and Trend

The 2015 pre-hunt population estimate is about 1700 and it has remained at this level for the past several years. The deer herd has appeared healthy with adequate fawn recruitment rates and a even age distribution in the buck population. Despite this, the long-term trend in abundance is downward, mostly due to habitat loss and fragmentation. This unit remains a much desired area to hunt deer for locals and non-residents, with high success rates and good point-class distribution.

Unit 195: Virginia Range; Storey, Washoe, and Lyon Counties

Report by: Carl Lackey

Survey Data

Aerial helicopter surveys have not been completed for unit 195 since 2002.

Habitat

The majority of land in this unit is privately owned and a significant portion has been developed commercially and residentially. The resulting fragmentation and loss of habitat, along with increased traffic on U.S 395, has decreased this once migratory herd to a resident herd.

Population Status and Trend

There is no modeled population estimate for this herd. The population estimate of 500 adult deer for this herd is derived from harvest statistics and is based upon total buck harvest. Deer are fairly common along the Truckee River corridor on mostly private lands. Significant portions of the unit contain dense stands of pinion-juniper trees and the deer in this unit spend a considerable amount of time in these forests, making them hard to detect. Deer also seem to be fairly well distributed in the southern part of the unit near Jumbo Grade. Hunter success rates indicate an appropriate quota has been maintained compared to the deer herd size.

Units 201, 202, 204 – 208: Walker / Mono Interstate Deer Herd; Douglas, Lyon, and Mineral Counties

Report by: Jason Salisbury

Survey Data

Post-season aerial surveys were completed by the Nevada Department of Wildlife in early January 2015 and resulted in the classification of 391 mule deer. This sample consisted of 62 bucks, 232 does, and 97 fawns for a ratio of 27 bucks:100 does:42 fawns.

A spring ground survey was conducted by California Fish and Game in late March 2015 and resulted in the classification of 260 deer. This sample consisted of 227 adults and 33 fawns, yielding a ratio of 15 fawns:100 adults.

Habitat

The Spring Peak Fire consumed over 14,000 acres in Nevada and California in 2013. A field trip in the fall of 2014 determined several perennial bunch grasses and native shrubs are beginning to recover with many shrub species beginning to sprout. Future recovery of this project will be monitored. Additional sagebrush seedlings were planted in November of 2014 to aid in these restoration efforts.

Pinyon and juniper invasion is a continuing problem for the Bodie interstate herd. Future management plans have identified potential P/J thinning projects for the primary benefit of sage grouse although mule deer will also be a secondary beneficiary of the project.

Population Status and Trend

Climatic conditions for 2014 were dry and unseasonably warm. Mule deer were not found on traditional winter range. This is reflected in the low overall hunter success in the West Walker hunt (201-204) as well as only 23% being 4-point or better in the harvest. The East Walker hunt (Unit 202-208) always results in higher overall success compared to the West Walker hunt. It is believed that the higher success can be attributed to resident bucks being harvested by local hunters.

Currently the East and West Walker mule deer herds are experiencing a reduction in population trend. Consistent drought has plagued this herd resulting in low recruitment rates. Trend data suggests that this herd could be exhibiting a density-dependent response due to limited resources. Mule deer are thought to be in poor body condition. This assumption is based on continued low fawn ratios. Biologists also believe that degraded summer range in California leaves mule deer in poor body condition when entering winter. Research suggests that reducing competition for limited resources may enable this population to experience an upward growth trend following positive climatic conditions. One possible management action to reduce competition for limited forage would be to introduce a management doe hunt. This would reduce densities of deer on crucial habitats and allow biologists to evaluate body condition from harvested animals. Body condition scoring information could then be utilized to evaluate carrying capacity of this interstate herd.

Unit 203: Mason and Smith Valley Resident Herds; Lyon County

Report by: Jason Salisbury

Survey data

No formal surveys were conducted in this unit group. Harvest information is used to derive the quotas for buck harvest.

Population Status and Trend

The Mason and Smith Valley mule deer herds are believed to be stable at this time. The 1331 Any Legal Weapon hunt can be an indicator of stability. The 2014 overall hunter success rate was 40% with half of the bucks reported as 4-point or better. The percentage of 4-point bucks is 10% above last year's reported harvest and slightly above the past 10-year average of 35%.

The best mule deer habitat within Mason Valley consists of alfalfa fields surrounded by buffalo berry and salt desert shrub communities. The Mason Valley Wildlife Management Area contributes the most to this mule deer herd in Mason Valley and serves as a sanctuary to the habitat fragmentation that surrounds it in the valley. The highest concentrations of deer exist in and around the Walker River corridor which provides thick stands of willows creating shelter and escape cover. Future plans for a new copper mine in Mason Valley will convert more native habitat and open space into housing tracts within Mason Valley. Further fragmentation of habitat within Mason Valley will not afford the population the ability to grow or expand. There is no modeled population estimate for this herd. This population is believed to be stable, but has the potential to increase under ideal habitat conditions.

Units 211, 212: Esmeralda County

Report by: Tom Donham

Survey Data

Currently, no formal surveys are conducted in MA 21. Past survey efforts have not resulted in sufficient sample sizes for use in monitoring population dynamics.

Population Status and Trend

Based upon annual harvest data and occasional ground surveys, the MA 21 mule deer population appears be static at comparatively low levels for quite some time. Consistent periods of drought over the past decade or more have kept mule deer populations in Esmeralda County from showing any appreciable growth. In addition to drought related impacts, increasing densities of pinyon and juniper, and the aging of the shrub component in the area have collectively impacted the quantity and quality of available habitat in MA 21.

Aerial survey data which was gathered in adjacent Units indicate that fawn production and recruitment rates in this region of Nevada remain somewhat depressed. In the absence of any evidence to the contrary, it is likely the same situation exists in MA 21. Currently, the MA 21 mule deer population is considered to be static.

Units 221 - 223: Northern Lincoln and Southern White Pine Counties

Report by: Cooper Munson

Survey Data

Post season aerial surveys were not accomplished in 2014 due to a vacancy in the Lincoln County Game Biologist position.

Spring deer surveys were unable to be accomplished due to unforeseen circumstances with NDOW Air Operations.

Habitat

Habitat conditions are fair throughout Area 22 as a result of below average precipitation. According to CEMP (Community Environmental Monitoring Program) precipitation data, Lincoln County received just

over 85% of the previous ten-year average of precipitation. Year-to-date totals, however, indicate that Lincoln County is only at about 59% of average for 2015 due to a single precipitation event in January.

Multiple threats exist for mule deer throughout Area 22. Pinyon-juniper (P/J) forest continues to expand in both elevation and density into all seasonal ranges for mule deer. Although P/J provides thermal cover for mule deer, it reduces the understory and limits forage availability for deer. Fire suppression continues to allow dense P/J stands to remain undisturbed throughout large expanses in Area 22. Multiple off-road vehicle issues can increase stress for mule deer in Area 22. The Silver State Trail system, various motor vehicle races, and shed antler hunters use areas occupied by mule deer during winter and spring, increasing stress on animals at a difficult time of year. Wilderness areas prohibit projects that would benefit mule deer through vast acreages of Area 22. A solar energy zone is being proposed in Dry Lake Valley, adjacent to several crucial mule deer wintering areas. Feral horse numbers are excessive in some parts of the area, leading to decreased use of those areas by mule deer. And lastly, there is still a proposal to pipe water from places in Area 22 to southern Nevada. Despite all these challenges to the mule deer in Area 22, it still holds a fair number of mule deer, although they are not thriving.

Population Status and Trend

The area 22 deer herd appears to be stable with a static population estimate on a five year average. The population is estimated at approximately 4,200 adult animals.

Unit 231: Wilson Creek Range; Northeastern Lincoln County

Report by: Cooper Munson

Survey Data

Post season aerial surveys were not accomplished in 2014 due to a vacancy in the Lincoln County Game Biologist position.

Spring deer surveys were unable to be accomplished due to unforeseen circumstances with NDOW Air Operations.

Habitat

Habitat conditions are fair throughout Area 23 due to lower-than-average precipitation during 2014 and early 2015. Heavy precipitation fell during September 2014, which resulted in good habitat conditions during the fall of 2014. Deer likely went into winter in good condition due to the timing of this precipitation. According to CEMP, Lincoln County received just over 85% of average annual precipitation during 2014 and is only at 59% thus far in 2015. Landowners in Area 23 encourage mule deer to utilize alfalfa and other agricultural lands in late fall and early winter and thus receive landowner compensation tags. The availability of plentiful forage on private property likely helps deer in Area 23 to persist through the winter in better condition.

Mule deer habitat is Area 23 is threatened by continued invasion of pinyon and juniper (P/J) into both upper and lower elevations, as well as increasing in density in areas already invaded. Fire suppression efforts in dense PJ forest result in continued stagnation of large expanses of degraded habitat. Excessive numbers of feral horses continue to result in degraded habitat and water sources, with no outlook for any relief. Large numbers of shed hunters continue to place added stress on mule deer and other wildlife in late winter and early spring. Although the added stress may not directly have adverse effects deer numbers, there may be other indirect effects from increased stress during the late winter. Wilderness created in Area 23 prohibits the completion of any habitat projects beneficial for mule deer in vast areas of degraded mule deer habitat. Various other threats to mule deer habitat exist throughout Area 23, but are lesser threats than continued P/J invasion.

Population Estimates and Trend

The Area 23 deer herd population has been on the rise over the last 10 years and appear to be stable and healthy. The population is similar to last year with the 2015 computer-generated population estimate of 3,300 adult mule deer.

Units 241 – 245: Clover, Delamar, and Meadow Valley Mountain Ranges; Lincoln County

Report by: Cooper Munson

Survey Data

Post season aerial surveys were not accomplished in 2014 due to a vacancy in the Lincoln County Game Biologist position.

Spring deer surveys were unable to be accomplished due to unforeseen circumstances with NDOW Air Operations.

Habitat

Habitat conditions are fair throughout most of Area 24 due to lower-than-average precipitation during 2014 and early 2015. According to CEMP, a total of 85% of the previous 10-year average precipitation was received during 2014. Thus far in 2015, only about 59% of average precipitation has been received.

Although mule deer exist in all units of Area 24, the bulk of mule deer habitat is found in units 241 and 242. In the Clover Mountains of unit 242, P/J densities are such that mule deer habitat is limited by lack of understory. The highest densities of deer are found in areas which have either burned or manipulated by habitat improvement projects. Many deer are also found near private agricultural land as well. The Delamar Mountains of unit 241 also contain mule deer in somewhat lower densities. Many of these deer are also found associated with areas that burned within the last decade. Although some large fires have burned in both of these units in the past, vast areas of dense, closed-canopy pinyon-juniper exist in both areas. Feral horses exist in both units 241 and 242 in very high densities. These are both areas that have been declared horse-free by BLM with the Appropriate Management Level (AML) of zero. A proposal for a new large powerline down through the Clover Mountains has the potential to bring increased development and traffic into that area.

Population Estimates and Trend

The 2015 population estimate is approximately 860 adult animals. This population has shown slight variability in estimated population but is relatively stable.

Units 251-253: South Central Nye County

Report by: Steve Kimble

Survey Data

Presently, neither post-season nor spring surveys are conducted in these units. The last survey conducted was in 1998 and failed to yield a sufficient sample for analysis.

Population Status and Trend

Management Area 25 (MA 25) has limited amounts of good quality mule deer habitat. The greatest amount and best quality habitat, and therefore the majority of the deer population in MA 25 occur in Unit 251. Due to regularly occurring drought periods, impacts from excessive numbers of feral horses, pinyon and juniper expansion, and aging of browse species, the mule deer population in Unit 251 has remained static at relatively low numbers for some time.

The past three winter/spring periods have been plagued by drought, and wildlife habitats and the species that depend on them have suffered. Aerial survey data gathered in adjacent Units indicate that fawn production and recruitment rates in much of central Nevada in 2014 were noticeably depressed for the second consecutive year. This situation is expected to have impacted mule deer in MA 25 as well.

Due to depressed fawn production and recruitment, and continuing impacts to habitat, the MA 25 mule deer population is currently experiencing a static to decreasing trend.

Units 261 – 268: Clark and Southern Nye Counties

Report by: Pat Cummings

Survey Data

The majority of the mule deer in Management Area 26 inhabit the Spring Mountains (Unit 262). Mule deer occur in low densities in the Newberry Mountains, Crescent Peak and southern portion of the McCullough Range. Overall, mule deer habitat is marginal; consequently, deer densities are low and below levels that warrant annual or periodic aerial surveys. The lack of composition data precludes development of a useful model that would demonstrate herd population dynamics and generate population estimates.

Habitat

Management Area 26 is in close proximity to Las Vegas and other growing cities. Recreational pursuits that include OHV and mountain bike use and the resultant proliferation of roads and trails coupled with suburban sprawl, serve to degrade mule deer habitat. In the Spring Mountains, mule deer habitat is also impacted by feral horses and burros.

On 1 July 2013, the Carpenter 1 Fire was ignited by lightning. The fire consumed vegetation across 27,869 acres. The 43.5-square-mile fire consumed plants within several vegetative associations along a 5,560'-elevation gradient. Mule deer summer and winter ranges were impacted in Trout Canyon, Lovell Canyon, Harris Springs Canyon and Kyle Canyon.

In June 2004, the Humboldt-Toiyabe National Forest issued a Decision Notice and Finding of No Significant Impact for Spring Mountains National Recreation Area Motorized Trails Designation Project. The decision to implement alternative 5 (with modifications) as summarized in the respective Environmental Assessment involves minimal closure of newly established roads. Thus, the recently authorized management prescription for motorized trails ensures the status quo for the foreseeable future.

Population Status and Trend

As of this writing in late March 2015, environmental conditions range from fair to good due to moisture producing storms in late 2014 and early 2015. Moisture receipts recorded at the Cold Creek 1 rain gauge indicate the first quarter of 2015 was above a ten-year average. However, the likelihood for an overall dry year appears high. In mid March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Spring Mountains within a zone of severe drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify. Based on environmental conditions, it is reasoned the mule deer population in Management Unit 262 is stable.

Units 271, 272: Southern Lincoln and Northeastern Clark Counties
Report by: Cooper Munson

Survey Data

No mule deer surveys were conducted in Units 271 or 272 during the reporting period. Mule deer densities are low enough that standard surveys do not result in enough data for analysis. The harvest strategy is based on hunter demand and success.

Habitat

Mule deer habitat is limited in Area 27. Although better mule deer habitat is found in the Virgin Mountains, it is still a low density mule deer area. Both units are within Mojave Desert ecotypes with Pinyon/Juniper found at higher elevations. Water is very limited and mule deer are generally found in areas not far from water, at least during the warmer times of the year. Below-average precipitation during 2014 and early 2015 will likely result in poor to fair habitat conditions in Area 27.

Unit 291: Pinenut Mountains; Douglas County
Report by: Carl Lackey

Survey Data

No formal surveys were conducted in this unit. General observations and anecdotal reports indicate that this herd has remained stable over the last 20-25 years but has declined significantly over the long-term.

Habitat

Loss of brush communities over the long-term in this unit continues to keep the deer population at low levels. Expansion of the pinion forest over the past few decades, increased human recreational activity, and increased urbanization on the perimeter with corresponding traffic have all contributed to loss of habitat and the decline of mule deer in unit 291. Further, the functionality of migration corridors in the south end of the unit was significantly reduced when housing developments and the ensuing increase in traffic on U.S. 395 took place in the Holbrook Junction area. Significant portions of the unit contain dense stands of pinyon-juniper, much of which is dead. Habitat improvement projects have been recommended to reduce the pinion-juniper coverage, yet short of a catastrophic habitat regime change affecting thousands of acres, the deer herd will likely not increase significantly in numbers. Fortunately, a catastrophic fire occurred in July of 2013. The Bison Fire burned over 24,000 acres in the southern Pinenuts and extended several miles up the eastern flank from Smith Valley to Big Meadows. Overall this fire was seen as positive because it burned several thick pinyon-juniper stands. Fire rehab took place in late 2013 and early 2014 but only a fraction of the burned area was treated. NDOW and the BLM are conducting habitat treatments on several riparian areas under the Pinenut Health Project funded in part by NDOW's Habitat Division and Upland Game Stamp funds.

Population Status and Trend

There is no modeled population estimate for this herd. This population is believed to be stable, but has the potential to increase under ideal habitat conditions. Many of the deer, particularly in the northern part of the management area, are resident deer. The 2014 population for Area 29, estimated at 500-700 adult animals based on buck harvest, is well below the historic levels recorded for the Pinenut Mountains. With favorable climatic conditions the Bison Fire area could improve conditions for mule deer. Unfortunately, those conditions have not been prevalent.

PRONGHORN ANTELOPE

Units 011 - 015, 021, 022: Washoe and Western Humboldt Counties

Report by: Chris Hampson

Hunt Results

Hunter success rates for pronghorn rifle hunters in the northwestern portion of the state have been trending downward in recent years likely due to changes in pronghorn distribution in response to ongoing and severe drought conditions.

Survey Data

Composition surveys conducted in early September classified 1,086 pronghorn. Sample sizes fell by 28% from the 2013 survey likely due to animals dispersed away from traditional areas in addition to smaller group sizes. The composition ratios for each of the unit groups were fairly consistent (Table 1). The post-season buck ratio management objectives for northwestern Nevada are 28 to 30 bucks:100 does.

The long-term average pronghorn fawn ratios in northwestern Nevada are typically in the mid 40's in good water years. Many populations are experiencing lower fawn recruitment over the past few years as drought conditions worsen.

Table 1. 2014 post-season pronghorn composition.

Unit	Bucks	Does	Fawns	Total	Bucks:100 Does:Fawns
011	51	184	67	302	28:100:36
012-014	90	312	118	520	29:100:38
015	28	105	37	170	27:100:35
021-022	16	58	20	94	27:100:37
2014 Totals	**185**	**659**	**242**	**1086**	**28:100:37**
2013 Totals	265	805	312	1382	33:100:39

Habitat

Water availability has been severely impacted by the long-term drought. Springs, lakes, and other water sources that normally hold water into the late summer have been completely dry over the past few years. Pronghorn have been forced to disperse much earlier in the summer in search of more reliable water and forage. Drought conditions have displaced animals from upper elevation summer ranges in the Buffalo Hills, Unit 015; Hays Canyon Range, Unit 013; Massacre Bench, Unit 011; and on the Sheldon, Unit 033.

Drought conditions are expected to continue into 2015 with current snowpack almost nonexistent and spring/summer 2015 streamflow levels forecasted to be less than 25% of long-term average. The Drought Severity Index for the northwestern portion of the state classifies the northern 2/3rd's of Washoe County as being in "Severe Drought". The southern 1/3 of the county is in even worse shape and is classified as being in "Exceptional Drought".

The drought conditions that exist today in Northwestern Nevada (Northern Great Basin water basin) are the result of numerous below average water years starting in 2007 (61% of median Snow Water Equivalent (SWE) and 79% of average Total Precipitation (TP)). The 2008 and 2009 winters were also below average for total precipitation and snowfall (88% SWE and 94% TP both years). The winter of 2010-11 was the only above average water year. The 2012, 2013 and 2014 water years were well below average SWE at 64%,

64%, and 60%, respectively. The current water year through April 2015 is the worst yet at 19% SWE and 76% TP.

Numerous water sources on pronghorn summer ranges in NW Nevada dried up in summer 2013, while many others dried up this past summer. Pronghorn moved off of these high elevation summer ranges by early to mid-summer to lower elevation transitional ranges to seek water and forage. Rainfall during the early portion of the rifle season also contributed to animals being widely dispersed and less reliant on natural water sources still flowing. This made hunting and locating animals even more difficult for pronghorn hunters in northwestern Nevada.

The Coleman Fire burned approximately 15,250 acres in Northern Nevada, Unit 011 in the summer of 2014. It also burned an extensive amount of habitat on the Oregon side of the line. The Bureau of Land Management reseeded areas of the burn with native grass and brush species during the winter and spring of 2014-15. In March 2015, sagebrush and bitterbrush seedlings were planted as a joint effort among the Surprise BLM District, NDOW, and Friends of Nevada Wilderness.

Population Status and Trend

Due to the above normal temperatures this past winter, most precipitation received was in the form of rain. The rainfall has helped to increase the yearly precipitation totals to 76% of average as of April 24, 2015; however, snow accumulation totals are the lowest on record at a meager 19% of average. Decreasing recruitment rates due to severe drought will result in a continued downward trend for most Washoe and western Humboldt County pronghorn populations. The loss of 15,000 acres of good quality pronghorn habitat in Unit 011 this past summer will also negatively affect the pronghorn population. Recommended quotas will mimic the population trend for the various sub-populations.

Units 031, 032, 034, 035, 051: Humboldt County

Report by: Ed Partee

Survey Data

In late September 2014, post-season aerial composition surveys were conducted in Management Areas 3 and 5 with a slight increase in the total animals classified compared to 2013. Unit 031 saw another drop in the animals observed as expected with the loss of habitat due to recent fires. In Unit Group 032, 034-035 another slight drop in animals observed along with smaller group sizes compared to past surveys. Many of the water sources were dry during this survey period, despite the fair amount of spring and summer moisture received. In contrast, the Unit 051 survey saw over 100 more animals compared to 2013. With the later flight, animals were not found in the traditional areas; however, a much higher number was observed in the Fairbanks Range, east of the Santa Rosas. Both buck and fawn ratios are very comparable to those observed over the last 2 years as well as the 5-year averages (Table1).

Table 1: 2014 Post-season pronghorn composition for Humboldt County

Unit	Total	Bucks:100 Does: Fawns
031	95	54:100:52
032-035	259	20:100:42
051	287	19:100:41
2014 Totals	**641**	**24:100:43**
2013 Totals	570	28:100:34

Habitat

Unfortunately, the previous 2 winters have been extremely dry which has not provided the needed winter snowpack. Spring conditions have been reasonable with good moisture received helping the spring

vegetation. Winter conditions in 2014-2015 have been extremely dry with very little precipitation once again. Temperatures have been mild throughout the winter with very little precipitation. Snow pack or Snow Water Equivalent in the Lower Humboldt River basin is the worst on record at 9% of the median as of late April 2015. Total water year precipitation through April is only 69%. Above normal summer rains will be needed to sustain these populations as well as recovery for those areas affected by fires. No additional large fires took place in either area last year.

Population Status and Trend

Even with the dry conditions that have occurred over the last couple of years we are seeing stability in these 2 pronghorn herds. We have had slight increases in the population due to appropriate timing of spring moisture. Unfortunately with the lack of winter precipitation in the form of snow, many of the water sources don't seem to hold up throughout the year. Summer rains the last 2 years are the only thing sustaining these herds. Fawn ratios have increased slightly from last year and buck ratios have remained somewhat stable. In future years - once post-fire recovery is attained in Unit 031 - these populations may see growth. The horns-shorter-than-ears hunts seem to be keeping these populations from increasing and staying within the habitat capabilities. A slight increase in hunter success was observed in 2014 and is expected to remain similar this year.

Unit 033, Sheldon National Wildlife Refuge: Washoe and Humboldt Counties

Report by: Chris Hampson

Hunt Results

Once again, a high rate of tag returns by pronghorn tag holders occurred for the Sheldon in 2014. Early season rifle hunters had a return rate of 13%, late season tag-holders 21% and archery hunters had a 25% return rate. This compares with the statewide average of just 5% for the percentage of tags returned. Possible reasons for the high return rates are horse gathering activities and restricted access to due to USFWS fire restrictions.

Those hunters who participated in the rifle hunt had only fair success during the early season (60%) but enjoyed a much higher success rate during the late season (83%). Since the area is known for its trophy quality, some of the unsuccessful hunters may have chosen to not pull the trigger because they were not able to locate a large enough pronghorn. Buck quality improved this year despite the long-term drought as 42% of the bucks harvested on the Sheldon had 15 inch horns or longer. This was up from the 2013 season when a very low 19% of hunters harvested bucks with 15 inch or longer horns.

Survey Data

Due to the severe drought conditions pronghorn on the Sheldon were widely scattered. Pronghorn were forced to move considerable distances to locate reliable water sources. During the summer, the highest densities of pronghorn are normally found on the Little Sheldon, however, due to the lack of water most pronghorn were forced to move north into Oregon where water availability was much better. Other major pronghorn summer ranges such as Rock Springs Table, Catnip Mountain, and Horse Heaven were also mostly void of pronghorn during late summer 2014.

The post-season composition surveys took place during the second week of September 2014. The composition ratio obtained during the survey was 27 bucks:100 does:37 fawns. A total of 504 pronghorn was classified in the approximately 5.5 hours of helicopter survey. Additional survey effort was necessary this year due to the fact that pronghorn were widely scattered and had once again moved away from traditional summer ranges.

The buck ratio of 27 bucks per 100 does is believed to be conservative because pronghorn were so widely scattered and bucks are harder to locate under these conditions. Buck ratios on the Sheldon can vary greatly from one area to another. For example, buck ratios on Rock Springs Table are generally in the

40's due to the fact that the area is more difficult to access than most areas on the Sheldon. Due to the ongoing drought conditions many of the remote locations including Rock Springs Table were void of animals by the late summer survey period.

Low fawn ratios that remained in the mid to upper 30's over the past several years are likely to due to drought conditions. Pronghorn fawns are more vulnerable if they have to travel longer distances to locate food or water as was the case this past summer. Mid-summer fawn ratios do not accurately depict the level of recruitment and thus NDOW conducts surveys in early September to not only obtain post-season buck ratios but to obtain accurate fawn recruitment values.

Habitat

Habitat conditions on the Sheldon were once again very poor this past summer and fall forcing animals to move greater distances, even into Oregon, to locate reliable water sources and better forage. Fortunately, the northwestern portion of the state has received much needed rainfall during the first 2 weeks of February 2015. The Northern Great Basin water year precipitation totals now stands at 99% of average as of February 1, 2015. The Sheldon Snotel weather site shows an even higher total at 168% of average. This site represents the highest precipitation total within the entire Northern Great Basin area. Most of the moisture received this past winter has unfortunately been in the form of rain. Snow water equivalent measurements are still well below median values and most areas within the Northern Great Basin have seen the snowfall all but disappear due to the warm temperatures and rainfall.

The Sheldon continued feral horses and burro removals this past summer with 2, 2-week long capture periods in August and September. The removal of 400+ horses and burros brought the horse numbers now remaining on the Sheldon to just 14 and was successful at removing all of the burros from the refuge. Future ground removal efforts will be needed to remove the last 14 horses. Now that almost all of the horses have been removed, riparian and upland conditions should improve steadily over the next few years. Wildlife living on the Sheldon will benefit from the improved habitat conditions. Hunters will also benefit as the horse gathering activities will no longer conflict with hunting seasons.

Population Status and Trend

The much needed rainfall that was received during the first half of February has helped to reduce the significant impacts from several years of severe drought. Unfortunately, late winter snows did not occur as of late April which will likely force small reservoirs and lakebeds that are currently only 1/3 full to go dry by early summer 2015. Also, predicted 2015 spring/summer streamflows will be less than 30% of average due to lack of snow accumulation resulting in the fourth consecutive year of below average snow accumulations and streamflow values. The continuation of the drought conditions through 2015 would result in a continued downward population trend for the pronghorn that reside on the Sheldon. Emigration of pronghorn into adjacent hunt units or north into Oregon is also likely to occur again in 2015.

Units 041, 042: Western Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Ground composition surveys occurred over a 4-day period in mid-October 2014 following the Late 2151 hunt. This year's survey resulted in the classification of 332 animals and sex and age ratios of 36 bucks:100 does:43 fawns. The observed 2014 post-season buck ratio is near the 5-year average and continues to remain near harvest objectives. The 2014 fawn ratio is near the 5-year and long-term averages. The 2014 fawn ratio is also 105% of the 2013 ratio of 21 fawns: 100 does (Table 1).

Table 1: Pronghorn composition survey results for Units 041 and 042.

Year	Bucks	Does	Fawns	Total	Bucks:100 Does: Fawns
2013	28	80	17	125	35:100:21
2014	**67**	**186**	**79**	**332**	**36:100:43**
5-year average	102	294	124	520	35:100:42

Habitat

Periodic summer rains were successful in maintaining key grass and forb species during the summer months of 2014. Despite forecasted drought conditions for Pershing County, antelope habitat throughout the unit group is still considered productive for herd growth. There continues to be observations of habitat degradation from dirt bike enthusiasts in the following areas: Toulon Area/Trinity Range, Stonehouse Canyon/ Nightingale Range, and the Sahwave Mountains.

Population Status and Trend

In 2013, this pronghorn herd demonstrated its first measurable population decline since the herd's existence. However, the observed 2014 recruitment rate is near short- and long-term averages to support an increase in the population once again. Currently, western Pershing County's antelope population is estimated to be near 1,800 animals.

Since 2007, hunters who harvested antelope bucks were asked to provide horn length as part of their questionnaire data. Since then, Units 041,042 have averaged 39% of the bucks harvested with horn lengths of 15 inches or longer. Harvest results from 2014 showed only 26% of bucks had horns 15 inches or longer comparable to the 2014 statewide average of 27%. Units 041,042 horn lengths have been below average for the past 2 hunting seasons.

Units 043 - 046: Eastern Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

A 1-day aerial survey was conducted in the Department's Cessna 206 in January 2014. Survey efforts were focused on accessing the unit group's population and winter use areas. A total of 333 antelope were counted in Units 043, 044, and 046. Unit 045 was not surveyed. Survey numbers indicated that this population was being underestimated. Subsequent ground composition surveys occurred over a 3 day period in mid-February 2015. Biologists classified a total of 199 animals that provided age and sex ratios of 46 bucks:100 does:42 fawns. The buck ratio remains strong and near its average, while the fawn ratio is 17% higher than the 5-year average.

Habitat

Antelope habitat in the unit group is considered very conducive for herd growth. Numerous water sources throughout the unit group have continued to allow antelope to expand their core use areas.

Antelope use areas in Unit 043 includes Relief Canyon Mine Area, Limerick Canyon and Coyote Canyon north to Creek Hill. In Unit 044 use areas are Den Glen Flat, Dun Glen Canyon, east side of Rose Creek Mountain south to Spaulding Canyon, Table Mountain, Reed and Inskip Canyons, and the agricultural fields along Unionville Highway. Habitat use areas in Unit 045 are the base of Miller Basin north to Pollard Canyon on the west side of the Tobin Range, and the base of Morning View Canyon to the base of Flag Canyon. Antelope use areas in Unit 046 occurs around Button Point, Pole Creek/Kramer Hill, Edna Mountains, and Pumpernickel Valley. Antelope are being regularly observed on the west side of the Sonoma Range at varying elevations from Washoke Canyon north to Button Point.

Population Status and Trend

Eastern Pershing County's pioneering antelope herd continues to expand into new areas. Antelope are starting to be observed utilizing the upper elevations of the Sonoma and Tobin Ranges. Antelope use on agricultural fields has also persisted, mostly in Unit 044. Immigration from Areas 15 and 18 is likely continuing to occur, which is thought to have bolstered Units 043-046 population estimate to 450 antelope. Currently, this herd is demonstrating an increasing trend.

Units 061, 062, 064, 071, 073: North Central Elko County

Report by: Matthew Jeffress

Survey Data

A ground survey was conducted in the 061-073 Unit Group in September 2014. A sample of 1,401 pronghorn was obtained; yielding ratios of 36 bucks:100 does:48 fawns. The sample size was the largest ever obtained. The fawn ratio was similar to last year and was near the 10-year average.

Habitat

Below-average snowpack made for a third consecutive dry summer; however favorable spring moisture and timely summer rains maintained forbs and grasses throughout the summer. As of early March 2015, the snowpack for northern Elko County was 50-70% of normal. Of great concern are the large scale sagebrush die-offs particularly along the Mountain City Highway corridor. The die-off, coupled with poor range conditions is worrisome in that much of the BLM portion of the Saval Bench is prone to conversion from a Wyoming sagebrush community to annual grass/ green rabbitbrush communities. Much of the existing islands of low to mid elevation Wyoming sagebrush in this unit group are exhibiting signs of stress and death. This is likely a result of drought in the form of a lack of deep soil moisture due to below average snowpack over the past 4 winters. Deep soil moisture is needed to sustain the deeply rooted sagebrush in the 30-100 year-old class. It is believed drought stress in combination with insect infestations, particularly Aroga moth are leading to the large scale losses of mature sagebrush stands in Area 6. The Marsh Creek Bench continues to provide excellent spring, summer and fall habitat for pronghorn. Much of this success can be attributed to highly successful range restoration efforts following the 2006 Snow Canyon Fire. This portion of the herd coupled with pronghorn using Bull Run Basin is contributing significantly to the growth of the herd. Significant concentrations of pronghorn were observed on Cornucopia Ridge and the west side of the North Tuscarora Range during winter elk surveys. It is believed many of the pronghorn observed during winter surveys on the north end of GMU 067 are summering along the west side of the Independence Range.

Population Status and Trend

For the second year, the mild winter will likely lead to high overwinter survival with pronghorn observed returning to summer ranges in February. The fawn ratio may be a tribute to the fact this herd is being managed well below the carrying capacity of the summer range. The low buck ratio is likely a product of underestimating the number of yearling bucks and buck fawns harvested during the shorter than ears hunt. Adjustments have been made to the model and recommendations will be focused on slightly increasing the buck: doe ratio while reducing the herd to conform to winter range limitations.

Due to the high number of pronghorn observed last year, 2015 harvest recommendations will remain focused on keeping the southern pronghorn population within the unit group's winter range carrying capacity. That capacity will likely be increased by a few hundred antelope to account for previously underestimating the size of the herd, however it will be important to not allow the herd to exceed the carrying capacity along I-80 as a mild to severe winter, coupled with poor range conditions will likely led to all age die-offs.

It is necessary to gain a better understanding of the number of pronghorn using BLM and USFS administered lands on the northern portions of GMU's 061 and 071. Since the 2007 Murphy Fire, this portion of the population has continued to grow and continues to offer great opportunities for hunters.

Units 065, 142, and a portion of 144: Southern Elko County, Northern Eureka County

Report by: Scott Roberts

Hunt Results

The high buck ratios witnessed in the recent past and consistently high recruitment levels experienced have enabled annual increases in tag quotas for all hunt classes for this unit group. The 2014 season marked record harvest in this unit group for both bucks and does. Unit 065 accounted for the majority of the take with 88 % of all harvested pronghorn coming from the unit.

Survey Data

A ground survey was conducted in December, 2014. The survey concluded with a total of 334 antelope being classified with age and sex ratios of 47 bucks:100 does:54 fawns. The survey was marked with unseasonably warm weather that led to sporadic pronghorn distribution. Limited portions of Unit 142 and Unit 144 were surveyed with no pronghorn being observed. The resulting fawn ratio tied the record high mark set in 2006.

Habitat

Snowpack figures recorded at Snotel sites in the water basins located within and adjacent to this unit group range from 40%-57% of long-term median (NRCS website). As of early March 2015 the US Drought Monitor Index has this entire area classified as exhibiting moderate to severe drought conditions. Last year's drought conditions were tempered by the above average late spring/summer rains that were received. The well timed rains led to improved grass and forb production throughout the unit group, which led to the above average recruitment level.

In February, 2014 the Elko BLM released a district wide EA to address the Management and Mitigation for Drought Impacted Rangelands (BLM website). The implementation of the management measures outlined in the EA will be paramount in protecting the stressed and compromised habitat on public lands throughout this unit group for the duration of the current drought.

Population Status and Trend

The population estimate in this unit group is slightly higher than the previous year and is a direct result of the strong fawn recruitment.

All assessed variables (success rates, horn length, and observed buck ratio) for the buck hunt in this unit group continue to be significantly higher than the statewide averages. These indices illustrate that this herd continues to provide hunters with a high quality pronghorn hunt. The strong recruitment level will enable the maintenance of quota levels.

Unit 066: Owyhee Desert; Northwestern Elko County

Report by: Matthew Jeffress

Survey Data

A summer survey was conducted in conjunction with Snowstorm California bighorn sheep surveys. A total of 184 pronghorn was classified as 68 bucks:100 does: 51 fawns. The fawn ratio was the highest observed, while the overall sample was slightly lower than the 10-year average of 276. A total of 52 pronghorn were

observed on the Owyhee Desert/ YP Desert from 10 groups and the remaining 132 was obtained from 27 groups on the Snowstorms/Castle Ridge area.

Habitat

No large landscape scale changes occurred in 2014. Since 1995, 7 big game water developments have been constructed on the 066 portion of the Owyhee Desert. The addition of perennial water sources has had little effect on increasing the Owyhee Desert portion of the population. Several guzzlers are slated for upgrades or complete rebuilds this summer. Vast expanses of winter range are available on the eastern portion of the unit; however degraded winter range along the southern and western portions of the Snowstorms has limited the winter carrying capacity of this herd. Increases in mining exploration across the Snowstorm Mountains and wintering grounds south of Chimney Reservoir in Humboldt County have been observed in recent years. The impacts of such activities to pronghorn are not fully understood.

A feral horse gather was conducted the winter of 2012/2013 in an effort to reduce Owyhee Complex horse numbers in both Elko and Winnemucca BLM districts. The reduction should alleviate constraints on vegetative resources within the Little Humboldt HMA. However, greater than 500 horses occupy the area between the Dry Hills and Snowstorms. Many of these horses are outside set HMA's. An emergency gather to remove excess horses from this area has been slated for several years now; yet as of mid March 2015 no gathers have been conducted.

Population Status and Trend

The population estimate for pronghorn within Unit 066 is slightly higher than last year's estimate. The 2014 harvest rates remained stable with an 88% success rate for the rifle buck season. Given that the majority of pronghorn within this unit group reside in the Snowstorm Mountains coupled with the limited availability of winter range on the western portion of the unit, NDOW initiated a horn shorter than ears hunt in 2013.

Units 067, 068: Western Elko and Northern Lander and Eureka Counties

Report by: Matthew Jeffress

Survey Data

A ground survey was conducted in February 2015. A sample of 303 pronghorn was obtained; yielding ratios of 41 bucks:100 does:45 fawns. The abnormally low sample size can be attributed to the extremely open and mild winter. Pronghorn were observed from I-80 to the top of the North Tuscarora Range.

Habitat

Below-average snowpack occurred for a third consecutive year; however favorable spring rains and timely summer rains maintained forbs and grasses throughout the summer. As of early March 2015, the snowpack for western Elko County was 50-70% of normal. Given the deficit of soil moisture last year, this year's snowpack is far from what is needed to offset the drought of 2011, 2012, 2013 & 2014.

Similar to the Area 6 deer herd, pronghorn have been greatly affected by wildfires and the loss of vital sagebrush communities. In 2011, 212,000 acres of rangeland burned in Unit Group 067-068. In spite of the challenges with range rehabilitation, Elko BLM, Newmont Gold Company, NDOW, private landowners and sportsman's organizations seeded over 39,800 acres of scorched private land and 52,500 acres of scorched public land the fall/winter of 2011. Seed appeared to take well in many areas north of the Carlin Trend, however much of the burned area has remained bare ground through 2014, particularly those areas near the I-80 corridor.

In 2012, the Willow Fire consumed over 42,000 acres within the North Tuscarora Range with the majority of what burned being intact mountain shrub community. BLM and Barrick Gold Corporation seeded several

thousand acres with desirable forbs, grasses and shrubs in early 2013. In 2013 another 20,000 acres of habitat was lost in the North Tuscarora Range and South Independence Range. BLM and NDOW, in cooperation with landowners, reseeded much of what was lost in the Red Cow, Water Pipe and Wieland fires. Such high elevation burns have benefitted pronghorn and we continue to observe pronghorn occupy much of the North Tuscarora Range. Even with the expansion of summer range, habitat conditions on southern winter ranges will dictate the long-term trend of this population. In addition to losses of sagebrush due to wildfires, much of the existing islands of low to mid elevation Wyoming sagebrush in this unit group are exhibiting signs of stress and death. This is likely a result of drought in the form of a lack of deep soil moisture due to below average snowpack over the past 4 winters. Snowpack is needed to sustain the deeply rooted sagebrush in the 30-100 year old class. It is believed drought stress in combination with insect infestations, particularly Aroga moth are leading to the large scale losses of sagebrush islands in Area 6.

It is important to properly maintain the viability and production of seedings, on transitional and winter ranges. If seedings are over-utilized prior to the onset of winter, particularly forage kochia seedings, the survival of several hundred pronghorn could be compromised during a moderate to severe winter. Poor range conditions have existed throughout much of the 25 Allotment for the past 4 years. While pronghorn were not forced to move south of the Midas/Tuscarora Road this winter, poor range conditions will negatively affect pronghorn if normal winter conditions force pronghorn onto traditional winter ranges next winter. It is recommended that BLM develop a grazing management plan for the 25 Allotment and use criteria that protects seedings and native habitats that are crucial for the survival of wildlife.

In early 2015 a large cheatgrass die-off along the face of the Sheep Creek Range between Battle Creek and Rock Creek was over-seeded with Wyoming sagebrush, Immigrant forage kochia, Sandberg bluegrass and western yarrow. A total of 1,340 acres was seeded using an every other swath pattern for an overall affected area of 2,680 acres. Below average precipitation will likely affect the success of this seeding; however timely spring rains can facilitate the germination of desirable seed within the treated areas. The project was funded by sportsmen in cooperation with private landowners and the BLM Tuscarora Field Office.

Population Status and Trend

The 067-068 population estimate mirrors last year's estimate. 2014 harvest levels were successful at maintaining the population within the carrying capacity of the winter range, especially with regard to horns shorter than ears hunts. A total of 125 horns shorter than ears tags were issued to address poor range conditions in 2014 and NDOW will attempt to do the same with 2015 quota recommendations.

Units 072, 074, 075: Northeastern Elko County

Report by: Kari Huebner

Survey Data

Ground surveys resulted in 644 antelope classified in mid August 2014. The resulting sex and age ratios for the sample were 44 bucks:100 does:40 fawns. The buck ratio was up from 39 bucks:100 does observed last year. Fawn production was similar to the past 10-year average. This survey is typically conducted between the archery and rifle season in this unit group due to the migration of antelope out of the northern end of Unit 072 into Idaho during and after the rifle season.

Habitat

This unit group was significantly affected by wildfire in 2007 and 2008 (approximately 700,000 acres). On summer range the effects of these fires have been beneficial with perennial grasses and forbs dominating the recovering burned areas; however on winter range, brush species on which pronghorn depend for winter survival, were negatively impacted. Sagebrush is now beginning to recover and will once again provide forage and cover during the critical winter months.

Population Status and Trend

Overall, this herd appears to be increasing. Despite the dry summer months, production was decent for this herd. Pronghorn are now taking advantage of the increase in perennial grasses and forbs due to the maturation of the burns. The past 3 winters have been mild which has benefited this herd while the sagebrush continues to recover. With natural recovery in addition to extensive seeding efforts in Nevada and Idaho within these burned areas, the herd's habitat carrying capacity has increased.

Units 076, 077, 079, 081, 091: Northeastern Elko County

Report by: Kari Huebner

Survey Data

Ground surveys conducted in August 2014 resulted in 247 antelope classified. The resulting sex and age ratios for the sample were 57 bucks:100 does:36 fawns. The buck ratio was higher than last year's ratio of 44 bucks:100 does and the fawn ratio was up from the previous year's ratio of 30 fawns:100 does.

Habitat

Major fires impacted this herd's habitat in 2007 (approximately 244,000 acres). The long-term effects of these fires are proving to be beneficial to pronghorn as perennial grasses and forbs dominate the recovering burned areas. Sagebrush is beginning to recover and will once again be available as forage and cover during the critical winter months.

Population Status and Trend

Overall, this pronghorn herd appears to be stable to slightly increasing. Although production was up slightly from last year, it is still lower than surrounding units. This is likely a result of much of the unit group (such as Pilot Valley) experiencing low precipitation and lower forage quality. This herd has been utilizing the northern portions of Unit 076 and Unit 081 more than in previous years. This is a result of the recovering burns, higher precipitation and thus better forage quality. With favorable precipitation these burned areas will likely facilitate increases in the pronghorn herd in coming years.

Units 078, 105 – 107, 121: Southeastern Elko and Central White Pine Counties

Report by: Scott Roberts

Survey Data

A ground survey was conducted in December 2014 resulting in the classification of 975 antelope yielding sex and age ratios of 38 bucks:100 does:31 fawns. This was a record survey, surpassing the previous high (2008) by 270 pronghorn. The open winter of 2014-15 had antelope well distributed throughout the area with 42% of the survey coming from the units outside of 121. Unit 121 continues to be the most productive portion of this unit group, which is illustrated by the significant difference in population indicators provided in Table 1.

Table 1. 2014 Survey Data for Units 078, 105-107 Compared to Unit 121

Unit(s)	Total	Bucks:100 does	Fawns:/100 does
078, 105-107	413	34	23
121	562	40	37
Combined	975	38	31

Habitat

The significant monsoonal moisture received in the last 3 summers has enabled the antelope to capitalize on considerable fall green-up and to go into winter in relatively good condition. The great fall conditions coupled with relatively mild winters have led to high winter survival and should provide high quality late spring/early summer conditions. During the 2014 survey, all of the guzzlers that were looked at were at 95% or more of capacity.

As of early March, 2015 the US Drought Monitor Index has this entire area classified as exhibiting moderate drought conditions. Spring moisture will be pivotal in determining the late summer habitat conditions within this unit group.

Population Status and Trend

The 2015 population estimate is higher than last year's published estimate due to the increase in survey sample which resulted in modifications to the model and not the recruitment level. This year's fawn ratio was right in line with the previous 10 year-average of 31 fawns:100 does. The large increase in surveyed pronghorn in the peripheral units has prompted them to be added to the 2181 hunt that has only incorporated Unit 121 in the past. Relatively liberal 2181 quotas should be expected in response to increased sample size and the relatively stagnant nature of this population in past decade. This population has shown little ability to react to the myriad of different conditions that it has been faced with in the recent past, and appears for the most part to be constrained by density dependent factors.

Units 101 – 104, 108, 109 portion of 144: South Central Elko and Western White Pine Counties

Report by: Caleb McAdoo

Survey Data

This unit group was surveyed from the ground in mid-October 2014. A sample of 432 animals was classified yielding sex and age ratios of 44 bucks:100 does:44 fawns. This was one of the highest fawn ratios on record for this unit group and was likely attributable to the timing and extent of the moisture received throughout the summer and into the fall 2014. The observed buck ratio was up significantly from last year's observations of 24. The high fawn ratio will contribute more yearling bucks into the population this coming year. Furthermore, the conservative quotas issued for this hunt are contributing to higher post-season buck ratios.

Habitat

Persistent drought conditions occurred throughout most of the unit group with below average snowpack conditions existing in the winter 2014; however, monsoonal moisture patterns occurred throughout the 2014 summer/fall benefitting the north, west, and central portions of the unit group, creating more favorable range conditions for fawn survival. These conditions created a level of "green-up" well into October which benefited antelope. Mismanagement of wild horses by the Bureau of Land Management, continue to be a chronic problem for this unit group, especially in units 104 and 108. The year-round grazing of horses has undoubtedly contributed to the decrease in carrying capacity of the range due to over-utilization and the dietary overlap of the species.

Population Status and Trend

The current population estimate for the unit group is approximately 950 animals; up from last year's estimate of 900. The 5-year trend for this population is stable despite the drought conditions which have persisted since 2012. Doe hunts will continue to be a part of the harvest strategy in this unit group to meet management objectives.

Units 111 – 114: Eastern White Pine County
Report by: Kody Menghini

Survey Data

The 2014 post-season survey was conducted from the ground in early November. A total of 13 man-days were used while conducting this survey, down from 16 man-days in 2013. Due to fall green-up and earlier survey timing, pronghorn group size was modest and groups were scattered. A sample of 1,318 pronghorn was obtained which was similar to the record sample of 1,338 pronghorn recorded in 2013. Sex and age ratios resulted in 41 bucks:100 does:40 fawns. This compares to 28 bucks:100 does:35 fawns in 2013. The fawn ratio of 40 was the highest since 2005 and was significantly over the 10-year (2004-2014) average of 29 fawns:100 does.

Habitat

For the third straight year, a dry spring/early-summer period was followed by above-average moisture during the mid to late summer and fall months. The monsoonal moisture received in the summer of 2014 was 140% of normal. The timing of this moisture improved summer and fall habitat conditions and nutritional quality of vegetation. This was likely reflected in the higher 2014 fawn recruitment. According to National Weather Service precipitation totals measured at the Ely Airport, calendar-year precipitation was 95% of normal during 2014. Current (March 1st) water-year precipitation stands at 47% of normal. The recent winter was very mild and should be positive for overwinter survival. Habitat projects have and continue to reduced tree-cover over many acres in north Spring Valley as well as the north end of the Antelope Range. In 2013 and 2014 over 12,000 acres have burned in 3 separate wildfires in the north end of the Schell Creek and Antelope Ranges. Much of this acreage has burned in dense Pinyon-Juniper trees, increasing pronghorn habitat. Pronghorn are taking advantage of these habitat improvements and landscape changes.

Population Status and Trend

The combination of mild winter conditions and above average summer and fall precipitation between 2012 and 2014, coupled with habitat changes and improvements has created an upward trend in this population. Moderate population growth has occurred the last 2 years due to above average fawn recruitment.

Units 115, 231, 242: Eastern Lincoln and Southern White Pine Counties
Report by: Cooper Munson

Survey Data

Ground surveys were conducted for pronghorn in this hunt unit during October 2014. A total of 369 antelope were classified, consisting of 79 bucks, 230 does, and 60 fawns. This total provides a ratio of 33 bucks:100 does:26 fawns. Antelope were classified in Lake, South Spring, Hamlin, and Snake Valleys.

Habitat

Habitat conditions during the survey were good due to heavy precipitation in August and September. Overall Lincoln County experienced approximately 87% of average precipitation during 2013 according to the CEMP data. Pronghorn were observed on many of the recent habitat enhancements and water developments. Feral horse numbers are at alarming levels well above AML, which results in degraded habitat conditions for antelope as well as other wildlife. Pinyon-juniper expansion into lower elevations continues to slowly reduce available habitat for pronghorn. Sagebrush and PJ removal projects that are in the initial planning stages for the benefit of sage grouse may eventually result in improved habitat for pronghorn.

Population Status, and Trend

This antelope population went through a few years of low recruitment and reduced population, but appears to be in reasonably good shape. Ongoing drought conditions may limit the population growth to some extent, but habitat improvements and new water developments should allow for expanded antelope populations. The 2015 computer-generated population estimate is similar to the estimate from 2014.

Units 131, 145, 163, 164: Southern Eureka, Northeastern Nye, and Southwestern White Pine Counties

Report by: Mike Podborny

Survey Data

Post-season herd composition surveys were conducted from the ground in September and October 2014. A record sample of 743 antelope was classified; yielding sex and age ratios of 34 bucks:100 does:28 fawns. The survey was conducted in Antelope, Jakes, Little Smokey, Railroad and Big Sand Springs Valley. In 2013 the previous record sample was obtained at 612 antelope yielding age and sex ratios of 30 bucks:100 does:27 fawns. The 10-year-average (2004-2013) fawn ratio was 31 and has ranged from 18 to 53 during that same time period.

Habitat

Range conditions throughout occupied antelope habitat were good with above average precipitation in the spring of 2014. August monsoon rains resulted in abundant grass and forb growth in the fall. This is the third year of heavy fall rains improving range conditions prior to winter. The winter of 2014-15 has been extremely dry and warm. Record high temperatures of 65 F were recorded in February 2015 and antelope were using 2 guzzlers in Jakes Valley during that time. There have been no major wildfires or other land actions to degrade the overall habitat for antelope.

Population Status and Trend

The record sample and high buck ratio indicate the population is at all time highs. The computer model was adjusted upward based on the record high sample and the 2015 population is estimated at approximately 870 antelope.

Units 132-134, 245: Eastern Nye and Western Lincoln Counties

Report by: Mike Podborny

Survey Data

Post-season antelope surveys were conducted from the ground in September and October 2014 with a few antelope classified during bighorns helicopter surveys in Unit 134. There were 378 antelope classified, a record sample; yielding sex and age ratios of 33 bucks:100 does:31 fawns. The previous survey was conducted by helicopter in 2013 with 348 antelope classified; yielding ratios of 31 bucks:100 does:25 fawns. The majority of the sample was again highly skewed to the northern half of the unit group in White River and Railroad Valleys of Unit 132. The average fawn ratio for the previous 20 years, was 24 and has ranged from 6 to 45.

Habitat

Sagebrush valleys of the northern portion of this area transition into very dry Mojave Desert with desert shrub and cactus in the south. These range types are less productive than typical antelope habitats in northern Nevada. There were 3 years of above-average precipitation from 2009 through 2011 improving habitat conditions in the short-term. In 2012 and 2013 drought conditions were experienced until late summer monsoon rains caused some severe flooding and abundant forbs and grasses in the fall. In 2014

spring precipitation resulted in fair to good range conditions with moderate to heavy summer monsoon rains for the third year. The winter of 2014-15 has been extremely dry with above-average temperatures. There have been no major land actions negatively affecting pronghorn habitat.

Population Status and Trend

The computer modeled population estimate shows a slightly upward population trend in 2015 at approximately 510 animals. The record sample, increasing buck ratio and moderate fawn ratio account for the increase in the population estimate.

Units 141, 143, 151 – 156: Eastern Lander and Eureka Counties

Report by: Jeremy Lutz

Hunt Results

Management Area 14-15 had the second highest recorded male harvest in the state with 174 animals being harvested. Due to increased pronghorn use within agriculture areas the first doe hunt for this management area was initiated in 2013. High success as well as high demand has been seen with this hunt in the last 2 years. The 2014 hunter success rate on does was 80% with 191 animals harvested. A total of 364 antelope were harvested from this management area during the 2014 hunt period.

Survey Data

Post-season antelope surveys from the ground and air beging in October 2014 and finished in February 2015. Areas surveyed included Crescent Valley, Grass Valley, Antelope Valley, Reese River Valley, and the Simpson Park Mountains. There were 1,781 animals classified (the highest sample ever obtained) during a combined 10 days of surveys, yielding sex and age ratios of 48 bucks:100 does:48 fawns. The average fawn ratio for the past 6-years for this management unit was 49 fawns:100 does.

Habitat

Long-term habitat conditions for antelope continue to improve across much of Lander and Eureka counties with the exception of Unit 141, the Cortez Range. An estimated 3,000 domestic and illegal horses are believed to inhabit the Cortez Mountains. Years of overuse, especially on crucial winter range have caused severe habitat degradation. Recent gathers by private parties have resulted in over 1,000 domestic horses being removed from the Cortez Mountains. Year round habitat for antelope could recover if horse numbers are kept to a minimum.

In the spring 2014, much needed rain events occurred across northern and central Nevada; however short lived, annual and perennial grassed responded positively and a flush of grass was seen across the landscape. Wildlife responded positively to this much needed moisture event.

According to the National Drought Monitor index most of Lander and Eureka counties have experienced severe drought like conditions over the last 5 years. As of March 5, 2015, most of management areas 14 and 15 have been identified in the severe and extreme drought categories.

Since 1999 over 450,000 acres have burned in Management Areas 14-15. Upper elevation burns have responded well with a mixture of brush, native grasses and forbs; however, the lower elevation burns have been less successful with exotic annuals like cheatgrass and mustard dominating the landscape. Areas that were identified as crucial wintering areas for wildlife were seeded resulting in the successful establishment of forage kochia and crested wheatgrass. With successful rehabilitation of fires since 1999 and a maturity of the established plant community, antelope numbers have responded positively to these large scale disturbances.

In June 2012, the Battle Mountain BLM signed a record of decision for the Battle Mountain District Drought EA. Due to the severity of range conditions attributed to the 2011-present drought, several thousand AUM's of voluntary non-use as well as seasonal use adjustments have been and will continue to be implemented across much of Lander and Eureka counties during the 2015 grazing year.

Population Status and Trend

In the last 2 years over 500 antelope have been observed in or around alfalfa fields within Units 151, 153 and 156. To help alleviate depredation on agriculture fields, these units were split away from MA 14 and 15 units for the Horns Shorter Than Ears Hunt and will be hunted separately as its own unit group. This should allow for a more focused harvest within these units and ultimately decrease agriculture issues in the future.

The large scale fires of 1999 have created ideal habitat for antelope with the increase of annual and perennial grasses and forbs on the landscape. The total amount and timing of precipitation will ultimately regulate this population's ability to grow and expand. The high fawn recruitment the past several years has resulted in strong population growth for this herd.

Units 161 - 162: Northern Nye, Southeastern Lander, and Southwestern Eureka Counties

Report by: Tom Donham

Survey Data

Post-season pronghorn composition surveys were conducted from the ground in Units 161 and 162 during late September/early October 2014. A total of 228 pronghorn was classified as 56 bucks, 140 does, and 32 fawns. While observed fawn ratios reflect an improvement over recruitment rates seen in 2013, rates remain well below optimum levels. In comparison, the 2013 composition survey saw a total of 289 pronghorn classified as 60 bucks, 196 does, and 33 fawns. Although the majority of animals observed during these surveys reside primarily in Units 161 and 162, there is some movement of pronghorn between theses and adjacent units. This is taken into account during the population modeling and quota setting processes.

Habitat

Drought continues to plague central Nevada pronghorn populations and the habitats they depend on. While summer monsoonal moisture patterns have provided much needed relief over the past few years, impacts due to the lack of winter and spring precipitation continue to mount. This lack of winter and spring moisture results in reduced quality and quantity of forage species during the critical fawning period, when does are most in need of food high in nutrients. Not only are grasses and forbs important forage for adult animals, but fawns also depend on these plants to provide cover for protection from predators.

Fortunately, the past few summers have seen good monsoonal moisture receipts. While the resultant flush of green up these rains provide has come too late to directly benefit fawns during the first several weeks of life, the boost in nutritious forage has allowed pronghorn to enter the winter period in good condition. Without the respite the monsoons have provided over the past few years, conditions would be much worse.

At the time of this report, data published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service, (NRCS) indicate that central Nevada hovers near 58% of average total precipitation for the current water year.

The recent completion of 3 water developments in the southern portion of Unit 162 should benefit pronghorn that have been impacted by the degradation of natural spring sources caused by feral horses

and drought. An increase in pronghorn near agricultural areas has occurred over the past several years, and this trend is expected to continue in the face of continued drought.

Population Status and Trend

While the 161-162 pronghorn population experienced a slight increase in production and recruitment rates during 2014 when compared to 2012 and 2013, observed fawn:100 doe ratios remain below average. Pronghorn abundance in areas near agriculture continues to increase, however overall the herd is showing a decreasing trend in response to continuing drought. This trend is expected to continue until climatic conditions improve.

Units 171 – 173: Northwestern Nye and Southern Lander Counties

Report by: Tom Donham

Survey Data

The MA 17 post-season pronghorn composition survey was accomplished during late September through October 2014. The survey was conducted from the ground and resulted in the classification of 144 animals as 35 bucks, 75 does, and 34 fawns. The observed fawn ratio indicates the MA 17 pronghorn population experienced greatly improved recruitment in 2014. This is in contrast to the poor recruitment rates seen in Units 161-162 to the east. It is likely that a difference in precipitation patterns between the 2 areas contributed to the difference. The previous 2013 post-season composition survey in Units 171-173 classified 60 bucks, 103 does and 17 fawns.

Habitat

Central Nevada's wildlife populations and the habitats they depend on continue to be impacted by drought. While summer monsoonal moisture has helped temper the effects of drought, a lack of winter and spring precipitation for the third year in a row does not bode well for the area. Not only does winter and spring moisture produce nutritious forage for does approaching the fawning season, but fawns rely upon grasses and other plants to provide hiding cover used to avoid predators. Despite continuing drought, portions of Units 171-173 seem to have fared better than many parts of central Nevada as reflected in improved fawn recruitment rates in 2014.

Fortunately, an increase in summer monsoonal moisture has occurred over the past few years concurrently with the decrease in winter and spring precipitation. This has allowed for a flush of green up during the late summer and fall and pronghorn have been able to enter the winter period in good overall body condition. However, if current drought conditions continue, range conditions are expected to deteriorate.

At the time of this report, data published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) indicate that total precipitation for the current water year hovers near 58%.

Population Status and Trend

During 2012 and 2013, the MA 17 pronghorn population experienced depressed production and recruitment due to drought. However, production unexpectedly rebounded during 2014. This increase in production has slowed the decreasing trend of the MA 17 pronghorn population, at least temporarily. Overall, climatic conditions will need to improve in order for the herd to realize any significant growth.

Similar to what is occurring in many other central Nevada pronghorn management units, an increase in pronghorn utilizing areas in and around agricultural areas is being seen in MA 17. While this may be partially due to increases in overall pronghorn numbers seen over the past 5 to 10 years, it is also likely due to recent drought conditions making these areas more attractive to pronghorn.

Due to regular movements of pronghorn between Nye, Esmeralda, Mineral, and Churchill counties, the total number of pronghorn in the unit group can vary widely on a seasonal basis. This is taken into account in the computer model when estimating population size.

Units 181-184: Churchill, Southern Pershing, Western Lander and Northern Mineral Counties

Report by: Jason Salisbury

Survey Data

Ground surveys were conducted for pronghorn in Management Area 18 during the fall 2014. There were 364 antelope classified as 64 bucks, 206 does, and 94 fawns, yielding sex and age ratios of 31 bucks:100 does:46 fawns.

Habitat

Two new water developments were built in the Sand Springs Range in 2014. These 10,000 gallon units were primarily installed for bighorn sheep but the locations will definitely be beneficial to antelope as well.

The past 2 years the winter range conditions in the uplands have been excellent. Good precipitation coupled with a continued warming trend has allowed for a green forage base. The winters have been mild, allowing for increased survival of adults and fawns. Problems arise in the summer when many springs dry up and range conditions deteriorate.

In 2012, the Gilbert fire consumed more than 29,000 acres of the New Pass Range located in unit 183. Most of the burn occurred in an old fire scar and will most likely recover on its own with perennial bunch grasses surviving the fire. On a positive note, the eastern side of Gilbert Creek that burned was covered in a pinyon-juniper canopy with strong bunch grass prevalence. The area was seeded by the Nevada Department of Wildlife with four-wing salt brush strips. Additionally, the Bureau of Land Management seeded 2,500 acres in the Gilbert Creek Basin. Wildfires, continue for the most part, to improve habitat conditions that benefit pronghorn. One of the downsides of wildfires is the attraction of feral horses from adjacent areas, and the direct competition with antelope for forage and water.

Population Status and Trend

This year's fawn ratio will allow the area 18 herd the ability to grow. The previous 2 year's fawn ratios would have only resulted in a static population. The 2014 hunter success for the general rifle hunt was 79%, with 22% of harvested bucks measuring over 15 inches. This represents a slight increase in the size of harvested bucks when compared to 2013, when 19% of harvested bucks measured over 15 inches.

Units 202, 204: Lyon and Mineral Counties

Report by: Jason Salisbury

Survey

Ground surveys in Units 204 and 202 resulted in 89 antelope classified in January 2015. The resulting sex and age ratios for the sample were 26 bucks:100 does:28 fawns. This year's buck ratio is considerably lower compared to last year's 54 bucks:100 does.

Habitat

The Spring Peak fire consumed over 14,000 acres in Nevada and California in 2013. The Nevada Department of Wildlife seeded approximately 1,552 acres within the Spring Peak fire area. Habitat monitoring in 2014 determined limited success of the seeding effort. More important was an abundance of

native grasses and forbs as well as successful crown-sprouted bitterbrush. Additionally, 20,000 sagebrush seedlings were planted in November 2014.

Population Status and Trend

In the past 2 years, twenty pronghorn does have been captured and fitted with satellite/telemetry collars in the Rough Creek Aldridge Grade area. This was a collaborative project between the Nevada Department of Wildlife and California Department of Fish and Wildlife to look at pronghorn distribution patterns and migration routes of the Bodie interstate herd. It has been determined that the Bodie interstate herd occupies Nevada for as much as 8 months per year and many animals spend the summer in the dry lakes area. Some key migration corridors have been identified. The Nevada Department of Wildlife will be working with the Forest Service to see if we can manipulate habitat through tree removal for the benefit of antelope as well as sage grouse. This population seems to be static with chronically low fawn ratios. On occasion a favorable weather pattern affords the population a reprieve with a few more animals recruited into the population. Some improvements that could be made for this herd would be to open up migration corridors and rehab past fires at higher elevations.

Units 203, 291: Lyon, Douglas Counties

Report by: Jason Salisbury

Hunt Results

The hunter success rate in 2014 dramatically increased compared to the past few seasons. The 5 tags issued this year had an 80% success rate with 25% of the bucks being 15 inches or greater in length.

Survey Data

A ground survey was conducted in February 2015 for Unit Group 203, 291. A sample of 57 antelope was obtained providing a composition ratio of 55 bucks:100 does:41 fawns.

Habitat

Antelope use the large playa lake areas for grasses and forbs. On normal precipitation years these lakes provide needed water to the pronghorn herd. Spring and summer moisture will be required in 2015 to replenish these lakes and provide higher elevation foraging areas.

In 2013, the Bison fire burned over 24,000 acres of pinyon-juniper woodlands. One third of the area was reseeded by the Bureau of Land Management. The area that burned is adjacent to the Sunrise burn area and will enable the antelope herd to more freely disperse between the Sunrise and Bison areas.

Numerous acres of pinyon-juniper within the Pine Nut Mountains has been cut down or masticated to enhance and protect important sage grouse habitat. In the process, this has opened up travel corridors and grazing opportunities for the pronghorn population as well.

Population Status and Trend

This population of antelope over the years has been static with low fawn ratios. This year's fawn ratio will enable the herd a slight bump in population trend. Future projects that target the removal of trees in addition to more water developments will further enhance the landscape for the antelope herd.

Units 205 - 208: Eastern Mineral County
Report by: Jason Salisbury

Hunt Results

The state wide average for the general rifle season is 72% hunter success. Mineral County was one of the lowest in the state at 30% success. Several years ago the antelope season in eastern Mineral County was shifted from the normal time frame of August to late September, which is after the rut. It is believed that shifting it back to an earlier time frame may enable hunters to concentrate on water and increase the overall success rate. The 2015 season for Unit Group 205 – 208 was changed back August 22 – September 7.

Survey Data

Post-season herd composition surveys were conducted from the ground in the fall of 2014. In total, a sample of 66 pronghorn was observed yielding a ratio of 44 bucks:100 does:50 fawns.

Habitat

Between 2013 and 2015 a total of 7 new water developments were built in the Candelaria Hills, Miller Mountain, Garfield Hills, and Eastside Mine area. These new water developments will benefit the low density pronghorn herds in a very water-limited resource area.

Population Status and Trend

The Mineral County pronghorn population is doing well despite the fact that the landscape they inhabit is considered marginal at best. Small groups of antelope occupy meager areas of land during the summer months. In the winter the antelope have the ability to spread out over a large geographic area. Over the past 8 years numerous water developments have been rebuilt and several new projects have been constructed. These new and reliable water sources will afford the population the ability to grow and expand their summer range throughout Area 20.

Units 211 - 213: Esmeralda County
Report by: Tom Donham

Survey Data

The MA 21 post-season pronghorn composition survey was conducted during September and early October 2014. This survey represents the first successful, formal post-season composition survey conducted in Units 211-213. During the survey a total of 58 pronghorn was classified as 8 bucks, 34 does, and 16 fawns. Observed fawn ratios indicate the herd experienced exceptional production in 2014, although the small sample size increases the likelihood of bias in observed ratios.

Habitat

Much of MA 21 falls within the transition zone between the Great Basin and the Mojave desert. As a result, the quality of pronghorn habitat throughout the area varies widely. During periods of favorable climatic conditions, pronghorn tend to expand the areas they inhabit in MA 21, while during dry periods, these areas contract. Drought, in combination with feral horses and burros in many areas, continue to impact overall habitat conditions throughout MA 21.

Population Status and Trend

As pronghorn populations in surrounding areas increased in number and expanded in distribution over the past 15 years, pronghorn moved into the Great Basin/Mojave transition zone in Esmeralda County in greater numbers than had previously been seen. While many animals continue to drift into and out of the

area based upon season and prevailing climatic conditions, more and more animals have become permanent residents of the county. The majority of the Esmeralda County pronghorn population is made up of 2 core herds. One herd currently resides in and around the Monte Cristo Range in northern Esmeralda County, while the other typically inhabits the region near and between the towns of Goldfield and Silver Peak, Nevada, in east central Esmeralda County. Pronghorn also occur, albeit in smaller numbers, throughout many other areas of the county.

Currently, due to favorable production rates observed in 2014, the MA 21 pronghorn herd is considered stable to slightly increasing.

Units 221 – 223, 241: Lincoln and Southern White Pine Counties

Report by: Cooper Munson

Survey Data

Ground surveys were conducted for pronghorn in these units during October 2014. A total of 358 antelope was classified consisting of 66 bucks, 233 does, and 59 fawns, which results in a ratio of 28 bucks:100 does:25 fawns. Antelope were classified in Delamar, Dry Lake, Cave, Lake, South Spring, and Steptoe Valleys.

Habitat

Habitat conditions appeared to be good during the survey due to heavy precipitation in August and September. Pronghorn seem to like the recently completed habitat enhancement projects in Cave Valley, which were done for the benefit of sage grouse. New water developments in Delamar Valley should allow expanded use of habitat in that area. Feral horse numbers continue to be well above AML in some parts of this hunt unit. A solar energy zone is being designated in Dry Lake Valley that will be a major threat to pronghorn habitat in that area. Pinyon-Juniper expansion into the lower elevations continues to reduce habitat quality and quantity for pronghorn.

Population Status and Trend

Although this population has seen low fawn recruitment over the past few years, it seems to be doing reasonably well despite drought conditions. Habitat improvements and water developments are allowing antelope to expand their distribution throughout the unit group. The computer-generated population estimate for 2015 is similar to the 2014 estimate and consistent with a 5-year average.

Unit 251, Central Nye County

Report by: Tom Donham

Survey Data

The Unit 251 post-season pronghorn composition survey was conducted from the ground during October 2014. A total of 107 pronghorn was classified as 27 bucks, 52 does, and 28 fawns. A large portion of the survey sample was obtained on alfalfa pivots in Stonecabin Valley, which may partially explain the high observed fawn ratios. While drought has impacted pronghorn in surrounding areas, those inhabiting agricultural lands seem to be faring comparatively well. In comparison, the 2013 survey saw a total of 137 pronghorn classified as 33 bucks, 79 does and 25 fawns. For the past 3 years, periods of very good moisture receipts occurring during late summer have resulted in extensive green up throughout central Nevada. This in turn has resulted in a somewhat lower than average number of animals being located on alfalfa pivots adjacent to the Nellis Test and Training Range (NTTR) during the survey period.

Habitat

Pronghorn habitats in Unit 251 have been impacted by unreasonably high numbers of feral horses and multiple years of drought. Many natural water sources have been severely degraded in this unit, possibly irreparably.

While drought conditions during the winter and spring continue to plague central Nevada, higher than normal summer monsoonal moisture receipts have provided some much needed relief. Without this summer moisture, conditions would be far worse.

Population Status and Trend

The Unit 251 pronghorn population is currently showing a relatively stable trend. However, similar to some other central Nevada herds, a steady increase in pronghorn numbers has been occurring in and around agricultural areas in the unit regardless of fluctuations in other areas where pronghorn occur in more natural habitats. This increase is likely due to regularly occurring drought periods which have made the forage and water available in the agricultural areas more attractive to pronghorn, drawing more and more animals to the area from the withdrawn lands of the NTTR.

ROCKY MOUNTAIN ELK

Units 061, 071: Bruneau River and Merritt Mountain Area: Northern Elko County

Report by: Matthew Jeffress

Hunt Results

There were 175 rifle bull elk tags available for the 2014 season including resident, nonresident and incentive tags; plus 72 rifle spike tags. The bull quota represented a 24% decrease from the 2013 quota. Hunter success for the 2014 resident rifle bull hunt was slightly higher than the 2013 hunting season at 52%. Antlerless rifle tags were increased from 432 in 2012, 596 in 2013, and 670 in 2014. The 670 rifle cow tags are independent of the 428 Area 6 antlerless elk management tags and 433 Area 7 antlerless elk management tags available in 2014. The 2014 hunter success rate for regular rifle cow hunts was 33%, up from 25% last year. For more specific hunt results, please refer to 2014 Harvest Tables in the Appendix.

Survey Data

A total of 3,963 elk was classified during an aerial survey in January 2015. The sex and age ratios of the sample was 37 bulls:100 cows:59 calves. This year's calf ratio was highest on record following the lowest observed calf ratio on record in 2014.

Habitat

Drought conditions observed last year appear to be much improved this year, particularly with regard to the Diamond A Desert in Idaho. There are still patches of bare ground around Arch Table and the Jarbidge River which could be indicative of cheatgrass die-offs. Perennial grass communities are still robust throughout the Bruneau River Drainage in Nevada however it appears there was little elk use this winter in the McDonald Creek Drainage. Also there was a noticeable lack of elk using the Mahoganies.

In 2012, the Browns Gulch and Mustang Fires burned over 31,000 acres primarily on USFS administered lands within Unit 061. Much of the higher elevations of these burns are providing a flush of perennial grasses that benefit elk.

From the periphery, Duck Valley Indian Reservation continues to stand out as phenomenal elk habitat and it is believed elk found on Duck Valley are not only capitalizing on light hunting pressure, they are likely also capitalizing on good range conditions.

Population Status and Trend

The average annual rate of increase for this population over the past 10 years has been 14%. The 2015 population estimate is 4,400 adult elk. The growth is reflective of increased recruitment values, the highest on record. We are noticing elk west of the Bruneau are increasing at a higher rate than those between the Bruneau and Jarbidge. This is likely due to the fact that the area where Duck Valley, Idaho and Nevada meet provides several hundred thousand acres of prime summer, fall and winter habitat; which allows elk to avoid having to reside in Nevada during the September-October cow seasons. Survey data and recent collar data indicates elk are using portions of Duck Valley throughout the calendar year. In 2012, a summer fixed-wing survey of the Nevada/Idaho border documented summer elk use of potions of Idaho and the Duck Valley Indian Reservation. Additional observations of elk in the fall 2013 & 2014 suggest several hundred elk are residing north of the border between Duck Valley and Idaho. Tags issued for this elk herd in Idaho remain focused on conservative bull harvest, with minimal cow harvest adjacent to GMU 061 and minimal cow harvest adjacent to GMU 071. NDOW biologists continue to work with Idaho Fish and Game biologists to advance our understanding of elk distribution along the Nevada/Idaho border in an effort to improve harvest in both states. Recent data sharing with the Duck Valley Tribe indicates

harvest strategies on the reservation remain focused on bulls. The Tribe may initiate harvest strategies aimed at increasing cow harvest as early as fall 2015.

The split season structure for rifle bull and cow tags was implemented is 2011. The harvest strategy appears to be working for bulls but not for cow harvest. In an effort to curb herd growth and to manage this herd at or near its current level for a series of years, longer antlerless seasons and an earlier season for any legal weapon hunt were developed. Also new for 2014 were the elk management tags associated with mule deer buck tags. These hunts allowed for added antlerless elk harvest while not contributing to hunter congestion. In addition, a late season antlerless hunt was initiated for 2014 as was spike hunts. Spike hunts should allow for additional bull harvest without placing added pressure on the mature bull segment. Voluntary tooth data collected from bulls harvested in this unit group indicate the Bruneau has the lowest average age of any bull elk hunt in Nevada. Quota recommendations will aim to increase the average age of harvested branched antler bulls, while maintaining sex and age ratios. Success of the new season structure will need to be assessed over several years to determine if future changes are required; however harvest results from 2014 indicate a combination of all seasons is aiding in increased elk harvest.

A collaborative collaring project with Idaho Department of Fish and Game was initiated this winter with 9 adult cow elk collared on Idaho winter range adjacent to Duck Valley and Nevada. Gaining a better understanding of seasonal residence and movements as they relate to hunting pressure will allow us to better manage this important resource.

Units 062, 064, 066 – 068: Independence and Tuscarora Ranges; Western Elko and Northern Eureka and Lander Counties

Report by: Matthew Jeffress

Hunt Results

There were 132 rifle bull tags issued in 2014, a slight increase from 2013. Hunter success for resident rifle hunters was 55%, which was an 11% decrease over last year. Antlerless rifle tags were increased from 293 in 2012, 352 in 2013, and 544 in 2014. The 544 rifle cow tags are independent of the 428 Area 6 antlerless elk management tags available in 2014. Resident rifle cow hunter success was 30% in 2014 which represents a 13% increase over 2013 success rates. Increased hunter success rates can be attributed to changes in season structures and new hunts available for the 2014 season.

Survey Data

Aerial surveys in January 2015 resulted in the classification of 1,011 elk. The sex and age ratios of the sample was 42 bulls:100 cows:49 calves. Compared to last year, very few elk were observed on the YP Desert in Idaho, with only 24 elk observed in 3 groups.

Habitat

Between 2005 and 2007 over 677,000 acres burned within occupied elk habitat. Many of these burns have recovered and are now dominated by perennial grasslands. An additional 176,000 acres of occupied elk habitat burned in 2011. Elko BLM, Newmont Gold Company, NDOW, private landowners and sportsman's organizations seeded over 75,000 acres of scorched rangeland during the fall and winter of 2011. The new grass-dominated vegetative communities favor elk, which is evident by the previous 5-year average calf recruitment of 54 calves:100 cows.

In 2012, the Willow Fire consumed over 42,000 acres of predominately intact mountain shrub habitat within the North Tuscarora Range. BLM and Barrick Gold Corporation seeded several thousand acres with desirable forbs, grasses and shrubs in early 2013. Elk are capitalizing on the increase of perennial grasses that have established within the fire perimeter. In the fall 2013 an additional 16,000 acres within the North Tuscarora Range burned in the Red Cow Fire and 5,900 acres was consumed between the Wieland and Water Pipe fires in the south Independence Mountains. All 3 of the 2013 fires were heavily seeded by BLM and NDOW in cooperation with private landowners. While the rehab efforts were targeted at

sagebrush obligates, elk have no doubt benefited from the flush of perennial grasses seeded for watershed stabilization and those that naturally respond to the fires.

Population Status and Trend

After several years of adjustments to the population model in the form of adding additional elk to the starting population coupled with much improved harvest rates, we have generated a population estimate of 1,200 adult elk for 2015. We estimate the 2014 population was 1,300. The population increased by an average of 14% annually between 2003 and 2012. However the growth of this herd was reduced since 2013, showing a population decrease of 12%.

A new split-season structure for rifle bull and cow tags was implemented in 2011. A 3rd late cow elk season was added in 2012 and in 2013 there was a new late split-season structure for cow elk. The split late season structure was added to address depredation problems on private lands along the east side of the Owyhee Desert. The split season harvest strategy appears to be working for bulls, but not for cow harvest. In an effort to curb elk herd growth and to reduce the overall population, longer antlerless seasons and an earlier season for the any legal weapon hunt were developed. Also new for 2014 were the antlerless elk management tags associated with mule deer buck tags. These hunts allowed for added cow harvest, while not contributing to hunter congestion. In addition, spike hunts were initiated for this herd. Spike hunts should allow for additional bull harvest without added pressure on the mature bull segment, contributing to the overall reduction of this herd. New for 2015 the split late cow season structure has been eliminated and hunters will be able to hunt all units within the unit group. Success of the new season structures will need to be assessed over several years to determine if future changes are required; however, 2014 harvest results show an increase in elk harvest.

An objective of 500 adult elk was agreed upon in the current Western Elko County Elk Management Plan. The objective of 500 adult elk translates to 100 adult elk per mountain range - Independence, Bull Run, North Tuscarora, South Tuscarora, and Snowstorm Mountains. Harvest objectives will be aimed at a continued stepwise reduction of the herd over the next few years. This will be difficult given the northern shift of elk distribution, large tracts of private land and the known interchange between Idaho populations. To further complicate the issue, recent collar data suggests elk spend a significant proportion of time on the Duck Valley Indian Reservation and private lands adjacent to US Forest Service administered lands, where hunting pressure is limited. Even with these extremely complicating factors, a 12% herd reduction occurred last year and we are hopeful for a similar or greater reduction in 2015. Increased hunting pressure on large tracts of private land has resulted in better distribution of elk on public land and we are continuing to work with landowners to reduce conflicts with elk on private land. To date no landowners have participated in the antlerless private land elk hunt, yet we will continue to pursue agreements with willing landowners to greatly reduce or eliminate elk use adjacent to agricultural lands.

Five adult cow elk were collared in GMU 067 this winter to better delineate herd movements to and from summer range. A collaborative collaring project with Idaho Department of Fish and Game is slated for the winter of 2015/2016 to continue to better delineate elk movements between Nevada, Idaho and Duck Valley along the East Fork of the Owyhee River.

Unit 065: Pinion Range, Cedar Ridge Area; Southwestern Elko and Eastern Eureka Counties

Report by: Scott Roberts

Hunt Results

The 2014 hunting season marked the second year for elk harvest in Unit 065. There were 2 tags available for the September bull season, with both hunters being successful. The harvest for the second cow hunt was considerably better than the 1st year with 42% of the hunters being successful.

Survey Data

No surveys were conducted during the reporting period due to open dry conditions that made finding significant numbers of elk impossible.

Habitat

The Cedar Ridge WSA, the Red Springs WSA, and the Huntington Creek corridor provide year round habitat for a majority of the unit's elk herd. The mixture of recent burns and the pinyon/juniper forests provide adequate resources for the resident elk. To the west of the core population center, there is an abundance of suitable habitat in the Pinion Range that will allow for future expansion in coming years.

Noble Energy Inc. is in the process of drilling numerous exploratory oil wells in Huntington Valley. The exploration phase of this project will have minimal effect on the unit's elk herd; but if the project proceeds into the production phase there is a strong likelihood for major shifts in the unit's elk distribution.

Population Status and Trend

In recent years this herd has continued to exhibit strong population growth. There will continue to be a high level of harvest management in this area as we near the relatively low population objective that was designated by the Western Elko County Elk Plan.

Units 072, 073, 074: Jarbidge Mountains; Northern Elko County

Report by: Kari Huebner

Hunt Results

This 072, 073, 074 Unit Group had an early and late any-legal-weapon bull hunt. The hunter success was the same this year in the early season as last year with 57% success. The late season was lower at 39% success compared to 52% success the previous year. There were 3 antlerless elk rifle seasons aimed at reducing the population. Tags were again increased and hunter success varied among seasons. An additional 34 antlerless elk were harvested in Units 072, 073, and 074 during the antlerless elk management seasons (all weapon classes) associated with the antlered deer hunts.

Survey Data

Post-season surveys conducted in January 2015 resulted in the classification of 2,079 elk with observed sex and age ratios of 49 bulls:100 cows:52 calves. The calf ratio was considerably higher than last year's ratio of 33 calves:100 cows. The bull ratio was also higher than last year's observed ratio of 45 bulls:100 cows.

Habitat

This herd has benefited from the large amount of acreage burned in 2006, 2007, and 2008. The recovery of perennial grasses and forbs has been phenomenal in most of the burned areas. The resulting habitat created by these burns has been excellent for elk and has facilitated good calf production despite drought-like conditions throughout the summer and fall. A 6,700 acre fire burned in Stud Creek in August 2012. This fire is recovering and providing a benefit to elk.

Vegetation monitoring that occurred on the USFS managed lands in 2010 and 2012 has been analyzed and documented. Although elk use was found in nearly all aspen stands sampled, the use was minimal and not enough to lead to the overall decline of aspen stands. The same holds true for the mountain mahogany stands. It was recommended that both aspen and mahogany that are recovering from the East Slide Rock Ridge Fire be closely monitored to determine if recovery is being compromised by elk, domestic livestock or a combination of both.

Population Status and Trend

Due to the known interchange of elk between the 3 units (072, 073, and 074), Unit 073 was added to the previous unit group of 072, 074 last year. This elk population is now modeled as 1 elk herd with the antlerless elk tags issued by unit in order to maintain population objectives.

The *Jarbidge Mountains Elk Herd Management Plan* identified an objective to maintain the elk herd at 1,000 adult animals ±10% on the USFS portion of Unit 072. There were also 220 elk allotted for the BLM portions of Unit 072 and Unit 074 and the east side of Unit 073 in the Wells Resource Area Elk Plan. The Western Elko County elk plan added another 200 elk for the west side of Unit 073. The 3 plans combined set a population objective for this elk herd of 1,420 elk.

In response to the low success of antlerless elk hunters in this area, the antlerless tag quota recommendations will be increased to keep up with population growth in order to meet management objectives. Also new for 2015 will be a wilderness only hunt for the Jarbidge Wilderness. This hunt will be aimed at targeting elk living almost exclusively in the wilderness during the hunting season.

Unit 075: Snake Mountains; Elko County

Report by: Kari Huebner

Survey Data

Post-season surveys conducted in January 2015 resulted in the classification of 234 elk yielding age and sex ratios of 28 bulls:100 cows:57 calves. The bull ratio was considerably lower than last year. The calf ratio was considerably higher than the 28 calves:100 cows observed last year. Due to light snow cover, elk were not found in their typical winter ranges during this survey.

Habitat

A 16,720 acre wildfire burned in the Deer Creek portion of this unit in the summer 2006. Although initial impacts for wildlife were negative, the elk herd is now utilizing this area due to the release of perennial grasses, forbs, and aspen as the burn recovers. Elk are taking advantage of the recovering 2007 Hepworth Fire on the southern end of the unit as well.

Population Status and Trend

The recommendations for both antlerless and antlered quotas will remain aggressive in order to manage this herd towards population objectives. Again this year antlered elk hunters will have a choice to also put in for a management antlerless tag to increase elk harvest while reducing the number of hunters in the field. In 2014 an additional 11 antlerless elk were harvested by deer hunters that also had elk management tags.

Due to the large amount of private land in this unit (approximately 50%), this herd continues to be a challenge to manage. Most landowners will permit access, however the elk have figured out which ones do not and seek refuge on their properties during hunting season. NDOW will continue to work with these landowners to try to increase access and thus antlerless elk harvest.

Units 076, 077, 079, 081: Thousand Springs, Goose Creek, and Pequop Mountains Area; Northern Elko County

Report by: Kari Huebner

Hunt Results

The early bull rifle season hunter success increased this year while the late season decreased slightly. In 2012, 5 antlerless depredation hunts were implemented for the northeast portion of Unit 081. In the last

3 years 332 elk have been harvested in Unit 081. In order to increase harvest on antlerless elk and spread out hunting pressure throughout the rest of the unit group a late season antlerless hunt will be offered this year. An additional 45 antlerless elk were harvested during the antlerless elk management seasons (all weapon classes) associated with the Area 7 mule deer buck hunts.

Survey Data

Post-season surveys in January 2015 resulted in the classification of 1,117 elk yielding age and sex ratios of 48 bulls:100 cows:50 calves. The observed bull ratio was higher than last year's ratio of 45 bulls:100 cows. The calf ratio was similar to last year's ratio of 48 calves:100 cows.

Habitat

Nearly 240,000 acres burned in this unit group during the summer 2007. Extensive seeding efforts were expended to rehabilitate fire-ravaged areas. The habitat is responding favorably as it did after the fires in 1999 and 2000. The long-term outlook is positive for elk.

Most water developments that were proposed for the area have been built and are currently being used by elk. Increased water availability has helped distribute elk throughout the unit group. Existing cable fences around water developments have been replaced with pipe-rail fences in an attempt to more effectively exclude livestock.

Population Status and Trend

Elk spend a significant amount of time on private lands in this area as a result of the checker board land pattern. There are currently 12 landowners that participate in the elk incentive tag program who qualified for 42 elk incentive tags for elk use incurred on private rangeland in 2014. This is down from the 51 incentive tags allotted last year.

The depredation hunts in Unit 081 were a response to low hunting pressure in the past and increasing elk numbers attracted to the extensive grass component of recovering burns in this unit. The goal was to reduce elk numbers in this area to alleviate pressure on private land. The depredation hunts have proved successful and will be continued in 2015.

Units 078, portion of 104, 105 – 107,109: Spruce Mountain; Elko County

Report by: Caleb McAdoo

Hunt Results

For 2014, 24 any legal weapon bull tags, including resident and non-resident, were available. Of these, 16 tag holders were successful. Across all weapon classes, 85% of the bulls harvested had 6 or more points indicating the presence of a strong mature bull segment. It should be noted that 2 of the 26 bulls were harvested in unit 106. Forty-one antlerless rifle tags were also issued for the 2014 season, with a success rate of 51%, down from 61% in the 2013 season. This success rate has been on a steady decline since the hunt was instituted in 2012. A total of 22 cow elk were harvested in the archery, muzzleloader and rifle seasons combined. For more specific 2014 hunting results, please refer to Harvest Tables in the Appendix Section.

Survey Data

Elk surveys were completed in February 2015. A total of 216 elk was observed during this survey yielding sex and age ratios of 26 bulls:100 cows:53 calves. The observed calf ratio was the same as last year's observed ratio and remains the 2nd highest observed ratio on record since 2000. Calf-ratios in this unit are largely driven by precipitation, and as such, are cyclic with the differing moisture patterns. Monsoonal moisture continued into the late fall 2014 and appears to have greatly benefited calf recruitment.

Weather and Habitat

This unit group consists of a relatively arid environment and forage production and quality in this area are largely dictated by spring and summer precipitation. While many other areas in Elko County were experiencing drought-like conditions, monsoonal moisture patterns hit the Spruce Mountain area in mid-summer to early fall for the second straight year. Despite this elevated increase in early fall moisture which benefited range conditions, wild horse populations which are above Appropriate Management Levels (AML) continue to compromise the overall rangeland health and will have negative impacts on wildlife diversity abundance and potential in the long-run. Year round over-utilization of the grass and forb component by unmanaged wild horses has set the stage for long-term impacts related to conversions of native perennial understory to an understory dominated by non-native invasive annuals. Perennial springs and riparian vegetation in the area have been decimated by wild horses. While wild horse utilization is the single biggest threat to the unit group, there are some positive changes to speak to as well. The Spruce Mountain Restoration project was recently approved and up to 10,000 acres of habitat restoration will be occurring in the vicinity of Spruce Mountain within the next 10 years. In late 2013, restoration activities commenced and since then almost 1,000 acres have been treated. An additional 1,200 acres have been slated for treatment in the fall/winter 2015. This restoration effort as a whole should create more favorable habitat conditions in the area for both elk and mule deer by promoting more healthy rangelands.

Population Status and Trend

In the winter 1997, 146 elk were released in Unit 105 on Spruce Mountain and since that time elk have established themselves throughout the unit group. Dispersal to other units has also occurred. Although the long-term average calf ratio remains relatively low, the long-term trend depicts a stabilizing population, largely due to increased cow harvest which has effectively curtailed population growth. High percentages of mature bulls continue to be harvested and cow hunters have been extremely successful. Elk are now well established in Unit 078 and Unit 107. More frequent observations of elk in Unit 106 continue to occur and harvest has begun to occur in these areas. Movement between adjacent units such as 077, and especially Unit 121, is also occurring and is evidenced by elk numbers observed in Unit 121 during aerial surveys. Past collaring efforts to investigate immigration/emigration and seasonal movements have concluded and have shown the need for further collaring projects to assist in refining harvest strategies, primarily of wintering cow elk. Until 2011, harvest management was designed to promote overall herd growth towards the population objective of 340 elk. Cow harvest has been used in reconciling population objectives with calf recruitment values since 2011. This year's modeled estimate of 380 is a testament to the success of cow harvest, given the well above average calf recruitment. While this population estimate is up slightly from last year's estimate, the difference is more reflective of exceptional calf recruitment atypical of this unit group. Without the cow harvest which occurred, estimates would have increased above 420 individuals.

Unit 091: Pilot Range; Eastern Elko County

Report by: Kari Huebner

Hunt Results

Six bulls were harvested in Unit 091 in the 2014 hunting season, 3 by Utah hunters and 3 by Nevada hunters. An additional 6 cows and 2 spikes were harvested by UDWR personnel in response to depredation complaints on the TLBar Ranch in Utah.

Hunters that draw this tag will be able to hunt Pilot Mountain (both in Utah and Nevada). Silver State, Dream, and PIW specialty hunt tagholders are precluded from hunting elk in Unit 091 due to low tag numbers and the cooperative agreement with Utah that both states will evenly share the elk resource and resulting quotas based on the elk population estimate.

Survey Data

A composition survey was conducted in August 2014. A total of 166 elk was classified. The resulting age and sex ratios were 26 bulls:100 cows:76 calves. The calf ratio was significantly higher than last year's ratio of 25 calves:100 cows. The bull ratio was lower than last year's ratio of 53 bulls:100 cows.

Habitat

The Rhyolite Fire burned approximately 4,500 acres on the northeast portion of Pilot Mountain in 2013. This fire is recovering and providing a benefit to elk.

A water development south of Miners Canyon was recently upgraded. An old saucer style unit was replaced with a new metal apron collection with 4 storage tank capacity. The unit should provide a benefit for elk and bighorn.

Population Status and Trend

The long-term trend for this elk herd is stable to slightly increasing. Calf ratios in this unit are usually lower than in surrounding units, however, the herds associated with the private meadows have been considerably higher.

A population objective of 250 elk was set for this herd in the Wells Resource Area Elk Plan. The objective was based on the original Unit 079 boundary that has now been divided into current Units 079 and 091. The habitat assessed in the plan included only that on the Nevada portion of Pilot Mtn. The elk herd currently spends the majority of its time on the Utah side of Pilot Mtn. therefore this herd remains below the objective level.

Unit 101 – 103: East Humboldt and Ruby Mountains; Elko County

Report by: Caleb McAdoo

Tag Quotas and Hunt Results

Since 1999, a total of 415 elk have been harvested from the Ruby Mountain elk restricted zones. As indicated by the liberal quotas and consistent with the applicable elk management plan, the Department has remained committed to managing this population to restrict a sustainable elk population. This is further evidenced in 2014, where the most aggressive harvest strategy was implemented since the inception of the first depredation elk season in Ruby Mountains in 1999. This strategy was primarily bolstered with increased cow harvest from instituting the antlerless elk management hunts which coincide with existing mule deer hunts. In addition, bull quotas also remained high, totaling 150 tags. Until this year, cow quotas have historically fluctuated from a maximum of 176 to 21 tags, and seasons have varied from 4 separate seasons to a single 6-month season. Through the evolution of these quotas and season structures, success rates varied, but typically ranged from 10-20 percent and approximately 6-15 cows harvested annually. While high hunter success rates are desired, management necessity demanded more net elk be harvested. As such, in 2014, a total of 705 cow tags were issued and 32 cows were harvested (16 in 101, 6 in 102, and 10 in 103). Although the overall success rate didn't increase, in fact it decreased; a net increase was realized in cow harvest, more than double that from the 2013 season. For 2014, cow elk hunt success rates between varied from 0-8 percent, with the most cows harvested during the 6-month cow season and the early cow management season. For the bulls, there were 75 tags issued for the early depredation bull hunt with a 37% hunter success and the same quota for the late season with a success rate of 19%. The distribution of harvest for the 42 bulls killed in both seasons included 16 in Unit 101, 16 in Unit 102, and 10 in Unit 103.

Survey Data

Specific elk surveys were not conducted for this unit group and incidental observations remain limited from other surveys in the area. Landowner complaints regarding elk damages in this unit group have been extremely minimal in the last 10 years and have not occurred since 2010. As such, the harvest management practices which have been implemented are considered a success.

Population Status and Trend

The objective of the hunt strategy is to eliminate elk or keep elk numbers at a level where depredation on agriculture does not occur and a viable elk herd does not become established. This hunt strategy has been quite effective so far. However, it does appear elk are gradually increasing in some areas, especially the bull segment. In some areas, elk observations have increased as small groups of elk have been found within the unit, crossing the unit boundary, or near the periphery of these hunt units, however aggressive harvest strategies have been successful in reducing elk in these areas.

Units 111 - 115, 221-223: Schell, Egan, and Snake Ranges; Eastern White Pine, and Northern Lincoln Counties

Report by: Kody Menghini

Seasons, Tag Quotas and Hunt Results

A record number of elk were harvested in 2014 in Areas 11 and 22 in 2014. A total of 788 elk were harvested which consisted of 485 antlerless elk and 303 antlered elk.

Bull quotas were split for the 3rd consecutive year for Unit Groups 111-115 and 221-223. Unit 223 was added to the 221-222 Unit Group in 2014. The 498 bull tags available for both unit groups represented a 19% increase over 2013 quotas. The total bull quota for Unit Group 111-115 was 272 for all weapon classes. The combined success rate for all hunts was 58%. Of the bulls harvested 81% were 6-points or better. The percent of bulls with a 50 inch main beam or longer was 48% compared to the 5-year average of 40%. For Unit Group 221-223, there were a total of bull 206 tags. The combined success rate for all bull hunts was 65%. Of the bulls harvested 72% were 6-points or better. The percent of bulls with a 50 -inch main beam or longer was 47%, which is far above the 5-year average of 34%. One of the Heritage tag holder, the Silver State tag holder, and the Dream tag holder harvested bulls in Units 115, 111, and 222, respectively.

A total of 485 cows harvested was near the harvest objective for both unit groups. Two new hunts were implemented in attempt to better manage elk populations and meet population objectives. A Wilderness Only hunt was implemented in Unit 222 on the Mt. Grafton Wilderness Area. The new Antlerless Elk Management hunt was implemented in Area 22 which gave mule deer hunters the option to draw an antlerless elk tag with their mule deer tag. Both of these hunts were successful in increasing antlerless harvest. A total of 38 and 57 antlerless elk were harvested in the Wilderness Only hunt and the Antlerless Elk Management hunt, respectively. The increased harvest of 95 antlerless elk has helped to bring this herd within population objective.

Survey Data

For the sixth year in a row, the elk herd composition survey was combined with 2015 spring deer surveys. A sample of 2,546 elk was classified; yielding sex and age ratios of 33 bulls:100 cows:33 calves. Survey samples have averaged 2,507 elk with sex and age ratios of 28 bulls:100 cows:37 calves over the previous 10 years (2004-2013).

Habitat

Starting in 2012 the winter and late spring months have been drier than normal. During that same time the late summer and early fall months have been wetter than normal. The Berry Creek Snotel site received 8.7" of precipitation between June and September of 2014. The summer precipitation helped alleviate dry habitat conditions and likely resulted in increase body condition of elk. The 2014-15 winter was warm and dry. The Berry Creek Snotel site received 46% of normal precipitation between October 2014 and late-March 2015. The Ely Airport has also received 46% of total water year precipitation average between October 2014 and late-March 2015.

Habitat conditions are being compromised by excessive numbers of feral horses in some areas. The subdivision and/or sale of private parcels in quality habitat is still a threat. The encroachment of Pinyon-Juniper trees is degrading and/or eliminating habitat in the longer-term. On the positive side, elk are already benefiting from many thousands of acres of Pinyon-Juniper tree chainings, thinning and other tree removal projects completed over the past few years by the Ely BLM District and the Ely USFS Ranger District. Additional project areas that are in various stages of planning/NEPA analysis include the north Schell Creek Range (USFS), Ward Mountain (USFS/BLM), South Steptoe/Cave Valleys (BLM) and Duck Creek Basin (BLM and USFS). Between 2012 and 2014 over 50,000 acres have burned in 7 different wildfires, scattered throughout the area. Much of this acreage was formerly dominated by Pinyon-Juniper trees. Elk are beginning to be seen in these burns as the process of re-vegetation begins. These areas will be very beneficial to elk in the future.

Population Status and Trend

Due to climatic conditions and its effects on habitat quality calf recruitment has been below average for 7 out of the last 8 years. Aggressive antlerless harvest coupled with below average calf recruitment has caused population decline. The population is now well within the population objective that was set in the White Pine County Elk Plan. Even though this population has declined, it is still a robust population with a strong bull age structure.

Unit 121 and portion of Units 104 and 108: Cherry Creek, North Egan, Butte, Maverick Springs, and Medicine Ranges; Northern White Pine County, Southern Elko County

Report by: Scott Roberts

Tag Quotas and Hunt Results

There were 64 bull tags issued across all weapon classes in 2014 and 38% of the tag holders were successful. Of the 24 bulls harvested in this unit group, 75% were 6 points or better, and 75% came from Unit 121.

There were 62 antlerless tags issued across all weapon classes with 33 tag holders being successful. There was also 4 antlerless depredation hunts initiated in an attempt to limit elk use on private lands in Steptoe Valley in Unit 121. There were 170 tags issued for the hunts that ran from August 1-January 15 with 22% of tag holders being successful.

Survey Data

Aerial post-season elk surveys were conducted in January 2015. The survey concluded with 299 elk being classified and yielding ratios of 18 bulls:100 cows:43 calves. The survey conditions were poor, with unseasonably warm temperatures and very limited snow coverage. With the abundance of trees within this unit group the bull segment continues to be difficult to survey. Of the small number of bulls that were surveyed, 52% were spikes.

Habitat

In the summer 2013, the Snow Creek Fire burned approx. 1100 acres of mountain brush and mixed conifer on the south face of the Snow Creek drainage in Unit 121. As with past high elevation fires in this area the resulting burn scar has begun to provide excellent elk habitat. Pinyon/Juniper (PJ) encroachment continues to plague a significant portion of this unit group. Several large scale habitat enhancement projects are proposed in Unit 121 in the near future. The Combs Creeks project has been approved to reduce PJ encroachment on 7,000 acres of high quality habitat in the southern portion of Unit 121. Several thousand acres were treated in 2014, with the remainder to be treated in the near future. There were marked habitat improvements following horse round-ups conducted in the Cherry Creek Range and Butte Valley during the summers of 2006 and 2011, but horse competition continues to a be a factor with 322 horses being observed during the abbreviated January survey. The high levels of precipitation the last 3 summers have led to excellent fall and early winter forage conditions.

Population Status and Trend

During January 2011, 3 cow elk were radio collared in Unit 104 and 3 cow elk were collared in Unit 121. Objectives of this project were to determine seasonal use and distribution within the unit group, quantify elk use on private land, and begin delineating winter range use between this herd and the Unit 105 herd. In January 2012, 4 cow elk were radio collared on Palomino Ridge in Unit 121 and 2 cow elk were collared at the base of Spruce Mountain in Unit 105. The intent of this project was to further our understanding of winter habitat utilization between these 2 herds. All of the collars that were deployed in 2012 have been retrieved and the use patterns have been analyzed. The collar data has confirmed past assumptions of the herd that winters on Palomino Ridge is comprised of mostly Area 12 elk. The collars showed very little overlap between the unit groups. The information gleaned from the collaring project is significant in that it affirms that the Department has not been double counting the elk that winter near the border of these unit groups, and strengthens our confidence in the population metrics that we are harvesting in the area. The information gathered from these collars has been very effective in delineating these 2 herds the previous 2 winters but it has its limitations for the future. The period in which the collars were hung was marked with below average snow packs and very open winters. Future collaring will be pursued to explore elk use patterns during normal to above average winters. The last remaining collar from the 2011 collaring project was observed on survey the past 2 years north of Snow Canyon.

The combination of the Unit 121 depredation hunts and the antlerless harvest in this unit group have led to a relatively static herd the past 2 years. NDOW is fully committed to minimizing the private land damage done by elk in Steptoe Valley while still providing opportunity to sportsmen to harvest elk. With this goal in mind the depredation season structure will be altered in the 2015 season to have monthly hunts in August and September, and then a late extended hunt from October 1-January 31. The intention of this season structure is to keep constant pressure on the offending elk for the portion of the year that has historically received elk pressure. The depredation hunts have been very successful the last 2 seasons with most of the problem elk being removed or pressured back to the surrounding mountains. Future depredation tag quotas will be set to minimize elk present on private lands in the valley.

Units 131, 132: White Pine, Grant and Quinn Canyon Ranges; Southern White Pine and Eastern Nye Counties

Report by: Mike Podborny

Survey Data

A helicopter post-season herd composition survey was attempted in February 2015. Record high temperatures and no snow on winter ranges resulted in only 8 elk classified in 5 hours of flight time. The remaining survey was cancelled due to poor survey conditions. There were 149 elk classified during the spring mule deer survey in March; yielding ratios of 68 bulls:100 cows:31 calves. Survey conditions had not improved during the March survey period as no snow and warm temperatures persisted. Spring green-up was apparent which pulled elk to lower elevations making them available to survey. The previous survey

in 2014 yielded ratios of 48 bulls:100 cows:29 calves from a sample of 184 elk. The 10-year-average calf ratio (2005 to 2014) was 37 calves:100 cows.

Habitat

Range conditions were fair to good after above average 2014 spring rains that were supplemented by moderate monsoon rains in August. The summer rains were not as heavy as in 2012 and 2013 but replenished many guzzlers and improved range conditions with grass and forb growth that existed through the fall. The winter of 2014-15 has been extremely warm and dry. The 10,600-acre Bear Trap Fire in the Grant Range Wilderness burned some quality wildlife habitat in July 2014. The firefighters managed to keep the fire in the steep canyons and limited it from burning on the Scofield bench, which has recovered from a 1999 burn and is in excellent shape. Rimrock and Scofield canyons burned very hot in the thick Pinion, Juniper and Mountain Mahogany stands nearly eliminating all vegetation. There was extensive erosion after severe thunderstorms sent ash and soil several miles down both canyons. The U.S. Forest Service had crews cutting small pinion and juniper trees with chainsaws that were encroaching into the open grass and brush zones in both Units 131 and 132. These projects will continue in 2015 and although not specific for elk, the projects should benefit elk and other wildlife in the future.

Population Status and Trend

There was a record harvest of 108 elk consisting of 79 cows and 29 bulls. The cow management hunts accounted for 39% of the total cow harvest. The high cow harvest and low bull harvest results in a computer modeled bull to cow ratio of nearly 1 to 1. The high harvest and low calf recruitment resulted in the 2015 population estimate down to 310 elk from 390 estimated in 2014. The reduction was by design to lower this elk population closer to the objective level identified in the White Pine County Elk Management Plan (300 elk ±20%). The 2015 population estimate is now within the population management object and quota recommendations will be designed to maintain the elk herd within the objective levels.

Units 144 & 145: Diamonds, Fish Creek and Mountain Boy Ranges; Southern Eureka County

Report by: Mike Podborny

Background

Depredation bull and cow hunts were initiated in 2012 to reduce the elk population in accordance with the Central Nevada Elk Plan. In 2014 there were 3 separate bull seasons and 4 separate cow seasons beginning on August 1 and ending January 15. The 20 bull tags and 35 cow tags issued resulted in 6 bulls and 5 cows harvested during the 2014 hunt. The first elk (2 bulls & 1 cow) were reported harvested in Unit 144.

Survey Data

There was no formal elk composition surveys conducted. During the spring deer survey in March 2015, 24 elk were classified in Unit 145 as 4 bulls 13 cows and 7 calves. Previously, elk were classified during the spring 2013 mule deer helicopter survey including 5 bulls, 12 cows and 6 calves.

Population Status and Trend

It is estimated there are approximately 40 elk in both Unit 144 and 145. The NDOW recommended quotas for 2015 will be increased to increase harvest. The goal of the hunts is to reduce this elk population in line with the objectives of the Central Nevada Elk Plan.

Units 161 - 164: North-Central Nye and Southern Lander and Eureka Counties
Report by: Tom Donham

Survey Data

A post-season aerial elk composition survey was conducted in MA 16 during January 2015. During the survey, a total of 442 elk was classified as 79 bulls, 271 cows, and 92 calves. Very poor survey conditions, including unseasonably warm temperatures and a lack of snow cover, made locating animals much more difficult than is typically the case during the January survey period. In addition, increased hunting pressure due to a large increase in antlerless elk tags during the late season had elk scattered and pushed into thick tree cover. In comparison, the January 2014 survey saw a record sample of 812 elk classified as 151 bulls, 506 cows, and 155 calves.

Habitat

Drought continues to impact wildlife populations and the habitats they depend upon in central Nevada. A lack of winter and spring moisture receipts has affected overall range conditions throughout the area. Fortunately, an increase in summer monsoonal moisture has occurred concurrently with the decrease in winter and spring precipitation in recent years. This has allowed animals to enter the winter period in good condition. Without the respite the monsoons have provided over the past few years, conditions would be much worse.

At the time of this report, data published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service, (NRCS) indicate that central Nevada hovers near 58% of average for the current water year.

Population Status and Trend

In January 2014 the newly revised Central Nevada Elk Plan (CNEP) was approved by the Board of Wildlife Commissioners. The plan included updated elk population objectives which allowed for modest increases in elk numbers in MA 16. Ten years after the initial CNEP was approved in 2004, the MA 16 elk population has reached, and slightly exceeded, the population objective of 850 adult elk in Units 161-164. A significant increase in the MA 16 elk tag quota in 2014, particularly for the antlerless hunts, was intended to stop herd growth and begin a slight reduction in elk numbers.

In an effort to increase antlerless elk harvest, new harvest strategies have been instituted in many areas in Nevada. These strategies include Wilderness Only hunts, Spike hunts, and Antlerless Elk Management hunts which allow deer hunters to more easily obtain an elk tag that runs concurrently with their deer season. While not all of these strategies were employed in MA 16, the Wilderness Only hunt did show promise as a tool to increase antlerless harvest. A record harvest of 168 elk was reported in MA 16 for the 2014-15 season. This harvest total was nearly twice that of the previous record. Harvest management strategies similar to those in 2014-15 will be recommended for the 2015-16 season, which should accomplish bringing the MA 16 elk population within objective levels.

Units 171 - 173: North-Western Nye and Southern Lander Counties
Report by: Tom Donham

Survey Data

An aerial elk composition survey in MA 17 in January 2015 was unsuccessful due to unseasonably warm temperatures and very poor snow coverage. This survey can be challenging under the best of conditions. During the previous 2014 survey effort, a total of 49 elk was classified as 16 bulls, 26 cows, and 7 calves.

Habitat

Drought continues to plague central Nevada. While summer monsoonal moisture patterns have provided much needed relief over the past few years, impacts due to the lack of winter and spring precipitation results in reduced quality and quantity of forage species during the critical birthing period, when female ungulates are most in need of food high in nutrients. Late summer monsoonal moisture does seem to have allowed animals to enter the winter period in good condition.

At the time of this report, data published by the United States Department of Agriculture (USDA), Natural Resources Conservation Service, (NRCS) indicate that central Nevada hovers near 58% of average for the current water year.

Population Status and Trend

For many years, small numbers of elk were sporadically reported in Units 171-173. Presumably, these elk were moving between Unit 173 and adjacent Units 161 and 162. By the early 2000's, reports had become more frequent, and the NDOW determined that a small resident herd had permanently established itself in the southern portions of MA 17.

In 2007, several cow elk were fitted with radio collars in Units 172 and 173 to aid in delineating seasonal use patterns, and to help more accurately determine herd size. Through the collaring effort, it was determined that the core elk population was inhabiting the southern portions of the Toiyabe and Shoshone Ranges during the summer and fall, and transitioning to Units 171 and 184, in Ione and Smith Creek Valleys, during the winter and spring periods. These movements have remained consistent to the present time.

Currently, the MA 17 elk herd is considered stable at low levels. Survey samples during winter aerial survey efforts, as well as random observations of the core herd during other times of the year, continue to hover around 40-50 animals. This has occurred despite the fact that production has been documented and there is no legal harvest of antlerless elk taking place in MA 17, and bull harvest remains minimal. Rumors abound of the illegal killing of elk in MA 17, but this has not been verified to date.

Unit 231: Wilson Creek Range; Lincoln County

Report by: Cooper Munson

Survey Data

Aerial surveys were conducted during January 2015 and resulted in the classification of 577 elk consisting of 117 bulls, 336 cows, and 124 calves. These totals result in a ratio of 35 bulls:100 cows:37 calves. Of the 117 bulls observed, 63% were classified as spikes to 4-points. The large groups of elk were observed utilizing moderate to higher elevations in recently burned locations. Most of the elk surveyed were in the Wilson Creek, Fortification, and White Rock Mountain ranges.

Habitat

Lincoln County received approximately 86% of average annual precipitation during 2014, according to the CEMP (Community Environmental Monitoring Program). Thus far in 2015, Lincoln County has received approximately 68% of average annual precipitation. According to the US Drought Monitor, the US Seasonal Drought Outlook is predicting that the drought conditions in this area will persist or intensify. Feral horse numbers are at exceedingly high levels with BLM indicating that no horses will be gathered in the foreseeable future. Pinyon-Juniper invasion continues to reduce both quality and quantity of elk habitat. Wildfires that would result in transition of dense pinyon-juniper stands to grasses and shrubs have been suppressed over the last few decades. Habitat enhancement projects could potentially provide more elk habitat but are very costly due to both planning and use of mechanized equipment. Many of the areas that have burned in the past few decades are providing the bulk of the habitat for elk in Area 23. Recent

installation of water developments, by both BLM and local sportsmen, are promoting elk use in certain habitat areas in an attempt to reduce conflicts with both livestock operators and private landowners. Shed antler hunters continue to place added stress on elk and their winter range during the late winter and early spring. Although this does not appear to be having detrimental effects on elk population numbers, it may have effects on elk distribution throughout their winter ranges.

Population Status and Trend

Hunt questionnaire data show a total of 249 elk were harvested from Area 23 during the 2014 season. These included 164 cows and 85 bulls. This represents a 32% increase in harvest from the 2013 season, when 191 elk were harvested. The number of elk in Area 23 remains high despite the continuing high harvest numbers. NDOW will continue to recommend high numbers of tags in an attempt to keep the elk population as agreed to in the Lincoln County Elk Management Plan. Elk move freely between Area 23 and both Utah and Area 22, each of which exhibit much higher densities and populations of elk. Many of the elk in Area 23 forage on private property, predominately on agriculture fields which NDOW addresses through the elk damage or incentive tag program. According to recent radio and satellite telemetry information, many of the elk also spend some amount of time across the state line in Utah which depicts the historical and continual movement between the 2 states and supports the annual high cow elk harvest in Area 23. The primary purpose of separating out Units 241 and 242 from 231 was to focus hunting pressure on the Area 24 elk herd.

Unit 241-242: Delamar and Clover Mountains; Lincoln County

Report by: Cooper Munson

Survey Data

Aerial surveys were conducted during January 2015, and resulted in a total of 46 elk observed. The majority of the elk encountered were residing in the Clover Mountains. Survey conditions were challenging with little to no snow, making it difficult to locate elk. The elk observed were classified as 6 bulls, 27 cows, and 13 calves. The resulting ratios are 22 bulls:100 cows:48 calves.

Habitat

Habitat conditions are poor to moderate due to lower-than-average precipitation during 2014 and early 2015. Feral horse numbers are excessive in both units 242 and 241, where the AML is set at zero. Several water developments have been installed in the past few years that are allowing elk to use habitats not available to them in previous years. Excessive Pinyon-Juniper stands and the lack of active fire management continues to limit habitat for elk as well as increasing competition between feral horses, livestock, and wildlife.

Population Status and Trend

A population model has yet to be developed for elk in this area. Hunt questionnaire data indicate that 4 cows and 5 bulls were harvested from Area 24 in 2014. The 2015 survey, combined with reports, and sightings indicate that there may be up to 100 elk in Area 24. The primary purpose of separating out Units 241 and 242 from 231 was to focus hunting pressure on the Area 24 elk herd.

Unit 262: Spring Mountains; Clark and Southern Nye Counties

Report by: Patrick Cummings

Survey Data

The late January 2015 aerial survey in the Spring Mountains yielded a sample of 163 elk including 37 bulls, 105 cows and 21 calves. Elk were encountered north of and immediately adjacent to State Route 156, south of Cold Creek, Willow Creek Drainage and south of Trough Spring. Further south, elk were observed in Lee

Spring Canyon, Trout Canyon and south of Lovell Summit. In January 2014, a brief aerial survey sampled 85 elk all encountered south of Cold Creek, and north and south of Wheeler Pass.

Habitat

On 1 July 2013, the Carpenter 1 Fire was ignited by lightning. The fire consumed vegetation across 27,869 acres. The 43.5-square-mile fire consumed plants within several vegetative associations along a 5,560'-elevation gradient.

Severely degraded vegetative conditions on the McFarland Burn were noted in 13 aerial surveys conducted between 2002 and 2015, and likely the reason that few elk were encountered in the area. Degraded habitat is largely the result of an over population of feral horses aggravated by the effects of periodic drought conditions. The United States Forest Service (USFS) disengaged from a process to produce a comprehensive feral horse herd management area plan. The plan would have covered horse and burro gathers and resetting Appropriate Management Levels (AML). Initially the USFS announced the decision would be signed in late fall 2013, and then USFS would request to be put on the gather schedule. As of April 2015, progress in producing a comprehensive herd management plan has been impeded by horse advocacy groups and lack of funding.

Elk avoidance of roads and decrease in habitat use adjacent to roads has been reported in literature. Based on well-documented findings, another factor that has influenced elk distribution has been increased off-highway vehicle (OHV) use. In recent years, recreational use of OHVs in the Cold Creek area and on the McFarland Burn has increased substantially.

In June 2004, the Humboldt-Toiyabe National Forest issued a Decision Notice and Finding of No Significant Impact for Spring Mountains National Recreation Area Motorized Trails Designation Project. The decision involves minimal closure of newly established roads on the McFarland Burn. Thus, the recently authorized management prescription for motorized trails ensures the status quo on the McFarland Burn for the near future.

Population Status and Trend

The population estimate for elk inhabiting the Spring Mountains reflects an increase relative to the estimate reported last year. Due to the large sample obtained in the January 2015 aerial survey, the population model was adjusted to reconcile the cow and bull deficits.

Elk habitat quality throughout most of Unit 262 is marginal. Elk have existed on a low nutritional plane limiting reproduction and recruitment. Calf recruitment in many years has been low. Formerly, under ideal conditions marked by lower horse numbers and normal precipitation receipts, the McFarland Burn afforded quality early-seral forage necessary for maintenance, growth, and reproduction. In the near future, meaningful efforts to improve elk habitat must entail management of horse and burro numbers consistent with AMLs and completion of habitat improvements. Elk habitat in the Spring Mountains can be enhanced by seeding recently burned areas, increasing water availability and decommissioning/restoring newly created roads and trails.

As of this writing in late-March 2015, environmental conditions range from fair to good due to moisture producing storms in late 2014 and early 2015. Moisture receipts recorded at the Cold Creek 1 rain gauge indicate the first quarter of 2015 was above a 10-year average. However, the likelihood for an overall dry year appears high. In mid-March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Spring Mountains within a zone of severe drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify.

DESERT BIGHORN SHEEP

Units 044, 182: East and Stillwater Ranges; Pershing and Churchill Counties
Report by: Jason Salisbury

Survey Data

A 3-hour aerial survey was conducted in the Stillwater and East ranges during October 2014 and resulted in the classification of 181 desert bighorn sheep consisting of 52 rams, 97 ewes, and 32 lambs. This data provides a ratio of 55 rams:100 ewes:33 lambs.

Habitat

Continued expansion of pinyon and juniper is limiting bighorn sheep habitat within the Stillwater Range. Prescribed or natural wildfires are needed in most of the northern half of the Stillwater Range to allow for new occupation by bighorn sheep. Past fires such as the Table Mountain fire have removed tree cover allowing expansion into these areas by bighorn sheep.

Certain portions of the Stillwater Range have extremely high populations of feral horses. These areas are severely degraded and limit bighorn sheep use. Feral horse populations need to be kept within AML to maintain quality bighorn sheep habitat.

Population Status and Trend

This year's survey resulted in a record count for this unit group. The short duration of the flight with record high numbers, coupled with the possibility of missing sheep in steep terrain with dense vegetation suggests that more sheep may exist in these unit groups. The population model this year increased slightly reflecting a population estimate of 300 animals compared to 280 reported last year.

Units 045,153: Tobin Range and Fish Creek Mountains; Pershing and Lander Counties
Report by: Kyle Neill

Hunt Results

In 2013, unit 153 was combined with unit 045 for harvest purposes. Five tags were authorized for the 2014 season. During the 2014 season, 1 hunter chose to harvest from Unit 153 (first ram ever harvested from this unit), while the other 4 hunters harvested rams in Unit 045.

Survey Data

Aerial composition surveys were performed in early August in Units 045 and 153. The 3-hour survey encountered 74 bighorn sheep in the Tobin Range with sex and age ratios of 100 rams:100 ewes:64 lambs. Thirteen bighorn sheep were observed near Mount Moses in Unit 153, with a ratio of 140 rams:100 ewes:20 lambs. Both ram and lamb ratios in Unit 045 were well above their respective long-term means, but sample size was limited. In Unit 045, bighorn sheep continue to be well distributed throughout the southern end of the Tobin Range to the top of Mount Tobin.

Population Estimate and Trend

Augmentations of bighorn sheep into the Tobin Range that occurred in 2003 and 2008 have been successful in establishing a viable population. A few bighorn sheep from these release efforts established themselves in Unit 153 - Mount Moses in the Fish Creek Range, which has resulted in a small population of about 20-30 animals. Unfortunately, these bighorn sheep are living within an active domestic sheep allotment. Some interchange of rams between Unit 153 to Unit 045 has been documented. The Unit 153 bighorn sheep herd is expected to remain stable.

The Tobin bighorn sheep herd continues to demonstrate strong growth. The long-term mean recruitment rate of 55 lambs:100 ewes has enabled this herd to expand rapidly. Bighorn sheep use areas within the Tobin Range include the top of Wood Canyon along the ridge to Mount Tobin, Cottonwood Canyon south to Miller Basin, and extreme south to the Indian Caves. The 2015 population estimate for Unit 045 is 190 bighorn sheep and represents a 17% increase from the previous year.

Units 131 and 164: Duckwater Hills, White Pine Range and North Pancake Range; Southern White Pine and Eastern Nye Counties

Report by: Mike Podborny

Survey Data

A helicopter composition survey was conducted in Unit 164 in October 2014. There were 39 bighorn sheep classified yielding sex and age ratios of 79 rams:100 ewes:8 lambs. In February 2015, 37 bighorn sheep were classified during a helicopter survey in Unit 131 yielding sex and age ratios of 20 rams:100 ewes:23 lambs. The combined unit group data resulted in 76 classifications yielding ratios of 43 rams:100 ewe:22 lambs. The previous survey had 105 bighorn sheep classified yielding sex and age ratios of 70 rams:100 ewes:18 lambs. The lamb ratio was in the teens the 3 previous years. Two ewes were observed in March 2015 from the ground with pink ear tags from the 2007 release from Mt. Jefferson.

Habitat

The range conditions were fair during the first half of 2014. Moderate monsoon rains in August and September resulted in improved range conditions in the fall, but precipitation was not as substantive as during 2012 and 2013 when flash flooding occurred.

Population Status and Trend

There have been 3 rams harvested in Unit 131 that have been Rocky Mountain bighorn sheep and 1 ram harvested was a cross between a Rocky Mountain and desert bighorn sheep. No rams harvested since 2011 have been determined to be Rocky Mountain bighorn sheep through genetic testing. Rams harvested from these units will only be accepted into official record books as Rocky Mountain bighorn sheep because of the documented gene introgression between the 2 subspecies.

All 3 sub-populations of bighorn sheep (Currant Mountain, Duckwater Hills and the Pancake) have all been exposed to the bacterial disease agent *Mycoplasma ovipneumonia*. Lower lamb survival for the past 4 years and resulted in a declining population has been attributed to this pneumonia infection. The number of bighorn sheep observed on surveys has declined from 143 in 2012 to 76 in 2014, which also indicates a declining population. Nevertheless, a viable population of bighorn sheep with ample adult rams is still available for harvest.

Unit 132: Grant Range and Quinn Canyon Range; Eastern Nye County

Report by: Mike Podborny

Survey Data

A helicopter composition survey was conducted in February 2015 of the Grant and Quinn Canyon Ranges. There were 26 bighorn sheep classified in the Grant Range yielding sex and age ratios of 24 rams:100 ewes:29 lambs. The previous survey was conducted in 2014 in the Grant Range resulted in 20 bighorn sheep classified yielding sex and age ratios of 31 rams:100 ewes:23 lambs.

There were 26 adult bighorn sheep with 7 newborn lambs found on the February 2015 survey in the Quinn Canyon Range. The 6 rams were in 1 group in the very southern part of the range not previously surveyed. The 20 bighorn sheep observed were not classified (born in 2014) due to the presence of the newborn

lambs. In the summers of 2013 and 2014 trail camera pictures from Red Bluff Spring has identified at least 30 bighorn sheep with adult rams, ewes, and lambs all using the single water source.

Habitat

Average precipitation was received the first half of 2014 with moderate summer rains beginning in August that improved range conditions going into the winter. The winter of 2014-2015 was warm and dry. Red Bluff Spring has been used heavily by bighorn sheep in the summers of 2013 and 2014. The spring was a trickle of water flowing into an old rusty trough that was only used by bighorn sheep, pronghorn antelope, and rabbits. In fall 2014, a local livestock operator dug out the spring and installed a large storage tank and new trough with a float valve. The spring will be monitored by trail cameras in the summer of 2015 to determine use by bighorn sheep and other wildlife after the renovation.

Population Status and Trend

The population in the Grant Range expanded in size and distribution after the 2 releases in Troy Canyon in 2005. The number of bighorn sheep found on survey has declined from 77 in 2009 to 20 in 2013 and 26 in 2014. The lamb ratio was 54:100 in 2009 but has been in the low 20s in both 2013 and 2014. Hunter effort has increased and age of rams harvested has decreased in the Grant Range since 2013. All these data indicate the population in the Grant Range has declined. The Quinn Canyon population of bighorn sheep appears to be separated from the Grant Range population. Four bighorn sheep from the Quinn Canyon Range were captured in January 2014. Biological samples were collected for genetic and disease testing with 3 radiocollars deployed. The Quinn Canyon bighorn sheep tested negative for *Mycoplasma ovipneumonia*, whereas the Grant Range bighorn sheep have tested positive several times for the disease. Lambing also occurs 2 months earlier in the Quinn Canyon Range compared with the Grant Range. The 2 ewes and 1 ram that were radiocollared in the Quinn Canyon range have not moved far from their capture location. There are rams in the combined populations to support a hunt even with the Grant Range population declining. All future surveys will be shifted to September to avoid the early lambing that is occurring in the Quinn Canyon population.

Unit 133, 245: Pahranagat and Mount Irish Ranges; Lincoln County

Report by: Cooper Munson

Survey Data

Surveys were conducted in September 2014 in the Pahranagat and Mount Irish Mountain ranges. Ninety-six bighorn sheep were observed and classified during this aerial survey. Bighorn sheep were classified as 24 rams, 51 ewes, and 21 lambs which provide a ratio of 47 rams:100 ewes:41 lambs. This ties the record sample from these units.

Habitat

Habitat conditions were moderate during spring 2014 due to lower-than-average precipitation. During late summer 2014, above average precipitation fell in this area leading to good quality range conditions. According to Community Environmental Monitoring Program precipitation data, the annual precipitation received in Alamo during 2014 was about 80% of the previous 10-year average. All of the water developments in the North and East Pahranagats were holding good amounts of water in February 2014 and were being used by bighorn sheep throughout the year. The timing of the precipitation was not ideal, but should have allowed bighorn sheep to go into the winter in good condition.

Population Status, and Trend

This population has shown a static trend for the past few years. Mild winters may be increasing lamb survival. The computer-generated population estimate for 2015 is similar to the 2014 estimate.

Unit 134: Pancake Range; Nye County
Report by: Tom Donham

Survey Data

An aerial desert bighorn sheep composition survey was conducted in Unit 134 during late September 2014. The survey included Palisade Mesa, Lunar Cuesta, Little Lunar Cuesta, Black Beauty Mesa, Citadel Mountain, Twin Springs and Echo Reservoir areas, Big Fault Mesa, and the Wall leading northward to I-6 at Blackrock Summit. During the survey, 157 animals were classified as 40 rams, 96 ewes, and 21 lambs. While the observed lamb ratio of 22 lambs:100 ewes is well below the long term mean, it is nonetheless a substantial increase over observed lamb ratios obtained during the previous 3 surveys conducted in Unit 134 in 2011, 2012, and 2013. In comparison, the 2013 survey classified 144 animals as 52 rams, 90 ewes, and 2 lambs.

Habitat

Central Nevada continues to be plagued by severe drought, particularly during the winter period. Fortunately, favorable moisture during the summer and early fall have somewhat tempered the effects of drought. Desert bighorn sheep habitat in Unit 134 has benefitted from these monsoonal moisture patterns, and grass and forb species have experienced good production during the summer and fall periods.

Population Status and Trend

The Unit 134 desert bighorn sheep population is the result of a reintroduction effort that took place in 1984. During that effort, 26 desert bighorn sheep were released into Unit 134. The herd immediately began a steady increase which continued through the late 1980s and early 1990s. The herd did so well during that time period that it was used as a source of transplant stock on 3 different occasions. Trapping and transplanting operations conducted in 1996, 1998, and 2003 have resulted in the successful translocation of 78 bighorn sheep into other mountain ranges in the state of Nevada.

Unfortunately during 2011, the Unit 134 desert bighorn sheep population experienced a disease event consisting of a pneumonia outbreak related to the presence of *Mycoplasma ovipneumoniae*. Adult mortality is believed to have been as high as 20%, but lamb mortality probably reached levels over 90% during the initial outbreak. While adult mortality directly related to the pneumonia outbreak was limited primarily to 2011, lamb mortality continued at a rate of near 90% for three consecutive years during 2011–2013. An increase in lamb survival was documented in 2014, but further monitoring of the herd will be necessary to determine whether this was an anomaly or if it indicates the beginning of a recovery. As a result of the disease event, the Unit 134 desert bighorn sheep population is exhibiting a decreasing trend.

Unit 161: Toquima Range; Northern Nye County
Report by: Tom Donham

Survey Data

As a result of shifting priorities due to disease issues among several central Nevada desert bighorn sheep populations, no aerial composition surveys were accomplished in Unit 161 during the 2014 reporting period. The most recent aerial composition survey conducted in Unit 161 took place during early September 2012. During that survey, 187 desert bighorn sheep were classified as 35 rams, 92 ewes, and 60 lambs.

Population Status and Trend

The Unit 161 desert sheep population was reestablished through the release of 22 animals in 1982. In 1983, an additional 4 animals were released in the area. Since the initial releases, the Unit 161 sheep

population has thrived. The population has surpassed expectations by a large margin, and has fared so well that it has served as a source of transplant stock on 5 occasions. A combined total of 123 sheep has been captured and translocated during trapping operations occurring in 2002, 2003, 2006, 2007, and most recently in 2008. Animals from Mount Jefferson have been relocated to the Clan Alpine and Tobin Ranges of Churchill and Pershing Counties, respectively, and to the Grant-Quinn and southern White Pine Ranges of Nye County.

The core Unit 161 desert bighorn sheep population inhabits the area on and around Mount Jefferson, in the Alta Toquima Wilderness, during the summer and fall. The majority of these animals moves to lower elevations in the surrounding area during the winter and spring months. However, a smaller herd has established itself further north in the Northumberland area in recent years.

Recent detection of *Mycoplasma ovipneumoniae* and the presence of pneumonia in several central Nevada desert bighorn sheep populations have raised concerns that the Unit 161 population is at risk of suffering the same fate. Currently, however, there have been no reported observations of sick desert bighorn sheep in the Unit 161 area, and the herd appears to be doing relatively well overall. However, in addition to disease concerns, regularly occurring periods of drought, along with effects from high numbers of feral horses in the area continue to present challenges.

Currently, the Unit 161 desert bighorn sheep herd is considered to be stable at a moderate level.

Units 162 and 163: Monitor and Hot Creek Ranges; Nye County

Report by: Tom Donham

Survey Data

The regularly scheduled, biennial Unit 163 desert bighorn sheep aerial composition survey was conducted during early September 2014. The survey primarily covered the east side of the Hot Creek Range from Warm Springs northward to Tybo Canyon, Hot Creek Canyon, Box and Corral Canyon areas on the east side of the range, and the Morey Peak-Devil's Cave Ridge area. During the survey, a record of 225 animals were classified as 48 rams, 156 ewes, and 21 lambs. The observed lamb ratio of 14 lambs:100 ewes indicates the Unit 163 desert bighorn sheep population experienced below average recruitment during 2014. The specific cause of the reduced recruitment rate is unknown at this time, but likely factors may include drought, density, or disease. In comparison, the previous aerial composition survey saw the classification of 146 bighorn sheep as 35 rams, 78 ewes, and 33 lambs.

Population Status and Trend

A small number of desert bighorn sheep occurred in the Hot Creek Range prior to the 1990s, but the population remained static at very low levels. Releases of desert bighorn sheep in 1994 and 1995 augmented the existing population stimulated herd growth.

Increased production and recruitment in the relatively recent past has allowed the Unit 163 desert bighorn sheep herd to reach its highest level in recent memory. An ever increasing number of animals continue to use the southern extent of the Hot Creek Range in the Warm Springs area, and movement between the Hot Creeks and the Kawich Range to the south during the cool season has increased concurrently.

To take advantage of an increasing number of bighorn sheep inhabiting the Hunt's Canyon area, Unit 162 was combined with Unit 163 for the desert bighorn sheep hunt in 2005. While the number of bighorn sheep inhabiting the Hunt's Canyon area has remained relatively static, an increase in bighorn sheep use has been observed in the southern portion of Unit 162 over the past several years. A small scale radiocollaring project was initiated in this area in January 2013, and the monitoring of a radiocollared ewe and a radiocollared ram has provided interesting data concerning bighorn sheep movements, lambing areas, and connectivity to adjacent herds.

There is some concern that the pathogen that resulted in an epizootic pneumonia outbreak in adjacent Unit 134 in 2011 could find its way to Unit 163. Based on the very low lamb numbers observed during the 2014 survey, the pathogen may be present in Unit 163. Further monitoring of the Unit 163 desert bighorn sheep population will continue in an effort to confirm the presence or absence of the disease.

Recent, regularly occurring periods of drought have effected wildlife populations throughout central Nevada, and Unit 163 is no exception. While this herd has experienced recent increases to record levels, drought and potential disease issues, which have effected lamb recruitment, have stalled this trend at least in the short term. Currently, the Unit 163 desert bighorn sheep population is considered to be stable to slightly declining. A population model for Unit 162 has yet to be developed.

Unit 173: Toiyabe Range; Northern Nye County

Report by: Tom Donham

Survey Data

As a result of shifting priorities due to disease issues among several central Nevada desert bighorn sheep populations, no aerial composition surveys were conducted in Unit 173 during the 2014 reporting period. The most recent aerial composition survey was conducted in Unit 173 in mid-September 2012. During that survey effort, due to moist, green conditions on the landscape, animals were widely dispersed which resulted in a smaller-than-average sample size. During the survey, 54 desert bighorn sheep were classified as 15 rams, 36 ewes, and 3 lambs. The low observed lamb ratio indicates herd production was poor in 2012, although the small sample size reduces confidence in the observed ratios. Depressed production rates may have been due to severe drought conditions experienced through the winter and spring of 2012.

Habitat

The largest portion of the Unit 173 desert bighorn sheep population occurs in and around the Peavine Canyon-Seyler Peak area of the Toiyabe Range, although animals can regularly be found along the eastern side of the Toiyabe Range as far north as Ophir Canyon. Due to regular drought periods in this area for the past 10 years, the desert bighorn sheep inhabiting the Peavine Canyon area have become accustomed to using private lands that are more moist and lush than adjacent habitats. This behavior has been passed along to several generations of bighorn sheep and the behavior, which has proven problematic, is likely to continue even if climatic conditions return to more favorable patterns. Bighorn sheep depredation of private lands is likely to continue until an acceptable solution to landowners, NDOW, and sportsmen can be devised.

Population Status and Trend

The Toiyabe desert bighorn sheep population is among the few remnant bighorn sheep herds that exist in central Nevada. This population was nearly extirpated along with many other bighorn sheep herds in the state and had been reduced to an estimated 50 animals by the early 1980s. During 1983 and 1984, 21 desert bighorn sheep were captured in southern Nevada and transplanted into the Toiyabe Range. In 1993, an additional 9 rams were released. The releases were intended to augment and stimulate the existing herd. In 1988 the desert sheep hunting season, which had been closed since 1969, was reopened.

Although the majority of the Unit 173 desert bighorn sheep population inhabits the southern reaches of the Toiyabe Range, a growing number of animals also inhabit the San Antonio Mountains just north of the town of Tonopah. Occasionally, desert bighorn sheep in the Bunker Hill-Big Creek area just south of Highway 50 are reported. The Big Creek area currently contains an active domestic sheep allotment, and expansion of this small portion of the herd will not be encouraged until such time as domestic sheep grazing is discontinued in the area.

Recent detection of *Mycoplasma ovipneumoniae* and the presence of pneumonia in several central Nevada desert bighorn sheep populations have raised concerns that the Unit 173 population is at risk of suffering

the same fate. Currently, there have been no reported observations of sick desert bighorn sheep in Unit 173, but it is likely the herd will eventually come into contact with the pathogen affecting neighboring herds. Recent periods of drought have resulted in decreased lamb production and recruitment in many central Nevada desert bighorn sheep populations, and Unit 173 is no exception. Due to this fact, the Unit 173 desert sheep population is considered to be experiencing a static to slightly decreasing trend.

Unit 181: Fairview Peak, Slate Mountain, and Sand Springs Range; Churchill County

Report by: Jason Salisbury

Survey Data

In October 2014, a 3-hour aerial survey coupled with a ground survey on Fairview Peak yielded a sample of 266 desert bighorn sheep. The observed sex and age ratios were 53 rams:100 ewes:40 lambs. Areas surveyed included the Fairview Range, Sand Springs Range, and Monte Cristo Mountains.

Habitat

Two new big game water developments were built in the Sand Springs Range in 2014 to improve water availability for bighorn sheep. These new developments will reduce concentrations on perennial water sources and should allow bighorn sheep to better distribute themselves throughout the landscape.

During the last 2 years, Unit 181 has experienced increased drought. The South Rail Fence water development, located on the east side of the mountain range, provides water to the bulk of the bighorn sheep herd through the summer months. This water development consists of collecting water from a spring source and storing it in underground tanks. Current capacity for this water development is 7,500 gallons. An additional 7,250 gallons of storage will be added at this location in the spring of 2015 to ensure adequate available water. The spring has produced less water over the past few years and sometimes cannot adequately recharge the whole system. Future recommendations include installing a metal apron to serve as a backup system to this vital water source.

The Monte Cristo Mountains have 2 known water sources consisting of a water development and a spring. In 2014, the spring went dry. Bighorn sheep were forced to search for water and found the Blush water development. The Blush project is critical to the Monte Cristo bighorn sheep herd.

Population Status and Trend

In November 2014, 19 animals were captured for disease surveillance in the Monte Cristo's, Fairview, Slate, and Sand Springs ranges. Of the 19 animals marked with ear tags, 3 were fitted with GPS radiocollars and 5 were fitted with VHF radiocollars. The GPS radiocollars were fitted on rams and the VHF radiocollars were placed on ewes. The Unit 181 bighorn sheep herd continues to exhibit increasing growth trends. The current population estimate for this herd is 360 animals.

Unit 183: Clan Alpine Range; Churchill County

Report by: Jason Salisbury

Survey Data

During a 3-hour aerial composition survey in October 2014, 212 desert bighorn sheep were classified as 65 rams, 106 ewes and 41 lambs. This total yields a sex and age ratio of 61 rams:100 ewes:39 lambs.

Habitat

Sufficient precipitation allowed the water developments in Unit 183 to remain nearly full going into 2015. Current range conditions are favorable, but it appears that spring 2015 is phenologically advanced. Scattered rain is needed throughout the spring and early summer months to keep the vegetation from

curing out too early. The summer months of 2015 could be pretty harsh for the Unit 183 bighorn sheep herd on the southern end of this unit. The Cow Canyon sub-herd, located on the north end of the Clan Alpines, should be in better condition due to the upper elevation riparian systems that provide a more consistent forage base.

Population Status and Trend

This year's lamb ratio of 39 lambs:100 ewes will result in a slight increase in the population estimate. The 2014 population estimate for the herd inhabiting the Clan Alpine Mountain range is 310 bighorn sheep and is a 10% increase compared to last year's estimate.

Unit 184: Desatoya Range; Churchill and Lander Counties

Report by: Jason Salisbury

Survey Data

In October 2014, a 3-hour survey yielded a sample of 82 desert bighorn sheep. The observed sex and age ratios were 60 rams:100 ewes:45 lambs. Areas surveyed included the Desatoya Mountains, Eastgate Hills, and Greyback.

Habitat

In summer 2014, a 333-acre fire consumed a high elevation pinyon and mahogany stand on the west face of the Desatoya Mountains. NDOW reseeded about 170 acres of this fire with a native forb and grass mix. The fire burned extremely hot in areas with trees. The seeding was needed to provide soil stabilization and seed stock to allow for a full recovery. Fires like this are important to bighorn sheep habitat because they reduce tree cover and improve habitat.

The year 2014 provided adequate perennial grass and forage on the Desatoya Mountains. The Eastgate Hills are considerably lower in elevation than the Desatoya Mountains and normally receive less precipitation. This results in lower quality and less quantity of habitat available to the bighorn sheep herd occupying the Eastgate Hills.

In 2012, the BLM removed 433 feral horses from the Desatoya Horse Management Area. The removal of the horses, especially on the top of the Desatoya Mountains, will reduce grazing pressure in riparian areas as well as reduce competition for available forage and water.

Population Status and Trend

The Unit 184 bighorn sheep population appears to be slightly increasing at this time. The 2013 lamb ratio of 63 and this year's lamb ratio of 45 should allow for moderate population increases over time.

Unit 195: Virginia Range; Storey County

Report by: Carl Lackey

Survey Data

An aerial composition survey was conducted in August 2014 yielding a sample of 17 bighorn sheep with a ratio of 20 rams:100 ewes:50 lambs. Animals were observed on Clark Mountain in the vicinity of both water developments, in the Gooseberry Hills, and near the Eagle-Picher Mine overlooking the Truckee River. The ram ratio is not indicative of the true status of rams in this population as several additional rams were classified in later ground surveys.

Habitat

Habitat conditions in this unit are marginal after 3 years of drought, due in large part to the feral horse population in the Virginia Range, estimated at over 1,500 by the Nevada Department of Agriculture.

Volunteers from Nevada Bighorns Unlimited, in cooperation with NDOW employees, reconstructed Biddleman Springs in the Gooseberry Hills and added a trough outside the fenced bighorn sheep water.

Population Status and Trend

Bighorn sheep inhabit Clark Mountain, the Gooseberry Hills, the Derby Dam cliffs, and the area around the Eagle-Picher Mine. Miscellaneous survey data, such as trail camera photos from guzzlers, show increasing numbers of unmarked bighorn sheep in various age classes, which is a good indication of recruitment into the population since the initial releases in 2011 and 2012. There are continued reports of small groups of bighorn sheep, including rams, in the Flowery Range and most recently on Mount Davidson. The modeled population estimate shows an upward trend despite the drought conditions.

Unit 202: Wassuk Range; Mineral County

Report by: Jason Salisbury

Survey Data

In summer 2014, a 1-day ground survey observed 175 desert bighorn sheep in 2 different drainages near water sources.

In October 2014, an aerial survey in the Wassuk Range classified 146 desert bighorn sheep. The sample yielded sex and age ratios of 35 rams:100 ewes:37 lambs.

Habitat

The higher elevation pinyon woodland zone of the Wassuk Mountain Range is limiting bighorn sheep occupation. Fires are an important management tool that is needed in Phase Two and Three pinyon canopies. Areas such as Cat Canyon have adequate bighorn sheep habitat at the bottom and mid-slope elevations but need some prescribed or natural fires to improve habitat for bighorn sheep use.

In the spring, bighorn sheep use green-up along the shoulder of Highway 95 near the cliff area. In the past 10 years, 1-2 bighorn sheep-vehicle collisions have occurred annually. In 2015, 6 bighorn sheep were killed in a 2-week period. NDOW has been working with Nevada Department of Transportation to develop a plan to remedy this apparently growing problem.

Population Status and Trend

This year's bighorn sheep survey was the highest ever recorded for this unit. Combined with the observations from the ground, the modeled population estimate increased reflecting a more reasonable assumption that a higher population exists. The lamb ratio will allow for growth. The population for 2015 has shown a 56% increase compared to last year's estimate.

Unit 204: East Walker River; Lyon County

Report by: Jason Salisbury

Harvest Results

Tag holders have the option to hunt both Unit 202 and 204 for desert bighorn sheep. In 2014, 2 rams were harvested from the East Walker herd out of the 5 allotted tags for the combined units.

Survey Data

In October 2014, a 2-hour aerial composition survey was conducted in Unit 204. Forty-eight bighorn sheep were classified as 15 rams, 24 ewes, and 8 lambs in the East Walker drainages.

Habitat

The Unit 204 herd continues to experience drought along the East Walker River. The flood plain of the Walker River corridor provides the bighorn sheep with a favorable habitat option. A small fire that occurred near The Elbow has recovered well and is providing a new important foraging area for bighorn sheep.

Population Estimates and Trend

The East Walker River population appears to be doing well considering the small geographic area it occupies. The Rafter 7 Ranch, located near Yerington, no longer has domestic sheep. Domestic sheep escaping the Rafter 7 and comingling with the bighorn sheep herd was always a concern. The Rafter 7 no longer conducts predator removal since eliminating the domestic sheep. The removal of mountain lions probably benefited bighorn sheep herd that used river for water. The current population estimate approximates last year's level.

Unit 205, 207: Gabbs Valley Range, Gillis Range, Pilot Mountains; Eastern Mineral County

Report by: Jason Salisbury

Survey Data

In October 2014, a 6.5-hour aerial survey yielded a sample of 436 desert bighorn sheep consisting of 136 rams, 226 ewes, and 74 lambs. The resulting sex and age ratios were 60 rams:100 ewes:33 lambs.

Habitat

In spring 2015, the Gabbs-Rhyloite water project was built in the Gabbs Valley Range. This new water source was intended to mitigate for the loss of water on Mt. Ferguson. This water source will also serve displaced bighorn sheep if an adjacent gold mine develops within occupied habitat.

Most spring sources in the area are in a degraded state due to overuse. Both wildlife and livestock could benefit from having a clean water source and a healthy, protected riparian system.

The Table Mountain water development fence has partially washed out from a torrential downpour. In spring 2015, volunteers will place rocks around the fence to fortify the structure. Additionally, the Wild Horse guzzler drinker is set too high. A new drinker will be installed level with the tanks. Currently there is 3-4" of water in the tanks that could be made available to wildlife through this adjustment.

Population Status and Trend

In November 2014, bighorn sheep rams were captured from Pilot Mountain, Gillis Range, and the Gabbs Valley Range for disease testing and marking for a movement study. They were fitted with Vectronic GPS and VHF radiocollars. Except for the Pilot Mountain ram, no substantive movements have been observed; however, some interesting winter locations have been determined.

The 10-year mean lamb production for this herd is 49 lambs:100 ewes. This year's survey classified the highest number for this population. The Unit 205/207 herd continues to grow at a slow pace. The higher estimated number of mountain lions that occupy Unit 205/207 may limit bighorn sheep population growth. This population should slightly increase from year to year if mountain lion predation remains siimilar. The

outlook for this herd is favorable and adequate mature rams remain available for harvest. The current modeled population estimate for this herd is 610 animals.

Unit 206, 208: Excelsior Range, Candelaria and Miller Mountain; Mineral County
Report by: Jason Salisbury

Survey Data

Aerial surveys were completed in October 2014 and resulted in the observation of 97 desert bighorn sheep classified as 23 rams, 49 ewes and 25 lambs. This survey was the highest recorded survey to date. The observed lamb ratio of 51 lambs:100 ewes on survey indicate good production and should allow the herd to grow.

Habitat

In the last 5 years, 11 new water developments have been constructed in the Excelsior Mountains, Candelaria Hills, Miller Mountain, and the Garfield Hills. These new water developments have a combined storage capacity of 90,000 gallons and will provide resources for a growing and expanding herd.

In March 2015, the Eastside water development was built and will provide water between the Excelsior Mountain Range, the Candelaria Hills, and Miller Mountain area.

Population Status and Trend

The last release of sheep for Units 206/208 occurred in November 2013 in which a total of 50 desert bighorn sheep were released into the Excelsior Mountains and Candelaria Hills. Of the 50 bighorn sheep, 30 were released in the Candelaria Hills and 20 were released in the Excelsior Mountains. Five bighorn sheep were fitted with real time Vectronic satellite radiocollars in the Candelaria Hills release and 2 sheep were fitted with similar radiocollars in the Excelsior release. Monitoring in 2014 indicates that at least 20 bighorn sheep live near the Mine Pad water development and about 9 bighorn sheep use the Townsite water development.

Of the 20 bighorn sheep that were released on Marietta guzzler, 18 different ear tags were observed at the guzzler in fall 2014. The 2 other ear tagged bighorn sheep were found to be using Switchback water development along with several other rams.

In November 2014, disease surveillance was conducted in the Candelaria Hills as well as the Excelsiors. Some previously released bighorn sheep were captured and retested as well as some unmarked individuals. Additional animals were marked with GPS Vectronic radiocollars and ear tags. The radiocollar data has been able to define lambing areas as well as seasonal use patterns for this herd.

The Unit 206/208 desert bighorn sheep population continues to exhibit good production rates and continues to grow and occupy new terrain. The added water developments will allow the Excelsior's core population to grow and occupy the Candelaria Hills as well as Miller Mountain.

Unit 211: Silver Peak Range and Volcanic Hills; Esmeralda County
Report by: Tom Donham

Survey Data

An aerial composition survey was conducted in Unit 211 during early September 2014, which included the Silver Peak Range in the Cave Spring-Rhyolite Ridge-Argentite Canyon area, Mineral Ridge Mine area, and Nivloc and Volcanic Hills. A near record of 290 desert bighorn sheep were classified as 97 rams, 141 ewes, and 52 lambs. The observed lamb ratio indicates this herd continues to experience comparatively good production and recruitment despite recent disease. In comparison, during the previous aerial composition

survey conducted in September 2013, 268 desert bighorn sheep were classified as 87 rams, 136 ewes, and 45 lambs.

Population Status and Trend

The Unit 211 desert sheep herd is among a handful of remnant herds in central Nevada. Historically, bighorn sheep movement occurred regularly between the Silver Peak Range (Unit 211) and the Monte Cristo Range (Unit 213). The Monte Cristo Range served primarily as winter range for many of the bighorn sheep in the Silver Peaks. Over the years this movement has slowed considerably, and while some movement still takes place, each of the 2 ranges now support what are considered distinct populations. Some movement also occurs between the Silver Peak Range and Lone Mountain (Unit 212).

The vast majority of the desert bighorn sheep inhabiting Unit 211 occur in the Silver Peak Range and the Volcanic Hills. However, some incidental use does occur on the Nevada portion of the White Mountains in the general area of Boundary Peak. Seasonal movements also occur between the Volcanic Hills and Miller Mountain-Candelaria Hills portions of western Esmeralda and eastern Mineral Counties (Unit 208).

Due to the steadily increasing bighorn sheep population inhabiting Unit 211, the herd was used as source transplant stock in 2009 when 25 animals were captured for relocation in Churchill County (Unit 182). The release compliment consisted of 21 ewes and 4 lambs.

The presence of *Mycoplasma ovipneumoniae*, a bacteria related to outbreaks of pneumonia in bighorn sheep, was documented in a ram harvested in Unit 211 during the 2013 desert sheep hunting season. The presence of the pathogen was not a surprise because it had been documented in the adjacent Lone Mountain (Unit 212) herd shortly before it was discovered in Unit 211. During October 2014, a disease surveillance and radiomarking effort was conducted in Unit 211. Telemetry radiocollars were placed on 4 rams in Unit 211 during the effort, including 2 in the Silver Peak Range and 2 in the Volcanic Hills. During the operation, biological samples were obtained from 13 sheep in various portions of Unit 211. Results indicate that *Mycoplasma ovipneumoniae* is present in both the Silver Peak portion of the Unit and the Volcanic Hills. In addition, a lamb showing clinical signs of disease was collected in the Silver Peak Range in July, and tests revealed the presence of *Mycoplasma ovipneumoniae* as well as severe pneumonia.

While the observation of healthy proportion of lambs during the 2014 aerial composition survey was encouraging, it is still unclear what effects the presence of *Mycoplasma ovipneumoniae* will have on the herd. Currently, based on the apparent absence of pneumonia-related adult mortality and fair lamb recruitment, the Unit 211 desert bighorn sheep population is considered to be stable to slightly increasing. However, with drought conditions intensifying and the presence of *Mycoplasma ovipneumoniae*, the status of this herd could change dramatically.

Unit 212: Lone Mountain; Esmeralda County

Report by: Tom Donham

Survey Data

Due to disease concerns, 2 aerial composition surveys were conducted in Unit 212 during 2014. In addition to the typical fall survey, a shortened survey effort was conducted in April 2014. The April survey effort was precipitated by reports of coughing sheep in the area, as well as *Mycoplasma ovipneumoniae* being detected in a sample obtained from a hunter-harvested ram during the 2013 season. During the April survey effort, 247 sheep were classified as 149 rams, 85 ewes, and 13 lambs. The timing of the survey was such that the ewes were in the midst of lambing and were in rugged and precipitous lambing habitat, which made detectability of ewes and lambs difficult. Survey results indicated that no noticeable adult mortality had occurred to that point as a result of the ongoing disease exposure.

A more complete aerial composition survey was conducted in early September 2014. The survey included Lone Mountain, Paymaster Canyon, and the Weepah Hills. During the September survey effort, 384

bighorn sheep were classified as 144 rams, 169 ewes, and 71 lambs. The observed lamb ratio was encouraging considering the recent disease detection and the poor observed lamb ratio obtained during the 2013 fall survey. In comparison, the fall aerial composition survey conducted in September 2013 resulted in the classification of 400 animals as 168 rams, 202 ewes, and 30 lambs.

Population Status and Trend

The Unit 212 desert sheep population is among the few remnant central Nevada herds that survived extirpation during the nineteenth and twentieth centuries due to a variety of anthropogenic causes. Once regulations that provided for reasonable protections to bighorn sheep were put into place, the Lone Mountain bighorn sheep herd began increasing steadily. By the late 1980s the estimated population was over 200 animals.

This population served as transplant stock during 2 successive years in the late 1980s. Immediately following these captures, the herd experienced a sharp decline, and by 1991 the estimated population was less than 50 animals. The exact cause of this decline is uncertain, but it may have been due to some type of disease event. Due to excellent production and recruitment rates experienced most years for over a decade now, the Unit 212 desert sheep population has increased at a phenomenal rate. Due to the steadily increasing population and a desire to control densities, the Unit 212 desert bighorn sheep herd was once again used as a source of transplant stock in November 2012. Twenty-five animals were captured and relocated to the Excelsior Mountains, Mineral County, Unit 206. The release compliment consisted of 21 ewes and 4 lambs.

In the past few years, desert bighorn sheep densities on Lone Mountain have begun to increase, and NDOW has been recommending reduction of the population to ensure the continued health of the herd. In 2012, animals were trapped and relocated from Lone Mountain to begin reducing densities in the area. During the 2013 aerial composition survey, a very low observed lamb ratio raised concerns further. Then, in late March 2014, a hunter harvested ram from Lone Mountain, which had been submitted for testing, was found to be positive for *Mycoplasma ovipneumoniae*.

During the April 2014 survey, 2 adult ewes and a young ram were collected for sampling and necropsy. Results confirmed presence of *Mycoplasma ovipneumoniae* in the Unit 212 bighorn sheep herd. Despite the presence of *Mycoplasma ovipneumoniae* and observations of animals showing clinical signs of disease, no substantial adult mortality has been documented. Additionally, strong observed lamb ratios during the 2014 fall survey indicate the lamb segment of the herd did not experience unusually high mortality rates in 2014 either. Further monitoring in Unit 212 will take place to determine the continuing status of the Lone Mountain desert bighorn sheep population.

In 2014, a ewe hunt was established in Unit 212 to help reduce bighorn sheep densities on Lone Mountain. While the tag quota was conservative for this inaugural hunt, ewe harvest helped to keep the herd from increasing further. During the inaugural 2014 ewe hunt, 26 of 35 tag holders were successful in harvesting a ewe for a success rate of 74%. If the herd continues to show good lamb production and recruitment despite the ongoing disease exposure, it will be necessary to remove ewes to manage animal density. This is particularly important considering intensifying drought conditions in central Nevada.

As part of a larger disease surveillance and radiomarking effort throughout many areas of central, southern, and western Nevada, several sheep were captured from the Lone Mountain-Weepah Hills area during October 2014, including 2 rams that were fitted with radiotelemetry collars during. This project will help biologists further understand the implications of the presence of *Mycoplasma ovipneumoniae* in bighorn sheep herds, bighorn sheep movements between populations, and management of disease risk.

The Unit 212 desert sheep population is currently showing a stable to slightly decreasing trend, which has been influenced by the removal of ewes through hunter harvest.

Unit 213: Monte Cristo Range; Esmeralda County
Report by: Tom Donham

Survey Data

An aerial composition survey was conducted in Unit 213 during early September 2014. The area surveyed included the Monte Cristo Range from near Crow Spring on the northeast end of the range southward past Gilbert and Doyle Peak and continuing through the Devil's Gate area, then through the Trough Spring-Cottonwood Spring area to the south and west. A record of 422 desert sheep were classified as 130 rams, 226 ewes, and 66 lambs. While the observed lamb ratio was below average, it was encouraging in light of recent disease detections. In comparison, during the aerial composition survey conducted in late August 2013, 338 animals were classified as 105 rams, 186 ewes, and 47 lambs.

Population Status and Trend

The Monte Cristo desert bighorn sheep population is among the few remnant sheep herds in central Nevada. The herd has exhibited steady growth over the past 7 to 10 years, and the population has reached a level where there is concern about animal densities. During fall 2011, a capture project was conducted in the Monte Cristo Range. The project not only provided valuable transplant stock for a desert bighorn sheep reintroduction in the Virginia Range, Unit 195, but also served to reduce animal densities on the southern portion of the Monte Cristo Range. Thirty-four animals were captured and relocated including 19 ewes, 12 lambs, and 3 yearling rams. In addition to the 2011 capture effort, a ewe hunt was established in 2014 to further reduce animal densities in the Monte Cristo Range. During the inaugural 2014 ewe hunt, 23 of 30 tag holders were successful in harvesting a ewe for a success rate of 77%.

During late 2013-early 2014, *Mycoplasma ovipneumoniae* was documented in adjacent herds in Units 211 and 212. The pathogen was detected in the Unit 213 desert sheep population shortly thereafter. As part of a larger effort throughout many areas of central, southern, and western Nevada, 10 bighorn sheep were captured from various parts of the Monte Cristo Range for biological sampling. In addition to the biological sampling, four rams were fitted with radiotelemetry collars. This project will help biologists further understand the implications of the presence of *Mycoplasma ovipneumoniae* in bighorn sheep herds, bighorn sheep movements between populations, and management of disease risk.

Currently, desert bighorn sheep densities in the Monte Cristo Range are considered to be excessive, particularly with drought conditions affecting much of the state. Now that *Mycoplasma ovipneumoniae* has been documented in Unit 213, trapping and translocating animals to reduce densities is currently not recommended. If the herd continues to experience current levels of lamb production and recruitment despite the disease situation, it will be necessary to continue with the newly instituted ewe hunt as a means of limiting animal densities.

Due to reduced production and recruitment rates and the ewe hunt, the current population model for Unit 213 shows a slightly decreasing trend for this herd.

Unit 221: South Egan Range; Lincoln County
Report by: Cooper Munson

Survey Data

No surveys were completed during the reporting period.

Population Status, and Trend

Domestic sheep have been reported, observed, and removed on several occasions from the South Egans. At this point in time, it appears that the population has been essentially lost, despite the presence of a few remaining bighorn sheep. No new bighorn sheep will be released in this area unless the domestic

sheep trailing route is eliminated. Existing survey data cannot provide enough information to make a reasonable population estimate, and this unit will remain closed.

Unit 223, 241: Hiko, Pahroc, and Delamar Ranges; Lincoln County
Report by: Cooper Munson

Survey Data

Aerial surveys were conducted in September 2014 in the 223 and 241 management areas. A relatively high number of bighorn sheep were classified during these flights, consisting of 47 rams, 100 ewes, and 28 lambs. This is the highest number of sheep that have been surveyed in this area.

Habitat

Habitat conditions throughout this area were excellent during September because ample green grasses and other vegetation appeared healthy throughout a range of elevations. Water development surveys show several guzzlers at or near capacity, but a few well below capacity. The Judy water development in the Delamars was rebuilt after being destroyed by fire, while 2 other water developments in the South Hiko Range were rebuilt in 2014. Bighorn sheep in these areas are faced with a host of varied issues including OHV races and rock-crawling courses, new power lines, development, and domestic sheep interaction.

Population Status and Trend

Two bighorn sheep releases were completed in the Delamar and South Pahroc ranges in fall 2011. Seventy-five bighorn sheep were released. These bighorn sheep have been observed to commonly move to adjacent ranges. Bighorn sheep from the South Pahroc release may have moved 60 miles northwest to the Grant-Quinn Range, while others have taken up residency within the 223 and 241 management areas. The computer-generated population estimate for 2015 is similar to the estimate for 2014.

Unit 243: Meadow Valley Mountains; Lincoln County
Report by: Cooper Munson

Survey Data

Aerial surveys were conducted in September 2014 in the Meadow Valley Mountains. The Meadow Valley survey resulted in the classification of 92 sheep, consisting of 24 rams, 52 ewes, and 16 lambs. These numbers provide a ratio of 46 rams:100 ewes:31 lambs. This is a record sample for the Meadow Valleys.

Habitat

According to Community Environmental Monitoring Program, this area should have received about 85% of average annual precipitation during 2014. This area was relatively dry until September when it received a substantial amount of precipitation. Water developments were observed to be holding fair amounts of water in February 2014 and many were replenished by fall precipitation. Wilderness, private land issues, and limited roads combine to make access into the Meadow Valley Range difficult for bighorn sheep hunters.

Population Status and Trend

Recent releases of bighorn sheep into the Meadow Valleys and Delamars, combined with poor to moderate habitat conditions, have resulted in a static trend in the population. Population estimates have been consistent during the last 3 years and the estimate for 2015 is slightly above the 5-year average.

Unit 244: Arrow Canyon Range; Northern Clark County
Report by: Pat Cummings

Survey Data

The last aerial bighorn sheep survey conducted over the Arrow Canyon Range was in September 2014. The aerial survey yielded a sample of 128 bighorn sheep. The observed sex and age ratios were 51 rams:100 ewes:11 lambs. Bighorn sheep were encountered throughout much the Arrow Canyon Range, and nearly all were found within 2 linear miles of available water. The survey sample included 8 rams, 13 ewes, and 7 lambs that were encountered in the adjacent Battleship Hills. The next aerial survey over the Arrow Canyon Range is scheduled for fall 2016.

Habitat

The winter of 2014-2015 was the warmest on record. In mid-March 2015, the National Weather Service issued a graphical depiction of drought status that portrayed the Arrow Canyon Range within a zone of severe drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify.

Notwithstanding drought conditions, the warmest winter on record and a forecast for drought to persist, precipitation in late fall 2014 through the first quarter of 2015 were sufficient to foster new vegetative growth and recharge bighorn sheep water developments. In late February 2015, 4 of the 6 water developments in the Arrow Canyon Range (2) and Battleship Hills (2) were inspected and were nearly or fully recharged.

The southwest end of the Arrow Canyon Range, given close proximity to Las Vegas, continues to attract recreational shooters and recreational vehicle enthusiasts. It appears bighorn sheep tend to avoid the area as result of increased human use and presence. Abutting the southeast end of the range, 3,083 acres in southern Dry Lake Valley were recently designated a Solar Energy Zone (SEZ) under the *Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States* completed in October 2012. The NEPA process is underway, as Nevada Energy proposes to construct up to a 150-MW solar power generating facility. There are additional parcels in the SEZ that can accommodate additional solar projects and other project proponents.

In January 2014, the 231-mile long One Nevada Transmission Line that electrically connects northern and southern Nevada was commissioned. The 500-kV transmission line runs from the Harry Allen Generating Station north through the Arrow Canyon Range about 1.5 miles south of the Arrow Canyon #1 water development. The line continues north closely skirting the west side of the Arrow Canyon Range to the new Robinson Summit Substation located west of Ely, Nevada. The new line will provide transmission access to otherwise isolated renewable energy projects in parts of northern and eastern Nevada.

Population Status and Trend

Presently, the status of the bighorn sheep herd inhabiting the Arrow Canyon Range is not clear. Based on population data collected in September 2014, lamb representation in the aerial survey sample was low and suggestive of reduced recruitment in 2015. It is not apparent that the overall dry conditions in 2014 were a major factor that resulted in low lamb representation since similar data sets collected in adjacent mountain ranges reflected proportionally more lambs.

Mature ram survival rates in the population model were increased for 2 reasons: 1) more mature rams were encountered on the fall 2014 aerial survey than were reflected in the model in August 2014 and 2) an obvious mature ram deficit existed upon reconciling the model and the 2014 ram harvest. The adjustments to mature ram survival resulted in a population increase (male component) beginning in 2008. Although the published 2014 population estimate was 130, the 2015 estimate of 130 actually reflects a modest population decrease since the mature ram component was increased in the several years prior to 2014.

Unit 252: Stonewall Mountain; Nye County
Report by: Tom Donham

Survey Data

NDOW did not conduct an aerial composition survey in Unit 252 during the reporting period. The next aerial composition survey is scheduled to take place in September 2015. The most recent NDOW aerial composition survey took place in early September 2013, when 272 desert bighorn sheep were classified as 73 rams, 153 ewes, and 46 lambs. The survey coverage was limited primarily to the Unit 252 desert bighorn sheep hunt area.

Population Status and Trend

Recently, Stonewall Mountain has seen a steady increase in the desert bighorn sheep population. This increase is likely due to a combination of comparatively good lamb recruitment, as well as the movement of animals into the Stonewall area due to drought conditions affecting more marginal habitats in surrounding areas. Modeling the Stonewall Mountain population is challenging due to the continual movement of desert bighorn sheep between Stonewall Mountain and areas further within the Nevada Test and Training Range (NTTR).

To help decrease densities of desert bighorn sheep in the Stonewall Mountain area, a capture project was conducted in fall 2011. Twenty-eight animals were successfully captured. The first 20 animals captured were transported to the Excelsior Range (Unit 206) where they were successfully released to augment an existing bighorn sheep population. The final 8 animals captured were successfully released in Unit 195, Storey County, as part of a desert bighorn sheep reintroduction effort.

Unfortunately, recent evidence indicates the desert bighorn sheep population residing in and around the NTTR may be experiencing disease issues similar to what is occurring in some surrounding central Nevada desert bighorn sheep herds. While the presence of pathogens found in surrounding herds has not been confirmed in Unit 252, reports of bighorn sheep showing clinical signs of disease were received from bighorn sheep hunters during the November 2014 season. In addition, aerial surveys conducted in several surrounding areas within the NTTR by an environmental contract company indicate that lamb numbers were alarmingly low in 2014 throughout the NTTR. In addition, a recent sample taken from a ram further south within the NTTR tested positive for *Mycoplasma ovipneumoniae*, which has been documented in several herds in central Nevada in the past 2 years.

Currently, NDOW and NTTR personnel are coordinating to conduct further monitoring of the herd. A proposed disease surveillance sampling effort and aerial composition surveys scheduled for this fall should provide addition information on the status of the herd.

Unit 253: Bare Mountain; Southern Nye County
Report by: Pat Cummings

Survey Data

In October 2014, an aerial bighorn sheep survey on Bare Mountain yielded a sample of 265 sheep. The sample was the largest recorded and comprised 73 rams, 125 ewes, and 67 lambs. Bighorn sheep were encountered throughout Bare Mountain, Meiklejohn Peak, and Beatty Mountain.

Habitat

Bighorn sheep inhabiting Bare Mountain continue to endure dry conditions. Scant precipitation receipts have resulted in reduced forage production, and contributed to early drying of Specie Spring. In the last 4 years, precipitation receipts in winter and spring months were insufficient to adequately recharge bighorn sheep

water developments on Bare Mountain. During this time, many bighorn sheep on Bare Mountain frequented and relied on the water available at 2 troughs on the Sterling Gold Mine property.

Environmental conditions in early 2015 are somewhat improved. As of late February 2015, water storage at 3 water developments was 93% of total capacity, up from 30% last year.

In April 2014, rather than undertake a costly aerial water haul operation, temporary water stations were established on the west (CR Reward Corporation Mine) and north (Crowell Mine) sides of Bare Mountain. The water stations entailed situating storage tanks designed with built-in drinkers adjacent to bighorn sheep escape terrain. The water stations were supplied by water tender. Later in the year, bighorn sheep visitation was negligible and that the efforts to augment water availability were largely unsuccessful. If water stations are again deployed in the future, bait (e.g., alfalfa, apple mash) may entice the bighorn sheep to increase visitation.

Bighorn sheep inhabiting Bare Mountain not only cope with lingering drought conditions marked by limited forage production and scarce water resources, but also environmental effects brought about by excess burros. The northern half of Bare Mountain lies within the Bullfrog Herd Management Area. The town of Beatty, Nevada is centrally located within the Herd Management Area (HMA), and US 95 divides the HMA into eastern and western portions. The Bureau of Land Management (BLM) established the appropriate management level (AML) for feral burros in the herd management area (HMA) at 58-91.

In January 2012, BLM finalized planning efforts to capture and remove excess feral burros from the Bullfrog HMA, and all burros beyond the established boundaries of the HMA. At that time, an aerial burro census resulted in 195 feral burros counted, of which 42 were encountered outside of the HMA. Undetected burros notwithstanding, the census over 2 years ago reflected a burro population 236% above the lower end of AML. According to BLM, the burro population of 195 would continue to increase at an estimated rate of 16% annually. The BLM identified the burro gather would begin in March 2012. However, the burro gather was never accomplished and was postponed indefinitely due to lack of funding and limited space at short-term holding facilities. Consequently, the burro population has likely expanded (16% annually) to about 300 in 2015.

In August 2009, the Bureau of Land Management issued a Decision Record approving the Reward Mine project on Bare Mountain. The CR Reward Corporation (CRRC) planned to build an open pit gold mine and heap leach processing facility. CRRC holds claims on an area of approximately 2,006 acres. The project area is located on the west side of Bare Mountain including and surrounding the site of the old Gold Ace Mine. The northern boundary of the project area is within 0.5 mile of the Bare #2 water development. In 2013, CRRC announced indefinite suspension of mine operations.

In April 2013, a fourth water development was constructed on the southwest side of Bare Mountain. The new development incorporated a cross-leveling design (no float valve), a steel collection apron, 5 low profile tanks and an offset steel drinker. The total storage capacity of the new project is about 11,000 gallons. The water development is located 0.5 mile northwest of existing Bare #1, and was originally intended to replace the older and less reliable water development.

Population Status and Trend

The 2015 population estimate for bighorn sheep inhabiting Bare Mountain reflects an increase relative to the estimate reported last year. The population model was adjusted upward to remedy a mid August 2014 ewe deficit relative to the greater number of ewes encountered on the subsequent fall 2014 aerial survey.

In early August 2014, 3.5 months before the bighorn sheep hunt season opened, an individual scouting in the Sterling Mine and Specie Spring areas encountered about 100 bighorn sheep. On 4 separate occasions, he came across bighorn sheep and heard ewes coughing. Based on this information and the general need to broaden the scope of respiratory disease surveillance, 5 bighorn sheep were captured, sampled, and released in mid-October 2014.

Bighorn sheep inhabiting Bare Mountain are likely coping with respiratory disease. Blood and nasal swab samples were shipped to Washington Animal Diagnostic Disease Laboratory (WADDL) for testing. Results by ELISA indicated exposure to at least one strain of *Mycoplasma ovipneumoniae*. In late winter 2015, *Mycoplasma ovipneumoniae* was detected by PCR from a sample obtained from the skull of a ram harvested in the fall 2014 hunt season. Results of strain typing are forthcoming.

In early November 2013, a bighorn sheep capture and removal operation was conducted on Bare Mountain to reduce the population, and to fulfill population augmentation objectives in Mineral County. In the course of a single day, 38 ewes, 8 lambs, and 4 young rams were captured, translocated, and released. Body conditions scores trended notably lower than the scores recorded during the capture operation in fall 2011.

The apparent rapid and substantial herd expansion detected in successive aerial surveys conducted in 2009 and 2011 could not be simulated in the population model. It was reasoned that much of the population expansion was due to ewe and ram ingress from adjacent areas administered by Department of Defense (DOD-Nellis Test and Training Range) and Department of Energy (DOE-Nevada National Security Site). Population expansion in 2012 was primarily attributable to the many lambs encountered during the aerial survey conducted in October 2011.

In November 2011, due to concerns centered on the apparent profound population expansion coupled with dry range conditions, 26 bighorn sheep were captured and translocated to the South Pahroc Range. The capture contingent comprised 20 ewes, 5 lambs, and 1 ram.

Bighorn sheep movements through the Beatty Wash-west Yucca Mountain area serve to maintain connectivity between bighorn sheep on Bare Mountain and bighorn sheep in adjacent mountains on DOD and DOE lands. The area may be characterized as hills bisected by washes. Due to relatively low topographic relief and lack of water, bighorn sheep use of the area is reasoned to be primarily seasonal (late fall-winter-spring). Although the Beatty Wash area is not high quality bighorn sheep habitat, its value as a movement corridor should be recognized in land use planning.

In 2009, the Bureau of Land Management made a land use decision that may jeopardize continued bighorn sheep use of the Beatty Wash-west Yucca Mountain area. The BLM Tonopah Field Station issued a Decision Record that approved what has become the annual off-road, TSCO Vegas to Reno Race. The race attracts over 300 entrants competing in several vehicle classes including: motorcycles, ATVs, UTVs, high clearance SUVs, 4x4 trucks, and dune buggies. The event has been advertised as "The longest off-road race in the United Statees."

NDOW remains concerned the BLM decision process failed to adequately analyze direct, indirect, and cumulative effects of the annual race and newly created thoroughfare. One of the anticipated effects of a race course through the Beatty Burn and Beatty Wash area centers on bighorn sheep avoidance as a result of the route becoming a year-round attractant for casual users of recreational OHVs.

Unit 254: Specter Range; Southern Nye County

Report by: Pat Cummings

Survey Data

No aerial bighorn sheep survey was conducted in the Specter Range in 2014. The last aerial survey was conducted in late September 2010. The brief 2.5-hour aerial survey yielded a sample of 56 bighorn sheep. The sample reflected sex and age ratios of 68 rams:100 ewes:32 lambs. The next aerial survey over the Specter Range is expected to occur in fall 2015.

Habitat

Bighorn sheep inhabiting the Specter Range have endured prolonged dry conditions. Scant precipitation have resulted in reduced forage production and only partial recharge of 6 water developments. Water

development inspections conducted in February 2015 revealed total water storage at the 6 water developments at 72% of capacity. There are no known springs or seeps in the Specter Range.

Several years ago, evidence (i.e., scat) of feral burros was encountered in the western portion of the Specter Range. Subsequently, in the course of conducting water development inspections in February 2011, NDOW personnel observed 6 feral burros 1 mile southwest of Specter #4 (Redtail). These animals may have ventured south over 30 miles from the Bullfrog Herd Management Area. Burros moved south from the Herd Management Area (HMA) to access the pond at the Sterling Gold Mine and further south to access the Cinder Cone Pit. Google Imagery portrays burro trails that link the pond at the Sterling Gold Mine to Cinder Cone Pit along US 95 and intermittent trail segments that reach and emanate from Lathrop Wells. Trails may be discerned linking Lathrop Wells and the Striped Hills (western extent of the Specter Range).

In 2011, the BLM Tonopah Field Office was notified of burro ingress to the Specter Range. Later in 2011, BLM issued a draft Bullfrog HMA feral burro gather plan and Environmental Assessment (EA). The final gather plan, EA, and Decision Record were issued in January 2012. The BLM identified the burro gather would begin in March 2012 and cited as high priority the capture and removal of burros outside the HMA boundary. The burro gather was never accomplished and was postponed indefinitely due to lack of funding and limited space at short-term holding facilities.

In February 2008, the Eagle Basin water development in the Specter Range was upgraded. The water storage capacity of the new, cross-leveling system was expanded from 6,900 gallons to more than 9,000 gallons.

Population Status and Trend

In the Specter Range, events beginning as early as fall 2002 indicated the population was suffering from disease. Available evidence suggested bacterial pneumonia may have been a factor in high mortality among lambs. Recruitment during 6 consecutive years (2002-2007) was low to negligible. In spring 2008, several observations were made of ewes with lambs. Remote cameras installed at water developments in late spring and summer documented lamb survival through summer 2008. Lamb survival was further noted in the subsequent aerial surveys conducted in 2008 and 2010.

Although the Specter Range bighorn sheep population appears to be no longer on a downward trend, successive years of poor lamb recruitment have resulted in comparatively fewer rams in older age cohorts. The bighorn sheep population estimate is about the same as last year.

The last aerial bighorn sheep survey over the Specter Range was conducted in fall 2010. Completion of an aerial survey in fall 2015 is a priority to accurately assess current bighorn sheep population status.

Unit 261: Last Chance Range; Southeastern Nye County

Report by: Pat Cummings

Survey Data

In mid-October 2015, an aerial survey yielded a sample of 129 bighorn sheep. The sample reflected sex and age ratios of 55 rams:100 ewes:37 lambs. The majority of the bighorn sheep encountered during the 5.3-hour survey were on the 4 major mountains that include developed water sources.

Habitat

Range conditions in the Last Chance Range may be characterized as fair. Based on inspections of the 7 water developments in the Last Chance Range in February 2015, the collective amount of stored water leading into the spring and summer months amounted to about 64% of capacity. The inspections also revealed universally heavy bighorn sheep use of the water developments during summer 2014.

A consequence of the expanding human population in the Pahrump Valley is habitat degradation resulting from dispersed recreational use of OHVs and permitted OHV races.

Population Status and Trend

The 2015 population estimate for bighorn sheep inhabiting the Last Chance Range is similar to that reported last year. Recent population estimates reflect a sharp increase relative to 120 reported in 2009. The higher population estimate is consistent with fall 2009 and 2011 aerial survey sample sizes and sex and age classifications. However, in that the apparent scale and abruptness of the expansion could not be simulated in the population model, it was postulated that there was ingress of ewes and older age-class rams from adjacent ranges. Nearby areas from which sheep may have originated include: Nopah Range, Resting Spring Range, Funeral Mountains, and Spring Mountains.

Bighorn sheep inhabiting the Last Chance Range are likely suffering from respiratory disease. In furtherance of respiratory disease surveillance, 5 bighorn sheep were captured in the central portion of the Last Chance Range, sampled, and released in mid-October 2014. Blood and nasal swab samples were shipped to Washington Animal Diagnostic Disease Laboratory (WADDL) for testing. Results from ELISA and nasal swab PCR indicated at least one strain of *Mycoplasma ovipneumoniae* was detected. Results of strain typing are forthcoming. It is anticipated that more than a single *Mycoplasma ovipneumoniae* strain will be detected over time in bighorn sheep that inhabit the Last Chance Range given the proximity to bighorn sheep herds in nearby mountain ranges (California) that may be potential reservoirs of different *Mycoplasma ovipneumoniae* strains.

Unit 262: Spring Mountains (La Madre, Red Rock and South Spring Mountains) and Bird Spring Range; Western Clark County

Report by: Pat Cummings

Survey Data

No aerial bighorn sheep survey was conducted in Unit 262 in 2014. Extensive aerial bighorn sheep surveys were conducted in 2013 and 2014 due to concerns related to low observed lamb ratios in 2010 and 2012 and reports beginning in spring 2011 of sick animals on the north end of the Red Rock Escarpment.

In 2013, aerial survey efforts included 23.4 hours of flight time and were focused over the following areas: La Madre Mountain, Brownstone Basin, Calico Hills, Red Rock Escarpment, Potosi Mountain (east and south), Bird Spring Range, Shenandoah Peak complex, Table Mountain, Little Devil Peak, and Devil Peak. The survey yielded a sample of 216 bighorn sheep. The observed sex and age ratios were 60 rams:100 ewes:30 lambs. In October 2012, aerial survey efforts required 16.5 hours and yielded the largest sample recorded. The sample of 235 sheep reflected sex and age ratios of 41 rams:100 ewes:22 lambs.

Habitat

Unit 262 tends to receive more precipitation than most other areas in Clark County. Bighorn sheep generally benefit from adequate range conditions on a consistent basis; however, due to proximity to Las Vegas, recreational pursuits (e.g., OHV and mountain bike use, proliferation of roads and trails, rock climbing), feral horses and burros, and suburban sprawl serve to degrade habitat.

On 22 June 2005, lightning strikes in the higher elevations near Potosi Peak ignited the Goodsprings Fire. The heavy accumulation of fine fuels coupled with high winds allowed the fire to spread along ridgelines and ultimately consume vegetation across 33,484 acres. The Goodsprings Fire consumed plants within 3 vegetative associations: creosote-bursage flats, Mojave Desert scrub, and pinyon-juniper woodland along a 3,940 foot elevation gradient. Landmark areas within the Goodsprings Fire included: northern portion of the Bird Springs Range; eastern portion of Cottonwood Valley, northern portion of Goodsprings Valley, eastern and southern Potosi Mountain, and Shenandoah Peak. Severely and extensively burned areas with little to no remaining vegetation included: northern portion of Goodsprings Valley, Double Up Mine canyon, Cave

Spring canyon, and Shenandoah Peak. Areas burned that contained a few small mosaics of remaining vegetation included: the northern portion of the Bird Spring Range, Ninety-nine Spring canyon, and areas southwest, south, and east of Shenandoah Peak. In addition, vegetation associated with approximately 3 springs and numerous wash complexes were impacted by fire.

Population Status and Trend

In September 2010, aerial bighorn sheep surveys detected low lamb representation in population segments inhabiting La Madre Mountain, Brownstone Basin, Calico Hills and the Red Rock Escarpment. Beginning in spring 2011, reports of adult bighorn sheep coughing and sneezing were received from people recreating along the lower elevations of the north portion of the Red Rock Escarpment.

In May 2011, 7 penned domestic sheep were located on a private parcel in Calico Basin. The small rural community in Calico Basin is nestled within bighorn sheep habitat. The community lies below red sandstone ridges and cliffs that characterize Red Rock Canyon. The distance from bighorn sheep escape terrain and the penned domestic sheep was about 100 yards. Nose-to-nose contact between bighorn sheep and domestic sheep was possible.

In 2012, aerial bighorn sheep surveys conducted north of State Route 160 detected few lambs (11 lambs per 100 ewes) in the population, while population data collected south of the highway detected higher lamb recruitment (42 lambs per 100 ewes).

The most extensive aerial bighorn sheep survey conducted in Unit 262 to date was accomplished in fall 2013. The 2013 survey detected greater lamb representation in the population. Overall, the fall 2013 population data measured 30 lambs per 100 ewes. North of State Route 160, the lamb ratio was 29 per100 ewes; south of State Route 160, the lamb ratio was 31 per 100 ewes.

In early November 2013, in response to reports of sick bighorn sheep and aerial survey results, NDOW undertook disease surveillance in the Spring Mountains and the Bird Spring Range. Thirteen bighorn sheep were captured, sampled (i.e., blood, nasal swabs), and released. Eight bighorn sheep were sampled south of State Route 160 inclusive of the Bird Spring Range and 5 sheep were sampled north of the highway. On the south end of the Red Rock Escarpment, 2 animals were fitted with satellite GPS telemetry radiocollars and released.

Diagnostic results demonstrated that a proportion of sampled bighorn sheep inhabiting the Spring Mountains and Bird Spring Range tested positive for 2 strains of *Mycoplasma ovipneumoniae*. A proportion of the sampled individuals tested positive for the strain detected in bighorn sheep herds occupying the McCullough Range, River Mountains, and Eldorado Mountains. The results also confirmed a second strain of *Mycoplasma ovipneumoniae* in common with bighorn sheep populations on the Mojave National Preserve. In the near term, efforts to better assess the status of the bighorn sheep population should include additional extensive aerial surveys and periodic captures and physical examinations of bighorn sheep.

In mid-October 2014, continued disease surveillance measures entailed captures of 4 rams and 2 ewes in the south Spring Mountains. Two rams were fitted with satellite GPS radiocollars.

Desert bighorn sheep in the Spring Mountains face challenges with respect to habitat degradation, fragmentation, and loss. In the La Madre Ridge area, human encroachment in the form of suburban sprawl and OHV use has degraded bighorn sheep habitat. Increasingly, land management emphasis in the Red Rock area accommodates human recreational pursuits that often compromise habitat and wildlife conservation. Future large-scale projects include an upgrade of the Sandy Valley Road and likely development of a wind-energy power generation plant in the Table Mountain area.

In the late 1990s, the Las Vegas District Bureau of Land Management administratively designated a large area (approximately 3,641 acres) east of La Madre Ridge as the Lone Mountain Community Pit (LMCP). The intent of the designation was to accommodate local demand for an additional source of sand and gravel to

support development in Southern Nevada. In the 1960s, BLM identified much of the area now within the boundary of LMCP as seasonally important for bighorn sheep.

Unit 263: McCullough Range and Highland Range; Southern Clark County

Report by: Pat Cummings

Survey Data

No aerial bighorn sheep survey was conducted in Unit 263 in 2014. In October 2013, aerial bighorn sheep surveys were conducted in the Highland Range and McCullough Range. In the Highland Range, 5 rams, 14 ewes and 6 lambs were encountered. In the McCullough Range, 274 sheep were classified with sex and age ratios of 52 rams:100 ewes:15 lambs. Bighorn sheep were encountered on the prominent ridge south of Railroad Pass, the hills south and west of the Blue Quartz Mine, the north end of the range, near Roy and Linda water developments, and north and south of McCullough Pass.

Habitat

On 21 March 2015, a fifth bighorn sheep water development was constructed in the McCullough range by members of the Fraternity of the Desert Bighorn and NDOW personnel. The project is situated east of Hidden Valley near the crest of the range, and enhances water availability in a region between the 2 southernmost existing water developments, Linda and Roy. The McCullough #6 water development is an equilibrium system (i.e., no float valve) and incorporates 4 low profile IRM tanks (manufactured by Innovative Rotational Molding). Water storage capacity of the new development is 8,800 gallons. In late April 2015, the McCullough #5 water development is scheduled to be constructed between the 2 existing northeastern most projects, Penny and Roy. By the end of spring 2015, there will be 6 bighorn sheep water developments situated north of McCullough Pass.

In February 2013, the Poppy water development was reconstructed. Situated in the North McCullough Wilderness, the existing 3 upright poly tanks were replaced with low profile IRM tanks. The old drinker and float valve were replaced with a new drinker to complete the leveled system. Water storage capacity increased from 4,650 gallons to 8,800 gallons.

Several projects to construct recreation trails in bighorn sheep habitat are underway or completed. The City of Henderson is constructing trails on the north end of the McCullough Range, and BLM will ultimately complete a network of linking trails in Sloan Canyon National Conservation Area and in 2 wilderness areas.

The Record of Decision for the Eldorado-Ivanpah Transmission Line Project was signed in May 2011. Southern California Edison recently constructed a new 230-kV transmission line through north McCullough Pass that now links the Eldorado Substation and the Ivanpah Substation near Mountain Pass in California.

Population Status and Trend

In 2012, aerial bighorn sheep surveys conducted in the northern half of the McCullough Range detected few lambs in the population. Subsequently, 3 bighorn sheep hunters and a guide reported a large number bighorn mortalities during the 2012 hunt season. One tagholder reported several dead lambs unrelated to predation. Two hunters noted bighorn sheep that seemed sick (e.g., coughing, running noses, excessive licking). A master guide familiar with Unit 263 reported that there were fewer bighorn sheep in the McCullough Range.

In December 2012 and January 2013, ground-based efforts to assess bighorn sheep herd health status through use of optics failed to detect clinically sick animals. However, remains of several adult bighorn sheep were located. Similar to accounts from bighorn sheep hunters, the remains suggest the bighorn sheep died in the latter half of 2011. However, aerial survey data from September 2011 were consistent with expectations, and no hunters in 2011 reported excessive mortalities or sick animals.

In early November 2013, in response to reports of sick bighorn sheep and a large number of skeletal remains coupled with reduced aerial survey results, NDOW undertook disease surveillance measures in the McCullough Range. Ten bighorn sheep were captured, sampled (i.e., blood, nasal swabs), and released. Animals were captured and sampled north and south of McCullough Pass. In the McCullough Pass area, two animals were fitted with satellite GPS telemetry radiocollars and released.

Diagnostic results demonstrated that a proportion of sampled bighorn sheep inhabiting the McCullough Range tested positive for *Mycoplasma ovipneumoniae*. The results also indicated some of the sampled sheep in the River Mountains, Eldorado Mountains, and Spring Mountains tested positive for the same strain of *Mycoplasma ovipneumoniae.* Tests further revealed a separate strain of *Mycoplasma ovipneumoniae* recently detected in bighorn sheep in the McCullough Range is not the same strain found in sheep on the Mojave National Preserve. In the near term, efforts to better assess the status of the population should include additional aerial surveys and periodic captures and physical examinations of sheep.

Cumulatively, 58 bighorn sheep removed between the first and last capture and removal of bighorn sheep from the McCullough Range in October 2003 and November 2008 is 58, including 50 ewes and 8 lambs (6 male, 2 female).

Bighorn sheep in the northern portion of the McCullough Range face a variety of challenges in the near future. On the west flank of the range, suburban sprawl and flood control measures have already claimed much of the lower elevation habitat. To the north, the movement corridor between the River Mountains and the McCullough Range across US 93/95 at Railroad Pass has been effectively eliminated. Additional urban sprawl southward along I-15 is expected to degrade bighorn sheep habitat in the Hidden Valley area.

Unit 264: Newberry Mountains; Southern Clark County

Report by: Pat Cummings

Seasons and Hunt Quotas

Units 264 and 265 (South Eldorado Mountains) have constituted a bighorn sheep hunt unit group since 1998.

Survey Data

No aerial bighorn sheep survey was conducted over the Newberry Mountains in 2014. In October 2012, an aerial bighorn sheep survey in the Newberry Mountains yielded the highest recorded sample yet, and surpassed the previous record survey obtained in 2010 (Table 1). The next aerial survey over the Newberry Mountains is scheduled for fall 2015.

Habitat

The Record of Decision for the Searchlight Wind Energy Project was signed by the Secretary of the U.S. Department of Interior in March 2013. The Searchlight Wind Energy, LLC facility is the second wind energy project approved for construction on public lands in Nevada. The 200-megawatt (MW) project entails construction, operation, and maintenance of 87 2.3-MW Siemens wind turbines. The project is situated northeast, east, and southeast of Searchlight atop ridgelines that link bighorn sheep movements between south Eldorado Mountains and Newberry Mountains. Area disturbance will include 27.3 miles of new roads and about 230 acres for construction of facilities. Wind turbine generators (WTG) will be sited about 750 feet apart and arranged in linear strings. The WTGs would have maximum height of up to 427.5 feet with 3 mounted rotor blades, each 165 feet in length.

Presently, the Searchlight Wind Energy Project is stalled in U.S. District Court in Reno, as legal proceedings progress.

NDOW is concerned that bighorn sheep habitat occupation and movements may be influenced by construction and operation of turbine structures and new roads. New structures, roads, and increased

human presence may effectively serve as a barrier that suppresses or eliminates connectivity between populations of bighorn sheep in the Newberry Mountains and Eldorado Mountains.

Table 1. Bighorn sheep herd composition obtained through aerial surveys in the Newberry Mountains.

Year	Rams	Ewes	Lambs	Total	Rams:100 Ewes:Lambs
2012	40	65	23	128	62:100:35
2010	34	54	11	99	63:100:20
2008	23	17	11	51	135:100:65
2006	22	19	4	45	116:100:21
2003	11	16	14	41	69:100:88
2000	12	18	5	35	67:100:28
1998	7	13	11	31	54:100:85
1996	6	11	4	21	55:100:36
1994	3	6	0	9	50:100:0

Population Status and Trend

The population estimate for bighorn sheep inhabiting the Newberry Mountains remains unchanged from last year, as no current aerial survey data are available. In view of pneumonia epizootics elsewhere and despite verbal accounts from 2 hunters that encountered coughing sheep in the Newberry Mountains, there are no health assessment data that confirm detection of pathogenic bacteria at this time.

Unit 265: South Eldorado Mountains; Southeastern Clark County

Report by: Pat Cummings

Seasons and Hunt Quotas

Units 264 and 265 have constituted a bighorn sheep hunt unit group since 1998.

Survey Data

No aerial survey was conducted in the southern portion of the Eldorado Mountains in 2014. In October 2010, 19 rams, 9 ewes, and 1 lamb were observed during a 2.4-hour survey (Table 2). The next aerial bighorn sheep survey in the south Eldorado Mountains is scheduled for fall 2015.

Table 2. Bighorn sheep herd composition obtained through aerial surveys in the south Eldorado Mountains.

Year	Rams	Ewes	Lambs	Total	Rams:100 Ewes:Lambs
2010	19	9	1	29	211:100:11
2003	2	6	4	12	33:100:67
2002	3	2	2	7	150:100:100
1998	14	3	1	18	467:100:33
1996	19	14	5	38	136:100:36
1994	1	5	3	9	20:100:60
1992	3	1	0	4	300:100:0

Since 1969, survey sample sizes have varied widely; samples have ranged from 0 to 50 animals. In some years, aerial survey data portray a disproportionate number of rams in the unit. In many of the 21 aerial

surveys conducted since 1969, the number of rams observed either equaled or far exceeded the number of ewes.

Habitat

The Record of Decision for the Searchlight Wind Energy Project was signed by the Secretary of the U.S. Department of Interior in March 2013. The Searchlight Wind Energy, LLC facility is the second wind energy project approved for construction on public lands in Nevada. The 200-megawatt (MW) project entails construction, operation, and maintenance of 87 2.3-MW Siemens wind turbines. The project is situated northeast, east, and southeast of Searchlight atop ridgelines that link bighorn sheep movements between south Eldorado Mountains and Newberry Mountains. Area disturbance will include 27.3 miles of new roads and about 230 acres for construction of facilities. Wind turbine generators (WTG) will be sited about 750 feet apart and arranged in linear strings. The WTGs would have maximum height of up to 427.5 feet with 3 mounted rotor blades, each 165 feet in length.

Presently, the Searchlight Wind Energy Project is stalled in U.S. District Court in Reno, as legal proceedings progress.

NDOW is concerned that bighorn sheep habitat occupation and movements may be influenced by construction and operation of turbine structures and new roads. New structures, roads, and increased human presence may effectively serve as a barrier that suppresses or eliminates connectivity between populations of bighorn sheep in the Newberry Mountains and Eldorado Mountains.

Population Status and Trend

In early September 2013, given concerns that pathogenic bacteria were associated with or causing pneumonia in bighorn sheep inhabiting the River Mountains, a female lamb exhibiting coughing and nasal discharge was chemically immobilized in Hemenway Park, Boulder City. The lamb was subsequently euthanized and necropsied. Through necropsy and diagnostic tests, it was confirmed the bighorn sheep lamb had pneumonia and was positive for *Mycoplasma ovipneumoniae*. Bighorn sheep in the River Mountains often cross US 93 and move into the Eldorado Mountains. The respiratory disease confirmed in the lamb from the River Mountains coupled with aerial survey results prompted concerns about the health status of bighorn sheep in the Eldorado Mountains.

In early November 2013, NDOW undertook disease surveillance measures in the Eldorado Mountains. Nine bighorn sheep were captured, sampled (i.e., blood, nasal swabs), and released. A tenth sheep, a lamb, was captured, euthanized, and subsequently necropsied. Diagnostic results demonstrated that a proportion of sampled bighorn sheep inhabiting the Eldorado Mountains tested positive for *Mycoplasma ovipneumoniae*. Furthermore, it was subsequently confirmed the necropsied lamb had pneumonia and was positive for *Mycoplasma ovipneumoniae*. The results also indicated some of the sampled bighorn sheep in the River Mountains, McCullough Range, and Spring Mountains tested positive for the same strain of *Mycoplasma ovipneumoniae.* Tests further revealed the strain of *Mycoplasma ovipneumoniae* recently detected in bighorn sheep in the Eldorado Mountains is not the same strain found in sheep on the Mojave National Preserve. In the near term, efforts to better assess the status of the population should include additional aerial surveys and periodic bighorn sheep captures and physical examinations.

The southern Eldorado Mountains support a low-density resident bighorn sheep herd, as well as a fall migrant segment from the northern portion of the range. The 2015 population estimate for the herd inhabiting the entire Eldorado Mountains (Units 265 and 266) remains unchanged from the estimate reported last year.

Unit 266: North Eldorado Mountains; Southeastern Clark County
Report by: Pat Cummings

Survey Data

In October 2014, a 2.8-hour aerial survey was conducted over the northern end of the Eldorado Mountains to assess bighorn sheep distribution in advance of a mid-January 2015 capture operation. The survey was directed over and near the Boulder City Bypass Phase 2 project area. The short survey yielded a sample of 45 bighorn sheep. The sample comprised 6 rams, 25 ewes, and 14 lambs.

In October 2013, an aerial survey conducted over the north Eldorado Mountains yielded a sample of 75 bighorn sheep. The observed sex and age ratios were 41 rams:100 ewes:12 lambs. As was the case in 2012, bighorn sheep encountered during the aerial survey did not exhibit startle responses (i.e., fleeing). Upon initial detections, bighorn sheep were standing or lying down. Bighorn sheep may have become habituated to the consistent outbound and inbound tour helicopters that originate out of the Boulder City Airport enroute to the Grand Canyon. In that motionless animals are difficult to detect, it is anticipated there will be that added challenge in conducting future aerial surveys.

In late September 2011, an aerial survey yielded a sample of 75 bighorn sheep. The observed sex and age ratios were 81 rams:100 ewes:53 lambs.

Habitat

The bighorn sheep herd in the Eldorado Mountains has and will continue to face challenges. Two massive highway projects are intended to divert traffic from Hoover Dam and Boulder City. The Hoover Dam Bypass Bridge and new U.S. 93 alignment was opened to traffic in October 2010. The new bridge spans the Colorado River approximately 1,500 feet downstream of the dam.

The second bypass project is designated Interstate 11 (I-11) and will run around the south and east sides of Boulder City and link with the already completed western end of the U.S. 93 Hoover Dam Bypass project. Thus, Phase 2 of the Boulder City Bypass will carve through bighorn sheep habitat in the northwest portion of the Eldorado Mountains. Several federal and state agencies are involved in and coordinating on numerous design and construction aspects including wildlife monitoring. The new alignment once completed, will incorporate several crossing structures to accommodate wildlife movements and enhance highway permeability. Groundbreaking for Phase 2 is slated for early April 2015.

In mid January 2015, 25 bighorn sheep were captured in and near the Phase 2 project area. The primary intent of the bighorn capture operation was to affix satellite GPS collars on ewes and rams to assess movements and measure bighorn permeability across the highway during construction and following construction.

Population Status and Trend

See the Unit 265 report's Population Status and Trend section (first 2 paragraphs) for details on disease detection and surveillance in both the North and South Eldorado Mountains.

The 2015 population estimate for the herd inhabiting the entire Eldorado Mountains (Units 265 and 266) approximates the estimate reported last year. The modeled population decline in 2013 and 2014 was an attempt to account for substantially reduced lamb recruitment in those years.

Unit 267: Black Mountains; Eastern Clark County
Report by: Pat Cummings

Survey Data

In early October 2014, an aerial survey conducted over the Black Mountains yielded a sample of 167 bighorn sheep. The observed sex and age ratios were 48 rams:100 ewes:15 lambs. Bighorn sheep were encountered from Echo Bay south to Manganese Wash, along the high main ridge northeast of Boulder Wash, Pinto Ridge, and the Echo Hills. In late October 2013, an aerial survey conducted over the Black Mountains yielded a sample of 284 bighorn sheep. The observed sex and age ratios were 35 rams:100 ewes:41 lambs. The 2013 survey sample was the largest recorded since 1988.

Habitat

The winter of 2014-2015 was the warmest on record. In mid-March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Black Mountains within a zone of moderate drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify. Notwithstanding drought conditions, the warmest winter on record, and a forecast for drought to persist, precipitation in late fall 2014 through the first quarter of 2015 were sufficient to spur new vegetative growth in forage species.

Population Status and Trend

Desert bighorn sheep occupying the Black Mountains and Muddy Mountains comprise a single population given the high degree of movement between ranges. However, environmental conditions and local population dynamics have differed markedly. Over the long term, aerial survey data portray a decline in the number of bighorn sheep inhabiting the Black Mountains and an increase in sheep numbers in the adjacent Muddy Mountains. The bighorn sheep population inhabiting the Black Mountains and Muddy Mountains expanded in 2012 and 2014 due to high lamb recruitment. The 2015 population estimate for bighorn sheep inhabiting the Black Mountains and Muddy Mountains is unchanged from the estimate reported last year.

Unit 268: Muddy Mountains; Clark County
Report by: Pat Cummings

Hunt Results

On 5 October 2014, the inaugural hunt season opened for desert bighorn ewes. Twenty tags were allotted in the 21-day season. Four hunters did not hunt, and 2 were unsuccessful after hunting 3 and 5 days. Successful hunters hunted from 1 to 6 days, and the average hunt duration was just over 2 days.

Survey Data

In October 2014, 8.4 hours of flight time were expended to conduct an aerial bighorn sheep survey over the Muddy Mountains. The survey yielded a sample of 486 bighorn sheep, of which 3 were unclassified. The observed sex and age ratios were 100 rams:100 ewes:60 lambs. Bighorn sheep were widely distributed and encountered throughout much of the survey. The survey was undertaken over the course of 2 days and commenced over Muddy Peak.

Habitat

The winter of 2014-2015 was the warmest on record. In mid-March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Muddy Mountains within a zone of moderate drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify. Notwithstanding drought conditions, the warmest winter on record, and a forecast for drought to persist, precipitation in late fall

2014 through the first quarter of 2015 were sufficient to not only spur new vegetative growth in forage species, but also recharge bighorn sheep water developments. In late February 2015, all 6 water developments in the Muddy Mountains were inspected, and viewed collectively, the current water store was at 88% of storage capacity.

Water availability on Muddy Peak may become critical as ambient temperatures climb in the upcoming summer months. The 2 water developments on the south end of Muddy Peak were only partially recharged. Jerry was found to be nearly dry (7% charged), while Safari was noted to be closer to full (76% charged). Both developments may be depleted by the end of June and prior to the onset of potential monsoonal activity.

In April 2014, rather than undertake a costly aerial water haul operation, temporary water stations were established in Second Day Canyon and south of the mouth of Monocline Valley. The water stations entailed situating storage tanks designed with built-in drinkers adjacent to bighorn sheep escape terrain. The water stations were supplied by water tender. Later in the year, it was determined bighorn sheep visitation was negligible and that the efforts to augment water availability were largely unsuccessful. Use of supplemental baits, like alfalfa, may entice bighorn sheep into the area should we attempt this strategy again.

In March 2013, the Cliff Site water development was reconstructed. The hypalon apron was replaced with a metal apron, and the 4 upright poly tanks were replaced with low profile IRM tanks. The 2 old drinkers and float valves were replaced with a new drinker to complete the leveled system. Water storage capacity was increased from 7,800 gallons to 8,800 gallons.

In late March 2012, the Five Ram water development was upgraded. Notably, the project was fully converted to a leveled system. Thus, the float valve was eliminated. The upgrade also entailed removal of 3 aged, high profile poly tanks and installation of 5 new, low profile tanks and a drinker. The upgrade augmented the water storage capacity from roughly 10,350 gallons to about 13,600 gallons.

Population Status and Trend

In mid-October 2014, in advance of a capture and translocation operation, 20 bighorn sheep were captured, sampled, and released to conduct respiratory disease surveillance consistent with protocols for bighorn sheep movement developed by the WAFWA Wildlife Health Committee (WHC). The 20 bighorn sheep comprised 5 rams and 15 ewes. Nine ewes were fitted with conventional VHF radiotelemetry collars so that they may be located for future capture and sampling. Because testing failed to detect *Mycoplasma ovipneumoniae* in the bighorn sheep, planning proceeded for a early November 2014 bighorn sheep capture to accommodate the request from Utah Division of Wildlife Resources (UDWR).

Over the course of 2 days in early November 2014, 76 bighorn sheep was captured and ferried to a base of operations situated at a group use area (Beehives) in Valley of Fire State Park. A ewe and a young ram died from capture related trauma, and a female lamb that sustained an eye injury was released back into the Muddy Mountains. Two ewes transported to Utah did not satisfactorily pass the screening test for *Brucella ovis*, and were returned to Nevada and released in the Muddy Mountains. Biologists with UDWR released 71 bighorn sheep comprised of 47 ewes, 12 lambs, and 12 rams into the Grand Staircase-Escalante National Monument in southern Utah.

In early November 2013, a bighorn sheep capture and removal operation was conducted in the Muddy Mountains to reduce the population, and to accommodate the request for bighorn sheep from Utah Division of Wildlife Resources (UDWR). In the course of 2 days, 40 ewes, 7 lambs, and 3 young rams were captured and furnished to UDWR. One ewe was necessarily euthanized due to capture related injuries. The 49 sheep were released in the Glen Canyon National Recreation Area.

In early November 2012, a bighorn sheep capture removed 18 ewes, 4 lambs, and 3 18-month-old rams for the UDWR. The sheep were released in the south-central portion of the Kaiparowits Plateau north of Lake Powell. In late October and early November 2011, a bighorn sheep capture removed 50 bighorn sheep over 2

days for augmentations of herds inhabiting the Delamar Mountains and Meadow Valley Mountains. In early November 2009, 19 ewes and 1 lamb were captured and furnished to UDWR. The sheep were released into the Grand Staircase-Escalante National Monument.

Unit 271: Mormon Mountains; Lincoln County
Report by: Cooper Munson

Survey Data

Two hundred and seventy bighorn sheep were classified during the Mormon Mountains survey, consisting of 86 rams, 151 ewes, and 33 lambs. These numbers provide a ratio of 57 rams:100 ewes:22 lambs. The total represents the third highest sample ever obtained from the Mormon Mountains and the highest sample obtained since 1993.

Habitat

Habitat conditions in the Mormon Mountains were fair early in 2014, but quickly improved in late summer and early fall due to late precipitation events. Three of the 5 water developments appeared to be holding reasonable amounts of water as of February 2014. All 5 water developments are in need of upgrades but are still being used. Bighorn sheep seem to prefer some of the areas that have burned within the last decade that are showing signs of vegetation regeneration. According to the US Drought Monitor, the US Seasonal Drought Outlook is predicting that the drought conditions in this area will persist or intensify.

Population Status, and Trend

The Mormon Mountains bighorn sheep population appears to be stable and healthy at this point. Following a run of static population growth, the 2015 population estimate is showing an upward trend from previous years.

Unit 272: Virgin Mountains and Gold Butte; Northeastern Clark County
Report by: Pat Cummings

Survey Data

No aerial bighorn sheep survey was conducted in Unit 272 in 2014. In late September 2011, an aerial survey was conducted over the southern portion of the Virgin Mountains, Whitney Ridge, Bitter Ridge, Lime Ridge, Tramp Ridge, Iceberg Canyon, Indian Hills, and The Cockscomb (Arizona). The survey yielded a sample of 11 rams, 11 ewes, and 5 lambs. The next aerial bighorn sheep survey over portions of Unit 272 is expected to occur in fall 2015.

Habitat

The winter of 2014-2015 was the warmest on record. In mid March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Virgin Mountains and Gold Butte within a zone of moderate drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify.

Despite a forecast for drought to persist, precipitation in late fall 2014 through the first quarter of 2015 were sufficient to spur new vegetative growth in forage species and recharge bighorn sheep water developments. In late February 2015, 2 water developments in the Virgin Mountains were inspected and both were fully recharged.

In May 2010, reconditioning of structures and components of the spring development at New Spring was completed. The restoration was a collaborative effort between BLM, Fraternity of the Desert Bighorn, and NDOW. Historically, New Spring was an important water source for wildlife and livestock. In 2000, water

was no longer available in the cement trough. In May 2004, the Virgin #1 water development was constructed northwest of Whitney Pocket to enhance habitat prior to the bighorn sheep release (augmentation) that occurred in October 2005. On 18 March 2006, Virgin #2 was constructed north of Whitney Pocket.

In July 2006, lightning strikes ignited 4 wildland fires in the southern portion of the Virgin Mountains. The Whitney Pass Fire consumed vegetation across 230 acres on the northeast end of Whitney Ridge. The Virgin Gold Fire burned to within yards of the Virgin #2 water development before a slurry drop extinguished the fire. The Virgin Gold Fire consumed mid-elevation (Mojave Desert Scrub) and upper-elevation (pinyon-juniper woodland) vegetation across 2,700 acres. At its northern point, the Virgin Gold Fire burned to within 0.5 miles of the Virgin #1 water development. The Jeep Fire occurred northeast of the Virgin #1 water development in the vicinity of the Virgin Gold Fire and consumed vegetation over 196 acres. East of the Key West Mine, the Double Nickel Fire consumed vegetation across 523 acres.

In late June 2005, lightning strikes in the Gold Buttes ignited the Fork Fire and Tramp Fire. Landmarks within the burned areas included: Tramp Ridge, Gold Butte, Mica Peak, Cedar Basin, Jumbo Peak, Jumbo Basin, Anderson Ridge, Rattlesnake Peak, Garnet Valley, and the north face of Bonelli Peak. Burned-over areas that included Tramp Ridge, Gold Butte, Cedar Basin, and Mica Peak had a few remaining small mosaics of vegetation. Areas marked by little to no remaining vegetation included Jumbo Peak, Jumbo Basin, Anderson Ridge, Rattlesnake Peak, Garnet Valley, and the north face of Bonelli Peak. In addition, vegetation associated with about 11 springs and at least 7 wash complexes were affected by fire. The Fork Fire consumed plants over 44,314 acres along a 3,300-foot elevation gradient (2,460-5,760 feet) within 3 vegetative associations: creosote-bursage flats, Mojave Desert Scrub, and pinyon-juniper woodland. The Tramp fire consumed vegetation over 26,817 acres.

Population Status and Trend

On 30 October 2011, 17 bighorn sheep trapped in the River Mountains were released from the Old Gold Butte Road midway along the east side of Lime Ridge. The release comprised 12 ewes, 2 male lambs, and 3 young rams.

Bighorn sheep were released in the Virgin Mountains and Gold Buttes to fulfill population augmentation objectives as early as 1979. Since then, about 182 sheep from 4 source populations comprised 10 release contingents.

Monitoring efforts in past years have revealed that some of the ewes released in the Virgin Mountains have dispersed. Several ewes released in the Virgin Mountains have created home ranges in the northern portion of the Gold Buttes. Much of the precipitous bighorn sheep habitat in the Gold Buttes consists of ridges interspersed by areas of moderate terrain. Bighorn sheep released in the Virgin Mountains and Gold Buttes since 2005 have inhabited the south Virgin Mountains, Whitney Ridge, Lime Ridge, Tramp Ridge, Bitter Ridge, and the Cockscomb (Arizona). Presently, information remains lacking on the distribution and abundance of bighorn sheep in Iceberg Canyon, Indian Hills, and Azure Ridge. The 2015 population estimate for bighorn sheep inhabiting the Virgin Mountains and Gold Buttes is similar to last year. The health status of the herd with respect to possible *Mycoplasma ovipneumoniae* infection is unknown.

Unit 280: Spotted Range; Northwestern Clark County

Report by: Pat Cummings

Survey Data

In September 2014, a 3.9-hour aerial survey yielded a sample of 103 bighorn sheep. The sample was the largest ever recorded. Eleven additional sheep were encountered but were not classified. The sample comprised 20 rams, 67 ewes, and 16 lambs. In many of the recent aerial surveys, lamb representation has been low (Table 3).

Habitat

The winter of 2014-2015 was the warmest on record. In mid-March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Spotted Range within a zone of severe drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify.

Despite a forecast for drought to persist, precipitation in late fall 2014 through the first quarter of 2015 was sufficient to spur new vegetative growth in forage species and recharge bighorn sheep water developments. Based on inspections of the 6 water developments in the Spotted Range in February 2015, the collective amount of stored water leading into the spring and summer months is about 94% of capacity.

Table 3. Bighorn sheep herd composition obtained through aerial surveys in the Spotted Range.

Year	Rams	Ewes	Lambs	Total	Rams: 100 Ewes: Lambs
2014	20	67	16	103	30:100:24
2012	23	36	6	65	64:100:17
2011	28	58	10	96	48:100:17
2010	33	57	11	101	58:100:19
2009	24	29	8	61	83:100:28
2008	21	36	15	72	58:100:42
2007	24	47	28	99	51:100:60
2006	15	40	18	73	38:100:45
2005	23	49	9	81	47:100:18
2004	11	21	11	43	52:100:52
2003	7	13	1	21	54:100:8
2002	13	18	6	37	72:100:33
2001	32	26	5	63	123:100:19
2000	18	20	10	48	90:100:50

Population Status and Trend

The bighorn sheep population in Unit 280 was established through releases in 1993 and 1996. The initial release complement captured from the River Mountains, Clark County comprised 2 rams, 13 ewes, and 10 lambs. The 1996 release was obtained from the River Mountains and consisted of 8 rams, 16 ewes, and 1 lamb. The 2015 bighorn sheep population estimate increased from the large aerial survey sample obtained in fall 2014. The population model was modified to reflect ewe immigration.

Unit 281: Pintwater Range; Northwestern Clark County

Report by: Pat Cummings

Survey Data

In September 2014, a 5.4-hour aerial survey conducted over the Pintwater Range yielded a sample of 45 bighorn sheep. The observed sex and age ratios were 59 rams:100 ewes:45 lambs. In September 2013, a 5.2-hour aerial survey yielded a sample of 66 bighorn sheep. The observed sex and age ratios were 41 rams:100 ewes:32 lambs.

The survey was focused over areas within proximity to water sources. The majority of bighorn sheep encountered were within 2 miles of springs and water developments.

Habitat

The winter of 2014-2015 was the warmest on record. In mid-March 2015, the National Weather Service (NWS) issued a graphical depiction of drought status that portrayed the Pintwater Range within a zone of severe drought. In the latter half of February 2015, the NWS released a seasonal drought outlook valid through May 2015 that called for drought conditions to persist or intensify.

In the course of the fall 2014 aerial survey, De Jesus spring was noted as dry. A functional problem at Tim Spring was also detected. From the air, the area around the 2 old porcelain bathtubs appeared wet; however, little water was in the bathtubs. During the late February 2015 maintenance flight, water was again detected at De Jesus Spring. Maintenance repairs were undertaken at Tim Spring to restore water flow to 1 bathtub. The measured water flow rate at Tim Spring was 0.37 gallons/minute (1.4 liters/minute) and was the lowest flow rate on record.

Population Status and Trend

The 2015 population estimate for bighorn sheep inhabiting the Pintwater Range reflects a modest increase relative to the estimate reported last year.

Unit 282: Desert Range and Desert Hills; Northwestern Clark County

Report by: Pat Cummings

Survey Data

In early October 2014, an aerial survey yielded a sample of 118 bighorn sheep. Three additional bighorn sheep were encountered but were not classified. The survey sample was the largest ever recorded. Bighorn sheep were encountered on the northern and southern portions of the range, and many groups were found 3 or more miles from available water.

In September 2013, an aerial survey yielded a sample of 53 bighorn sheep. The sample comprised 12 rams, 29 ewes, and 11 lambs. One animal was not classified.

Habitat

There are no known reliable natural water sources on the Desert Range. As is the case elsewhere on the Desert National Wildlife Refuge, 2 water developments are old and require maintenance. Needed maintenance at Tommy was too extensive to be undertaken in the brief visit in the course of the late February 2015 maintenance flight. Although the important water source held 2,700 gallons (40% capacity), due to extensive oxidation to critical plumbing components all valves were closed to conserve the water in the likely event of a component failure. The Chuckwalla water development shares similar maintenance needs. The development holds 2,300 gallons (50% capacity) going into early April. Water remains available to wildlife at Chuckwalla.

In March 2011, a new water development was constructed in White Sage Gap. The new unit was situated less than 400 yards west of the older, smaller water development, and was constructed to better ensure water availability on the south end of the range.

Population Status and Trend

In 2015, the population estimate for bighorn sheep inhabiting the Desert Range reflects an increase from the large aerial survey sample obtained in fall 2014. In the population model, survival rates were increased for ewes and rams.

Historically, many bighorn sheep occupying the Desert Range were fall and winter migrants from the adjacent Sheep Range. Over the long term, the observed proportion of lambs to ewes obtained through aerial surveys has been low.

Unit 283, 284: East Desert Range and Sheep Range; Northern Clark County

Report by: Pat Cummings

Survey Data

In early October 2015, aerial bighorn sheep surveys were conducted over the Black Hills, East Desert Range, Mule Deer Ridge, Enclosure Ridge, and northeast, northwest, south, and southwest portions of the Sheep Range. In the course of 14.6 hours of survey, 158 bighorn sheep were classified. The observed sex and age ratios were 51 rams:100 ewes:16 lambs. The highest occurrence of bighorn sheep was north of the Woody water development.

Habitat

In a 3-year period (2004-2006), wildland fires ignited by lightning strikes during summer months burned vegetation along thousands of acres on the east side of the Sheep Range. In bighorn sheep habitat, fires consumed vegetation at low, mid, and high elevations. Much of the fire-caused damage occurred at low elevations. Present concerns relate to the likely establishment of fire-adapted invasive and exotic annual grasses at low and mid-elevations.

Population Status and Trend

Indications are the bighorn sheep population inhabiting the Sheep Range and East Desert Range is experiencing a reduction that began in 2012. Respiratory disease was recently confirmed in nearby bighorn sheep populations. Dispersing bighorn sheep on to DNWR may have translocated pathogenic bacteria associated with or responsible for causing respiratory disease; bighorn sheep populations on DNWR may have respiratory disease.

In an effort to hasten recovery of the bighorn sheep population in the Sheep Range, and in conformance with NDOW's Big Game Release Plan, 35 bighorn sheep captured in late October 1998 from the Muddy Mountains, Arrow Canyon Range, and Specter Range were released at the mouth of Joe May Canyon. Subsequent monitoring efforts and aerial survey data suggest the release was not effective in achieving the objective.

Unit 286: Las Vegas Range; North Clark County

Report by: Pat Cummings

Survey Data

In September 2014, an aerial survey yielded a sample of 128 bighorn sheep. The sex and age ratios were 76 rams:100 ewes:31 lambs. The aerial survey was conducted over Gass Peak, Castle Rock, Fossil Ridge, Peek-a-boo Canyon, Quail Spring, the area near Frozen Toe water development, Gunsight, Juniper Peak, and the area near the Hidden Valley water development. The survey sample was the largest ever recorded.

In September 2012, an aerial survey yielded a sample of 84 bighorn sheep. The sex and age ratios were 74 rams:100 ewes:21 lambs.

Habitat

In 2015, environmental conditions ranged from fair to good. Notwithstanding drought conditions, precipitation in late fall 2014 through the first quarter of 2015 was sufficient to spur new vegetative growth

in forage species and recharge bighorn sheep water developments. In late February 2015, all 3 water developments in the Las Vegas Range were nearly or fully recharged.

In 2005 and 2006, wildland fires sparked by lightning strikes during summer months burned vegetation along thousands of acres in the Las Vegas Range. In bighorn sheep habitat, fires consumed vegetation at low, mid, and high elevations. Much of the fire-caused damage occurred at low and mid elevations. Present concerns relate to the likely establishment of fire-adapted invasive and exotic annual grasses at low and mid-elevations. Members of the Fraternity of the Desert Bighorn and NDOW personnel repaired fire-caused damage to 3 water developments (Juniper Peak, Hidden Valley, and Frozen Toe).

The Las Vegas Range is situated immediately north of the Las Vegas Valley, and suburban development has recently approached the southern boundary of the Desert National Wildlife Range. Increasingly, off-highway-vehicle (OHV) use has resulted in proliferation of unauthorized roads and trails. Despite federal regulation prohibiting the use of unlicensed vehicles on the refuge, the newly established network of roads and trails allows OHV users access to formerly undisturbed bighorn sheep habitat.

Population Status and Trend

In fall 2014, the aerial bighorn sheep survey produced the largest sample ever recorded. The population model indicates a larger bighorn sheep herd. Model adjustments included increasing the proportion of lambs to the observed proportion. Additionally, survival rates for ewes and rams have increased.

Respiratory disease was recently confirmed in nearby bighorn sheep populations. Dispersing bighorn sheep on to DNWR may have translocated pathogenic bacteria associated with or responsible for causing respiratory disease; bighorn sheep populations on DNWR may have respiratory disease.

CALIFORNIA BIGHORN SHEEP

Unit 012, Calico Mountains and High Rock Canyon: Western Humboldt and Washoe Counties

Report by: Chris Hampson

Hunt Results

Six of the 9 tag holders for Unit 012 were successful in harvesting a ram in 2014. Two resident hunters and 1 non-resident hunter reported being unsuccessful. One additional tag holder turned his tag back into NDOW prior to the start of the hunting season. Many of the hunters who reported being successful in harvesting a ram this past year hunted during the early portion of the hunting season. Those that waited to the latter half of the season appeared to have trouble locating mature rams and several of the hunters mentioned that they had passed on 140- and 150-inch class rams earlier in the season. The average age of the 6 harvested rams was 8.0. The average B&C score was 152 inches and scores ranged from 144 to 158.5. Successful and unsuccessful hunters reported expending an average of 7.2 days hunting the unit in 2014. In 2013, the hunters averaged 8.5 days hunting.

Survey Data

The 2014 aerial survey in Unit 012 conducted in mid-August classified a total of 106 bighorn with a composition ratio of 43 rams:100 ewes:31 lambs. Drought conditions throughout the unit are once again believed to be the reason for the lower lamb recruitment. In 2013, the lamb ratio was measured at only 26 lambs:100 ewes. The average lamb ratio for this herd since 2007 (when the drought conditions first began) has been near maintenance levels at 34 lambs:100 ewes.

No reports of coughing or sneezing bighorn were reported by hunters this past hunting season. However, 1 ram was reportedly thin and emaciated and was found to have an infection that was caused by sinusitis. The ram was an old ram (11 years of age) and was in very poor condition. However, no coughing or nasal discharge was reported. Over the past few years, disease surveillance of live-captured bighorn and hunter harvested rams has been conducted but test results showed the herd to have no serious health issues.

Habitat

Severe drought conditions continued through the summer 2014, forcing bighorn to move to the highest elevations within the unit to seek available water and forage. Water sources throughout the lower and mid-elevations have been drying up over the course of the past 2 to 3 years. Many of the historic bighorn use areas during the summer months were observed to have very few if any bighorn this past summer and fall.

The winter of 2014-15 has been exceptionally warm. The significant rainfall that fell in the first half of February 2015 has helped to increase yearly precipitation totals for most areas of Washoe County.
However, snowpack even at the highest elevations is nonexistent as of April 2015. Spring and summer streamflows are forecasted as of April 1 to be below 25% of long-term average. The runoff and snowmelt is desperately needed to help recharge the water flow to springs and seeps that have been severely impacted by the long-term drought conditions.

Population Status and Trend

The average recruitment observed this year will result in a static to slightly decreasing trend for this California bighorn herd. Drought conditions have negatively impacted habitat conditions over the past several years. Since the drought began back in 2007, recruitment rates for this bighorn herd have been near or below maintenance levels. This has resulted in a declining population trend over that time. It is possible that some sheep within this hunt unit have moved into surrounding units where water and forage

is more readily available. Hunters have also struggled to locate sufficient numbers of mature rams over the past 3 years. A decline in the ram quotas for the 2015 hunting season is expected.

Unit 014, Granite Range: Washoe County

Report by: Chris Hampson

Hunt Results

Four of the 5 tag holders in 2014 for Unit 014 were successful in harvesting a ram, while the remaining hunter turned his tag back into NDOW just prior to the beginning of the hunting season. The average age of harvested rams was 5.8, which is down from the 2013 average ram age of 6.8. The average score also dropped from 150 B&C inches in 2013 to only 138 inches in 2014.

The 2014 tag holders reported having a difficult time locating bighorn in the very remote sheep habitat on the southern half of the Granite Range. The hunters were then forced to concentrate their efforts on the much easier to access sheep habitat near Negro Creek. This caused a dramatic increase in average days hunted to 10.3 days compared to 6.8 days in 2013. The long-term average days hunted in Unit 014 is 6.5 days. Hunters have harvested 24 of the past 25 bighorn taken in the Granite Range from the northeastern portion of the range that is associated with the Negro Creek subpopulation.

Survey Data

Composition surveys in the Granite Range took place during mid-August 2014. A small sample of 34 bighorn was classified from the Negro Creek subpopulation with a composition ratio of 56 rams:100 ewes:33 lambs. Bighorn were scattered out and not located in their usual areas of concentration due to impacts from several consecutive dry years. Bighorn were thought to have scattered out and moved to higher elevations to locate reliable water sources. The Unit 014 recruitment rate observed this year is similar to rates in other bighorn herds in the Northwestern portion of the state. The lower lamb recruitment is a result of the current long-term drought that has had a negative effect on lamb survival. In 2012 and 2013, lamb ratios for this herd were in the low 40's.

Habitat

Much of northwestern Nevada remains in a severe drought despite receiving significant rainfall during the first 2 weeks of February 2015. The rainfall followed one of the driest Januarys on record. In fact, most of the rain gauges throughout Northwestern Nevada showed 0% precipitation received. Snow accumulations were non-existent in most areas of Northern Washoe and Western Humboldt Counties (Northern Great Basin) as of April 1, 2015 with 19% of long-term Snow Water Equivalent median as of April 24. The long-term drought has caused numerous water sources at all elevations to go completely dry by mid-summer. Bighorn and other wildlife have been forced off of many of their normal summer use areas and have had to travel longer distances to locate reliable water and forage. If the current dry conditions persist through the spring months, water availability and forage quality will be once again be serious issues for all wildlife this coming summer.

Population Status and Trend

Lamb recruitment observed this past year will allow for a static trend for the Granite Range bighorn population. Bighorn sheep tag holders reported having had difficulty in locating larger mature rams in this unit. However, sufficient numbers of rams 6-years and older exist in the population to support current quotas in Unit 014. The estimate for this bighorn sheep herd is expected to remain similar to the previous year's estimate.

Units 021, 022, Virginia Mountains: Washoe County
Report by: Chris Hampson

Hunt Results

The 4 tag holders from the 2014 season each reported being successful and the hunters spent an average of 6.5 days hunting bighorn. The ram ages were 6, 6, 7, and 7. The 7-year old rams both scored 160.25 B&C inches and represents the largest rams ever taken in the 021, 022 Unit group. The first open hunting season bighorn in this hunt unit was back in 1997, however, the bighorn hunting season was closed from 2001-2006 due to a lack of mature rams and was then reopened in 2007.

Survey Data

Helicopter composition surveys were conducted in mid-August 2014. A total of 51 bighorn was classified as 21 rams, 22 ewes and 8 lambs with a composition ratio of 95 rams:100 ewes:36 lambs. Ram groups were located on this year's survey, but have generally been more difficult to observe in this unit due to the vast amount of tree cover. Recruitment was only average due to the long-term drought conditions that have plagued northwestern Nevada over the past 7 out of 8 years.

No surveys were conducted within unit 021 due to low numbers of pioneering bighorn in the unit and time constraints with the flight schedule. However, the public continues to report observations of bighorn in the Petersen Mountains where an estimated 15 bighorn reside. One of the 2014 tag holders reported scouting and hunting in the Petersen Mountains but did not observe any bighorn.

Habitat

The lack of snowfall during the winter of 2014-15 is expected to result in well below average spring runoff and streamflow. Unless significant moisture is received during late winter and spring, habitat conditions this coming summer are expected to be only fair at best. Significant moisture in the form of rain fell during February 2015, but will not be sufficient to allow for improved flows to important water sources. Due to the extensive green-up that has occurred throughout most of the winter, bighorn should enter into the spring and summer in good body condition, however, should the dry conditions continue, habitat conditions may deteriorate quickly as the temperatures increase this summer.

Population Status and Trend

Drought conditions have played a major role in the reduced lamb survival observed this year. The average lamb ratio of 36 lambs per 100 ewes will result in a static to slightly increasing trend for this herd. The 021,022 bighorn population has generally been on a static to slightly upward trend over the past several years.

Unit 031: Double H, Montana, and Trout Creek Mountains; Humboldt County
Report By: Ed Partee

Survey Data

Aerial surveys were conducted in early August 2014 in the Double H, Montana, and Trout Creek Mountains. The hot, dry conditions may have affected the number of individuals observed. A total of 100 animals was observed which is just below the five year average. Sheep numbers are still well distributed throughout both the Double H and Montana Mountains. Ratios obtained from this survey were 38 rams:100 ewes:36 lambs. Ram ratios have increased from last year but are still below the five year average for this unit. This drop may be attributed to missing the ram group once again in the Trout Creek Mountains.

Habitat

Habitat conditions were slightly better than those observed over the last couple of years. Despite the continued drought conditions, mainly due to the lack of winter precipitation, 2014 spring and summer moisture came at ideal times. The early spring rains provided much needed forage in the upper elevations, which in previous years had been marginal at best. The rain that came throughout the spring and summer months had positive effects on fire rehab efforts that have taken place in this unit. Once again we have been faced with another year that lacks the much needed snowpack to sustain these vegetative communities throughout the year. The lack of winter precipitation this year may have a detrimental effect on the ongoing rehab efforts within this unit. Water year precipitation to date is still well below normal and is at one of the lowest levels recorded for the winter months. Fortunately, the forage conditions last fall were more favorable than in past years.

Population Status and Trend

This population continues to have good lamb recruitment which has helped this population show a steadily increasing trend. All ram age classes are well represented in the population, providing ample hunting opportunities for the next several years. This population is well distributed throughout the unit with more expansion starting to occur east of the rims in the Montana's and Double H's. With the continued increase of sheep using this area it has provided a source stock population for four different augmentations in other areas in recent years. The overall herd continues to do well and may be showing signs of a positive density dependent response to bighorn removals through past capture for transplant operations. The population estimate for this year is similar to the previous year.

Recovery efforts from the fire that took place in 2012 have been positive. Sheep have continually used the areas that burned and with added rehab efforts these herds should continue to do well. With the lack of winter precipitation, the 2015 spring moisture will be crucial to these herds. Early green-up will be vital to this year's lamb crop.

Unit 032: Pine Forest Range and McGee Mountain; Humboldt County

Report by: Ed Partee

Survey Data

Aerial surveys were conducted in early August 2014. The unit is very expansive and challenging to survey adequately which includes not only the large Pine Forest Range but also McGee Mountain and the Pueblos. A total of 253 sheep were classified which is much higher than last year's total of 182 and slightly above the five year average. Observed ratios were 37 rams:100 ewes:51 lambs. The bulk of the animals surveyed this year were once again in the Pine Forest Range.

Habitat

Habitat conditions look fairly good considering the lack of snowfall that has occurred over the last 2 years. Spring and summer rains last year greatly contributed to forage conditions this year. Higher elevations had plenty of quality forage throughout most of 2014, which was vital in allowing sheep to remain in good body condition. The winter of 2014-15 was dry and warm and snowpack and rainfall through January was almost non-existent. As of April 24, the snow water equivalent level in the Lower Humboldt River Basin was only 5% of long-term median values. Spring and summer moisture will be critical to provide green up which should provide forage for the new lamb recruitment.

Population Status and Trend

The population estimate for this herd has increased slightly. Ram ratios continue to hold near the 5-year average with excellent age class distribution. Lamb ratios are showing an increase which can be attributed to the animals spreading out into available habitat. This population has continually increased

over the years even with providing over 150 sheep to augment or establish new herds. The population has increased to 280 animals and should continue to grow and expand into ample available habitat.

Unit 033, Sheldon National Wildlife Refuge: Washoe and Humboldt Counties

Report by: Chris Hampson

Hunt Results

The California bighorn sheep tag quota was significantly reduced this past year from a total of 5 tags in 2013 to just 2 in 2014. Lower numbers of animals observed on NDOW's helicopter surveys and hunter reports of fewer sheep prompted NDOW's decision to reduce tags.

Severe drought conditions on the Sheldon over the past several years have forced bighorn to move off of their normal use areas in search of reliable water. Another contributing factor has been the intensive horse removal efforts conducted by the USFWS just prior to and during the ram hunting season. These types of gather activities often scatter bighorn far and wide. Fortunately, the Sheldon has completed their horse gathers and this will no longer be an issue.

The 2 tag holders were successful in harvesting a ram. One hunter expended 6 days hunting sheep at several different locations, observing a total of 7 rams. The second hunter spent 2 days hunting and observed 37 total bighorn but had difficulty locating mature rams. Both hunters expended significant time scouting the major bighorn sheep use areas.

Survey Data

Due to conflicts with USFWS horse gathering activities on the Sheldon, NDOW cancelled aerial bighorn surveys. The Sheldon gathered horses for two weeks in August and then again for two more weeks in September. The Sheldon removed over 400 horses and burros this past year. The two weeks of gather activities in September occurred during the bighorn sheep hunting season.

Hunters reported observing a total of 62 sheep in 8 days of hunting bighorn on the Sheldon. This is similar to the number observed by hunters over the past 3 years. Long-term drought conditions and horse gathering activities may have contributed to bighorns being more difficult to locate.

In early 2014, NDOW conducted a disease surveillance operation on the eastern border of the Sheldon. The crew captured 5 bighorn sheep and took numerous biological samples. Lab results indicated that the animals were in good health and no disease event was occurring.

Habitat

Habitat conditions on the Sheldon have been fair to poor over the past several years. The drought conditions began in 2007, and other than the winter of 2010-11, precipitation and snowfall totals have generally been well below average. Water availability has been severely reduced due to the long-term drought. Recent rainfall in February helped to increase soil moisture and partially fill some of the upper elevation lakebeds. However, the 2014-2015 snowpack was dismal with only 19% of the long-term median snow water equivalent in the Northern Great Basin as of April 24. Spring runoff and flows are once again expected to be well below average.

Due to the extremely dry conditions and lack of available water, wildlife on the Sheldon had to move off of major summer ranges and disperse out to other areas where water and better forage were still available. In some instances, the animals that normally spend the summer on the Sheldon were forced to move considerable distances to locate water. For example, pronghorn that normally spend the summer on the Sheldon were located north of the Sheldon in Oregon and in adjacent hunt units to the south and west.

The USFWS has now completed removing 99% of the horses and burros from the Sheldon. Only a handful of horses remain and there are plans to remove the leftover horses this year. Conflicts with the horse gathers overlapping hunting seasons will no longer be an issue. Habitat conditions around springs and other important riparian areas will begin to recover now that the horses have been removed. Over the past decade, competition between horses and wildlife has been especially high due to the extremely dry conditions.

Due to the dry conditions, it is once again possible that the USFWS on the Sheldon will close important access roads due to fire danger. This can cause hunters to concentrate in areas where roads are still open.

Population Status and Trend

The number of bighorn on the Sheldon is believed to be much lower than that observed just a few years ago. Bighorn sheep habitat on the Sheldon is contiguous and sheep can move freely between adjacent hunt units or even north into Oregon. Recent helicopter surveys and reports from those hunting bighorn on the Sheldon have confirmed lower numbers of bighorn being observed over the past few years.

Unit 034: Black Rock Range; Humboldt County

Report by: Ed Partee

Survey Data

Surveys took place during the first part of August. Warm conditions had animals shading up early which made it more of a challenge in detecting animals. A total of 77 animals was classified which is down from what was observed last year. These numbers yielded a ratio of 61 rams:100 ewes:42 lambs. In the past animals have been observed in the Rough Canyon area but unfortunately no animals were seen in this area. Ram numbers are about the same as last year's survey and still within the 5-year average. The bulk of the rams observed continue to occur around Big Mountain and Coleman Creek.

Habitat

Habitat conditions in early August in the upper elevations were in decent shape as observed during aerial surveys. With the lack of fall and winter precipitation, and the increased competition for forage by feral horses, sheep habitat in this area may suffer. Summer precipitation really benefited the forage in this unit. During December and January there was virtually no rain or snow pack. If these conditions continue, the increased competition for available forage will likely have an effect on lamb survival. As of March 1st precipitation amounts are still well below normal. Spring moisture will be needed to sustain these populations at the current levels throughout the year.

Population Status and Trend

The population estimate for this herd is static. Lamb recruitment has been fairly constant the last few years and is in line with the 5-year average. The number of rams observed is right in line with last year and the 5-year average. All ram age class were well represented on survey with a strong middle age class. Sheep are dispersing well throughout this range providing plenty of opportunity for harvest in several different locations. At this point this herd is trending upward; however, the increased competition for water by horses may have a detrimental effect on sheep numbers in the future.

Hunter access has been altered by the designation of the Black Rock/High Rock Immigrant Trail National Conservation Area (NCA) and Wilderness Areas within the NCA. The BLM has marked the majority of the restricted access points and hunters who apply for this area need to understand these restrictions. Despite access issues in this area, hunter success has been good in this unit.

Unit 035: Jackson Mountains; Humboldt County
Report by: Ed Partee

Survey Data

A total of 36 sheep was classified during the early August 2014 aerial survey. This total is down significantly from that observed last year, despite the weather conditions being ideal. After this flight was conducted, more animals were observed in nontraditional areas lower on the mountain. This in part could be due to the lack of moisture on this range. Ratios from this survey resulted in 16 rams:100 ewes:74 lambs. The number of rams surveyed this year is slightly lower compared to last year as well as the previous 5-year average. Ewe and lamb numbers are about the same as previous surveys and seem to be doing well. The high lamb ratio is likely skewed due to the small sample size.

Habitat

This unit like many others in Humboldt County has experience dry conditions throughout the fall and most of the winter. During December and January there was virtually no precipitation once again this year. As of April 24 the snow water equivalent value was only 5% of the long-term median in the Lower Humboldt River Basin. Precipitation amounts at this point are still well below normal and additional moisture will be needed to sustain these herds. Competition for forage and free water may be an issue as the year progresses. Horse numbers are still being monitored to see if there is any correlation between the horse numbers and the number of wildlife using these areas.

Population Status and Trend

The 2015 modeled population estimate is 170 animals. This population is still doing fairly well and has been expanding slightly into some new areas. At this point this population is starting to show a slight upward trend with better quality rams showing up in the harvest.

Hunter access has been influenced by the designation of the Black Rock/High Rock Immigrant Trail National Conservation Area and Wilderness Areas (NCA). The NCA boundaries embrace bighorn concentration areas of King Lear Peak and Parrot Peak. The Bureau of Land Management (BLM) has marked the majority of the restricted access points and hunters who apply for this area need to understand these restrictions.

Unit 041: Sahwave Mountains; Pershing County
Report by: Kyle Neill

Survey Data

A 1-day aerial survey was conducted in the Sahwave Mountains in early August 2014. Unfortunately, no bighorns were observed during this survey. Trail cameras were placed in the Sahwave Mountains in late July/early August at various water sources and were successful in locating ewe/lamb groups. Additionally, 9 rams including 4 mature rams were encountered during ground surveys. Combined numbers totaled 22 bighorns and resulted in a ratio of 125 rams:100 ewes:50 lambs. The average lamb ratio over the last 3 years has been 58 and has enabled this herd to grow at an average rate of 13% since 2013.

Population Estimate and Trend

Bighorn sheep are thought to have pioneered into the Sahwave Mountains sometime in the late 1980's or early 1990's. Unfortunately, this herd is located within the largest domestic sheep allotment in the western United States. Domestic sheep use in the Sahwave Mountains is limited to trailing through the southern portion of the range in March and April. The origin of this pioneering herd is unknown. DNA testing confirmed that the herd is of California bighorn subspecies. Bighorns are thought to have pioneered into the area from the north or west out of the Virginia, Granite, Black Rock, Calico, or Jackson

Mountain Ranges. Bighorn sheep were transplanted in each of these mountain ranges during the late 1980's or early 1990's.

The first hunting season occurred in 2001 and continued through 2006. Aerial survey results from 2013 and ground survey results from 2014 were positive and indicated that adequate mature rams now exist. The Commission approved a hunting season for 2015.

In 2001, the Sahwave herd was estimated at 50 animals and declined to approximately 20 by 2008. This decline was thought to be due to possible disease from domestic sheep and/or predation. This herd began demonstrating an increasing trend in 2011 and is currently estimated at 40 bighorns.

Unit 051: Santa Rosa Range; Humboldt County
Report by: Ed Partee

Survey Data

A 2-day aerial survey was conducted in early August 2014. A total of 113 bighorn were observed which is just above the 5-year average. Resulting ratios from this survey were 22 rams:100 ewes:23 lambs. Lamb production dropped from last year and is below the 5-year average. This range now has 4 main areas that are surveyed - the north end, south end, the east side or Hinkey Summit side and now the addition of the Capitol Peak area in the Calico Mountains. The number of rams using the north end has declined in recent years. Several rams have been collared recently to track movement. Preliminary results have shown movement into Oregon as well as ram dispersal to the south.

Habitat

Despite the drought conditions, rainfall has come at opportune times for this unit. Once again this last December/January had one of the lowest snowfalls on record. At this point there is virtually no significant snowpack on this range. With the lack of snow much moisture will be needed to provide enough forage throughout the year. As of March 1st, the Lower Humboldt River Basin is well below normal for precipitation. Continued dry conditions may lead to added stress in these herds.

Population Status and Trend

The 2015 population estimate for this unit is approximately 190 animals. This unit has dropped from the previous year due to adjustments made in the modeling process to better represent the performance of each herd. We are currently in the process of monitoring lamb production and recruitment into this population as well as interstate movements. During survey efforts lambs are commonly observed, however their survival and ultimately recruitment to the yearling age class is unknown. This population trend is currently stable. All of the sub-herds are being monitored which will help to better understand overall health of the population as well as movements on this range. Cooperative efforts between Nevada and Oregon are continuing to further identify age classes and movement patterns with the portion of the herd found in the north end of the range.

Units 066: Snowstorm Mountains; Western Elko County
Report by: Matthew Jeffress

Hunt Results

Due to the August 2011 all age bacterial pneumonia die-off; the season was closed to ram harvest between 2012 and 2014.

Survey Data

A combination of fall and winter surveys in 2014 documented a total of 62 bighorns yielding ratios of 33 rams:100 ewes:26 lambs. 2014 marks the first year of recruitment with 3 yearling bighorn observed in May 2014. Ten lambs were observed in December 2014, marking the highest winter lamb survival following the 2011 disease event. A combination of marked animals well distributed throughout occupied range, weeklong spring and summer ground surveys, a helicopter composition survey in late summer and a December trap and collaring event, has allowed us to accurately estimate the current population.

Habitat

Range conditions remain in fair to poor condition in the peripheral low elevations surrounding the Snowstorms. A combination of drought, livestock utilization and an overabundance of wild horses have contributed to degraded habitats, particularly riparian habitats on the west side of the Snowstorm Range. Many of the Immigrant forage kochia seedings in lower Jake Creek to Twentyone Creek continue to be over utilized late summer through early winter. On a positive note, due to the resiliency of the mid to upper elevations of the Snowstorm Range, much of the spring, summer and early fall bighorn habitat remains in good to excellent condition, despite the persistent drought. Winnemucca BLM has done an excellent job with fire rehab following the 2000 Kelly Fire and 2007 Kelly Creek Fire. If properly grazed, these burns should provide adequate winter habitat for not only bighorn, but pronghorn, mule deer and elk.

Population Status and Trend

Following the detection of the die-off in August 2011, NBU-Reno, Midas NBU and Elko Bighorns Unlimited funded a sampling and collaring project. NBU-Reno funded an additional collaring project in 2012. As was committed to these sportsmen's groups in 2011 and 2012, bighorn lamb surveys have continued on the Snowstorm Mountains. In May 2014 a total of 36 adult ewes, 3 yearling ewes and 24 lambs were observed. By early July the lamb ratio dropped from 65 lambs:100 ewes to 33 lambs:100 ewes, with 26 ewes, 2 yearling ewes and 9 lambs observed. The yearling ewes represent the highest recruitment observed since 2010.

As part of a greater effort to understand dynamics of post die-off survivors and how pathogens within surviving populations affect lamb recruitment, Washington State University, Idaho Fish and Game and South Dakota State University are embarking on a study entitled "Investigating the role of super-shedders in respiratory disease persistence and transmission in bighorn sheep." The researchers are going to study bighorn from different herds with different disease profiles and time since initial exposure to pathogens. In early December 2014 NDOW gifted 10 ewes and 1 young ram to South Dakota State University. The Snowstorm bighorn provide a unique opportunity in that all marked bighorn have baseline health profiles with several sampled twice. These data, coupled with lamb counts over the past 3 years will aid in the study. Extensive field work conducted over the past 3 years assisted in the selection of ewes for the project, especially in attempting to located non-shedding ewes through the evaluation of sub-herd performance. There are 4 sub-herds of ewes on the Snowstorms and up to 2014, only 1 was recruiting lambs, the Owyhee Bluffs. In an effort to target non-shedding ewes, 1 marked ewe, 1 unmarked ewe and 2 unmarked yearling ewes were removed from the Owyhee Bluffs for the study. Information acquired from the project will further our knowledge of disease processes in bighorn sheep and will likely affect post die-off bighorn management. In addition to removing 6 marked bighorn and 5 unmarked bighorn for the study, 7 unmarked bighorn were collared and released on site and 2 previously marked bighorn were recollared with new collars. These individual bighorn will allow NDOW to continue monitoring Snowstorm bighorn to assess future performance as it relates to the potential removal of super-shedders and time elapsed since the initial die-off. A highlight of the capture was the documentation of the highest winter lamb ratio following the die-off with 10 lambs observed for a lamb to ewe ratio of 26:100. Lambs were observed in all 4 sub-herds. We are hopeful the winter lamb ratio is a sign of recovery, but mindful that Snowstorm bighorn have likely not fully recovered from the 2011 disease event. As was identified early in the project,

recruitment values will be collected for the next 5 years. These data, coupled with pathogen samples collected in 2011, 2012 and 2014 will guide future management of the Snowstorm herd.

Due to the lack of recruitment between 2011 and 2014, it is anticipated only 1 ram tag will be issued for the 2015 hunting season. If lamb recruitment is similar to that observed this year, NDOW may be able to recommend 1 tag a year for the next few years as we wait for younger rams to mature.

Units 068: Sheep Creek; Northern Lander and Eureka Counties

Report by: Jeremy Lutz

Hunt Results

All 5 hunters were successful in harvesting a ram in 2014. The average age of rams was 4.6 years and the average B&C score was 140. In 2014, the Nevada Wildlife Commission adopted the first ever California bighorn ewe hunt. This hunt was aimed at reducing densities in areas where populations were believed to be above sustainable management levels. In 2014, 15 ewe tags were issued for the Sheep Creek Range with 10 ewes being harvested.

Survey Data

In March 2015, a total of 109 bighorns were observed from the air yielding ratios of 109 rams:100 ewes:28 lambs. This is the highest sample ever found for this unit.

Habitat

During 2012 both big game guzzlers went dry in the Sheep Creek Range due to prolonged drought conditions and high use by bighorn. In 2013 and 2014 both big game units were retrofitted with new aprons and tanks. This should help the guzzlers from going dry in the future by increasing the amount of catchment and increasing the storage capacity to nearly 9,000 gallons per unit. As of March 2015 both units were at 90% storage capacity.

In early 2015 a large cheatgrass die-off along the face of the Sheep Creek Range between Battle Creek and Rock Creek was over-seeded with Wyoming sagebrush, Immigrant forage kochia, Sandberg bluegrass and western yarrow. A total of 1,340 acres was seeded using an every other swath pattern for an overall affected area of 2,680 acres. Below average precipitation will likely affect the success of this seeding; however timely spring rains can facilitate the germination of desirable seed within the treated areas. The project was funded by sportsmen in cooperation with private landowners and the BLM Tuscarora Field Office.

Bighorn sheep habitat conditions in the Sheep Creek Range continue to spiral downward. If current drought conditions and high levels of livestock use continue, long-term negative impacts to the 068 Bighorn Herd can also be expected to continue with the continued loss of native perennial grasses. In some areas due to excessive grazing, fires and now cheat grass die off's, large tracts of land are barren or completely void of any vegetation. Unfortunately these large barren areas were and are crucial winter range for a myriad of wildlife including bighorn sheep. Due to the lack of a rangeland health evaluation for this allotment, livestock stocking rates remain at levels that compromise the area's ability to provide adequate habitat for current wildlife populations. One concern for bighorn sheep habitat is approximately 3,300 cows may be permitted by the Tuscarora BLM office to trail for up to 2 months from east of the Rock Creek Gorge to Stoney Point during the winter of 2015-2016.

Population Status and Trend

In November 2014, 16 bighorn (14 ewes and 2 lambs) were captured along the face of the Sheep Creek Range and were successfully released onto the Massacre Rim located in Washoe County.

Since 2012, over 60 bighorn sheep from the Sheep Creek Range have been relocated or harvested to keep this population within sustainable management levels of its habitat resources. It is estimated that approximately 200 bighorn sheep lived in the Sheep Creek Range prior to 2012. However since that time, heavy livestock use and chronic drought have created barren landscapes on crucial winter range.

ROCKY MOUNTAIN BIGHORN SHEEP

Unit 091: Pilot Range; Elko County
Report by: Kari Huebner

Hunt Results

One Utah resident tag was issued for this interstate hunt in 2014. He harvested an 8-year-old ram with archery equipment.

Survey Data

A composition survey was conducted in August 2014. There were 28 bighorns classified with resulting sex and age ratios of 41 rams:100 ewes:24 lambs. The lamb ratio was higher than last year's ratio of 7 lambs:100 ewes.

Habitat

A recent effort was made to make water available to bighorn on the mountain as opposed to the benches in order to reduce the probability of bighorn sheep coming into contact with domestic sheep. The bighorn seem to be reacting favorably to this available water. There are active domestic sheep allotments and trailing routes on the east side of Pilot Mountain and in the Leppy Hills.

Population Status and Trend

In 2010, bacterial pneumonia was detected in the population. The disease event severely impacted lamb production.

In 2012, 3 bighorns, 2 ewes and 1 ram, were radio collared with the objective to learn more about their movement patterns and if they are coming into contact with domestic sheep. The 2 ewes moved very little from where they were first captured. One of the ewes spent her time exclusively in the Silver Islands which is where the active winter allotment of domestic sheep is located. The young ram has had 2 failed satellite collars so very little information was obtained from him. The bighorns were tested during the collaring operation and all of them had antibodies for *Mycoplasma ovipneumoniae* and 1 was still actively shedding the organism.

The short-term outlook for this herd is poor. Lambs are being born, but they are not being recruited into the population. Future recommendations for the ram hunt will be dependent on population monitoring and documented lamb recruitment. There are believed to be approximately 30 bighorn currently in the population.

Unit 114: North Snake Range – Mount Moriah; Eastern White Pine County
Report by: Kody Menghini

Hunt Results

In 2014, 2 tags were available for the 7th consecutive year. Only 1 ram was harvested in 2014. The successful hunter hunted for 14 days and harvested a 6 year-old ram. The unsuccessful hunter hunted 19 days. Since this unit reopened for ram harvest in 2007, 11 rams have been harvested with an average age of 6.0 years. This hunt remains difficult due to the large amount of rugged terrain, heavy tree cover, and wilderness area involved.

Survey Data

Aerial herd composition surveys were conducted during July 2014. A total of 44 bighorn was classified. The sex and age ratios were 62 rams:100 ewes:57 lambs. A second survey was conducted in conjunction with spring deer and post-season elk flights in March 2015. A total of 17 bighorn was classified and sex and age ratios were 9 rams:100 ewes:45 lambs. This was a small sample, but it indicates that lamb survival was good between July and March.

Weather and Habitat

Starting in 2012 the winter and late spring months have been drier than normal. During that same time the late summer and early fall months have been wetter than normal. The Silver Creek Snotel site received 8.1" of precipitation between June and September of 2014. The summer precipitation has most likely help alleviate dry habitat conditions that are a result of dry winters and allowed bighorn to maintain body condition. The 2014-15 winter was warm and dry. The Silver Creek Snotel site received 3.5" of precipitation between October 2014 and mid-March 2015. As of mid-March, local Snotel sites near Ely were at 46% of normal precipitation compared to the long-term average.

Continued long-term habitat limitations in this unit are related to the dense band of mixed conifer and mountain mahogany that effectively separate seasonal ranges in much of the area presently occupied by bighorn. In July of 2014 the Hampton Fire was started by lightening. This fire burned approximately 12,500 acres at mid-elevation in dense trees. There was massive erosion in August and September due to bare soil and heavy monsoonal rains. While it could take several years for this burn area to respond with new vegetation it should improve bighorn habitat and help connect seasonal ranges.

Population Status and Trend

This bighorn herd has experienced 2 consecutive years of good lamb recruitment. The population is stable to slightly increasing.

Unit 115: South Snake Range – Mount Wheeler: Eastern White Pine County

Report by: Kody Menghini

Background

The last recorded observation of native bighorn sheep in the south Snake Range was made by Elwin A. Robison in 1971. Bighorn sheep were reestablished in the south Snake Range in 1979 and 1980 with the release of 20 sheep transported from Colorado. These release compliments totaled 3 rams, 11 ewes and 6 lambs. Hunting seasons were held in 1985-86 with 1 and 2 tags respectively. No rams were harvested in 1985 and 2 rams were taken in 1986. The season was then closed due to the establishment of Great Basin National Park in October 1986 and concerns over the herd's declining population trend.

Hunt Results

An 8 year-old ram was harvested in late January 2015 after 7 days of hunter effort. Since this hunt was reopened in 2012 all 3 tag holders have been successful and have harvested two 8 year-old rams and an 11-year-old ram.

Survey Data

An aerial survey was conducted in March of 2015 in conjunction with spring deer and post-season elk surveys. A total of 18 bighorn were classified resulting in sex and age ratios of 78 rams:100 ewes:22 lambs.

Weather and Habitat

Starting in 2012 the winter and late spring months have been drier than normal. During that same time the late summer and early fall months have been wetter than normal. The Wheeler Peak Snotel site received 13.6" of precipitation between June and September of 2014. The summer precipitation has most likely help alleviate dry habitat conditions that are a result of dry winters and allowed bighorn to maintain body condition. The 2014-15 winter was warm and dry. The Wheeler Peak Snotel site received 8.9" of precipitation between October 2014 and mid-March 2015. As of mid-March, local Snotel sites near Ely were at 46% of normal precipitation compared to long-term climate data.

Continued long-term habitat limitations in this unit are related to the dense band of mixed conifer and mountain mahogany that effectively separate seasonal ranges in much of the area presently occupied by bighorn.

Population Trend

An increasing bighorn population trend was observed in Unit 115 in the mid 2000s, similar to the trend in nearby Unit 114. NDOW and Great Basin National Park have worked cooperatively since 2008 with the goal of enhancing both bighorn habitats and the bighorn population in this unit. Capture projects in 2009-10, 2013-14, and again in February 2015 resulted in the outfitting of bighorn with satellite GPS/VHF collars to increase knowledge of seasonal ranges and habitat use by this bighorn herd. Population data collected for this herd support a minimal ram harvest over the short-term. Harvest recommendations will continue to be made based on herd viability and performance. A December 20 through February 20 season was established to ensure the tag holder has the opportunity to pursue rams below the Park boundary when they descend from higher elevations in late winter.

MOUNTAIN GOAT

Unit 101: East Humboldt Mountains; Elko County
Unit 102: Ruby Mountains; Elko County
Unit 103: South Ruby Mountains; Elko and White Pine Counties
Report by: Caleb McAdoo

Tag Quotas and Hunt Results

There were 12 mountain goat tags issued in the 2014 hunting season, an increase from 7 in 2013. Since 2010, a conservative quota has been issued due to the uncertainty of pneumonia-related mortalities to mountain goats that share the same summer range as bighorn sheep in both Units 101 and 102. With 4 years of assessing survey and harvest data, there was greater confidence in adult survival along with average to good kid production in Units 102 and 103 that supported the tag increase. All 12 tag holders were successful and of the 12 goats harvested only 3 (25%) were nannies. The average age for billies in Units 101 and 102 were 7.0 and 6.7, respectively. The single billy harvested in Unit 103 was aged at 7. Of the nannies harvested, all were taken in Unit 102 with an average age of 4.3 years. The trend of increasing nanny harvest has been a more common occurrence for Nevada's mountain goat hunters in recent years. The percent nanny harvest of the total harvest from 2008 - 2013 was 22, 30, 40, 27, 33, and 33%, respectively. The 2014 percent nanny harvest of 25%, however, was below the 5-year average (31%) and the 10-year average. Nanny harvest will continue to be monitored closely and assessed relative to quota development to minimize any potential impacts to overall production and recruitment following the recent disease event documented in the mountain goat population. In an effort to curtail nanny harvest, the Department of Wildlife has developed a non-mandatory online, "Mountain Goat Hunting Orientation" document to help hunters identify and determine sex of mountain goats in the field. Although quotas have been reduced in recent years, hunter success continues to be excellent and most hunters reported seeing many adult goats in the 2014 season. For specific 2014 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

Significant ground survey efforts were conducted in Unit 101 during the summer of 2014 to determine mountain goat kid production. These efforts indicated that kids were being produced, but at approximately 8-weeks post birth, the kids began to succumb to pneumonia. In addition to the intensive ground survey efforts, both summer and winter aerial mountain goat surveys were conducted for Unit 101 only. Summer "production surveys" were conducted in mid August while the winter "recruitment survey" was conducted across multiple days in early January and early February 2015. The surveys for Unit 102 were not completed due to poor snowpack conditions. Incidental observation of goats in Unit 103 during another survey provided the highest sample size (35) on record for that unit group. For the Unit 101 summer survey, there were 83 total goats observed, with only 6 kids observed. These observations yielded sex and age ratios of 78 billies:100 nannies:16 kids. A similarly low kid ratio was documented during the winter survey, with 69 total goats observed of which 4 were kids. This survey yielded sex and age ratios of 63 billies:100 nannies:10 kids. The kid:adult ratio from this same survey was 6. In stark contrast to Unit 101, the observed kid:adult ratio in Unit 103 was 25.

Weather and Habitat

Goats live amongst the highest, rockiest, and steepest slopes in the mountains. Fortunately, snow banks accumulate throughout the winter and sustain preferred forage for goats during most of the hot and dry summer months. Even in the dry years with little precipitation, sufficient snow usually falls in the high country to facilitate goat survival. Precipitation received during the 2014/2015 winter was approximately 80 percent of normal (depending on the exact locale) and should be adequate to produce high quality forage on summer range. Nevada's mountain goat populations are limited by winter range and heavy

spring snow loads that have the potential to cover their forage, limit their movements, and increase their chances of fatalities from falls and avalanches.

Population Status and Trend

There are still serious concerns for the Unit 101 mountain goat herd with observations of extremely limited kid recruitment. This recruitment level is not enough to maintain a stable population. Our studies to date support that the increased mortality in the kid segment of the population is due to pneumonia associated with the bacteria *Mycoplasma ovipneumoniae.* This pattern of loss of young of the year has been documented throughout the west in annual summer lamb losses from pneumonia following all age die-offs in bighorn sheep. *M. ovi*. was isolated from both bighorn sheep and goats in the Ruby and East Humboldt mountain ranges during the die-off in the winter of 2009-2010. Poor kid recruitment continues to occur in Unit 101 in 2014. For Unit 101, the 2014 estimate is 100 individuals, down from 120 last year. For Unit 102, with the increasing trend of reasonable kid recruitment values observed in both 2013 and 2014, the population has been estimated at 200 individuals in 2015. The Unit 103 population estimate was increased to 45 individuals.

The Department continues its disease surveillance for both bighorn sheep and mountain goats as part of our commitment to post-die-off monitoring efforts and in 2015, a total of 15 mountain goats were captured, collared and sampled in Units 101 and 102. *Mycoplasma ovipneumoniae* was again confirmed in both units by either blood testing (indicating exposure to the bacteria) and/or nasal swab (confirming the presence of the bacteria). Our efforts to fully understand the long term impact of disease on herd performance in both mountain goats and bighorn sheep are intended to guide future management decisions.

Five hunters, representing all three hunt units, provided biological samples from the animals which they harvested. Hunters and others on the mountain who observe any abnormal animal behavior in wild goats or sheep such as coughing, lethargy, head shaking or abnormal nasal discharge have been encouraged to report their findings immediately to the Nevada Department of Wildlife.

MOUNTAIN LION

Western Region; Areas: 1, 2, 3, 4, 5, 18, 19, 20, and 29

Report by: Carl Lackey

Hunt Results

Biologists recorded the take of 38 mountain lions between March 1, 2014 and February 28, 2015 within the Western Region (Table 1). This take included 24 animals harvested through licensed hunter harvest and 9 by USDA-Wildlife Services for depredation and predator control. Total recorded take was consistent with the 10-year mean but the hunter harvest is well below the long-term mean (Table 2). This is the fourth consecutive year that total mountain lion take decreased in the Western Region. Since its inception in 2003, the yearlong season has had little effect on total overall hunter harvest.

Table 1: Western Region mountain lion harvest limits and mortalities by type for 2014-2015.

Management area	Harvest limit	Harvest Type				
		Hunter	Depredation	Predator projects	Other	Total
1	Regional 89	6	2	3	0	11
2		3	0	0	1	4
3		2	1	0	2	5
4		2	0	0	0	2
5		1	0	0	0	1
18		1	1	0	0	2
19		6	0	0	2	8
20		2	1	0	0	3
29		1	1	0	0	2
Totals	**89**	**24**	**6**	**3**	**5**	**38**

Table 2: Western Region mountain lion hunter harvest: 10-year sex and age comparisons, 2005-2015.

Year	Harvest			Mean age		
	Males	Females	Ratio Male:Female	Males	Females	All mountain lions
2005–2006	15	21	1m:1.4f	3.7	2.6	3.1
2006–2007	25	26	1m:1.0f	3.7	3.3	3.5
2007–2008	33	24	1m:0.7f	3.8	3.1	3.4
2008–2009	24	14	1m:0.6f	3.4	3.7	3.5
2009–2010	19	14	1m:0.7f	4.4	3.4	3.9
2010–2011	26	24	1m:0.9f	3.9	5.0	4.5
2011–2012	8	10	1m:1.3f	4.1	2.8	3.4
2012–2013	14	25	1m:1.8f	NA	NA	NA
2013–2014	15	13	1m:0.9f	3.5	2.8	3.2
2014-2015	**12**	**12**	**1m:1f**	**4.1**	2.6	3.0

Note: two mortalities (unknown sex) in 2008

The hunter harvest consisted of 12 male and 12 female mountain lions. Nine mountain lions were taken by USDA-Wildlife Services (WS), including 1 in response to a public safety threat in Smith Valley. Take by WS consisted of 4 males, 4 females, and 1 of undetermined sex or age. Mean ages of mountain lions taken by WS were 6 years and 5 years for males and females, respectively. Mountain lion hunter effort was

measured by the number of days hunted for each hunter that reported a harvest. The mean for the 2014–2015 season was 1.3 days afield/hunter.

NDOW routinely salvages mountain lion hides from a variety of sources, including unlawful take, mountain lions taken by WS, and other sources. All salvageable mountain lion hides from around the state were skinned, dried, and most were sold at the Nevada Trapper's Association's annual fur sale in Fallon. Nineteen hides were sold this year bringing an average price of $226 with a high of $302.

Population Trend

Population structure and trends were based on harvest data and reports from guides and hunters. In comparison with the 10-year hunter harvest trend (Table 2), no major shifts in sex ratios or age cohorts were detected, suggesting that the mountain lion population in western Nevada is stable.

NDOW continues working with the University of Nevada, Reno and the Wildlife Conservation Society on a cougar research project in the Western Region. To date, roughly 48 mountain lions have been fitted with radiotelemetry collars.

Management Conclusions

Although there are some yearly fluctuations within harvest categories, the mean ages and ratio of males:females taken has not changed substantially. Hunter harvest regulation changes implemented beginning in 1997 have only marginally affected the number of mountain lions taken during the hunt. Data indicate regulations and harvest levels are compatible with the mountain lion resource and its capability to support harvest.

Table 3: Ten-year Western Region mountain lion harvest trend, 2005-2015.

Season Year	Season Length	Hunter Harvest Limits	Harvest Type				
			Hunter	Depredation	Predator Project	Other	Total
2005–2006	365	114	36	10	NA*	6	52
2006–2007		114	51	6	NA*	8	65
2007–2008		114	57	27	NA*	6	90
2008–2009		114	38	12	NA*	2	52
2009–2010		103	33	12	NA*	2	47
2010–2011		103	50	22	NA*	7	79
2011–2012		169	18	24	15	12	69
2012–2013		169	39	5	8	6	58
2013–2014		89	28	8	9	4	49
2014-2015		**89**	**24**	**6**	**3**	**5**	**38**
10 year avg.	365	NA	37	13	NA	6	60

*Mountain lions taken in association with the predator project (a project to remove mountain lions to mitigate predation on specific sensitive wildlife populations) were not classified separately prior to 2011

Eastern Region: Areas 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15

Report by: Scott Roberts

Hunt Results

The Eastern Region maximum allowable hunter harvest for the 2014–15 season was 113 mountain lions. Two of those mountain lions were allocated to Game Management Unit 091 (Pilot Peak) which exists as an interstate cooperative hunt with Utah and the remaining 111 were allocated to the rest of the Eastern Region hunt units. No harvest limits were met during 2014–2015.

The Eastern Region hunter harvest for mountain lions for the 2014–2015 season was 57 animals (Table 4). The mean sport harvest for the previous 5 seasons (2009–2014) was 76. Guided hunters made up 37% of the region's annual hunter harvest. The 2014–2015 hunter harvest composition was 34 males and 24 females for a ratio of 1.5 males:1 female.

The total documented mountain lion harvest for the Eastern Region in 2014–1205, including all known take was 65 mountain lions. The annual harvest was comprised of 37 males and 28 females.

Table 4: Eastern Region mountain lion hunter harvest by area, 2009-2015.

Area Group	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015
061–068	21	18	12	20	14	15
071–081	6	10	7	7	9	1
91	0	0	0	0	0	0
101–109	14	21	15	31	19	17
111–115	17	8	14	32	10	9
121	6	2	2	6	2	5
131–134	3	1	3	5	2	5
141–145	6	3	3	7	6	3
151–156	1	8	3	3	2	2
Eastern Region Total	74	71	59	111	64	57

Depredation and Other Harvest

Depredation issues in 2014–2015 resulted in the take of 4 mountain lions compared to 10 in 2013–2014. The other harvest for the 2014–2015 season accounted for 2 of the documented take of mountain lions, 1 being incidentally trapped while the other was struck by a vehicle on Interstate 80.

Population Trend

Mountain lion habitat remains in good condition throughout the Eastern Region with an ample prey base and minimal overall loss of habitat due to development activities. Range fires over the last 2 decades have converted tens of thousands of acres of mule deer habitat to vegetation dominated by grasses and annuals in the Eastern Region. Some mule deer summer ranges, and more importantly, some critical mule deer winter ranges burned. The future status and trend of mule deer herds in the burned areas will have the greatest effect on mountain lion productivity and survivability. The protection of intact mule deer winter ranges and the rehabilitation of degraded areas will be paramount in maintaining both mule deer and mountain lion populations. Regional elk populations have significantly expanded in both numbers and range in recent years and offer another resource for mountain lions. Documented mortality in the form of harvest and accidental loss has not exceeded the recruitment capabilities of the mountain lion resource.

Mountain lion harvest has been under close scrutiny by some sportsmen over the last few years. There is some concern over the quantity and quality of mountain lions within the Eastern Region. A review of statistics within the region indicates that although some members of the hunting public may believe a locally reduced population (e.g., they are seeing fewer mountain lions in their favorite canyon or hunting location), regionally the population is holding up well. Population is not directly proportional to harvest as many factors can influence harvest pressure and effort. For example, factors such as weather conditions, hunter effort, and expenses associated with hunting can affect annual mountain lion harvest.

Age and sex structure is a good measure of mountain lion populations. Overharvest will result in detectable changes to age and sex structure in the harvest.

The mean age of mountain lions taken by hunters in the Eastern Region was 4.0 years, which is consistent with the 10-year-mean (Table 5). Based on sex and age ratios in the harvest, long-term harvest data analysis, and recorded mortality, the overall Eastern Region mountain lion population trend is considered to be stable (Tables 5 and 6).

Table 5: Eastern Region frequency and mean age of harvested mountain lions, 2005–2015.

Year	Males harvested	Females harvested	Mean age males	Mean age females	Mean age all mountain lions
2005–2006	37	22	3.8	3.7	3.8
2006–2007	38	18	4.2	3.4	3.9
2007–2008	31	24	3.8	3.8	3.8
2008–2009	38	16	4	4.1	4.1
2009–2010	40	34	3.8	3.8	3.8
2010–2011	49	22	3.7	3.2	3.6
2011–2012	38	21	3.9	4.1	4.0
2012–2013	58	53	4.6	4.4	4.5
2013–2014	42	22	3.9	5.1	4.3
2014–2015	35	24	4.1	3.9	4.0

Table 6: All known take of mountain lions in Eastern Region, 2005–2015.

Year	Season Length (days)	Maximum allowable hunter harvest	Hunter harvest	Depredation take	Other take	Total take
2005–2006	365	167	59	6	5	70
2006–2007	365	167	56	12	6	74
2007–2008	365	167	55	10	0	65
2008–2009	365	167	54	11	3	68
2009–2010	365	143	74	18	6	98
2010–2011	365	143	71	13	3	87
2011–2012	365	232	59	11	4	74
2012–2013	365	232	111	20	3	134
2013–2014	365	122	64	10	1	75
2014–2015	365	113	56	5	4	65
Mean	365	165	66	12	3	81

Management Conclusions

The lack of snow throughout most of the winter of 2014–2015 led to below average hunter participation and hunter success throughout the Eastern Region. The maximum allowable hunter harvest objective for the Eastern Region was 113, of which hunters took 57 mountain lions.

Mountain lion population trends are stable within the Eastern Region. Although some of the more accessible and popular mountain lion hunting areas may be difficult to locate a mountain lion, there are sufficient base populations of mountain lions to allow for adequate reproduction and population maintenance. The dispersal of mountain lions from adjacent mountain ranges with little or no harvest is common. The base populations of prey species on which mountain lions depend on are currently at stable to increasing levels regionally and are expected to continue to sustain mountain lion populations.

Southern Region: Areas 16, 17, 21, 22, 23, 24, 25, 26 and 27
Report by: Cooper Munson

Hunt Results

The 2014–2015 mountain lion season ran from March 1, 2014 through February 28, 2015 in all areas of the Southern Region, with the exception of Area 28, which remains closed to mountain lion hunting. The harvest limits in all areas were combined to form a regional harvest objective of 52 mountain lions. Hunter harvest during the past year was the lowest in the past 10 years (Table 7). Much of the hunter harvest occurred in Units 221–223 and 231 (Table 8).

Table 7: Annual harvest by unit throughout the Southern Region, 2005-2015.

Area Group	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
161-164	4	5	6	3	11	8	5	3	2	3
171-173	7	10	10	8	4	4	3	3	7	1
211-212	0	2	1	0	0	0	0	0	0	1
221-223	4	1	6	6	3	6	12	12	8	8
231	5	1	1	6	2	4	2	9	4	5
241-245	3	4	5	4	4	7	5	6	6	2
251-253	0	0	1	3	1	1	0	1	0	0
261-268	0	2	4	2	0	1	1	1	2	0
271-272	0	2	0	0	0	0	1	0	0	0
Totals	**23**	**27**	**34**	**32**	**25**	**31**	**29**	**35**	**29**	**20**

Table 8: Mountain lion take by all methods in the Southern Region, 2014-2015.

Management Area Groups	Harvest Limit	Sport Harvest	Depredation Harvest	Other Harvest	Total Harvest
161-164	*Regional*	2	1		**3**
171-173		1			**1**
211-212		0	1		**1**
221-223		8			**8**
231		5			**5**
241-245		2			**2**
251-253		0			**0**
261-268		0			**0**
271-272		0			**0**
Totals:	**52**	**18**	**2**	**0**	**20**

Hunter harvest in the Southern Region for the 2014–2015 season consisted of 18 mountain lions, which is lower than the 26 mountain lions harvested during the 2013–14 season.

Table 9: Frequency and age of total harvest for mountain lions in the Southern Region, 2005-2015.

Year	Harvest		Mean age		
	Males	Females	Males	Females	All mountain lions
2005–2006	15	8	4.7	3.4	4.3
2006–2007	14	16	4.1	4	4.05
2007–2008	18	14	4.8	4.6	4.7
2008–2009	11	14	3.2	3.3	3.24
2009–2010	13	12	5	4.5	4.8
2010–2011	13	12	5.2	3.5	4.4
2011–2012	16	9	4.8	3.6	4.3
2012–2013	24	8	4.5	3.9	4.15
2013–2014	16	10	3.44	3.55	3.48
2014–2015	8	9	4.5	4.73	4.6

Table 10: All known take of mountain lions in the Southern Region, 2005-2015.

Season Year	Season Length	Harvest Limits	Harvest Type			
			Sport	Depredation	Other	Total
2005–2006	365	68	21	2	0	**23**
2006–2007	365	68	27	2	1	**30**
2007–2008	365	68	32	0	2	**34**
2008–2009	365	68	25	3	4	**32**
2009–2010	365	60	25	0	0	**25**
2010–2011	365	60	25	5	1	**31**
2011–2012	365	60	25	3	1	**29**
2012–2013	365	99	32	1	2	**35**
2013–2014	365	52	26	2	1	**29**
2014–2015	365	52	17	3	0	**20**
Mean	**365**	**65.5**	**25.6**	**2**	**1.2**	**28.8**

Population Trend

The 2014–2015 Southern Region mountain hunter harvest consisted of 8 males and 9 females for a male to female ratio of 0.88:1. The 5-year mean is 1.65:1. Total mountain lion harvest decreased over the previous season with 20 mountain lions harvested during 2014–2015. Mean age of males was 4.5, which is consistent with the 10-year mean age of 4.6 (Table 9). Mean age of females was 4.7, which is above the 10-year mean age of 3.9. Overall, the mean age of 4.6 is above the 10-year mean of 4.2 years of age. The total harvest of 20 mountain lions is below the mean of 26.3 over the last 10 season (2005–2015; Table 10). The Southern Region combined harvest was well below the 2014–2015 harvest limit of 52.

Management Conclusions

Overall, mountain lion take in general and hunter harvest specifically has been conservative this past year. Below average precipitation was received throughout the Southern Region during 2014, which may result in slightly lower availability of prey species. The western portion of the Southern Region (Areas 16, 17, and 21) accounted for 15% of the Southern Region mountain lion harvest compared with 31% in 2013–2014 and 21% in 2012–2013. Days hunted reported by sport hunters was a mean of 3.1. The mean body condition reported was 3.8 (scale 1 – 5 with 1 being poor and 5 being excellent), indicating that most mountain lions were in very good condition. Based on data from harvested mountain lion and the Mountain Lion Harvest Reports, I believe that the mountain lion population in the Southern Region continues to be stable.

BLACK BEAR

Western Region
Report by: Carl Lackey

Specific data on all black bears handled by Department personnel was first recorded in 1997 with a sample size of 12 individuals. During the last 10 years, the number of bears handled, including captures, recaptures, and for documented mortalities [e.g., lethal removal, road kill]) has varied (Table 1). The cumulative total, including all captures, recaptures, and for documented mortalities since 1997 through the end of 2014 has reached 1,215 bears.

Table 1: Bears handled in the Western Region, 2005–2014.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	**2014**
Bears handled	74	88	159	68	40	79	78	83	97	**140**
Cumulative total[a] (since 1997)	383	471	630	698	738	817	895	978	1075	**1215**

[a] *Includes recaptured bears previously handled and marked in the same or preceding years.*

NDOW maintains a database containing various data on all bears captured or handled since 1997. Bears that were captured and released have been routinely marked with ear tags and tattoos since 1998. Passive Integrated Transponder (PIT) tags (microchips) were first applied in 2010 as an additional means of permanently marking each bear. To date, NDOW has marked 460 bears with PIT tags.

Hunt Results

Nevada's first managed black bear hunting season commenced on August 20, 2011 and ended on December 31, 2011. The 2012, 2013, and 2014 seasons were open from September 15 to December 31. The harvest limits established by the Nevada Board of Wildlife Commissioners remained at 20 bears each year. Forty-five tags were available each year to resident and non-resident licensed hunters. Applications for these tags have increased each year with 1,156 tag applications received in 2011, 1,762 in 2012, 2,021 in 2013, and 2,143 in 2014.

NDOW's Black Bear Management Plan specifies annual harvest data will be analyzed along with harvest data from the most recent three years. Additionally, once NDOW has amassed 10 years of harvest data, the annual review will include an examination of the long-term data set. Criteria identified in the Black Bear Management Plan (Table 2) are consistent with maintaining a sustainable bear population, and are similar to criteria used by many other wildlife agencies. Further, to fully evaluate the demographics of the state's bear population, NDOW supplements this hunter harvest data with mark-recapture analyses to determine population size and trend. This allows NDOW the ability to evaluate various demographics of the bear population, both short-term and long-term, and to discern any substantive changes in vital rates that may initiate a change in the bear hunt strategy.

Table 2: Black bear management plan criteria used in assessing Nevada hunts, 2014.

Parameter	Light Harvest	Moderate Harvest	Heavy Harvest
% females in harvest	<30%	30–40%	>40%
% adult females within female harvest	>55%	45–55%	<45%
Mean age of harvested males	>4 years	2–4 years	<2 years

Each tag holder or their licensed guide was required to attend a mandatory bear hunt seminar (termed indoctrination) prior to receiving their tag. Indoctrination courses were held in Reno and Las Vegas and covered information pertaining to bear behavior, bear sex and size identification, legal hunting areas, hunting methods, and field care of the hide and meat. Additionally, attendees were thoroughly instructed about open hunting units and specifically on areas to avoid such as private properties, Indian Reservations, and the Tahoe Basin. All hunters were required to personally bring the hide and skull of harvested bears to a Department representative for check. Information on each kill was recorded, including the sex of each bear, estimated age, physical condition, location of kill, method of harvest, and other related parameters. Of the 57 successful hunters to date; six (10.5%) were female hunters, 86% saved the bear meat, 21% were guided by professional guides, and two (4%) were nonresident hunters. One hunter killed a bear on private Indian lands in Douglas County after being invited to do so by the landowner.

Analyses of harvest data from the last three years indicate that the number and age cohorts of bears killed during the hunt can be considered light and well within the criteria adopted to maintain a sustainable bear population (Table 3).

Table 3: Hunter harvest data from Nevada bear hunts, 2011–2014.

Data from all successful hunters	**2011**	**2012**	**2013**	**2014**	**Last 3 years**	**Harvest criteria indicator**	**All Years**
Male bears killed	9	10	10	12	**32**		41
Female bears killed	5	1	4	6	**11**		16
% females in harvest	*36%*	*9%*	*29%*	*33%*	*26%*	*Light harvest*	*28%*
% adult females within female harvest	*80%*	*100%*	*75%*	*100%*	*91%*	*Light harvest*	*88%*
Mean age males (years)	*5.9*	*5.1*	*6.1*	*7*	*6.1*	*Light harvest*	*6.2*
Mean age females (years)	6.9	9.0	7.8	10.5	**9.4**		8.3
Mean age all (years)	5.9	5.5	6.6	8.2	**7.0**		6.7
Male:female ratio	1.8	10.0	2.5	2.0	**2.9**		2.6
Hunter success rate	31%	24%	31%	40%	**32%**		32%
Hunter effort in days/kill	8.3	8.7	7.8	5.1	**6.9**		7.2
Average days scouted	7.0	2.1	4.0	2.9	**3.0**		4.0
Average days hunted	8.3	8.7	8.4	5.1	**7.1**		7.4
Hunt Method: Dogs Spot and stalk	 12 2	 7 4	 8 5	 13 5	 **28** **14**		 40 16

Conflicts

In 2014 human-bear conflicts increased 41% over the conflicts recorded in 2013 (498) with NDOW personnel handling about 704 complaints and reports of bears. With 2014 being the fourth consecutive drought year, the resulting lack of natural foods was likely the main reason for the increase. Annual conflicts vary in number depending on climatic conditions and other factors, but when the conflict history is viewed in 5-

year periods, it is clear they have continued to rise (Figure 1). The single year that stands out as an anomaly was 2007, when over 1,500 complaints were received.

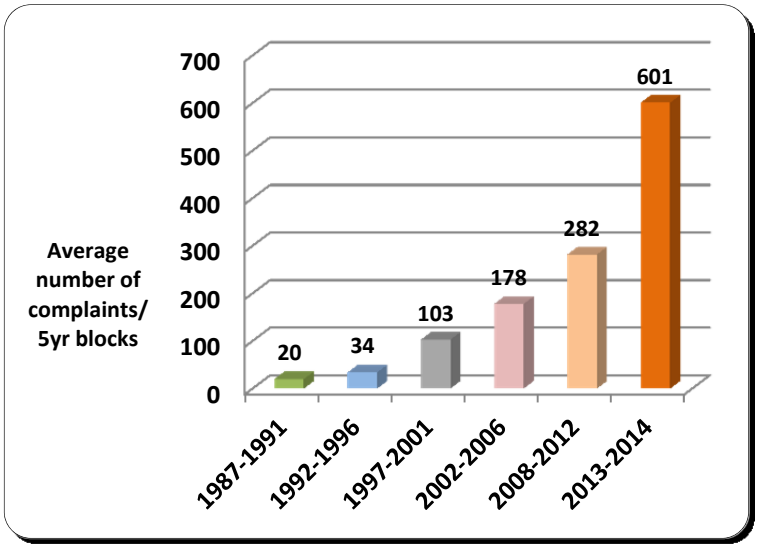

Figure 1: Statewide human-bear conflicts by 5-year block-(*1500+ complaints in 2007 withdrawn***)**

The majority of complaints received are of bears accessing garbage or other sources of human foods. Other common complaints were of bears damaging apiaries, breaking into garbage enclosures or sheds, damage to fruit trees, breaking into homes and vehicles, or just a bear frequenting a particular area. Per NDOW policy the usual course of action is to first advise the complainant on how to avoid future conflicts by removing access to all human sources of food. For those people living in or near the urban-wildland interface, tolerance of wildlife is also encouraged. Traps are often set in non-conflict and conflict situations so that the bears may be sampled and then marked for future identification. Regardless of the reason for capture, bears are marked and released roughly 87% of the time.

The fall months of September–November are predominantly when most calls were received (50%) with over 170 complaints in October alone. This is the time of year when bears are in hyperphagia in preparation for the upcoming winter torpor. When natural hard and soft mast foods are unavailable during this period, bears become more opportunistic, and often bolder in their search for food which brings them into close contact with humans. Backyard fruit trees along the urban-wildland interface offer an irresistible food source. Coupled with the reliability (in place and time) of trash cans, human-bear conflicts spiked in areas of west Carson City, and in neighborhoods of the Truckee Meadows such as Verdi and Caughlin Ranch.

Reported conflicts in 2014 were predominantly from Washoe County (48%), and in particular Incline Village which accounted for 22% of all calls received statewide (Figure 2). Property damage for the year was reported at over $26,000. However, it should be noted that most people don't report damage unless it is substantial and these figures are not always reported.

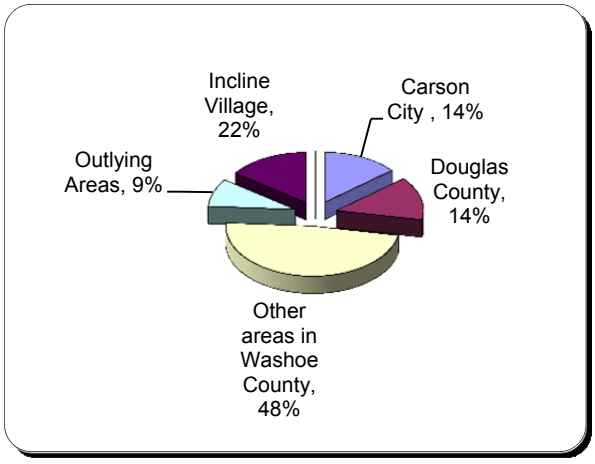

Figure 2: Human-bear conflicts by county, 2014.

Including recaptures and multiple captures per event, 122 individual bears were handled on approximately 141 capture events. This included 24 bears handled for research purposes only. Of the 122, 82 were first-event bears (those not previously captured or handled). Additionally, some bears were caught incidental to ongoing complaints but not necessarily as conflict bears.

Proportion and mean age or sex of first-event bears does not differ substantively through time when evaluating both conflict and research-captured bears (Table 5). Most bears were either caught in culvert traps or by free-ranging capture techniques. Twenty-seven cubs of the year were handled with 24 of these being marked and released (3 were first-event deaths). Fifty-four first-event bears were marked

and released while 28 were documented as mortalities on the initial incident (e.g., sport harvest, unknown bears hit by vehicles; Table 6).

Table 5: Number of bears sampled by age and sex class of all first-event bears with mean age in years for adults in Nevada during 2005–2014. Bears of unknown age or sex (2) were excluded.

Age cohort	Sex	2005	2006	2007	2008	2009	2010	2011	2012	2013	**2014**
Cubs ≤12mo.	♂	7	9	12	5	5	1?	7	9	4	**13**
	♀	3	4	17	2	0	1?	7	8	7	**14**
Sub-adults 1–3 yrs	♂	9	8	25	12	4	3	11	9	15	**19**
	♀	5	6	11	4	3	8	6	2	10	**7**
Adults ≥4 yrs and mean age	♂	2 @ 6.5	17 @ 6.2	21 @ 7.6	5 @ 5.2	6 @ 5.2	13@ 6.2	15@ 7.2	17@ 6.1	14@ 6.5	**16@ 6.4**
	♀	2 @ 11.0	5 @ 7.8	23 @ 8.9	1 @ 6.0	2 @ 13.5	8@ 6.6	8@ 8.5	9@ 8.2	17@ 9.2	**13@ 8.1**

Mortalities

There were 48 documented mortalities recorded this year (Table 6), and 20 of these were marked bears. Five cases of mortality by other bears were recorded on trail cameras this year. A male (who was later captured and estimated to weigh 500 lbs.) killed a marked sow and three cubs of the year after excavating her winter den. This male bear stayed at the site for 16 days consuming the cubs and the sow. In a separate incident a large male killed and consumed a yearling female that had been caught two hours earlier in a foot-hold snare set by NDOW as part of a marking study. This male was later killed in the sport hunt.

Table 6: Documented mortalities of black bears in Nevada, 2005–2014. Marked Nevada bears killed in other states (25 since 2001) are excluded.

Mortality Type	2005	2006	2007	2008	2009	2010	2011	2012	2013	**2014**	Total (1997-present)
Hit by Car	14	22	35	6	8	8	3	9	12	**18**	**188**
Public Safety	1	4	10	17	3	12	8	4	5	**1**	**84**
3 – Strikes	NA	NA	1	6	3	8	0	1	0	**0**	**19**
Sport Hunt	NA	NA	NA	NA	NA	NA	14	11	14	**18**	**57**
Depredation	2	5	5	1	0	2	1	2	2	**2**	**35**
Illegal	0	0	3	0	0	1	1	0	0	**0**	**6**
Other	0	1	8	2	1	3	6	4	9	**9**	**57**
Total	17	32	62	32	15	34	33	31	42	**48**	**446**
Cumulative Total (since 1997)	117	149	211	243	258	292	325	356	398	**446**	

There were four incidences of bears being euthanized by NDOW after displaying unusual behavior. All four were necropsied by the NDOW veterinarian and fresh and formalin fixed tissues and serum samples were sent to the Oregon State University, Veterinary Diagnostic Lab, Corvallis, Oregon. Significant findings included non-suppurative encephalitis in three of the four bears, with milder changes in the brain of the fourth bear. Tissues were negative for Canine Distemper Virus (CDV), Rabies, and West Nile Virus (WNV), however one yearling bear did have titers for WNV. One of these four bears was a young male killed for public safety reasons in Glenbrook. To date, in depth testing on tissues from all four bears has failed to

come up with a specific cause for the changes seen in the brains. The lesions suggest a virus is responsible but it remains unclear as to the type or source of virus.

Expenditures

Expenditures for the time period covered by this report include monies spent on drugs and medical supplies, bear trap maintenance, and capture equipment. Monies spent on drugs for sedation approximated $2,900. About $18,247.15 was expended in calendar year 2014 for bear management-related activities (including maintenance and capture equipment). Another $6,369.99 was spent on the NDOW's public education program, *Bear Logic*.

Status

Nevada's bear population is believed to be part of the larger Sierra Nevada population, estimated at 10,000–15,000 bears. A viable population of black bears exists in the Carson Range of the Sierra Nevada, the Pinenut Mountains, Virginia Range, Peavine Mountain, Pine Grove Hills, Wassuk Range, Sweetwater Mountains, East Walker River area, and likely the Excelsior Range. Occupation of historical habitat has been documented (Figure 3), but it is that likely viable populations do not exist at this time and these are transient bears. Three instances of confirmed presence of bears in historical range occurred this year. Bear scat was found near Panaca and in the north Toquima Range. There was also a photo of a bear sitting in the Little Hat Guzzler in northern Washoe County. One can conclude from these analyses and long-term trends in the data set, along with empirical data collected from captured bears, sightings and mortalities, that Nevada's black bear population is increasing in distribution, both numerically and geographically.

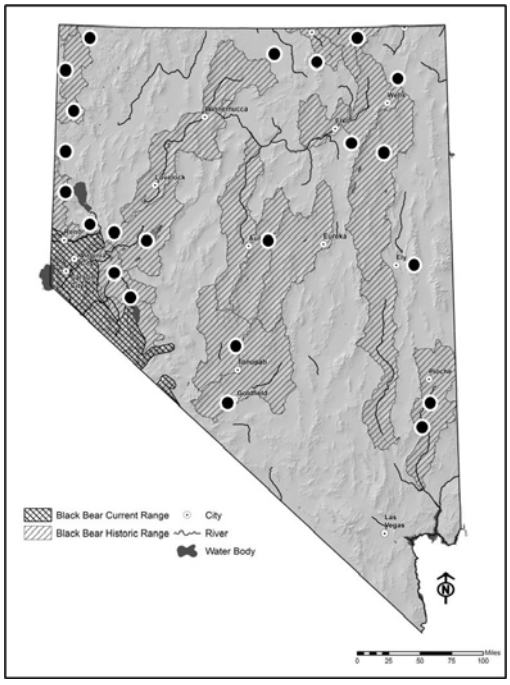

Figure 3: Black bear historical and current range. Recent (1975-2014) black bear captures, sightings, tracks or scat, as depicted by large black dot.

The bear population, as evidenced by annual conflict complaints, depends on adequate production of natural food resources such as soft mast (berries), hard mast (pine nuts), forbs, grasses, insects, and a mammalian prey base. These resources are most often dependent upon annual climatic conditions. Thus when northern Nevada experiences drought conditions, bears will seek out other sources of food, often causing human-bear conflicts to increase. The winter of 2014 was one of the warmest and driest on record, and followed three years of drought conditions. Conflicts are expected to rise substantially again in 2015. Nonetheless, the long-term viability of the bear population appears favorable. Modeled population estimates were calculated in 2008 at 262±31, in 2011 at 456±39, and in 2014 at 445±14 for the area encompassing the Carson Range, the Virginia Range and the Pinenut Mountains. The current state estimate (viable populations within current range) is over 600 animals.

APPENDIX

Harvest, Survey, and Population Tables

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Harvest, Survey, and Population Tables

TABLE 1. 2014 MULE DEER POINT CLASS BY UNIT AND UNIT GROUP

Unit of Harvest	Does	Fawns		Bucks by Antler Points						Unit Buck Total	Unit Group Buck Total	% 4+ pts	TOTAL DEER
		Female	Male	1	2	3	4	5	6+				
011	2			1	17	16	24		1	59			
012	2	1			6	16	12	2	1	37			
013					13	16	9	3		41	137	38%	142
014	2		1	4	20	49	45	3		121	121	40%	124
015	1		1	1	3	10	7	1		22	22	36%	24
021	3			1	2	16	13	3		35	35	46%	38
022	3			1	8	23	26	5	2	65	65	51%	68
031	3			5	32	49	73	6	5	170	170	49%	173
032	3			2	21	40	30	1	2	96	96	34%	99
033	4				11	19	22	2		54	54	44%	58
034	1				3	19	17	1		40	40	45%	41
035	1			3	20	34	21	3		81	81	30%	82
041					2	11	15		1	29			
042		1		1	4	4	10		1	20	49	55%	50
043	29			5	22	26	27	1	2	83			
044	4				8	11	9			28			
045	6			3	2	4	3	2		14			
046	5			1	19	17	20			57	182	35%	226
051	29			6	53	58	69	8	1	195	195	40%	224
061	109	4	6	10	93	46	48	3	1	201			
062	237	10	14	20	137	98	158	12	5	430			
064	54	2	2	2	29	31	28	3		93			
066	18	2	3	2	16	12	13			43			
067	24	2	2	1	25	23	35	9	2	95			
068	64		3	4	37	35	67	14	5	162			
unk^	1						2			2	1,026	39%	1,583
065				2	7	22	23	8	1	63	63	51%	63
071	6		1	8	57	34	42			141			
072	8		2	4	57	30	47	6	1	145			
073	6		1	3	35	22	24	3	1	88			
074	3			4	10	9	16	1		40			
075	11			11	60	59	48	8	2	188			
076	1			3	22	19	23	3		70			
077	1			2	23	16	23		1	65			
078	1			1	5	3	2	1		12			
079				3	9	5	5			22			
091							1			1	772	33%	813
081					1	4	27	3	3	38	38	87%	38
101	127	3	8	16	100	77	73	9	1	276			
102	245	10	19	37	173	159	117	9	2	497			
103	7			14	87	33	25	4		163			
104	7			12	41	15	24	1		93			

TABLE 1. 2014 MULE DEER POINT CLASS BY UNIT AND UNIT GROUP

Unit of Harvest	Does	Fawns		Bucks by Antler Points						Unit Buck Total	Unit Group Buck Total	% 4+ pts	TOTAL DEER
		Female	Male	1	2	3	4	5	6+				
105	1			1	4	1	2			8			
106			1	1	8	7	9	1	1	27			
107					1	1	1			3			
108				4	26	20	21			71			
109	21			1	5	2	7			15			
unk^	2				1	2				3	1,156	27%	1,607
111	46		3	16	156	84	67	4	4	331			
112	1			1	4	2	5		1	13			
113	1			2	5	3	4			14			
unk^							4			4	362	25%	413
114	9			2	9	17	18	1	1	48			
115	15			3	11	15	23	2	2	56	104	45%	128
121	8			13	65	57	55	5	3	198	198	32%	206
131	2	1		7	65	82	85	6	1	246			
132	3		1	3	14	22	39	6	3	87			
133	1	1		1	1	7	7	2	1	19			
134	1					3	1			4	356	42%	366
141	6			6	31	23	25	1	1	87			
142	1			1	5	1	5			12			
143	1			1	12	12	12	1		38			
144	3		1	8	48	38	25	1	1	121			
145				3	11	9	7		1	31	289	28%	301
151	4				12	9	8	3		32			
152	92	3	5	2	7	9	6	1		25			
153				2	4	1	3			10			
154	2			1	4	10	13	1		29			
155	71	1	8		6	8	8			22			
156					1	2	1		1	5			
unk^	1									0	123	37%	310
161	15			13	39	44	28	3		127			
162	4		1	7	35	36	32	4		114			
163	2			1	9	14	9	2		35			
164	1			1	1	5	5	2	1	15	291	30%	314
171	6			3	19	12	8	3		45			
172	1			5	8	10	10			33			
173	17	3		18	48	36	38	3		143			
unk^					1					1	222	28%	249
181	7			1	16	17	13		1	48			
182					2	2	3			7			
183	3				8	4	15		1	28			
184	4			2	7	6	3			18	101	36%	115
192	2			2	12	14	15	2		45	45	38%	47

TABLE 1. 2014 MULE DEER POINT CLASS BY UNIT AND UNIT GROUP

Unit of Harvest	Does	Fawns		Bucks by Antler Points						Unit Buck Total	Unit Group Buck Total	% 4+ pts	TOTAL DEER
		Female	Male	1	2	3	4	5	6+				
194				1	5	13	25	8	5	57			
196	1				5	13	16	2		36	93	60%	94
195	1				1	4	13	1		19	19	74%	20
201	4				8	12	4			24			
204					1	2	3			6	30	23%	34
202	1				6	16	15	2	1	40			
205					1	4	2	1		8			
206				1	2	1	5	1		10			
208					1					1	59	46%	60
203			1	1	9	20	14	3	2	49	49	39%	50
211	1				3	6	10			19			
212	1				3	5	11			19			
213										0	38	55%	40
221	8			4	38	33	28	5	5	113			
222	16		1	2	71	41	54	6	6	180			
223	4				7	8	13	2	2	32	325	37%	354
231	6	1		2	37	43	83	9	5	179	179	54%	186
241	1			1	5	11	19	6	4	46			
242				1	6	10	22	4	3	46			
243							2			2			
245							2			2	96	65%	97
251	5				1	3	12	4	1	21			
252										0			
unk^						2				2	23	74%	28
261					3		4			7			
262		1		1	7	14	12		1	35			
263					1	1			1	3			
265										0	45	40%	46
271							1	2		3			
272					1	5	8			14	17	65%	17
291	3			2	12	17	14	1	1	47	47	34%	50
TOTAL	**1,434**	**46**	**85**	**341**	**2,245**	**2,121**	**2,355**	**249**	**102**	**7,413**		**37%**	**8,978**

^unable to to verify correct unit of harvest in hunt group

SPECIAL TAGHOLDER HARVEST BY UNIT

HUNT	UNIT	#
PIW	014	1
PIW	021	2
PIW	022	1
PIW	077	1
PIW	081	1
PIW	102	1
PIW	121	1

HUNT	UNIT	#
PIW	194	5
PIW	196	1
PIW	222	1
PIW	223	1
PIW	243	1
PIW	262	1

HUNT	UNIT	#
SILVER	112	1
HERITAGE	241	1

TABLE 2. % FOUR-POINT OR BETTER MULE DEER HARVEST BY UNIT GROUP, 2005 - 2014

Unit Group	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
011- 013	59%	51%	47%	59%	56%	51%	56%	40%	38%	38%
014	61%	59%	38%	49%	60%	51%	48%	54%	41%	40%
015	59%	52%	40%	50%	44%	53%	59%	47%	42%	36%
021	69%	63%	60%	50%	48%	42%	56%	47%	45%	46%
022	51%	50%	48%	48%	50%	48%	73%	67%	57%	51%
031	51%	51%	44%	46%	54%	46%	36%	39%	48%	50%
032	45%	36%	39%	34%	43%	38%	24%	27%	32%	34%
033	53%	51%	45%	38%	44%	51%	49%	26%	36%	44%
034	64%	59%	49%	36%	75%	62%	56%	45%	64%	45%
035	59%	46%	49%	63%	60%	67%	40%	39%	45%	30%
041, 042	47%	42%	41%	55%	58%	55%	43%	21%	27%	55%
043 - 046	43%	38%	47%	49%	47%	47%	34%	32%	33%	35%
051	36%	34%	39%	39%	46%	33%	29%	27%	38%	40%
061,062,064,066-068	45%	44%	47%	47%	47%	44%	49%	46%	40%	39%
065	53%	60%	64%	72%	64%	65%	71%	58%	58%	51%
071 - 079, 091	39%	42%	41%	38%	43%	41%	40%	40%	33%	33%
081	42%	59%	58%	59%	84%	71%	78%	65%	71%	87%
101 - 108	30%	34%	33%	33%	39%	39%	37%	30%	28%	27%
111 - 113	32%	29%	21%	27%	32%	27%	31%	24%	26%	25%
114, 115	53%	57%	43%	44%	46%	48%	59%	40%	41%	45%
121	30%	32%	20%	31%	32%	28%	32%	22%	36%	32%
131 - 134	45%	50%	43%	44%	53%	43%	56%	45%	43%	42%
141 - 145	32%	28%	29%	37%	36%	40%	35%	27%	30%	28%
151, 152, 154, 155	38%	38%	40%	48%	54%	49%	42%	32%	31%	37%
161 - 164	36%	40%	29%	46%	47%	34%	35%	34%	39%	30%
171 - 173	39%	36%	33%	41%	45%	33%	36%	26%	33%	28%
181 - 184	38%	28%	37%	49%	41%	40%	39%	37%	32%	36%
192	51%	43%	51%	35%	35%	46%	17%	41%	54%	38%
194, 196	73%	66%	61%	62%	59%	54%	68%	64%	61%	60%
195	38%	49%	35%	35%	46%	52%	38%	66%	25%	74%
201, 204	31%	39%	43%	30%	45%	17%	25%	42%	19%	23%
202, 205-208	37%	43%	31%	44%	46%	38%	53%	27%	49%	46%
203	39%	37%	38%	28%	34%	26%	35%	33%	42%	39%
211, 212	47%	24%	29%	33%	42%	64%	30%	39%	44%	55%
221 - 223	46%	47%	37%	48%	48%	48%	48%	42%	43%	37%
231	50%	57%	51%	61%	69%	61%	65%	55%	55%	54%
241 - 245	62%	52%	56%	66%	65%	76%	74%	62%	62%	65%
251 - 253	67%	40%	54%	72%	54%	31%	65%	56%	53%	74%
261 - 268	41%	13%	7%	25%	40%	52%	27%	35%	27%	40%
271, 272	73%	57%	35%	55%	70%	90%	44%	54%	45%	65%
291	43%	42%	51%	40%	41%	46%	23%	22%	46%	34%
Statewide	**40%**	**40%**	**38%**	**41%**	**46%**	**42%**	**42%**	**37%**	**37%**	**37%**

This table includes harvest from all hunts and weapon classes.

TABLE 3. 2014 MULE DEER JUNIOR HUNT HARVEST BY UNIT GROUP

UNIT GROUP	1st Choice Apps	1st Draw tag sales	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% Bucks
011 - 013	107	91	91	91	2 to 1	89%	44	52%	91%
014	76	53	53	53	2 to 1	98%	39	74%	92%
015	32	21	21	21	2 to 1	95%	10	48%	80%
021	47	16	16	16	3 to 1	100%	12	75%	75%
022	42	23	23	23	2 to 1	96%	13	57%	85%
031	56	51	51	51	1 to 1	98%	38	75%	92%
032	25	25	46	46	1 to 1	85%	17	41%	82%
033	35	32	32	32	1 to 1	100%	20	63%	80%
034	16	16	16	16	1 to 1	88%	9	63%	89%
035	34	33	33	33	1 to 1	100%	17	52%	94%
041, 042	30	25	25	25	2 to 1	96%	17	68%	94%
043 - 046	122	112	112	112	1 to 1	90%	56	53%	77%
051	82	82	101	101	1 to 1	88%	56	59%	71%
061, 062, 064, 066 - 068	421	413	413	413	1 to 1	92%	255	64%	84%
065	22	19	19	19	2 to 1	89%	16	89%	100%
071 - 079, 091	393	393	399	397	1 to 1	91%	245	64%	83%
081	19	13	13	13	2 to 1	92%	9	69%	100%
101 - 108	190	190	252	252	1 to 1	91%	108	45%	66%
111 - 113	228	217	217	217	1 to 1	93%	122	59%	58%
114, 115	66	66	95	95	1 to 1	95%	35	38%	89%
121	74	69	69	69	1 to 1	96%	56	83%	84%
131 - 134	197	161	161	161	2 to 1	96%	118	75%	92%
141 - 145	107	107	119	119	1 to 1	88%	71	64%	83%
151, 152, 154, 155	68	65	65	65	1 to 1	95%	43	68%	81%
161 - 164	146	146	172	172	1 to 1	95%	98	58%	76%
171 - 173	94	94	122	122	1 to 1	93%	58	49%	53%
181 - 184	74	74	111	110	1 to 1	90%	40	38%	65%
192	38	19	19	19	2 to 1	89%	14	79%	86%
194, 196	145	28	28	28	6 to 1	89%	24	89%	96%
195	25	11	11	11	3 to 1	82%	7	73%	86%
201, 204	33	13	13	13	3 to 1	92%	9	69%	56%
202, 205, 206	33	20	20	20	2 to 1	90%	16	85%	94%
203	43	40	40	40	1 to 1	95%	21	55%	95%
211, 212	17	17	17	15	1 to 1	93%	12	80%	83%
221 - 223	245	196	196	196	2 to 1	94%	119	63%	73%
231	159	69	69	69	3 to 1	90%	47	72%	87%
241 - 245	94	37	37	37	3 to 1	100%	25	68%	96%
251 - 253	24	24	25	25	1 to 1	100%	10	40%	50%
261 - 268	34	18	18	18	2 to 1	94%	10	56%	90%
271, 272	24	15	15	15	2 to 1	100%	5	33%	100%
291	35	26	26	26	2 to 1	100%	17	65%	82%
TOTALS	**3,752**	**3,140**	**3,381**	**3,376**	**2 to 1**	**93%**	**1,958**	**60%**	**80%**

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given unit group

Tags Sold - total tags sold from first 2 draws and first come first serve process; Commission approved tag quota was 3,606

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter return questionnaires received compared to total tags available

% Hunter Success - # of successful hunters divided by Tags Avail (includes did not hunts; a portion of nonreturned questionnaires are assumed to be successful based on past trends)

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
RESIDENT PIW ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1000								
STATEWIDE	3,544	22	22	162 to 1	95%	17	77%	53%
HERITAGE MULE DEER ANY LEGAL WEAPON HUNT 1100 AND 1201								
STATEWIDE		2	2		50%	1	--	100%
SILVER STATE MULE DEER ANY LEGAL WEAPON HUNT 1300								
STATEWIDE	3,123	1	1	3123 to 1	100%	1	100%	100%
DREAM TAG MULE DEER ANY LEGAL WEAPON HUNT 1500								
STATEWIDE		1	1		100%	0	0%	
RESIDENT AND NONRESIDENT MULE DEER LANDOWNER DAMAGE COMPENSATION HUNT 1115 AND 1215								
013		5	5		100%	3	60%	100%
015		2	2		100%	0	0%	
031		13	13		92%	7	54%	86%
032		10	10		70%	6	70%	67%
034		6	6		100%	4	67%	50%
035		5	5		100%	4	80%	50%
042		2	2		100%	2	100%	50%
045		1	1		100%	1	100%	100%
051		13	13		92%	10	77%	50%
062, 068		5	5		60%	3	80%	67%
065		1	1		100%	1	100%	100%
073		5	5		80%	3	60%	33%
101 - 103		34	34		91%	20	62%	65%
111		3	3		67%	2	100%	0%
114 , 115		7	7		100%	4	57%	75%
121		1	1		100%	1	100%	100%
132 , 133		6	6		100%	4	67%	100%
141, 143		5	5		100%	3	60%	67%
152, 154		4	4		100%	1	25%	100%
163		4	4		100%	3	75%	33%
172		1	1		100%	0	0%	
231		65	65		95%	29	46%	76%
241 , 242, 245		8	8		88%	3	38%	100%
TOTALS		**206**	**206**		**92%**	**114**	**58%**	**68%**
RESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1331								
011 - 013 Early	475	164	160	3 to 1	96%	60	38%	33%
011 - 013 Late	263	40	39	7 to 1	97%	9	23%	44%
014 Early	339	77	76	5 to 1	93%	39	53%	28%
014 Late	334	42	35	8 to 1	100%	25	71%	44%
015	130	37	36	4 to 1	92%	7	19%	29%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
021	397	43	43	10 to 1	88%	21	51%	52%
022	357	65	64	6 to 1	94%	42	67%	48%
031	416	170	166	3 to 1	94%	101	63%	44%
032	237	131	128	2 to 1	94%	53	43%	30%
033 Early	137	68	63	3 to 1	84%	15	25%	27%
033 Late	149	37	30	5 to 1	100%	13	43%	54%
034	105	39	38	3 to 1	97%	23	61%	43%
035	193	97	95	2 to 1	91%	46	51%	20%
041, 042	165	48	45	4 to 1	96%	20	44%	60%
043 - 046 Early	458	191	189	3 to 1	91%	70	39%	23%
043 - 046 Late	254	81	80	4 to 1	96%	39	50%	49%
051	450	278	274	2 to 1	94%	103	39%	41%
061, 062, 064, 066 - 068 E	2,232	1,239	1,219	2 to 1	94%	557	47%	31%
061, 062, 064, 066 - 068 L	1,144	137	129	9 to 1	95%	72	57%	71%
065	409	50	50	9 to 1	98%	32	64%	50%
071 - 079, 091 Early	1,541	772	755	2 to 1	95%	332	45%	23%
071 - 079. 091 Late	1,065	143	138	8 to 1	93%	83	62%	53%
081	251	41	41	7 to 1	95%	22	56%	86%
101 - 109 Early	1,474	1,400	1,385	1 to 1	92%	327	25%	14%
101 - 109 Mid	1,273	1,240	1,217	1 to 1	93%	298	25%	23%
101 - 109 Late	601	300	291	3 to 1	92%	131	47%	37%
111 - 113 Early	987	545	535	2 to 1	92%	196	38%	15%
111 - 113 Late	307	60	59	6 to 1	97%	31	54%	52%
114, 115 Early	140	89	89	2 to 1	92%	21	25%	19%
114, 115 Late	95	39	39	3 to 1	97%	12	31%	42%
121 Early	327	150	151	3 to 1	97%	96	65%	26%
121 Late	185	18	18	11 to 1	100%	14	78%	43%
131 - 134 Early	906	300	293	4 to 1	95%	161	56%	38%
131 - 134 Late	416	30	26	14 to 1	96%	18	69%	67%
141 - 145 Early	476	355	343	2 to 1	95%	146	44%	25%
141 - 145 Late	173	45	45	4 to 1	96%	21	47%	43%
151 - 156 Early	264	140	136	2 to 1	96%	60	45%	22%
151 - 156 Late	124	16	16	8 to 1	81%	5	38%	60%
161 - 164 Early	603	327	320	2 to 1	95%	130	42%	23%
161 - 164 Late	276	36	36	8 to 1	92%	15	44%	47%
171 - 173 Early	558	421	414	2 to 1	94%	92	23%	20%
171 - 173 Late	256	123	122	3 to 1	94%	38	32%	45%
181 - 184	374	171	169	3 to 1	94%	53	33%	36%
192	221	37	34	6 to 1	82%	18	59%	61%
194, 196	1,773	59	55	31 to 1	96%	44	82%	59%
195	193	20	20	10 to 1	100%	8	40%	88%
201, 204	293	32	32	10 to 1	100%	16	50%	31%
202, 205, 206	217	60	59	4 to 1	93%	31	54%	32%
203	141	50	50	3 to 1	96%	20	40%	50%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
211, 212	95	40	39	3 to 1	90%	22	59%	59%
221 - 223 Early	957	325	323	3 to 1	96%	107	34%	27%
221 - 223 Mid	420	125	123	4 to 1	97%	58	48%	24%
221 - 223 Late	652	27	27	25 to 1	85%	15	59%	80%
231	1,381	156	154	9 to 1	92%	80	55%	45%
241 - 245	908	101	101	9 to 1	98%	57	57%	70%
251 - 253	77	40	40	2 to 1	98%	13	33%	77%
261 - 268	382	38	38	11 to 1	95%	25	68%	32%
271, 272	135	28	28	5 to 1	93%	11	39%	64%
291	250	53	53	5 to 1	96%	25	47%	36%
TOTALS	**29,411**	**10,986**	**10,773**	**3 to 1**	**94%**	**4,199**	**40%**	**32%**
RESIDENT ANTLERED MULE DEER MUZZLELOADER HUNT 1371								
011 - 013	30	7	6	5 to 1	100%	3	50%	67%
014	50	14	14	4 to 1	100%	4	29%	75%
015	6	2	2	3 to 1	100%	0	0%	
021	28	4	4	7 to 1	50%	1	--	0%
022	20	5	5	4 to 1	100%	3	60%	67%
031	18	4	4	5 to 1	100%	0	0%	
032	11	7	7	2 to 1	100%	1	14%	0%
033	13	8	7	2 to 1	100%	1	14%	0%
034	7	2	2	4 to 1	100%	0	0%	
035	18	15	14	2 to 1	100%	5	36%	60%
041, 042	8	2	2	4 to 1	100%	1	50%	0%
043 - 046	31	20	19	2 to 1	100%	6	32%	33%
051	39	35	35	2 to 1	94%	14	40%	36%
061, 062, 064, 066 - 068	237	115	114	3 to 1	93%	46	42%	48%
065	28	3	3	10 to 1	100%	1	33%	0%
071 - 079, 091	178	119	118	2 to 1	98%	35	30%	26%
081	42	5	5	9 to 1	80%	3	60%	100%
101 - 109[A]	273	304	300	1 to 1	94%	74	25%	16%
111 - 113	65	25	25	3 to 1	96%	11	44%	9%
114, 115	116	65	61	2 to 1	97%	25	41%	68%
121	29	9	9	4 to 1	100%	6	67%	50%
131 - 134	197	46	43	5 to 1	91%	29	70%	48%
141 - 145	32	24	24	2 to 1	100%	8	33%	13%
151 - 156	23	15	15	2 to 1	100%	5	33%	20%
161 - 164	72	32	32	3 to 1	88%	15	50%	47%
171 - 173	114	100	99	2 to 1	91%	20	21%	0%
181 - 184	33	27	27	2 to 1	85%	7	30%	14%
192	18	6	6	3 to 1	100%	2	33%	0%
194, 196	46	5	5	10 to 1	80%	2	40%	50%
195	17	3	3	6 to 1	100%	1	33%	0%
201, 204	8	2	2	4 to 1	100%	2	100%	0%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
202, 205, 206	10	6	6	2 to 1	83%	1	17%	100%
211, 212	8	7	7	2 to 1	100%	2	29%	0%
221 - 223	74	32	32	3 to 1	100%	11	34%	27%
231	98	23	23	5 to 1	96%	7	30%	43%
241 - 245	26	5	5	6 to 1	100%	2	40%	0%
251 - 253	9	5	4	2 to 1	75%	0	0%	
261 - 268	11	2	2	6 to 1	100%	2	100%	50%
271, 272	11	10	6	1 to 1	100%	0	0%	
291	8	4	4	2 to 1	75%	2	50%	50%
TOTALS	**2,062**	**1,124**	**1,101**	**2 to 1**	**94%**	**358**	**33%**	**33%**

[A]Leftover tags from 1st Draw sold to nonresident muzzleloader applicants

RESIDENT ANTLERED MULE DEER ARCHERY HUNT 1341

011 - 013	51	34	33	2 to 1	88%	4	12%	50%
014	43	13	12	4 to 1	92%	4	33%	25%
015	7	4	4	2 to 1	100%	0	0%	
021	31	18	18	2 to 1	94%	0	0%	
022	24	16	16	2 to 1	100%	0	0%	
031	28	22	22	2 to 1	100%	6	27%	83%
032	50	50	50	1 to 1	100%	8	16%	25%
033	22	18	18	2 to 1	94%	1	6%	100%
034	11	11	9	1 to 1	100%	1	11%	100%
035	17	17	17	1 to 1	100%	3	18%	67%
041, 042	18	12	12	2 to 1	100%	5	42%	60%
043 - 046	82	73	70	2 to 1	94%	7	10%	14%
051	85	81	81	1 to 1	95%	4	5%	25%
061, 062, 064, 066 - 068	283	252	247	2 to 1	93%	42	18%	36%
065	24	12	12	2 to 1	92%	4	33%	50%
071 - 079, 091 Early	312	300	298	1 to 1	94%	37	13%	30%
071 - 079. 091 Late	62	35	35	2 to 1	97%	9	26%	67%
081	7	2	1	4 to 1	100%	1	100%	0%
101 - 109 Early[A]	217	446	438	1 to 1	90%	48	12%	25%
101 - 109 Late	225	214	212	1 to 1	92%	22	11%	27%
111 - 113	72	48	46	2 to 1	96%	11	24%	27%
114, 115[A]	74	91	89	1 to 1	94%	4	4%	100%
121 Early	40	33	32	2 to 1	97%	13	41%	38%
121 Late	33	8	8	5 to 1	100%	6	75%	67%
131 - 134	125	41	38	4 to 1	92%	25	68%	32%
141 - 145[A]	111	117	116	1 to 1	97%	24	21%	29%
151 - 156	49	47	46	1 to 1	91%	5	11%	60%
161 - 164	187	171	169	1 to 1	95%	28	17%	25%
171 - 173[A]	145	149	139	1 to 1	95%	8	6%	13%
181 - 184	62	55	54	2 to 1	89%	7	13%	43%
192 Early	21	7	7	3 to 1	100%	3	43%	0%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
192 Late	18	14	14	2 to 1	93%	5	36%	40%
194, 196 Early	81	9	9	9 to 1	78%	3	33%	100%
194, 196 Late	80	9	8	9 to 1	88%	5	63%	60%
195	26	5	5	6 to 1	80%	2	40%	100%
201, 202, 204 - 206 Early	14	8	8	2 to 1	88%	1	13%	100%
201, 204 Late	18	11	11	2 to 1	100%	3	27%	0%
202, 205, 206 Late	12	6	6	2 to 1	83%	0	0%	
203 Early	46	33	33	2 to 1	97%	5	15%	40%
203 Late	37	31	31	2 to 1	87%	1	3%	0%
211, 212	13	13	13	1 to 1	85%	1	8%	100%
221 - 223	129	74	72	2 to 1	94%	14	19%	43%
231	126	40	36	4 to 1	97%	11	31%	73%
241 - 245	33	14	14	3 to 1	86%	5	36%	20%
251 - 253	10	7	7	2 to 1	86%	2	29%	100%
261 - 268	30	5	5	6 to 1	100%	3	60%	67%
271, 272	12	8	8	2 to 1	88%	1	13%	0%
291	15	10	9	2 to 1	89%	2	22%	50%
TOTALS	**3,218**	**2,694**	**2,638**	**2 to 1**	**93%**	**404**	**16%**	**37%**

[A]Leftover tags from 1st Draw sold to nonresident archery applicants or were never sold

RESIDENT ANTLERLESS MULE DEER DEPREDATION HUNT 1101

114, 115 Early	15	10	10	2 to 1	100%	6	60%
114, 115 Late	35	35	34	1 to 1	85%	14	44%
TOTALS	**50**	**45**	**44**	**2 to 1**	**89%**	**20**	48%

RESIDENT ANTLERLESS MULE DEER ANY LEGAL WEAPON HUNT 1181

043 - 046	77	59	57	2 to 1	86%	32	61%
051	33	30	30	1 to 1	97%	13	43%
061 - 064, 066 - 068	249	800	789	1 to 1	94%	516	67%
101, 102, 109	286	1000	993	1 to 1	91%	415	44%
152	33	268	267	1 to 1	90%	99	39%
155	38	178	177	1 to 1	93%	80	47%
TOTALS	**716**	**2,335**	**2,313**	**1 to 1**	**92%**	**1,155**	**52%**

NONRESIDENT PIW ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1200

STATEWIDE	2,445	3	3	815 to 1	67%	1	33%	100%

NONRESIDENT GUIDED ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1235

011 - 013 Early	11	7	7	2 to 1	100%	5	71%	20%
011 - 013 Late	4	1	1	4 to 1	100%	1	100%	100%
014 Early	4	3	3	2 to 1	100%	2	67%	100%
014 Late	42	1	1	42 to 1	100%	0	0%	
015	1	1	0	1 to 1			--	
021	20	1	1	20 to 1	100%	1	100%	0%
022	2	2	2	1 to 1	100%	2	100%	50%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
031	11	7	7	2 to 1	100%	7	100%	100%
032	6	6	6	1 to 1	83%	5	100%	80%
033 Early	9	3	2	to 1	100%	1	50%	0%
033 Late	4	1	1	4 to 1	100%	0	0%	
034	1	1	1	1 to 1	100%	1	100%	100%
035	5	4	4	2 to 1	100%	1	25%	0%
041, 042	4	2	2	2 to 1	100%	1	50%	100%
043 - 046 Early	10	10	10	1 to 1	100%	4	40%	50%
043 - 046 Late	9	7	7	2 to 1	86%	3	43%	67%
051	6	6	6	1 to 1	83%	2	33%	100%
061, 062, 064, 066 - 068 E	56	56	51	1 to 1	98%	27	53%	48%
061, 062, 064, 066 - 068 L	29	6	6	5 to 1	100%	5	83%	100%
065	13	1	1	13 to 1	0%	0	--	
071 - 079, 091 Early	69	31	31	3 to 1	94%	18	61%	22%
071 - 079. 091 Late	32	5	5	7 to 1	100%	5	100%	100%
081	15	1	1	15 to 1	100%	1	100%	100%
101 - 109, Early	27	25	25	1 to 1	84%	5	20%	60%
101 - 109 Mid	35	35	32	1 to 1	91%	13	44%	54%
101 - 109, Late	45	15	15	3 to 1	100%	12	80%	75%
111 - 113 Early	21	21	17	1 to 1	94%	8	47%	50%
111 - 113 Late	11	2	2	6 to 1	100%	2	100%	100%
114, 115 Early	4	3	1	2 to 1	100%	0	0%	
114, 115 Late	3	1	1	3 to 1	100%	1	100%	100%
121 Early	8	8	8	1 to 1	88%	5	63%	60%
121 Late	5	1	1	5 to 1	100%	1	100%	0%
131 - 134 Early	15	10	10	2 to 1	40%	1	--	0%
131 - 134 Late	28	1	1	28 to 1	0%	0	--	
141 - 145 Early	14	14	13	1 to 1	100%	8	62%	13%
141 - 145 Late	5	2	2	3 to 1	100%	2	100%	0%
151 - 156 Early	12	12	11	1 to 1	82%	6	64%	50%
151 - 156 Late	1	1	1	1 to 1	100%	1	100%	100%
161 - 164 Early	14	14	14	1 to 1	93%	8	57%	63%
161 - 164 Late	1	1	1	1 to 1	100%	0	0%	
171 - 173 Early	1	1	1	1 to 1	100%	1	100%	100%
171 - 173 Late	4	4	4	1 to 1	100%	2	50%	0%
181 - 184	10	7	6	2 to 1	67%	0	0%	
194, 196	7	2	2	4 to 1	100%	2	100%	50%
201, 204	2	2	2	1 to 1	100%	0	0%	
202, 205, 206	4	2	2	2 to 1	100%	2	100%	100%
203	2	2	2	1 to 1	100%	2	100%	100%
211, 212	1	1	1	1 to 1	100%	0	0%	
221 - 223 Early	15	15	13	1 to 1	92%	7	54%	100%
222 - 223 Mid	37	10	10	4 to 1	80%	5	60%	60%
221 - 223 Late	82	1	1	82 to 1	100%	1	100%	100%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
231	42	7	7	6 to 1	100%	3	43%	100%
241 - 245	193	3	3	65 to 1	100%	2	67%	100%
251 - 253	1	1	1	1 to 1	100%	1	100%	100%
261 - 268	1	1	1	1 to 1	100%	0	0%	
271, 272	3	1	1	3 to 1	100%	0	0%	
TOTALS	**1,017**	**389**	**368**	**3 to 1**	**92%**	**193**	**54%**	**59%**
NONRESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1331								
011 - 013 Early	144	11	11	14 to 1	100%	8	73%	38%
011 - 013 Late	118	3	3	40 to 1	67%	1	33%	0%
014 Early	62	6	6	11 to 1	83%	4	67%	25%
014 Late	99	4	4	25 to 1	100%	4	100%	25%
015	81	3	3	27 to 1	100%	3	100%	0%
021	133	4	4	34 to 1	75%	0	0%	
022	68	5	5	14 to 1	100%	3	60%	33%
031	104	12	12	9 to 1	100%	9	75%	67%
032	58	9	7	7 to 1	100%	5	71%	40%
033 Early	36	5	5	8 to 1	100%	3	60%	33%
033 Late	77	3	2	26 to 1	100%	1	50%	100%
034	31	3	3	11 to 1	100%	1	33%	0%
035	36	7	7	6 to 1	100%	3	43%	67%
041, 042	10	3	2	4 to 1	100%	2	100%	50%
043 - 046 Early	44	11	11	4 to 1	100%	5	45%	0%
043 - 046 Late	40	2	2	20 to 1	100%	1	50%	0%
051	128	25	25	6 to 1	96%	18	72%	44%
061, 062, 064, 066 - 068 E	400	82	80	5 to 1	93%	46	60%	52%
061, 062, 064, 066 - 068 L	404	9	9	45 to 1	100%	6	67%	33%
065	76	5	5	16 to 1	100%	4	80%	50%
071 - 079, 091 Early	282	55	52	6 to 1	98%	28	54%	50%
071 - 079. 091 Late	377	11	11	35 to 1	100%	8	73%	75%
081	437	4	4	110 to 1	100%	1	25%	100%
101 - 109, Early	234	131	125	2 to 1	94%	42	34%	26%
101 - 109, Mid	180	103	100	2 to 1	95%	30	31%	60%
101 - 109, Late	301	18	18	17 to 1	94%	10	56%	70%
111 - 113 Early	116	40	38	3 to 1	97%	20	53%	25%
111 - 113 Late	85	5	5	17 to 1	100%	3	60%	67%
114, 115 Early	23	7	4	4 to 1	100%	2	50%	0%
114, 115 Late	37	3	2	13 to 1	100%	2	100%	50%
121 Early	23	9	9	3 to 1	89%	6	67%	17%
121 Late	31	2	1	16 to 1	100%	0	0%	
131 - 134 Early	133	23	21	6 to 1	95%	9	43%	44%
131 - 134 Late	235	2	2	118 to 1	100%	1	50%	100%
141 - 145 Early	55	25	24	3 to 1	96%	13	54%	23%
141 - 145 Late	39	3	3	13 to 1	100%	1	33%	100%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
151 - 156 Early	38	4	4	10 to 1	100%	2	50%	50%
151 - 156 Late	28	2	2	14 to 1	50%	1	--	0%
161 - 164 Early	96	22	21	5 to 1	95%	10	48%	40%
161 - 164 Late	57	3	3	19 to 1	100%	2	67%	100%
171 - 173 Early	93	46	45	3 to 1	96%	17	38%	47%
171 - 173 Late	35	10	10	4 to 1	100%	7	70%	86%
181 - 184	36	12	12	3 to 1	83%	8	75%	63%
192	25	5	4	5 to 1	100%	2	50%	50%
194, 196	358	5	5	72 to 1	100%	3	60%	100%
195	11	2	2	6 to 1	50%	0	--	
201, 204	45	2	2	23 to 1	100%	1	50%	0%
202, 205, 206	29	5	5	6 to 1	100%	5	100%	80%
203	9	4	4	3 to 1	100%	0	0%	
211, 212	41	3	1	14 to 1	100%	0	0%	
221 - 223 Early	94	21	19	5 to 1	95%	9	47%	67%
222 - 223 Mid	58	4	3	15 to 1	100%	3	100%	100%
221 - 223 Late	1,122	2	2	561 to 1	100%	1	50%	100%
231	287	10	10	29 to 1	90%	6	60%	83%
241 - 245	1,278	2	2	639 to 1	100%	0	0%	
251 - 253	19	3	1	7 to 1	100%	1	100%	100%
261 - 268	19	3	2	7 to 1	100%	2	100%	50%
271, 272	34	2	1	17 to 1	100%	0	0%	
291	27	6	5	5 to 1	80%	4	100%	25%
TOTALS	**8,576**	**831**	**790**	**11 to 1**	**95%**	**387**	**50%**	**47%**
NONRESIDENT ANTLERED MULE DEER MUZZLELOADER HUNT 1371								
011 - 013	13	2	2	7 to 1	100%	1	50%	0%
014	25	2	2	13 to 1	100%	2	100%	100%
015	16	2	2	8 to 1	100%	1	50%	100%
021	41	2	2	21 to 1	100%	1	50%	100%
022	13	2	2	7 to 1	100%	2	100%	100%
031	5	2	2	3 to 1	100%	1	50%	100%
032	3	2	2	2 to 1	100%	1	50%	100%
033	8	2	2	4 to 1	100%	2	100%	100%
034	9	2	2	5 to 1	100%	2	100%	100%
035	10	2	2	5 to 1	100%	1	50%	0%
041, 042	2	2	2	1 to 1	100%	2	100%	0%
043 - 046	2	2	2	1 to 1	100%	0	0%	
051	7	4	4	2 to 1	100%	3	75%	33%
061, 062, 064, 066 - 068	49	7	7	7 to 1	100%	4	57%	75%
065	9	2	1	5 to 1	100%	1	100%	0%
071 - 079, 091	42	8	4	6 to 1	100%	3	75%	33%
081	86	2	2	43 to 1	100%	0	0%	
101 - 109[A]	63	49	46	3 to 1	91%	13	30%	46%

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
111 - 113	10	2	2	5 to 1	100%	0	0%	
114, 115	106	5	3	22 to 1	67%	0	0%	
121	9	2	2	5 to 1	100%	1	50%	100%
131 - 134	35	5	4	7 to 1	100%	2	50%	100%
141 - 145	8	3	2	3 to 1	100%	2	100%	0%
151 - 156	5	2	2	3 to 1	100%	2	100%	100%
161 - 164	17	4	4	5 to 1	100%	2	50%	50%
171 - 173	8	8	8	1 to 1	100%	3	38%	33%
181 - 184	5	3	3	2 to 1	100%	1	33%	0%
192	10	2	2	5 to 1	100%	2	100%	0%
194, 196	11	2	2	6 to 1	100%	2	100%	50%
195	2	2	2	1 to 1	100%	0	0%	
201, 204	12	2	2	6 to 1	100%	1	50%	0%
202, 205, 206	16	2	2	8 to 1	100%	1	50%	100%
211, 212	5	2	2	3 to 1	100%	2	100%	50%
221 - 223	24	2	2	12 to 1	100%	1	50%	100%
231	54	3	3	18 to 1	67%	1	33%	100%
241 - 245	42	2	2	21 to 1	100%	1	50%	0%
251 - 253	6	2	2	3 to 1	100%	1	50%	100%
261 - 268	3	2	2	2 to 1	100%	2	100%	50%
271, 272	3	2	2	2 to 1	100%	0	0%	
291	3	2	2	2 to 1	100%	0	0%	
TOTALS	**797**	**157**	**145**	**6 to 1**	**96%**	**67**	**47%**	**55%**

[A]Extra tags sold from leftover resident muzzleloader tags from 1st Draw

NONRESIDENT ANTLERED MULE DEER ARCHERY HUNT 1341

011 - 013	19	4	4	5 to 1	100%	2	50%	0%
014	19	2	2	10 to 1	50%	0	--	
015	5	2	2	3 to 1	50%	1	--	0%
021	13	2	2	7 to 1	50%	0	--	
022	14	2	2	7 to 1	100%	0	0%	
031	10	2	2	5 to 1	100%	2	100%	50%
032	9	6	6	2 to 1	100%	2	33%	50%
033	10	2	2	5 to 1	100%	1	50%	0%
034	5	2	2	3 to 1	100%	0	0%	
035	5	2	2	3 to 1	100%	0	0%	
041, 042	2	2	2	1 to 1	50%	0	--	
043 - 046	15	8	8	2 to 1	88%	3	38%	33%
051	16	9	9	2 to 1	100%	1	11%	0%
061, 062, 064, 066 - 068	58	25	25	3 to 1	84%	5	20%	80%
065	4	2	2	2 to 1	100%	1	50%	100%
071 - 079, 091 Early	81	30	30	3 to 1	87%	5	17%	20%
071 - 079. 091 Late	37	3	3	13 to 1	67%	1	33%	0%
081	30	2	2	15 to 1	50%	0	--	

TABLE 4. 2014 MULE DEER HARVEST BY HUNT AND UNIT GROUP

UNIT GROUP	1st Choice Apps	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	% 4+pts
101 - 109 Early[A]	123	199	199	2 to 1	86%	37	20%	41%
101 - 109 Late	57	21	21	3 to 1	81%	3	14%	67%
111 - 113	9	5	5	2 to 1	100%	2	40%	50%
114, 115[A]	14	12	12	2 to 1	67%	3	33%	67%
121 Early	7	4	4	2 to 1	100%	1	25%	0%
121 Late	7	2	2	4 to 1	100%	0	0%	
131 - 134	75	5	5	15 to 1	60%	2	60%	0%
141 - 145[A]	16	16	16	2 to 1	94%	2	13%	100%
151 - 156	17	5	5	4 to 1	100%	1	20%	100%
161 - 164	27	19	19	2 to 1	95%	5	26%	40%
171 - 173[A]	31	18	18	2 to 1	83%	3	17%	33%
181 - 184	6	6	6	1 to 1	100%	0	0%	
192 Early	4	2	2	2 to 1	100%	0	0%	
192 Late	7	2	2	4 to 1	50%	1	--	0%
194, 196 Early	8	2	2	4 to 1	100%	1	50%	100%
194, 196 Late	83	2	2	42 to 1	100%	1	50%	0%
195	3	2	2	2 to 1	100%	2	100%	50%
201, 202, 204 - 206 Early	4	2	2	2 to 1	100%	2	100%	0%
201, 204 Late	9	2	2	5 to 1	100%	1	50%	0%
202, 205, 206 Late	6	2	2	3 to 1	100%	2	100%	0%
203 Early	6	4	4	2 to 1	75%	1	25%	0%
203 Late	3	3	3	1 to 1	100%	0	0%	
211, 212	2	2	2	1 to 1	100%	2	100%	100%
221 - 223	48	8	8	6 to 1	75%	3	50%	67%
231	100	4	4	25 to 1	75%	2	50%	50%
241 - 245	70	2	2	35 to 1	100%	0	0%	
251 - 253	2	2	2	1 to 1	0%	0	--	
261 - 268	2	2	2	1 to 1	100%	1	50%	100%
271, 272	2	2	2	1 to 1	50%	0	--	
291	2	2	2	1 to 1	100%	1	50%	0%
TOTALS	**1,102**	**466**	**466**	**4 to 1**	**86%**	**103**	**24%**	**42%**

[A]Extra tags sold from leftover resident archery tags from 1st Draw

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given unit group

Tags Sold - tags sold from first 2 draws, first come first serve process, and tag allocations (special and landowner tags)

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter questionnaires received compared to total tags available

% Hunter Success - # of successful hunters divided by Tags Avail (includes did not hunts; a portion of nonreturned questionnaires are assumed to be successful based on past trends)

TABLE 5. 2014 PRONGHORN HARVEST BY UNIT FOR ALL HUNTS

UNIT	Does	Fawns		Yrlg Bucks	Adult Bucks	Adults Bucks Unit Group Total	All Pronghorn Unit Total	All Pronghorn Unit Group Total
		Female	Male					
011	11		1	2	61	61	75	75
012					39		39	
013					17		17	
014					35	91	35	91
015	13	1	3		69	69	86	86
021					13		13	
022					18	31	18	31
031	63		2	6	111	111	182	182
032	2	1	1		63		67	
034	7		1	1	51		60	
035	11		3	4	61	175	79	206
033					52	52	52	52
041	31	1	3	3	61		99	
042	31	1	1	1	55	116	89	188
043					7		7	
044					9		9	
045							0	
046					2	18	2	18
051					44	44	44	44
061	22	2	1	5	17		47	
062	17	1	3		17		38	
064	9		1	1	11		22	
071	6		3	2	12		23	
073	17		3		29	86	49	179
065	19	2	3	3	78		105	
142	2			1	5		8	
144	4			1	2	85	7	120
066	6	1	1	1	22	22	31	31
067	36	2	3	4	24		69	
068	31	4	6	5	57	81	103	172
072					35		35	
074					12		12	
075					30	77	30	77
076							0	
077					19		19	
079					9		9	
081					5		5	
091					2	35	2	35

TABLE 5. 2014 PRONGHORN HARVEST BY UNIT FOR ALL HUNTS

UNIT	Does	Fawns		Yrlg Bucks	Adult Bucks	Adults Bucks Unit Group Total	All Pronghorn Unit Total	All Pronghorn Unit Group Total
		Female	Male					
078					2		2	
105					6		6	
106					2		2	
107					1		1	
121	10	3	1	2	37	48	53	64
101	3				2		5	
102	4		2	1	3		10	
103	1				2		3	
104	4		2	2	10		18	
108	5			1	5		11	
109	1			1	2		4	
144	6				3	27	9	60
111	10	1	3	1	41		56	
112	1			1	6		8	
113			2		10		12	
114	3			1	18	75	22	98
115	1				14		15	
231					18		18	
242						32	0	33
131	13				31		44	
145	1			1	12		14	
163					6		6	
164					3	52	3	67
132					24		24	
133					3		3	
134					5		5	
245					4	36	4	36
141	29	4	3	5	43		84	
143	6	1	2		17		26	
151	18		2	2	25		47	
152	10		1		14		25	
153	15	1	4	1	10		31	
154	8		3		8		19	
155	14		6	4	21		45	
156	42	1	6	2	36	174	87	364
161					17		17	
162					6	23	6	23
171					16		16	
172					8		8	
173					7	31	7	31

TABLE 5. 2014 PRONGHORN HARVEST BY UNIT FOR ALL HUNTS

UNIT	Does	Fawns		Yrlg Bucks	Adult Bucks	Adults Bucks Unit Group Total	All Pronghorn Unit Total	All Pronghorn Unit Group Total
		Female	Male					
181					5		5	
182							0	
183					8		8	
184					18	31	18	31
202					4		4	
204					1	5	1	5
203							0	
291					4	4	4	4
205					10		10	
206					5		5	
207							0	
208						15	0	15
211					1		1	
212						1	0	1
221					9		9	
222					3		3	
223					1		1	
241						13	0	13
251					20	20	20	20
TOTAL	**543**	**27**	**76**	**65**	**1,741**			**2,452**

HERITAGE, SILVER STATE, DREAM AND PIW TAGHOLDER HARVEST BY UNIT

HUNT	UNIT	#	HUNT	UNIT	#
PIW	033	2	Heritage	173	1
PIW	103	1	Silver	--	
PIW	221	1	Dream	041	1

TABLE 6. 2014 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success
RESIDENT PIW ANTELOPE ANY LEGAL WEAPON HUNT 2000								
STATEWIDE	1,804	5	5	5	361 to 1	100%	4	80%
HERITAGE ANTELOPE ANY LEGAL WEAPON HUNT 2100 & 2200								
STATEWIDE		2	2	2		50%	1	--
SILVER STATE ANTELOPE ANY LEGAL WEAPON HUNT 2300								
STATEWIDE	1,179	1	1	1	1179 to 1	0%		--
DREAM TAG ANTELOPE ANY LEGAL WEAPON HUNT 2500								--
STATEWIDE	561	1	1	1	561 to 1	100%	1	100%
RESIDENT AND NONRESIDENT BUCK ANTELOPE LANDOWNER COMPENSATION HUNT 2115 AND 2215								
015			5	4		75%	2	50%
031			15	15		80%	10	73%
032, 034, 035			17	16		100%	15	94%
044			1	1		100%	1	100%
051			2	2		100%	2	100%
062, 073			2	2		100%	2	100%
065			2	2		100%	2	100%
068			13	13		100%	9	69%
105, 121			3	3		100%	3	100%
114			1	1		100%	0	0%
115			2	2		100%	0	0%
153, 156			5	5		80%	3	60%
161			3	3		100%	3	100%
172			3	3		100%	3	100%
184			4	4		25%	1	--
TOTALS			78	76		89%	56	78%
RESIDENT BUCK ANTELOPE ANY LEGAL WEAPON HUNT 2151								
011	417	97	97	89	5 to 1	91%	51	61%
012 - 014	834	114	114	110	8 to 1	97%	73	67%
015	419	103	103	97	5 to 1	96%	50	53%
021, 022	936	37	37	36	26 to 1	100%	26	72%
031	521	142	142	137	4 to 1	95%	85	64%
032, 034, 035	896	263	263	249	4 to 1	95%	130	54%
033 Early	458	39	39	34	12 to 1	100%	20	59%
033 Late	130	39	39	31	4 to 1	94%	25	84%
041, 042 Early	776	68	68	66	12 to 1	98%	58	88%
041, 042 Late	259	68	68	64	4 to 1	95%	38	61%
043 - 046	104	26	26	26	4 to 1	85%	14	58%
051	234	56	56	52	5 to 1	94%	31	62%
061, 062, 064, 071, 073	803	97	97	96	9 to 1	94%	72	78%

TABLE 6. 2014 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success
065, 142, 144	405	88	88	87	5 to 1	95%	69	82%
066	117	26	26	22	5 to 1	95%	20	95%
067, 068	361	82	82	79	5 to 1	94%	57	75%
072, 074, 075	315	90	90	87	4 to 1	97%	68	79%
076, 077, 079, 081, 091	300	36	36	35	9 to 1	100%	28	80%
078, 105 - 107, 121	317	51	51	49	7 to 1	98%	37	76%
101 – 104, 108, 109, 144	247	28	28	27	9 to 1	93%	20	78%
111 – 114	675	77	77	73	9 to 1	100%	64	88%
115, 231, 242	289	31	31	31	10 to 1	97%	24	77%
131, 145, 163, 164	301	50	50	47	7 to 1	98%	43	94%
132 – 134, 245	388	38	38	35	11 to 1	94%	28	83%
141, 143, 151 - 156	568	198	198	193	3 to 1	94%	149	80%
161, 162	255	18	18	18	15 to 1	100%	15	83%
171 - 173	177	31	31	29	6 to 1	93%	24	86%
181 - 184	194	32	32	32	7 to 1	94%	24	78%
202, 204	43	7	7	7	7 to 1	100%	5	71%
203, 291	27	5	5	5	6 to 1	100%	4	80%
205, 206, 207, 208	65	25	25	24	3 to 1	96%	7	29%
211, 212	20	2	2	2	10 to 1	100%	1	50%
221 – 223, 241	262	14	14	12	19 to 1	100%	6	50%
251	269	23	23	21	12 to 1	95%	19	95%
TOTALS	12,382	2,101	2,101	2,002	6 to 1	95%	1,385	71%

RESIDENT BUCK ANTELOPE MUZZLELOADER HUNT 2171

011	7	4	4	4	2 to 1	100%	0	0%
012 - 014	13	3	3	3	5 to 1	100%	0	0%
015	9	3	3	2	3 to 1	100%	0	0%
021, 022	20	2	2	2	10 to 1	100%	0	0%
033	10	3	3	3	4 to 1	100%	1	33%
065, 142, 144	16	8	8	8	2 to 1	100%	5	63%
078, 105 - 107, 121	9	2	2	2	5 to 1	50%	0	--
101 – 104, 108, 109, 144	6	2	2	2	3 to 1	100%	1	50%
111 – 114	4	3	3	3	2 to 1	100%	0	0%
115, 231, 242	5	2	2	2	3 to 1	100%	2	100%
131, 145, 163, 164	8	1	1	1	8 to 1	100%	1	100%
132 - 134, 245	7	1	1	1	7 to 1	100%	0	0%
221 – 223, 241	7	2	2	2	4 to 1	100%	2	100%
TOTALS	121	36	36	35	4 to 1	97%	12	34%

TABLE 6. 2014 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success
RESIDENT BUCK ANTELOPE ARCHERY HUNT 2161								
011	41	20	20	17	3 to 1	94%	3	18%
012 - 014	56	18	18	17	4 to 1	88%	6	35%
015	53	24	24	22	3 to 1	95%	8	36%
021, 022	62	5	5	5	13 to 1	60%	2	60%
031	26	13	13	11	2 to 1	82%	4	36%
032, 034, 035	103	83	83	78	2 to 1	96%	14	18%
033	29	4	4	3	8 to 1	100%	0	0%
041, 042	62	12	12	8	6 to 1	100%	6	75%
043 - 046	8	5	5	5	2 to 1	80%	1	20%
051	37	33	33	33	2 to 1	88%	6	18%
061, 062, 064, 071, 073	45	28	28	27	2 to 1	85%	4	15%
065, 142, 144	24	20	20	20	2 to 1	90%	3	15%
066	5	5	5	4	1 to 1	100%	0	0%
067, 068	30	30	30	29	1 to 1	97%	6	21%
072, 074, 075	38	34	34	33	2 to 1	91%	2	6%
076, 077, 079, 081, 091	12	8	8	8	2 to 1	100%	3	38%
078, 105 - 107, 121	20	8	8	8	3 to 1	100%	3	38%
101 – 104, 108, 109, 144	23	8	8	7	3 to 1	86%	2	29%
111 – 114	55	14	14	13	4 to 1	100%	3	23%
115, 231, 242	25	9	9	9	3 to 1	89%	3	33%
131, 145, 163, 164	10	6	6	6	2 to 1	100%	3	50%
132 – 134, 245	20	6	6	6	4 to 1	100%	3	50%
141, 143, 151 - 156	40	34	34	32	2 to 1	91%	7	22%
161, 162	19	7	7	5	3 to 1	100%	3	60%
171 - 173	10	4	4	4	3 to 1	100%	3	75%
181 - 184	20	7	7	5	3 to 1	100%	1	20%
203, 291	2	1	1	1	2 to 1	100%	0	0%
205, 206, 207, 208*	17	14	15	15	2 to 1	100%	8	53%
211, 212	2	2	2	2	1 to 1	100%	0	0%
221 – 223, 241	29	4	4	4	8 to 1	100%	2	50%
251	12	2	2	1	6 to 1	100%	1	100%
TOTALS	935	468	469	438	2 to 1	87%	110	25%

***Nonresident tags sold as resident tags in second draw

RESIDENT DOE ANTELOPE ANY LEGAL WEAPON HUNT 2181								
011	72	27	27	26	3 to 1	96%	14	54%
015	139	32	32	32	5 to 1	97%	17	53%
031	255	91	91	91	3 to 1	99%	71	78%
032, 034, 035	227	48	48	47	5 to 1	98%	31	66%
041, 042	320	101	101	98	4 to 1	97%	72	74%

TABLE 6. 2014 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success
061 - 064, 071, 073	300	114	114	114	3 to 1	98%	92	82%
065, 142, 144	76	44	44	44	2 to 1	95%	34	80%
066	20	12	12	11	2 to 1	100%	9	82%
067, 068	205	125	125	125	2 to 1	92%	92	77%
101 – 104, 108, 109, 144	75	51	51	51	2 to 1	96%	33	67%
111 - 114	150	35	35	34	5 to 1	97%	22	65%
114, 115, Baker Ranch	23	10	10	10	3 to 1	100%	2	20%
121	58	17	17	17	4 to 1	100%	16	94%
131, 145	62	20	20	20	4 to 1	90%	15	80%
141, 143, 151 - 156	420	253	253	251	2 to 1	94%	191	79%
TOTALS	2,402	980	980	971	3 to 1	96%	711	75%

NONRESIDENT BUCK ANTELOPE ANY LEGAL WEAPON HUNT 2251

011	144	11	11	10	14 to 1	90%	7	70%
012 – 014	175	13	13	12	14 to 1	92%	11	100%
015	160	11	11	10	15 to 1	90%	7	70%
021, 022	207	4	4	4	52 to 1	100%	2	50%
031	133	16	16	16	9 to 1	100%	12	75%
032, 034, 035	201	31	31	24	7 to 1	92%	11	50%
033 Early	1,004	2	2	2	502 to 1	100%	2	100%
033 Late	101	2	2	1	51 to 1	100%	1	100%
041, 042 Early	219	8	8	7	28 to 1	100%	6	86%
041, 042 Late	53	8	8	8	7 to 1	100%	6	75%
043 - 046	11	3	3	3	4 to 1	67%	2	100%
051	32	6	6	6	6 to 1	83%	5	100%
061 - 064, 071, 073	89	11	11	10	9 to 1	90%	8	80%
065, 142, 144	52	10	10	9	6 to 1	100%	6	67%
066	36	3	3	3	12 to 1	100%	2	67%
067, 068	34	9	9	9	4 to 1	100%	9	100%
072, 074, 075	63	10	10	10	7 to 1	90%	7	70%
076, 077, 079, 081, 091	128	4	4	4	32 to 1	100%	4	100%
078, 105 - 107, 121	28	6	6	5	5 to 1	100%	5	100%
101 – 104, 108, 109, 144	43	3	3	3	15 to 1	100%	3	100%
111 – 114	52	9	9	9	6 to 1	100%	8	89%
115, 231, 242	40	3	3	3	14 to 1	100%	3	100%
131, 145, 163, 164	52	6	6	5	9 to 1	100%	4	80%
132 - 134, 245	22	4	4	4	6 to 1	100%	4	100%
141, 143, 151 - 156	64	22	22	21	3 to 1	100%	12	57%
161, 162	30	2	2	2	15 to 2	100%	2	100%
171 - 173	27	3	3	2	9 to 2	100%	2	100%
181 - 184	20	4	4	4	5 to 1	100%	3	75%
205, 206, 207, 208	10	3	3	1	4 to 1	100%	0	0%
221 – 223, 241	15	2	2	2	8 to 1	100%	2	100%
251	88	3	3	3	30 to 1	100%	0	0%
TOTALS	3,333	232	232	212	15 to 1	96%	156	75%

TABLE 6. 2014 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success
NONRESIDENT BUCK ANTELOPE ARCHERY HUNT 2261								
011	14	2	2	2	7 to 1	100%	1	50%
012 – 014	20	2	2	2	10 to 1	100%	1	50%
015	17	3	3	3	6 to 1	100%	2	67%
021, 022	12	1	1	1	12 to 1	100%	1	100%
031	8	1	1	0	8 to 1	--		
032, 034, 035	18	9	9	9	2 to 1	100%	4	44%
033	71	1	1	1	71 to 1	100%	1	100%
041, 042	24	1	1	1	24 to 1	100%	1	100%
051	5	4	4	2	2 to 1	100%	1	50%
061 - 064, 071, 073	7	3	3	1	3 to 1	100%	0	0%
065, 142, 144	2	2	2	2	1 to 1	100%	0	0%
067, 068	6	3	3	3	2 to 1	100%	0	0%
072, 074, 075	4	4	4	3	1 to 1	100%	0	0%
076, 077, 079, 081, 091	7	1	1	1	7 to 1	100%	0	0%
101 – 104, 108, 109, 144	1	1	1	0	1 to 1	--		
111 – 114	8	2	2	2	4 to 1	50%	0	--
131, 145, 163, 164	4	1	1	1	4 to 1	100%	1	100%
132 - 134, 245	2	1	1	1	2 to 1	100%	1	100%
141, 143, 151 - 156	10	4	4	3	3 to 1	100%	2	67%
171 - 173	1	1	1	1	1 to 1	100%	0	0%
181 - 184	5	1	1	1	5 to 1	100%	1	100%
205, 206, 207, 208*	1	2	1	1	1 to 1	100%	0	0%
TOTALS	247	50	49	41	5 to 1	98%	17	41%

*Nonresident tags sold as resident tags in second draw

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given unit group

Tags Sold - tags sold from first 2 draws, first come first serve process, and tag allocations (special and landowner tags)

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter questionnaires received compared to total tags available

% Hunter Success - # of successful hunters divided by Tags Avail (includes did not hunts; a portion of nonreturned questionnaires are assumed to be successful based on past trends)

TABLE 7. 2014 PRONGHORN BUCK HORN LENGTH BY UNIT AND UNIT GROUP

	BUCK HORN LENGTH IN INCHES													Unit Group	% 15+
Unit	<6	6	7	8	9	10	11	12	13	14	15	16	17+	Totals	inches
011	1		1		3	3		7	13	16	9	5	3	61	28%
012	1			1		1	1	2	4	15	12	2			
013							1	2	4	5	3	1			
014	2				2		1	4	10	6	8	1	1	90	31%
015					3	2	6	9	17	16	11	3		67	21%
021								1	4	1	4	3			
022									2	6	4	6		31	55%
031*		2	3	4	4	7	5	17	19	22	12	4	2	101	18%
032*		1		3	2	5	5	11	14	6	7	1	1		
034			1	3	2	3	1	5	7	17	7	4			
035*			2	1	2	2	9	10	16	9	3			160	14%
033				1	1		2	5	8	12	15	6	2	52	44%
041					1	1		13	10	21	11	2	1		
042					1	1	2	6	6	23	13	2	1	115	26%
043								1	2	2	1	1			
044*				1		1	1	1	1	2	1				
045															
046										1	1			17	24%
051					1	4	2	5	9	12	6	3		42	21%
061						1		2	5	5	1	2	1		
062					1		1	2	5	3	4	1			
064					1			1	2	5	1	1			
071							1	2	1	3	5				
073					1	1		6	3	7	6	4		85	31%
065						2	1	3	12	28	21	6	2		
142						1				2	2				
144														80	39%
066								6	3	5	3	5		22	36%
067				1	1	1	3	1	3	6	3	3	1		
068*						1		7	10	14	12	3		70	31%
072				2	1	1	4	3	2	9	8	4	1		
074				1				4	2	2	2		1		
075				1			2	3	3	10	7	4		77	35%
076					1			2		5	7	4			
077								1		4	4				
079															
081									1		1	2	1		
091								1	1					35	54%
078										2					
105								1	1	2	1				
106									1		1				
107										1					

TABLE 7. 2014 PRONGHORN BUCK HORN LENGTH BY UNIT AND UNIT GROUP

	BUCK HORN LENGTH IN INCHES													Unit Group	% 15+
Unit	<6	6	7	8	9	10	11	12	13	14	15	16	17+	Totals	inches
121			1			2	4	4	5	9	8	1	1	45	27%
101						1						1			
102								1	1		1				
103								1			1				
104					1			2	1	1	4	1			
108				1			1	1		1	1				
109										2					
144								2	1	1		1		29	34%
111			1	4	2		4	7	10	12	1				
112					1				1	2	2				
113						1		1	6	2					
114			1	1	1	1	1	1	5	4	1	1	1	75	8%
115			1	1		1	1	2	1	1	6				
231							3	7	1	6	1				
242														32	22%
131							2	1	10	6	6	4	2		
145					1		1	2	1	2	4	1			
163							1		1	3	1				
164							1				1	1		52	38%
132						1		1		12	7	2			
133					1				2						
134					1					1	2	1			
245									2	1		1		35	37%
141		2		1	5		4	4	8	7	9	2	1		
143			2		1	1	1	1	3	2	4	1			
151			1			1	4	7	2	7	3				
152							1	3	5	2	3				
153			1					1	1	3	4				
154									1	5	1	1			
155					2	1	4	2	3	5	4				
156				1	1		4	7	8	5	5	2		170	24%
161*				1				1	5	5	2				
162									1	3	2			20	20%
171								3	1	10	1	1			
172*								1	2	1	1		1		
173*					1		1		3	1				28	14%
181								1	1	1	2				
182															
183							1	1		6					
184*					2		1		3	6	4			29	21%
202				1	1					2					
204										1				5	0%

TABLE 7. 2014 PRONGHORN BUCK HORN LENGTH BY UNIT AND UNIT GROUP

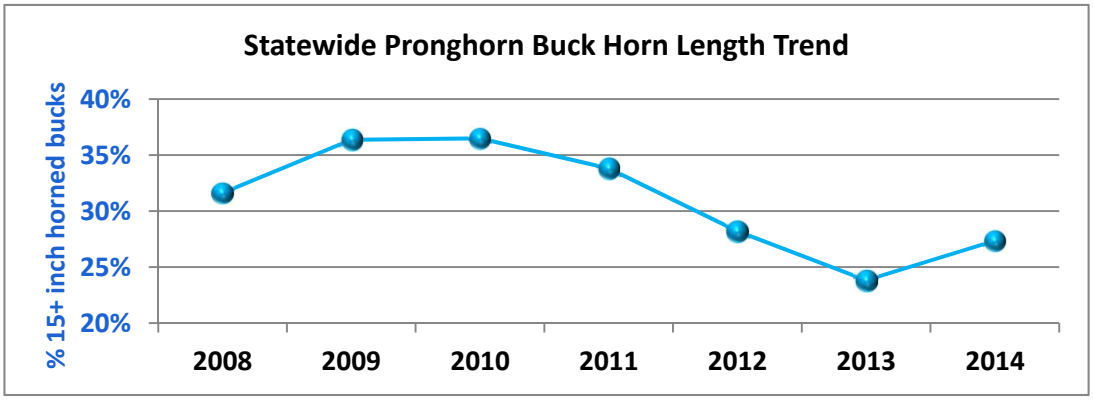
	BUCK HORN LENGTH IN INCHES													Unit Group	% 15+
Unit	<6	6	7	8	9	10	11	12	13	14	15	16	17+	Totals	inches
203															
291										3	1			4	25%
205						1	1		3	2	3				
206					1	1			3						
207															
208														15	20%
211													1		
212														1	100%
221							1		1	3	3	1			
222									2	1					
223						1									
241														13	31%
251							1		3	4	9	3		20	60%
TOTALS	**4**	**5**	**15**	**30**	**50**	**51**	**91**	**209**	**308**	**456**	**325**	**109**	**25**	**1,678**	27%

Horn length measured by hunter of the longest horn to the nearest inch for bucks harvested from Horns Longer than Ear Hunts. Statewide 96% response rate on measuring the horn.

*> 5% of successful hunters for that unit didn't provide horn measurement

TABLE 8. PERCENT OF PRONGHORN BUCK HORNS 15+ INCHES BY UNIT GROUP 2008 - 2014

Unit Group	2008	2009	2010	2011	2012	2013	2014
011	30%	41%	46%	39%	32%	22%	28%
012 - 014	34%	44%	27%	38%	32%	15%	31%
015	35%	31%	49%	37%	31%	10%	21%
021, 022	38%	68%	55%	53%	41%	32%	55%
031	29%	32%	32%	20%	27%	20%	18%
032, 034, 035	34%	36%	39%	34%	25%	23%	14%
033	60%	66%	62%	55%	36%	19%	44%
041, 042	41%	53%	44%	34%	40%	31%	26%
043 - 046				50%	40%	10%	24%
051	17%	23%	36%	40%	20%	24%	21%
061, 062, 064, 071, 073	16%	26%	30%	30%	26%	23%	31%
065, 142, 144	48%	30%	52%	54%	33%	42%	39%
066	44%	50%	47%	67%	29%	48%	36%
067, 068	34%	24%	32%	30%	27%	24%	31%
072, 074, 075	38%	33%	33%	33%	21%	28%	35%
076, 077, 079, 081, 091	48%	62%	51%	40%	43%	50%	54%
078, 105 - 107, 121	20%	26%	22%	35%	26%	8%	27%
101 – 104, 108, 109, 144	26%	37%	27%	27%	21%	25%	34%
111 – 114	14%	13%	14%	15%	13%	14%	8%
115, 231, 242	18%	31%	48%	11%	40%	20%	22%
131, 145, 163, 164	30%	29%	31%	35%	20%	27%	38%
132 – 134, 245	33%	43%	53%	41%	32%	38%	37%
141, 143, 151 - 156	46%	29%	32%	29%	31%	28%	24%
161, 162	47%	60%	38%	23%	32%	35%	20%
171 - 173	18%	44%	35%	36%	12%	27%	14%
181 - 184	26%	54%	30%	29%	13%	19%	21%
202, 204	0%	17%	0%	0%	0%	0%	0%
203, 291	67%	25%	20%	0%	0%		25%
205, 206, 207, 208	17%	0%	18%	7%	17%	13%	20%
211, 212					50%	0%	100%
221 – 223, 241	32%	26%	28%	24%	12%	14%	31%
251	46%	64%	50%	76%	53%	46%	60%
Statewide	**32%**	**36%**	**37%**	**34%**	**28%**	**24%**	**27%**



updated 2/27/15

TABLE 9. 2014 ELK HARVEST BY UNIT AND UNIT GROUP FOR ALL HUNTS

	Female		Male	Unit Group	Number of Left Antler Points							Unit Group	% 6+	TOTAL
Unit	Cows	Calves	Calves	Cows Calves	1	2	3	4	5	6	7+	Bull Total	pts	ELK
061	119	9	7		8	1	1	4	24	34	1			
071	141	7	8	291	6			2	17	25	4	127	50%	418
062	77	7	4		5	2			4	15	6			
064	10	1			1						2			
066	17		1					1		9	1			
067	43	3	7		3		1		1	17	5			
068	68	5	4	247	3		2	1	6	12	4	101	70%	348
065	5			5					1	1		2	50%	7
072	193	11	8		3	1	1	1	23	129	18			
073	53	2	3						2	5	1			
074	26	1	2	299				1	4	15	1	205	82%	504
075	40	6	1	47			1	4	11	31	2	49	67%	96
076	70	4	4		1		1	4	16	42	7			
077	79	4	1		2		2	2	14	32	6			
079	5								2	3	3			
081	146	11	14	338				1	13	49	12	212	73%	550
078	7								1	3				
105	12		1						2	15				
106										2				
107								1		1				
109	1		1	22						1		26	85%	48
091				0						3		3	100%	3
101	13	1	2					4	5	6	1			
102	6				1	1		3	6	4	1			
103	9	1		32	1	1		1	1	5	1	42	43%	74
104	1									1				
108	7	1							2	3				
121	51	3	7	70					4	12	2	24	75%	94
108	4	1								2				
131	55	3	1						1	14	3			
132	15			79	3				2	4		29	79%	108
111	120	2	4		3	1	1	4	11	80	18			
112	5							2	2	3				
113	33	1								7	1			
114	52	2	1			1			2	14	1			
115	7	1		228			1		3	9	1	165	81%	393
144	1								2					
145	3		1	5					1	3		6	50%	11
161	16		1						1	11	3			
162	67	3	3		1				13	23	3			
163	5						1		1	2	1			
164	2							1		3				
172									1	1				
173				97								66	71%	163

TABLE 9. 2014 ELK HARVEST BY UNIT AND UNIT GROUP FOR ALL HUNTS

	Female		Male	Unit Group	Number of Left Antler Points							Unit Group	% 6+	TOTAL
Unit	Cows	Calves	Calves	Cows Calves	1	2	3	4	5	6	7+	Bull Total	pts	ELK
221	64	3	3		1		2	4	8	34	3			
222	161	12	5			2	1	2	14	46	13			
223	9			257	1		1		3	1	2	138	72%	395
231	146	10	8		1	1		2	21	48	11			
241	1						1	1	1					
242	3			168						2		89	69%	257
262								2	1	2		5	40%	5
TOTAL	**1,968**	**115**	**102**	**2,185**	**44**	**11**	**17**	**48**	**247**	**784**	**138**	**1,289**	**72%**	**3,474**

HERITAGE, SILVER STATE, DREAM, AND PIW TAGHOLDER HARVEST BY UNIT

HUNT	UNIT	#
Dream	222	1

HUNT	UNIT	#
Heritage	231	1

HUNT	UNIT	#
Silver State	111	1

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
PIW RESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4000									
STATEWIDE	2,142	2	2	2	1071 to 1	100%	0	0%	
HERITAGE ELK ANY LEGAL WEAPON HUNT 4100 and 4200									
STATEWIDE		2	2	2		50%	1	--	100%
SILVER STATE ELK ANY LEGAL WEAPON HUNT 4300									
STATEWIDE	3,542	1	1	1	3542 to 1	100%	1	100%	100%
DREAM ELK ANY LEGAL WEAPON HUNT 4500									
STATEWIDE		1	1	1		100%	1	100%	100%
ELK INCENTIVE ANY LEGAL WEAPON HUNT 4131 AND 4231									
061, 071			4	4		75%	1	25%	100%
062, 064, 066 - 068			1	1		100%	0	0%	
072, 073, 074			5	5		80%	4	100%	75%
075			7	7		86%	3	43%	33%
076, 077, 079, 081			38	38		97%	32	84%	84%
104, 108, 121			3	3		67%	0	0%	
111-115			2	2		100%	1	50%	100%
221 - 223			5	5		100%	2	40%	100%
231, 241, 242			9	9		100%	8	89%	63%
TOTALS			74	74		93%	51	70%	78%
ELK INCENTIVE MUZZLELOADER HUNT 4133 AND 4233									
061, 071			2	2		100%	1	50%	75%
072, 073, 074			5	5		100%	4	80%	90%
075			13	13		100%	10	77%	
111-115			2	2		100%	1	50%	100%
221 - 223			2	2		100%	1	50%	100%
231, 241, 242			1	1		100%	1	100%	100%
TOTALS			25	25		100%	18	72%	89%
ELK INCENTIVE ARCHERY HUNT 4132 AND 4232									
072, 073, 074			2	2		100%	1	50%	0%
075			4	4		100%	2	50%	100%
076, 077, 079, 081			13	13		92%	6	46%	100%
111 - 115			6	6		100%	5	83%	100%
221 - 223			3	3		100%	2	67%	100%
231, 241, 242			4	4		100%	1	25%	0%
TOTALS			32	32		97%	17	53%	88%

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
RESIDENT ANTLERED ELK ANY LEGAL WEAPON DEPREDATION HUNT 4102									
101 - 103 Early	571	75	75	73	8 to 1	99%	28	38%	39%
101 - 103 Late	206	75	75	73	3 to 1	74%	14	22%	50%
144, 145 Early	386	5	5	4	78 to 1	100%	3	75%	33%
144, 145 Mid	38	5	5	5	8 to 1	80%	1	20%	100%
144, 145 Late	79	10	10	10	8 to 1	80%	2	20%	50%
TOTALS	1,280	170	170	165	8 to 1	86%	48	30%	44%
RESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4151									
061, 071 Early	567	76	76	70	8 to 1	100%	36	51%	53%
061, 071 Late	269	78	78	75	4 to 1	92%	39	55%	36%
062, 064, 066 - 068 Early	491	61	61	59	9 to 1	100%	31	53%	71%
062, 064, 066 - 068 Late	267	57	57	53	5 to 1	92%	31	60%	77%
065	123	2	2	2	62 to 1	100%	2	100%	50%
072, 073, 074 Early	682	134	134	119	6 to 1	98%	67	57%	81%
072, 073, 074 Late	376	127	127	123	3 to 1	94%	47	39%	81%
075 Early	120	27	27	26	5 to 1	96%	12	46%	58%
075 Late	87	26	26	25	4 to 1	96%	12	48%	42%
076, 077, 079, 081 Early	776	100	100	96	8 to 1	95%	65	70%	69%
076, 077, 079, 081 Late	375	98	98	95	4 to 1	93%	64	71%	58%
078, 105 - 107, 109	107	22	22	21	5 to 1	100%	15	71%	80%
091	208	3	3	3	70 to 1	100%	3	100%	100%
104, 108, 121	286	40	40	39	8 to 1	87%	15	41%	73%
108, 131, 132	321	47	47	45	7 to 1	96%	19	42%	74%
111 - 115 Early	1,389	109	109	103	13 to 1	93%	54	54%	78%
111 - 115 Late	390	88	88	84	5 to 1	93%	50	62%	78%
161 - 164, 171 - 173 Early	515	40	40	38	13 to 1	95%	16	42%	69%
161 - 164, 171 - 173 Late	225	45	45	43	5 to 1	95%	17	40%	65%
221 - 223 Early	1,024	70	70	68	15 to 1	96%	44	66%	61%
221 - 223 Late	405	72	72	72	6 to 1	94%	49	69%	65%
231, 241, 242 Early	814	53	53	53	16 to 1	100%	32	60%	69%
231, 241, 242 Late	338	54	54	53	7 to 1	92%	25	49%	60%
262	217	4	4	4	55 to 1	100%	3	75%	33%
TOTALS	10,372	1,433	1,433	1,369	8 to 1	95%	748	56%	68%
RESIDENT ANTLERED ELK MUZZLELOADER HUNT 4156									
061, 071	140	26	26	25	6 to 1	96%	16	64%	75%
062, 064, 066-068	128	23	23	22	6 to 1	95%	14	64%	79%
072, 073, 074	220	58	58	56	4 to 1	98%	37	66%	92%
075	35	12	12	12	3 to 1	100%	4	33%	75%

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
076, 077, 079, 081	57	28	28	27	3 to 1	96%	11	41%	73%
078, 105 - 107, 109	18	8	8	6	3 to 1	100%	3	50%	67%
104, 108, 121	32	4	4	4	8 to 1	75%	1	25%	100%
108, 131, 132	26	5	5	2	6 to 1	100%	2	100%	100%
111 – 115	112	18	18	15	7 to 1	100%	8	53%	63%
161 - 164, 171 - 173	130	22	22	22	6 to 1	100%	13	59%	85%
221 - 223	74	18	18	18	5 to 1	94%	9	50%	89%
231, 241, 242	89	8	8	8	12 to 1	100%	4	50%	75%
262	15	1	1	1	15 to 1	100%	1	100%	0%
TOTALS	1,076	231	231	218	5 to 1	97%	123	56%	81%

RESIDENT ANTLERED ELK ARCHERY HUNT 4161

061, 071	96	33	33	32	3 to 1	97%	7	22%	86%
062, 064, 066 - 068	49	16	16	14	4 to 1	93%	2	14%	100%
072, 073, 074	110	43	43	41	3 to 1	95%	13	32%	54%
075	18	10	10	10	2 to 1	90%	2	20%	100%
076, 077, 079, 081	106	36	36	32	3 to 1	100%	16	50%	81%
078, 104, 105 - 107, 109	39	12	12	12	4 to 1	92%	7	58%	100%
104, 108, 121	40	11	11	11	4 to 1	91%	4	36%	100%
108, 131, 132	53	9	9	9	6 to 1	100%	6	67%	83%
111 – 115	217	27	27	27	9 to 1	96%	21	78%	76%
161 - 164, 171 - 173	108	14	14	11	8 to 1	100%	10	91%	90%
221 - 223	190	25	25	25	8 to 1	96%	14	56%	93%
231, 241, 242	159	17	17	16	10 to 1	94%	6	38%	100%
262	25	1	1	1	25 to 1	100%	1	100%	100%
TOTALS	1,210	254	254	241	5 to 1	96%	109	45%	83%

RESIDENT SPIKE ELK ANY LEGAL WEAPON HUNT 4651

061, 071 Early	202	25	25	25	9 to 1	96%	5	20%
061, 071 Mid	62	25	25	23	3 to 1	96%	2	9%
061, 071 Late	64	22	22	22	3 to 1	82%	5	27%
062, 064, 066 - 068 Early	130	25	25	25	6 to 1	100%	3	12%
062, 064, 066 - 068 Mid	31	25	25	25	2 to 1	100%	2	8%
062, 064, 068 Late	72	25	25	25	3 to 1	80%	3	12%
066, 067 Late	16	10	10	10	2 to 1	70%	1	10%
TOTALS	577	157	157	155	4 to 1	91%	21	14%

RESIDENT SPIKE ELK ARCHERY HUNT 4641

061, 071	34	12	12	12	3 to 1	92%	0	0%
062, 064, 066 - 068	24	17	17	17	2 to 1	100%	1	6%
TOTALS	58	29	29	29	2 to 1	97%	1	3%

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
EMERGENCY DEPREDATION ANTLERLESS ELK ANY LEGAL WEAPON HUNT 4104									
113 1st			14	14		93%	2	14%	
113 2nd			13	13		92%	4	31%	
RESIDENT ANTLERLESS ELK ANY LEGAL WEAPON DEPREDATION HUNT 4107									
081 1st	75	47	47	47	2 to 1	94%	17	38%	
081 2nd	60	54	54	54	2 to 1	100%	23	43%	
081 3rd	57	54	54	50	2 to 1	94%	23	48%	
081 4th	37	38	38	37	1 to 1	100%	18	49%	
081 5th	69	50	50	50	2 to 1	82%	23	52%	
101 - 103	93	150	150	149	1 to 1	66%	12	10%	
121 1st	57	50	50	50	2 to 1	98%	16	32%	
121 2nd	40	40	40	39	1 to 1	92%	9	23%	
121 3rd	24	40	40	39	1 to 1	100%	7	18%	
121 4th	38	40	40	40	1 to 1	80%	5	15%	
144, 145 1st	23	10	10	10	3 to 1	100%	1	10%	
144, 145 2nd	7	5	5	5	2 to 1	100%	1	20%	
144, 145 3rd	6	5	5	5	2 to 1	100%	1	20%	
144, 145 4th	21	15	15	15	2 to 1	53%	2	--	
TOTALS	607	598	598	590	2 to 1	86%	158	28%	
RESIDENT ANTLERLESS ELK ANY LEGAL WEAPON HUNT 4181									
061, 071 Early	626	335	335	323	2 to 1	94%	132	42%	
061, 071 Mid	254	187	187	185	2 to 1	95%	47	26%	
061, 071 Late	137	90	90	90	2 to 1	73%	18	23%	
062, 064, 066 - 068 Early	438	245	245	239	2 to 1	97%	82	35%	
062, 064, 066 - 068 Mid	135	96	96	93	2 to 1	88%	16	18%	
062, 064, 068 Late	144	97	97	97	2 to 1	65%	31	40%	
065	33	12	12	11	3 to 1	100%	5	45%	
066, 067 Late	66	51	51	51	2 to 1	73%	13	29%	
072 Early	295	211	211	206	2 to 1	98%	66	33%	
072 Mid*	215	206	208	205	2 to 1	96%	29	15%	
073 Early	45	40	40	41	2 to 1	95%	12	29%	
073 Mid	38	36	36	36	2 to 1	100%	9	25%	
074 Early	56	45	45	44	2 to 1	100%	5	11%	
074 Mid	40	40	40	40	1 to 1	90%	4	10%	
075 Early	64	38	38	38	2 to 1	100%	5	13%	
075 Mid	44	37	37	37	2 to 1	89%	1	3%	
072 - 075 Late	523	329	329	326	2 to 1	71%	69	25%	
076, 077, 079, 081 Early	535	195	195	189	3 to 1	97%	88	47%	

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
076, 077, 079, 081 Late	277	180	180	178	2 to 1	96%	60	34%	
078, 105 - 107, 109	102	41	41	39	3 to 1	95%	19	51%	
104, 108, 121	225	46	46	46	5 to 1	100%	28	61%	
108, 131, 132 Early	177	56	56	56	4 to 1	96%	27	50%	
108, 131, 132 Late	71	37	37	37	2 to 1	92%	12	35%	
111, 112 Early	900	197	197	193	5 to 1	94%	64	34%	
111, 112 Late	236	80	80	80	3 to 1	78%	35	50%	
113 Early	58	34	34	32	2 to 1	100%	13	41%	
113 Late	73	51	51	51	2 to 1	63%	10	25%	
114, 115 Early	124	81	81	81	2 to 1	99%	32	40%	
114, 115 Late	74	64	64	64	2 to 1	73%	17	31%	
161 - 164 Early	317	117	117	116	3 to 1	91%	29	26%	
162 Wilderness	41	64	64	64	1 to 1	89%	24	39%	
161 - 164 Late	232	135	135	135	2 to 1	79%	32	27%	
221 Early	143	38	38	36	4 to 1	92%	21	61%	
221 Mid	58	40	40	40	2 to 1	90%	9	25%	
221 Late	42	8	8	8	6 to 1	100%	2	25%	
222, 223 Early	441	143	143	141	4 to 1	94%	59	43%	
222 Early Wilderness	49	40	40	40	2 to 1	90%	17	45%	
222, 223 Mid	131	92	92	91	2 to 1	92%	26	30%	
222 Mid Wilderness	30	30	30	29	1 to 1	93%	10	34%	
222, 223 Late	129	51	51	51	3 to 1	75%	18	41%	
222 Late Wilderness	31	30	30	30	2 to 1	73%	11	43%	
231, 241, 242 Early	512	91	91	90	6 to 1	98%	45	51%	
231 Wilderness	19	38	38	37	1 to 1	92%	14	41%	
231, 241, 242 Mid	195	134	134	134	2 to 1	92%	36	28%	
231, 241, 242 Late	336	173	173	173	2 to 1	68%	36	25%	
TOTALS	8,711	4,381	4,383	4,323	3 to 1	89%	1,338	33%	

*Extra tags sold from leftover nonresident rifle tags from 1st Draw

RESIDENT ANTLERLESS ELK MANAGEMENT ANY LEGAL WEAPON HUNT 4481

Mule Deer Season

061 - 064, 066 - 068 Early	1,166	377	377	368	4 to 1	95%	76	21%	
061 - 064, 066 - 068 Late	667	51	51	49	14 to 1	92%	7	14%	
071 - 077, 079, Early	1,039	390	390	379	3 to 1	94%	85	23%	
071 - 077, 079, Late	741	43	43	41	18 to 1	98%	13	32%	
101 - 103 Early	272	200	200	194	2 to 1	93%	10	5%	
101 - 103 Mid	217	200	200	193	2 to 1	92%	5	3%	
101 - 103 Late	240	150	105	102	3 to 1	93%	3	3%	
131 - 132	501	100	100	96	6 to 1	99%	20	21%	
221 - 223 Early	605	144	144	141	5 to 1	97%	34	24%	

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
221 - 223 Mid	236	56	56	55	5 to 1	98%	23	42%	
Bull Elk Season									
075 Early	58	27	12	11	5 to 1	100%	0	0%	
075 Late	45	26	15	15	3 to 1	93%	1	7%	
108, 131, 132	173	47	21	21	9 to 1	95%	3	14%	
TOTALS	5,960	1,811	1,714	1,665	4 to 1	95%	280	17%	

RESIDENT ANTLERLESS ELK MUZZLELOADER HUNT 4176

062, 064, 066 - 068	58	34	34	34	2 to 1	94%	9	26%	
072	99	89	89	85	2 to 1	96%	31	38%	
073	27	22	22	22	2 to 1	91%	7	32%	
074	10	10	10	9	1 to 1	100%	3	33%	
075	34	34	34	33	1 to 1	91%	9	27%	
076, 077, 079, 081	90	64	64	64	2 to 1	95%	32	52%	
078, 105 - 107, 109	12	6	6	5	2 to 1	100%	1	20%	
104, 108, 121	23	8	8	8	3 to 1	100%	3	38%	
108, 131, 132	39	12	12	12	4 to 1	100%	3	25%	
111, 112	134	56	56	55	3 to 1	96%	18	33%	
113	11	7	7	7	2 to 1	86%	3	43%	
114, 115	30	25	25	24	2 to 1	96%	3	13%	
161 – 164	57	40	40	39	2 to 1	90%	9	26%	
221 - 223	106	37	37	36	3 to 1	94%	19	56%	
231, 241, 242	122	46	46	46	3 to 1	96%	20	43%	
TOTALS	852	490	490	479	2 to 1	95%	170	36%	

RESIDENT ANTLERLESS ELK MANAGEMENT MUZZLELOADER HUNT 4476

Mule Deer Season									
061 - 064, 066 - 068	156	37	37	37	5 to 1	92%	5	14%	
071 - 077, 079	101	33	33	33	4 to 1	97%	12	36%	
101 - 103	42	20	20	20	3 to 1	95%	2	10%	
131, 132	111	36	19	17	6 to 1	94%	6	35%	
Bull Elk Season									
075	18	12	6	6	3 to 1	83%	0	0%	
108, 131, 132	7	5	4	4	2 to 1	100%	0	0%	
TOTALS	435	143	119	117	4 to 1	94%	25	21%	

RESIDENT ANTLERLESS ELK ARCHERY HUNT 4111

061, 071	99	134	134	131	1 to 1	95%	20	16%	
062, 064, 066 - 068	39	51	51	50	1 to 1	90%	6	12%	
072	49	48	48	48	2 to 1	96%	9	19%	
073	4	3	3	3	2 to 1	67%	0	0%	

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
074	5	4	4	4	2 to 1	75%	0	0%	
075	9	26	26	26	1 to 1	88%	4	15%	
076, 077, 079, 081	69	62	62	61	2 to 1	97%	10	16%	
078, 105 - 107, 109	22	11	11	9	2 to 1	100%	2	22%	
104, 108, 121	15	8	8	8	2 to 1	100%	2	25%	
108, 131, 132	38	12	12	12	4 to 1	92%	6	50%	
111, 112	114	37	37	34	4 to 1	94%	5	15%	
113	14	10	10	10	2 to 1	100%	2	20%	
114, 115	50	49	49	45	2 to 1	100%	11	24%	
161 – 164	56	34	34	34	2 to 1	97%	5	15%	
221 - 223	113	47	47	45	3 to 1	98%	8	18%	
231, 241, 242	134	83	83	81	2 to 1	95%	17	21%	
TOTALS	830	619	619	601	2 to 1	95%	107	18%	

RESIDENT ANTLERLESS ELK MANAGEMENT ARCHERY HUNT 4411

Mule Deer Season									
061 - 064, 066 - 068	170	77	77	75	3 to 1	91%	1	1%	
071 - 077, 079, Early	114	89	89	89	2 to 1	94%	9	10%	
071 - 077, 079, Late	64	11	11	11	6 to 1	100%	0	0%	
101 – 103 Early	37	20	20	19	2 to 1	68%	0	0%	
101 – 103 Late	26	10	10	10	3 to 1	90%	0	0%	
131, 132	97	12	12	10	9 to 1	80%	1	10%	
Bull Elk Season									
075	12	10	8	8	2 to 1	88%	0	0%	
108, 131, 132	19	9	5	5	4 to 1	100%	1	20%	
TOTALS	539	238	232	227	3 to 1	90%	12	5%	

NONRESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4251

061, 071 Early	109	8	8	8	14 to 1	100%	6	75%	67%
061, 071 Late	54	9	9	9	6 to 1	100%	7	78%	71%
062, 064, 066 - 068 Early	99	7	7	7	15 to 1	86%	6	100%	100%
062, 064, 066 - 068 Late	76	6	6	6	13 to 1	100%	4	67%	100%
072, 073, 074 Early	288	15	15	12	20 to 1	100%	12	100%	100%
072, 073, 074 Late	126	14	14	14	9 to 1	100%	12	86%	92%
075 Early	24	5	5	5	5 to 1	100%	4	80%	100%
076, 077, 079, 081 Early	247	12	12	11	21 to 1	82%	8	82%	100%
076, 077, 079, 081 Late	126	12	12	12	11 to 1	83%	9	83%	100%
078, 105 - 107, 109	35	2	2	2	18 to 1	100%	1	50%	100%
104, 108, 121	59	4	4	4	15 to 1	100%	3	75%	67%
108, 131, 132	35	5	5	5	7 to 1	100%	2	40%	100%
111 - 115 Early	1,206	14	14	13	87 to 1	92%	9	69%	100%

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
111 - 115 Late	173	11	11	11	16 to 1	91%	10	100%	100%
161 - 164, 171 - 173 Early	151	4	4	3	38 to 1	100%	3	100%	67%
161 - 164, 171 - 173 Late	52	6	6	6	9 to 1	100%	6	100%	33%
221 - 223 Early	340	8	8	8	43 to 1	100%	7	88%	86%
221 - 223 Late	111	8	8	8	14 to 1	88%	6	75%	67%
231, 241, 242 Early	308	6	6	5	52 to 1	100%	3	60%	100%
231, 241, 242 Late	98	6	6	6	17 to 1	100%	6	100%	50%
TOTALS	3,717	162	162	155	23 to 1	95%	124	83%	86%

NONRESIDENT ANTLERED ELK MUZZLELOADER HUNT 4256

061, 071	59	4	4	4	15 to 1	100%	1	25%	100%
062, 064, 066 - 068	81	3	3	3	27 to 1	100%	2	67%	100%
072, 073, 074	779	8	8	8	98 to 1	100%	7	88%	86%
104, 108, 121	10	1	1	0	10 to 1			--	
111 – 115	61	1	1	1	61 to 1	100%	1	100%	100%
161 - 164, 171 - 173	126	2	2	1	63 to 1	100%	1	100%	100%
221 - 223	26	1	1	1	26 to 1	100%	1	100%	100%
231, 241, 242	61	1	1	1	61 to 1	0%	0	--	
TOTALS	1,203	21	21	19	58 to 1	95%	13	68%	92%

NONRESIDENT ANTLERED ELK ARCHEY HUNT 4261

061, 071	28	4	4	3	7 to 1	100%	1	33%	100%
062, 064, 066 - 068	21	2	2	2	11 to 1	100%	0	0%	
072, 073, 074	68	6	6	6	12 to 1	100%	1	17%	100%
076, 077, 079, 081	52	4	4	4	13 to 1	100%	1	25%	100%
104, 108, 121	23	1	1	1	23 to 1	100%	1	100%	0%
111 – 115	684	4	4	4	171 to 1	100%	4	100%	100%
161 - 164, 171 - 173	117	2	2	2	59 to 1	100%	0	0%	
221 - 223	232	4	4	4	58 to 1	75%	3	100%	100%
231, 241, 242	109	2	2	2	55 to 1	100%	2	100%	100%
TOTALS	1,334	29	29	28	46 to 1	96%	13	50%	92%

NONRESIDENT ANTLERLESS ELK ANY LEGAL WEAPON HUNT 4281

061, 071 Early	45	37	37	37	2 to 1	95%	22	62%
061, 071 Late	28	21	21	20	2 to 1	85%	3	15%
062, 064, 066 - 068 Early	30	27	27	27	2 to 1	93%	10	37%
062, 064, 066 - 068 Mid	11	11	11	11	1 to 1	82%	4	36%
062, 064, 068 Late	18	11	11	10	2 to 1	70%	2	20%
066, 067 Late	6	6	6	5	1 to 1	60%	3	80%
072 Early*	23	23	23	21	1 to 1	95%	12	57%
072 Mid	21	23	21	21	1 to 1	100%	6	29%

TABLE 10. 2014 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tag Quota	Tags Sold	Tags Avail	Draw Odds	% Return	# Succ. Hunters	% Hunter Success	%6+ pts
072 - 075 Late	49	37	37	36	2 to 1	89%	19	56%	
111, 112 Early	40	22	22	22	2 to 1	95%	5	23%	
111, 112 Late	32	9	9	9	4 to 1	78%	4	56%	
TOTALS	303	227	225	219	2 to 1	90%	90	43%	

*Leftover tags sold to residents in 2nd Draw

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given unit group

Tags Sold - tags sold from first 2 draws, first come first serve process, and tag allocations (special and incentive tags)

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter questionnaires received compared to total tags available

% Hunter Success - # of successful hunters divided by Tags Avail (includes did not hunts; a portion of nonreturned questionnaires are assumed to be successful based on past trends)

TABLE 11. 2014 BULL ELK HARVEST ANTLER LENGTH BY UNIT GROUP

	Count of Antlers by Class Size					Percent of Antlers by Class Size			
Unit Group	**5"- 29"**	**30"- 43"**	**44"-49"**	**50"+**	**Total**	**5"- 29"**	**30"- 43"**	**44"-49"**	**50"+**
061, 071	16	72	25	13	126	13%	57%	20%	10%
062, 064, 066 - 068	16	27	23	34	100	16%	27%	23%	34%
065	0	1	0	1	2	0%	50%	0%	50%
072, 073, 074	8	65	71	61	205	4%	32%	35%	30%
075	2	25	16	6	49	4%	51%	33%	12%
076, 077, 079, 081	12	67	61	70	210	6%	32%	29%	33%
078, 104, 105 107, 109	0	8	7	11	26	0%	31%	27%	42%
091	0	0	1	2	3	0%	0%	33%	67%
101, 102, 103	3	29	8	2	42	7%	69%	19%	5%
104, 108, 121	1	8	6	11	26	4%	31%	23%	42%
108, 131, 132	3	0	5	19	27	11%	0%	19%	70%
111-115	9	37	39	79	164	5%	23%	24%	48%
144, 145	0	3	1	2	6	0%	50%	17%	33%
161 - 164, 171 - 173	2	15	20	29	66	3%	23%	30%	44%
221, 222	6	33	33	65	137	4%	24%	24%	47%
223, 231, 241, 242	2	25	27	34	88	2%	28%	31%	39%
262	2	2	0	1	5	40%	40%	0%	20%
TOTAL	**82**	**417**	**343**	**440**	**1282**	**6%**	**33%**	**27%**	**34%**

Antler length is from hunter measurement of the longest main beam to the nearest inch.

TABLE 12. PERCENT OF BULL ELK WITH MAIN BEAM ANTLER 50+ INCHES BY UNIT GROUP 2008 - 2014

Unit Group	2008	2009	2010	2011	2012	2013	2014
061, 071	16%	18%	23%	17%	12%	10%	10%
062, 064, 066 - 068	50%	29%	49%	55%	24%	27%	34%
065						0%	50%
072, 073, 074	29%	33%	33%	31%	32%	23%	30%
075	11%	12%	18%	11%	37%	13%	12%
076, 077, 079, 081	23%	28%	28%	27%	23%	18%	33%
078, 104, 105 107, 109	60%	40%	63%	58%	40%	42%	42%
091	25%	40%	33%	100%	33%	0%	67%
101, 102, 103	11%	38%	22%	23%	14%	15%	5%
104, 108, 121	27%	43%	29%	48%	34%	38%	42%
108, 131, 132	21%	33%	40%	38%	20%	16%	70%
111-115	28%	28%	28%	39%	40%	46%	48%
144, 145					30%	20%	33%
161 - 164, 171 - 173	31%	26%	18%	40%	40%	40%	44%
221 - 223	24%	25%	27%	28%	32%	34%	47%
231, 241, 242	18%	25%	24%	36%	42%	40%	39%
262	0%	0%	67%	0%	33%	0%	20%
Statewide	**25%**	**27%**	**29%**	**32%**	**29%**	**26%**	**34%**

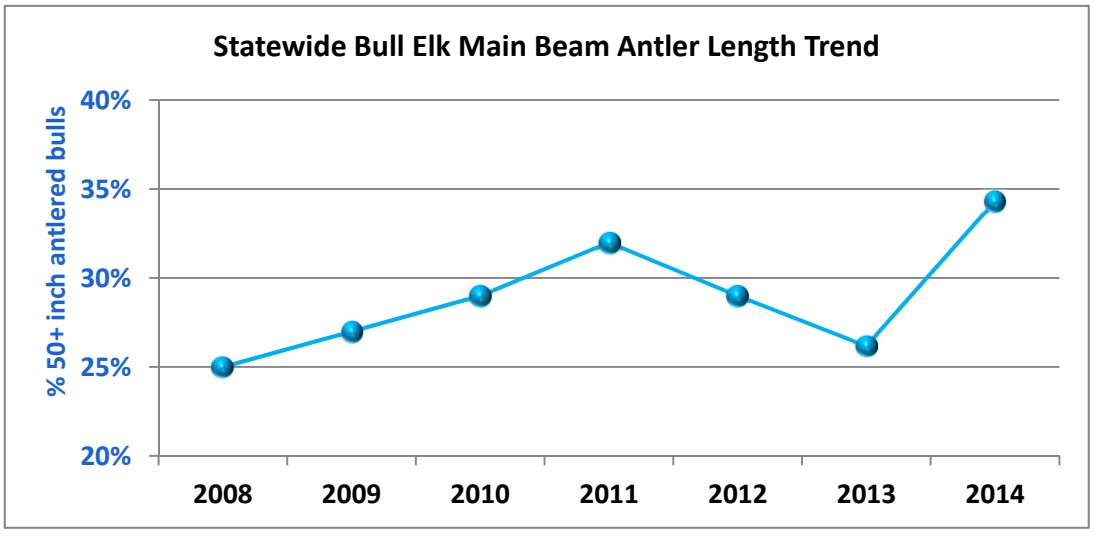


TABLE 13. 2014 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Group	Apps	Tag Quota	Tags Avail	Draw Odds	% Returns	# Succ. Hunters	% Hunter Success	Avg Age	160+
RESIDENT PARTNERSHIP IN WILDLIFE (PIW) DESERT BIGHORN RAM HUNT 3000									
Statewide	2,189	1	1	2,189 to 1	100%	1	100%		
HERITAGE DESERT BIGHORN RAM HUNT 3100 and 3200									
Statewide		2	2		100%	2	100%		
SILVER STATE DESERT BIGHORN RAM HUNT 3300									
Statewide	3,379	1	1	3,379 to 1	100%	1	100%		
DREAM DESERT BIGHORN RAM HUNT 3500									
Statewide		1	1		100%	1	100%		
RESIDENT DESERT BIGHORN RAM HUNT 3151									
044, 182	311	10	8	32 to 1	100%	8	100%	5.4	2
045, 153	100	5	5	20 to 1	100%	5	100%	6.6	1
131, 164	100	6	6	17 to 1	100%	6	100%	4.8	
132	38	3	3	13 to 1	100%	2	67%	5.0	
133, 245	57	3	3	19 to 1	100%	3	100%	4.0	
134	66	4	4	17 to 1	100%	2	50%	5.5	
161 Early	166	6	6	28 to 1	100%	6	100%	5.4	1
161 Late	65	4	4	17 to 1	100%	3	75%	5.4	
162, 163	106	7	7	16 to 1	100%	6	86%	4.7	1
173	172	5	4	35 to 1	100%	3	75%	5.5	
181	465	13	13	36 to 1	100%	13	100%	7.0	4
183	283	11	11	26 to 1	100%	11	100%	5.5	2
184 Early	147	2	2	74 to 1	100%	2	100%	6.0	1
184 Late	52	2	2	26 to 1	100%	0	0%	6.0	
202, 204	124	5	5	25 to 1	100%	5	100%	5.4	
205	155	9	9	18 to 1	100%	9	100%	6.1	3
206, 208	51	5	5	11 to 1	100%	4	80%	6.8	1
207	58	5	5	12 to 1	100%	4	80%	6.2	
211	73	7	7	11 to 1	100%	7	100%	7.4	1
212 Early	96	8	8	12 to 1	100%	8	100%	7.1	
212 Late	27	7	7	4 to 1	100%	7	100%	7.1	
213	74	10	10	8 to 1	100%	9	90%	5.7	
223, 241	73	3	3	25 to 1	100%	1	33%	9.0	1
243	54	4	4	14 to 1	100%	2	50%	5.5	
244	35	4	4	9 to 1	100%	4	100%	6.6	4
252	187	8	8	24 to 1	100%	8	100%	8.1	5
253	1,406	8	8	176 to 1	100%	8	100%	7.0	6
254	15	2	2	8 to 1	100%	2	100%	5.5	
261	92	7	7	14 to 1	100%	4	57%	7.2	2

TABLE 13. 2014 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Group	Apps	Tag Quota	Tags Avail	Draw Odds	% Returns	# Succ. Hunters	% Hunter Success	Avg Age	160+
262	164	6	6	28 to 1	100%	6	100%	7.3	4
263	284	7	7	41 to 1	100%	7	100%	6.9	4
264, 265	96	6	4	16 to 1	100%	4	100%	6.8	2
266	92	2	2	46 to 1	100%	2	100%	6.0	
267	273	7	7	39 to 1	100%	7	100%	5.9	4
268	1,450	23	23	64 to 1	100%	23	100%	6.7	17
271	167	9	9	19 to 1	100%	8	89%	6.4	3
272	50	2	2	25 to 1	100%	2	100%	5.0	2
280	40	2	2	20 to 1	100%	1	50%	13.0	1
281	40	5	5	8 to 1	100%	5	100%	7.6	
282	33	5	5	7 to 1	100%	5	100%	7.0	2
283, 284	53	5	5	11 to 1	100%	3	60%	5.5	2
286	26	2	2	13 to 1	100%	1	50%	8.0	1
TOTAL	**7,416**	**254**	**249**	**30 to 1**	**100%**	**226**	**91%**	**6.4**	**77**
NONRESIDENT DESERT BIGHORN RAM HUNT 3251									
044, 182	212	2	2	106 to 1	100%	2	100%		
161	226	2	2	113 to 1	100%	2	100%		
173	402	1	1	402 to 1	100%	1	100%		
181	416	2	2	208 to 1	100%	1	50%		
183	98	2	2	49 to 1	100%	2	100%		
184	113	1	1	113 to 1	100%	1	100%		
205	219	2	2	110 to 1	100%	2	100%		
207	92	2	2	46 to 1	100%	2	100%		
211	59	2	2	30 to 1	100%	2	100%		
213	127	2	2	64 to 1	100%	2	100%		
261	68	1	1	68 to 1	100%	1	100%		
263	886	1	1	886 to 1	100%	1	100%		
267	634	1	1	634 to 1	100%	1	100%		
268	3,263	4	4	816 to 1	100%	4	100%		
271	362	2	2	181 to 1	100%	2	100%		
283, 284	77	1	1	77 to 1	100%	1	100%		
TOTAL	**7,254**	**28**	**28**	**260 to 1**	**100%**	**27**	**96%**		
RESIDENT DESERT BIGHORN EWE HUNT 3181									
212	54	35	34	2 to 1	100%	25	74%		
213	48	30	30	2 to 1	100%	23	77%		
268	61	20	20	4 to 1	100%	14	70%		
TOTAL	**163**	**85**	**84**	**2 to 1**	**100%**	**62**	**74%**		
RESIDENT PARTNERSHIP IN WILDLIFE (PIW) CALIFORNIA BIGHORN RAM HUNT 8000									
Statewide	2,087	1	1	2,087 to 1	100%	1	100%		

TABLE 13. 2014 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Group	Apps	Tag Quota	Tags Avail	Draw Odds	% Returns	# Succ. Hunters	% Hunter Success	Avg Age	160+
HERITAGE CALIFORNIA BIGHORN RAM HUNT 8100 & 8200									
Statewide		1	1		100%	1	100%		
DREAM CALIFORNIA BIGHORN RAM HUNT 8500									
Statewide		1	1	0 to 1	100%	1	100%		
RESIDENT CALIFORNIA BIGHORN RAM HUNT 8151									
012	939	8	7	118 to 1	100%	5	71%	8.0	
014	227	5	4	46 to 1	100%	4	100%	5.8	
021, 022	277	4	4	70 to 1	100%	4	100%	6.5	2
031	1,936	9	9	216 to 1	100%	9	100%	7.4	10
032	936	9	9	104 to 1	100%	9	100%	7.6	4
033	199	2	2	100 to 1	100%	2	100%	6.0	
034	522	9	9	58 to 1	100%	8	89%	7.9	1
035	153	3	3	51 to 1	100%	2	67%	7.0	
051	216	3	3	72 to 1	100%	3	100%	5.3	
068	527	5	5	106 to 1	100%	5	100%	4.6	
TOTAL	**5,932**	**57**	**55**	**105 to 1**	**100%**	**51**	**93%**	**7.0**	**17**
NONRESIDENT CALIFORNIA BIGHORN RAM HUNT 8251									
012	1,137	2	2	569 to 1	100%	1	50%		
032	4,066	2	2	2,033 to 1	100%	2	100%		
034	901	2	2	451 to 1	100%	1	50%		
TOTAL	**6,104**	**6**	**6**	**1,018 to 1**	**100%**	**4**	**67%**		
RESIDENT CALIFORNIA BIGHORN EWE HUNT 8181									
Statewide	56	15	15	4 to 1	87%	10	67%		
RESIDENT ROCKY MOUNTAIN BIGHORN RAM HUNT 9151								**Avg Age**	**170+**
074	2,620	2	2	1,310 to 1	100%	2	100%	7.0	
114	936	2	2	468 to 1	100%	1	50%	6.0	
115	554	1	1	554 to 1	100%	1	100%	8.0	
TOTAL	**4,110**	**5**	**5**	**822 to 1**	**100%**	**4**	**80%**	**7.0**	**0**

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given group

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter questionnaires received compared to total tags available

% Hunter Success - based on # of successful hunters divided by Tags Avail (includes did not hunts)

Avg Age - Average age of rams from all tagholders for given unit group including residents and nonresidents.

160+/170+ - # of rams scoring 160+ B&C points for Desert and California and 170+ for Rocky Mountain subspecies from all tagholders (resident and nonresident) for given unit group.

TABLE 14. BIGHORN SHEEP RAM HARVEST HISTORY

Year/ Unit Group	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
DESERT BIGHORN						
1995	124	72%	7.9	6.3	150 5/8	171 4/8
1996	122	81%	7.4	5.4	144 6/8	177 3/8
1997	109	74%	7.9	6.1	145 5/8	170 6/8
1998	115	83%	7.3	5.8	152 1/8	172
1999	127	92%	5.8	6.0	147 4/8	179 2/8
2000	132	86%	5.9	6.3	147 4/8	173 2/8
2001	143	86%	5.8	6.2	150 5/8	178 2/8
2002	140	80%	6.4	6.3	148 4/8	183 2/8
2003	133	90%	6.2	6.4	150 7/8	173
2004	138	92%	6.1	6.1	150 3/8	174 6/8
2005	149	91%	4.7	6.5	153 1/8	176 5/8
2006	154	92%	5.5	6.7	152 3/8	177 6/8
2007	172	87%	6.1	6.4	149 5/8	172 7/8
2008*	173	88%	5.8	6.3	152 3/8	178 5/8
2009*	193	89%	5.2	6.2	153 4/8	177 4/8
2010*	216	86%	5.7	6.5	154 1/8	189 6/8
2011*	222	87%	4.9	6.6	153 6/8	181 6/8
2012	281	86%	5.7	6.5	154	182 2/8
2013*	275	91%	5.8	6.3	153 2/8	182 3/8
2014	287	89%	4.6	6.4	152 2/8	183 3/8
Total/Avg	**3,768**	**86%**	**6.0**	**6.3**	**151 3/8**	**189 6/8**

* Includes Rocky Mtn or possibly hybrid Desert/Rocky Rams harvested in Unit 131

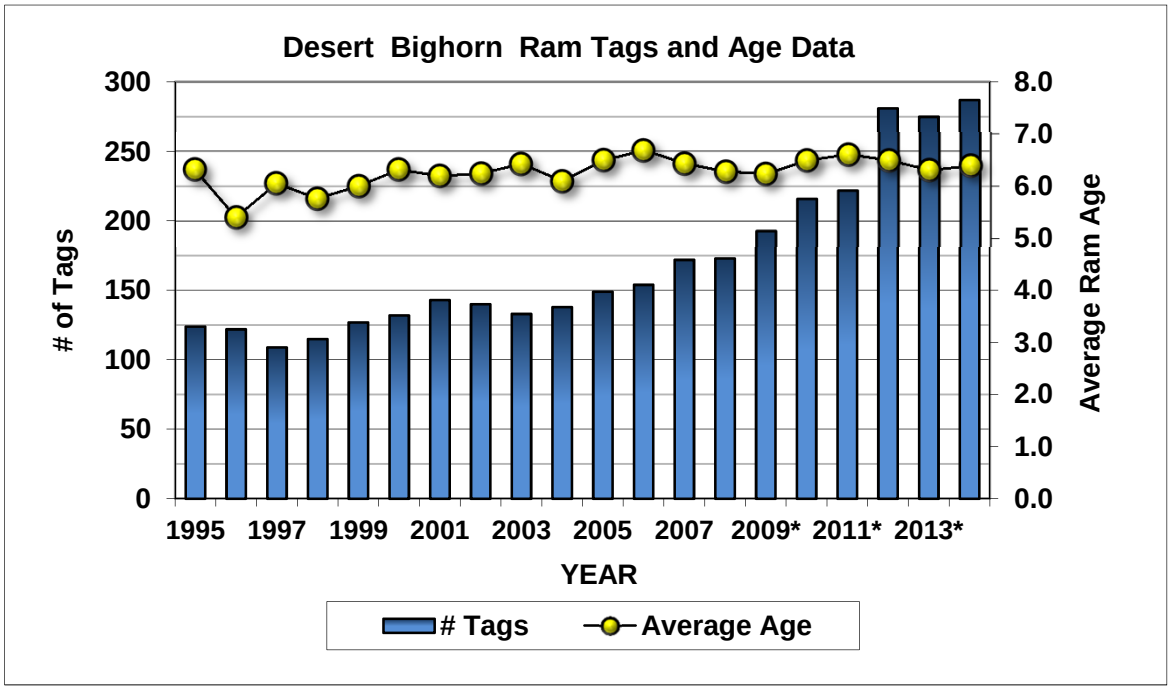


TABLE 14. BIGHORN SHEEP RAM HARVEST HISTORY

Year/ Unit Group	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
DESERT BIGHORN 2004 - 2014						
044, 182	80	90%	5.3	5.3	145 4/8	168
045, 153	15	93%	8.1	6.1	150 3/8	165 6/8
131*, 164	34	94%	5.3	5.9	147 2/8	189 6/8
132	11	91%	7.8	6.1	150 1/8	165 7/8
133, 245	29	69%	6.8	6.0	150 3/8	165 7/8
134	61	85%	5.2	5.5	148 4/8	170 2/8
161	120	88%	5.7	6.5	155 3/8	172 7/8
162, 163	44	91%	3.8	5.9	149 6/8	167
173	49	90%	4.6	6.4	149	175 3/8
181	82	93%	5.2	6.8	157 6/8	175
183	86	100%	3.7	6.1	154 1/8	168 3/8
184	61	80%	5.9	5.8	148 4/8	164 3/8
202	24	100%	2.6	5.3	147	164 7/8
204	12	92%	5.3	5.4	143 2/8	163 4/8
205	72	86%	5.7	6.3	150 7/8	173
206, 208	27	78%	6.0	6.3	146 2/8	164 6/8
207	71	94%	5.1	5.7	146 3/8	164 7/8
211	58	90%	5.3	6.8	148 2/8	166
212	65	94%	4.3	7.2	149 6/8	167 5/8
213	79	92%	3.7	6.0	138 6/8	157 3/8
223, 241	36	64%	9.9	5.6	149 3/8	174 1/8
243	27	48%	9.1	6.8	150 7/8	182 3/8
244	38	87%	7.2	7.1	154 5/8	175 6/8
252	63	95%	5.5	6.9	161 6/8	179 2/8
253	72	99%	3.9	7.5	167 1/8	181 7/8
254	28	89%	7.7	7.3	148 4/8	162 5/8
261	59	83%	5.5	7.1	151 6/8	168 3/8
262	61	87%	6.0	7.2	159 4/8	177
263	109	97%	6.4	6.7	161 2/8	175 5/8
264, 265	38	89%	5.2	6.4	152 2/8	169 3/8
266	43	93%	4.8	5.9	150 5/8	167 2/8
267	71	96%	3.8	6.4	154 3/8	181 6/8
268	225	94%	4.5	6.6	154 5/8	183 3/8
271	77	91%	5.6	6.2	152 3/8	175 4/8
272	25	52%	8.5	5.7	151 7/8	176 2/8
280	34	53%	6.3	7.8	155	167 6/8
281	43	77%	5.9	7.3	152	167
282	33	88%	6.2	6.3	152 4/8	174
283, 284	60	77%	7.7	6.2	154	169 6/8
286	30	90%	6.1	5.8	154 1/8	171 6/8

* Includes Rocky Mtn or possibly hybrid Desert/Rocky Rams harvested in Unit 131

TABLE 14. BIGHORN SHEEP RAM HARVEST HISTORY

Year/ Unit Group	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
ROCKY MOUNTAIN BIGHORN						
1995	2	100%	10.5	10.0	174 1/8	183 2/8
1996	2	50%	10.0	10.0	165 6/8	165 6/8
1997	3	67%	7.3	8.5	164 6/8	169 1/8
1998	5	100%	1.4	7.6	169 6/8	176 2/8
1999	5	100%	6.4	7.4	159	176
2000	4	100%	4.3	7.5	164 2/8	173 3/8
2001	3	67%	5.7	6.0	174 2/8	178 1/8
2002	3	100%	3.0	6.7	167 6/8	183 1/8
2003	6	100%	4.7	6.8	168 1/8	183 4/8
2004	6	83%	3.2	8.0	176 7/8	189 4/8
2005	6	83%	8.5	7.4	174 5/8	178 2/8
2006	6	83%	2.7	7.0	170 1/8	190 5/8
2007	9	100%	3.2	6.1	172	190 5/8
2008	13	92%	6.4	6.8	169 4/8	191 5/8
2009	11	100%	3.8	7.9	172 2/8	195 4/8
2010	4	100%	3.0	5.8	153 6/8	160 1/8
2011	5	60%	8.0	7.7	159 5/8	167 2/8
2012	8	88%	5.1	7.0	158	174 7/8
2013	7	100%	6.3	6.6	153 3/8	170
2014	5	80%	12.0	7.0	150	154 6/8
Total/Avg	113	90%	5.3	7.2	166 1/8	195 4/8

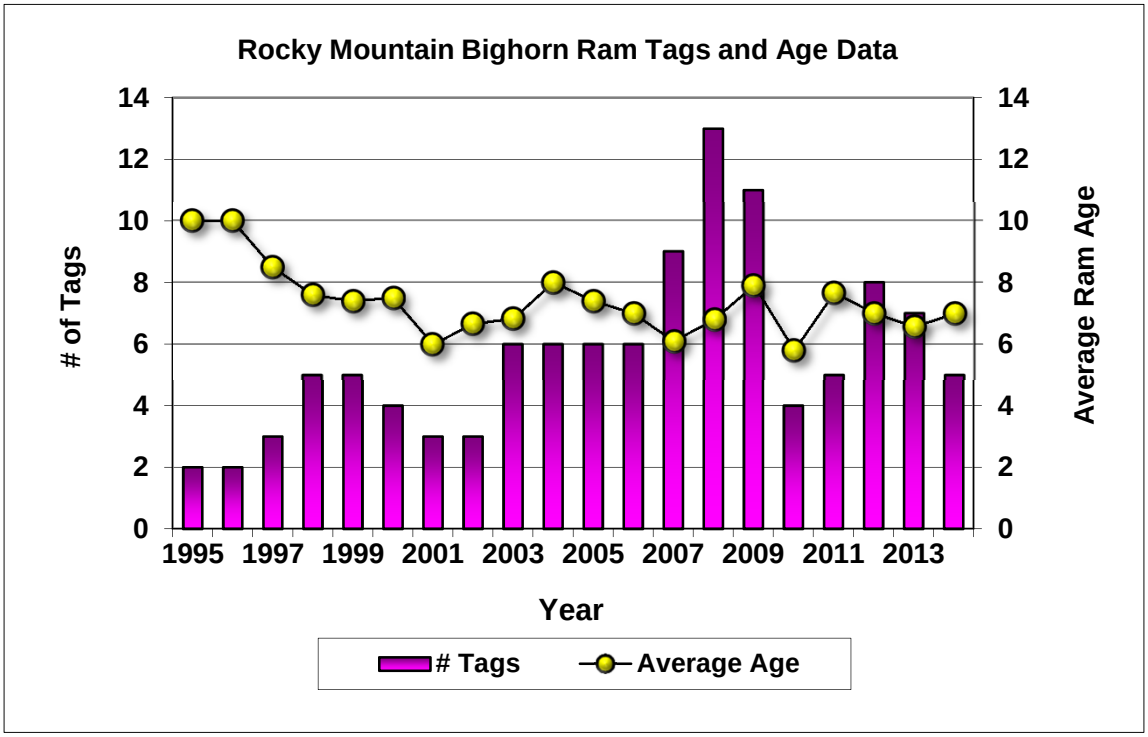


TABLE 14. BIGHORN SHEEP RAM HARVEST HISTORY

Year/ Unit Group	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
ROCKY MOUNTAIN BIGHORN 2004 - 2014						
074	20	95%	4.9	6.5	157	176 7/8
091	3	100%	8.3	8.0	158 6/8	169 3/8
114	15	73%	10.3	6.2	149 1/8	170
115	4	100%	7.0	8.8	160 4/8	172 5/8
CALIFORNIA BIGHORN 2004 - 2014						
1992	10	90%	7.5	6.2	149	157 1/8
1993	12	100%	4.1	7.4	147 5/8	165 1/8
1994	20	70%	5.8	7.1	150	164 6/8
1995	25	76%	7.2	7.5	146 6/8	166 1/8
1996	33	88%	6.1	7.6	151 4/8	170 2/8
1997	36	86%	6.6	6.9	147 4/8	175 2/8
1998	41	78%	6.1	6.8	149 6/8	167
1999	47	77%	6.8	6.2	144 6/8	167 2/8
2000	43	91%	5.5	6.9	145 5/8	166 5/8
2001	37	92%	5.0	7.4	148 5/8	184 7/8
2002	41	83%	5.8	6.4	146 3/8	165 7/8
2003	39	87%	6.1	6.8	148 6/8	168 7/8
2004	35	91%	5.7	7.3	152 2/8	166
2005	39	90%	7.1	6.6	149 5/8	167 1/8
2006	42	88%	7.3	6.8	151 5/8	171 3/8
2007	43	100%	6.4	6.8	147 4/8	165 2/8
2008	42	95%	6.1	7.1	152 3/8	172 4/8
2009	48	98%	7.0	7.3	155 3/8	169 6/8
2010	52	100%	6.4	7.4	156	169 4/8
2011	57	95%	6.2	7.0	153 6/8	173 2/8
2012	59	90%	6.1	7.0	149	169 4/8
2013	67	91%	6.4	7.2	153 5/8	171 7/8
2014	66	88%	6.1	7.0	153 1/8	174
Total/Avg	934	89%	6.3	7.0	150 5/8	184 7/8

TABLE 14. BIGHORN SHEEP RAM HARVEST HISTORY

Year/ Unit Group	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
CALIFORNIA BIGHORN						
012	95	89%	7.0	7.3	153 6/8	169 7/8
014	26	96%	5.8	6.4	146	166 2/8
021, 022	19	100%	6.2	6.3	149 4/8	160 2/8
031	73	99%	4.0	7.3	157 2/8	173 4/8
032	86	95%	5.1	7.5	155 4/8	175 1/8
033	50	92%	8.2	7.1	149 4/8	164 4/8
034	81	95%	5.5	7.6	156 1/8	172 4/8
035	29	83%	7.9	7.0	146 5/8	168 7/8
041	3	100%	10.7	5.7	135 3/8	158 1/8
051	26	88%	10.0	6.5	150 2/8	171 3/8
066	24	83%	8.3	6.8	150 2/8	167 7/8
068	30	97%	7.6	5.1	142 3/8	157 7/8

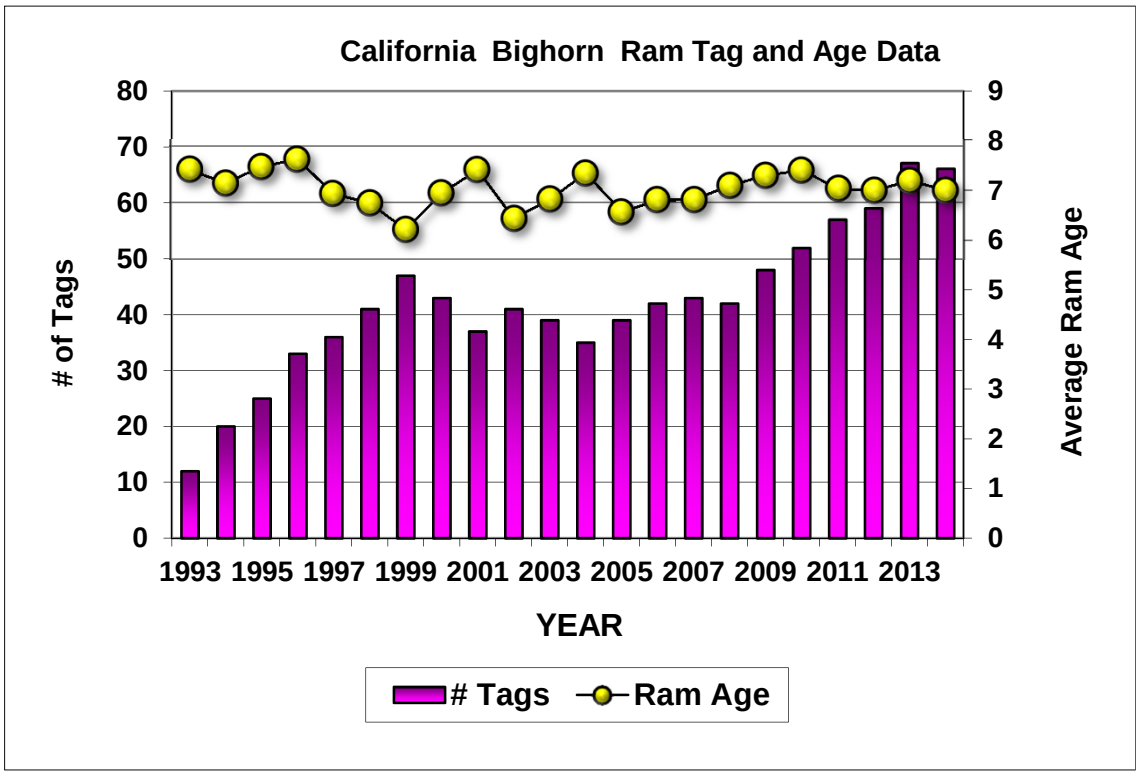


TABLE 15. 2014 MOUNTAIN GOAT HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags	Draw Odds	% Returns	# Succ. Hunters	% Hunter Success	% Male Harvest
RESIDENT MOUNTAIN GOAT HUNT 7151							
101	1,417	5	284 to 1	100%	5	100%	100%
102	2,084	6	348 to 1	100%	6	100%	50%
103	523	1	523 to 1	100%	1	100%	100%
TOTAL	**4,024**	**12**	**336 to 1**	**100%**	**12**	**100%**	**75%**

Apps - # of unsuccessful 1st choice applicants plus successful 1st - 5th choice applicants for given unit group

Draw Odds - # of "Apps" for every one tag sold

% Return - Percent of hunter questionnaire records received compared to total tags sold

% Hunter Success - based on # of successful hunters divided by Tags Sold

% Male Harvest - Percent of Billy (male) mountain goats of total harvest

TABLE 16. MOUNTAIN GOAT HARVEST HISTORY BY UNIT AND YEAR, 1999 - 2014

Year	Harvest	Average Age	Average Left Horn	Average Right Horn	Average Days Hunted
Unit 101 - East Humboldt Range					
1999	4	2.3	7.3	7.6	2.5
2000	5	4.4	9.0	9.0	1.8
2001	6	6.5	8.9	8.9	2.7
2002	7	4.6	8.4	8.6	2.1
2003	8	3.5	8.6	8.6	1.9
2004	6	2.7	8.3	8.3	1.6
2005	5	3.0	7.9	7.9	2.2
2006	5	4.5	8.1	7.9	2.0
2007	5	4.8	8.8	8.9	1.8
2008	5	5.0	9.1	9.1	2.8
2009	7	7.0	9.2	9.3	1.7
2010	6	6.8	8.2	7.8	3.8
2011	3	3.0	8.3	8.3	2.0
2012	2	5.5	8.3	8.2	3.0
2013	1	4.0	8.3	8.4	5.0
2014	5	7.0	8.4	8.5	1.8
5-Year Avg.	**3**	**5.3**	**8.3**	**8.2**	**3.1**
Long-term Avg.	**5**	**4.7**	**8.4**	**8.4**	**2.4**
Unit 102 - Ruby Mountains					
1999	6	4.7	8.8	9.0	2.8
2000	9	4.6	8.7	8.7	8.9
2001	14	4.1	8.2	8.5	3.7
2002	11	5.1	9.1	9.0	2.9
2003	13	5.0	9.1	9.2	5.2
2004	12	5.3	8.6	8.9	5.1
2005	18	4.6	8.7	8.6	2.6
2006	18	4.0	8.5	8.7	3.9
2007	22	4.9	9.0	8.9	2.6
2008	21	3.9	8.6	8.4	4.4
2009	20	4.5	8.7	8.8	3.4
2010	13	5.6	8.6	8.9	3.9
2011	7	4.9	8.8	8.9	3.3
2012	3	4.7	8.4	8.6	6.7
2013	4	6.3	8.5	7.3	4.0
2014	6	5.5	8.6	7.0	3.2
5-Year Avg.	**7**	**5.4**	**8.6**	**8.1**	**4.2**
Long-term Avg.	**12**	**4.8**	**8.7**	**8.6**	**4.2**

TABLE 16. MOUNTAIN GOAT HARVEST HISTORY BY UNIT AND YEAR, 1999 - 2014

Unit 103 - Pearl Peak Area, Southern Ruby Mountains

Year	Harvest	Average Age	Average Left Horn	Average Right Horn	Average Days Hunted
2000	2	6.0	9.1	8.2	2.0
2001	2	4.0	8.4	8.4	2.5
2002	1	4.0	7.6	7.5	4.0
2003	1	2.0	7.8	7.5	2.0
2004	1	4.0	9.3	9.5	4.0
2005	1	5.0	7.0	9.0	1.0
2006	2	7.0	9.4	8.9	3.5
2007	2	4.5	9.0	8.9	3.0
2008	1	3.0	9.0	9.3	7.0
2009	1	8.0	9.3	9.3	3.0
2010	1	3.0	9.3	8.9	6.0
2011	1	5.0	9.0	9.0	3.0
2012	1	6.0	9.9	9.9	7.0
2013	1	5.0	9.0	9.3	2.0
2014	1	6.0	9.4	8.3	2.0
5-Year Avg.	**1**	**5.0**	**9.3**	**9.1**	**4.0**
Long-term Avg.	**1**	**4.8**	**8.8**	**8.8**	**3.5**

ALL UNITS

Year	Hunter Success	# of Tags	Harvest	# of Billies	# of Nannies	% Nannies
1999	91%	11	10	9	1	10%
2000	89%	18	16	15	1	6%
2001	96%	23	22	16	6	27%
2002	78%	23	18	17	1	6%
2003	96%	24	23	20	3	13%
2004	83%	24	20	17	3	15%
2005	85%	28	24	22	2	8%
2006	90%	29	26	23	3	12%
2007	100%	29	29	23	6	21%
2008	93%	29	27	21	6	22%
2009	96%	28	27	19	8	30%
2010	100%	20	20	12	8	40%
2011	100%	11	11	8	3	27%
2012	100%	6	6	4	2	33%
2013	86%	7	6	4	2	33%
2014	100%	12	12	9	3	25%
Total/Avg.	92%	322	297	239	58	20%

TABLE 17. 2014 BLACK BEAR DRAW AND HUNT RESULTS

RESIDENT BLACK BEAR HUNT 6151

UNIT GROUP	Apps	Tags	Tags Avail	Draw Odds	# Returns	% Returns	# Succ. Hunters	% Hunter Success
Statewide	2,012	41	36	50 to 1	32	89%	18	56%

NONRESIDENT BLACK BEAR HUNT 6251

UNIT GROUP	Apps	Tags	Tags Avail	Draw Odds	# Returns	% Returns**	# Succ. Hunters	% Hunter Success
Statewide	123	4	3	31 to 1	3	100%	0	0%

BLACK BEAR HARVEST RESULTS

YEAR	Gender	Harvest	Mean Age	3-yr Average Age	Hunter Effort of Successful Tagholders
2014	Males	12	7.0	6.5	5.1
	Females	6	10.5	9.6	

Apps - # of unsuccessful applicants plus successful applicants in main draw.

Tags Avail - Available tags at season opener - accounts for tags returned for any reason and alternate tags issued

Draw Odds - # of "Apps" for every one tag sold.

% Return - Percent of hunter questionnaires received compared to total tags sold

% Hunter Success - based on # of successful hunters divided by tag returns

BLACK BEAR HARVEST BY UNIT

UNIT	# Bears
192	1
194	4
204	1
291	12
TOTAL	**18**

TABLE 18. FALL 2014 AND SPRING 2015 MULE DEER SURVEY COMPOSITION

UNIT GROUP	2014 FALL TOTAL	2014 Bucks: 100 Does	2014 Fawns: 100 Does	2014 Fawns: 100 Adults	2015 Spring Adults	2015 Spring Fawns	2015 Spring TOTAL	2015 Fawns: 100 Adults	*Spring 2014 Fawns: 100 Adults*
011 - 013	436	36	52	**38**	116	40	156	**34**	***40***
014	402	34	54	**40**	149	59	208	**40**	***39***
015	--	--	--	**--**	231	89	320	**39**	***36***
021	--	--	--	**--**	164	63	227	**38**	***38***
022	--	--	--	**--**	78	27	105	**35**	***28***
031	132	31	45	**35**	304	156	460	**51**	***36***
032, 034	350	34	48	**36**	190	108	298	**57**	***36***
033	64	53	60	**39**	--	--	--	**--**	***36***
035	146	19	43	**36**	80	60	140	**75**	***41***
041, 042	--	--	--	**--**	18	6	24	**33**	***29***
043 - 046	--	--	--	**--**	118	55	173	**47**	***22***
051	325	38	52	**38**	445	204	649	**46**	***40***
061,062,064, 066-068	--	--	--	**--**	2,383	1,004	3,387	**42**	***42***
065	583	40	66	**47**	223	82	305	**37**	--
071 - 079, 091	4,332	23	43	**35**	--	--	--	**--**	***32***
081	409	27	42	**33**	--	--	--	**--**	--
101 - 109	6,233	29	59	**46**	6,259	2,267	8,526	**36**	***31***
111 - 113	--	--	--	**--**	1,847	480	2,327	**26**	***31***
114 - 115	--	--	--	**--**	463	119	582	**26**	***26***
121	--	--	--	**--**	1,500	673	2,173	**45**	***37***
131 - 134	908	32	70	**53**	621	252	873	**41**	***30***
141 - 145	--	--	--	**--**	977	404	1,381	**41**	***38***
151, 152, 154-156	1,449	40	61	**44**	--	--	--	**--**	***20***
161 - 164	1,292	26	50	**40**	--	--	--	**--**	***25***
171 - 173	1,338	37	48	**35**	--	--	--	**--**	***25***
181 - 184	--	--	--	**--**	68	23	91	**34**	***29***
192	223	22	58	**48**	--	--	--	**--**	***36***
194, 196	498	33	63	**47**	--	--	--	**--**	***38***
195	--	--	--	**--**	--	--	--	**--**	--
201 - 206	391	27	42	**33**	227	33	260	**15**	***12***
203	--	--	--	**--**	--	--	--	**--**	--
211, 212	--	--	--	**--**	--	--	--	**--**	--
221 - 223	--	--	--	**--**	--	--	--	**--**	***47***
231	--	--	--	**--**	--	--	--	**--**	***43***
241 - 244	--	--	--	**--**	--	--	--	**--**	***39***
251 - 253	--	--	--	**--**	--	--	--	**--**	--
261 - 268	--	--	--	**--**	--	--	--	**--**	--
271, 272	--	--	--	**--**	--	--	--	**--**	--
291	--	--	--	**--**	--	--	--	**--**	--
2014-15 TOTALS	**19,511**	**30**	**53**	**41**	**16,461**	**6,204**	**22,665**	**38**	
2013-14 TOTALS	*21,377*	*30*	*51*	***39***	*20,274*	*6,614*	*26,888*	***33***	

Spring fawn/100 adults ratios that are higher than its fall ratio are assumed to be biased high.
Units with (--) were not surveyed.

TABLE 19. LATE SUMMER/FALL/WINTER 2014 PRONGHORN SURVEY COMPOSITION

UNIT GROUP	BUCKS	DOES	FAWNS	TOTAL	2014 BUCKS/ 100 DOES	2014 FAWNS/ 100 DOES	*2013 FAWNS/ 100 DOES*
011	51	184	67	302	28	**36**	*40*
012 - 014	90	312	118	520	29	**38**	*36*
015	28	105	37	170	27	**35**	*45*
021 - 022	16	58	20	94	28	**35**	*33*
031	25	46	24	95	54	**52**	*39*
032, 034, 035	32	160	67	259	20	**42**	*33*
033	83	308	113	504	27	**37**	*35*
041, 042	67	186	79	332	36	**43**	*21*
043, 044, 046	49	106	44	199	46	**42**	*25*
051	34	179	74	287	19	**41**	*33*
061 - 064, 071, 073	274	762	365	1,401	36	**48**	*49*
065, 142, 144	*78*	*166*	*90*	334	47	**54**	*49*
066	*57*	*84*	*43*	184	68	**51**	*--*
067 - 068	66	163	74	303	41	**45**	*36*
072, 074, 075	154	351	139	644	44	**40**	*39*
076, 077, 079, 081, 091	73	128	46	247	57	**36**	*30*
078, 105 - 107, 121	218	580	177	975	38	**31**	*39*
101 - 104, 108	101	230	101	432	44	**44**	*32*
111 - 114	301	729	288	1,318	41	**40**	*37*
115, 231, 242	79	230	60	369	34	**26**	*36*
131, 145, 163, 164	156	457	130	743	34	**28**	*27*
132 - 134, 245	76	230	72	378	33	**31**	*25*
141, 143, 151 - 155	431	907	435	1,773	48	**48**	*45*
161, 162	56	140	32	228	40	**23**	*17*
171 - 173	35	75	34	144	47	**45**	*17*
181 - 184	64	206	94	364	31	**46**	*24*
202, 204	15	58	16	89	26	**28**	*13*
203, 291	16	29	12	57	55	**41**	*29*
205, 206	15	34	17	66	44	**50**	*26*
211 - 213	8	34	16	58	24	**47**	*--*
221 - 223, 241	66	233	59	358	28	**25**	*25*
251	27	52	28	107	52	**54**	*32*
2014 TOTALS	**2,841**	**7,522**	**2,971**	**13,334**	**38**	**39**	
2013 TOTALS	*2,488*	*7,220*	*2,546*	*12,254*	*34*	*35*	

Units with (--) were not surveyed.

TABLE 20. LATE SUMMER/FALL 2014 DESERT BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2014 RAMS/ 100 EWES	2014 LAMBS/ 100 EWES	*2013 LAMBS/ 100 EWES*
044, 182	52	97	32	181	54	**33**	*33*
045/153	35	33	19	87	106	**58**	*49*
131, 164	20	46	10	76	44	**22**	*18*
132	10	37	5	52	27	**14**	*23*
133, 245	24	51	21	96	47	**41**	--
134	40	96	21	157	42	**22**	*2*
153	7	5	1	13	140	**20**	--
161				--	--	**--**	--
162	8	8	4	20	100	**50**	--
163	48	156	21	225	31	**14**	--
173				--	--	**--**	--
181	73	137	56	266	53	**41**	*42*
183	65	106	41	212	61	**39**	*44*
184	24	40	18	82	60	**45**	*63*
195	2	10	5	17	20	**50**	*33*
202	30	85	31	146	35	**37**	*39*
204	15	24	8	47	63	**33**	*20*
205, 207	136	226	74	436	60	**33**	*54*
206	23	49	25	97	47	**51**	*45*
208				--	--	**--**	--
211 (Silver Peaks)	97	141	52	290	69	**37**	*33*
212	144	169	71	384	85	**42**	*15*
213 (Monte Cristos)	130	226	66	422	58	**29**	--
223, 241 (Hikos)	28	72	23	123	39	**32**	--
241 (Delamars)	19	28	5	52	68	**18**	--
243	24	52	16	92	46	**31**	--
244	40	79	9	128	51	**11**	--
252				--	--	**--**	*30*
253 (Bares)	73	125	67	265	58	**54**	*63*
254 (Specters)				--	--	**--**	--
261	37	67	25	129	55	**37**	--
262				--	--	**--**	*30*
263				--	--	**--**	*17*
264				--	--	**--**	--
265				--	--	**--**	--
266	6	25	14	45	24	**56**	*12*
267	49	103	15	167	48	**15**	*41*
268	186	186	111	483	100	**60**	*55*
269 (River Mtns)	89	113	37	239	79	**33**	*23*
271	86	151	33	270	57	**22**	--
272				--	--	**--**	--
280	20	67	16	103	30	**24**	--
281	13	22	10	45	59	**46**	*32*
282	28	71	19	118	39	**27**	*38*
283, 284	48	94	15	157	51	**16**	--
286	47	62	19	128	76	**31**	--
2014 TOTALS	**1,776**	**3,059**	**1,015**	**5,850**	**58**	**33**	
2013 TOTALS	*1,292*	*2,176*	*739*	*4,207*	*59*	*34*	

TABLE 21. LATE SUMMER/FALL 2014 CALIFORNIA BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2014 RAMS/ 100 EWES	2014 LAMBS/ 100 EWES	*2013 LAMBS/ 100 EWES*
011, 013	4	23	7	34	17	30	*30*
012	26	61	19	106	43	31	*26*
014	10	18	6	34	56	33	*41*
021, 022	21	22	8	51	96	36	*43*
031	25	55	20	100	46	36	36
032	50	134	69	253	37	52	38
033				--	--	--	39
034	23	38	16	77	61	42	49
035	3	19	14	36	16	74	43
041	10	8	4	22	125	50	50
051	17	78	18	113	22	23	57
066	*13*	*26*	*7*	46	50	27	--
068	50	46	13	109	109	28	*18*
2014 TOTALS	**252**	**528**	**201**	**981**	**48**	**38**	
2013 TOTALS	*193*	*580*	*227*	1,000	33	39	

TABLE 22. SUMMER/WINTER/EARLY SPRING 2014 - 2015 ROCKY MOUNTAIN BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2014-15 RAMS/ 100 EWES	2014-15 LAMBS/ 100 EWES	*2013-14 LAMBS/ 100 EWES*
074	11	14	5	30	79	36	*58*
091	7	17	4	28	41	24	*7*
101	*8*	*21*	*13*	42	38	62	*75*
102				--	--	--	--
114	13	21	12	46	62	57	*38*
115	7	9	2	18	78	22	*36*
2014-15 TOTALS	**46**	**82**	**36**	**164**	**56**	**44**	
2013-14 TOTALS	*39*	*84*	*27*	*150*	*46*	*32*	

Units with (--) were not surveyed.

TABLE 23. JANUARY 2015 MOUNTAIN GOAT SURVEY COMPOSITION

UNIT GROUP	ADULTS	KIDS	TOTAL	**2015 KIDS/ 100 ADULTS**	*2014* KIDS/ 100 ADULTS
101	65	4	69	6	*5*
102			**--**	--	*17*
103	28	7	**35**	25	*8*
2015 TOTALS	**93**	**11**	**104**	**12**	
2014 TOTALS	*174*	*20*	*194*	*11*	

TABLE 24. FALL/WINTER 2014 - 2015 ROCKY MOUNTAIN ELK SURVEY COMPOSITION

UNIT GROUP	BULLS	COWS	CALVES	TOTAL	**2014-2015 BULLS/ 100 COWS**	**2014-2015 CALVES/ 100 COWS**	*2013-2014 CALVES/ 100 COWS*
061, 071	751	2,016	1,196	3,963	37	59	*29*
062, 064, 066-068	223	528	260	1,011	42	49	*48*
065				--	--	--	*42*
072, 074	434	630	325	1,389	69	52	*33*
073	75	400	215	690	19	54	*32*
075	35	127	72	234	28	57	*28*
076, 077, 079, 081	269	564	284	1,117	48	50	*48*
078,104, 105-107	26	127	66	219	21	52	*53*
091	21	82	63	166	26	77	*25*
104,108,121	33	186	80	299	18	43	*40*
108,131 - 132	51	75	23	149	68	31	*29*
111-115, 221, 222, 223	476	1,509	497	2,482	32	33	*33*
161 - 164	79	271	92	442	29	34	*31*
171 - 173				--	--	--	*27*
231	117	336	124	577	35	37	*45*
241, 242	6	27	13	46	22	48	--
262	37	105	21	163	35	20	*19*
2014-2015 Totals	**2,633**	**6,983**	**3,331**	**12,947**	**38**	**48**	
2013-2014 Totals	*2,746*	*7,999*	*2,802*	13,547	34	35	

Units with (--) were not surveyed.

TABLE 25. 2015 MULE DEER POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
011 - 013	1,900	*2,000*
014	1,500	*1,600*
015**	260	*290*
021**	400	*410*
022	800	*730*
031	1,850	*1,800*
032***	1,100	*1,100*
033	800	*950*
034***	290	*300*
035	850	*840*
041, 042***	300	*750*
043 - 046	2,700	*2,700*
051	2,500	*2,800*
061,062,064, 066 - 068	9,100	*9,800*
065	800	*750*
071 - 079, 091	10,500	*13,000*
081	900	*900*
101 - 108	18,000	*24,000*
111 - 113	4,600	*4,600*
114 - 115	1,500	*1,600*
121	2,700	*2,500*
131 - 134	4,200	*3,900*
141 - 145	4,000	*3,900*
151, 152 ,154, 155	3,000	*3,200*
161 - 164	4,400	*4,200*
171 - 173	4,200	*4,100*
181 - 184	1,500	*1,500*
192**	420	*390*
194, 196**	1,000	*950*
195	500	*500*
201, 204**	650	*750*
202, 205 - 208**	500	*600*
203	600	*600*
211, 213	400	*400*
221 - 223	4,300	*4,100*
231	3,300	*3,300*
241 - 245	850	*860*
251 - 254	400	*400*

TABLE 25. 2015 MULE DEER POPULATION ESTIMATES

261 - 268	400	*400*
271, 272	240	*240*
291	600	*600*
TOTAL	**99,000**	***108,000***
Percent Change	**-8%**	

*Estimates - Values generated from computer models that reconstruct age and sex classes based on sampled herd composition, harvest data, and population demographic variables. The confidence limits around these estimates may be as high as + or - 20%.

**Estimate based on apportionment of an interstate herd

***Estimate includes deer that primarily inhabit agricultural fields

TABLE 26. 2015 ROCKY MOUNTAIN ELK POPULATION ESTIMATES

UNIT GROUP	**2015 ESTIMATE***	*2014 ESTIMATE**
051	80	--
061, 071	4,400	*3,500*
062, 064, 066 - 068	1,200	*1,200*
065	100	*90*
072, 073, 074	2,500	*2,100*
075	310	*350*
076, 077, 079, 081	1,900	*2,100*
078, 105 - 107, 109	380	*370*
091	370	*300*
104, 108, 121	700	*700*
108, 131, 132	310	*390*
111 - 115, 221, 222, 223	4,200	*4,500*
145	50	*50*
161 - 164	950	*950*
171 - 173	110	*110*
231	600	*570*
241, 242	120	*100*
262	180	*150*
TOTAL	**18,500**	*17,500*
Percent Change	**6%**	

*Estimates - Values generated from computer models that reconstruct age and sex classes based on sampled herd composition, harvest data, and population demographic variables. The confidence limits around these estimates may be as high as + or - 20%.

TABLE 27. 2015 PRONGHORN POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
011	1,100	*1,300*
012-014	1,800	*2,000*
015	950	*1,200*
021, 022	450	*500*
031	1,600	*1,500*
032, 034, 035	3,000	*3,000*
033	1,100	*1,300*
041, 042	1,800	*1,700*
043-046	450	*240*
051	750	*750*
061, 062, 064, 071, 073	1,700	*1,100*
065, 142, 144	800	*800*
066	450	*380*
067, 068	1,100	*1,100*
072, 074, 075	1,300	*1,200*
076, 077, 079, 081, 091	500	*420*
078, 105 - 107, 121	1,100	*950*
101 - 104, 108, 109, 144	950	*900*
111 - 114	1,500	*1,400*
115, 231, 242	450	*450*
131, 145, 163, 164	850	*750*
132 - 134, 245	500	*500*
141, 143, 151 - 156	2,000	*1,900*
161, 162	390	*360*
171 - 173	340	*340*
181 - 184	650	*600*
202, 204	120	*120*
203, 291	80	*80*
205 - 208	290	*290*
211 - 213	90	*70*
221 - 223, 241	330	*330*
251	230	*190*
TOTAL	***28,500***	***27,500***
Percent Change	**4%**	

*Estimates - Values generated from computer models that reconstruct age and sex classes based on sampled herd composition, harvest data, and population demographic variables. The confidence limits around these estimates may be as high as + or - 20%.

TABLE 28. 2015 DESERT BIGHORN POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
044, 182	300	*290*
045	190	*160*
131, 164	140	*150*
132	70	*120*
133, 245	110	*110*
134	200	*170*
153	20	*20*
161	340	*350*
162	50	*30*
163	290	*180*
173	200	*200*
181	360	*290*
183	310	*280*
184	160	*160*
195	90	*80*
202	190	*120*
204	50	*60*
205, 207	600	*550*
206, 208	250	*230*
211 (Silver Peaks)	425	*400*
212	450	*430*
213 (Monte Cristos)	475	*350*
223, 241	220	*220*
243	160	*150*
244	130	*130*
252	290	*330*
253 (Bares)	250	*200*
254 (Specters)	70	*70*
261	180	*180*
262	210	*220*
263	260	*250*
264	110	*110*
265, 266	150	*150*
267, 268	925	*900*
269 (River Mtns)	220	*210*
271	300	*320*
272	120	120
280	110	80
281	190	180
282	130	120
283, 284	160	170
286	120	80
TOTAL	*9,600*	*8,900*
Percent Change	**8%**	

*Estimates - Values generated from computer models that reconstruct age and sex classes based on sampled herd composition, harvest data, and population demographic variables. The confidence limits around these estimates may be as high as + or - 20%.

TABLE 29. 2015 CALIFORNIA BIGHORN POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
012	160	*170*
011, 013	80	*110*
014	150	*150*
021, 022	130	*130*
031	170	*170*
032	280	*270*
033	70	*80*
034	260	*260*
035	170	*180*
041	40	*40*
051	190	*220*
066	50	*30*
068	110	*130*
TOTAL	**1,900**	*1,900*
Percent Change	**0%**	

TABLE 30. 2015 ROCKY MOUNTAIN BIGHORN POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
074	20	*70*
091	30	*30*
101	45	*30*
102	35	*30*
114	70	*70*
115	30	*30*
TOTAL	**230**	*260*
Percent Change	**-12%**	

TABLE 31. 2015 MOUNTAIN GOAT POPULATION ESTIMATES

UNIT GROUP	2015 ESTIMATE*	*2014 ESTIMATE**
101	100	*120*
102	200	*190*
103	45	*30*
TOTAL	**350**	*340*
Percent Change	**3%**	

*Estimates - Values generated from computer models that reconstruct age and sex classes based on sampled herd composition, harvest data, and population demographic variables. The confidence limits around these estimates may be as high as + or - 20%.

TABLE 32. BIG GAME POPULATION ESTIMATE HISTORY, 1980 - 2015

YEAR	MULE DEER	ANTELOPE	ELK	DESERT BIGHORN	CALIFORNIA BIGHORN	ROCKY MOUNTAIN BIGHORN	MOUNTAIN GOAT
1980	127,500			2,900			
1981	135,500	9,800		3,000			
1982	140,000	10,500		3,100			
1983	120,000	11,000		3,200			
1984	129,500	11,500		3,100			
1985	155,500	12,000		3,300			
1986	180,000	12,500		3,500			
1987	220,000	13,000		3,500			
1988	240,000	13,500		3,600			
1989	212,000	14,000		3,700			
1990	202,000	15,000	2,000	3,800	480	140	
1991	180,000	16,500	2,400	4,000	530	150	
1992	183,500	18,000	2,700	4,100	650	190	190
1993	148,500	16,000	2,900	4,800	700	210	200
1994	115,000	15,000	3,100	4,700	800	220	210
1995	118,000	15,500	3,500	4,500	900	230	220
1996	120,000	15,000	4,000	4,900	1,000	230	230
1997	125,000	14,500	4,600	5,000	1,100	240	170
1998	132,000	15,000	5,000	5,200	1,200	250	200
1999	134,000	14,500	5,500	5,300	1,300	250	240
2000	133,000	16,000	5,900	4,900	1,400	210	280
2001	129,000	17,000	6,400	4,900	1,400	190	320
2002	108,000	18,000	6,600	5,300	1,500	210	340
2003	109,000	18,000	7,200	5,000	1,500	240	350
2004	105,000	18,500	7,400	5,200	1,500	290	370
2005	107,000	20,000	8,000	5,500	1,500	340	400
2006	110,000	21,500	8,200	5,800	1,600	360	410
2007	114,000	24,000	9,400	6,200	1,700	480	420
2008	108,000	24,000	9,500	6,600	1,700	500	450
2009	106,000	24,500	10,900	7,000	1,800	550	470
2010	107,000	26,000	12,300	7,400	1,900	240	340
2011	109,000	27,000	13,500	7,600	2,100	230	310
2012	112,000	28,000	15,100	8,600	2,000	220	290
2013	109,000	28,500	16,500	8,900	2,100	260	340
2014	108,000	27,500	17,500	8,900	1,900	260	340
2015	99,000	28,500	18,500	9,600	1,900	230	350
10-YR AVG	*108,000*	*26,000*	*13,100*	*7,700*	*1,900*	*330*	*370*
% Diff to AVG	**-8%**	**10%**	**41%**	**25%**	**0%**	**-30%**	**-5%**

TABLE 33. BIG GAME TAG SALES AND HARVEST HISTORY BY SPECIES, 1985 - 2014

	DEER		ANTELOPE		ELK		DESERT BIGHORN RAM		CALIFORNIA BIGHORN RAM		ROCKY MTN BIGHORN		MOUNTAIN GOAT	
YEAR	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST
1985	34,667	19,520	891	589	95	82	126	109	3	3	3	2	3	2
1986	42,933	21,845	976	658	103	89	130	100	3	3	4	3	2	2
1987	39,347	21,497	1,039	722	129	105	134	112	3	3	2	0	2	2
1988	51,011	26,784	1,342	949	182	91	136	114	4	3	2	2	2	1
1989	34,847	17,782	1,378	980	200	103	133	111	3	3	2	0	4	4
1990	31,346	16,715	1,475	1,115	243	141	134	91	3	3	2	2	4	4
1991	26,584	12,442	1,913	1,311	240	141	126	85	5	5	1	1	6	6
1992	28,138	14,273	1,925	1,416	210	164	113	92	10	10	--	--	6	5
1993	16,017	6,276	1,569	1,020	215	176	123	102	12	12	--	--	7	7
1994	17,460	7,315	1,299	979	240	157	125	87	20	14	--	--	10	10
1995	20,014	8,114	1,387	878	306	183	126	90	25	19	2	2	12	11
1996	24,717	11,070	1,211	820	510	292	126	94	32	28	2	1	9	8
1997	20,186	8,263	1,173	805	783	389	113	85	35	30	3	2	6	6
1998	24,077	9,672	1,283	871	1,119	468	113	93	41	33	5	5	12	12
1999	24,023	11,020	1,521	1,173	1,274	577	126	110	47	36	5	5	11	10
2000	26,420	12,499	1,615	1,191	1,621	804	132	113	43	39	4	4	18	16
2001	23,813	9,791	1,518	1,121	1,359	701	143	124	37	34	3	2	23	22
2002	17,484	6,899	1,682	1,166	1,836	887	140	112	41	34	3	3	23	18
2003	14,892	5,982	1,846	1,278	1,821	1,055	133	119	39	34	6	6	23	22
2004	16,010	6,560	1,921	1,323	1,972	1,008	138	127	35	32	6	5	24	23
2005	16,920	7,112	2,393	1,608	2,616	1,246	148	135	38	34	6	5	28	24
2006	18,167	8,346	2,705	1,876	2,360	1,161	154	142	41	36	6	5	29	26
2007	18,599	8,743	2,737	1,847	3,080	1,396	172	150	43	43	9	9	29	29
2008	16,997	7,025	2,476	1,638	2,723	1,315	175	152	42	40	13	12	29	27
2009	16,728	6,837	2,757	1,814	2,972	1,420	193	172	48	47	11	11	28	27
2010	17,134	6,949	2,987	1,928	3,545	1,680	216	186	52	52	4	4	20	20
2011	14,919	5,834	3,121	1,973	4,838	2,007	222	194	57	54	5	3	11	11
2012	24,257	10,112	3,721	2,225	6,035	2,461	281	241	59	53	8	7	6	6
2013	22,992	9,367	3,814	2,336	7,936	2,857	275	251	67	61	7	7	7	6
2014	22,643	8,978	3,953	2,453	11,016	3,474	287	258	66	58	5	4	12	12
10-YR AVG	17,462	7,350	2,666	1,751	3,196	1,475	183	162	45	43	7	7	23	22
% Difference	39%	38%	40%	27%	89%	67%	53%	49%	30%	25%	8%	4%	-74%	-72%

TABLE 34. MOUNTAIN LION HARVEST BY SEX, AGE AND MANAGEMENT AREA, 1 MARCH 2014 – 28 FEBRUARY 2015

Mgmt Areas	Sport Hunter Harvest			Depredation Take			NDOW Pred. Project			Other Mortalities			Management Area Totals			Average Ages	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
1*	2	4	6	0	1	2	3	0	3	0	0	0	5	5	11	5.4	3.2
2	3	0	3	0	0	0	0	0	0	1	0	0	4	0	4	4	--
3	1	1	2	0	2	2	0	0	0	0	1	2	1	4	5	3	2.3
4	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2	3.5	--
5	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	4	--
6	6	9	15	0	0	0	0	0	0	1	0	1	7	9	16	5.3	3
7	1	1	0	0	2	2	0	0	0	1	0	1	2	3	5	4.4	2.1
8	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	--	3
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--
10	9	8	17	0	0	0	0	0	0	0	0	0	9	8	17	4.4	4.4
11**	6	2	9	0	1	1	0	0	0	0	0	0	6	3	9	--	4.2
12	4	1	5	1	0	1	0	0	0	0	0	0	5	1	6	2.6	2
13**	4	0	5	0	1	1	0	0	0	0	0	0	4	1	5	3.8	2
14	3	0	3	0	0	0	0	0	0	0	0	0	3	0	3	4.7	--
15	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2	4	1--
16	0	2	2	1	0	1	0	0	0	0	0	0	1	2	3	7	3
17	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	--	2
18	1	0	1	1	0	1	0	0	0	0	0	0	2	0	2	3	--
19	2	4	6	0	0	0	0	0	0	2	0	2	4	4	8	4.5	3.5
20**	0	2	2	0	1	1	0	0	0	0	0	0	0	3	3	--	2
21	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	--	6
22	5	3	8	0	0	0	0	0	0	0	0	0	5	3	8	4.8	3.3
23	3	2	5	0	0	0	0	0	0	0	0	0	3	2	5	4.7	5.5
24	0	2	2	0	0	0	0	0	0	0	0	0	0	2	2	--	8.5
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	5
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--
29	0	1	1	0	1	1	0	0	0	0	0	0	0	2	2	--	3
Totals	**54**	**45**	**99**	**3**	**10**	**14**	**3**	**0**	**3**	**5**	**1**	**6**	**65**	**56**	**122*****	**3.7**	**3.6**

* One unknown gender; **One unknown age; ***One unknown area

TABLE 35. NEVADA MOUNTAIN LION HARVEST AND MORTALITY TYPE - 1 MARCH 2014 – 28 FEBRUARY 2015

Region	Sport Hunters	Guided Sport Hunters	Illegal Harvest	Depredation	NDOW Predator Project	Other: Road Kill, Etc.	Totals
Western	22	2	0	6	3	4	**37**
Eastern	34	24	0	4	0	3	**65**
Southern	10	7	0	3	0	0	**20**
Totals	**66**	**33**	**0**	**13**	**3**	**7**	**122**

TABLE 36. NEVADA MOUNTAIN LION TAG SALES, SPORT HARVEST AND HUNTER SUCCESS, 1975 - 2014

Year	Tag Sales			Sport Harvest			Hunter Success		
	Resident	Nonresident	Total	Resident	Nonresident	Total	Resident	Nonresident	Total
1975 - 1976	221	40	261	37	17	54	17%	43%	21%
1976 - 1977	98	8	106	9	2	11	9%	25%	10%
1977 - 1978	129	16	145	15	6	21	12%	38%	14%
1978 - 1979	146	38	184	18	8	26	12%	21%	14%
1979 - 1980	235	46	281	30	17	47	13%	37%	17%
1980 - 1981	313	61	374	24	14	38	8%	23%	10%
1981 - 1982	527	62	589	36	24	60	7%	39%	10%
1982 - 1983	519	61	580	41	20	61	8%	33%	11%
1983 - 1984	329	50	379	57	21	78	17%	42%	21%
1984 - 1985	352	107	459	60	46	106	17%	43%	23%
1985 - 1986	394	96	490	54	29	83	14%	30%	17%
1986 - 1987	345	114	459	51	36	87	15%	32%	19%
1987 - 1988	416	91	507	41	37	78	10%	41%	15%
1988 - 1989	383	124	507	65	53	118	17%	43%	23%
1989 - 1990	439	184	623	75	77	152	17%	42%	24%
1990 - 1991	318	112	430	55	33	88	17%	29%	20%
1991 - 1992	507	112	619	78	47	125	15%	42%	20%
1992 - 1993	348	149	497	75	75	150	22%	50%	30%
1993 - 1994	405	139	544	99	74	173	24%	53%	32%
1994 - 1995	403	151	554	89	72	161	22%	48%	29%
1995 - 1996	432	186	618	73	61	134	17%	33%	22%
1996 - 1997	480	137	617	80	63	143	17%	46%	23%
1997 - 1998	870	137	1,007	122	88	210	14%	64%	21%
1998 - 1999	643	124	767	73	67	140	11%	54%	18%
1999 - 2000	680	109	789	71	55	126	10%	50%	16%
2000 - 2001	883	169	1,052	104	90	194	12%	53%	18%
2001 - 2002	838	98	936	104	63	167	12%	64%	18%
2002 - 2003	1,060	131	1,191	89	39	128	8%	30%	11%
2003 - 2004	1,133	221	1,354	119	73	192	11%	33%	14%
2004 - 2005	1,186	206	1,392	62	43	105	5%	21%	8%
2005 - 2006	1,021	162	1,183	70	46	116	7%	28%	10%
2006 - 2007	1,366	121	1,487	95	39	134	7%	32%	9%
2007 - 2008	1,521	200	1,721	94	51	145	6%	26%	8%
2008 - 2009	3,484	284	3,768	83	34	117	2%	12%	3%
2009 - 2010	3,873	302	4,175	80	51	131	2%	19%	3%
2010 - 2011	3,942	275	4,217	96	50	146	2%	18%	3%
2011 - 2012	4,067	297	4,364	72	31	103	2%	10%	2%
2012 - 2013	4,735	354	5,089	122	60	182	3%	17%	4%
2013 - 2014	4,968	358	5,326	85	33	118	2%	9%	2%
2014 - 2015	5,325	384	5,709	--	--	99	--	--	2%
Totals	**49,334**	**6,016**	**55,350**	**2,703**	**1,745**	**4,547**			
Avg. (39 yrs)	**1,233**	**150**	**1,384**	**69**	**45**	**114**			
10-Year	**3,016**	**256**	**3,272**	**86**	**44**	**130**			

TABLE 37. NEVADA MOUNTAIN LION DEPREDATION HARVEST
(Conducted by APHIS and Private Citizens)

Year	Males	Females	Unknown	Total
1973 - 1974	8	4	0	12
1974 - 1975	10	10	0	20
1975 - 1976	14	5	0	19
1976 - 1977	10	7	1	18
1977 - 1978	17	7	0	24
1978 - 1979	16	8	0	24
1979 - 1980	12	11	0	23
1980 - 1981	19	3	0	22
1981 - 1982	20	17	0	37
1982 - 1983	11	10	0	21
1983 - 1984	13	12	0	25
1984 - 1985	12	16	0	28
1985 - 1986	16	9	0	25
1986 - 1987	22	15	0	37
1987 - 1988	21	20	0	41
1988 - 1989	26	23	0	49
1989 - 1990	23	24	0	47
1990 - 1991	37	20	0	57
1991 - 1992	27	22	0	49
1992 - 1993	32	17	0	49
1993 - 1994	21	15	0	36
1994 - 1995	16	8	0	24
1995 - 1996	13	10	0	23
1996 - 1997	11	9	0	20
1997 - 1998	12	10	0	22
1998 - 1999	8	3	0	11
1999 - 2000	8	8	0	16
2000 - 2001	5	10	0	15
2001 - 2002	8	11	0	19
2002* - 2003	7	6	0	13
2003* - 2004	16	12	0	28
2004* - 2005	9	7	0	16
2005* - 2006	15	4	0	19
2006* - 2007	10	9	0	19
2007* - 2008	18	19	0	37
2008* - 2009	10	16	0	26
2009* - 2010	16	15	0	31
2010 - 2011	13	17	2	32
2011 - 2012	12	17	1	30
2012 - 2013	8	12	1	21
2013 - 2014	9	10	1	20
2014* - 2015	6	9	1	16
Total	615	495	6	1132
Average	**15**	**12**	**0**	**26**

*includes lions taken for NDOW predator management projects

TABLE 38. NEVADA MOUNTAIN LION SEASON HISTORY, 1971-2014

Year	Harvest Year	Dates	Season Length	Season Type	Regulations	Bag Limit	Harvest Objective	Male	Female	Total
1971	1971/72	year-round		open hunting season / year-round and statewide / hunting license and tag required /	mandatory check in w/in 72 hrs	**1 lion**	**no quota**	24	17	41
1972	1972/73							36	36	72
1973	1973/74							42	48	90
1974	1974/75	?	6 mos.	open hunting season / statewide / hunting license and tag required /				32	48	80
1975	1975/76	year-round		open hunting season / year-round and statewide / hunting license and tag required				16	37	53
1976	1976/77	Oct 1 - Mar 31	6 mos.	**Tag quota by management area** (ie limited entry) (hunters were limited to a hunt unit)			111	8	3	11
1977	1977/78	Oct 1 - Apr 30	7 mos.				151	16	6	22
1978	1978/79						202	11	15	26
1979	1979/80						234	24	23	47
1980	1980/81						237	16	22	38
1981	1981/82	Oct 1 - Apr 30		**Quota by management unit** / unlimited # of tags sold/ hunters could hunt any open unit/ harvest objective			135	23	37	60
1982	1982/83	year-round					135	43	21	64
1983	1983/84	Oct 1 - Apr 30	7 mos.				173	46	32	78
1984	1984/85						184	53	55	108
1985	1985/86						195	45	43	88
1986	1986/87						197	49	38	87
1987	1987/88						206	50	30	80
1988	1988/89						216	68	47	115
1989	1989/90						222	86	62	148
1990	1990/91						219	61	28	89
1991	1991/92						218	82	43	125
1992	1992/93						225	89	60	149
1993	1993/94						226	110	62	172
1994	1994/95						251	99	62	161
1995	1995/96						240	87	47	134
1996	1996/97						273	87	60	147
1997	1997/98					1per tag - maximum 2 tags per hunter	292	118	96	214
1998	1998/99						305	85	55	140
1999	1999/00						287	77	49	126
2000	2000/01	Aug 1 - April 30	9 months	Quota by management unit / unlimited # of tags sold/ hunters could hunt any open unit/ harvest objective			303	104	93	197
2001	2001/02	year-round					322	95	71	166
2002	2002/03	Aug 1 - Feb 28	7 months				349	79	49	128
2003	2003/04	**Year-round** - corresponds to license year (first day in March to last day in February of the ensuing year)		Quota by Region / unlimited # of tags sold/ hunters could hunt any open unit/ harvest objective			349	98	95	193
2004	2004/2005						349	83	55	138
2005	2005/2006						349	87	59	146
2006	2006/2007						349	92	76	168
2007	2007/2008						349	104	85	189
2008	2008/2009						349	90	62	152
2009	2009/2010						306	90	79	169
2010	2010/2011						306	109	83	197*
2011	2011/2012						500	93	79	173*
2012	2012/2013						500	114	111	227*
2013	2013/2014						265	90	62	153*
2014	2014/2015						265	65	55	120

**Discrepancies in total lions for 2010, 2011, 2012 and 2013 are due to unknown gender lions of 5, 1, 2 and 1 respectively.*

TABLE 39. HUNT NUMBER DESCRIPTIONS

HUNT NUMBER	HUNT DESCRIPTION
1000	RESIDENT PARTNERSHIP IN WILDLIFE ANTLERED MULE DEER ALL WEAPONS
1100	RESIDENT WILDLIFE HERITAGE ANY MULE DEER ANY LEGAL WEAPON
1101	RESIDENT DEPREDATION ANTLERLESS MULE DEER ANY LEGAL WEAPON
1104	RESIDENT EMERGENCY DEPREDATION ANTLERLESS MULE DEER
1107	RESIDENT JUNIOR ANY MULE DEER ALL WEAPONS
1115	RESIDENT LANDOWNER DAMAGE COMPENSATION ANTLERED MULE DEER ALL WEAPONS
1181	RESIDENT ANTLERLESS MULE DEER ANY LEGAL WEAPON
1300	SILVER STATE ANY MULE DEER ANY LEGAL WEAPON
1331	RESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON
1341	RESIDENT ANTLERED MULE DEER ARCHERY
1371	RESIDENT ANTLERED MULE DEER MUZZLELOADER
1200	NONRESIDENT PARTNERSHIP IN WILDLIFE ANTLERED MULE DEER ALL WEAPONS
1201	NONRESIDENT WILDLIFE HERITAGE ANY MULE DEER ANY LEGAL WEAPON
1215	NONRESIDENT LANDOWNER DAMAGE COMPENSATION ANTLERED MULE DEER ALL WEAPONS
1235	NONRESIDENT GUIDED ANTLERED MULE DEER ANY LEGAL WEAPON
1331	NONRESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON
1341	NONRESIDENT ANTLERED MULE DEER ARCHERY
1371	NONRESIDENT ANTLERED MULE DEER MUZZLELOADER
1400	RESIDENT EMERGENCY ANTLERLESS MULE DEER ANY LEGAL WEAPON
1401	RESIDENT EMERGENCY ANTLERLESS MULE DEER ANY LEGAL WEAPON
1500	NEVADA DREAM ANTLERED MULE DEER ALL WEAPONS
2000	RESIDENT PARTNERSHIP IN WILDLIFE HORNS LONGER THAN EARS ANTELOPE ALL WEAPONS
2100	RESIDENT WILDLIFE HERITAGE ANY ANTELOPE ANY LEGAL WEAPON
2104	RES. EMERGENCY HORNS SHORTER THAN EARS ANTELOPE ANY LEGAL WEAPON
2106	RES. EMERGENCY HORNS LONGER THAN EARS ANTELOPE ANY LEGAL WEAPON
2101	RESIDENT DEPREDATION HORNS SHORTER THAN EARS ANTELOPE
2115	RESIDENT LANDOWNER DAMAGE COMPENSATION HORNS LONGER THAN EARS ANTELOPE ALL WEAPONS
2151	RESIDENT HORNS LONGER THAN EARS ANTELOPE ANY LEGAL WEAPON
2161	RESIDENT HORNS LONGER THAN EARS ANTELOPE ARCHERY
2171	RESIDENT HORNS LONGER THAN EARS ANTELOPE MUZZELOADER
2181	RESIDENT HORNS SHORTER THAN EARS ANTELOPE ANY LEGAL WEAPON
2200	NONRESIDENT WILDLIFE HERITAGE ANY ANTELOPE ANY LEGAL WEAPON
2215	NONRESIDENT LANDOWNER DAMAGE COMPENSATION HORNS LONGER THAN EARS ANTELOPE ALL WEAPONS
2251	NONRESIDENT HORNS LONGER THAN EARS ANTELOPE ANY LEGAL WEAPON
2261	NONRESIDENT HORNS LONGER THAN EARS ANTELOPE ARCHERY
2300	SILVER STATE ANY ANTELOPE ANY LEGAL WEAPON
2500	NEVADA DREAM HORNS LONGER THAN EARS ANTELOPE ALL WEAPONS
3000	RESIDENT PARTNERSHIP IN WILDLIFE ANY RAM NELSON (DESERT) BIGHORN
3100	RESIDENT WILDLIFE HERITAGE ANY RAM NELSON (DESERT) BIGHORN SHEEP
3151	RESIDENT ANY RAM NELSON (DESERT) BIGHORN SHEEP ANY LEGAL WEAPON

TABLE 39. HUNT NUMBER DESCRIPTIONS

HUNT NUMBER	HUNT DESCRIPTION
3181	RESIDENT ANY EWE NELSON (DESERT) BIGHORN SHEEP ANY LEGAL WEAPON
3200	NONRESIDENT WILDLIFE HERITAGE ANY RAM NELSON (DESERT) BIGHORN
3251	NONRESIDENT ANY RAM NELSON (DESERT) BIGHORN ANY LEGAL WEAPON
3500	NEVADA DREAM ANY RAM NELSON (DESERT) BIGHORN SHEEP ALL WEAPONS
4000	RESIDENT PARTNERSHIP IN WILDLIFE ANTLERED ELK ALL WEAPONS
4100	RESIDENT WILDLIFE HERITAGE ELK WITH AT LEAST ONE ANTLER
4102	RESIDENT DEPREDATION ANTLERED ELK ANY LEGAL WEAPON
4104	RESIDENT EMERGENCY DEPREDATION ANTLERLESS ELK
4106	RESIDENT EMERGENCY DEPREDATION ANY ELK
4107	RESIDENT DEPREDATION ANTLERLESS ELK ANY LEGAL WEAPON
4111	RESIDENT ANTLERLESS ELK ARCHERY
4131	RESIDENT INCENTIVE ANY ELK ANY LEGAL WEAPON
4132	RESIDENT INCENTIVE ANY ELK ARCHERY
4133	RESIDENT INCENTIVE ANY ELK MUZZLELOADER
4151	RESIDENT ANTLERED ELK ANY LEGAL WEAPON
4156	RESIDENT ANTLERED ELK MUZZLELOADER
4161	RESIDENT ANTLERED ELK ARCHERY
4176	RESIDENT ANTLERLESS ELK MUZZLELOADER
4181	RESIDENT ANTLERLESS ELK ANY LEGAL WEAPON
4200	NONRESIDENT WILDLIFE HERITAGE ELK WITH AT LEAST ONE ANTLER
4211	NONRESIDENT ANTLERLESS ELK ARCHERY
4231	NONRESIDENT INCENTIVE ANY ELK ANY LEGAL WEAPON
4232	NONRESIDENT INCENTIVE ANY ELK ARCHERY
4233	NONRESIDENT INCENTIVE ANY ELK MUZZLELOADER
4251	NONRESIDENT ANTLERED ELK ANY LEGAL WEAPON
4256	NONRESIDENT ANTLERED ELK MUZZLELOADER
4261	NONRESIDENT ANTLERED ELK ARCHERY
4276	NONRESIDENT ANTLERLESS ELK MUZZLELOADER
4281	NONRESIDENT ANTLERLESS ELK ANY LEGAL WEAPON
4300	SILVER STATE ANY ELK ANY LEGAL WEAPON
4411	RESIDENT ANTLERLESS ELK MANAGEMENT ARCHERY
4476	RESIDENT ANTLERLESS ELK MANAGEMENT MUZZLELOADER
4481	RESIDENT ANTLERLESS ELK MANAGEMENT ANY LEGAL WEAPON
4500	NEVADA DREAM ANTLERED ELK ALL WEAPONS
4641	RESIDENT SPIKE ELK ARCHERY
4651	RESIDENT SPIKE ELK ANY LEGAL WEAPON
5132	RESIDENT EITHER SEX MOUNTAIN LION
5232	NONRESIDENT EITHER SEX MOUNTAIN LION
6151	RESIDENT BLACK BEAR ANY LEGAL WEAPON
6251	NONRESIDENT BLACK BEAR ANY LEGAL WEAPON
7000	RESIDENT PARTNERSHIP IN WILDLIFE ANY MOUNTAIN GOAT
7151	RESIDENT ANY MOUNTAIN GOAT ANY LEGAL WEAPON
7251	NONRESIDENT ANY MOUNTAIN GOAT ANY LEGAL WEAPON

TABLE 39. HUNT NUMBER DESCRIPTIONS

HUNT NUMBER	HUNT DESCRIPTION
8000	RESIDENT PARTNERSHIP IN WILDLIFE ANY RAM CALIFORNIA BIGHORN SHEEP
8100	RESIDENT WILDLIFE HERITAGE ANY RAM CALIFORNIA BIGHORN SHEEP
8151	RESIDENT ANY RAM CALIFORNIA BIGHORN SHEEP ANY LEGAL WEAPON
8181	RESIDENT ANY EWE CALIFORNIA BIGHORN SHEEP ANY LEGAL WEAPON
8200	NONRESIDENT WILDLIFE HERITAGE ANY RAM CALIFORNIA BIGHORN SHEEP
8251	NONRESIDENT ANY RAM CALIFORNIA BIGHORN ANY LEGAL WEAPON
8500	NEVADA DREAM ANY RAM CALIFORNIA BIGHORN SHEEP ALL WEAPONS
9151	RESIDENT ANY RAM ROCKY MOUNTAIN BIGHORN SHEEP ANY LEGAL WEAPON
9251	NONRESIDENT ANY RAM ROCKY MOUNTAIN BIGHORN SHEEP ANY LEGAL WEAPON

NEVADA HUNT UNIT REFERENCE MAP