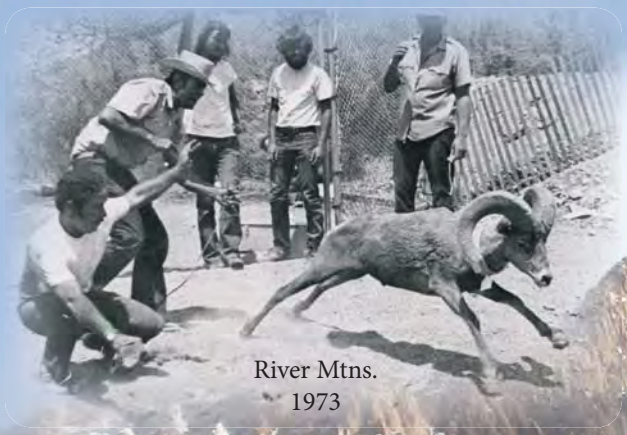
Nevada Department of Wildlife



River Mtns.
1973

December 2011

Muddy Mtns.
November 2011

Stonewall Mtn.
November 2011

Virginia Range
November 2011

2011-2012 Big Game Status

STATE OF NEVADA

Brian Sandoval, Governor

DEPARTMENT OF WILDLIFE

Ken Mayer, Director

GAME DIVISION

Larry Gilbertson, Chief

Mike Cox, Big Game Staff Biologist
Tony Wasley, Mule Deer Staff Biologist
Russell Woolstenhulme, Carnivore Staff Biologist

Jody Wilkinson, Administrative Assistant

Western Region	Southern Region	Eastern Region
	Regional Supervisors	
Mike Dobel	Steve Kimble	Ken Gray
	Big Game Biologists	
Chris Hampson	Pat Cummings	Curt Baughman
Carl Lackey	Tom Donham	Kari Huebner
Kyle Neill	Mike Scott	Matt Jeffress
Ed Partee	Angelique Curtis	Jeremy Lutz
Jason Salisbury		Caleb McAdoo
		Mike Podborny
		Scott Roberts

Cover Photos by: Bob McQuivey, Mike Cox, Kim Toulouse, Carolyn Montgomery, Eric & Kelly Dalen

NEVADA DEPARTMENT OF WILDLIFE

2011-2012 BIG GAME STATUS

This Program Receives Federal Aid in Wildlife Restoration
Grant W-48-R-43; Sub-Grant II, Big Game Management

Compiled and Edited by:

Mike Cox, Big Game Staff Biologist
Tony Wasley, Mule Deer Staff Biologist
Larry Gilbertson, Game Division Chief

Mike Dobel, Regional Supervising Biologist
Ken Gray, Regional Supervising Biologist
Steve Kimble, Regional Supervising Biologist
Russell Woolstenhulme, Carnivore Staff Biologist

Federal Aid Project

TABLE OF CONTENTS FOR STATUS REPORTS

BIG GAME STATUS STATEWIDE SUMMARY

MULE DEER

The 2011 total statewide mule deer tag quota was 14,919, a 13% reduction from 2010 statewide quota of 17,134. This was an unfortunate and unjustified reduction in mule deer hunting opportunity made by the the Nevada Board of Wildlife Commissioners. Contrary to their decision, the observed statewide mule deer buck ratio was near its all time high, and for the third year in a row, the percent of 4 points or better bucks of the total statewide harvest was over 40%. The reduced tag sales also resulted in a reduced total deer harvest of 5,831 compared to 6,942 deer harvested in 2010. The 2011 statewide hunter success for all deer hunters was the same as in 2010 at 39%.

The 2011 aerial post season survey effort was greatly improved with over 27,000 mule deer classified statewide compared to 18,611 deer in 2010. Moderate fawn production was documented at 59 fawns/100 does in late fall/early winter survey. The highest post-season buck ratio in the history of Nevada was measured at 32 bucks/100 does, reflecting the continued conservatism of past and present tag quotas. The 2012 aerial spring surveys were challenged by dry conditions and deer herds not concentrated due to lack of snow and/or green up. Therefore, only 25,237, deer were classified compared to 32,467 in spring 2011. Survey results were encouraging with 37 fawns/100 adults observed. This was expected considering the 2011-2012 winter was one of the mildest winters on record.

The increase in the 2012 fawn recruitment and winter conditions favorable to high adult survival resulted in a modest (3%) increase in the statewide mule deer population estimate. This was the third year in a row a modest increase was realized. Collectively, Game Division biologists made a concerted effort to base the 2012 mule deer quota recommendations on best available science including an incredible amount of past and present survey and harvest data. The Game Division in recognizing and documenting the large proportion of bucks in the population, the large reduction in deer tags in 2011, and past conservatism built into the tag quota development and decision making process, is recommending sizeable increases in mule deer buck quotas for 2012.

In 2011, Game Division initiated the largest Nevada mule deer research and monitoring study since the Ruby Butte Deer Herd Study conducted in the 1960s and 70s. The study involves monitoring survival and migration/movement energetics and strategies in 3 separate mule deer herds in western, central, and eastern Nevada. The data will be instrumental to understanding challenges that mule deer herds face and their adaptability or lack thereof. These data and information are vitally important and it will only be through incorporation of this knowledge into large-scale habitat improvement projects on both private and public lands that we can ever hope to conserve and improve both mule deer habitat and populations.

PRONGHORN ANTELOPE

Nevada pronghorn hunters continue to enjoy outstanding pronghorn hunting opportunity and subsequent harvest rates. A total of 3,121 tags were available this past year to hunt pronghorn. This represents an all time high in pronghorn hunting opportunity in the state of Nevada. During 2011 resident rifle hunters harvested 1,394 buck antelope for a 73% success rate. A total of 307 tags were available across 7 hunts targeting female pronghorn in an attempt to keep numbers in check with carrying capacity. These hunts remain popular with 5 applicants competing for each available tag. In total almost 2,000 pronghorn were harvested across all hunts this past year.

Division biologists observed a total of 11,379 pronghorn while conducting their annual composition surveys. These surveys yielded ratios of 35 bucks/100 does/37 fawns. Buck ratios declined slightly from what was observed during 2010 surveys but remain at high levels, when compared to other public land hunts, indicating a conservative harvest approach. Fawn ratios increased slightly from what was observed in 2010.

Nevada's estimated statewide pronghorn population increased by 6% this year and is at an all time high of 28,500 animals. The statewide fawn recruitment rate of 37 fawns:100 does provides for this increase. Nevada hunters will benefit from these increases with a 19% increase in tag numbers recommended for the rifle buck hunt and an overall increase of 691 tags recommended across all hunts. With pronghorn populations at record levels NDOW biologists will continue to monitor herds and recommend solutions to keep them in check with the proper carrying capacity of the range.

ROCKY MOUNTAIN ELK

Nevada's elk resource continues to benefit from a successful harvest management program that has resulted in record numbers of elk providing substantial elk hunting opportunity for the sportsmen of the state. The sale of 4,838 elk tags in 2011 resulted in the harvest of 2,005 elk compared to 3,545 tags sold in 2010 with a harvest of 1,676. The 2011 reported elk harvest consisted of 836 bulls and 1,169 antlerless elk. The 2010 reported elk harvest consisted of 756 bulls and 920 antlerless elk. The quality of bulls remains high with 72% of harvested bulls reported as being 6-points-or-better (66% in 2010). Harvest strategies are designed to maintain elk herd numbers within individual unit population objectives. 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 great success and benefit to landowners with 85 elk-incentive tags sold for an estimated revenue generation of more than $750,000.00 for private landowners again this year.

There were 10,354 elk classified during aerial winter composition surveys; yielding statewide ratios of 42 bulls:100 cows:44 calves compared to the previous year when 10,124 animals were classified, yielding ratios of 32 bulls:100 cows:42 calves. Calf recruitment was good in 2011 and resulted in population increases throughout the state. The statewide adult elk population estimate increased from 13,500 last year to 15,100 for 2012. Nevada's elk harvest management continues to be based on meeting population objectives within the guidelines of the state's Elk Species Management Plan. Statewide population increases resulted in an increase in overall recommended tag quotas.

DESERT BIGHORN SHEEP

Nevada is a leader in providing quality desert bighorn hunting opportunities in North America. The Department issued 222 tags in the 2011 Nevada desert bighorn hunt. Hunter success continues to be high at 87%. Hunters averaged 4.9 days in the field. In 2011 the statewide average age of harvested rams was 6.6 years with an average unofficial B&C score of over 153 points.

The statewide desert bighorn survey in 2011 classified 3,665 animals. The calculated lamb ratio of 41 lambs/100 ewes indicates that survey results of lamb recruitment were higher than last year. Although population estimates by hunt vary with some increases and decreases, the 2012 statewide desert bighorn population estimate is the highest ever recorded at 8,600 animals. Estimates are 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%.

Fall 2011 was a busy year relocating desert bighorn around Nevada. A total of 164 desert bighorn sheep were released in 7 mountain ranges. Destination Nevada counties include: Mineral, Storey, Clark, and Lincoln. Nye, Clark and Esmeralda counties provided desert bighorn source stock.

A large amount of credit for this achievement lies with past and present NDOW biologists working along with dedicated, passionate, and active sportsman's conservation organizations.

ROCKY MOUNTAIN BIGHORN SHEEP

A total of 5 Rocky Mountain bighorn sheep tags were issued in 2011. The highest number of Rocky Mountain bighorn tags ever issued in Nevada was 13 tags which occurred in 2008. Three of the 5 2011 hunters were successful in harvesting a ram. The 2 hunters that were unsuccessful hunted in Unit 114. The average age of the 3 rams killed was 7.7 and the average B&C green-score was 159 5/8.

Helicopter surveys were conducted in units 074, 091 and 114. A total of 111 bighorns was classified yielding ratios of 98 rams:100 ewes:24 lambs.

The statewide 2012 Rocky Mountain bighorn sheep population is estimated to be below 250 sheep which is similar to last year's estimate. The 2009 estimate was close to 550 Rocky Mountain bighorns.
Disease events in 2010 decimated the bighorn populations in Unit 101 and Unit 102 and severely reduced the population in Unit 091. Similar to what was seen during past disease events, it is anticipated poor lamb recruitment in Units 091 and 102 will likely be realized in the next several years thus suppressing population growth. The Department of Wildlife will continue to conduct monitoring efforts to help better understand the extent of herd declines that these disease outbreaks have caused and to attempt to identify causal agents or catalysts that may have been involved.

Unit 101 was depopulated this past winter through a trapping operation in which 10 ewes and 1 lamb were captured from Unit 101 and released into Unit 102. Four rams were also taken from this unit and given to the University of Washington for research purposes. Between 20 and 30 Rocky Mountain bighorn sheep from Alberta, Canada are scheduled to be released into the East Humboldt Range in February 2013 to reestablish the Unit 101 bighorn population.

Unit 091 will be open to Nevada residents for the first time in 16 years. Even though lamb production was poor and only 14 ewes were observed on survey, enough mature rams exist in the unit to justify a limited ram hunt.

CALIFORNIA BIGHORN SHEEP

During the 2011 California bighorn season a total of 58 tags were issued. Information gathered from the mandatory check out of harvested bighorn indicates that 55 of the 58 tag holders were successful in taking a ram. The average age of all harvested rams was 7 years with an average Boone and Crockett score of 154 inches.

Biologists classified 952 California bighorn sheep this past year with a ratio of 55 rams:100 ewes:44 lambs. The total number of sheep observed during these surveys increased slightly from the previous year and this sample of bighorn represents the highest total ever recorded during these surveys. The ram ratio increased significantly this year from what was observed during 2010 surveys while lamb ratios declined slightly.

The statewide California bighorn population estimate declined from 2,100 animals in 2011 to 1,800 this year. A disease event was documented in the Snowstorm Mountains which reduced bighorn numbers by an estimated 100 animals. An outbreak of Sore Mouth in High Rock Canyon, Calico Mountain and the Granite Range was documented several years ago and 2012 bighorn estimates for these areas reflect suspected declines in bighorn numbers due to this event. Overall, California bighorn populations continue to remain high. Trapping efforts this past year attempted to reduce high densities of bighorn sheep in the Pine Forest and Montana Mountain Ranges. Approximately 60 bighorn were removed from these two ranges and released into the Massacre Rim (northern Washoe County) and the Martin Creek and Calico Mountain areas of the Santa Rosa Range to bolster populations in these areas.

MOUNTAIN GOAT

There were 9 resident mountain goat tags in 2011, 1 PIW tag, and 1 nonresident tag. Hunter success was 100%. In 2011, hunters checked in 8 billies and 3 nannies. Nanny harvest, expressed as a percent of the

total harvest, decreased this year to 27%, but is still significantly higher than the long-term average. In 2011, average age of harvested animal was 3.5 years in unit 101, 5.0 years in Unit 102, and 6.0 years in Unit 103. Average age of harvested animals in Unit 101 is down from a 5-year increase and is below the long-term average of 5.1 years. Average age of harvested animals in Unit 102 is relatively stable at 5.0 years. The harvested billy out of Unit 103 was consistent with the long-term average of 5.0 years. Horn length was below the long-term average in 101 while consistent with the long-term average in Units 102 and 103. Surveys were conducted in February 2012 and 193 goats were observed between the 3 units. In Unit 101, 79 goats were observed yielding a ratio of 5.3 kids:100 adults. In Unit 102, 103 goats were observed yielding a ratio of 7 kids:100 adults. Goat populations continue to experience decreased kid recruitment due to bacterial pneumonia. Populations are believed to be exhibiting a substantial decline with very little recruitment occurring in 2010 or 2011. The odds of drawing a goat tag were 457:1 for residents and 1,223:1 for nonresidents. As a result of the ongoing disease event in the East Humboldt and Ruby Mountains, the number of goat tags in 2012 should decrease moderately relative to last year. However, applicants lucky enough to draw one of these tags should still have an opportunity for a hunt of a lifetime in the remote, beautiful, high elevation terrain inhabited by mountain goats in Northeastern Nevada.

MOUNTAIN LION

The 2011-12 (2011) mountain lion hunting season resulted in an overall lion mortality of 173 lions. Sport hunter harvest accounted for 103 lions or 60% of the total lions taken. The 5 and 10-year average for statewide sport harvest of lions was 128 and 132 respectively. The 2011 sport harvest represented a 29.5% decrease from the 2010 sport harvest.

Lions removed for the protection of livestock or human safety (depredation) increased by 8 over 2010 numbers to 32 in 2011. Depredating lions represent 23% of the overall 2011 mortalities. In recent years the Department has implemented a predation management program that utilizes sportsmen's dollars to reduce the impact of predation on ungulate populations, mainly deer and bighorn sheep. During 2011, 16 mountain lions were taken as part of this program. Twelve lions were taken from Predation Management Project 18 in Hunt Unit 014, the Granite Range, for the enhancement of mule deer herds. Two lions were removed from the Virginia Mountains to protect bighorn sheep. One mountain lion was removed from the Montana Mountains to protect mule deer and one lion was taken to protect bighorn sheep on Snake Range where lion predation had been identified on the resident bighorn herd. During 2011, one lion was an illegal harvest and the remaining 13 lions (8%) were killed incidentally, died of natural causes or were hit by vehicles.

Sport harvested lions represented 21% of the statewide harvest limit of 500 mountain lions. Males constituted 60% of the total 2011 sport harvest compared to the 20-year average of 59%.

BLACK BEAR

Nevada's black bear population is expanding, both in numbers and distribution. This is evidenced by three statistical analyses using mark/recapture data, all performed since 2002 and all containing data beginning in 1997. The first of these analyses in 2002 estimated 180 bears. Analyses for 2008 and 2011 estimated numbers at 253 and 456 respectively. This equates to roughly a 16% annual increase over the last 15 years. All three analyses were performed in Program MARK.

Nevada's first ever Black Bear Hunt was held in 2011. There was a quota of 45 resident and nonresident tags with a harvest objective of 20 total bears. Fourteen bear hunters were successful in harvesting 9 males and 5 females.

Bear-human conflicts decreased in 2011 by 70% from the 2010 figure of 440 with NDOW personnel handling approximately 130 complaints during calendar year 2011. Favorable habitat conditions were the primary cause for the decline. Additionally, NDOW killed 20 chronic nuisance bears in 2010 which likely had an effect on 2011 conflicts. Estimates of damage, mostly to homes and cars, exceeded $83,000. Incline Village continues to be an area of high bear-human conflict, accounting for 34% of all complaints received, more than all other areas of Washoe County combined.

Capture and monitoring efforts continue in areas 19, 20 and 29 in conjunction with a long-term study being conducted with the Wildlife Conservation Society (WCS) and the University of Nevada, Reno as cooperators. These efforts are focused on determining reproductive, fecundity and survival rates along with dispersal patterns. NDOW and WCS have joined with Columbia University to analyze data collected on collared bears over the last few years. This will be analyzed to model Resource Selection Functions (RSF) and identify important bear habitat in Nevada. NDOW and WCS have also been cooperating with the University of Tennessee on a stable isotope project, results of which may help NDOW in management decisions. Additionally, bear hair samples collected since 1998 will be combined with samples from California to investigate genetic relatedness, dispersal patterns and source/sink dynamics of bears in the Sierra Nevada.

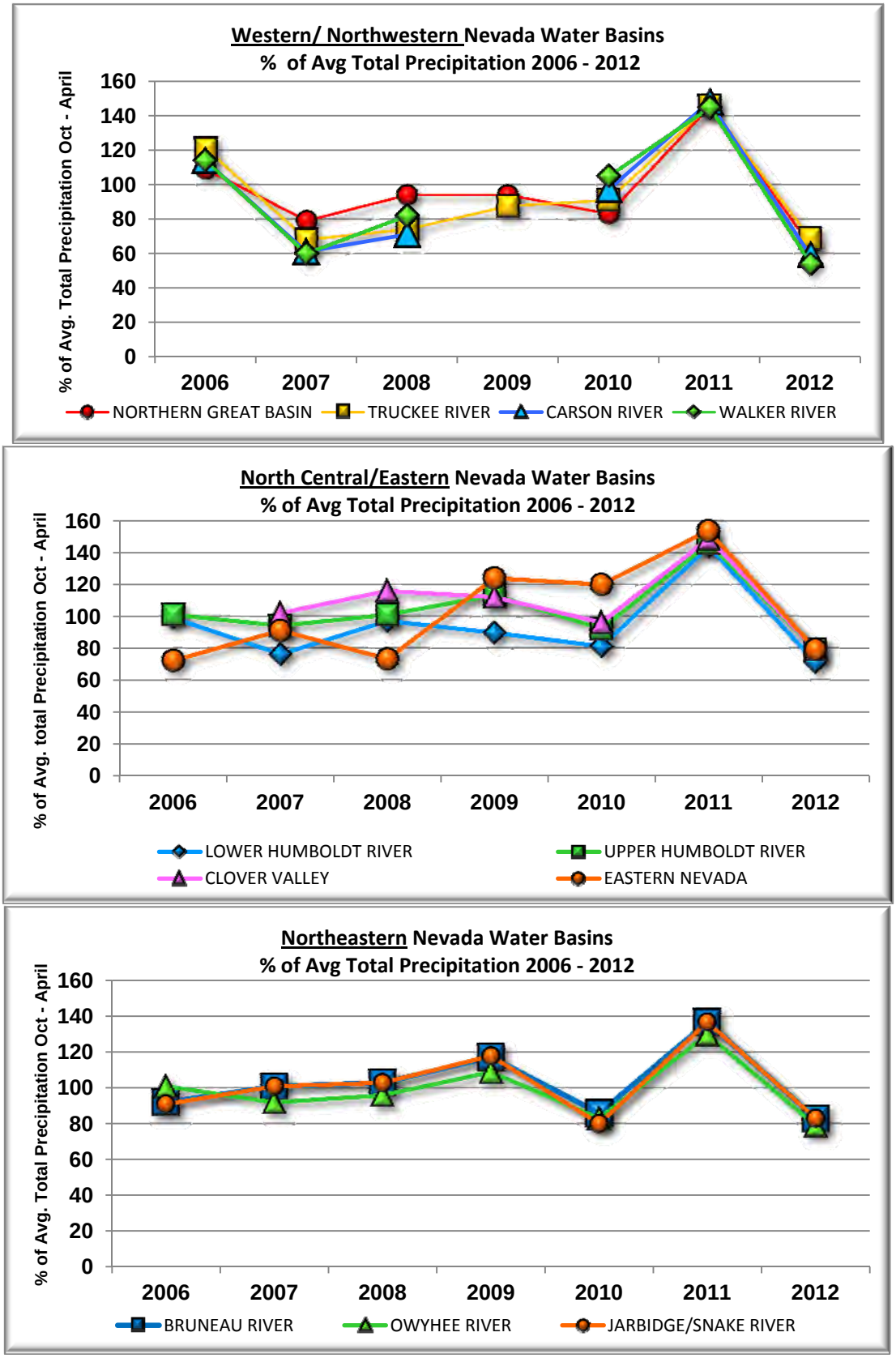
For a complete summary of the bears captured in 2011 and the conflicts responded to by NDOW see the Black Bear Status report on page 109.

WEATHER AND CLIMATE EFFECTS

This year's summary of Nevada weather and climatic data that affected big game herds October 2011 through April 2012 is limited to active SNOTEL sites in Nevada that are located in selected water basins in the northern half of the state. Table 1 displays the snow water equivalent of snowpack and total water year precipitation from October 2011 – April 2012 for select SNOTEL sites located in the following Mountain Ranges/Areas: Carson Range and Sierra Front (Area 19), Sheldon NWR (Unit 033), Trout Creek Mountains (Unit 031), Jarbidge Mountains (Area 7), Independence and Tuscarora Mountains (Area 6), Santa Rosa Range (Area 5), Toiyabe Range (Area 17), East Humboldt Range and Ruby Mountains (Area 10), Diamond Mountains (Area 14), Schell Creek Range (Area 11) and Egan Range (Area 22). Though total water year precipitation was marginal in most water basins at 54% – 83% of the long-term average, snowpack was dismal at less than 40% of average in most water basins. Without snowpack many of Nevada's high elevation summer ranges and streams from July – September will be extremely dry which could have a profound effect on body condition of our big game animals going into next winter. Figures 1 – 3 depict the trend in total water year precipitation for these same water basins from 2006 – 2012. Though 2010-2011 fall and winter precipitation was close to record setting in most water basins, this past year's (2011-2012) values are a dramatic reduction in precipitation. That is unfortunate that we were unable to put back-to-back good precipitation years together. These data continue to support the notion that the Great Basin is not about averages but extremes. So even though some mule deer herds in 2011-2012 saw some of the highest fawn ratios in 20 years, this dismal first half of the 2012 water year and predicted continued dry conditions through the remainder of 2012, could cause great stress not only the newly recruited yearling animals but effect adult body condition and impact the next year's fawn recruitment.

Table 1. Water basin climate data from SNOTEL monitoring stations throughout Nevada and the Sierra Nevada Mountains for snow water equivalent of snowpack as of 22 April 2012 and total water year precipitation from 1 October 2011 – 22 April 2012 in inches (Natural Resources Conservation Service).

BASIN		Snow Water Equivalent			Total Precipitation		
Data Site Name - elev. ft	Unit(s)	Current	Average	**% of Avg**	Current	Average	**% of Avg**
NORTHERN GREAT BASIN				**64**			**65**
Disaster Peak - 6,500	031	0	4.5	0	8.1	15.9	51
Sheldon - 5,800	033	0	0		4.6	6	77
TRUCKEE RIVER				**61**			**69**
Mt Rose Ski Area - 8,801	194	24.4	43.2	56	35.1	45.8	77
Big Meadow - 8,249	194	8.7	19.4	45	18.2	29.1	63
CARSON RIVER	192			**37**			**59**
WALKER RIVER	201			**35**			**54**
JARBIDGE/SNAKE RIVER				**39**			**83**
Pole Creek R.S. - 8,330	072	11.1	21.3	52	14.2	15.6	91
BRUNEAU RIVER				**30**			**83**
Big Bend - 6,700	061/071	0	4.2	0	11.1	12.2	91
Bear Creek - 8,040	071/072	7.6	21.1	36	21.1	25.5	83
Seventysix Creek - 7,100	071/072	0	6.1	0	14.2	15.6	91
OWYHEE RIVER				**18**			**79**
Fawn Creek - 7,000	062	1	17.2	6	19.3	25.8	75
Jack Creek Upper - 7,250	062	6.9	19.8	35	17.1	21.7	79
Laurel Draw - 6,697	062	0	3.6	0	16.4	20.3	81
Taylor Canyon - 6,200	068/062	0.5	0.8	62	7.5	9	83
LOWER HUMBOLDT RIVER				**39**			**71**
Big Creek Summit - 8,695	173	10.9	19.3	56	17.7	25.9	68
Buckskin Lower - 6,915	051	0.5	5.4	9	15.5	19.6	79
Granite Peak - 8,543	051	10.4	25.9	40	17.7	25.9	68
Lamance Creek - 6,000	051	0	5.6	0	15.5	21.4	72
UPPER HUMBOLDT RIVER				**14**			**79**
Draw Creek - 7,200	072	--	5.8	--	12.8	14.2	90
Dorsey Basin - 8,100	101/102	2.9	12.3	24	18.5	22.9	81
Green Mountain - 8,000	102	0	10.6	0	16.8	22.9	73
Lamoille #3 - 7,700	102	0	10.2	0	15.1	22.6	67
CLOVER VALLEY				**5**			**79**
Hole-in-Mountain - 7,900	101	0.9	17.9	5	19.7	25	79
EASTERN NEVADA				**35**			**79**
Berry Creek - 9,100	111	8.8	16	55	15.6	17.3	90
Diamond Peak - 8,033	141	0.2	2.1	10	10.5	16.3	64
Ward Mountain - 9,200	221	0.2	8.5	2	11.9	14.3	83



Figures 1 - 3. Trend in percent of Average Total Water Year Precipitation for Nevada water basins from 2006 – 2012 (SNOTEL sites, Natural Resources Conservation Service).

BIG GAME HERD STATUS REPORTS

MULE DEER

Units 011 - 015, Northern Washoe and Western Humboldt Counties

Report by: Chris Hampson

Survey Data

Post-season surveys were conducted in hunt units 011 thru 014 during November of 2011. The surveys were successful despite snow and wind hampering surveys at upper elevations. A total of 1171 mule deer was classified and resulted in sex and age ratios of 31 bucks:100 does:51 fawns. In 2010, biologists classified 621 deer with sex and age ratios of 29 bucks:100 does:56 fawns. No surveys were conducted by California Fish and Game biologists in Hunt Unit X5B or Nevada Hunt Unit 015 fall of 2011.

A few hours of flight time were expended flying some of the low density areas within area 012. These areas are not normally flown due to the ferry time required to reach these remote areas and the lower number of deer per square mile. Areas flown in area 012 included; the south end of Nut Mountain, Steven's Camp, Hanging Rock Canyon, Bear Buttes and Trough Mountain. Despite low densities, a decent sample of mule deer was obtained.

Spring surveys were conducted in March 2012 and resulted in the classification of 393 deer that had a composition ratio of 41 fawns:100 adults. The average recruitment rate for deer herds in Management Area 1 in 2011-12 was similar to 2010. No sample was obtained in Unit 015 during the spring of 2012.

Habitat

During the very dry years between 2007 and 2009, mule deer were often forced off high elevation summer ranges due to the general lack of water. The winter of 2010-11 provided much needed moisture to all hunt units within northern Washoe County. Pit tanks, lakes and reservoirs once again held water through much of the summer. Deer returned to typical upper elevation summer ranges and stayed there through the fall. However, precipitation receipts for the winter of 2011-12 have been well below normal thus far. As of March 1, 2012, most areas within northern Washoe County are between 50 and 70 percent of normal for total precipitation and snowfall.

Population Status and Trend

The predator control project in Hunt Unit 014 (Granite Range) continues in its eighth year. Wildlife Services has removed in excess of 40 lions from area 014 since the projects inception in 2005. In an effort to provide useful monitoring data for this project, NDOW continues to conduct both post-season and spring helicopter surveys in the Granite Range.

Recruitment rates observed in 2011-12 will once again allow for continued herd growth for most Washoe County deer herds, including 014 as well as though areas not receiving predator control efforts. Above average moisture received during the winter of 2010-11 helped to improve water availability and forage quality for mule deer. However, the winter of 2011-12 has been very dry thus far and significant moisture will be needed spring 2012 to offset this below average precipitation.

Harvest figures show good numbers of mature bucks in all Washoe County deer units. The 4-point or better in the harvest for Management Area 1 hunt units averaged 53% in 2011. Quota recommendations are expected to mimic population trends.

Units 021, 022, Southern Washoe County
Report by: Chris Hampson

Survey Data

No fall surveys were conducted by California Fish and Game biologists in California hunt units X6B or X7A in 2011. Due to a helicopter crash involving California Fish and Game biologists in 2010, surveys have temporarily been canceled in the state of California. Post-season surveys are not conducted in Hunt Unit 022 in Nevada.

Spring mule deer flights in Hunt Unit 021 resulted in the classification of 141 mule deer that had a composition ratio of 41 fawns:100 Adults. The mild winter allowed many deer to remain on upper elevation transitional range in California. Additional storms in March 2012 finally pushed more deer down onto Nevada's winter ranges.

A spring survey in Hunt Unit 022 was conducted by NDOW biologists in early March 2012. Biologists classified 85 mule deer with a ratio of 42 fawns:100 adults. Due to mild conditions and lack of snow mule deer were located at upper elevations between 6000 and 7500 feet. During most winters, mule deer in Unit 022 are concentrated on lower elevation winter ranges and biologists can classify over 200 deer from the north end of the Virginia Mountains.

Habitat

The winter of 2010-11 provided much needed moisture to southern Washoe County. Above average precipitation receipts helped reverse the very dry conditions that existed following several years of drought. This moisture helped to improve both the amount of water available to mule deer but also improved the quality of mule deer forage. However, the winter of 2011-12 was exceptionally dry and most basins in the western portion of Washoe County are between 50 and 75 percent of the long-term average. Significantly more precipitation is needed spring 2012 to make up for the lack of snowfall this past winter. Habitat conditions could worsen if the dry conditions continue.

Lightning ignited 2 separate wildfires in the Petersen Range and another fire in the Dogskin Mountains during the summer of 2011. The wildfire in the Dogskin Mountains burned approximately 2600 acres. Fires in the Petersen Range were both smaller and burned less than 1000 acres. The Petersen Range has a long fire history and many of the fires burn in or adjacent to areas that have burned in the past. The Bureau of Land Management and NDOW are working together to assess the potential for rehabilitating these areas with native species.

Past wildfires also impacted mule deer in the Virginia Mountains of Hunt Unit 022. In 1999, a very large fire burned important mule deer habitat on the north end of the Virginia Mountains. Although, much of the area responded well with native grasses following the fire, the native brush communities have been very slow to re-establish. Lower elevation winter ranges lack the necessary amount of thermal cover critically important to mule deer in harsh winters. Some areas within the burn are showing signs of recovery but most areas lack the islands of sagebrush or bitterbrush that help to re-establish brush, by providing a seed source, into the burned areas.

Population Status and Trend

The extremely mild winter of 2011-12 should have resulted in very low winter mortality for both fawns and adult deer. The high survival and above maintenance level recruitment will allow Management Area 2 deer herds to continue on an upward trend. However, the deer herds are limited by numerous factors including expansive areas of burned habitat, housing development, proposed energy development, and other forms of human encroachment such as motorcycle and ATV recreational use. Many of these limitations are due to the fact these deer herds live in close proximity to a large metropolitan area.

Quota recommendations for the Management Area 2 deer herds are expected to increase in 2012. The hunting public will continue to be challenged by access issues and the ever increasing human encroachment. Areas to hunt mule deer will continue to shrink in the future as more development and encroachment occur. Mule deer numbers will also continue to shrink over the long-term as more and more habitat is lost or disturbed.

Units 031, 032, 034, 035: Western Humboldt County
Reported by: Ed Partee

Survey Data

Post season surveys were conducted in Management Area 3 during mid November 2011. A total of 1,349 deer with sex and age ratios of 32 bucks:100 does:55 fawns was located during these flights. The past 5-year average ratios were nearly identical at 32 bucks:100 does:56 fawns.

Spring deer surveys were conducted in early March 2012. Due to adverse weather conditions, flights took place over a period of 4 days. A total of 1,205 deer was classified with a ratio of 46 fawns:100 adults. This ratio is near the past 5-year average of 41 fawns:100 adults.

Habitat

The winter of 2010-11 provided much needed moisture to Humboldt County. Above average precipitation receipts helped reverse very dry conditions that existed following several years of drought. This moisture improved both the amount of water available to mule deer and the quality of mule deer forage. However, the winter of 2011-12 was exceptionally dry and most basins in Humboldt County were between 50 and 75 percent of the long-term average. Significantly more precipitation is needed this spring to make up for the lack of snowfall this past winter. Habitat conditions could worsen if the dry conditions continue.

In late September, Management Area 3 was affected by a lightning caused wild-land fire that destroyed approximately 18,600 acres of mule deer habitat. This late storm was similar to storms that occur during July and August but those did not result in any major wildfires. To date only aerial seeding rehabilitation efforts have been conducted in this area.

Several habitat projects continue in Management Area 3. Sagebrush plantings have occurred in an attempt to reestablish areas of sagebrush that have been lost in past fires. Currently projects are being analyzed to protect existing habitats and enhance areas in need of rehabilitation.

Population Status and Trend

Population estimates for the various deer units within Management Area 3 remained relatively stable over the last 3 years. These populations are expected to remain at a static level and competition for forage and water is expected to increase because of the lack of moisture received this past winter. Winter range is the limiting factor for most of these populations. Many 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

Survey Data

Post-season surveys on the Sheldon were hampered by intermittent snow squalls and moderate winds. Despite the inclement weather a decent sample of 180 mule deer was classified. The composition of the sample was 29 bucks:100 does:55 fawns. The buck ratio was thought to be skewed low because surveys were conducted just days following the close of the rifle season when many bucks were still hidden in the thicker mahogany patches or moved out of the popular hunting areas.

Due to the abnormally mild temperatures and lack of snowfall winter 2011 - 12, spring surveys were primarily conducted in areas where deer are typically located during fall deer surveys. These upper elevation summer/fall ranges held quite a few deer but it was obvious that not all of the deer were present. It appeared that a significant portion of the deer herd was still scattered over large areas of transitional range. A few winter ranges were also surveyed in an effort to determine if any deer present on these lower elevation sites. No deer were observed. A total of 124 mule deer was classified with a ratio of 46 fawns:100 adults. The good recruitment documented on this survey was attributed to improved habitat conditions on the Sheldon following the very wet winter of 2010-11. The mild winter of 2012 should have facilitated higher deer survival.

Habitat

Habitat conditions on the Sheldon improved significantly in 2010-11 due to above average precipitation and snowfall. However, the winter of 2011-12 was mild with very little snow or rainfall. Currently the Northern Great Basin is between 50 and 70% of average for total precipitation and snowfall. Should dry conditions continue through the spring and into the summer, habitat conditions will deteriorate this coming summer.

Mule deer habitat on the Sheldon has also been impacted by both man caused and lightning caused wildfires. It was estimated that at least 50% of the best mule deer habitat on the Sheldon was seriously impacted due to fires. The loss of important brush communities and mountain mahogany stands has reduced the carrying capacity of mule deer living on the Sheldon. Fires have occurred within many of the major deer use areas such as Badger Mountain, Catnip Mountain, Devaney Mountain and Alkali Peak. These burned areas have not fully recovered and do not currently provide mule deer with quality forage and escape/thermal cover that was once available. Many of the burned areas currently have a good native grass understory but lack the critical brush component. Mountain mahogany was severely impacted in these burned areas and has not re-established.

Population Status and Trend

Several years of drought between 2007 and 2009 negatively impacted habitat conditions on the Sheldon. The 2009-10 water-year ended near average for total precipitation and snowfall but lacked sufficient moisture to help reverse the dry conditions. Finally, the above average winter of 2010-11 provided much needed moisture to reverse the impacts from several consecutive dry years. Abundant moisture helped to refill important upper elevation lakes and recharge the flow of water to important springs and seeps. The quality of mule deer forage throughout the Sheldon improved with this increase in precipitation.

The winter of 2011-12 has been well below average for both total precipitation and snowfall and it is doubtful that sufficient moisture will be received over the next few months to make up for the very dry winter. The current stream flow forecasts predict well below average runoff this coming spring and early summer.

The Sheldon mule deer herd has responded to improved habitat conditions and should experience herd growth this year. Quota recommendations for 2012 are expected to increase from the previous 2 years.

Units 041, 042: Western Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Post-season surveys were not conducted in 2011. Spring surveys were conducted from the ground in mid-March 2012 in the Selenite, Kamma, Seven Troughs and Trinity Ranges. Additionally, a brief aerial survey was performed in early March 2012 in the Eugene Mountains. These surveys resulted in the observation of 118 mule deer with a ratio of 39 fawns:100 adults. The 2012 spring fawn ratio was 8% greater than the long-term average (1991-2012) of 36 fawns:100 adults and will aid in some population growth.

Habitat

Three wildfires occurred within the unit group last summer. Two took place in the Truckee Range and one occurred between the Seven Troughs Range and the Majuba Mountains near Poker Brown Gap. Very little mule deer use occurs in these areas so these wildfires will not negatively affect mule deer that inhabit the surrounding area.

Quality mule deer habitat in western Pershing County is considered sparse at best. Large portions of limited quality habitat have been converted into annual grasslands by large scale wildfires that took place in 2000, 2001 and 2008. Mountain ranges in this portion of the state reside within the rain shadow of the Sierra and lack sufficient elevation to draw moisture out of storm fronts that do move through the region. Shrub species that mule deer favor are slow to recover because of this lack of moisture.

Population Status and Trend

Western Pershing County's mule deer population is showing an increase from last year's estimate. Fawn ratios averaged 37 fawns:100 adults over the last 3 years. This has resulted in a stable to slightly increasing trend. Overall, this herd is expected to remain stable with minimal yearly growth potential due to significant conversion of habitat from wildfires and limited annual moisture levels.

Units 043 - 046: Eastern Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Fall mule deer surveys have not been conducted since 2010. Aerial spring surveys were conducted in every unit in early March 2012. A total of 620 animals was classified yielding ratios of 39 fawns:100 adults. The 2012 spring fawn ratio duplicates the long-term average (1991-2012) and was sufficient to improve herd growth.

Habitat

Indian Canyon in the Humboldt Range appears to be recovering well from a summer of 2010wildfire in the canyon and surrounding areas. On spring survey 2012, almost 100 mule deer were observed in Indian Canyon utilizing forb growth. Restoration efforts included BLM aerial seeding 296 acres with Wyoming big sagebrush. No other major wildfires occurred within the unit group last year.

Past wildfires in 2000 and 2001 converted winter-range shrublands into annual grasslands. Domestic sheep grazing that occurs on a yearly basis from April 25 to September 30 in Unit 043 continues to leave winter range in less than optimal condition. Fortunately, high quality summer habitat still remains in all units and allows mule deer to enter the winter months in good to excellent condition. Mild winters have also allowed deer to access upper elevations and utilize shrubs and green-up during the winter months.

Population Status and Trend

Eastern Pershing County's mule deer population estimate for 2012 iss nearly 3,400 animals and represents an all time high for this herd. Since 2006 this herd has grown at an average rate of 6% due to an average recruitment rate of 44 fawns:100 adults. Hunter success rates for the resident any legal weapon hunt 1331 have averaged 53% (2011 success rate 47%) since 2006 when the herd began its upward trend. Another indicator of high population size is spring survey sample size, which continues to remain strong and well above the 1991-2012 average sample size of 433 animals. There are concerns that this herd is nearing carrying capacity, given the unit groups current winter range conditions. Future management objectives should include post-season surveys to better assess buck ratios and recommend possible doe hunts to maintain herd size in relation to current habitat conditions.

Unit 051: Santa Rosa Mountains; Eastern Humboldt County
Report by: Ed Partee

Survey Data

Post-season helicopter flights were conducted in mid November 2011. A total of 270 deer was classified with a ratio of 42 bucks:100 does:79 fawns. Both ratios were above the past 5-year average and up from last year's survey.

Due to windy weather conditions spring helicopter flights were conducted over a 2-day period in March. A total of 147 deer was surveyed. The spring fawn ratio from this sample was 52 fawns:100 adults. This recruitment rate was slightly above the past 5-year average of 41 fawns:100 adults.

Habitat

Two different wildfires occurred in this unit during the month of October 2011. These fires took place at the same time and consumed a total of 39,000 acres of important mule deer habitat. The larger fire occurred in the Hot Springs Range and burned 3,400 acres of important mule deer winter range. The second fire took place in Tom Basin and consumed 5,000 acres of mountain brush stands that were used as transitional range and winter range. The reduction of mule deer habitat caused by these fires will impact this population in the future. Reseeding attempts may fail due to the lack of winter and spring precipitation to date.

Population Status and Trend

The 2012 population estimate for Unit 051 is down from last year even though both buck and fawn ratios were up slightly from the previous 5-year average. Much of the summer range is in good condition. However winter range is in poor condition in this unit. Recent wildfires and a lack of precipitation during this past winter may create problems for this herd.

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

Harvest Results

There were 759 rifle buck tags (resident and nonresident) available in 2011. This represented a 12% decrease from the 2010 quota even though the 2011 deer population increased 8% compared to 2010. The average hunter success rate for all rifle buck hunters was 49%, which was the same as last year. Forty-nine percent of the bucks harvested in the general season supported antlers with 4-points or better. For more specific hunting results, please refer to 2011 Harvest Tables in the Appendix.

Survey Data

A fall helicopter survey was conducted in November 2011. A total of 3882 deer was classified; yielding ratios of 40 bucks:100 does:79 fawns. The buck ratio was the highest on record. The fawn ratio was the highest observed since 1995.

A spring helicopter survey was conducted in March 2012. A total of 2975 deer was classified; yielding a fawn:adult ratio of 53 fawns:100 adults. The spring fawn ratio was the highest recorded since 1986. After accounting for bucks, the spring survey yielded an incredible fawn:doe ratio of 74 fawns:100 does. Winter fawn loss was estimated at 9%.

Habitat

Above normal precipitation received during the winter and early spring of 2011 provided phenomenal range conditions. Deer entered the winter in great condition and the open winter led to high overwinter

survival. Much of the herd remained on transitional ranges well into January, allowing deer to utilize sagebrush and bitterbrush which is scarce on much of the Area 6 winter range.

Between the years of 1999 and 2007, over 1,370,864 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 these seedings is heavily reliant on timely moisture, proper grazing practices, and prevention from additional fires. 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.

This year an additional 215,000 acres of rangeland burned in Area 6. Approximately 208,000 acres were lost the first week of October 2011. In spite of the challenges with range rehabilitation, Elko BLM, NDOW, Newmont Mining Corporation, private landowners and sportsman's organizations seeded over 39,800 acres of scorched private land and 52,500 acres of burned public land this fall and winter. The lack of winter precipitation may limit the establishment of sagebrush within the seeded areas however spring storms across much of western Elko County are providing much needed moisture.

With gold prices above $1,600 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 and BLM Elko continue to work with mining companies towards minimizing impacts to mule deer migration corridors. 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.

No additional predator management activities above existing normal levels occurred in Area 6 this past year.

Population Status and Trend

The Area 6 deer herd population estimate increased by approximately 20% over last year. Excellent fawn recruitment facilitated by high-quality summer range combined with the mild winter was responsible for most of this increase.

This deer herd is capable of increasing rapidly due to the excellent summer habitat and high fawn producing capabilities associated with this area. This has been the case over the past 3 years, with the herd increasing by 12% in 2009-2010, 8% in 2010-2011 and 20% in 2011-2012. Given the increases, 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.

With successful restoration efforts realized on the Marsh Creek Bench, the Izzenhood Range and the north Tuscarora Range, it is believed the capacity of the winter range has increased over the past couple of years. However, continued aggressive habitat restoration efforts are needed to increase the winter habitat carrying capacity for deer in this management area. If fire suppression priorities and techniques are not addressed and fires continue to burn out of control in this area, no level of habitat restoration will be enough to maintain the current population, much less provide for a population increase. It is believed the Area 6 deer herd has reached the carrying capacity of available winter range.

Recommended buck quota for 2012 will be up from the 2011 quota due to the increase in population and the 25% reduction of the recommended buck quota last year. In addition, doe harvest is necessary to maintain the deer population within the confines of the carrying capacity of the winter range. Population management through the implementation of doe harvest will alleviate competition among deer for limited resources during moderate to severe winters. Doe harvest is the best way to control populations and could prevent catastrophic winter die-offs observed in years past. While doe harvest incites strong emotions among the hunting public, it is a necessary tool for properly managing populations; particularly those at or above the carrying capacity of seasonal habitats.

Unit 065 Pinyon Range: Southwestern Elko County
Report by: Scott Roberts

Survey Data

The Unit 065 post-season deer survey was conducted in December of 2011. A total of 415 deer was classified resulting in age and sex ratios of 45 bucks:100 does:54 fawns. An aerial spring survey was conducted in April 2011. A total of 112 deer was classified yielding an age ratio of 44 fawns:100 adults. The lack of spring green up made locating deer concentrations difficult.

Habitat

Long-term habitat conditions for deer are poor in much of Unit 065 due to the tremendous amount of habitat that has been lost to fires since 1999. Much of the relatively recent higher elevation burns have responded well with an abundance of perennial grasses and shrub communities reestablishing themselves. Much of the lower elevations that have burned in the past decade have not responded nearly as well, with much of the landscape being dominated with annual grasses. Future habitat restoration projects will be crucial to sustaining and enhancing deer habitat in Unit 065. Newmont Mining broke ground on the Emigrant Project this year. This new mine is located due east of the existing Rain Mine in the northern portion of Unit 065. The effect on deer habitat has been minimal so far, but it has increased road traffic and the level of disturbance in the area.

Population Status and Trend

This is the third year in a row with above average fawn recruitment. Consecutive years of recruitment rates that exceed maintenance levels have led to steady population growth within the unit. This unit continues to produce high quality bucks.

Units 071 – 079, 091: Northeastern Elko County
Report by: Kari Huebner

Harvest Results

The 2011 hunter success for the early season was 39%, well below last year's 47%. Late season hunter success was 70% compared to 69% in 2010. In 2010, harvest of 4-point or better bucks was 32% early and 67% late. This year harvest of 4-point or better bucks was lower with 30% in the early season and 46% late.

The 2010 archery success was 20% for the early season. This year it dropped to11%. Late season success decreased from 28% in 2010 to 21% in 2011. In 2010, the percentage of 4-point or better bucks was 39% early and 55% late. This year harvest of 4-point or better bucks was higher with 56% early and 71% late.

Survey Data

Post-season helicopter surveys were flown in this unit group in December 2011. A total of 2,664 deer was classified; yielding ratios of 26 bucks:100 does:56 fawns. Spring surveys were flown in early April of 2012. A total of 2,191 mule deer was classified; yielding a ratio of 35 fawns:100 adults. This year's recruitment rate is comparable the previous 5-year-average of 35 fawns:100 adults.

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 the site. 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.

The majority of the Area 7 deer herd winters south of Interstate 80 in the Pequop and Toano Mountains. Unfortunately, as these deer attempt to make their way to winter range from Jarbidge and outlying areas, they are sometimes struck by vehicles either on Highway 93 or Interstate 80. Fifteen deer were radio-collared in the fall of 2008 and an additional 12 were collared in the fall of 2010. The information collected from these collaring projects helps the Nevada Department of Wildlife and the Nevada Department of Transportation, in a collaborative effort; to reduce the amount of vehicle mortality that is occurring. During the fall of 2010 1 overpass and 2 under-crossings near Ten Mile Summit north of Wells on Highway 93 were ready for the fall deer migration. By the fall of 2011, another overpass and 1 undercrossing were completed on HD Summit on Highway 93. So far over 12,000 individual deer crossings have been recorded on cameras at the 5 crossings on Highway 93. It has also been noted that deer/vehicle collisions have been reduced each year the crossings have been in place.

Thirty deer were also radio collared this winter in a collaborative effort between NDOW, Newmont Mining Corp., and UNR. The collar data will 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

Despite the mild winter conditions experienced this past winter, the over-winter fawn loss was estimated to be over 20%. This is average for this deer herd. Long migrations through a myriad of obstacles likely contribute to this consistent fawn loss. Data indicate the Area 7 deer herd experienced a significant set-back during the winter of 2001-02. Since then this deer herd appears to have been stable. Due to a combination of recent fires, drought conditions, and possible plant senescence it is highly likely deer habitat in Area 7 cannot support the high numbers of deer documented in past decades.

Recent deer collaring over the last few years has been instrumental in better understanding migration triggers, timing, paths, 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.

A predator project was initiated in Area 7 in the spring of 2011. Specifically, coyotes were targeted through aerial gunning in Units 074 and 076 by Wildlife Services. Due to limited snow and mild conditions this past winter, removal efforts were focused in deer management areas. Efforts may be focused on fawning areas this year instead. Future removal efforts will be reported as the project progresses.

Unit 081: Goose Creek Area; Northeastern Elko County

Report by: Kari Huebner

Survey Data

Surveys were not conducted in this unit this year.

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 range. The fire burned very hot and left few islands of habitat. Although the area was intensely seeded the first winter following the fire, it will be several years, if ever, until the brush community fully recovers in this area.

Population Status and Trend

Overall this is a relatively small deer resource in terms of resident deer populations with some migration from both Idaho and Utah. The magnitude of this migration 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 this past year during the any legal weapon season and can most likely be attributed to the milder weather conditions during the hunt which allowed better hunter access. 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 - 108: Southern Elko and Northwestern White Pine Counties

Report by: Caleb McAdoo

Harvest Results

The long-term average hunter success for the early any legal weapon season was approximately 25%. For 2011, the hunter success was 24%, up from 23% in 2010. The late season hunter success typically varies with weather conditions. Both snow fall amount and timing play a key role in late season hunter success, which is typically over 50%. However, the 2011 late season hunter success was only 48%, up slightly from 44% in 2010. No antlerless seasons occurred during the 2011-2012 season, despite NDOW's recommendations. For specific 2011 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

An aerial post-season herd composition survey was conducted in December 2011 and 6,629 deer were classified. The age and sex ratios derived from this survey were 33 bucks:100 does:50 fawns. The observed young:adult ratio derived from this survey was 38 fawns:100 adults. A spring helicopter survey was conducted in April 2011. During this survey, 8096 deer were classified yielding a ratio of 24 fawns:100 adults. This was down 3 fawns:100 adults from last year's spring survey and down 14 fawns:100 adults from the December 2011 survey which equated to a 38% over-winter fawn loss.

Habitat

Area 10 was spared from catastrophic wildfires in the summer of 2011; however, some very small acreage fires did occur most of which were in Unit 105. While spring precipitation conditions in 2011 were ideal for forage production, precipitation from July 2011 through March 2012 was extremely poor. Summer and winter range conditions were extremely dry. These precipitation patterns affected both range conditions and deer dispersal. Deer undoubtedly benefitted from the spring moisture; however, despite mild winter conditions, high over-winter mortality was observed. Snow pack levels and moisture content for the winter of 2011-2012 continue to be well below average (%65) as of April 1, 2012. Late spring storms continue to add to the low snowpack, but are not anticipated to increase the snowpack to 100 percent of normal.

The Department of Wildlife, along with land management agencies, continues working 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 will also 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. Both Projects still remain in the NEPA process.

Population Status and Trend

The Area 10 population accounts for over 20% of the statewide mule deer population and acts as a stronghold for Nevada's deer population. Generally speaking, 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. Recovering

from the mortality loss during the 1992-1993 winter, Area 10 was in an upward growth trend from 1997 through 2007. In 2008, the herd began to stabilize near the current population level. Fawn recruitment continues to be repressed even given ideal weather conditions and good production. While carrying capacity is illusive in definition and dynamic in nature, the observed fawn recruitment values provide further evidence that the population has stabilized to the current limiting factors. Post season buck ratio objectives remain extremely high (30 bucks: 100 does) in area 10 and subsequently older age class representation continues to be observed throughout the buck segment of the population. In 2011, 37% of the buck harvest was reported as having 4 points or better. It is anticipated that fawn recruitment will remain repressed until a density-dependent event occurs.

The Department of Wildlife continues to place a large emphasis on the State's mule deer populations by investing time and resources into beneficial projects and research which are scientifically sound and which further our understanding of the population dynamics of our mule deer resources. From 2010-through the present, the Department of Wildlife, in cooperation with the University of Nevada, Reno, initiated a mule deer migration and survivorship study in areas, 10, 15, and 19. The project is aimed at identifying age and sex specific mortality rates; defining summer, winter, and transitional ranges which will help to prioritize population enhancement projects; and to determine the costs and benefits of differing mule deer migration strategies. This ongoing study should provide valuable insight to the population dynamics of these herds.

Units 111 – 113: Eastern White Pine County

Report by: Curt Baughman

Survey Data

Post-season herd composition data has not been collected since the fall of 2009. The spring 2012 survey was done in conjunction with the winter elk survey in early March 2012. Survey conditions were difficult because of the extremely mild winter and lack of snowpack. Deer distribution was abnormal, with groups being scattered from benches to 9,200'. This was a big limiting factor on sample size. A sample of 980 deer yielded a ratio of 31 fawns:100 adults. The spring 2011 sample of 1,589 deer yielded a ratio of 25 fawns:100 adults. 2012 marks the fifth consecutive year with below-average recruitment for this unit-group. The long-term (1979-2011) average observed fawn recruitment was 32 fawns:100 adults.

Habitat

Habitat and climatic conditions have been mostly negative for mule deer since 2007. Severe drought in 2007 and 2008 translated into 2008 and 2009 spring fawn:100 adult ratios of 19 and 20, respectively, and were among the lowest on record. Higher levels of precipitation in the summer of 2009 brought short-term habitat improvements. However, the winter of 2009-10 was the most severe since 1992-93 with total snowfall in the Ely area being more than twice the average and persistent cold temperatures preventing any significant periods of moderation. The 2010 summer was dry with only 35% of normal moisture falling over the June-Sept period. The 2010-11 winter brought record snowfall in both November and December as well as cold snaps that hit -20°F. Thankfully, extreme snow-cover was punctuated by some periods of moderation later in the winter which prevented catastrophic conditions from developing. The silver lining was that the 2010-11 water year delivered over 150% of average moisture as measured in Ely by the National Weather Service. This was collaborated by local NRCS Snotel sites that measured in excess of 160% average precipitation. The 2011 spring was wet and cool through May, but the outstanding moisture brought substantial habitat improvements in the summer of 2011. The past winter was extremely warm and dry in December and January. Precipitation levels have rebounded to near average levels since that time for much of White Pine County. Snowpack figures approximate 60% of average. Habitat conditions in 2012 will depend on weather patterns through the rest of the spring and summer. Habitat values in the higher country are at risk due to the scant snowpack.

Long-term habitat potential for mule deer is slowly declining due to the encroachment of pinyon and juniper trees upward into mountain brush zones and downward onto bench areas. In some areas, degradation from fires or severe drought resulted in loss of native vegetation and expansion of cheatgrass

and noxious weeds. Habitat enhancement projects completed or ongoing through 2011 included a second water development in Unit 112 (Mule Deer Foundation), a 5,700 acre chaining (seeded) on the east side of northern Unit 111 and biomass (P/J) removal and bitterbrush seeding in northern Unit 112. Numerous other projects with potential benefits to mule deer are in the planning stage. These include a large USFS project in northern Unit 111 to reduce P/J and conduct burning in white fir/aspen mixes and a large BLM/USFS project on the east Schell Bench of Unit 111 to reestablish native shrubs, forbs and grasses in crucial deer winter range.

Population Status and Trend

Population trend has been downward most years since 2007 due to negative effects of climatic conditions on habitat, mule deer body condition, productivity and fawn recruitment. The near-average fawn recruitment observed this spring stabilized the recent downward trend. Deer are in much better condition than in the spring of 2011 and should exhibit stronger production in 2012. The potential for population gains in the coming year look good.

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

Report by: Curt Baughman

Survey Data

Post-season herd composition data has not been collected since the fall of 2009. The spring 2012 survey was flown in conjunction with the winter elk survey in late February and early March. The survey was complicated by abnormal spring deer distribution that was a product of the exceptionally mild winter, lack of green-up and weak mountain snowpack. Deer were found scattered from 5,800' to 9,500'. Buck groups, especially, were found at higher elevations. The sample of 121 deer produced ratios of 39 fawns:100 adults. During the spring 2011 survey, 530 deer were classified yielding ratios of 17 fawns:100 adults. The previous 10-year-average recruitment (2001-2010) was 27 fawns:100 adults.

Habitat

Please see the discussion of climatic conditions above for Unit-Group 111-113.

Long-term habitat potential for mule deer is slowly declining due to encroachment of pinyon and juniper trees upward into mountain brush zones and downward onto bench areas. 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 out-competed by conifers such as white fir. These actions could benefit mule-deer far into the future.

Population Status and Trend

Since 1999 this unit-group has experienced below-average fawn recruitment in all but 4 years. The population trend was downward from 2001 to 2005 followed by some recovery between 2005 and 2007 and then another decline since that time. The negative climatic conditions described above were detrimental to mule deer survival and productivity and resulted in below-average fawn recruitment in 2008 through 2011. Although recruitment was much better in 2012, survival rates in the population model were adjusted to account for greater impacts from the negative conditions that mule deer faced in recent years. The population estimate for 2012 is only slightly higher than the 2011 estimate. The habitat improvements of 2011 coupled with a very light winter bodes well for general survival and fawn production in 2012. The prospects for continued population expansion appear to be good. The removal of 31 mountain lions from this unit-group since 2009 should also be a positive factor.

Unit 121: North Egan, Cherry Creek Ranges; White Pine and Elko Counties
Report by: Scott Roberts

Survey Data

The Unit 121 aerial post-season deer survey was conducted in December of 2011 in conjunction with the Unit Group 104,108,121 elk survey. A total of 1,258 deer was classified yielding age and sex ratios of 24 bucks:100 does:66 fawns. This was the highest observed fawn ratio in this unit in 12 years. The buck ratio was likely biased low because of heavy tree density in this unit and the cautious nature of bucks.

An aerial spring mule deer survey was conducted during March 2012. A total of 696 deer was classified in Unit 121, yielding a ratio of 54 fawns:100 adults. The small sample size was the product of an open winter, windy conditions and a lack of green-up to attract deer out of the thick trees and onto the benches.

Habitat

The winter of 2011-12 produced well below average precipitation in Eastern Nevada (National Weather and Climate Center website). This dry winter has the potential to have negative effects on the deer habitat in Unit 121. Perennial water sources in the area will likely receive more pressure from wildlife, horses and domestic livestock this summer, as water sources dry up. Spring and summer moisture will dictate late summer range conditions within the unit.

Proposed wind-energy projects within Unit 121 have the potential to negatively affect the deer herd and other wildlife. These projects will likely increase the human presence in much of Unit 121's most productive summer range, as well as increase traffic in and out the area. Pinyon/Juniper encroachment continues to plague a significant portion of Unit 121. Habitat improvement projects and small fires in the unit continue to create improved micro-habitats.

Population Status and Trend

Following extensive aerial surveys this winter the population estimate is significantly higher than last year. The open conditions during the winter caused only minimal winter kill. The deer that were classified on the spring flight appeared have come out of the winter in excellent shape.

Units 131 - 134: Southern White Pine, Eastern Nye and Western Lincoln Counties
Report by: Mike Podborny

Survey Data

No post-season survey was conducted during this reporting period. The last post-season herd composition survey was conducted in December 2010 by helicopter. There were 691 deer classified; yielding ratios of 27 bucks:100 does:56 fawns. The spring survey was conducted by helicopter in March 2012. There were 702 deer classified; yielding a ratio of 38 fawns:100 adults. This compares to the spring 2011 survey of 1,529 deer classified with a ratio of 34 fawns:100 adults. Although the spring sample was less than half of the previous year, the sample was above the 10-year-average (2002-2011) of 564 deer. The mild winter with little snow and no green-up during the 2012 spring survey resulted in deer being scattered in all units at varying elevations and accounts for the lower sample. This was completely opposite of 2011 when abundant snow forced deer to low elevations along the migration trail making them readily accessible for survey.

Habitat

Habitat conditions improved between 2009 and 2011 with above-average precipitation resulting in increased forage production and water availability for wildlife following the drought of 2007 and 2008. The long-term quality and quantity of summer ranges are slowly being reduced by pinyon/juniper forests

taking over brush zones thereby lowering the carrying capacity for mule deer. Although this deteriorating condition also affects winter range, it is believed the effect on summer range has a greater impact to this deer herd. Since the summer of 2010, the Forest Service has hired contract crews with chainsaws to cut small pinyon and juniper trees encroaching into open grass and brush zones of the White Pine Range. 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 Forest Service is planning a similar project in the Grant and Quinn Canyon Ranges of Unit 132.

Population Status and Trend

The excellent range conditions of 2011 following the near record precipitation received in White Pine County resulted in favorable conditions for deer. The good spring recruitment in 2012 resulted in a small population increase for the third consecutive year.

Units 141 - 145: Eureka and Eastern White Pine Counties

Report by: Mike Podborny

Survey Data

The post-season herd composition survey was conducted in December 2011 by helicopter. There were 1,456 deer classified; yielding ratios of 36 bucks:100 does:63 fawns. The previous post-season survey was conducted by helicopter in December 2009 with 866 deer classified; yielding ratios of 35 bucks:100 does:58 fawns. A helicopter spring survey was conducted in March 2012 with 931 deer classified; yielding a ratio of 44 fawns:100 adults. In March 2011 the spring survey resulted in 1,338 deer classified; yielding a ratio of 34 fawns:100 adults. The decrease in the spring sample size from 2011 to 2012 can be explained by the different survey conditions between years. The mild winter with little snow and no green-up during the 2012 spring survey resulted in deer being scattered at varying elevations and accounts for the lower sample. In 2011 there was abundant snow that forced deer to lower elevations making them readily accessible for survey. In 2008 and 2009 the spring surveys resulted in near record low fawn to adult ratios of only 19:100 and 21:100 respectfully.

Habitat

Habitat conditions have improved in the short-term from 2009 through 2011 with above average precipitation all 3 years. This was preceded by consecutive years of drought in 2007 and 2008. Over the long-term deer habitat is being reduced by pinyon/juniper forests crowding out the highly productive mountain brush zones and a browse community that is maturing and becoming less productive. The Bootstraps Crew run by the University of Nevada and the BLM with funding from NDOW, NBU and others used chainsaws to cut down pinyon and juniper trees on Roberts Mountain and in the Sulfur Spring Range in 2008, 2009 and 2011. The trees were encroaching into the important brush communities used by mule deer. There were no major wildfires in 2011. The last major wildfire that negatively impacted mule deer habitat occurred in 2007 in units 141 and 142. A very large molybdenum mine is being proposed for Mt. Hope in Unit 143. The mine will impact deer in the immediate area of the mine site but is not expected to cause a major impact to overall deer habitat in Unit 143. There were 1,247 feral horses counted during the spring survey with 821 horses in Unit 141 and 417 horses in units 144 and 145. A coyote removal project funded through the Wildlife Heritage account was conducted in Unit 144 (Diamond Range) in 2011 and again in 2012. Wildlife Services killed 106 coyotes in 2011 and 95 coyotes in 2012 with the aid of a helicopter and airplane.

Population Status and Trend

The drought of 2007 and 2008 resulted in record low spring fawn recruitment and the population declined. The drought was broken with above-average precipitation in the late spring and early summer of 2009 and the above average precipitation continued throughout 2010 and 2011. Spring fawn recruitment rates increased to moderate levels during the last 3 years and resulted in an increasing population trend in 2012. The short-term improvement in range conditions due to increases in precipitation is the primary

factor responsible for the increasing deer population in Area 14. However, as indicated in the scientific literature, predator control can allow a deer herd to respond more quickly to favorable habitat conditions when they exist and this area has had 2 years of coyote control that may also be contributing to the growth.

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

Report by: Jeremy Lutz

Harvest Results

The 2011 Resident Any Legal Weapon Hunt has been split with an early and late hunt since 2007. In 2010, the number of first choice applicants for the early and late hunts was 480 and 180, respectively. The odds of drawing a tag in the early hunt were 2 to 1 compared to 6 to 1 for the late hunt. Early season hunter success was 41% with 35% of the harvest consisting of 4-point or better bucks. Late season success was 70% with 43% of the harvest consisting of 4-point or better bucks. For specific 2011 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

Post-season aerial composition flights were conducted in November 2011. There were 1,386 deer classified during the survey; yielding ratios of 39 bucks:100 does:83 fawns which was the second highest sample ever recorded in Management Area 15. The previous post-season survey was conducted in the fall of 2010 and resulted in 1,572 deer being classified; yielding ratios of 37 bucks:100 does:73 fawns.

Aerial surveys were conducted in March 2012. A sample of 1,203 deer was classified; yielding a ratio of 55 fawns:100 adults. The previous year's survey was conducted from the ground in March 2010. A sample of 723 deer was obtained; yielding a ratio of 49 fawns:100 adults.

Habitat

Habitat conditions for deer in Area 15 continue to improve over the long-term. The Battle Mountain BLM is currently working on 2 allotment evaluations, which when implemented, should have positive results for mule deer in Management Area 15. The BLM continues to be aggressive with controlling or removing feral horses that are above Appropriate Management Level (AML) in Management Area 15.

Lander and Eureka counties received above average precipitation over the last 4 years resulting in better range and forage conditions for mule deer. However, the summer and fall of 2011 was extremely dry. Due to the dry summer and fall, lactating does were not able to regain the important fat reserves and entered the winter in poor shape. Luckily, very little winter mortality was documented in MA 15, but this was only due to the extremely mild winter.

Since 1999, over 440,000 acres have burned in Lander and Eureka counties. With 12 years of recovery much of the upper elevation burns have shown great improvement with pioneering shrubs and native grasses observed. This early succession appears to have been very productive and beneficial for mule deer in Area 15.

Population Status and Trend

The Area 15 deer population experienced another relatively mild winter which resulting in a high fawn:adult ratio this spring. The Area 15 deer population has responded well to increased moisture over the last 4 years and is nearing an all time high, comparable to mid and late 1980 levels. This population is believed to be at or approaching carrying capacity. The total amount and timing of precipitation will ultimately regulate this population.

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

Harvest Results

2011 was the fifth consecutive year of the Any Legal Weapon early/late split mule deer hunt. In 2007, the season changed from a single 23-day season to a split 16-day early/late season for both Management Area (MA) 16 and 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 for those sportsmen willing to wait longer between deer tags.

Over the past 5 years, the MA 16 early Resident Any Legal Weapon season success averaged 42%, while the late Resident Any Legal Weapon season success averaged 62%. During the same 5-year period, the average harvest percentage of 4-points or better during the early and late seasons has been 32% and 55%, respectively.

Survey Data

Aerial post-season composition surveys were conducted in MA16 during December 2011. A total of 852 mule deer was classified during the fall survey as 115 bucks, 463 does, and 274 fawns yielding ratios of 25 bucks:100 does:59 fawns. During the survey, many bucks were found singly or in small bachelor groups instead of in association with doe/fawn groups. This phenomenon indicates rutting activity had waned for the year and the buck:doe ratio was likely biased low.

Spring aerial composition surveys were accomplished in MA 16 during mid-April 2012. Challenging survey conditions and a limited amount of time resulted in a lower than average sample size during the 2012 spring survey. During the survey, a total of 547 animals was classified as 379 adults and 168 fawns yielding ratios of 44 fawns:100 adults. The observed fawn ratio was higher than any seen in MA 16 since the 1980's. Spring data indicates the MA 16 mule deer population experienced above average recruitment during 2012. The previous spring composition survey accomplished in late March 2011, saw a total of 1,181 deer classified as 966 adults and 215 fawns with a ratio of 22 fawns:100 adults.

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. However, very favorable conditions experienced from the fall of 2010 through the summer of 2011 greatly improved habitat conditions in central Nevada and resulted in an increase in fawn production in MA 16. Overwinter fawn mortality was very light during the mild 2011-12 winter, which allowed the MA 16 mule deer population to experience moderate growth for 2012. Unfortunately, a return to severe drought conditions since the latter portion of 2011 may act to nullify any potential for gains over the coming year if conditions do not improve.

The MA 16 mule deer population is currently showing a slight decrease. The recent return to drought conditions may impact habitat conditions and affect this population's potential to make any short-term gains.

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

Harvest Results

2011 was the fifth consecutive year of the Any Legal Weapon early/late split mule deer hunt. In 2007, the season changed from a single 23-day season to a split 16-day early/late season for both Management Area

(MA) 16 and 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 for those sportsmen willing to wait longer between deer tags.

Over the past 5 years, the early Resident Any Legal Weapon season success averaged 29%, while the late Resident Any Legal Weapon season success averaged 41%. During the same 5-year period, the average harvest percentage of 4-points or better during the early and late seasons has been 30% and 48%, respectively.

Unlike Area 16, which has better road access, the comparative success of the Area 17 late hunt depends more on cooler temperatures and/or sufficient snow accumulations to make deer more accessible for harvest.

Survey Data

Post-season aerial composition surveys were accomplished in MA 17 in December 2011. A total of 1,643 mule deer was classified as 300 bucks, 887 does, and 466 fawns yielding ratios of 34 bucks:100 does:53 fawns. The 2011 sample represents the second highest obtained since 1993. During the December 2011 survey, mule deer predominantly still occupied higher elevation summer range which made locating animals comparatively easy.

A spring aerial composition survey conducted in mid-April 2012 resulted in the classification of 496 deer as 364 adults and 132 fawns yielding a ratio of 36 fawns:100 adults. The observed 2012 fawn ratio represents one of the highest obtained in over a decade. The previous spring survey took place in late-March 2011 when a total of 1,046 mule deer was classified as 832 adults and 214 fawns for a ratio of only 26 fawns:100 does.

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. However, from the summer of 2010 through the early summer of 2011, central Nevada saw a much needed improvement in climatic conditions. The resultant positive effects to habitat quality allowed the MA 17 mule deer herd to experience very good production during 2011. A very mild 2011-12 winter with nominal overwinter mortality has allowed for a noticeable increase in the deer population over 2010 levels. Unfortunately, a return to severe drought conditions since the late summer of 2011 may nullify this recent growth. While the MA 17 mule deer population is showing a moderate increase over the short-term, unless climatic conditions improve in the near future, this trend could possibly be reversed.

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

Report by: Jason Salisbury

Survey Data

A ground survey was conducted in the spring of 2012, resulting in the classification of 94 mule deer. This sample consisted of 71 adults and 23 fawns, yielding a ratio of 32 fawns:100 adults. Areas surveyed within the Area 18 herd include the Lahontan Valley, Stillwater Range and the Clan Alpine Mountains.

Habitat

The Stillwater District of the BLM is planning a horse gather within the Desatoya Horse Management Area. Removal of excess horses will help alleviate impacts to upper elevational riparian areas within the Desatoya Mountains used by both horses and mule deer.

The 2,700 acre Big Dens project is almost complete. The purpose of the project was to improve mule deer and sage grouse habitat by removing pinyon and juniper. This project utilized a mechanical masticator as well as ground crews to remove individual trees. The resulting open canopy should allow for improved spring flow around water sources as well as an increase in the overall browse community.

The recovery of habitat from past fires in the Clan Alpines, Fairview Range, and the Stillwater Mountain Range has shown remarkable progress. Most of these fires occurred 10 years ago within pinyon and juniper woodlands. Today these upper elevational areas boast shrub and grass mixes that Area 18 mule deer use extensively.

Population Status and Trend

The Area 18 mule deer population has remained reasonably stable for a number of years due to general maintenance level recruitment. The winter of 2011-12 was dry and did not produce any significant moisture until late February. These less than optimum moisture patterns would have attributed to a slightly degraded browse community reducing the nutrition for the herd.

The 2011 hunter data indicates that 41% of the bucks harvested were 4-points or better. This was consistent with the 10-year average of 38% 4-point or better bucks within the harvest. The buck segment of this population is well represented by all age classes and hunters should have the opportunity to find mature bucks.

Unit 192: Carson River Interstate Herd; Douglas County

Report by: Carl Lackey

Survey Data

A post-season helicopter survey took place in January 2012. Survey results were poor, likely due to very dry conditions. The lack of snow and warmer temperatures kept deer at higher elevations and in the trees where they were not as detectable. Only 89 deer were classified with resulting ratios of 21 bucks:100 does:50 fawns. Due to several factors which eliminated use of the helicopter, no spring surveys were flown. California did not fly spring surveys either. Winter fawn loss was modeled at 7%. Observed buck ratios are routinely low but point-class distribution in the harvest indicates a higher percentage of bucks than what is normally observed during surveys. The majority of deer surveyed in Unit 192 are found in the northern portion of the unit.

Habitat

2011 saw no significant changes to the habitat occupied by this deer herd. The majority of this herd uses the eastern slopes of the Carson Range as critical winter range, migrating from the Tahoe basin and Hope Valley summer range. Urbanization along the Carson Front has encroached upon winter range traditionally used by this herd. This permanent loss of habitat is the single most important reason the deer herd has diminished. Not only is it recognized as a direct loss of available habitat and loss of thermal cover, but also as a loss of stress-free space without human recreational disturbance.

Population Status and Trend

The modeled pre-hunt population estimate was between 900-1000 animals and has been at this approximate level for the last several years. Survey and harvest data indicate this deer herd has probably maintained itself over the last year and is stable. Fawn production and recruitment rates have been at or above assumed maintenance levels.

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

Report by: Carl Lackey

Survey Data

Biologists completed a late post-season composition survey flight in early January 2012 and classified 207 deer with a ratio of 19 bucks:100 does:65 fawns. Survey results were poor, likely due to very poor conditions. The lack of snow and warmer temperatures kept deer at higher elevations and in the trees where they were not as detectable. Neither Nevada nor California biologists were able to complete spring aerial surveys. Therefore a modeled winter fawn loss of 29% was estimated. Typical of the Carson Front units, the buck point-class distribution is indicative of a buck segment in the population higher than that observed during surveys. As in past surveys, the majority of deer in Unit 194 were found at tree-line and from Highway 431 north to Verdi. The deer in Unit 196 usually concentrate on the south facing slopes of Peavine Mountain.

Habitat

Housing development and the accompanying human recreation associated with it are the most important issues facing the Carson Front deer herds. Although there were no noteworthy fires or other catastrophic habitat changes in 2011, there have been recent fires in Units 194 and 196 which have had significant impacts on the landscape. The majority of this herd uses the eastern slopes of the Carson Range as critical winter range, migrating from their Tahoe basin summer range.

Population Estimates and Trend

The 2012 modeled pre-hunt population estimate is approximately 1400 and has been at this level for the last few years. Preliminary telemetry data suggest many more of the deer belonging to the 2 Carson Front deer herds reside in Nevada on a year-round basis than previously believed. Over the last few years this deer herd has appeared healthy with adequate fawn recruitment rates and generally good age cohort distribution. Despite this, the long-term trend 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 Herd; Storey, Washoe and Lyon Counties

Report by: Carl Lackey

Survey Data

Formal post-season and spring 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 is being developed for both commercial and residential purposes. 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 Estimates and Trend

There is no modeled population estimate for this herd. The population estimate is derived only from harvest statistics. Deer are fairly common along the Truckee River corridor mostly on private lands. Significant portions of the unit contain monocultures of pinion-juniper. The deer in this unit spend a considerable amount of time in these pinion-juniper 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 indicates there is an adequate number of deer for the tags sold. The population estimate for the unit is 500 animals

and thought to be stable at this time. A population estimator based on total buck harvest was used to generate this estimate.

Units 201, 202, 204 – 206: 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 2012 and resulted in the classification of 515 mule deer. This sample consisted of 83 bucks, 306 does, and 126 fawns for sex and age ratios of 27 bucks:100 does:41 fawns.

A spring ground survey was conducted by California Fish and Game and Nevada Department of Wildlife personnel in late March 2012, and resulted in the classification of 715 deer. This sample consisted of 551 adults and 164 fawns, yielding a ratio of 30 fawns:100 adults.

Habitat

In the winter of 2011-12 below average precipitation degraded the health of sagebrush and mountain brush communities. New leader growth produced in the summer of 2011 was negated by the dry conditions during the winter of 2012.

Pinyon juniper (PJ) woodlands keep expanding leading to a loss of productivity of browse species. In order to slow the expansion of pinyon-juniper, the China Camp project is currently underway to remove PJ. Additional objectives of this project include revival of sagebrush communities, as well as increasing water flow at several spring sources within the project area. The 700 acre project is relatively small in comparison to the entire landscape but still contributes to the overall health of the sagebrush ecosystem.

The Bald Mountain prescribed fire is recovering well and is showing a remarkable response in bunch grasses. Future field trips to the area will confirm how successful sagebrush is at reestablishing into the burned area.

Expansion of the Esmeralda mine in the Bodie hills will continue to alter mule deer habitat. A new open pit mine may hinder the migration of mule deer moving from California into Nevada. Once mining is complete, successful reclamation may provide some limited habitat for mule deer. Current mine expansion is into pinyon and juniper habitat which provides little for this mule deer herd.

Population Status and Trend

The smaller sample size for 2011 can be attributed to ground surveys versus aerial surveys. Also, because of the mild winter, deer were less concentrated on winter range. Small groups of deer were spread over a large geographic area making it harder to find large groups that normally occupy winter range. Because of the light accumulation of snow within the winter months of 2011-12 many deer were still located on summer range in California well into January. This year's fawn recruitment rate of 30 fawns:100 adults should maintain the herd and allow for some moderate increases of this population.

Hunter success for the Area 20 herd for 2011 was 55% with 43% of the harvest being comprised of 4-point or better bucks. It was surprising to see such a high success rate in 2011 considering a large percentage of the mule deer from California never migrated into Nevada. The pre-hunt adult deer population estimate for the Walker River interstate herd is approximately 5,900 animals. Nevada's apportionment of the herd is approximately 30% based upon the percentage of the herd that occupies winter range in Nevada. Harvest objectives are then distributed between Unit groups 201 & 204 and Unit groups 202, 205, and 206.

Unit 203: Mason and Smith Valley Resident Herds; Lyon County
Report by: Jason Salisbury

Survey

A spring mule deer composition survey was conducted from the ground in March 2012 on the Mason Valley Wildlife Management Area (MVWMA) along with Smith Valley. This survey resulted in the observation of 96 mule deer with a fawn ratio of 37 fawns:100 adults.

Population Status and Trend

The Unit 203 mule deer herd is believed to be stable at this time. One indicator of stability is the 1331 any legal weapon hunt. The 2011 overall hunter success rate was 63% with 35% of the bucks with 4-point or better racks. The percentage of 4-point or better bucks is consistent with the 14 year average of 36%.

The observed spring recruitment rate of 2011 will maintain current herd dynamics. This population persists in both urban and rural settings. Over the last 10 years, the increasing trend within Mason Valley is to convert alfalfa farms into garlic and onion farms which provides little for mule deer in terms of cover or forage. The best mule deer habitat within Mason Valley consists of alfalfa fields surrounded by thick salt desert shrub communities. The MVWMA is one of the last areas in the valley that has this habitat type and provides the most to this mule deer herd. Because of all the fragmentation of habitat within Mason Valley, this population may never be able to fully recover unless areas are set aside and allowed to revert to a salt desert shrub community.

Units 211, 212: Esmeralda County
Report by: Tom Donham

Survey Data

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

Population Status and Trend

Based upon harvest data, random observations, and informal survey data, the MA 21 mule deer population appears to have remained static at relatively low levels for quite some time. Over the past decade or more, drought conditions have plagued this portion of the state. In addition, conversion of sagebrush habitats to pinyon and juniper woodland as well as the loss of productivity of browse species due to aging has impacted the quantity and quality of available habitat.

Climatic conditions throughout much of central and west central Nevada saw a noticeable improvement beginning during the summer of 2010 and continuing through late spring/early summer 2011. Considering the improvements in fawn production and recruitment rates experienced by herds in adjacent areas in response to this improvement, the MA 21 population is expected to have experienced the same.

While the MA 21 mule deer population experienced a moderate increase during 2011, a return to drought conditions beginning during the summer of 2011 and continuing through early 2012 will likely negate the recent boost. Presently, the population estimate is approximately 375 adult animals.

Units 221 - 223: Northern Lincoln and Southern White Pine Counties
Report by: Mike Scott

Survey Data

Post season aerial surveys were completed in December 2011 with a total of 1,300 deer observed. These were classified as 207 bucks, 679 does, and 414 fawns which provided a ratio of 30 bucks:100 does:61 fawns.

Spring deer surveys were completed in March 2012 with a total of 1,317 deer observed. These were classified as 882 adults and 435 fawns which provides a ratio of 49 fawns:100 adults.

Habitat

Mule deer in Area 22 have multiple challenges ahead with regard to habitat. Large expanses of the area are covered by dense pinyon-juniper forest which offers little forage for mule deer. A large new powerline is being constructed that cuts through mule deer winter range and migration corridors. Various renewable energy projects are proposed throughout the southern portion of the area, where the bulk of the winter range is located. Water is still being proposed for transfer out of the area as well. The Silver State Trail continues to attract OHV users to crucial deer winter range and through migration corridors. Shed hunters are using ATV's to grid the winter ranges in search of shed antlers, increasing stress on the deer. Wild horse gathers during the spring of 2011 helped, but wild horse numbers remain well over AML. Above average precipitation in Area 22 during the spring of 2011 resulted in improved range conditions, however, the year-to-date totals for 2012 appear to be well below average.

Population Status and Trend

The population is estimated at approximately 4,400 adult animals.

Unit 231: Wilson Creek Range; Northeastern Lincoln County
Report by: Mike Scott

Survey Data

Post-season aerial surveys were completed in December 2011 and resulted in a total of 1,171 deer observed. These were classified as 150 bucks, 639 does, and 382 fawns which provided a ratio of 23 bucks:100 does:60 fawns.

Spring deer surveys were completed in March 2012 and resulted in a total of 1,075 deer observed. These were classified as 726 adults and 349 fawns which provides a ratio of 48 fawns:100 adults.

Habitat

It appears the proposed wind energy project on Table Mountain, Mount Wilson, and White Rock Mountain is delayed for the time being. This project was proposed in the worst possible place for mule deer. Table Mountain and Mount Wilson hold the bulk of the high elevation fawning and summer habitat for mule deer, as well as key elk and sage grouse habitats. Shed antler hunters are rapidly becoming a major threat to mule deer due to the timing and methods of searching for sheds. Some shed hunters begin riding ATV's extensively through crucial deer winter range beginning in January and continuing through May. Although no studies have been done, it appears there may be more use days being spent shed hunting than there are for deer hunting. Multiple other threats to mule deer habitat include pinyon-juniper expansion, shrub senescence, water transfers, and development in crucial mule deer winter range. Although BLM gathered 850 feral horses out of Area 23 in 2011, the number of horses remains well above the AML. Three new water developments constructed using both contractors and volunteer labor will benefit mule deer were. Average precipitation during 2011 should result in moderate-to-good range conditions for mule deer during the spring of 2012, although year-to-date totals are below average.

Population Estimates and Trend

The population is slightly up compared to last year with a 2012 computer-generated population estimate of 3,300 adult mule deer.

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

Report by: Mike Scott

Survey Data

Post-season aerial surveys were completed in December 2011 and resulted in a total of 447 deer observed. These were classified as 66 bucks, 224 does, and 157 bucks which provides a ratio of 29 bucks:100 does:70 fawns.

Spring surveys were completed in March 2012 and resulted in a total of 226 deer observed. These were classified as 73 fawns and 153 adults which provides a ratio of 48 fawns:100 adults.

Habitat

Habitat conditions should be good during the spring of 2012 due to above average precipitation during 2011. Dense pinyon-juniper forest throughout much of this area limits the amount of forage available for mule deer. Feral horses in unit 241 are extremely high which results in degraded mule deer habitat, despite BLM reducing the AML to zero. Five new water developments have been built that should benefit mule deer and other wildlife.

Population Estimates and Trend

The 2012 population estimate is 1,100 adult animals.

Units 251 - 253: South Central Nye County

Report by: Tom Donham

Survey Data

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

Population Status and Trend

Management Area 25 (MA 25) has a limited amount of good quality mule deer habitat. The greatest amount and best quality habitat, and therefore the majority of the deer population in MA 25 occurs 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.

Mule deer populations in northern Nye County experienced improved production and recruitment rates in 2011 in response to very favorable moisture receipts and the resultant enhancement in habitat conditions. Due to the proximity of Unit 251 to these other herds, it is expected that the same phenomenon occurred in the northern portion of MA 25.

Although the MA 25 deer herd benefited from an improvement in climatic conditions, and experienced some moderate increases in the short-term, a return to severe drought during late 2011 and continuing through early 2012 will likely nullify these gains. Presently, the MA 25 population estimate is approximately 375 adult animals.

Units 261 – 268: Clark and Southern Nye Counties
Report by: Patrick Cummings

Survey Data

Mule deer habitat in Area 26 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 valid model that would demonstrate herd population dynamics and generate population estimates.

Habitat

Area 26 is in 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.

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

The mule deer population in Area 26 likely experienced a decline as result of drought conditions that persisted from November 2005 through November 2009. During this period, mule deer coped with reduced availability of quality forage, and subsisted largely on cured and woody vegetation low in digestibility and nutritive value. Thus, the consequences of mule deer in Area 26 surviving on a lower nutritional plane were reduced reproduction and recruitment.

Drought conditions abated for a period of several months beginning in December 2009. In 2010, high precipitation receipts in winter and subsequent spring months resulted in increased availability of nutrient-rich forbs, browse tips, and grasses. However, in the absence of monsoonal storms, summer months in 2010 were notably dry.

In 2011, although overall precipitation receipts were lower than in 2010, storm development was well distributed throughout much of the year and involved summer monsoonal activity. Subsequently, the winter of 2011-12 was notably dry. As of this writing in April 2012, environmental conditions are fair due to limited winter and spring storms. Thus far in 2012, despite precipitation producing storms in March, precipitation receipts in January and February were below normal, and the likelihood for an overall dry year is high. In the seasonal drought outlook, the National Weather Service foresees drought conditions to persist or intensify.

Units 271, 272: Southern Lincoln and Northeastern Clark Counties
Report by: Mike Scott

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. Better mule deer habitat is found in the Virgin Mountains; however, 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. Large-scale wildfires likely opened up some habitat in recent years, which appears to be recovering. Above-average precipitation during 2011 should result in good habitat conditions in Area 27.

Unit 291, Pinenut Mountain Herd: 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 is stable over the short-term but has declined significantly over the long-term.

Habitat

Loss of habitat and access to available and adequate habitat in this unit continue 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. Significant portions of the unit are dominated by pinion-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.

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 more ideal habitat conditions. Many of the deer, particularly in the northern part of the management area, are resident deer. The 2012 population estimate for Area 29 based on buck harvest, was estimated at 500 adult animals. It is well below historic levels recorded for the Pinenut Mountains. The loss of travel corridors for mule deer due to Highway 395 traffic and housing developments are the primary cause for this reduction in deer numbers.

PRONGHORN ANTELOPE

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

Report by: Chris Hampson

Harvest Results

During the 2011 hunting season, a total of 310 buck antelope were harvested within Management Areas 1 & 2. Pronghorn hunters in Washoe County experienced better hunting in 2011 with success rates increasing between 3 and 5 percent in all hunt units. The success rates for resident rifle hunters in Washoe County ranged between 62 and 84 percent. The harvest of 32 buck antelope in hunt unit group 021, 022 was an all time high. Pronghorn harvest in hunt units 011 and 015 were the highest harvest levels since the early 1990's.

Survey Data

Helicopter surveys were conducted in early September 2011. NDOW biologists classified a total of 1,115 pronghorn that had sex and age ratios of 30 bucks:100 does:41 fawns. In 2010, 1,256 animals were classified with ratios of 44 bucks:100 does:44 fawns. In 2009, similar ratios were observed as a total of 902 animals were classified with ratios of 31 bucks:100 does:57 fawns.

The buck ratio in Washoe County dropped from a high of 44 bucks:100 does to 30 bucks:100 does this year. The 2010 buck ratio was felt to be high due to excellent recruitment that was documented in 2009. This resulted in good numbers of yearling bucks being recruited into the population the following year. The buck ratio in hunt Unit 011 was felt to be low this year due to the smaller sample obtained during the survey. Pronghorn in Unit 011 were more difficult to locate this year as antelope left the higher elevations summer range earlier than normal and headed off towards their distant winter ranges. Cooler temperatures the week prior to the surveys were thought to have triggered the early movements.

In sharp contrast to the 2010 composition surveys, fawn ratios were observed to be very consistent between the various Washoe County hunt units in 2011. In 2010, fawn ratios ranged between 34 and 62 fawns:100 does. This year's observed fawn ratios in Management Areas 1 and 2 ranged between 39 and 44 fawns:100 does. Also, in big contrast to the proceeding year, the large lakes and reservoirs in Hunt Unit 011 held at least some water through the summer of 2011. In 2010, a majority of these large lakes were completely dry. These upper elevation lakes and reservoirs are important summer fawning habitat for pronghorn in Hunt Unit 011.

Table 1. 2011 Post-season pronghorn composition for Washoe County.

Unit/Unit Group	Bucks	Does	Fawns	Total	Bucks/100 Does/Fawns
011	31	132	53	216	24/100/40
012-014	86	273	107	466	32/100/39
015	66	215	94	375	31100/44
021-022	11	33	14	57	33/100/43
2011 Totals	**194**	**653**	**268**	**1,115**	**30/100/41**
2010 Totals	294	668	294	1,256	44/100/44

Habitat

Significant moisture received during the winter of 2010-11 helped to improve habitat conditions throughout Washoe County. This very wet winter followed several years of extremely dry conditions that

occurred between 2007 and 2010. This much needed precipitation allowed for improved forage quality and increased the amount of water available to pronghorn.

However, the winter of 2011-12 has thus far been well below normal for precipitation and snowfall. The normally wet months of December and January were extremely dry and very little moisture was received. Temperatures reached 60 degrees on several occasions. As of this writing, various weather station locations within the Northern Great Basin are showing between 50 and 75 percent of normal for total precipitation. Stream flows are also predicted to be well below normal this coming spring. If the dry conditions persist, seeps and springs that are important to pronghorn and other wildlife may experience reduced flows this coming summer.

The Bureau of Land Management has conducted several horse gathers within Washoe and Humboldt Counties over the past few years. The removals have helped reduce intense competition between feral horses and wildlife for food, water and space. The competition is especially magnified during dry years and during late summer when temperatures concentrate wildlife and feral horses on the limited number of water sources. The removal of the horses will allow seeps and springs that are in poor shape due to horse trampling and overgrazing a chance to slowly heal and improve in condition.

Population Status and Trend

Pronghorn populations in northwestern Nevada have been stable to increasing over the past several years. The recruitment observed this past year is above maintenance levels and will allow Washoe County pronghorn populations to continue on an upward trend. Quota recommendations for the 2011 hunting season will reflect that trend.

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

Report by: Ed Partee

Survey Data

In mid-September 2011 post-season aerial composition surveys were conducted in Management Areas 3 and 5. The total number of antelope observed during these surveys was up 75% from last year's total. The total number of animals in Unit 031 almost doubled from last year's survey. Unit group 032-035 showed a slight decrease. Pronghorn numbers increased in Unit 051 from last year.

Table 1. 2011 Post-season pronghorn composition for Humboldt County

Unit	Total	Bucks:100 Does: Fawns
031	393	25:100:39
032-035	319	18:100:39
051	196	46:100:19
2011 Totals	**908**	**27:100:35**
2010 Totals	686	23:100:30

Despite increased survey numbers, buck ratios in 4 of 5 units were below the 5-year average. Fawn ratios were still within the 5-year average in most units except Unit 051 which dropped significantly below the past 5-year average.

Habitat

Winter precipitation during 2011-12 has been well below average. Range conditions are expected to be extremely dry by summer based on the lack of moisture received as of April 1st. Much spring moisture will be needed to sustain these herds throughout the coming year. Spring moisture will be vital to fawn survival throughout the coming year.

Population Status and Trend

Fawn ratios in Management Area 3 were good at 39fawns:100 does and should result in a population increase. The observed fawn ratio in Unit 051 was well below maintenance and is expected to result in a decline in this population. Good success rates have been documented since the start of the horns-shorter-than-ears hunt several years ago. These hunts seem to be keeping populations from increasing and staying within habitat capabilities. The amount of moisture received in any given year greatly influences the trend of these herds.

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

Report by: Chris Hampson

Harvest Results

Eighty-two buck antelope were taken by Sheldon pronghorn hunters during the 2011 hunting season. This represents the highest buck harvest on the Sheldon since the 1992 hunting season. Late season rifle hunters enjoyed an 85% success rate. Resident archery hunters on the Sheldon also had very good success as the 64% success rate indicates. Non-resident rifle hunters had the highest success rate with all 12 tag holders reported being successful. Buck quality remains strong on the Sheldon with 55% of the hunters harvesting a buck with 15 inch or larger horns.

As has been the case for many years, the early/late, week-long, split-season scenario for the Sheldon will once again be available to all pronghorn rifle hunters in 2012. Also, a new antelope muzzleloader hunting season has been approved by the Wildlife Commission and will run from September 25th thru October 4th 2012.

Survey Data

Pronghorn surveys were conducted following the closure of the hunting season in early September 2011. Composition ratios from the large sample was 26 bucks:100 does:34 fawns. Additional time was expended flying pronghorn this year since the Western Region conducted separate bighorn and pronghorn flights. Previously, sheep and antelope flights were combined and in some cases did not allow sufficient time to get large samples for both species. Sample sizes over the past 2 years have risen due to increased survey effort. This year's sample of 722 pronghorn was obtained in just a little less than 2 hours of survey time and was the highest sample obtained since 2002.

The Sheldon received much needed moisture during the winter of 2010-11 that helped to re-fill the small lakes and reservoirs on critically important upper elevation summer ranges. During the drought years of 2007 thru 2010, these same lakes and reservoirs were completely dry by late summer. Pronghorn distribution changed dramatically during these drought years as pronghorn moved off of the upper elevation habitats and sought out better forage and more reliable water sources. In 2011, with the lakes and reservoirs full of water, pronghorn returned to these traditional upper elevation summer ranges.

The fawn ratio of 34 fawns:100 does from this year's survey is just slightly higher than the 30 fawns:100 does classified in 2010. Fawn recruitment over the past 5-year period averaged 30 fawns:100 does. With minor fluctuations from year to year, the Sheldon pronghorn population has been static over the past 5-year period. Overall, pronghorn numbers remain moderately high on the Sheldon.

The buck ratio of 26 bucks:100 does was thought to be lower due to the fact that surveys occurred immediately following the rifle season. Buck antelope were observed to be widely scattered due to hunting pressure from the recently completed hunting season. The buck ratio on the Sheldon is believed to be in the mid to upper 30's. The current population model for the Sheldon pronghorn herd also projects a higher buck ratio.

Habitat

Abundant moisture received during the winter of 2010-11 improved habitat conditions throughout the Sheldon in 2011. This much needed precipitation helped reverse dry conditions experienced over the previous 4 years. Important lakes and reservoirs on the Sheldon had dried completely during this period. The improvement in habitat conditions allowed pronghorn to remain on upper elevation tables throughout the summer months. Improved forage conditions and water availability were the most notable changes observed during this past year.

Unfortunately, the winter of 2011-12 has thus far been very dry and precipitation receipts are well below average. As of this writing, the Sheldon has received 3.1 inches of precipitation between October 1, 2011 and March 1, 2012. Unless significant moisture is received during the months of March, April and May the winter precipitation totals will remain well below average. Springs associated with Big Springs Reservoir began to flow again this year and the body of water is now over 50% full. The reservoir dried up completely over the past few years during the extended dry period.

In August of 2011, USFWS personnel continued their efforts at removing excess horses from the Sheldon. The Sheldon is planning for additional gathers over the next few years and these gathers may occur during pronghorn hunting seasons. Removal of horses will help to alleviate competition with wildlife for food, water and space. Riparian areas will benefit and slowly improve in condition as horse numbers are brought under control.

Population Status and Trend

The Sheldon pronghorn population remains at what is considered to be moderately high levels. However fawn recruitment remains at or just above maintenance levels and had averaged 30 fawns:100 does over the period between 2006 and 2011. Population numbers remain stable and good numbers of bucks are available for harvest. The total quota for the Sheldon antelope hunt will remain similar to the 2011 levels.

Units 041, 042: Western Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Ground surveys were conducted during late September and early October 2011. These surveys resulted in the observation of a record sample of 976 animals. Results are summarized in Table 1.

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

Year	Bucks	Does	Fawns	Total	Bucks:100 Does:Fawns
2010	92	240	104	436	38:100:43
2011	**169**	**532**	**275**	**976**	**32:100:52**
5-year average	139	334	149	622	42:100:45

The 2011 fawn ratio is considered high and greater than both short-term and long-term averages. The post-season buck ratio of 32 bucks:100 does is near the harvest objective.

Habitat

Water sources in Unit 041 continue to remain a concern, especially during the summer months. These include Granite Springs, Sage Hen Spring, Tunnel Springs and Stone House Canyon in the Nightingale Range. Again this past summer, spring sources were routinely dry or nearly dry from low output and overuse from feral horses, burros and livestock. NDOW collaborated with BLM and the permitee to improve Granite Springs and Sage Hen Springs. Another major water source issue occurred during August on the Egbert

Canyon stock tank line (Unit 041 & 042). These sources went dry during early August with documented use of over 100 antelope. A broken pipe and tampering was believed to have caused these sources to become inoperable. NDOW worked with BLM and the permitee to eventually rectify this problem by late August. However, in the mean time NDOW hauled water to keep stock tanks full for animal use. Biologists are identifying areas in which big game guzzlers would aid in alleviating some of these reoccurring water issues.

Several wildfires occurred within this unit group last year. In July 2011, 2 wildfires took place in the Truckee Range. The Nixon fire was human caused and burned 11,195 acres and the Narrows fire was caused by lightning and burned 3,500 acres. These wildfires burned primarily cheatgrass and are not thought to negatively affect antelope use in these areas. The third wildfire was called the Last Chance/Seven Troughs fire; it was human caused and burned 21,788 acres. Re-vegetation efforts included aerial and drill seeding species including forage kochia, Wyoming sagebrush, Sandberg bluegrass, wheatgrass varieties and fourwing salt brush. Ironically, a lightning caused wildfire occurred in this same area last year but only burned 3,842 acres. Moreover, many parts of this area burned in 2000. Antelope use within the burned area should increase.

Population Status and Trend

Fawn ratios have averaged 47 fawns:100 does since 2009. These high ratios have produced an annual growth rate in this herd of 7%. Western Pershing County's antelope herd is currently approaching 1,900 animals and is demonstrating an increasing population trend. The future outlook for this herd remains positive. However, future concerns limiting population growth will be available water sources supplying enough water to antelope during the July-September timeframe.

Units 043 - 046: Eastern Pershing and Southern Humboldt Counties

Report by: Kyle Neill

Survey Data

Ground surveys are conducted during the winter months when antelope are concentrated into large groups. Composition surveys occurred over a 3 day period in early February 2012. This survey yielded a sample of 174 animals and resulted in sex and age ratios of 43 bucks:100 does:31 fawns. Similar to last year, antelope were found in every unit except 045.

Population Status and Trend

Eastern Pershing County's antelope herd is estimated at approximately 210 animals. The 2012 population estimate represents a 31% increase over last year's estimate and is based on high survey results, field and hunter observations. Immigration into the unit group from Area 18 has been documented. In 2011, hunters harvested 2 ear-tagged bucks that were released as fawns into Dixie Valley, Unit 182 in 2007. These bucks were harvested in Dun Glen Flat, Unit 044 and Pumpernickel Valley, Unit 046. Biologists also believe some antelope have immigrated in from Area 15 and utilize the east side of the Tobin Range/Buffalo Valley and near Pumpernickel Valley/Buffalo Mountain.

This pioneering antelope herd has been growing and expanding since being documented in 1998. Surveys, sight records and field observations from 1998 to current indicate core herds around Lovelock Prison/Coal Canyon Road to Dago Pass turnoff, Limerick Canyon and Coyote Canyon north to Creek Hill in Unit 043. Primary use areas in Unit 044 are Dun Glen Flat, Table Mountain, Willow, Inskip, Milch, Reed and Spaulding Canyons. Areas of antelope utilization in Unit 045 include the base of Miller Basin north to Pollard Canyon on the west side of the Tobin Range and Buffalo Valley on the east side of the range. Core Use areas in Unit 046 are Smesler Pass, Buffalo and Enda Mountains and around Pole Creek in the Sonoma Range. A non-resident any legal weapon Hunt 2251 season was added for 2012. 2012 marks the second year that antelope will be hunted in Units 043-046.

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 October 2011. A sample of 604 pronghorn was obtained; yielding ratios of 43 bucks:100 does:33 fawns. The sample size was slightly above last year's, however it was well below the 10-year average (Table 1). The fawn ratio was the lowest recorded since the devastating winter of 1993.

Table 1. Observed buck ratios, fawn ratios and sample size for pronghorn in Units 061-073.

Parameter	2011	2010	2001-2010 Average
Bucks:100 does from fall surveys	43	49	42
Fawns:100 does from fall surveys	33	47	49
Sample size from fall surveys	604	561	714

Habitat

Above average snowpack and spring precipitation provided excellent range conditions through August 2011. As of April 1, 2012, the snowpack for northern Elko County is approximately 65% of normal. No fires burned in this unit group in 2011.

Population Status and Trend

The cool wet spring experienced in northern Elko County may have contributed to low fawn recruitment observed this year. May 2011 was characterized as having 16 nights below freezing with 2.7" of precipitation (Big Bend SNOTEL). The open winter facilitated good over winter survival as pronghorn have not had to concentrate on southern winter ranges.

Three of the radio-collared does marked last year on winter range north of Carlin in Unit 064 spent the entire year in the Adobe Range. One of the 15 ear-tagged bucks was observed near Sunflower Flat in Unit 061 during the fall survey.

Last year the pronghorn population was at the estimated carrying capacity of the winter range. Doe and buck harvest during the 2011 hunting season worked to keep the herd at a sustainable level. Harvest objectives will remain focused on keeping the pronghorn population within the confines of the unit group's winter carrying capacity of approximately 1,100.

Units 065, 142, portion of 144: Southern Elko County, Northern Eureka County
Report by: Scott Roberts

Survey Data

The post-season antelope survey was conducted from the ground in December of 2011. A total of 438 antelope was classified resulting in age and sex ratios of 56 bucks:100 does:36 fawns. This was a record sample for the unit group even with only a limited portion of Unit 142 and none of Unit 144 being surveyed.

Habitat

Approximately 35,000 acres of habitat burned within this unit group during the summer of 2006. The Webb and Sneekee fires in particular affected range used by antelope during the summer and fall months. Several fires burned areas that were previously burned during fires in 1999. These burns continue to provide good summer and fall pronghorn habitat. Most of the important antelope winter habitat in this

unit group was unaffected by the burns. Newmont Mining Corporation began developing the Emigrant Project this year. This new mine is located east of the existing Rain Mine on the northern end of Unit 065. The effect on antelope habitat appears to be minimal, but it will increase traffic and the level of disturbance within the area.

Population Status and Trend

The record survey and high buck ratio indicates that this population has been underestimated in past years. This herd continues to exhibit a steady population growth. With the increase in the population estimate in this unit group, tag quotas are expected to be higher than last years.

Unit 066: Owyhee Desert; Northwestern Elko County

Report by: Matthew Jeffress

Survey Data

A July aerial survey of the YP and Owyhee Desert and an August aerial survey of the Snowstorm Mountains were conducted in 2011. The 066 pronghorn herd has consistently suffered from chronic low fawn ratios with a 10-year average of 25:100 does. This year was no different. A sample of 294 pronghorn was obtained; yielding ratios of 39 bucks:100 does:16 fawns. The low elevation YP/ Owyhee Desert portion of the survey yielded ratios of 12 bucks:100 does:2 fawns. The dynamics between this herd and adjacent Nevada, Oregon and Idaho herds is not fully understood. A study to determine limiting factors, including causes of fawn mortality and immigration from adjacent herds would greatly enhance the ability to manage this population.

Habitat

No large landscape scale changes occurred in 2011. 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. 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.

Population Status and Trend

The population estimate for Unit 066 is slightly lower than last year's. The 2011 harvest rates dropped from a success rate of 93% for the resident general season in 2010 to 71% in 2011. Quota recommendations for the 2012 season should be similar to 2011.

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

Report by: Matthew Jeffress

Survey Data

A winter ground survey was conducted in January 2012. A sample of 504 pronghorn was obtained; yielding ratios of 40 bucks:100 does:46 fawns (Table 1). The sample size was well below average, possibly due to abnormal winter distribution due to a lack of snow and above normal temperatures. A relatively small proportion of the sample was obtained from winter range. Much of the herd was still utilizing summer and transitional ranges well into January of this year.

Table 1. Observed buck ratios, fawn ratios and sample size for pronghorn in Units 067,068.

Parameter	2011	2010	2001-2010 Average
Bucks:100 does from winter surveys	40	41	44
Fawns:100 does from winter surveys	46	37	34
Sample size from winter surveys	504	766	779

Habitat

Above normal precipitation received during the winter and early spring of 2011 provided phenomenal range conditions. Pronghorn entered this winter in great condition. The open winter led to good overwinter survival.

Similar to the Area 6 deer herd, pronghorn have been greatly affected by wildfires and the loss of crucial sagebrush communities. This year an additional 212,000 acres of rangeland burned in Units 067-068 including 208,000 acres that were lost the first week of October. 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 this fall and winter. The lack of winter precipitation may compromise the establishment of sagebrush within the seeded areas however spring storms across much of western Elko County are providing much needed moisture.

Although the majority of pronghorn were not forced onto winter range this year, 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, the survivorship of several hundred pronghorn could be compromised during a moderate to severe winter.

Population Status and Trend

The 067-068 population estimate is slightly higher than last year's. 2011 harvest levels were successful at maintaining the population within the carrying capacity of the winter range and NDOW will attempt to do the same with 2012 quota recommendations.

Units 072, 074, 075: Northeastern Elko County

Report by: Kari Huebner

Survey Data

Ground surveys resulted in 337 antelope classified in Mid-August 2011. The resulting sex and age ratios for the sample were 24 bucks:100 does:25 fawns. The buck ratio was down from 33 bucks:100 does observed last year. Fawn production was down 32% from the past 10-year average of 37 fawns:100 does. 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. A large amount of area burned (nearly 700,000 acres) in the northern end of units 072 and 074 including the Murphy, Scott Creek, and East Slide Rock Ridge fires. In Unit 075 approximately 38,000 acres burned in the Hepworth Fire. On summer range the effects of these fires are proving to be beneficial with perennial grasses and forbs dominating the recovering burned areas; however on winter range, one of the effects has been less available brush on which antelope depend for winter survival.

Population Status and Trend

Overall, this pronghorn herd appears to be stable. It appears that the cold temperatures and wet conditions during the spring may have negatively impacted fawn survival in the northeastern portion of the state this past year. Now that it has been several years since large fires occurred in the area, pronghorn are able to take advantage of the increase in perennial grasses and forbs. With the extensive seeding efforts in Nevada and Idaho within these burned areas, the herd's carrying capacity is expected to increase and expand in future years.

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

Report by: Kari Huebner

Survey Data

Aerial surveys conducted in August 2011 resulted in 353 antelope classified. This was a larger sample size than is usually classified from the ground. The resulting sex and age ratios for the sample were 35 bucks:100 does:16 fawns. The buck ratio was slightly lower than last year's ratio of 37 bucks:100 does and the fawn ratio was down from the previous year's ratio of 21 fawns:100 does.

Habitat

Major fires impacted this herd's habitat in 2007. The West Basin and Eccles fires (81,741 acres) impacted a significant portion of Unit 076, and the West Fork Fire (162,151 acres) burned the majority of Unit 081. The long-term effects of these fires are proving to be beneficial to pronghorn as perennial grasses and forbs dominate the recovering burned areas. However, the loss of sage-brush communities could limit this herd during moderate to severe winters.

Population Status and Trend

Overall, this pronghorn herd appears to be stable. It appears that the cold temperatures and wet conditions during the spring of 2011 may have negatively impacted fawn survival. This herd has been utilizing the northern portions of Unit 076 more than in previous years with some possible immigration of antelope from Idaho, most likely as a result of the burns. Areas that burned in 2007 in the northern portion Unit 081 are also showing increases in antelope use. 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

Survey efforts for this unit group were reduced compared to previous years due to time constraints. The open winter had antelope widely scattered and many areas that have historically held high densities of antelope had little to no use during the survey. A total of 329 animals were classified in December 2011 yielding sex and age ratios of 31 bucks:100 does:21 fawns.

Habitat

The winter of 2010-11 produced well above average precipitation in Eastern Nevada (National Weather and Climate Center website) which provided antelope with quality spring and early summer habitat. Summer moisture was minimal, and dry conditions have persisted throughout the winter. At the time of reporting, eastern Nevada is at 82% of average water year precipitation where at the same time last year it was at 176% (National Water and Climate Center website). Water availability throughout the year will continue to be an issue for both animal water requirements and forage production. Antelope have been especially challenged in areas where they face stiff competition from wild horses for the little water that is available. The Department of Wildlife is in the process of identifying and developing water

developments in these unit groups which would provide more consistent water sources for pronghorn on a year-round basis and protecting perennial water sources from degradation.

Population Status and Trend

This year's fawn ratio was only 70% of the long-term average and mostly likely due to the cold, wet weather that the area experienced at the end of May and early June of 2011. The 2012 population estimate of approximately 1,000 pronghorn is very similar to last year's estimate. The average fawn ratio for the past 5 years has been 26 fawns:100 does. This relatively low recruitment rate is the reason for the stagnant nature of this population.

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

Report by: Caleb McAdoo

Survey Data

Units 102, 104, and 108 were surveyed from the ground in mid-October of 2011. A total of 719 animals were classified, yielding sex and age ratios of 38 bucks:100 does:35 fawns. Observed buck ratios were almost identical to last year's observations. Thirty-nine percent of the 159 bucks observed were yearling bucks.

Habitat

The spring of 2011 provided significant moisture and cool weather, facilitating a strong onset of forbs and grasses. Summer moisture was limited and as such, summer habitat conditions were not ideal. Despite having good spring moisture in 2011, water availability throughout the year continues to be an issue for both animal water requirements and forage production as the winter of 2011-2012 has remained dry. Wild horse competition with antelope continues to be a problem for this unit group, especially in units 104, 108 and 144^{B}.

Population Status and Trend

The current population estimate for the 101–104, 108 and 144^{B} unit group has undergone significant revisions in the last 2 years to more accurately depict population demographics. This year's population estimate is 950 animals, up from last year's estimate of 800. Until 2007, this population showed a positive upward growth trend, however; the subsequent 3 years of low fawn ratios resulted in a sharp decline followed by population stability for the last 2 years. Dry range conditions in 2007 were likely the culprit in the low fawn recruitment observed in 2008, which was one of the lowest observed in the last 25 years. Fawn recruitment of 23 fawns:100 does observed in 2009 showed an increase over the prior 2 years, but was still well below the long-term average of 34 fawns:100 does. Fawn recruitment for 2011 was 35 fawns:100 does, which continued the stabilizing trend of the population.

Units 111 – 114: Eastern White Pine County

Report by: Curt Baughman

Survey Data

The 2011 post-season survey was conducted from the ground Jan. 6 to 18. Conditions were extremely dry, warm and open. Pronghorn distribution resembled that normally found in the fall. Area coverage was excellent. The sample of 1,220 pronghorn yielded sex and age ratios of 30 bucks:100 does:34 fawns. For comparison, 1,218 pronghorn were classified during the 2010 postseason survey with ratios of 27 bucks:100 does:24 fawns. Sample composition averaged 36 bucks:100 does:30 fawns for the previous 10 surveys. Fawn recruitment was above average for the first time since the spring of 2006.

Habitat

Following a dry 2010 summer, the 2010-11 winter brought more than twice the average snowfall to east-central Nevada including record amounts for November and December. This was the second consecutive winter with more than twice average snows. However unlike the 2009-10 winter, a fortunate period of moderation came in late January 2011 which improved winter conditions for these resilient animals. It does not appear that winter mortality was substantial. Abundant moisture continued to be received through May 2011 and the 2010-11 water-year ended with over 150% of average moisture received at Ely and more than 160% recorded by local Snotel sites. Habitat conditions improved substantially in 2011 following this flush of moisture. It was fortunate that no significant fires burned through pronghorn habitat in 2011 given the tremendous growth of cheatgrass across broad areas. The recent winter was mild with unusual dry periods, however April 1 water-year precipitation levels were near average or above for much of White Pine County. Habitat projects in recent years have resulted in reduced tree-cover over many acres in north Spring and Antelope valleys. These projects will provide improved habitat values for pronghorn into the future.

A wind-energy facility with 90+ turbines is being constructed in a portion of Spring Valley that is important to pronghorn. A void in pronghorn distribution was noted in this area during the January survey and was assumed to be caused by the high amount of human activity in the area. It remains to be seen how pronghorn will utilize the area post-construction. The BLM has received an application for an additional larger site further north in this same valley.

Population Status and Trend

Between 2007 and 2011 this pronghorn herd experienced a 4-year downward trend in population. Adverse climatic conditions produced 4 straight years of below-average fawn recruitment, including the 2 lowest on record. The improved habitat conditions of 2011 resulted in above-average 2012 fawn recruitment that finally reversed the downward trend. Pronghorn regained body condition substantially in 2011 and were presented with little challenge by the recent winter. Conditions are currently very favorable for strong fawn production in 2012 and continued population growth. The modest increase in the 2012 population estimate will result in slightly higher quota recommendations for 2012 seasons.

Units 115, 231, 242: Eastern Lincoln and Southern White Pine Counties

Report by: Mike Scott

Survey Data

Ground surveys were conducted for pronghorn in this hunt unit during October 2011. A total of 287 antelope were classified, consisting of 52 bucks, 200 does, and 35 fawns. The sex and age ratios of this sample were 26 bucks:100 does:18 fawns. Antelope again seemed to be very wary during this survey with 4 groups consisting of 77 animals going unclassified.

Habitat

Habitat conditions during the survey were good due to moderate summer and fall precipitation, however, the cold, wet spring conditions during the spring of 2011 likely led to the lower observed fawn ratio. BLM has recently done large habitat projects, designed to improve habitat for sage grouse, in Lake, South Spring, and Hamlin Valleys that appear to be a benefit to pronghorn. BLM also installed a total of 8 water developments in Hamlin, South Spring, and Lake Valleys for the benefit of pronghorn. Although BLM gathered some 850 feral wild horses from Unit 231 in 2011, the numbers of feral wild horses remains well above AML. Habitat conditions across broad areas are expected to remain in a degraded condition as a result of excessive feral horse use. Continued expansion of pinyon-juniper into pronghorn habitat is likely also having some effect on pronghorn habitat.

Population Status, and Trend

The population has dropped due to low fawn recruitment over the past few years, but is still stable and should expand with reasonable weather conditions and new water developments. The computer-generated population estimate for 2012 is lower than that of 2011.

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 October and November 2011. There were 257 antelope classified; yielding sex and age ratios of 38 bucks:100 does:53 fawns. The majority of the survey was conducted in Antelope, Jakes and Little Smokey valleys with limited time spent in Railroad and Big Sand Springs valleys. In 2010 the sample was 358 antelope yielding age and sex ratios of 32 bucks:100 does:34 fawns. This year's fawn ratio of 53 was the highest recorded in this unit group in over 20 years. The 10-year-average (2001-2010) fawn ratio was 27 and has ranged from 5 to 40 during that same time period.

Habitat

Range conditions throughout occupied antelope habitat have improved in recent years due to above-average precipitation. There have been no major wildfires or other land actions to degrade the overall habitat for antelope.

Population Status and Trend

The near record buck harvest, high buck ratio and above-average fawn recruitment all indicate this antelope population is doing well. The 2012 population estimate of approximately 700 antelope is the highest estimate for this herd.

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 November and December 2011. There were 101 antelope classified; yielding sex and age ratios of 38 bucks:100 does:45 fawns. The previous survey was conducted in 2010 with 249 antelope classified; yielding ratios of 38 bucks:100 does:27 fawns. The reduced sample was due to decreased survey effort in all major valleys including: Coal, Garden, Railroad, Sand Springs and White River valleys. The average fawn ratio for years when surveys were conducted was 24 and has ranged from 6 to 45.

Habitat

Sagebrush valleys of the northern portion of this area transition into very dry Mohave Desert with desert shrub and cactus in the south. These range types are less productive than typical antelope habitats in northern Nevada. There has been above-average precipitation from 2009 through 2011 improving habitat conditions in the short term. There have been no major land actions negatively affecting the overall habitat for antelope.

Population Status and Trend

There was a record harvest of 38 bucks in 2011, a high post-season buck ratio and the highest fawn ratio recorded in 20 years. The computer modeled population estimate shows an increasing population trend in 2012 at approximately 550 animals which is a record high estimate for this herd.

Units 141, 143, 151 – 155: Eastern Lander and Eureka Counties
Report by: Jeremy Lutz

Survey Data

Post-season antelope surveys were conducted from the ground in October 2011 and February 2012. Areas surveyed included Crescent Valley, Grass Valley, Antelope Valley, Reese River Valley, and the Simpson Park Mountains. There were 573 animals classified during the surveys, yielding sex and age ratios of 54 bucks:100 does:57 fawns.

Habitat

Habitat conditions for antelope continued to improve across much of Lander and Eureka counties. Unfortunately, fall and winter precipitation for 2011-12 was well below normal. Several SnowTel sites throughout Central Nevada as of March 2012 recorded between 30-50% of average for the year.

Since 1999 over 450,000 acres have burned in Management Areas 14 and 15. Upper elevation burns have responded exceptionally well with a mixture of brush and native grasses and forbs, however, the lower elevation burns have been less successful with exotic annuals such as cheatgrass and mustard dominating the landscape. Areas that were identified as crucial wintering areas for wildlife have had extensive rehabilitation efforts undertaken with the successful establishment of desirable exotics like 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 Lander and Eureka counties.

The Battle Mountain BLM is currently working on the Battle Mountain Allotment and the Argenta Allotment evaluations for the Mount Lewis District. Completion and implementation is anticipated in 2012-13. Antelope should benefit from these management changes.

Population Status and Trend

The 2011 hunter success rate of 78% was slightly higher than last year (73%). The 2011 antelope harvest was the highest ever recorded in the unit group.

The large scale fires of 1999 have created ideal habitat for antelope with an increase of annual and perennial grasses and forbs. Precipitation patterns have been above average and winters have been relatively mild. Antelope have responded favorably. The average fawn ratio for the past 5 years was 49 fawns:100 does. This was above long-term averages and resulted in strong population growth. Future precipitation patterns will ultimately regulate both population growth and expansion.

Units 161, 162: Northern Nye, Southeastern Lander, and Southwestern Eureka Counties
Report by: Tom Donham

Survey Data

During October 2011 an aerial pronghorn composition survey was conducted in Units 161 and 162. In addition to the aerial survey, areas that were not flown were surveyed from the ground. A record sample of 339 pronghorn was observed during the survey period. The sample consisted of 79 bucks, 189 does, and 71 fawns. The observed fawn ratio represents the second year in a row of above average production, as well as the highest recorded production this herd has shown in over 10 years. The observed buck ratio indicates there are good numbers of 2-year-old and older bucks available for harvest in this portion of northern Nye County. Although the majority of animals observed during the survey reside primarily in Units 161 and 162, there is regular movement of pronghorn between these and adjacent units. This is taken into account in the population model. In comparison, the previous composition survey in 2010 documented a total of 239 pronghorn classified as 63 bucks, 130 does, and 46 fawns in Units 161 and 162.

Habitat

Wildlife habitats in Central Nevada have struggled over the past decade or more due to regularly occurring periods of drought. However, from 2009 thru the summer of 2011, very favorable climatic conditions provided for noticeable improvements in habitat conditions throughout the central portion of the state. Unfortunately, the winter of 2011-2012 has seen the return of severe drought to the area. Any improvements made over the past 2 years may be lost if conditions do not improve during the spring of 2012. Recent feral horse gathers may help alleviate some pressure on resources in a few areas, but overall, the outlook for the coming spring and summer period is somewhat discouraging.

The completion of 3 water developments in the southern portion of Unit 162 could benefit pronghorn that have been impacted by negative impacts to natural spring sources caused by feral horses and drought. The water development projects were begun in 2005 by the USFS. To date, only 1 development has been completed. The USFS has not fenced that water development and feral horses are currently utilizing it heavily. Unfortunately, this resulted in increased horse use in the very area where the development was supposed to have provided relief for resident pronghorn. The USFS has finally committed to completing these projects and has approached the NDOW for assistance. The projects should be completed in early 2012.

Population Status and Trend

In response to very favorable climatic conditions and the resultant improvement in habitat, central Nevada pronghorn populations experienced very good production and recruitment rates over the past 2 years. This increase in production allowed for a welcomed boost to these herds. In addition to recent increases in production, an increase in numbers over the past several years has occurred around agricultural areas in Big Smoky Valley, and along the Unit 161/155 boundary as well. This increase can be attributed to the ingress of animals from transplants of pronghorn in neighboring units, as well as the availability of more succulent forage and more reliable access to water in these areas during critical periods. In order to account for these recent increases in animals an adjustment was made to the Unit 161-162 population model resulting in a considerable increase in the population estimate.

The Unit 161-162 pronghorn population has taken advantage of improved conditions over the past 2 years, but with the recent return of severe drought conditions, these recent gains may be short-lived. A return to favorable conditions will need to take place in order for pronghorn populations to continue to thrive in central Nevada.

Units 171 – 173: Northwestern Nye and Southern Lander Counties

Report by: Tom Donham

Survey Data

During mid-September, a composition survey was conducted from the ground in Units 171-173. A sample of 185 pronghorn was classified as 38 bucks, 93 does, and 54 fawns. The unusually high observed fawn ratio indicates that the MA 17 pronghorn herd experienced record levels of production in 2011. In addition to the 185 animals classified during the survey period, an additional 70 animals were observed but could not be classified due to various circumstances. In comparison, the previous composition survey, which was conducted via helicopter in 2010, resulted in the classification of 208 pronghorn. The sample contained 56 bucks, 104 does, and 48 fawns.

Habitat

Due to regularly occurring periods of drought, range conditions in central Nevada have suffered for a large part of the last decade. Fortunately, favorable weather patterns experienced from 2009 through the summer of 2011 provided much needed relief and habitat conditions improved greatly throughout the central portion of the state. However, the winter of 2011-12 has seen the return of severe drought and

any improvements made over the past 2 years are likely to be lost if climatic conditions do not improve during the spring of 2012.

Although the favorable conditions experienced from 2009 through the summer of 2011 resulted in noticeable habitat improvements, a large part of the recent increase in the Unit 171-173 pronghorn population is due to the continuing trend of large numbers of animals to concentrate on private agricultural lands along the boundaries of neighboring Units and Management Areas (MA).

Population Status and Trend

Similarly to other central Nevada pronghorn herds, the Unit 171-173 population has shown a noticeable increase in production and recruitment over the past 2 years resulting in a steadily increasing trend. This can be partly attributed to recent favorable climatic conditions and the resultant improvements in range conditions in traditional use areas. In addition, a steady increase in pronghorn numbers has been occurring on agricultural areas in north Reese River Valley, along the Unit 184 boundary. This increase can be attributed not only to the ingress of animals from transplants of pronghorn in neighboring units, but also because recent drought periods have made the availability of more succulent forage and more reliable access to water in these areas more attractive to pronghorn.

Although the Unit 171-173 pronghorn population has taken advantage of recent favorable conditions, a current return of severe drought over the winter of 2011-12 may result in the loss of these gains if conditions do not improve during the spring and summer of 2012.

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 composition surveys were conducted during mid-September in Units 181-184. The 2011 survey sample of 408 antelope yielded sex and age ratios of 35 bucks:100 does:54 fawns. The fawn ratio was slightly below last year's ratio of 60 fawns:100 does. The number of pronghorn observed during this survey was the highest recorded to date and represents 141% increase over last year.

Habitat

An increase in moisture during the summer of 2011 allowed for an increase in bunch grass abundance and robustness that is relied upon by antelope in the summer and early fall months. Body condition going into the fall of 2011 should have been good to excellent. The mild winter of 2011-12 should have enabled a large carryover of the fawn crop going into 2012.

Three water development projects are scheduled for the summer of 2012 that will directly benefit pronghorn. Two of the projects will involve pipe-rail fencing around springs and pond areas. These fencing projects will discourage overuse by feral horses and will allow for increased use by antelope. The third project will involve placing two 1800 gallon tanks in the Frenchman Flat area to utilize well water owned by a permitee to benefit antelope during the summer months.

Population Status and Trend

The current population estimate for Units 181-184 is 630 animals. This was an 11% increase from last year. This herd continues to show strong recruitment allowing for greater distribution and dispersal within this unit. Future needs for water development will have to be addressed to expand available water into potential pronghorn habitat.

Units 202, 204: Lyon and Mineral Counties
Report by: Jason Salisbury

Survey

A winter ground survey was conducted in February 2012. A sample of 62 pronghorn was obtained yielding ratios of 50 bucks:100 does:32 fawns. Because of the lack of precipitation received in 2011, some antelope groups were still located on summer range in California making it difficult to locate any sizable groups utilizing Nevada winter range.

Habitat

Habitat conditions continue remain poor in Units 202,204 with persistent drought affecting forage quality. The rain-shadow effect of the Sierra Nevada's is partly to blame for the lack of precipitation in these units. Two existing big game water developments exist on Fletcher Flat. Both water developments function properly but have old fence designs that prevent use by antelope. Future needs include replacing old fences with pipe rail type designs to encourage both winter and possibly summer use.

Population Status and Trend

This antelope herd occupies summer range in the Bodie Hills of California and winters on ranges in Nevada. The state of California does not hunt this pronghorn herd but Nevada allows limited opportunity to hunt these animals while they are on winter range in Nevada. Harvest success varies from year to year depending on when pronghorn move off summer range.

California has received funding to GPS collar a number of pronghorn within the Bodie herd to look at seasonal movements and patterns. These data will help both Nevada and California in the management of this interstate pronghorn herd. The population estimate for the Bodie and Wassuk pronghorn herd is approximately 150 animals which is similar to the estimate reported last year.

Units 203, 291: Lyon, Douglas Counties
Report by: Jason Salisbury

Survey Data

Aerial surveys were conducted for pronghorn in October of 2011. A total of 64 pronghorn were classified as 22 bucks, 32 does, and 10 fawns. These totals provide sex and age ratios of 69 bucks:100 does:31 fawns. This was the first aerial survey conducted in these unit groups providing the largest sample ever obtained.

Habitat

The Adrian Fire consumed 18,000 acres of the Pinenut Mountain Range in 2007. This fire increased the available habitat for pronghorn within Unit 291. Pronghorn are currently utilizing abundant perennial grasses and forbs that are prevalent in these burned areas.

Important resource needs for the future may include converting 1 of the small game water developments to a large game water development located within the burn to provide year round water. The Mill Canyon pinyon juniper treatment project opened up travel corridors for pronghorn and will provide increased forbs, and grasses well into the future. The lack of precipitation in the winter of 2011 and 2012 will have a negative effect on available water located on the tabletops of the Pinenut Mountains. Antelope may be forced to use lower elevation water located in a less desirable habitat.

Population Status and Trend

The 2012 population estimate for this herd shows an increase of 58% increase over last year's published estimate. This increase is a result of data obtained from the October aerial survey.

Units 205, 206: Eastern Mineral County

Report by: Jason Salisbury

Survey Data

Post-season compositions surveys were conducted in Unit 205 during October 2011. A total of 71 pronghorn was classified as 20 bucks, 34 does, and 17 fawns, resulting in sex and age ratios of 59 bucks:100 does:50 fawns. Pronghorn were located in Calvada Flat, Rawhide, Gillis Camp, Cedar Mountain, and the Gabbs Valley Range.

Habitat

In the late winter of 2012 the Lower Paymaster and Snider water developments were upgraded with new tanks, apron, and a new pipe rail fence. The previous barbwire fences surrounding these water developments were restricting pronghorn use. The new pipe rail design will allow greater use in the Win Wan Flat and Ryan Canyon areas. The wild horse water development which was rebuilt in 2010 has shown remarkable use by pronghorn in just 1 year where previously there was no use.

Perennial water is prevalent in Unit 205 and 206 but past and present grazing practices, as well as feral horse use, has degraded springs to a nonfunctioning status. Future projects will address protection of the spring source to allow increased flow of water and promote riparian recovery.

Population Status and Trend

Moisture received in 2011 increased production of pronghorn allowing for an increase in this pronghorn population. The Mineral County pronghorn herd occupies a large expanse of land with only small pieces of good to marginal pronghorn habitat. It is this reason the pronghorn herd will likely never exhibit a strong population growth from one year to the next. Extensive drought cycles occur in Mineral County and will continue to wreak havoc on pronghorn production and recruitment.

Units 211 and 212: Esmeralda County

Report by: Tom Donham

Survey Data

No formal composition surveys were conducted in MA 21 during the 2011 survey period.

Population Status and Trend

Pronghorn have inhabited Esmeralda County in low numbers for quite some times. As pronghorn populations in neighboring units have increased, movement of animals into Units 211 and 212 has also become more common. Pronghorn numbers have reached a level that has allowed for the creation of limited rifle and archery pronghorn hunts in Esmeralda County for 2012.

Pronghorn occur throughout Esmeralda County, although in low densities in most areas. The highest concentrations of animals can be found northwest of Goldfield, and in and around the northern portions of the Monte Cristo Range. Pronghorn can also be found on a regular basis in the Lida Junction, and northern Fish Lake Valley areas, and near the Esmeralda/Mineral County boundary.

Although pronghorn movement in and out of MA 21 occurs on a seasonal basis, more and more animals are remaining within Units 211 and 212 on a yearlong basis. Due to unusually dry conditions experienced from

the fall of 2011 through early 2012, movement of pronghorn to the north, out of MA 21, may result in a reduction in overall numbers of pronghorn in the area during 2012.

Intense ground composition surveys are scheduled to take place during the fall of 2012. Data gathered during these surveys, as well as information obtained from 2012 pronghorn tag holders, will aide in the creation of a MA 21 pronghorn population model and the formation of a formal population estimate.

Units 221 – 223, 241: Lincoln and Southern White Pine Counties
Report by: Mike Scott

Survey Data

Aerial surveys were conducted for pronghorn in these units during October 2011. A total of 179 antelope were classified consisting of 29 bucks, 110 does, and 40 fawns. The resulting sex and age ratios were 26 bucks:100 does:36 fawns. The bulk of the survey was completed in Steptoe and Cave Valleys. Dry Lake, Delamar, Lake, and South Spring Valleys were not surveyed.

Habitat

Habitat conditions appeared to be good during the survey due to moderate summer precipitation. Pronghorn were observed using the recently completed habitat enhancement projects in Cave Valley, which were completed for the benefit of sage grouse. Feral wild horses were gathered in the fall of 2010. This should be expected to reduce stress on pronghorn habitat but the feral wild horse numbers remain well above AML. Other threats to pronghorn habitat include a powerline project that will run south of the Egan Range and then down through Dry Lake and Delamar Valleys. Other threats include the Silver State Trail and OHV races that run through pronghorn winter and fawning habitat.

Population Status and Trend

Low fawn survival in 4 of the last 5 years, despite heavy, ongoing coyote control projects has resulted in a downward turn in the population estimate. The computer-generated population estimate for 2012 is lower than the 2011 estimate.

Unit 251, Central Nye County
Report by: Tom Donham

Survey Data

A total of 155 pronghorn was classified in Unit 251 during a post-season composition survey conducted from the ground in October 2011. The sample consisted of 49 bucks, 71 does, and 35 fawns. Due to time limitations, a portion of Unit 251 was not covered during the 2011 survey resulting in a comparatively small sample size. In comparison, in 2010, a record sample of 243 pronghorn was classified as 86 bucks, 116 does, and 41 fawns. Sample sizes can vary widely in Unit 251 due to large numbers of animals moving back and forth across the Nellis Test and Training Range (NTTR) boundary.

Habitat

Unreasonably high numbers of feral horses and recurring drought conditions have plagued the Unit 251 pronghorn population for years. The eastern portion of the Unit has also received excessive livestock use for many years. Due to impacts by feral horses as well as drought, many natural water sources have been severely degraded in this Unit.

Fortunately, climatic conditions improved drastically from 2009 through the summer of 2011 resulting in marked improvement of wildlife habitats throughout the central part of the state. In addition to the recently improved conditions, the Bureau of Land Management has conducted several feral horse gathers in central Nevada over the past few years. Several hundred feral wild horses have been removed from

Unit 251 during the 2007-2011 period, and this reduction should benefit habitat conditions throughout the area. As with other central Nevada herds, a steady increase in pronghorn numbers has been occurring on agricultural areas in the unit. During the summer and fall, half of the pronghorn population in this unit can be found on private alfalfa fields.

A recent return to drought conditions during the winter of 2011-12 may once again impact the area if the spring and summer of 2012 do not see more favorable weather patterns.

Population Status and Trend

The Unit 251 pronghorn population has been experiencing an increasing trend over the past several years. This growth has escalated recently in part due to increased production during 2010 and 2011, but also to an increasing number of pronghorn moving out of the Nellis Test and Training Range restricted area and onto private alfalfa pivots immediately adjacent to the boundary. However, many of these animals return to the NTTR seasonally and because of hunting pressure in the late summer/early fall. This results in many of these animals becoming unavailable for harvest. For this reason, the Unit 251 population model does not account for a large portion of these animals.

Numbers of pronghorn in areas further from the NTTR boundary, and not impacted by these unusual levels of immigration/emigration, are considered stable to slightly increasing.

ROCKY MOUNTAIN ELK

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

Report by: Matthew Jeffress

Harvest Results

There were 181 rifle bull elk tags available for the 2011 season including resident, nonresident and incentive tags. This represented a 68 tag increase from the 2010 quota. Hunter success for the resident rifle bull hunt was 52%. Antlerless rifle tags were increased from 195 tags in 2010 to 366 tags in 2011. The 2011 hunter success rate for these hunts was 31%. For more specific hunting results, please refer to 2011 Harvest Tables in the Appendix.

Survey Data

A total of 1,833 elk was classified during an aerial survey in January of 2012. The sex and age ratios of the sample were 35 bulls:100 cows:45 calves (Table 1). This year's calf ratio was similar to the 10-year average.

Table 1. Observed bull ratios, calf ratios and sample size for elk in Units 061-071.

Parameter	2011	2010	2001-2010 Average
Bulls:100 cows from winter surveys	35	36	33
Calves:100 cows from winter surveys	45	45	44
Sample size from winter surveys	1833	2205	935

Habitat

The Murphy fire burned approximately 550,000 acres during the summer of 2007. This fire burned most of the Bruneau River drainage, parts of the Mahoganies and over half of the Diamond A Desert. The grass and forb components continued to show excellent recovery throughout the burn. The recovery of the grass and forb segment of the burn, combined with above normal precipitation received during the winter and early spring of 2010-2011, once again facilitated a high calf ratio.

Population Status and Trend

The 061-071 elk population continued to increase last year. In fact, the average annual rate of increase for this population over the past 10 years has been 16%. The population estimate for 2012 is 2,700 animals. Most of this increase was related to high calf production and lower than expected cow harvest. It has been reported by a number of sources that a few hundred elk reside in the deserts of Idaho on a yearlong basis. In addition, a segment of this herd lives on the Duck Valley Indian Reservation for most of the year. To further complicate the management of this herd is the fact that during previous hunting seasons an unknown number of elk would leave Nevada and move into Idaho. In 2011 Idaho significantly increased controlled hunt tags for cow elk adjacent to the 061-071 Nevada hunt units. Anecdotal information suggests Idaho seasons were successful in reducing elk numbers and maintaining a balance of elk distribution along the Nevada/Idaho border. NDOW biologists are working with Idaho BLM and Idaho Fish and Game biologists to improve our understanding of elk distribution along the Nevada/Idaho border in an effort to improve harvest in both states.

A new split season structure for rifle bull and cow tags was implemented for the 2011 hunting season. It will take several years to fully assess the success of the split season structure. As a result of low hunter success coupled with high calf recruitment, the Nevada Department of Wildlife expects to drastically

increase harvest quota recommendations in an effort to curb elk herd growth and to manage this herd at or near its current level for a series of years to assess utilization on seasonal ranges.

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

Report by: Matthew Jeffress

Hunt Data

There were 58 rifle bull tags issued in 2011. Hunter success for resident rifle hunters was 67%, which represents a slight increase over 2010. A total of 114 rifle cow tags was issued with a reported success rate of 18%.

Survey Data

Aerial surveys in January 2012 resulted in the classification of 655 elk. The sex and age ratios of the sample were 87 bulls:100 cows:54 calves. The sample represents a 220 animal increase over the 2011 survey.

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. The grass dominated vegetative communities favor elk, which is evident by several years of high calf recruitment. 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 last fall and winter. The lack of winter precipitation could complicate the establishment of sagebrush within the seeded areas however the reestablishment of perennial grasses is expected to be high.

Population Status and Trend

New concentrations of elk found on the 2012 survey led to an increase in bull and cow survival rates in the population model. Factoring in the adjusted rates, the population has increased by an average of 15% annually over the past 10 years. The current population estimate is approximately 800 elk which is 300 elk over the established population objective.

A new split season structure for rifle bull and cow tags was implemented for the 2011 hunting season. A third "late" cow season has been added for this coming season. The goal of the split seasons is to disperse hunting pressure while increasing the tag quota and harvest success. Success of the split season structure will take several years to assess. As a result of extremely low cow-hunter success coupled with high calf recruitment, the Nevada Department of Wildlife expects to drastically increase harvest quota recommendations in an effort to reduce this herd.

Units 072, 074: Jarbidge Mountains; Northern Elko County

Report by: Kari Huebner

Harvest Results

Sixteen of the 112 bulls harvested from this unit group were taken in Unit 074 during the 2011 season. This unit group now has 3 any-legal-weapon bull hunts. In 2011, the late season was split into a mid and a late season. The hunter success was 75% in the mid season and 53% in the late season. Although the mid season had higher success, it appears the average success of the split seasons is similar to that before the split. Antlerless elk hunters were more successful in the late season than last year because of the more favorable weather conditions during the season. In an effort to bring elk populations in line with population objectives, 3 antlerless elk seasons will be offered in 2012.

Survey Data

Post-season surveys conducted in January 2012 resulted in the classification of 1,085 elk with observed sex and age ratios of 38 bulls:100 cows:49 calves. The post-season calf ratio indicates the herd experienced 26% higher recruitment than the past 5-year-average production of 39 calves:100 cows. The bull ratio was higher than last year's observed ratio (26 bulls:100 cows). This was attributed to more survey time spent in isolated areas where bull groups are typically found. About 75% of the elk surveyed in Unit 073 were added to the 072, 074 model to account for the known elk movements from Unit 072 into 073 during the winter.

Habitat

This herd has been positively impacted by severe fire seasons in 2007 and 2008. The recovery of perennial grass has been phenomenal in much of the areas that burned. The resulting habitat created by these burns, combined with favorable precipitation patterns, has been excellent for elk and has facilitated high calf production. This elk herd has continued to expand its range both east and south as elk habitat has improved.

Population Status and Trend

The *Jarbidge Mountains Elk Herd Management Plan* identified an objective to maintain the elk herd at 1,000 adult animals plus or minus 10% on the Forest portion of Unit 072. There are also 220 elk allotted for the BLM portions of Unit 072, Unit 074, and the east side of Unit 073 in the Wells Resource Area Elk Plan. According to Jarbidge Mountains plan, the population objective "may be formally adjusted after 2010." Since the sub-plan also stated that "Management decisions should be based on sound scientific data," NDOW worked with the US Forest Service and the Bureau of Land Management to monitor elk use on vegetation at current population levels during the 2010 field season. Results are not yet available.

Wet spring conditions resulted in favorable vegetation conditions throughout the summer in these units. Due to high calf recruitment coupled with the low success of antlerless elk hunters in this area, antlerless tag quota recommendations should be increased significantly to keep up with population growth and meet management objectives.

Unit 073: Stag Mountain Area; Elko County

Report by: Kari Huebner

Harvest Data

Twenty-five rifle bull tags were available this past season. The rifle bull hunt was split into early and late season for the 2011 season. The success rate dropped from 55% to 46% and 42% for the early and late bull hunts respectively. The percentage of 6-point or better bulls in the harvest went from 55% in 2010 to 83% in the early season and 20% in the late season in 2011. Thirty-nine antlerless rifle tags were available for the October antlerless season, down from 80 tags last season. In addition, 171 antlerless tags were available for a late season hunt that included Units 072-075. Success was higher for the late season compared to last year due to better hunter access conditions.

Survey Data

Post-season surveys conducted in January of 2012 resulted in the classification of 741 elk with observed sex and age ratios of 31 bulls:100 cows:43 calves. The bull ratio was down from 33 bulls:100 cows last year and the calf ratio was also down from last year's ratio of 50 calves:100 cows. Approximately 25% of the elk surveyed in Unit 073 were estimated to be Unit 073 resident elk. From information obtained from collaring projects, it is believed the remaining elk are from Unit 072 and were added to the Unit 072 population estimate.

Habitat

Unit 073 has been significantly influenced by fire during the past 10 years. The Charleston fire burned nearly 150,000 acres while the Gopher and Sugarloaf fires burned another 35,129 acres in 2006. The recovery of perennial grass has been phenomenal in much of the burned areas. In addition, these fires were heavily seeded with a mixture of plant species which accelerated the recovery of these burns, especially the grass component. The resulting habitat created by these burns has been excellent for elk and facilitated high calf production.

Population Status and Trend

A collaring project was initiated in this unit in 2009. During the any legal weapon antlerless season in 2010, none of the 7 collared cows were in Unit 073 (1 was in Unit 071 and the remaining 6 were in the southern end of Unit 072). All 7 cows were in Unit 073 by the start of the late antlerless season. Elk that were known to be in Unit 072 for the majority of the year were removed from the 073 population estimate. Knowledge gained from collaring data is being used to better distribute tags to help achieve management objectives.

Unit 075: Snake Mountains; Elko County

Report by: Kari Huebner

Harvest Results

In order to stay within the population objective of 100 elk outlined in the 075 elk sub-plan, adequate harvest of both sexes must be maintained. The split seasons and longer season length have allowed elk hunters to be more effective at antlerless elk harvest.

Survey Data

Post-season surveys resulted in the classification of 255 elk yielding age and sex ratios of 70 bulls:100 cows:45 calves. The bull ratio was lower than last year. The calf ratio was quite a bit higher than the 18 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 of 2006. Although the initial impacts to wildlife were negative, the elk herd now is utilizing this area due to the release of perennial grasses, forbs, and aspen as the burn recovers.

Population Status and Trend

The recommendations for both antlerless and antlered quotas will remain aggressive in order to keep this herd at population objectives. Due to growing resident elk herds in Unit 074, Unit 074 and Unit 075 were managed separately and not combined for the antlerless hunt as in past years.
Due to mild conditions this past winter, the elk that usually winter in the southern portion of Unit 074 remained in Unit 075. Because of this change in the distribution of elk, private landowners in the unit qualified for more than double the number of elk incentive tags than normal.

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

Report by: Kari Huebner

Harvest Results

Bull rifle hunter success in 2011 was similar to success in 2010. Unit 081 antlerless tags have been split from the rest of the unit group since the 2009 hunting season. This year hunter success decreased for antlerless hunters in all hunt units.

Survey Data

Post-season surveys in January 2012 resulted in the classification of 1,377 elk yielding age and sex ratios of 46 bulls:100 cows:52 calves. The observed bull ratio was above the 5-year average of 40 bulls:100 cows. The calf ratio was 18% higher than the 5-year average of 44 calves:100 cows.

Habitat

Nearly 240,000 acres burned in this unit group during the summer of 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 good for elk.

Most water developments proposed for the area have been built and are currently being used by elk. Increased water availability helps distribute elk throughout the unit group. It will be important in the future to replace existing cable fences with pipe-rail fences on water developments in an attempt to more effectively exclude livestock.

In 2007 a private consultant conducted a habitat monitoring study for the BLM to assess elk use of vegetation at current elk densities since the population objective had been reached. Results indicated elk were not competing with livestock for forage at the current population level.

Population Status and Trend

High calf production is an indication elk are doing well in recovering burned areas and the population estimate will show an increase this year as a result.

The majority of this unit group is comprised of checkerboard lands, meaning every other section is either public or private. Elk spend a significant amount of time on private lands in this area. There are currently 10 landowners that participate in the elk incentive tag program who qualified for 33 elk incentive tags.

Unit 081 was split out from the rest of the unit group for antlerless tags again this year. This was due 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 is to reduce elk numbers in this area to address complaints of private landowners.

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

Report by: Caleb McAdoo

Harvest Results

For 2011, 10 any legal weapon tags were available and 7 hunters were successful. Two muzzleloader tags and 4 archery tags were also available, with success rates of 50% and 75%, respectively. Overall, 92% of the bulls harvested had 6 or more points, indicating the presence of a strong mature bull segment. For more specific 2011 hunting results, please refer to Harvest Tables in the Appendix Section.

Survey Data

The majority of past surveys in this area have been conducted in conjunction with spring and fall deer surveys. For the second consecutive year dedicated elk surveys were conducted in this unit group. Both ground and aerial surveys were conducted due to low sample sizes from the initial aerial surveys. Elk surveys were completed in January and February 2012. Units 078, 104, 105, 107, and 109, as well as portions of 121, were surveyed with the majority of animals observed in units 104 and 105. A total of 200 elk was observed, yielding sex and age ratios of 65 bulls:100 cows:31 calves. The observed calf ratio was down from last year's observed ratio of 42 and was slightly below the long-term average of 34. Animal movements observed during both this survey and the Unit 121 elk and deer survey suggested interchange between Units 104,105, 109 and 121, further complicating the harvest management strategies for this herd.

Weather and Habitat

Forage production and quality in this area are largely dictated by spring and summer precipitation. While spring precipitation conditions in 2011 were ideal for forage production, precipitation from July 2011 through March 2012 was extremely poor. Summer and winter range conditions were extremely dry. The dry winter forced elk to upper elevation snow banks and perennial water sources in the upper elevations of Spruce Mountain. Elk likely benefitted from spring moisture but were forced to utilize different portions of the range based on water availability later in the year. Most water developments were dry by October. These precipitation patterns affected both range conditions and elk dispersal and were likely to blame for the low numbers of elk observed on initial surveys.

Population Status and Trend

In the winter of 1997, 146 elk were released in Unit 105 on Spruce Mountain. It has been 15 years since the release and elk have established themselves throughout the entire unit group and dispersal to other units has occurred. Although the long-term average calf ratio remains relatively low, the long-term trend depicts positive population growth within this unit group. High percentages of mature bulls continue to be harvested and cow hunters have been extremely successful. Elk have established in Unit 078 and more frequent observations of elk in Unit 106 indicate the herd is still expanding its distribution and range. Movement between adjacent units such as 077 and especially Unit 121 is also occurring and evidenced by elk numbers observed in Unit 105 during late winter surveys in 2011. Collaring efforts have been initiated to investigate the immigration/emigration dynamics of this herd and to determine seasonal movements. The current elk population estimate only accounts for initial emigration out of this unit group in 1997, shortly after the initial release. As the collaring investigations continue to reveal insight into seasonal movement patterns of this population, the population estimate will be adjusted accordingly. Until last year, harvest management has been designed to promote overall herd growth towards the population objective of 340 elk. With the success of this management strategy, the Department will work to maintain the population objective through harvest strategies. Although the population is currently showing steady growth, a continued focus will remain on identifying causal factors for low observed calf ratios and working towards developing solutions where possible and practicable. Several habitat projects in the area, including chainings, seedings, and water developments, should continue to bolster this population and allow for additional hunting opportunity.

Unit 091: Pilot Range; Eastern Elko County
Report by: Kari Huebner

Harvest Results

Five bulls were harvested in Unit 091 in the 2011 hunting season, 3 by Utah hunters and 2 by Nevada hunters. Due to a reduction in average age of elk being harvested in this unit, coupled with hunter reports, only 3 tags will be offered in each state for the 2012 hunting season.

Survey Data

A composition survey was conducted in August 2011. A total of 95 elk was classified. The resulting age and sex ratios were 47 bulls:100 cows:47 calves.

Population Status and Trend

Hunters that draw this tag will only be able to hunt Pilot Mountain (both in Utah and Nevada) with the new western boundary being the Pilot Valley Road. There is an exception for Unit 091 in the new hunting regulations that will preclude PIW elk hunters from harvesting elk in Unit 091.

Unit 101 – 103: East Humboldt and Ruby Mountains; Elko County
Report by: Caleb McAdoo

Tag Quotas and Harvest Results

Cow tags in this unit group have ranged from 30 in 2005, 60 in 2007, and back down to 40 in 2011. The bull tag quota has ranged from 15 in 2005 to 40 in 2011. Although no resident elk herds appear to have established in these units, elk from adjacent units moving into the area require maximum quota flexibility. Despite having 40 cow tags, only 7 cows were harvested in the 4 month-long seasons held in 2011. For the early depredation hunt, 16 bulls were harvested (64% hunter success) of which 81 percent were 6-points or better. Six bulls were harvested in the late depredation hunt (40% hunter success) and 50% were 6-points or better. For specific 2010 hunting season results, please refer to Harvest Tables in the Appendix Section.

Survey Data

Specific elk surveys were not conducted for this unit group but intensive helicopter surveys were conducted for deer, bighorn sheep, mountain goats, and pronghorn. Elk observations were documented during these surveys, when hunters and others report sightings, or when landowner complaints are received and investigated. Incidental to other wildlife surveys in these units during 2011 and 2012, very few elk were observed from the helicopter. Other sightings included movement of bulls and cows between units 107 and 101; units 065 and 102; and 102 and 103. Of the 29 total elk harvested in 2011, 9 were harvested in Unit 101, 6 in Unit 102, and 9 in Unit 103. Only 1 elk was harvested from Unit 103 in 2010. Landowner complaints continue to remain low regarding elk damages and remain the measure of success in our management practices.

Population Status and Trend

This is a depredation hunt with the objective of eliminating elk or keeping elk numbers at a level where depredation on agriculture does not occur and a viable elk herd does not become established. This hunt has been very effective to that end. However, it does appear that elk are gradually increasing in some areas, especially the bull segment. Observations of individual elk 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.

Units 111 - 115, 221, 222: Schell, Egan, and Snake Ranges; Eastern White Pine, and Northern Lincoln Counties

Report by: Curt Baughman

Seasons, Tag Quotas and Harvest Results

There were 330 total bull tags available in 2011 vs. 405 tags in 2010. The reported 2011 bull harvest was 230, which follows 252 in 2010. Total elk harvest was 680 in 2011 compared to 602 in 2010. The overall success rate for bull elk hunters was 67% in 2011, 62% in 2010, 61% in 2009, 55% in 2008 and 47% in 2007. Lower quotas in recent years have resulted in higher success rates in the split-season any-legal-weapon antlered elk hunts. A comparison of quotas, success rates and harvest is shown in Table 1. Both the Silver State Tagholder and a Heritage Tagholder harvested in this unit-group in 2011.

Table 1. Combined Res./Non Res. Early/Late Bull Any-Legal-Weapon Hunts Unit-Group 111-115, 221, 222.

	2007	2008	2009	2010	2011
Total Tag Quota	505	410	324	323	253
Hunter Success	48%	56%	60%	67%	71%
Bull Harvest	244	231	196	218	180

The 2011 harvest was composed of 68% 6-point or better bulls, up from 56% in 2010. The long-term (1981-2010) average has been 51%. The percentage of harvested bulls with main beams measuring 44+ inches and 50+ inches was 64% and 34% in 2011 respectively. These figures were 47% and 28% respectively in 2010. Stronger point-class and beam length data reflects the improved habitat conditions of 2011 and possibly the older average age of harvested bulls.

Because an October antlerless elk hunt was not approved by the Wildlife Commission for 2011, the any-legal-weapon antlerless hunt was confined to a new December season. The Department anticipated lower hunter success rates when calculating 2011 tag quotas to harvest the objective number of antlerless elk. In all but 1 unit, actual hunter success rates ranged 4% to 13% lower than expected. The extremely unusual weather and ground conditions experienced last December created a best case scenario for the December hunt and so the antlerless harvest was only about 9% below objective.

Survey Data

Winter herd composition surveys have been combined with spring deer surveys for the past 3 years. This strategy tends to result in larger overall sample sizes but lower observed bull:100 cow ratios. Due to the mild winter and light snowpack, elk distribution was abnormal during early spring 2012. Some of the traditional concentration areas for cow/calf groups held few if any elk. This resulted in a reduced survey sample and a higher bull ratio. A sample of 2,524 elk was classified; yielding sex and age ratios of 31 bulls:100 cows:38 calves. During the 2010 winter survey, 3,084 elk were classified; yielding sex and age ratios of 22 bulls:100 cows:35 calves. Survey samples have averaged 2,297 elk with sex and age composition of 30 bulls:100 cows:38 calves for the past 10 years (2001-2010).

Age data on harvested bulls was collected in 2011 through voluntary donation of incisor teeth from harvested bulls. Teeth from 59 bulls were aged at an independent lab. The resulting age data was indexed with beam length data from nearly every bull to generate an average age of 5.8 years for the 2011 harvest. Teeth from bull elk were also collected in 2006 through 2008 and suggested ages of 5.9, 6.0 and 6.2 years respectively.

Habitat

The winter of 2010-11 was the second straight severe winter for east-central Nevada. Generous precipitation included record snowfall in November and December. Temperatures of -20F occurred during both of these months. Cold, wet conditions extended through May. This resulted in elk being in sub-par condition in the spring of 2011. On the bright side, precipitation measurements in Ely, as well as at local

Snotel sites recorded over 150% of average precipitation for the 2010-11 water year. The result was greatly improved water distribution and forage conditions for elk in 2011. Although portions of the recent winter were dry, current (mid April) water-year precipitation totals stand near average for much of White Pine County. Snowpack figures are closer to 60%. Water distribution should remain good in 2012, however the quality of forage resources will largely depend upon precipitation patterns through the spring and summer.

Elk habitat in White Pine County is under increasing threat from the development of renewable energy facilities and homes. It is unknown how much elk could be impacted from disturbance, roads and other infrastructure associated with wind-energy facilities, some of which are being planned for mountain-top sites located in important habitat. In addition, private parcels in prime habitat are being subdivided and sold.

Pinyon and juniper encroachment is also degrading/eliminating habitat in the longer term. In 2008 a 3,000 acre chaining was completed in Unit 112. An additional 5,700 acres was chained and seeded on the Spring Valley side of Unit 111 during 2010-2011. A biomass removal project on the north end of the Antelope Range has opened substantial acreage that was previously dominated by pinyon and juniper trees. For the second consecutive summer, The Mule Deer Foundation sponsored the construction of a water development in Unit 112. A 2010 project to control rabbit brush in the bottom of Cave Valley is already seeing a substantial increase in use by elk. A sizeable project to thin/remove tree-cover on the east Ward Mtn. Bench of Unit 221 was ongoing in 2011. Additional areas that are in various stages of planning/NEPA analysis include the north Schell Creek Range (USFS), Ward Mountain (USFS/BLM) and South Steptoe/Cave Valleys (BLM). Elk will benefit from much of the eventual restoration work.

Population Status and Trend

Elk calf recruitment has been below-average for the last 5 years. Although this has not been a problem from a population standpoint, it has contributed to declining bull tag quotas. The improved habitat conditions of 2011 came too late to result in strong 2011 calf production. However, elk were able to improve body condition through the second half of 2011 and maintain it through the mild winter and into the current spring. At the present time, elk are in much better condition than they were last year and this should be expressed in strong 2012 calf production. Unless very negative environmental conditions develop in 2012, calf recruitment in 2013 should be above average.

The 2012 pre-hunt population estimate is very similar to last year. A substantial antlerless harvest will be needed to control this herd, especially in the Units 111, 112, 221, 222 core, where numbers are pushing the upper end of objectives. The reinstatement of the October antlerless hunt should help in reaching the desired harvest. Bull quota recommendations for 2012 will seek to balance trophy opportunity with maintenance of age structure in the male segment of the population. The Nevada Wildlife Commission voted to split the Area 11 units from the Area 22 units for 2012 bull hunts. Since population modeling cannot be accurately applied to this artificial split, quota recommendations will be based on the harvest distribution from the past 3 years. During this period, 56% of the bull harvest came from Units 111-115 and 44% came from Units 221-222. The harvest distribution for the past 5 years was also consistent with these figures.

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 Harvest Results

There were 38 bull tags issued across all weapon classes in 2011 and 55% of the tag holders were successful. Of the 21 bulls harvested in this unit group, 95% were 6 points or better, and 81% came from Unit 121.

This was the inaugural year of antlerless tags within this unit group. There were 57 antlerless tags issued across all weapon classes and 31 tag holders were successful.

Survey Data

Post-season elk surveys were conducted in December 2011 in conjunction with Unit 121 fall deer surveys. A total of 354 elk was classified yielding ratios of 31 bulls:100 cows:51 calves. This year's calf ratio was the highest ever observed in this unit group. Mature bull groups continue to be difficult to locate during the survey due to tree densities that occur within the unit.

Habitat

The areas throughout the Cherry Creeks and North Egans that are recovering from relatively recent fires and/or vegetation modifications are providing excellent habitat for elk. Pinyon/Juniper (PJ) encroachment continues to plague a significant portion of this unit group. The PJ problem will continue to offer an abundance of potential habitat projects that will benefit elk and other wildlife in the future. Habitat appears to be improving following horse round-ups conducted in the Cherry Creek Range and Butte Valley during the summers of 2006 and 2011.

Population Status and Trend

During January of 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 of 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 is to further our understanding of winter habitat utilization between these 2 herds.

High calf ratios for the past 2 years have led to a steady population growth within this unit group. The antlerless quota recommendation is expected to again be relatively liberal in an attempt to slow the growth of this population as it approaches the population objective. Bull tag quota recommendations are expected to be higher than last year.

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 conducted in February 2012. There were additional elk classified during the spring deer survey in March 2012. The total sample of all elk classified was 179; yielding ratios of 86 bulls:100 cows:44 calves. There was fresh but light snow during the survey with elk scattered on summer range; most above 8000 feet in elevation. This was completely opposite of 2011 when all elk were on winter ranges. The 66 elk classified in the Scofield Canyon area of Unit 132 during the spring deer survey was a record number of elk for that area. The previous survey in 2011 yielded ratios of 65 bulls:100 cows:32 calves from a sample of 181 elk.

Habitat

There have been 9 water developments built for big game in the White Pine Range and Horse Range in the last 10 years. These projects have been built with volunteer labor from sportsmen working with the Forest Service and BLM. The funding came from the RMEF and NDOW with 1 in conjunction with the Robinson Mine. Elk, deer and other wildlife have been documented using these projects. The Forest Service had contract crews cutting small pinion and juniper trees with chainsaws that are encroaching into the open grass and brush zones of the White Pine Range. These projects will continue in 2012 and they are planning

similar projects in the Grant and Quinn Canyon ranges of Unit 132. Although not specific for elk, the projects should benefit elk and other wildlife in the future.

Population Status and Trend

There was a record bull harvest of 27 but the harvest of 16 cow elk was well below expectations. The any legal weapon cow season was in December which likely contributed to lower success by hunters. The low cow elk harvest combined with increased calf recruitment in 2012 resulted in an increasing population trend. The 2012 population estimate was 350 elk, an increase from the 2011 estimate of approximately 300 elk. The 2012 quota recommendations will likely increase for all hunts to keep the population within the objective level identified in the White Pine County Elk Management Plan (300 elk + or - 20%).

Units 145: Fish Creek and Mountain Boy Ranges; Southern Eureka County

Report by: Mike Podborny

Background

Bull elk have been reported in Unit 145 for several years with 2 bulls illegally harvested in October 2009 and 1 bull was found dead in 2010 from unknown causes. In the summer of 2010 cows and calves were documented by trail cameras at water developments. There were 5 bull elk classified in Unit 145 during the November 2011 helicopter deer survey. The Central Nevada Elk Plan management strategy for Unit 145 was to preclude elk from establishing.

Population Status and Trend

There are believed to be approximately 20 to 30 elk in Unit 145. The bull and cow hunts set for 2012 will be designed to eliminate or reduce the elk population in Unit 145. The low number of elk and heavy tree cover that exists in the area will make harvesting elk difficult.

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

Report by: Tom Donham

Survey Data

An aerial composition survey was conducted in Unit 162 during mid-January 2012. A total of 445 elk was classified as 113 bulls, 253 cows, and 79 calves. The survey sample of 445 animals represents the second highest sample ever obtained in this Unit group. This was despite very warm, dry conditions and a lack of snow at the higher elevations, making for challenging survey conditions. The average elevation of elk groups observed during the survey was nearly 9,000 feet. The observed calf ratio was very near the previous 5-year average of 32 calves:100 cows. In comparison, the previous aerial composition survey conducted in January 2011 saw a total of 282 elk classified as 47 bulls, 171 cows, and 64 calves.

Habitat

Central Nevada struggled through regularly occurring periods of drought over the past decade or more, but this portion of the state experienced very favorable climatic conditions from 2009 through the summer of 2011. Wildlife habitats benefited greatly from the improved conditions, and big game populations responded with increased production and overall improved herd health. Unfortunately, the winter of 2011-2012 has seen the return of severe drought to the area. Any improvements made over the past 2 years may be lost if conditions do not improve during the spring of 2012. If drought continues to plague central Nevada, wildlife populations and their habitats will undoubtedly suffer major setbacks in the coming year.

On a more positive note, the USFS has actively been conducting Pinyon and Juniper removal projects in the Monitor Range (Unit 162) over the past several years. Prescribed burns have taken place in the Elkhorn Canyon area on the south end of the Monitors, and in the Seven Mile/Savory area further north in

the Monitors. Over 6,000 acres have been burned in the Elkhorn Canyon/House Canyon area, although much of this total acreage was due to the USFS losing control of a prescribed burn. Unfortunately, the USFS did not follow through with rehabilitation efforts following the loss of the fire, and this may impact the recovery of the area. These burns are intended to reduce pinion and juniper encroachment into sagebrush habitats and are expected to benefit not only elk, but also sage grouse, many other species of wildlife, and domestic livestock. Additional pinion and juniper reduction projects in the Austin/Tonopah Ranger District are currently in the planning process, and the NDOW will actively encourage the USFS to implement rehabilitation efforts in their overall plans.

Population Status and Trend

In 1979, 50 elk were released into the Monitor Range, Unit 162. Following the release, the population increased steadily until 2000. In 2000, the MA 16 elk herd reached the population objective of 425 adult animals that was in place at that time. At about this same time, the Nevada Board of Wildlife Commissioners asked the Nye County Advisory Board to Manage Wildlife to take the lead in creating a new elk sub-plan covering all of central Nevada in accordance with the Nevada Elk Species Management Plan. Following a long and arduous process, the plan was completed and an increase in the population objective was approved by the Commission in January 2004. As the result of this increased population objective for MA 16, the NDOW once again initiated population management strategies designed to allow for herd growth in 2005. Since 2005, the elk population in central Nevada has steadily increased despite some challenges resulting from regular periods of drought. As the population nears the new objective, tag quotas will increase in order to keep up with herd growth.

Although the vast majority of the MA 16 elk herd still occurs in the Monitor Range (Unit 162), increasing numbers of elk are moving into adjacent areas such as the Toquima Range (Unit 161) and the Hot Creek/Antelope Ranges (Unit 163). Currently the MA 16 elk population is experiencing a slightly increasing trend.
Elk movement from Management Area 16 to the west into Management Area 17 has resulted in an established herd in Units 171-173 in recent years. Due to the presence of a small number of mature bulls available for harvest in the area, Units 171-173 were included in the 161-164 antlered elk hunts for 2011.

Unit 223: North Pahroc and Bristol Ranges; Lincoln County

Report by: Mike Scott

Survey Data

Aerial surveys were completed in January 2012 and resulted in the classification of 49 elk consisting of 10 bulls, 26 cows, and 13 calves. This provided sex and age ratios of 39 bulls:100 cows:50 calves. This marks the second time elk have been surveyed and observed in Unit 223. The unit was added to the 231, 241-242 elk hunt in 2011.

Habitat

Habitat conditions in Unit 223 are moderate due to lower precipitation during 2011. Although BLM removed some of the feral horses in the unit, the numbers remain above AML. Potential issues for elk habitat include new power lines, renewable energy proposals, and the Silver State Trail.

Population Status and Trend

It is unknown at this time if elk observed on survey are residents or simply wintering in areas they found suitable. No population model will be created until consistent data indicate a resident population exists. When practical, radio or satellite collars may be attached to elk in this area to try to determine numbers, distribution, and seasonal ranges. Return card data indicate that 8 cows and 6 bulls were harvested from Unit 223. Other reports and sightings indicate there may be as many as 60 elk found in Unit 223.

Unit 231: Wilson Creek Range; Lincoln County
Report by: Mike Scott

Survey Data

Aerial surveys were conducted during January 2012 and resulted in the classification of 477 elk consisting of 186 bulls, 189 cows, and 102 calves. The resulting sex and age ratios were 98 bulls:100 cows:54 calves. Of the 186 bulls observed, 56% were classified as spikes to 4-points. Fresh snow conditions allowed for excellent survey conditions.

Habitat

At this point in time, the major threat of the Table Mountain Wind Project appears to be unlikely, but still possible. This would be devastating to the high-elevation summer use areas. A continuing threat is the expansion of shed antler hunters using ATV's to search elk winter range. Although the damage to the range may not be extensive, the constant use of ATV's in late winter and early spring, when elk are at their weakest may be having a detrimental effect on bull elk. The BLM gathered some 850 feral horses out of Area 23 but remaining numbers of feral horses are still well above the AML. Although fire suppression does not seem to be a threat to elk habitat, it does not allow large burns which greatly benefit elk, as well as livestock, feral horses, and other wildlife to occur. BLM continues to suppress fires despite direction from fire planning documents that would allow fires to burn to specified acreages before suppression efforts would be undertaken. Large burns in Area 23 that have occurredin the past have allowed expansion of elk in both numbers and distribution. The large areas of dense pinyon/juniper forest that exist throughout Area 23 serve as very limited wildlife habitat. RMEF, NDOW, and BLM have been working together to maintain some of the chainings done in the past. It is hoped that by cutting young trees out of the previously chained areas that the life of the chainings can be extended. Three additional water developments were installed for the benefit of elk during 2011 by a BLM contract crew along with many local volunteers.

Population Status and Trend

A total of 169 elk was harvested in Area 23 during the 2011 season. These included 87 cows and calves and 82 bulls. This represents a 7% decrease in harvest from the 2010 elk season when 181 elk were harvested.

The number of elk in Area 23 remains fairly high despite reasonably high harvest. A total of 545 elk tags was available for all seasons in Area 23. This area is likely the destination for emigrating elk from adjacent areas. Wilderness areas provide elk with places to avoid heavy hunting pressure. The observed bull ratio increased substantially in 2012, likely due to the fresh snow conditions making bulls easier to see from the air.

The population objective for Area 23 from the Lincoln County Elk Management Plan is 350. Recommended quotas will reflect NDOW's goal to keep elk numbers as close to the objective as possible.

Unit 241-242: Delamar and Clover Mountains; Lincoln County
Report by: Mike Scott

Survey Data

Surveys were conducted during January 2012 and resulted in the observation of 31 elk. These were classified as 2 bulls, 18 cows, and 11calves. In March, a group of 3 bulls was observed in Unit 241. These totals provide a ratio of 28 bulls:100 cows:61 calves.

Habitat

Habitat conditions in Area 24 are favorable for elk, despite broad acreages of dense pinyon/juniper forest. Several fires and habitat projects have opened up large areas that attract elk. Four new water developments have been built in Area 24 that should reduce conflicts with livestock and private landowners. Feral horses are still found in high numbers despite BLM's decision to reduce the AML in this area to zero.

Population Status and Trend

No population model will be developed for elk in this area until NDOW is reasonably sure that elk are established in the area and using seasonal ranges. Return card data indicate that 2 cows and 1 bull were harvested from Area 24 in 2011. Reports and sightings indicate that there may be up to 50 elk in the area during the summer months.

Unit 262: Spring Mountains; Clark and Southern Nye Counties

Report by: Patrick Cummings

Survey Data

In January 2012, a brief 3.1-hour aerial survey conducted in the Spring Mountains yielded a sample of 80 elk. The sample included 1 spike bull, 64 cows, and 15 calves. As in past years, the aerial survey was focused in the area around the Cold Creek Community. Elk were encountered on the north side of Willow Peak, on the southern margin of the McFarland Burn and in the Willow Creek Drainage.

Habitat

Severely degraded vegetative conditions on the McFarland Burn were noted in 10 aerial surveys conducted between 2002 and 2012, and likely the reason fewer elk were encountered in the area. Degraded habitat is largely the result of an over population of feral horses aggravated by the effects of drought conditions.

In December 2005, the Las Vegas District, Bureau of Land Management (BLM) issued a Decision Record and Finding of No Significant Impact for establishment of Appropriate Management Levels (AML) in the Johnnie, Muddy Mountains, and Wheeler Pass Herd Management Areas (HMA). The established AMLs for horses in the Johnnie HMA and Wheeler Pass HMA are 0 and 47-66, respectively. The established AMLs for burros in the Johnnie HMA and Wheeler Pass HMA are 54-108 and 20-35, respectively.

In January 2007, BLM and United States Forest Service (USFS) conducted gathers of feral horses and burros in the Johnnie HMA and Wheeler Pass HMA. Through these efforts 368 horses and 400 burros were captured. Of the 289 horses gathered in the Wheeler Pass HMA, 240 were removed and 45 were released back into the Spring Mountains. BLM indicated 61 horses were left in the Wheeler Pass HMA. Thirty-seven burros captured in the Wheeler Pass HMA were removed, resulting in an estimated 30-45 burros remaining in the HMA. Of the 79 horses captured in the Johnnie HMA, 49 were removed and 30 were released back into the Spring Mountains. BLM has indicated 41 horses were left in the Johnnie HMA. All of the 363 burros gathered in the Johnnie HMA were removed, resulting in an estimated 75-110 burros remaining in the HMA. In an inter-agency coordination meeting held on 13 March 2008, the BLM horse specialist in the Las Vegas District indicated horse numbers were well above AML in both the Johnnie and Wheeler Pass HMA's, and that the next gather will not occur for another 5 years.

Evidence of elk avoidance of roads and decrease in habitat use adjacent to roads is abundant in literature. Moreover, avoidance behavior becomes exacerbated in roaded areas adjacent to openings (burns) and meadows. 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 to implement alternative 5 (with modifications) as summarized in the respective Environmental Assessment 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 approximates the estimate reported last year. 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 early seral, quality 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 through seeding areas recently burned, increasing water availability and decommissioning/restoring newly created roads and trails.

As of this writing (April 2012), environmental conditions are fair due to limited winter and spring storms. Thus far in 2012, precipitation receipts in January and February were below normal, and the likelihood for an overall dry year is high. In the seasonal drought outlook, the National Weather Service foresees 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

During the fall of 2011 ground surveys yielded 65 bighorn sheep. The observed sex and age ratios were 150 rams:100 ewes:46 lambs. This lamb ratio is comparable to the 10-year average of 45 lambs:100 ewes.

Habitat

Explorations for geothermal reserves continue to plague Dixie Valley. Most of the exploration is occurring on the lower portion of the alluvial fan which will primarily affect pronghorn habitat. Mitigation may be necessary in the future if geothermal resources are discovered.

Pinyon juniper encroachment is a concern within the Stillwater Range. Lightning-caused fires such as the Table Mountain fire have been beneficial to the establishment of perennial grasses and browse species that benefit bighorn sheep. There have been increased observations of bighorn in rehabilitated fire areas.

Population Status and Trend

This population is exhibiting an upward trend. Recent augmentations to the southern end of the Stillwater's have enabled this population to expand its current range. Sightings of bighorns on the southern extent of the Stillwater Range have increased in frequency.

The East Range area near Root Springs has consistently produced more lambs than the adjacent Stillwater Mountain Range. Open terrain around Root Springs enables bighorn sheep the ability to avoid conflicts with large predators, increasing the survivability of lambs. A burn that occurred north of Granite Mountain in the early 2000's has recovered well. A bighorn sheep augmentation is planned for 2012. This release should increase sheep numbers within the northern reaches of the East Range.

Population estimates for 2011 indicate a slight increase in the Stillwater bighorn sheep herd based on good lamb recruitment.

Unit 045: Tobin Range; Pershing County
Report by: Kyle Neill

Survey Data

A ground composition survey was conducted for 1 day in early September. The survey included the area north of Bushee Creek south to Miller Basin. A total of 47 bighorns were classified from 6 groups, that resulted in ram and lamb ratios of 48 rams:100 ewes:57 lambs. The 2011 lamb ratio of 57 lambs:100 ewes is above the long-term average and will improve herd growth.

Population Estimate and Trend

Re-establishment efforts of desert bighorns into the Tobin Range began in 1984 with the release of 34 bighorns into Miller Basin from the River Mountains of Clark County. An augmentation of 18 bighorn from the Black Mountains into Indian Canyon occurred in 1991. These initial efforts failed to establish a viable population. However, re-establishment attempts occurred again in 2003 followed by an augmentation in 2008. Release stock was provided from Unit 161, the Toquima Range of Nye County. Total numbers of bighorns released into Golconda Canyon in 2003 and 2008 were 45 animals. These most recent efforts have been successful in establishing a productive population.

Field observations and hunter reports infer that bighorn range from Siard canyon south to Miller Basin, with summer use around Mount Tobin. Primary bighorn use areas include Cottonwood Canyon, Bushee Creek area, Rim Peak, Golconda Canyon, Little Miller and Miller Basins. Additionally, bighorn were observed this year in the Indian Caves area, which is approximately 7 miles south west of Miller Basin. Biologists suspect these bighorn may have come from the Sou Hills, Unit 182. Future field observations and reports will document bighorn use in this area. The Tobin bighorn herd continues to show an increasing trend and the future of this herd is encouraging. The 2012 population estimate is 100 animals which represents an 11% increase from what was reported last 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 January and March 2012. There were 113 bighorns classified, a record sample; yielding sex and age ratios of 26 rams:100 ewes:15 lambs. There were 73 classified in Unit 131 and 40 classified in Unit 164. The previous survey was conducted in January 2011 with 110 bighorns classified; yielding sex and age ratios of 38 rams:100 ewes:31 lambs. The lamb ratio in 2012 was only half of the previous year with the Unit 164 ratio; 7 lambs:100 ewes.

Habitat

Volunteer sportsman from NBU and locals along with the Forest Service built a guzzler outside of the Currant Wilderness in the White Pine Range in the summer of 2011. Although water was plentiful due to extremely wet conditions at the time of construction the new water development will provide water on the south end of bighorn habitat during the normal dry year.

Population Status and Trend

There were 2 releases of 49 bighorns into the White Pine Range of Unit 131 since 1999. The population has expanded in the White Pine Range and established other herds in the Duckwater Hills of Unit 131 and that portion of the Pancake Range in Unit 164. The 2012 population estimate was 150 bighorns, an increase from the 2011 population estimate of 130. The increase in the computer-modeled population estimate was due to the record number of adult bighorns classified during the survey. The low lamb recruitment was possibly a result of a disease event that appears to have started in Unit 134 and spread into the adjoining Unit 164 herd during the winter of 2011-12. The disease event appears to have affected the lamb segment of the population greater than the adults. There may also be a disease issue in the Duckwater Hills as the lamb ratio was also low; 12 lambs:100 ewes. There were additional helicopter surveys and bighorn captures for disease testing conducted from January through March 2012 to gather information on the status of this and adjoining herds. The high number of adult bighorns classified during all surveys indicates there was still a viable population of bighorns with adult rams available for harvest. There will be continued monitoring to determine the effect of the disease event on the entire herd in the coming year.

Three rams harvested in Unit 131 since 2008 were believed to be Rocky Mountain Bighorn. DNA testing on 1 ram proved it was indeed a Rocky. These bighorns were believed to have moved south from the Ruby Mountains. Rams harvested from these units will only be accepted into official record books as Rocky Mountain Bighorns because of the mixing of sub-species that has occurred.

Unit 132: Grant Range; Eastern Nye County
Report by: Mike Podborny

Survey Data

A helicopter composition survey was conducted in February 2012 with 53 bighorns classified; yielding sex and age ratios of 27 rams:100 ewes:33 lambs. The survey was conducted in winter to allow for snow to concentrate bighorns at lower elevations. The bighorns classified were on lower elevation ridges from Irwin Canyon to Little Meadows Creek with 1 small group at Heath Canyon. This was the second consecutive year a group of bighorns was classified north of their traditional core area. The previous survey was conducted in February 2011 by helicopter and resulted in 43 bighorns classified; yielding sex and age ratios of 55 rams:100 ewes:41 lambs.

Habitat

The majority of bighorns live on the west side of the Grant Range from Irwin Canyon to Little Meadows Creek. Some bighorns reside in the lower rocky ridges while others spend the summer and fall months in the high timbered ridges and sheer cliffs near Troy Peak. There have been small fires in the mid to upper elevations of the range that have been beneficial to bighorns by opening up some of the heavy tree cover. There is permanent water in Irwin Canyon, Troy Canyon and Little Meadows Creek and the possibility of developing artificial water around Blue Eagle Mountain is being explored.

Population Status and Trend

The computer-modeled population estimate for 2012 was 100 bighorns; similar to the estimate in 2011. The population expanded in size and distribution since the 2 releases in Troy Canyon in 2005 but the low lamb recruitment results in a stable population in 2012. The population was mostly comprised of younger age class animals but there are a limited number of older age class rams available for harvest.

Unit 133, 245: Pahranagat and Mount Irish Ranges; Lincoln County
Report by: Mike Scott

Survey Data

An abbreviated survey was conducted in January 2012 following reports and removal of an exotic sheep. The survey resulted in the classification of 48 sheep consisting of 10 rams, 25 ewes, and 13 lambs, which provided sex and age ratios of 40 rams:100 ewes:52 lambs.

Habitat

Habitat conditions appeared to be moderate at the time of the survey. According to both CEMP and BLM rain-can data, the Alamo area received between 64% and 86% of the previous 10-year average of precipitation. All water developments in the Pahranagats and East Pahranagats appeared to be getting moderate to heavy use.

Population Status, and Trend

This population continues to show a slight upward trend. The computer-generated population estimate for 2012 is slightly higher than the 2011 estimate.

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

Survey Data

A regularly scheduled aerial composition survey was conducted in October 2011. A total sample of 218 sheep was classified as 78 rams, 121 ewes, and 19 lambs. The very low observed lamb ratio of 16 lambs:100 ewes represented the lowest on record at that time. Following the discovery of a pneumonia outbreak later in the fall of 2011, an additional survey was conducted in January 2012. During the January survey, a total of 238 animals was classified as 60 rams, 164 ewes, and 14 lambs. Not surprisingly, the observed lamb ratio had dropped to 9 by the time the January survey was conducted.

Habitat

Sheep hunters and recreational users continue to create illegal ATV and 4-wheel drive trails within Unit 134. This unit contains Wilderness Study Areas (WSA's) which have stringent regulations regarding off-road travel and travel on closed or illegally created roads and trails. This practice not only destroys habitat, but also disturbs animals. There is no justification for these activities other than laziness and ignorance.

Population Status and Trend

In 1984, a total of 26 animals was released into Unit 134. Since that time, the Unit 134 desert sheep population has done very well. In fact, the reintroduction was so successful that this population has served 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 animals into other mountain ranges in the state.

A very low observed lamb ratio obtained during an October 2011 aerial survey caused some concern due to the fact that most surrounding areas showed good production rates. Then, during the November hunting season, a sheep hunter reported observing coughing sheep on the north end of the unit. A follow-up investigation documented the herd was in fact experiencing a pneumonia epizootic. Two ewes showing clinical symptoms of disease were euthanized and delivered to veterinary Staff for sampling. In addition, several live bighorn were captured and sampled during a follow-up effort in early 2012. *Mycoplasma ovipneumoniae*, *Mannheimia haemolytica*, and *Bibersteinia trehalosi* were detected in the bighorn. Histopathology of the lungs of the euthanized bighorn exhibiting clinical signs of disease showed bronchopneumonia and tracheitis. The pathological changes in the lungs were consistent with lesions caused by M*ycoplasma ovipneumoniae*.

Following the initial investigation of the pneumonia epizootic, a bighorn sheep hunter reported observing 2 domestic sheep in the Palisade Mesa area of Unit 134. The owner of the domestic sheep was contacted and he granted permission to euthanize the animals and collect them for sampling. The 2 domestic sheep tested positive for *Mycoplasma ovipneumoniae*, *Mannheimia haemolytica*, and *Bibersteinia trehalosi*. Strain typing of the *Mycoplasma ovipneumoniae* may help determine whether the disease event was directly related to the presence of the domestic sheep or not. Results are pending.

Further investigation should help to determine the full extent and impact of the disease event on the population, but it is evident the herd will suffer a major setback due to the loss of the 2011 lamb crop. If the Unit 134 disease event follows the same pattern typical with this type of situation, production may continue to be impacted for quite some time.

Based upon the recent pneumonia epizootic, the population is expected to experience at least a moderate decline over the short-term, but a drastic reduction in the population cannot be ruled out at this time. Adjacent units will be monitored in an effort to determine any spread of the disease event.

Unit 153: Fish Creek Mountains; Western Lander County
Report by: Jeremy Lutz

Harvest Results

No tags were available for 2011. This is a new hunt starting in the fall of 2012.

Survey Data

A total of 16 bighorns were classified from a helicopter in February of 2012 yielding ratios of 87 rams:100 ewes:13 lambs.

Habitat

Habitat for bighorn sheep in the Fish Creeks continues to improve over the long term. Grasses and forbs have responded positively to the elimination of hot season grazing in this allotment. The above-average moisture over the last 3 years has helped increase both the quantity and quality of the forage base in the Fish Creeks especially in the upper elevations.

Population Status and Trend

This small population of bighorn sheep is living within an active domestic sheep allotment. Due to the close proximity of bighorn sheep to the active domestic allotment, contact is believed inevitable. Disease sampling in the spring of 2011 indicated Moses bighorn tested positive for Mannheimia haemolytica. The extremely low lamb ratio could also be another indicator that these bighorns have been exposed to a bacterial pneumonia.

Recent satellite information from collars has shown there is bighorn movement between the Tobin Range (Unit 045) and the Fish Creek Range. Continued collaring projects will help better understand the extent of population interchange.

This population is expected to remain stagnant due to low lamb recruitment. However a segment of mature rams exist to support a limited ram hunt.

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

Survey Data

No aerial composition survey was conducted in Unit 161 in 2011. The previous aerial survey took place in August 2010, when a total of 144 desert sheep was classified as 27 rams, 82 ewes, and 35 lambs.

Population Status and Trend

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

Although Mount Jefferson, which lies within the Alta Toquima Wilderness, is home to the majority of the Unit 161 desert bighorn herd, a smaller herd has established itself north of the main herd in the Northumberland area. As a result of several capture projects, which were conducted in part to control

population growth, the Unit 161 herd remained stable for several years. However, with increases in production and recruitment over the past 2 years as a result of improved habitat conditions, the herd is currently experiencing an increasing trend.

Units 162, 163: Monitor and Hot Creek Ranges; Nye County
Report by: Tom Donham

Survey Data

No aerial composition survey was conducted in Unit 163 during 2011. The next composition survey is scheduled to take place during the fall of 2012. The previous aerial survey was conducted in late August 2010. The survey yielded a record sample of 136 desert sheep, classified as 29 rams, 75 ewes, and 32 lambs. The observed lamb ratio indicates the herd experienced well above average production in 2010, and the highest recorded production since 1998.

Population Status and Trend

A small number of desert bighorn sheep occurred in the Hot Creek Range prior to the 1990's, but the population remained static at very low levels. Releases of desert sheep in 1994 and 1995 augmented the existing population, and resulted in stimulating herd growth. The Unit 163 sheep population quickly increased to moderate levels. Drought conditions have plagued the area during most years over the past decade, but despite these challenges, the herd has shown some modest increases in the past few years. Favorable climatic conditions experienced from 2009 thru the summer of 2011 boosted production and recruitment, and have allowed the Hot Creek herd to reach record levels.

There is some concern that an epizootic pneumonia outbreak discovered in adjacent Unit 134 could find its way to Unit 163. Currently it appears the Hot Creek population remains healthy.

In order to take advantage of an increasing number of sheep inhabiting the southern portion of the Monitor Range, Unit 162 was combined with the Unit 163 desert sheep hunt in 2005. While the population in Unit 162 is not considered robust enough to warrant its own hunt, sheep observations continue to increase, and potential exists for some limited harvest in the hunt unit.

The population model for Unit 163 shows a moderate increase over 2011. A population model for Unit 162 has yet to be developed, but data indicate the population remains stable at low levels.

Unit 173: Toiyabe Range; Northern Nye County
Report by: Tom Donham

Survey Data

No aerial composition survey was conducted in Unit 173 during 2011. During the previous survey, conducted in late August 2010, a record sample of 121 desert sheep was classified as 10 rams, 79 ewes, and 32 lambs. Due to an earlier than normal survey in 2010, rams were not found in association with lamb/ewe groups and this resulted in a below average observed ram ratio. Observed lamb ratios indicate that the Toiyabe desert sheep population experienced a noticeable increase in production in 2010 due to favorable climatic conditions and the resultant improvement in habitat health.

Habitat

The majority of the Unit 173 desert sheep population inhabits the southern 1/3 of the Toiyabe Range. The core of this herd's range is in and around the Peavine Canyon/Seyler Peak area. Due to the consistent occurrence of drought conditions over most of the past decade or more, desert sheep in this area have become accustomed to using the moister and lush areas found on private lands in Peavine Canyon. This behavior has been passed along to several generations of sheep at this point and the problem is likely to

continue even if climatic conditions return to more favorable patterns. Depredation of private lands is likely to continue until an acceptable solution to landowners, NDOW, and sportsmen can be devised.

During the past decade, the number of desert sheep depredating private agricultural areas in the Peavine Canyon area has steadily increased, while the total number of sheep occupying the area has remained relatively stable.

Population Status and Trend

The Toiyabe desert sheep population is one of only a few remnant sheep herds that exist in central Nevada. This population was nearly extirpated along with many other sheep herds in the state and had been reduced to an estimated 50 animals by the early 1980's. During 1983 and 1984, a total of 21 desert 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.

The Toiyabe desert sheep population primarily inhabits the southern 1/3 of the Toiyabe Range. The core of this herds range is in the Peavine Canyon/Seyler Peak area and extends northward to approximately Ophir Canyon. A small number or animals occur in various locations along the range as far north as Bunker Hill, just north of Kingston Canyon. Expansion of this portion of the Unit 173 population will not be encouraged until such time as domestic sheep grazing is discontinued in the Kingston Canyon/Big Creek area.

Due to recent improvements in climatic conditions resulting in increased production and recruitment, the Toiyabe desert sheep population is expected to show an increase in population level over that estimated in 2011.

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

Report by: Jason Salisbury

Survey Data

A short thirty-minute aerial survey was conducted in October of 2011 in this unit and resulted in the classification of 31 bighorn sheep. Ratios obtained from this small sample were 108 rams:100 ewes:50 lambs.

Habitat

During the spring and summer of 2011 above average precipitation allowed for excellent habitat conditions. Water development projects have played a crucial role in maintaining sheep populations within Unit 181 over the last 5 years. The Nevada Department of Wildlife is working with the Bureau of Land Management to clear water developments in the Sand Springs Range, Monte Cristo Mountains, and the Cocoon Mountains. Once these water developments are in place they will ensure adequate water is available for bighorn in the Unit 181.

In 2011 the South Sand Springs Project received an additional 5,000 gallons of storage capacity. This project collects water from a spring source then stores water in underground tanks. Because of the limited water that occurs in the Sand Springs Range, this project is vital to the survival of bighorn in the area.

The Fairview water developments located on the Naval bombing range are receiving consistent use by bighorn sheep. Future plans for establishing more dependable water sources may involve rebuilding a small game water development located in Bell Canyon. Additionally, the Slate Mountain water development and the Fast Glass water development need to be refurbished with new gutter and pipe rail fences.

Population Status and Trend

The bighorn sheep population inhabiting Unit 181 is estimated this year at 250 animals which is a 19% increase from what was reported last year. This bighorn population is doing extremely well following a significant disease event that occurred in the fall of 2007. This population of sheep is back to the level it was at prior to the die-off event. Future management actions within this population include considering the sport take of ewes and or aggressive trapping and removal of sheep from this unit to keep this population within its carrying capacity. The lamb ratio of 50 lambs:100 ewes is encouraging and will allow the population to grow providing opportunity well into the future.

Unit 183: Clan Alpine Range; Churchill County

Report by: Jason Salisbury

Survey Data

No aerial survey was conducted in the Clan Alpine Mountains in 2011. In November of 2011 a ground survey was conducted in this area yielding a sample of 107 sheep. The observed sex and age ratios were 55 rams:100 ewes:23 lambs.

Population Status and Trend

In the Clan Alpine Mountains, a disease event may have occurred between the winter of 2009 and 2010. During this time frame several sheep were observed coughing. Lamb recruitment has been below average over the last 3 years which may also be an indication of a past disease event. This year's lamb ratio of 23 lambs:100 ewes will keep this population stable. More intense aerial surveys in the future will provide better insight into status of this population. Hunters reported seeing a strong segment of 6-year-old and younger rams within the population this past season. This news is promising and will allow hunters the opportunity to harvest older age-class rams well into the future.

Unit 184: Desatoya Range; Churchill and Lander Counties

Report by: Jason Salisbury

Survey Data

In October 2011, a 2.5 hour aerial survey yielded a sample of 67 bighorn sheep. The observed sex and age ratios were 38 rams:100 ewes:43 lambs. Because of the late timing of this survey, bighorn were not concentrated around water sources which may have caused a decrease in sample size. Areas surveyed included the Desatoya Mountains, Eastgate Hills, Greyback and Broken Hills.

Habitat

Moisture levels received during the winter of 2011-12 have been well below normal. Spring and summer precipitation will be needed to produce adequate forage for this bighorn herd.

The Stillwater District of the BLM is planning a horse gather on the Desatoya Horse Management Area. The removal of the horses will help alleviate impacts to upper elevational riparian areas within the Desatoya Mountains that both horses and bighorn sheep use.

Population Status and Trend

Lamb recruitment observed in 2011 increased substantially from what was reported last year. This increase in lamb production was the result of above average precipitation levels received in early 2011 which led to a better forage base in the upper elevations of the Desatoya Mountains. This year's population estimate shows a slight increase from what was reported last year.

Unit 202: Wassuk Range; Mineral County
Report by: Jason Salisbury

Harvest Results

Since going from a November to October hunting season, hunters have experienced an increase in their success in harvesting older age class rams. The average age of harvested rams during the 2011 season was 6.3 years which was a noticeable increase from past November hunts. The earlier time frame allows hunters the ability to narrow their search for sheep in habitat use areas associated with water sources which increases their success.

Survey Data

No surveys were completed during this reporting period. The most recent survey occurred in September of 2010 and resulted in the classification of 64 sheep. These included 14 rams, 34 ewes, and 16 lambs with ratios of 41 rams:100 ewes:47 lambs.

Population Status and Trend

The Unit 202 bighorn herd continues to do well. Increased observations of sheep north of the Copper Canyon drainage indicate dispersal into the northern portion of the range. If lamb ratios persist in the high forties, this population will continue to grow in size. For the 2012 hunting season, Unit 202 will be combined with Unit 204. A suspected disease event may have occurred in Unit 204, but if older age class rams are still available hunters will have the option of hunting both units. Tag quotas will only be generated from the Unit 202 population model.

Unit 204: Pine Grove Range; Lyon County
Report by: Jason Salisbury

Survey Data

Aerial surveys were conducted on the East Walker bighorn sheep herd during October of 2011. A total of 32 animals were classified. These numbers yielded a ratio of 69 rams: 100 ewes: 76 lambs.

Habitat

For the last several years forage quality has suffered along the East Walker River drainage. Precipitation levels have been low in this area because it is in the rain shadow of the Sierra Nevada's.

Further impacting the bighorn sheep herd will be the opening of a clay mine in the Rough Creek area of the East Walker River drainage. The clay company will be hauling loads of material from the bottom of the canyon on the East Walker River on a daily basis. Methods employed to discourage vehicle sheep collisions include the posting of 15 mph speed limit signs.

Population Estimates and Trend

In October of 2011, a group of hunters scouting Unit 204 located a domestic ewe in vicinity of the Elbow area of the East Walker River. The Elbow area is considered a high use area for the bighorn herd occupying Unit 204. After investigation, the Nevada Department of Wildlife made contact with the owner and removed the sheep. Samples from the sheep were collected and sent off to a lab. This animal had traveled at least 35 miles from its known location. A follow-up aerial survey was conducted and 32 bighorn were located on the very north end of the East Walker River Drainage.

Sheep hunters in the area later reported that a few bighorn sheep were observed coughing. Future field observations and aerial surveys will be needed to determine if a disease event occurred in this population. Because of the lack of information on how many mature rams are left in this population Units 202 and Unit

204 were combined for 2012 season as a precautionary measure. Tag quotas for this unit group will be based entirely on the Unit 202 estimate. If adequate mature rams and ewes exist, future management may involve separating Unit 204 to its own individual unit again.

Unit 205: Gabbs Valley Range, Gillis Range, Pilot Mountains; Eastern Mineral County
Report by: Jason Salisbury

Survey Data

No aerial surveys were conducted in Unit 205 in 2011. The last aerial survey occurred in September of 2010 and yielded a sample of 202 bighorn sheep. The sample provided a composition ratio of 74 rams:100 ewes:56 lambs. A trail camera survey was conducted in 2011. A sample of 130 bighorn sheep was obtained yielding a composition ratio of 65 rams:100 ewes:35 lambs. Cameras were set up at water development sites during the summer months. They provided useful information such as ram and ewe age class but may not give an accurate representation of lamb recruitment.

Habitat

In the summer of 2011, Table Mountain and Homestake water developments were upgraded with new tanks, apron, gutters, and pipe rail fencing. Before the rebuild these units received limited use by bighorn rams and the outdated barbwire and smooth wire fence systems excluded use by ewes and lambs altogether. In late summer of 2011, after upgrades to the water developments were completed, the Homestake unit was inundated by ewes and lambs and the Table Mountain site was seeing more bighorn rams than ever before.

In February of 2012, the lower and Upper Paymaster sites were rebuilt along with the Snider water development. Since 2005, 12 water developments have been rebuilt with previous water storage capacities at roughly 33,000 gallons of storage. The new upgrades of water developments in Unit 205 can now hold roughly 44,000 more gallons of water for a total of 77,000 gallons available for bighorn sheep.

Riparian areas within Unit 205 are in a degraded state due to long-term overutilization by cattle as well as feral horses. Future fencing projects around springs and riparian areas will aid in restoring flow and functionality of these spring sources.

Population Status and Trend

The Unit 205 herd appears to be increasing at this time. Lamb ratios have averaged 48 lambs:100 ewes for the last 10 years. Because of the recent improvements in water development design, this bighorn sheep population should continue to expand.

Unit 206: Excelsior Range; Mineral County
Report by: Jason Salisbury

Survey Data

No aerial surveys were conducted in the Excelsior Mountains this past year. The last survey occurred in September of 2010 with a total of 77 bighorn sheep observed resulting in sex and age ratios of 64 rams:100 ewes:33 lambs. This sample of 77 sheep was the highest ever recorded for this unit. Areas surveyed included Thunder Mountain, Camp Douglas, Silver Dyke Canyon, Storm Canyon, and Moho Mountain.

Habitat

In the summer of 2011 3 new water developments were built in the Excelsior Mountain Range. The new water developments were built from Moho Mountain west to Teels Marsh. This area contains high quality forage which will allow bighorn sheep to disperse throughout the area. Lower elevation springs in the area are being over utilized by burros. The addition of these water developments will enable bighorn

sheep to escape competition around these water sources. Plans are under way to expand bighorn sheep use into Miller Mountain, Candelaria Hills, and the Garfield Hills within the Excelsior Mountain Range using new water developments.

Population Status and Trend

In October of 2011, 20 bighorn sheep were captured on Stonewall Mountain, Unit 252 within Nye County. These bighorn were released near the base of the Excelsior Mountains just below the new Defender water development. Since the October release, the majority of the sheep stayed within 5 miles of the release site. This herd continues to do well and the addition of water developments should enable the population to grow. The 2012 population estimate for Unit 206 projects a 16% increase in population compared to last year. Most of this increase can be attributed to the release complement of sheep.

Unit 211 North: North, Monte Cristo Range; Esmeralda County

Report by: Tom Donham

Survey Data

No aerial composition survey was accomplished in Unit 211N during the 2011 survey season. The previous aerial composition survey accomplished in Unit 211N was conducted in late August 2010. During the 2010 survey, a record total of 311 desert bighorn sheep was classified as 78 rams, 176 ewes, and 57 lambs.

Habitat

Due to effects from drought and feral horses, several natural water sources in the Monte Cristo range are becoming less and less reliable. In 2005, a fourth water development was constructed in order to augment existing water sources. Plans are being made for an additional 2 water developments in the Monte Cristo Range to help ensure water availability does not become a problem if natural waters fail.

During the spring of 2011 a water development on the east side of the range, Monte Cristo #1, was rebuilt. The unit now has increased storage capacity, and a self-leveling drinker which should provide a more reliable source of water. The location of the drinker was also moved to a new location to reduce the risk of predation.

Population Status and Trend

The Monte Cristo desert sheep population is one of only a few remnant sheep herds in central Nevada. The herd has exhibited steady growth over the past 7 to 10 years. Very good production and recruitment rates have allowed this population to increase at a greater rate than most surrounding herds, and the population has reached a level where there is concern over animal densities at some water sources. During the fall of 2011, a capture project was conducted in the Monte Cristo Range. The project not only provided valuable transplant stock for a desert sheep reintroduction in the Virginia Range, Unit 195, but also served to reduce animal density on the southern portion of the Monte Cristo Range. A total of 34 animals were captured and relocated including 19 ewes, 12 lambs, and 3 yearling rams.

If the current rate of increase continues, it may make the removal of additional animals thru trapping and transplant projects, or by initiating a “ewe hunt”, necessary to control population levels.

The population model for Unit 211N predicts an increase in population over that estimated in 2011.

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

Survey Data

An aerial composition survey was conducted in October 2011 in Unit 211S. A total of 221 animals was classified as 75 rams, 95 ewes, and 51 lambs in the Volcanic Hills and Silver Peak Range. The sample size of 221 animals represents the second highest survey sample ever obtained in Unit 211S. In comparison, the previous composition survey saw a total sample size of 156 desert sheep classified as 48 rams, 68 ewes, and 40 lambs. The 2010 survey took place solely in the Silver Peak Range.

Population Status and Trend

The Unit 211S desert sheep herd is one of only a few remnant herds in central Nevada. Historically, sheep movement occurred regularly between the Silver Peak Range, Unit 211S, and the Monte Cristo Range, Unit 211N. The Monte Cristo Range served primarily as winter range for many of the sheep in the Silver Peaks. Over the years this movement has nearly ceased, and each of the 2 ranges now supports distinct populations.

The vast majority of the desert sheep inhabiting Unit 211S 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.

Due to the steadily increasing bighorn population inhabiting Unit 211S, the herd was utilized as a source of transplant stock in 2009 when a total of 25 animals was captured for relocation in Churchill County, Unit 182. The release compliment consisted of 21 ewes and 4 lambs. The Unit 211S desert sheep population continues to exhibit good production and recruitment rates, and has been experienced an increasing trend for the past several years.

Unit 212: Lone Mountain; Esmeralda County
Report by: Tom Donham

Survey Data

An aerial composition survey was conducted in Unit 212 in October 2011. A record sample of 305 animals was classified as 96 rams, 139 ewes, and 70 lambs. As a comparison, the previous record sample, obtained in 1984, consisted of a total of 201 animals. The previous aerial composition survey was conducted in 2009 when a total of 161 animals was classified as 45 rams, 77 ewes, and 39 lambs.

Population Status and Trend

The Unit 212 desert sheep population is one of only a handful of remnant herds in central Nevada. Many desert sheep herds were extirpated during the late 19th and early 20th centuries due to a variety of human caused reasons. Fortunately, due to the rugged nature of Lone Mountain, a small number of desert sheep escaped annihilation during that period of time. Interestingly, during the 1920's and 1930's, prohibition nearly accomplished what unregulated hunting and excessive livestock use could not. Nearly every available water source on Lone Mountain was used for distilling illegal liquor during that era, and this severely impacted the herd's access to water. Having survived these challenges, the Lone Mountain sheep population began increasing steadily once regulations were put into place protecting them. By the late 1980's the herd had increased to an estimated population of over 200 animals.

This population served as transplant stock during 2 successive years in the late 1980's and immediately following these captures, experienced a sharp decline. By 1991 the herd was estimated at less than 50 animals. Not long after this decline the herd once again began to steadily increase, a trend that has continued to the current time.

Due to very good production and recruitment rates experienced over the past several years, the Unit 212 desert sheep population has increased at an impressive rate. This rapid increase was previously underestimated and made it necessary to make a significant adjustment in the 2012 population estimate. Current data indicate the Unit 212 desert sheep population is at its highest level in decades.

Unit 221: South Egan Range; Lincoln County
Report by: Mike Scott

Survey Data

One collared ewe was observed during deer surveys in March 2012. A report of a small group of bighorns was received around that same time, but they were not observed on survey. Three domestic sheep were observed in close proximity to the lone bighorn ewe. The owner was contacted and was planning to remove the domestic sheep.

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 the population has been essentially lost, despite the presence of a few remaining bighorns. Two adult ewes were captured and fitted with satellite collars in January 2011, which may help to determine what challenges these sheep are faced with. Existing survey data cannot provide enough information to make a reasonable population estimate. This unit will remain closed indefinitely.

Unit 223, 241: Hiko, Pahroc, and Delamar Ranges; Lincoln County
Report by: Mike Scott

Survey Data

Aerial surveys were conducted in the Hiko, Pahroc, and Delamar Ranges in August 2011 and resulted in the classification 135 sheep consisting of 34 rams, 74 ewes, and 27 lambs. This provided sex and age ratios of 46 rams:100 ewes:36 lambs.

Habitat

Habitat conditions will be marginal with below-average precipitation received since 2011. The sheep in these areas are faced with numerous habitat issues including OHV races and rock-crawling courses, new power lines, development, and domestic sheep interaction. Two water developments in the Hikos were found to be dry. One unit was repaired and the other will be rebuilt as soon as possible.

Population Status and Trend

Two releases were completed in the Delamar and South Pahroc ranges in fall of 2011. A total of 75 sheep were released into these areas. The Hiko and Pahroc bighorn populations appear to be stable to increasing at this time. The Delamar population appears to be somewhat stable despite ongoing predator issues, as well as movement of released sheep to nearby mountain ranges. Sheep released in the Delamars are commonly observed in all adjacent mountain ranges. The computer-generated population estimate for 2012 is above the 2011 estimate.

Unit 243: Meadow Valley Mountains; Lincoln County
Report by: Mike Scott

Survey Data

Aerial surveys were completed in August 2011 and resulted in the classification of 70 sheep. These consisted of 19 rams, 36 ewes, and 15 lambs which provides ratios of 53 rams:100 ewes:42 lambs.

Habitat

BLM rain-can data showed the Meadow Valley Mountains to be at 98% of average annual precipitation while CEMP showed Alamo to be at 72% of average and Mesquite at 107% of average. The conclusion is that the Meadow Valleys should be somewhere around average which means that habitat conditions should be good for bighorns. A common concern in the Mojave Desert is that with precipitation comes a higher density of exotic annual grasses increasing the potential for wildfires. One fire in the northern portion of the Meadow Valleys burned approximately 10,000 acres in 2011. The wilderness designation placed on the Meadow Valleys combined with limited access around the range makes hunting sheep in the area very difficult.

Population Status and Trend

Recent releases of sheep into the Meadow Valleys combined with good habitat conditions should continue the upward trend in the population. The computer-generated population estimate shows an increase over the 2011 estimate.

Unit 244: Arrow Canyon Range; Northern Clark County

Report by: Patrick Cummings

Survey Data

No aerial survey was conducted over the Arrow Canyon Range in 2011. In September 2010, a 5.3-hour aerial survey yielded a sample of 83 bighorn sheep. The observed sex and age ratios were 83 rams:100 ewes:47 lambs. Bighorn sheep were encountered throughout much of the interior of the Arrow Canyon Range, and within 2.5 miles of available water. The survey sample included 6 rams, 9 ewes, and 7 lambs that were encountered in the adjacent Battleship Hills. The next aerial survey over the Arrow Canyon Range is expected to occur in fall 2012.

Habitat

Bighorn sheep inhabiting the Arrow Canyon Range and Meadow Valley Mountains will likely be impacted by impending infrastructure construction and other anthropogenic influences from the Coyote Springs master planned community. This 43,000-acre parcel situated northeast of the junction of U.S. 93 and State Route 168 is the largest privately held property for development in Southern Nevada. Construction of the master planned community commenced in 2005; however, construction has stalled in recent years likely due to the economic recession.

The Southwest Intertie Project (SWIP) corridor spans 235 miles from near Ely to north of Las Vegas, and involves construction of a 500-kV transmission line. The new line will provide transmission access to otherwise isolated renewable energy projects in parts of northern and eastern Nevada, and will enhance reliability and efficiency between Nevada Energy's northern and southern service areas. The transmission line will be constructed along the west side of the Arrow Canyon Range. It will cross the range approximately 1.5 miles south of the Arrow Canyon #1 water development.

The southwest end of the Arrow Canyon Range, given close proximity to Las Vegas, continues to attract recreational shooters, casual plinkers and recreational vehicle enthusiasts. It appears bighorn sheep tend to avoid the area as result of increased human presence and frequent firearms discharges.

Population Status and Trend

The bighorn population inhabiting the Arrow Canyon Range endured abnormally dry conditions over a recent 4-year period (2006-09). Environmental conditions in 2010 and 2012 were comparatively improved. The current bighorn sheep population estimate is 130 and reflects no change relative to the estimate reported last year.

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

Survey Data

During an aerial composition survey conducted in September 2011, a record sample of 384 animals was classified as 117 rams, 310 ewes, and 74 lambs. The 2011 survey included an area of occupied habitat further to the east than is normally flown in this unit. The previous survey took place in late September 2009 when a sample of 192 animals was classified as 44 rams, 128 ewes, and 20 lambs.

Population Status and Trend

In the fall of 1996, the Stonewall Mountain desert sheep population experienced a major decline. However, this decline appeared to have been due to a major movement of sheep out of the Stonewall area as opposed to a disease related die-off. The mass exodus is believed to have been in response to very poor habitat conditions resulting from a combination of drought and excessive use by feral horses. As habitat conditions responded to the removal of feral horses, and some limited improvements in climatic conditions, sheep numbers steadily increased in the area.

More recently, Stonewall Mountain has seen a noticeable jump in the bighorn population level. This recent increase is believed to be the result of a situation similar to that which occurred in 1996. This time however, consistent periods of drought, and the resultant impacts to habitat conditions, seem to have caused animals to drift from areas deeper within the NTTR into the Stonewall Mountain area. Unlike the situation in 1996, feral horse numbers are found higher and deeper within the NTTR. Currently, very few horses occupy the Stonewall Mountain area making it more attractive to desert sheep during drought periods. Due to the continual movement of sheep between Stonewall Mountain and areas deeper within the NTTR, it is very difficult to accurately model this population. The number of animals utilizing the Stonewall Mountain/Pahute Mesa area can fluctuate greatly on a regular basis.
In an effort to decrease densities of desert sheep in the Stonewall Mountain area, as well as simply to take advantage of the large number of animals occupying the area, a capture project was conducted in Unit 252 during the fall of 2011. There were 28 animals successfully captured during the project. The first 20 animals captured were transported the Excelsior Range, Unit 205, where they were successfully released in order to augment an existing sheep population in Mineral County. The final 8 animals that were captured were successfully released in Unit 195, Storey County, as part of a desert sheep reintroduction effort.

Currently, the Unit 252 desert sheep population is exhibiting a steadily increasing trend. The Unit 252 computer generated population estimate includes only that portion of the sheep that inhabit the Stonewall Mountain area on a consistent basis.

Unit 253: Bare Mountain and Specter Range; Southern Nye County
Report by: Patrick Cummings

Seasons and Hunt Quotas

Separate quotas have been allotted to Bare Mountain and Specter Range since 2005. The objectives in splitting Unit 253 were to disperse harvest pressure and potentially increase hunter opportunity.

Survey Data

In October 2011, an aerial survey on Bare Mountain yielded a sample of 235 bighorn sheep. The sample was the largest recorded and reflected sex and age ratios of 53 rams:100 ewes:73 lambs. The previous survey on Bare Mountain was conducted in fall 2009, and yielded a sample of 174 bighorn sheep. At that time, the sample was the largest recorded and reflected sex and age ratios of 61 rams:100 ewes:26 lambs.

No survey was conducted on the Specter Range in 2011. In late September 2010, a brief 2.5-hour aerial survey conducted in the Specter Range 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 2012.

Habitat

Precipitation receipts in late 2011 and early 2012 were insufficient to adequately recharge the 3 bighorn sheep water developments on Bare Mountain. Moreover, available stored water among the 3 units as of April 2012 was less than 10% of capacity. Thus, a water haul operation was conducted in early April 2012 and entailed the use of a Nevada Division of Forestry Bell 204 UH-1 "Huey" helicopter.

In August 2009, the Bureau of Land Management (BLM) issued a Decision Record approving the Reward Mine project on Bare Mountain. Presently, the CR Reward Corporation (CRRC) is building an open pit gold mine and heap leach processing facility. CRRC holds claims on an area of approximately 2,006 acres. The project 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 1/2 mile of the Bare #2 water development.

In late April 2010, Fraternity of the Desert Bighorn members and NDOW personnel performed important upgrades to the Bare #3 water development. The improvements included increased storage capacity and installation of a cross-leveling system that incorporates new, low-profile tanks and a new drinker.

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 9,000+ gallons.

Population Status and Trend

In 2012, the population estimate for bighorn sheep inhabiting Bare Mountain is 220, and represents a substantial increase relative to the 150 adult sheep reported in 2010. 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 suspected 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 Test Site). Population expansion in 2012 was primarily attributed to lamb recruitment documented during the aerial survey conducted in October 2011. The next aerial bighorn survey is scheduled for fall 2012 and should yield information relative to the transience or permanence of the recent population expansion.

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 was comprised of 20 ewes, 5 lambs and 1 ram.

Bighorn sheep movements through the Beatty Wash—west Yucca Mountain area serve to maintain connectivity between sheep on Bare Mountain and 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 habitat, its value as a movement corridor should be recognized in land use planning.

In 2009, the Bureau of Land Management (BLM) 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 STATES."

The decision to approve the race is an indication that BLM officials failed to adequately consider impacts from establishment of a new road segment through a roadless area recovering from the 2006 Beatty Fire.

NDOW remains concerned the decision process failed to adequately analyze direct, indirect and cumulative impacts of the annual race and newly created thoroughfare. One of the anticipated impacts 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.

In the Specter Range, events beginning at least as early as Fall 2002 indicated the population was coping with disease. Available evidence suggested bacterial pneumonia may have been a factor in high mortality among lambs. Recruitment in 5 consecutive years (2003-07) was negligible. In spring 2008, several observations were made of ewes with attendant 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 population estimate is 80, and reflects an increase from 70 reported last year. The population increase was the result of revision of survival rates upward beginning in 2008 for lambs ewes and rams, and is consistent with information obtained by remote cameras and aerial surveys.

Unit 261: Last Chance Range; Southeastern Nye County

Report by: Patrick Cummings

Survey Data

In mid October 2011, an aerial survey yielded a sample of 111 bighorn sheep. The sample reflected sex and age ratios of 89 rams:100 ewes:47 lambs. Bighorn sheep were encountered primarily on the northwest ridges and the high prominent southeast ridge. Two years earlier, an aerial survey yielded a sample of 162 bighorn sheep. The sample was the largest recorded and reflected sex and age ratios of 54 rams:100 ewes:41 lambs.

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 2012, the collective amount of stored water leading into the spring and summer months amounts to 71% of total capacity. The inspections also revealed universally heavy bighorn use of the water developments during summer 2011.

A consequence of the expanding human population in the Pahrump Valley is habitat degradation resulting from dispersed recreational use of off-highway-vehicles (OHV), and in the recent past, permitted OHV races.

Population Status and Trend

In the Last Chance Range, the 2012 bighorn sheep population estimate is 180, and represents a modest increase relative to the estimate (170) 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 gender 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.

In October 2007, 2 Pahrump residents encountered an undetermined number of bighorn carcasses at and near the Last Chance #5 water development. Based on the initial report and follow-up investigation, it was believed that 10 bighorn sheep died during summer 2007. In the absence of rain, the 2 central water developments were expected to go dry in early summer 2007. It was deemed cost prohibitive to haul water to LC #5 and LC #4, and reasoned that sheep under hydration stress in the central areas would move to water developments situated to the north or south.

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

Report by: Patrick Cummings

Survey Data

In 2011, no aerial bighorn sheep survey was conducted in Unit 262. In September 2010, an aerial survey conducted in the La Madre Ridge and Red Rock Escarpment areas yielded a sample of 56 bighorn sheep. The observed sex and age ratios were 29 rams:100 ewes:18 lambs. The survey sample contrasts with the higher lamb ratio, larger bighorn sample and broader sheep distribution recorded in the 2006 aerial survey. In October 2006, a sample of 104 bighorn sheep yielded sex and age ratios of 55 rams:100 ewes:42 lambs. The survey effort resulted in the largest recorded sample, and documented bighorn presence and distribution along the prominent south ridge that defines Box Canyon.

South of State Route 160, aerial bighorn surveys extended over portions of the south Spring Mountains and Bird Spring Range. Bighorn sheep were encountered on the south end of Potosi Mountain, on and in proximity to Little Devil and Big Devil peaks and on the northern portion of the Bird Spring Range. Inclusive of these areas, 18 rams, 34 ewes and 6 lambs were observed.

Habitat

Unit 262 tends to receive more precipitation from year to year 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 June 22, 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'-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

North of State Route 160, bighorn sheep inhabit the Red Rock Escarpment and La Madre portions of the Spring Mountains. South of State Route 160, bighorn occur in lower densities throughout the Bird Spring Range, Potosi Mountain, Table Mountain, Little Devil Peak and Devil Peak. In recent years, several motorists traveling along U.S. 95 adjacent to the Specter Range claimed to have observed bighorn sheep south of the highway on the north end of the Spring Mountains. The reports remain unsubstantiated.

Desert bighorn sheep in the Spring Mountains face a host of 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 eliminated and degraded bighorn sheep habitat. Increasingly, land management emphasis in the Red Rock area is to accommodate human recreational pursuits that are often incompatible with 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 (BLM) 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. However, the BLM designated LMCP without adequate evaluation of environmental impacts or review of existing documents. In the 1960s, BLM identified much of the area now within the boundary of LMCP as seasonally important for bighorn sheep.

In 2012, the population estimate for bighorn sheep inhabiting the Spring Mountains and Bird Spring Range is 170, and approximates the estimate reported last year.

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

Report by: Patrick Cummings

Survey Data

In September 2011, aerial bighorn sheep surveys were accomplished in the Highland Range and McCullough Range. In the Highland Range, 10 rams, 12 ewes and 2 lambs were encountered. In the McCullough Range, 153 sheep were classified reflecting sex and age ratios of 51 rams:100 ewes:43 lambs. The aerial survey in the McCullough range was necessarily truncated. As a result, much of the area in the northwest quadrant of the range was not surveyed. 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 water development and north of McCullough Pass.

Habitat

Several projects to construct trails are in planning phase. The City of Henderson intends to construct trails on the north end of the McCullough Range, and BLM will ultimately construct trails in Sloan Canyon National Conservation Area and in 2 wilderness areas.

An unresolved issue centers on relocation of a segment of the local helicopter scenic tour operations from McCarran International Airport. The widely supported project is intended to direct helicopters enroute to and from the Grand Canyon to an unpopulated area. One proposal identifies a heliport south of Sloan. Under this scenario, tour helicopters departing and arriving at a heliport south of Sloan would necessarily fly over the McCullough Range. The direct routes to and from the proposed heliport would entail potentially 120-200+ low-level flights per day over the central portion of the McCullough Range within 1 mile of 2 water developments. The issue and details will be resolved through federal legislation.

Population Status and Trend

The bighorn sheep population inhabiting the Highland Range and McCullough Range is estimated at 250 adults, and approximates the estimate reported last year.

In early November 2008, 14 ewes and 2 male lambs were captured from the south central and north central portions of the McCullough Range to achieve an augmentation of the herd inhabiting the Meadow Valley Mountains. In October 2006, 27 sheep comprised of 22 ewes, 2 female lambs and 3 male lambs were captured from the northeast and central portions of the range to achieve an augmentation of the herd inhabiting the Virgin Mountains. In October 2003, the first capture and removal of bighorn sheep in the McCullough Range was conducted to achieve an augmentation of the herd inhabiting the Delamar Range. Fifteen sheep, comprised of 14 ewes and 1 male lamb, were captured from the east-central portion of the range.

Bighorn sheep in the northern portion of the McCullough Range face a variety of human imposed 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: Patrick 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 Newberry Mountains in 2011. In October 2010, an aerial survey in the Newberry Mountains yielded the highest recorded sample and well surpassed the previous record survey obtained 2 years earlier. The sample was comprised of 34 rams, 54 ewes and 11 lambs (Table 1).

Habitat

Duke Energy has proposed to construct and operate a wind energy generating facility near Searchlight. On 20 January 2012, BLM initiated a 90-day scoping period to solicit review and comment on a Draft Environmental Impact Statement. NDOW is concerned that if constructed, bighorn sheep may be impacted by turbine structures, new roads, appurtenances and human activity during construction and operational phases. 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 composition obtained through aerial surveys in the Newberry Mountains.

Year	Rams	Ewes	Lambs	Total	Rams:100 Ewes:Lambs
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

Recent aerial survey data indicate the bighorn population inhabiting the Newberry Mountains was underestimated. The revised population estimate is 100. The larger than expected aerial survey sample in 2010 may have been due, in part, to bighorn ingress from the adjacent Dead Mountains in California and/or the Eldorado Mountains. The next aerial bighorn sheep survey is scheduled for fall 2012.

Unit 265: South Eldorado Mountains; Southeastern Clark County

Report by: Patrick 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 2011. In October 2010, 19 rams, 9 ewes and 1 lamb were observed during a 2.4-hour survey (Table 1). The next aerial bighorn sheep survey in the south Eldorado Mountains is scheduled for fall 2012.

Table 1. Bighorn 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

Duke Energy has proposed to construct and operate a wind energy generating facility near Searchlight. On 20 January 2012, BLM initiated a 90-day scoping period to solicit review and comment on a Draft Environmental Impact Statement. NDOW is concerned that if constructed, bighorn sheep may be impacted by turbine structures, new roads, appurtenances and human activity during construction and operational phases. 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

The southern Eldorado Mountains support a low-density resident bighorn herd, as well as a fall migrant segment from the northern portion of the range. The 2012 population estimate for the herd inhabiting the entire Eldorado Mountains (Units 265 and 266) is 200, and reflects an increase relative to the estimate (170) reported last year. The population expansion portrays high lamb recruitment and upward adjustment of a lamb ratio corresponding to an aerial survey conducted in 2005.

Unit 266: North Eldorado Mountains; Southeastern Clark County

Report by: Patrick Cummings

Survey Data

In late September 2011, an aerial survey conducted in the northern portion of the Eldorado Mountains yielded a sample of 75 bighorn sheep. The observed sex and age ratios were 81 rams:100 ewes:53 lambs. Bighorn sheep encountered during the aerial survey were noted as not exhibiting normal startle responses (i.e., fleeing). Upon initial detections, bighorn sheep were standing or lying down. It is strongly suspected bighorn sheep 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.

Bighorn sheep were encountered along the prominent east-west oriented ridge situated northeast of Boulder City, Boy Scout Canyon and in dispersed groups south to Burro Wash. The 5.6-hour aerial survey was terminated in lower Burro Wash.

Habitat

On the northern end of the Eldorado Mountains, the herd has coped not only with persistent drought conditions (2000-02 and 2006-09), but also periodic deaths consequential to collisions with vehicles along U.S. 93. The highway traverses through a bighorn sheep core-use area and likely represents a population sink. The magnitude of the problem is somewhat unclear as it is expected only a fraction of bighorn-vehicle collisions are reported.

The bighorn sheep herd in the Eldorado Mountains has and will continue to face additional human imposed 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 planned to extend the new U.S. 93 alignment east and south of Boulder City through the northern portion and western flank of the Eldorado Mountains.

In October 2003, in efforts to better understand how the Hoover Dam Bypass project may impact bighorn sheep, the Federal Highway Administration, National Park Service and Nevada Department of Wildlife cooperated in capture of 20 bighorn sheep subsequently fitted with GPS and VHF telemetry subsystems. The objectives were to obtain baseline information on bighorn movements and distributions before and during construction phases. The information would later facilitate identification of impacts that may be mitigated, as well as impacts that may be irreversible.

Population Status and Trend

The 2011 population estimate for the herd inhabiting the entire Eldorado Mountains (Units 265 and 266) is 170, and approximates the estimate reported last year. Some of the sheep from the northern Eldorado Mountains migrate to the south Eldorado Mountains in the fall.

Unit 267: Black Mountains; Eastern Clark County

Report by: Patrick Cummings

Survey Data

No aerial survey was conducted over the Black Mountains in 2011. In late October 2010, an aerial survey yielded a sample of 185 bighorn sheep. The observed sex and age ratios were 66 rams:100 ewes:17 lambs. Given generally higher bighorn sheep density, the majority of the aerial survey was focused between Echo Bay and Boathouse Cove Road. Since the early 1980s, aerial survey sample sizes, lamb-to-ewe ratios and encounter rates generally trended downward.

Habitat

Environmental conditions as of this writing in April 2012 are fair due to limited winter and spring storms. Thus far in 2012, precipitation receipts are below normal, and the likelihood for an overall dry year is high. In the seasonal drought outlook, the National Weather Service foresees drought conditions to persist or intensify.

Population Status and Trend

Over the long term, recruitment of young animals appears below levels necessary to maintain the bighorn sheep herd inhabiting the Black Mountains. Aerial survey data (i.e., lamb:ewe ratio, sheep per hour, total observed) portray a steady population decline that began in the latter half of the 1980s.

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 is expected to experience an expansion in 2012 due to higher lamb recruitment. The 2012 population estimate for bighorn sheep inhabiting the Black Mountains and Muddy Mountains is 850, and represents an increase over the estimate (800) reported last year.

Unit 268: Muddy Mountains; Clark County

Report by: Patrick Cummings

Survey Data

In October 2011, 7.3 hours of flight time were expended to conduct an aerial bighorn sheep survey in the Muddy Mountains. The survey yielded a sample of 485 bighorn sheep. The observed sex ad age ratios were 81 rams:100 ewes:63 lambs. Bighorn sheep were widely distributed and encountered throughout much of the survey route. The survey was undertaken over the course of 2 days, and commenced on Muddy Peak. On the second day, the survey began on Rogers Ridge south of State Route 169 and proceeded west to nearly Buffington Pockets. The area surveyed did not include the North Muddy Mountains.

Habitat

In late March 2012, the Five Ram water development was upgraded. Notably, the project was fully converted to a leveled system, thus eliminating the need for a float valve. 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 approximately 13,600 gallons.

Environmental conditions as of this writing in April 2012 are fair due to limited winter and spring storms. Thus far in 2012, precipitation receipts are below normal, and the likelihood for an overall dry year is high. In the seasonal drought outlook, the National Weather Service foresees drought conditions to persist or intensify.

Population Status and Trend

Desert bighorn sheep occupying the Muddy Mountains and Black 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 Muddy Mountains and Black Mountains is expected to experience an expansion in 2012 due to higher lamb recruitment. The 2012 population estimate for bighorn sheep inhabiting the Muddy Mountains and Black Mountains is 850, and represents an increase over the estimate (800) reported last year.

In late October and early November 2011, a bighorn sheep capture and removal operation was conducted in the Muddy Mountains to reduce the population, and to achieve augmentations of herds inhabiting the Delamar Mountains and Meadow Valley Mountains. In the course of 2 days, a total of 50 bighorn sheep was captured and translocated.

In early November 2009, 19 ewes and 1 lamb were captured in the Muddy Mountains and furnished to biologists with the Utah Division of Wildlife Resources. The sheep were released into the Grand Staircase—Escalante National Monument in southern Utah.

Unit 271: Mormon Mountains; Lincoln County
Report by: Mike Scott

Survey Data

Aerial surveys were completed in August 2011 and resulted in the classification of 216 sheep consisting of 70 rams, 102 ewes, and 44 lambs. The resulting sex and age ratios were 69 rams:100 ewes:43 lambs.

Habitat

Habitat conditions should be good in the Mormons due to near average precipitation in 2011 according to CEMP and BLM rain-can data. The areas burned in the Mormons in 2005 continue to have fairly high use by sheep. Water continues to be a limiting factor for sheep in the Mormons, despite having 5 BLM water developments scattered around the range. The condition of the existing water developments is poor, at best. Several of these developments are commonly observed to be dry during the late summer months. Water is not available at several of the known springs. BLM does not appear to be maintaining the existing water developments, so action must be taken to maintain or increase existing water sources for an expanding sheep population.

Population Status, and Trend

The Mormon Mountain bighorn population appears to be stable with an increasing population trend over the 2011 estimate.

Unit 272: Virgin Mountains and Gold Butte; Northeastern Clark County
Report by: Patrick Cummings

Survey Data

In late September 2011, an aerial bighorn sheep 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.

In October 2010, an aerial bighorn sheep survey was attempted over the eastern portion of the Gold Buttes (i.e., Iceberg Canyon, Indian Hills and Azure Ridge). Low clouds and rain hampered survey efforts and necessitated redirection of the survey to central and northern Gold Buttes and the south Virgin Mountains. In the course of the 4.3-hour survey, 8 rams, 7 ewes and 6 lambs were encountered.

In October 2009, an aerial bighorn sheep survey was conducted over the Bunkerville Ridge, Virgin Mountains and northern portions of the Gold Buttes. The survey yielded a sample of 8 rams, 19 ewes and 10 lambs. The majority of the bighorn observations were in the northern portions of the Gold Buttes. The aerial survey did not extend south to include Azure Ridge, Indian Hills, Millions Hills, Iceberg Canyon and Hell's Kitchen.

No aerial surveys were conducted in Unit 272 in 2007 and 2008. In September 2006, an aerial survey conducted in the Virgin Mountains and Gold Buttes yielded a sample of 62 bighorn sheep. The observed sex and age ratios were 70 rams:100 ewes:37 lambs. Bighorn sheep were encountered in the Whitney Pocket area, Iceberg Canyon, Bitter Ridge and the north end of Lime Ridge.

Habitat

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, it was noted that 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 was accomplished 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 aptly named 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 (pinion-juniper woodland) vegetation across 2,700 acres. At its northern point, the Virgin Gold Fire burned to within a half mile 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 approximately 11 springs and at least 7 wash complexes were impacted by fire. The Fork Fire consumed plants over 44,314 acres along a 3,300'-elevation gradient (2,460' to 5,760') within 3 vegetative associations: Creosote-Bursage Flats, Mojave Desert Scrub, and Pinyon-Juniper Woodland. The Tramp fire consumed vegetation over 26,817 acres.

A bighorn sheep release in the Hiller Mountains was approved in Fiscal Year 1996. However, the augmentation was never accomplished due to degraded habitat conditions. Bighorn sheep habitat in the Hiller Mountains remains in a degraded state due to an existing burro population and dry conditions.

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 complement was comprised of 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, approximately 182 sheep from 4 source populations have comprised 10 release contingents. Overall, it has been difficult to assess the effectiveness of individual augmentations over time due to a variety of factors. The region's expansiveness, remote location and complex topography have created challenges to monitoring efforts for nearly 3 decades.

In view of 4 bighorn sheep augmentations since 2005, monitoring efforts in recent years have expanded beyond biennial aerial surveys and ground-based monitoring of a few marked sheep. Recent enhanced monitoring efforts entail the following: increased numbers of telemetered (VHF) animals, deployment of store-on-board GPS collars (USGS and NDOW), regular fixed-wing aerial telemetry surveys, deployment of trail cameras at water sources, and even occasional reported observations of marked animals from an avid sheep hunter familiar with Virgin Mountains and Gold Buttes.

Monitoring efforts in recent years have revealed that some of the ewes released in the Virgin Mountains have dispersed. At least 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 inhabit 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. In 2012, the bighorn sheep population estimate reflects a slight increase that accounts for the small population augmentation in late 2011.

Unit 280: Spotted Range; Northwestern Clark County
Report by: Patrick Cummings

Survey Data

In October 2011, a 4.9-hour aerial survey yielded a sample of 96 bighorn sheep. The sample was comprised of 28 rams, 58 ewes and 10 lambs. The size and composition of the survey sample resembled the sample obtained a year earlier (Table 1). Bighorn sheep were observed in proximity to each of 6 water developments in the Spotted Range.

Table 1. Bighorn composition obtained through aerial surveys in the Spotted Range

Year	Rams	Ewes	Lambs	Total	Rams: 100 Ewes: Lambs
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 was comprised of 2 rams, 13 ewes and 10 lambs. The 1996 release contingent was also obtained from the River Mountains and consisted of 8 rams, 16 ewes and 1 lamb. In 2012, the estimated number of bighorn sheep inhabiting the Spotted Range is 100, and represents a decline from the estimate (110) reported last year. The apparent population decline was a function of low recruitment in 2011 and 2012. Habitat improvements in the Spotted Range involve 6 water developments.

Unit 281: Pintwater Range; Northwestern Clark County
Report by: Patrick Cummings

Survey Data

In September 2011, a 5.6-hour aerial survey yielded a sample of 71 bighorn sheep. The observed sex and age ratios were 93 rams:100 ewes:70 lambs. Given time of year, 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. Water was noted in the Dain Peak drinker after 4 consecutive years (2007-2010) of no available water during critical summer months.

In September 2010, a 5.3-hour aerial survey yielded a sample of 100 bighorn sheep. The survey sample was the second largest recorded in the last 22 years, behind the sample obtained in 2009 (n=102). The observed sex and age ratios were 61 rams:100 ewes:43 lambs.

Population Status and Trend

In 2012, the estimated number of bighorn sheep inhabiting the Pintwater Range is 170, and reflects an increase relative to the estimate (160) reported last year. Based on aerial survey data, increased lamb recruitment is anticipated in 2012, and supports upward revision of the population estimate.

Unit 282: Desert Range and Desert Hills; Northwestern Clark County

Report by: Patrick Cummings

Survey Data

In September 2011, an aerial survey yielded a sample of 93 bighorn sheep. The sample was the largest recorded since 1977. The observed sex and age ratios were 117 rams:100 ewes:42 lambs. Given time of year, the survey was focused over areas within proximity to water sources. The majority of bighorn sheep was encountered within 2.5 miles of water sources, and was primarily distributed in the southern portion of the range in proximity to 2 water sources: Black Top and White Sage Gap.

In September 2010, a brief 3.6-hour aerial survey yielded a sample of 25 bighorn sheep. The small sample was comprised of 10 rams, 11 ewes and 4 lambs. Bighorn distribution was heavily influenced by lack of available water at 3 water developments: Black Top and White Sage Gap situated on the south end of the range, and Brent Seep located on the north end of the range.

Population Status and Trend

In 2012, the estimated number of bighorn sheep inhabiting the Desert Range was revised upward to account for the increased number of older age class rams and relatively high proportion of lambs encountered on the recent aerial survey.

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. 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.

Units 283, 284: East Desert Range and Sheep Range; Northern Clark County

Report by: Patrick Cummings

Seasons, Hunt Quotas and Harvest Results

In 2003, unit designations in Area 28 were simplified. The 4 units comprising the Sheep Range and East Desert Range were consolidated into 2 units. Former Units 283 and 287 were designated Unit 283; former Units 284 and 285 were designated Unit 284.

Survey Data

No aerial bighorn sheep survey was conducted in the Sheep Range in 2011. In September 2010, aerial bighorn sheep surveys were conducted over the northeast, northwest, south and southwest portions of the Sheep Range, Black Hills, East Desert Range, Mule Deer Ridge and Enclosure Ridge. In the course of 15.3 hours of survey, 203 bighorn sheep were classified. The observed sex and age ratios were 47 rams:100 ewes:36 lambs. The survey sample was the largest recorded since 1988. Given time of year, bighorn distribution was expectedly clumped and associated with water sources. Unexpectedly, no bighorn sheep were observed on Enclosure Ridge. The relatively high number of sheep encountered on the East Desert range was likely related to bighorn egress from the adjacent Desert Range in response to depleted water developments, i.e., White Sage Gap and Black Top.

Habitat

In a 3-year period (2004-06), 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

The 2012 population estimate for bighorn sheep inhabiting Units 283 and 284 was revised upward to account for the increased numbers of ewes and mature rams encountered on the last aerial survey.

In an effort to hasten recovery of the bighorn population in the Sheep Range, and in conformance with NDOW's Big Game Release Plan, 35 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; Clark County

Report by: Patrick Cummings

Survey Data

No aerial bighorn sheep survey was conducted in the Las Vegas Range in 2011. In September 2010, unfavorable weather conditions hampered 2 attempts to conduct an aerial bighorn sheep survey over the Las Vegas Range. Collectively, the brief surveys yielded a sample of 35 bighorn sheep. The survey sample was comprised of 14 rams, 13 ewes and 8 lambs. The aerial survey was conducted over Gass Peak, Castle Rock, Fossil Ridge, Peek-a-boo Canyon, Quail Spring, and an area near Frozen Toe water development.

Habitat

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 in recent years suburban development has 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 habitat.

Population Status and Trend

In 2012, the population estimate for bighorn sheep inhabiting the Las Vegas Range approximates the estimate reported last year. Fires that occurred during summer months in 2005 and 2006 impacted approximately half of the bighorn sheep habitat in the Las Vegas Range. Post-fire establishment of fire-adapted invasive and exotic annual grasses at low and mid elevations has occurred. The Las Vegas Range supports a resident bighorn population, and during cooler months, a migrant segment from the Sheep Range.

CALIFORNIA BIGHORN SHEEP

Unit 012, Calico Mountains and High Rock Canyon: Western Humboldt and Washoe Counties

Report by: Chris Hampson

Harvest Results

A total of 10 bighorn tags was allocated for Hunt Unit 012 during the 2011 hunting season. Eight resident and two non-resident tags were available. All 10 of the tag holders were successful in harvesting a ram. Boone and Crockett scores ranged between 111 and 169.875 inches. Trophy quality remains strong. Eight of 10 rams harvested were scored at 155 B&C inches or better. The average age for the harvested rams was 6.7 years, well above the management objective of 6.0.

Survey Data

Helicopter composition surveys were conducted in September 2011. A record survey sample size of 156 animals was classified during this survey. An additional flight hour was expended in an effort to increase sample size and assess herd performance and to assess herd health following an observation of a domestic ewe in late August 2011. The large sample was comprised of 46 rams, 77 ewes and 33 lambs and had a composition ratio of 60 rams:100 ewes:43 lambs. In 2010, a total of 100 bighorn was classified with a ratio of 46 rams:100 ewes:36 lambs. All of the animals observed during the survey appeared to be in excellent health.

Lamb recruitment in 2011-12 was measured at 43 lambs:100 ewes. This was an increase over the previous year of 36 lambs:100 ewes and was 6 lambs:100 ewes above the average recruitment level observed between 2007 and 2010 (37 lambs:100 ewes). Prior to 2007, recruitment rates for this herd were generally much higher and averaged 56 lambs:100 ewes between 1994 and 2007. Recruitment fell during the very dry years between 2007 and 2009, but is slowly increasing as habitat conditions improve.

In January 2010, the herd also experienced a serious sore-mouth outbreak. Several studies have shown that sore-mouth outbreaks can have a detrimental effect on lamb survival and the overall body condition and health of the bighorn herd.

High horse numbers in Hunt Unit 012 prior to recent horse gathers were believed to be a major negative factor affecting herd performance. Gathers over the past two years have resulted in the removal of over 3,000 feral horses from the region. Prior to these horse gathers, the number of feral horses in this area was approximately 4 to 5 times above the Appropriate Management Level.

The average ram ratio from the 2011 survey was measured at 60 rams:100 ewes. However, the population model for this herd generates an even higher ram ratio of around 68 rams:100 ewes.

In late December and early January 2011-12, NDOW received two separate reports from chukar hunters who observed bighorn coughing. NDOW biologists and volunteers spent the next two months in the field attempting to verify whether this sheep population was experiencing a disease event. No coughing or nasal discharge was documented despite observing some groups of the sheep for over two months. In early February 2012, NDOW contracted with a capture crew to obtain samples from bighorn in the High Rock and Little High Rock Canyon areas to determine whether or not this population was experiencing health issues.

Habitat

According to the Snotel Basin Outlook Report the Northern Great Basin ended the 2010-11 water year at a respectable 159% of average for snowpack. Although, many of the areas within Hunt Unit 012 are generally drier than weather station locations within the Northern Great Basin, the 2010-11 water year was nonetheless a very good precipitation year for the entire region. Current year projections which

started October 1, 2011 show a much drier situation. The Northern Great Basin is currently just 51% of average for total precipitation as of January 30, 2012. The new water year started out with a bang in early October when a very wet cold front brought snow and rain to the area. However, since that time the winter of 2011-12 has been extremely dry and mild. In fact, the month of December nearly set an all time record for lack of precipitation. January precipitation has been much better; however, the Basin remains well below average in terms of total precipitation and snowfall. Precipitation totals for the remainder of the winter and spring will have to be well above normal to make up for the lack of precipitation received thus far. At this point in time stream flows for this coming spring and summer are forecast to be well below average at or near just 50% of average.

The removal of 1,900+ horses during the Calico Complex horse gather in 2010-11 was a huge benefit to bighorn and other wildlife. The BLM conducted a second gather in the area during the fall and winter of 2011 which removed an additional 1,100 feral horses from the Tri-County area. This second attempt at reducing horse numbers to below the Appropriate Management Level (AML) was successful in bringing horse numbers to within an acceptable level. The gather efforts will help to reduce competition between feral horses and wildlife for food, water and space. Spring sources and other riparian areas that were in poor condition will slowly start to heal due to the huge reduction in grazing pressure and trampling. The amount of forage should increase now that excessive horse numbers have been addressed.

Population Status and Trend

In late January 2012, 7 bighorn sheep were captured and sampled near High Rock and Little High Rock Canyons. Blood, fecal, hair and nasal and pharangeal swab samples were taken from each of the bighorn. Results from the sampling effort were negative for mycoplasma ovipneumoniae but Mannheimia hemolytica and biberstenia trehalosi were found on all of the pharangeal swabs. However, none of the M. hemolytica was reported as beta-hemoytic. The results indicate a fairly mild respiratory virus circulated through the herd this past winter. It is believed the illness was not severe enough to cause bighorn mortality but could have resulted in sheep experiencing effects such as coughing, wheezing and lethargic behavior.

Recruitment values observed this past year were sufficient to result in a population increase for the High Rock/Calico bighorn herd. The estimate for this herd now stands at 280 animals.

Unit 014, Granite Range: Washoe County

Report by: Chris Hampson

Harvest Results

In 2011, the resident bighorn quota for Unit 014 increased from two tags to three. All three hunters reported harvesting rams that were aged at 5, 7, and 8 years of age. Boone and Crockett scores of the harvested rams were 136, 158, and 159 B&C inches. Hunters expended an average of six days hunting bighorn in the Granite Range in 2011. Once again, all three rams were harvested from the Negro Creek subpopulation near Buckhorn Mountain.

Two of the hunters reported that scouting and hunting in other areas of the Granite Range but did not locate a ram that met their expectations. The Negro Creek area is popular with the hunters because of higher sheep densities and easier access compared to extremely steep and rugged terrain located further to the south. Since the Granite Range bighorn hunting season was re-opened in 2005, 100% of the rams have been harvested from the Negro Creek subpopulation.

Survey Data

Helicopter surveys were conducted in early August 2011. The Negro Creek subpopulation on the northeastern portion of the Granite Range was surveyed with 28 bighorn classified. The resulting ratio was 5 rams:100 ewes:23 lambs. No ram groups were observed during the survey. The ewe/lamb groups within the Negro Creek subpopulation are often tied to the lower elevation water sources within the Negro Creek drainages and are generally easier to locate.

One plausible cause for the lower lamb recruitment observed this year may be tied to an observation of a lamb with what appeared to be a severe case of sore mouth reported by a local hunting guide. A serious outbreak of sore mouth occurred in both the Calico/High Rock and Granite Range herds during the winter of 2010-11. Severe sore mouth outbreaks have been documented to cause high mortality of bighorn lambs. Only 5 lambs were observed with the 22 ewes classified this year in the Granite Range indicating poor lamb survival.

The last time an adequate sample was obtained in the Granite Range was during a survey in 2009 and resulted in sex and age ratios of 8 rams:100 ewes:44 lambs. Lamb recruitment for this herd is generally strong and averaged 49 lambs:100 ewes between 2005 and 2009. Recruitment for the sheep population in adjacent Hunt Unit 012 was measured at 43 lambs:100 ewes this year indicating that the sore-mouth event was not as widespread as it was in 2010-11.

Habitat

The 2011 water year ended well above average for precipitation and snowfall. The Nevada State Outlook Report shows that the Northern Great Basin was 159 to 184 percent of average for snowfall and total water-year precipitation when the water year ended on September 30, 2011. Unfortunately, the winter of 2011-12 has thus far been extremely dry and is just 51% of average as of January 30, 2012. The months of November and December were extremely dry with little to no precipitation. Temperatures were also very warm with temperatures reaching 60 degrees on several occasions. Unless the months of February and March provide significant snowfall and precipitation, the outlook is very poor for receiving sufficient moisture to reach what would be considered a normal or average water year.

Over the past two years a total of 3,000 feral horses have been removed from the Calico Complex/Tri State Complex Area. The winter of 2011-12 has been extremely dry. Stream flows within the Northern Great Basin are forecast to be well below average this coming spring and summer.

Population Status and Trend

The Granite bighorn herd experienced low lamb recruitment in 2011-12 that resulted in a slight decrease in the overall numbers of bighorn estimated to be in the population. However, sufficient mature rams exist to support current quotas for this hunt unit. The estimate for this herd now stands at approximately 110 animals.

Units 021, 022, Virginia Mountains: Washoe County

Report by: Chris Hampson

Harvest Data

Two bighorn tag holders from the 2011 hunting season reported being successful in harvesting a ram. The rams were aged at 4 and 6 years of age and had Boone and Crockett Scores of 142 and 144 inches. The hunters expended an average of just 4 days in the field. Previous hunters generally expended between 8 and 12 days hunting in this unit. The hunters did not report hunting or scouting in adjacent Hunt Unit 021.

Survey Data

Aerial surveys classified a total of 28 sheep as 21 rams, 5 ewes and 2 lambs. Although, the survey results lacked an adequate sample for accurately determining recruitment levels for the population, the excellent ram sample allowed biologists a unique opportunity to observe a high percentage of the rams in the population.

NDOW continues to receive reports of bighorn in the Petersen Range of Hunt Unit 021 from the public. Biologists recently released a bighorn ewe from a fence after she became entangled along the eastern side of U.S Highway 395 North. The ewe appeared to be attempting to jump over a tall section of deer fencing along the highway. This fencing funnels deer into underpasses along this section of highway. Once the ewe was untangled, she ran to the east in the direction of the Petersen Mountains. A minimum of 8

bighorn are known to exist on the southern portion of the Range. Several reports have also documented sheep attempting to cross the highway fences along Hwy 395 in the direction of Peavine Mountain.

Population Status and Trend

The Virginia Mountain bighorn population continues to do well and hunters have reported seeing good numbers of rams while hunting. Recent helicopter surveys provided an excellent opportunity to observe a high percentage of the rams in the population. The population has grown to a point that sufficient mature rams exist in the herd to allow for an increase in the quota for this hunt unit. The estimate for this herd now stands at approximately 110 animals.

Wildlife Services continues to monitor the north end of the Virginia Mountains for lion activity.

Unit 031, Montana and Trout Creek Mountains: Humboldt County

Report By: Ed Partee

Survey Data

Composition flights were conducted during the middle of August 2011. These flights were done in the Double H, Montana and the Trout Creek Mountains. This survey took place approximately a month earlier than traditional September flights. A total of 142 animals was observed which is above the five-year average. Sheep were more evenly distributed throughout both the Double H's as well as the Montana Mountains. Ratios obtained from this survey were 118 rams:100 ewes:40 lambs. Ram numbers continue to remain high based on surveys. This sheep population continues to do well and recent surveys show an increase in numbers and distribution.

Habitat

Habitat conditions were excellent throughout most of the year with plenty of free water and forage available to sustain this herd. The winter of 2011-12 was extremely mild with very little precipitation. Snow levels and the amount of moisture received were well below normal. Continued drought conditions are expected to dramatically affect habitat conditions and spring forage.

Population Status and Trend

This population continues to show a steady increase in numbers since the first hunt in 1996. The 2012 population estimate is 190 animals and only down slightly compared to last year's estimate of 200 animals. The drop in this estimate is directly related to trapping operations and the removal of animals that took place at the beginning of 2012. With a continuation of good production that has been observed over the last few years this population is expected to do well.

Collaring efforts and monitoring is taking place to observe what effects exploration may have on this population. Exploration activities associated with a future mining operation have not shown a detrimental effect or caused any displacement of bighorns at this time. This monitoring project should allow for the observation of movement taking place between ranges as well as identifying lambing areas within this unit. Monitoring of these animals will continue throughout the year.

Unit 032, Pine Forest Range and McGee Mountain: Humboldt County

Report by: Ed Partee

Survey Data

Aerial surveys were conducted, in this unit, during August 2011. McGee Mountain, the Pueblos, and the Pine Forest Range were surveyed with the majority of the sheep observed in the Pine Forest Range. A total of 194 sheep was classified with a ratio of 50 rams:100 ewes:43 lambs. Bighorn numbers in this unit continue to remain very high. Lamb production dropped only slightly from last year. Good lamb

recruitment may be attributed to keeping bighorn densities below carrying capacity through the Department's capture and transplant program. Ram ratios remain high in this unit with all age classes represented.

Habitat

Habitat conditions held stable for most of the year. However, winter conditions of 2011-12 have been very mild with a lack of moisture. Forage quality and abundance was good throughout most of the year despite a drying trend that occurred during late fall. As of April 1st 2012, conditions have been extremely dry with only 48 percent of normal precipitation received in the Lower Humboldt River Basin. Much more spring precipitation will be needed to sustain this population throughout the coming year.

Population Status and Trend

Both ram and lamb ratios remain high in this unit and overall sheep numbers continue to increase despite removal of bighorn from this area through trapping operations. This past fall 52 sheep were removed from this population to support augmentations to other ranges. Despite these reductions this population is estimated at over 270 animals. Composition surveys and age data from captured ewes indicate that there is good age distribution of both rams and ewes in the population.

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

Report by: Chris Hampson

Harvest Results

Hunters have struggled over the past two years to locate bighorn on the Sheldon. During 2010, hunters averaged 12 days hunting sheep in Unit 033. In 2011, one hunter reported being unsuccessful and four other hunters reported expending an average of just over 10 days to locate and harvest their rams. Three hunters expended between 11 and 14 days hunting. It is believed improved habitat conditions have allowed bighorn to scatter over larger areas on the Sheldon. Bighorn on the Sheldon can also be somewhat transient and move into and out of adjacent hunt units. This can make locating bighorn on the Sheldon much more difficult in the expansive habitat that is available. Hunters reported having more success locating bighorn on the eastern side of the Sheldon near Big Mountain. Despite, the difficult hunting conditions, the four successful hunters harvested three 8-year-old rams and one 7-year-old. This was well above the management objective of 6.0 years. The Boone and Crockett scores for the rams ranged between 120 and 158 B&C inches.

Survey Data

Helicopter surveys were conducted during August 2011. A total of 51 sheep was classified with a ratio of 67 rams:100 ewes:46 lambs. Sixteen rams were observed on the survey with 6 of the rams being classified as 6-years old or older and 8 others in the 4 to 5-year age classes. Lamb recruitment for this herd appears strong. Bighorn observed on the survey appeared to be in excellent health. This would indicate the herd remains healthy and has not experienced some type of disease event. Harvest and survey data over the past several years indicate plenty of mature rams are available to hunters who draw this tag. NDOW will continue to closely monitor the Sheldon bighorn herd.

Habitat

Habitat conditions improved significantly in 2010-11 due to the abundant moisture received during the winter of 2010-11. Unfortunately, the 2011-12 water year that began October 1, 2011, has been extremely dry and snowfall and total precipitation amounts received thus far have been well below average. Snotel sites on the Sheldon show precipitation receipts to be only around 50% to 70% of average for this time of year. Stream flows for the region are also predicted to be well below average this coming spring.

The Sheldon is once again planning for additional horse removals this coming year. This will reduce the amount of competition between horses and wildlife for food, water and space. The dry winter could lead to increased competition between the remaining horses and bighorn near water sources during the hot summer months.

Population Status and Trend

Lamb recruitment was strong in 2011-12. This would indicate that the bighorn population on the Sheldon is healthy. However, hunters reported observing fewer animals in many areas of the Sheldon. Helicopter surveys in some of the major bighorn use areas also showed fewer animals present. The recent change in bighorn distribution is believed to be due to improved habitat conditions and water availability. After several years of drought, the Sheldon finally received significant moisture during the winter of 2010-11. The bighorn quota for the 2012 hunting season on the Sheldon is predicted to remain similar to the past few years due to the availability of mature rams in the population.

Unit 034, Black Rock Range: Humboldt County

Report by: Ed Partee

Survey Data

In August 2011, aerial surveys were conducted in the Black Rock Range. A total of 106 animals was classified which is down slightly from last year. These numbers yielded sex and age ratios of 44 rams:100 ewes:42 lambs. The ram ratio was up slightly from last year but remains below the past five-year average. Survey efforts this past year failed to locate rams in some traditional use areas resulting in a lower number of rams observed. Coleman Creek as well as Big Mountain continue to hold the majority of rams in this unit.

Habitat

This unit like most in Humboldt County experienced dry conditions throughout the fall of 2011 and winter of 2012. Despite these dry conditions sheep numbers have remained relatively constant. Forage remained stable throughout the year which has significantly helped with lamb survival. Spring moisture will be needed to sustain these populations at current levels throughout the year. A recent horse gather should provide some relief to both forage and water availability.

Population Status and Trend

Sheep numbers in this unit have remained static at approximately 220 bighorn. Lamb ratios have fallen and are starting to drop below the five-year average. Sheep are dispersing well throughout this range providing plenty of opportunity for harvest in several different locations. The highest densities of bighorn can be found in association with Big Mountain and Coleman Creek.

Unit 035, Jackson Mountains: Humboldt County

Report by: Ed Partee

Survey Data

Aerial surveys were conducted during mid-August 2011. Weather conditions were ideal for this survey. A total of 96 sheep was classified which is an all time high for this unit. Ratios derived from the 96 sheep classified were 21 rams:100 ewes:64 lambs. The number of rams classified on this flight almost doubled from last year. Both lamb and ram numbers were above the past 5-year average.

Habitat

Habitat conditions in this mountain range appeared good during this past survey period with plenty of forage and water available. 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. As of April 1st, this unit received well below average precipitation levels. Significant amounts of spring moisture will be needed to provide early forage for new lamb recruitment. This unit has had significant horse utilization in the past which has been in direct competition with bighorn in this range. Another possible roundup of feral horses is in the planning stages.

Population Status and Trend

The 2012 population estimate for the Jackson Mountain Range is 130 animals. This mountain range has the potential to support more sheep than current numbers. Future augmentations may be planned to bolster this population. Continued monitoring of this population will determine the success of these management actions.

Unit 051, Santa Rosa Range: Humboldt County
Report by: Ed Partee

Survey Data

Aerial bighorn sheep surveys were conducted during mid August 2011 in the Santa Rosa Range. A total of 73 bighorn was observed which is similar to last year's observation and well within the five-year average. The 73 sheep that were observed yielded sex and age ratios of 37 rams:100 ewes:42 lambs. Lamb production remains fairly good while ram numbers remained low. This range has three core bighorn use areas that are flown on a yearly basis. Over the last several years there has been a drop in the number of rams observed during surveys particularly in the north end of the range. Based on these observations the department radio collared several rams in the northern portion of the range to track movements of these sheep. Preliminary results show movement between Oregon and Nevada. Ewe/lamb groups with associated young rams are still present in this area.

Habitat

Throughout 2011 range conditions were relatively good. However, this unit did experience impacts due to a wildfire in the Buttermilk Summit area. As of April 1st 2012, the Lower Humboldt River Basin is 48 percent of normal for precipitation. Much more spring moisture will be needed to sustain these herds and help with range rehabilitation efforts that are taking place in this unit.

Population Status and Trend

The 2012 population estimate for Hunt Unit 051 is 220 bighorn. This increase is directly related to an augmentation of 52 sheep which occurred this past winter. Observed ram ratios have remained near previous levels while there was a slight drop in lamb recruitment. Bighorn numbers observed in the north end of the range continue to remain well below historic highs. Continued radio collaring of bighorn in this range has documented movement of bighorn from Nevada into Oregon. Cooperative efforts between Nevada Department of Wildlife and Oregon Department of Fish and Wildlife are taking place to further identify movement patterns between Oregon and Nevada.

Units 068: Sheep Creek; Northern Lander and Eureka Counties
Report by: Jeremy Lutz

Harvest Results

Six tags were available in 2011 for combined Units 066 and 068 including one non-resident tag. All 6 hunters were successful in harvesting a ram. Five of the rams were harvested in Unit 068 and one was taken in Unit 066. The average age for the six rams was 6.5 years and the average B&C score was 150. For more specific harvest results, please review the 2011 harvest tables in the Appendix.

Unit 068 will be a stand-alone unit this year as an unfortunate disease event occurred in Unit 066 this past summer.

Survey Data

A total of 60 bighorns was classified from the ground in March of 2012 yielding ratios of 32 rams:100 ewes:44 lambs.

Habitat

Habitat in the Sheep Creeks was excellent as a result of above-average precipitation received in Northern Nevada over the last 3 years. However, the fall and winter of 2011 was the driest on record (since 1890's) throughout much of the Great Basin. As of March 1st both the Upper and Lower Humboldt River watersheds recorded between 44-50% of average for yearly moisture. Last year both basins were well above 100% of average at this time.

Bighorn sheep continue to expand in the Rock Creek Gorge and Black Mountain areas of the Sheep Creeks. The BLM is currently working on clearances for water development on Black Mountain. Once in place this should allow for further expansion into the Black Mountain area.

Population Status and Trend

This population experienced moderate growth. Mild winters and above average precipitation over the last 3 years has helped facilitate good lamb recruitment. In addition a higher than expected number of rams were harvested during the 2011 season in Unit 068 as a result of the die-off in Unit 066. The 2012 quota will be reduced from last year since 068 will now be managed separately.

ROCKY MOUNTAIN BIGHORN SHEEP

Unit 074: The Badlands; Elko County
Report by: Kari Huebner

Harvest Results

Two resident tags were offered in this unit for the 2011 season. Both hunters were successful. One hunter harvested a 7-year-old ram while the other hunter took an 8-year-old-ram.

Survey Data

A composition survey was conducted in January 2012. A total of 32 bighorns were classified. The resulting sex and age ratios were 170 rams:100 ewes:50 lambs. This lamb ratio was the highest observed since 2007.

Habitat

There was a burn on the Westside of Black Mountain (Salmon Fire 4,846 acres) in August 2011. There was also a small burn (Black Mountain Fire) in the southern portion of the unit and a larger fire (Scott Creek Fire) in the northern portion of the unit in 2007. These fires are expected to have minimal impact on this bighorn herd.

Population Status and Trend

This herd appears to be stable. The observed lamb ratio was higher this year than 2010. The herd will continue to be monitored for health considering all neighboring Rocky Mountain sheep populations have experienced die-offs in the past 2 years. The last detectable die-off event for these bighorn was in 1999 and the population has since recovered back to pre-disease levels.

Unit 091: Pilot Range; Elko County
Report by: Kari Huebner

Survey Data

A composition survey was conducted in August 2011. A total of 31 bighorns was classified. The resulting sex and age ratios were 121 rams:100 ewes:0 lambs.

Habitat

A second big game water development was completed in this unit this past year. A recent effort has been made to make water available to bighorn on the mountain as opposed to on the benches to reduce the probability of bighorn sheep coming into contact with domestic sheep. There are active allotments and trailing routes for domestic sheep on the east side of Pilot as well as the Leppy Hills.

Population Status and Trend

In 2010, several bighorn were observed coughing, shaking their heads and were in poor body condition. Three bighorn sheep within the population were tested for disease which confirmed bacterial pneumonia was present in the population. As a follow-up to the disease event 2 helicopter surveys were conducted in the later part of the summer of 2010. A total of 16 bighorns were observed. During a helicopter survey in the summer 2011, 31 bighorn were classified, including 9 mature rams and no lambs.

It appears the disease event is severely impacting lamb production which is common following an outbreak. However, at least 9 mature rams remain in the population which will allow for a limited ram

hunt in the unit.

The short-term outlook for this herd is poor as lamb production is nonexistent. The population will continue to be monitored to determine if lambs will be recruited into the population. If not, then the long-term outlook for this herd is dismal.

Unit 114: North Snake Range – Mount Moriah; Eastern White Pine County

Report by: Curt Baughman

Harvest Results

In 2011, 2 tags were available for the fourth consecutive year. Although the 2 hunters reported 31 days of collective effort, neither hunter was successful. Vastly improved habitat conditions in 2011 may have contributed to the lack of hunter success by allowing bighorn to expand their distribution. In 2010, 2 rams were harvested including a 5-year-old and a 7-year-old. Since 2007 when this unit reopened for ram harvest, 7 rams have been harvested with an average age of 6.7 years.

Survey Data

In March 2012, a helicopter herd composition survey was flown in combination with a spring deer and elk survey. Conditions for the survey were good and flight time was increased substantially over the previous year. Even though bighorn distribution was scattered, the survey netted a sample of 48 bighorn with sex and age ratios of 58 rams:100 ewes:27 lambs. This follows the classification of 38 bighorn during the March 2011 survey with sex and age ratios of 38 rams:100 ewes:43 lambs.

Weather and Habitat

The winter of 2010-11 was the second consecutive harsh winter experienced in east central Nevada. Record snows in November and December contributed to overall winter snowfall of more than twice the average. Abundant moisture came in all months except January. May (lambing season) brought several cold storms including a significant snowstorm for Memorial Day weekend. National Weather Service data shows that 150% of average moisture was received at Ely during the 2010-11 water-year (Oct 2010 through June 2011). After temperatures finally warmed in June, habitat conditions improved dramatically thanks to the improved water distribution and lush vegetative growth. Snow banks persisted at high elevations long into the summer, providing improved water and forage availability.
Bighorn were able to improve health and body condition in 2011. In contrast, the 2011-12 winter was mild with substantial dry periods. This has resulted in a weak snowpack. Snow-water content measured at local NRCS Snotel sites currently averages under 60%. Water-year precipitation totals are closer to average. 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. The use of prescribed fire and managed natural fire are key components to future habitat modifications that could benefit bighorn sheep in this unit.

Population Status and Trend

This bighorn herd has experienced inconsistent lamb recruitment since late 2006 when 73 lambs/100 ewes were observed in the first winter following the January 2006 augmentation of 30 bighorn from Unit 101. Survey data shows that recruitment has been below 30 lambs/100 ewes in 3 of the past 5 years. This is reflected in a stable population trend over the past 3 years following declines in 2008 and 2009. Recruitment has likely been influenced by adverse climatic conditions (severe drought and harsh winters) as well as predation. Lion predation was documented as a substantial cause of mortality in collared bighorn ewes from 2006 through 2009. Additional evidence includes random discovery of bighorn remains with signs of lion predation. This period coincided with a decline in the Snake Range deer herd. It is felt that the Snake Range became top-heavy with lions that turned increasingly to bighorn with the decline of the mule deer prey base. A total of 31 mountain lions have been removed from the Snake Range by sportsmen and Wildlife Services since the beginning of 2009. This is an abnormally high number for this

unit-group given the presence of the National Park in Unit 115 where hunting is not permitted. This high rate of removal should be helping to strike a better balance between the Snake Range lion population and ungulate resources. The improved habitat conditions of 2011 coupled with a mild winter means that bighorn should be in good to excellent body condition. This bodes well for bighorn survival and production in 2012. The number of mature rams in the population is sufficient to sustain continued harvest.

Unit 115: South Snake Range – Mount Wheeler: Eastern White Pine County

Report by: Curt Baughman

Background

The last recorded observation of historic Rocky Mountain 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 about declining population trend.

An increasing bighorn population trend was observed in Unit 115 for the last decade, similar to the bighorn population 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. Over the past 2 years, 6 bighorn (2 rams and 4 ewes) were captured and fitted with satellite GPS collars to increase knowledge of seasonal ranges and habitat use by this bighorn herd. The herd is viable enough to support a minimal ram harvest in the short term and possibly longer based on herd 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.

Harvest Results

The very mild 2011-12 winter presented a challenge for this hunt, however the tag-holder was able to harvest an 8 year-old ram in mid February.

Survey Data

This small population is difficult to survey due to the large area, tree-cover and potentially high elevations involved. Some ewes with lambs were documented by Park personnel during mid summer 2011. Two rams and 2 ewes were observed during March 2012 deer and elk surveys. These sheep were extremely scattered. Observations made during 2009 captures and NDOW surveys documented at least 11 rams in the population. Similar observations were made in 2010.

Weather and Habitat

Long-term habitat conditions for bighorn sheep have improved in this unit due to a small number of wildfires that burned at mid and upper elevations. A large burn in Lincoln Canyon receives substantial use by sheep based on data collected from collared bighorn. It is critical that natural fire be allowed to play its crucial role in creating openings in large areas that are dominated by mountain mahogany, pinyon/juniper and other conifers. The BLM and NPS are planning additional projects and a Park fire plan that have the potential to further improve bighorn habitat. Climatic conditions have improved for bighorn sheep over the short term (see discussion in the Unit 114 report above). The removal of 10 mountain lions from this unit within the past few months is expected to contribute towards increased bighorn sheep survival.

Population Status and Trend

This bighorn population is thought to be stable at 20-25 animals. Productivity potential should be high based on the current body condition of ewes.

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 Harvest Results

There were 10 general season mountain goat tags and 1 PIW tag available in the 2011 season. Of the 11 goats harvested, 27% were nannies. Since 1999, nanny harvest has been on a steady incline. Nanny harvest in 2007, 2008, 2009, and 2010 was 21, 22, 30, and 40%, respectively (Figure 1). While this year's nanny harvest was commensurate to the 5-year average (27%), it was still above the 10-year average (20%). Nanny harvest will 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. Success continues to be excellent and most hunters reported seeing many adult goats in the 2011 season. For specific 2011 hunting season results, please refer to Harvest Tables in the Appendix Section.

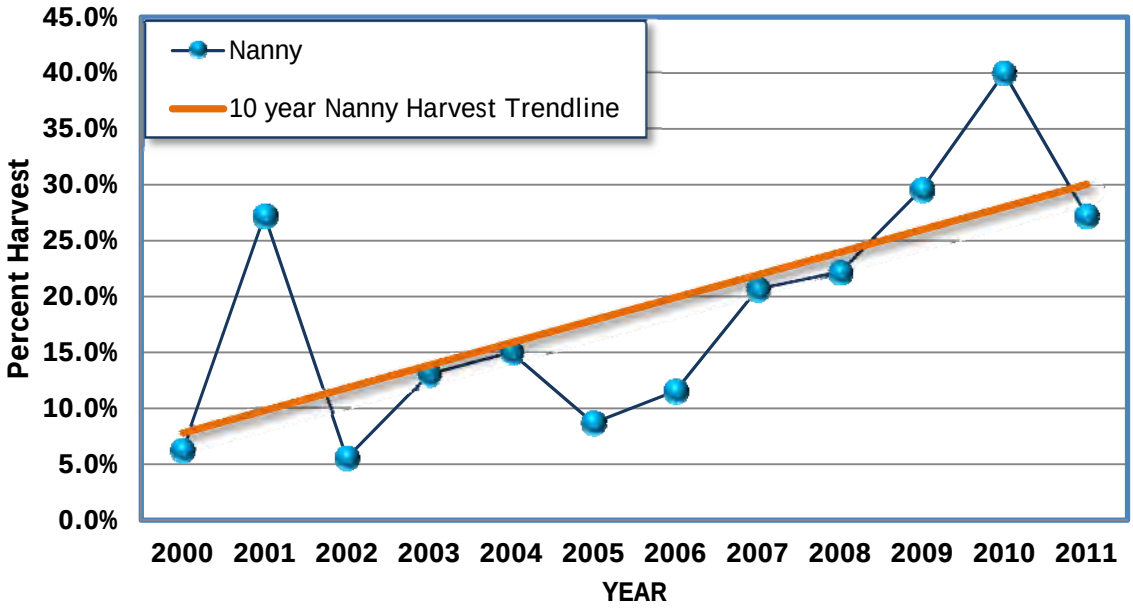


Figure 1. Percent of annual mountain goat harvest that were nannies for all Units 101, 102, and 103 for the years 1999 - 2010.

Survey Data

Mountain goat surveys were performed in Late January and early February, 2012. In Unit 101, 79 goats were observed, yielding a ratio of 5.3 kids:100 adults. In Unit 102, 103 goats were observed, yielding a ratio of 7 kids:100 adults. Eleven goats were observed in Unit 103, yielding a ratio of 22 kids:100 adults. The low observed kid ratios continue to indicate poor recruitment associated with the 2009/2010 disease event.

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. The 2011/2012 winter was extremely dry, however; late (March) snowfall should provide the goats with adequate high quality forage on summer range. Many of the snow banks on which they depend should persist through the summer given the levels of snow received in late March. The goats in Nevada, like most goat populations, are more limited by winter range and heavy spring snow loads that cover their forage, limit their movements, and/or increase their chances of fatalities from falls and avalanches.

Population Status and Trend

This year, goat populations in Units 101, 102, 103 experienced increased mortality in the kid segment of the population which was likely an artifact of the bacterial pneumonia which afflicted the bighorn sheep and goats in the Ruby and East Humboldt mountain ranges during the 2009-2010 winter. The poor kid recruitment observed in the winter of 2011-2012 exacerbated the population declines realized from the initial 2009-2010 disease events. Furthermore, increased nanny harvest in the last 10 years, as discussed above, has created additional concern for the already suppressed populations. Consequently, each of the 3 units continues to exhibit population declines. Prior to 2009, all 3 units (101, 102, and 103) had been exhibiting a stable to slightly upward trend.

In an effort to curtail nanny harvest, the Department of Wildlife has initiated a non-mandatory online, "Mountain Goat Hunting Orientation" document to help hunters identify and determine sex of mountain goats in the field. Additionally, the Department continues its disease surveillance for both bighorn sheep and mountain goats in Units 101-103. Fourteen mountain goats were collared in early February 2012 as part of ongoing monitoring of the disease epidemic which struck the populations in the 2009-2010 winter. Of these, 2 were collared in Unit 101, 8 in Unit 102 and 4 in Unit 103. In addition, hunters who observed any abnormal animal behavior in wild goats or sheep, such as coughing and 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

Harvest Results

Referencing all available information for this report period, March 1st, 2011 through February 29, 2012, biologists recorded 69 mountain lion mortalities for the Western Region (Table 1). This included 18 animals taken under valid sport tags and 36 by USDA - Wildlife Services for depredation and predator control. Total recorded mortalities were above 10-year averages. Sport harvest decreased by 55% and Wildlife Services harvest increased by 93% relative to the 10-year average (Table 4).

Table 1. Western Region Mountain Lion Harvest Limits and Mortalities by Type for 2011-2012.

Management Area	Harvest Limit	Harvest Type				
		Sport	Depredation	Predator Projects	Other	Total
1	Regional 103	3	10	12	0	25
2		0	3	2	0	5
3		1	2	1	0	4
4		3	1	0	0	4
5		0	0	0	0	0
18		6	0	0	0	6
19		3	3	0	6	12
20		1	5	0	2	8
29		1	3	0	1	5
Totals	**103**	**18**	**27**	**15**	**9**	**69**

Table 2. Western Region Mountain Lion Sport Harvest by Unit for 2011-12 & Past 5 Years.

Management Area	2006-07	2007-08	2008-09	2009-10	2010-11	Previous 5 yrs Average	**2011-12**
1	12	19	6	6	4	9.4	**3**
2	1	1	0	1	4	1.4	**0**
3	4	5	3	2	5	3.8	**1**
4	9	5	7	5	13	7.8	**3**
5	5	11	8	4	9	7.4	**0**
18	1	2	4	4	7	3.6	**5**
19	11	5	6	7	2	6.2	**3**
20	8	8	4	3	5	5.6	**2**
29	0	1	0	1	1	0.6	**1**
Totals	51	57	38	33	50	45.8	**18**

The sport harvest consisted of 8 male lions and 10 females, with average ages of 4.1 and 2.8 years respectively (Table 3). Approximately 22% (4 of 18) of sport hunters hired professional guides. More female than male lions were taken by these hunters (75% females) and they averaged 3.0 years old. Comparatively, non-guided hunters tagged more male lions (87%) that averaged 4.3 years. The distribution of sport harvest included 13 lions taken by Nevada residents and 5 by non-resident hunters. Time spent by hunters actively hunting lions was measured by the number of days hunted. The average for the 2011-12 season was 1.8 days/hunter. Hunting with hounds was typically the method most often employed by lion hunters. Some hunters hoped to fill their lion tag while hunting some other type of big

game or small game. This type of harvest is infrequent and no incidental lion harvest was documented during this reporting period. Typically, most cougars killed under authority of a sport tag were taken from fall to late winter when climatic conditions favor hound hunting. All sport-hunt lions were killed between November and late February. Since its inception, the year-round season has had little effect on total overall sport harvest.

Table 3. Western Region Mountain Lion Sport Harvest – 10 Year Sex and Age Comparisons.

Season/Year	Harvest			Average Age		
	# Males	# Females	Ratio Male:Female	Males	Females	All Lions
2002-2003	20	20	1m:1.0f	4.2	2.8	3.7
2003-2004	18	30	1m:1.6f	4.1	3.5	4.0
2004-2005	22	11	1m:0.5f	4.5	3.2	4.1
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**

Note: two mortalities (unknown sex) in 2008

Four lions were recorded as natural mortalities, 4 were hit by vehicles, 3 were killed in response to conflict/private depredation conditions, and 1 was an illegal kill.

The United States Department of Agriculture's Wildlife Service's personnel killed 36 lions. Twenty-one of these were in response to protecting domestic livestock and consisted of 11 females and 9 males with an average age of 4.2 and 2.6 respectively. Age and sex of one lion could not be determined due to the decomposition of the carcass. Six of these lions (2 adult females and 4 juveniles) were responsible for killing 12 domestic ewes and 52 lambs. Other domestic livestock killed in separate incidences by depredating lions included 44 domestic sheep and one horse. Two of these were taken on a ranch along the East Walker River in Area 20. This ranch is known for depredation issues and has had 23 lions removed in the last 12 years.

A total of 15 lions were killed by USDA-WS as part of predator control projects and consisted of 6 females and 9 males with average ages of 2.6 and 4.0 respectively. All salvageable lion hides from around the state were skinned, dried and then sold at the Nevada Trapper's Association's annual fur sale in Fallon. A total of 19 hides were sold this year bringing an average price of $261 with a high of $350.

Population Trend

Population structure and trends were based on harvest data and reports from guides and hunters. Referencing the 10-year sport hunt mortality trend (Table 3), major shifts in sex ratios or age cohorts are absent suggesting the lion population in western Nevada is stable.

NDOW is currently working with the University of Nevada, Reno on a cougar research project in the Western Region. To date, 37 lions have been fitted with radio-telemetry collars. Genetic analysis has been completed on over 800 tissue samples and publication of the results is expected later this year. Additionally, over 1000 kill sites have been investigated. Field work should be completed by summer 2012.

Management Conclusions

Although there are some yearly fluctuations within harvest categories, the average ages and ratio of males/females killed has not changed substantially over past years. Sport harvest regulation changes

implemented beginning in 1997 have marginally affected the number of lions taken during the sport hunt. During the 10-year period from1988-1997 an average of 26 lions was killed during the hunt whereas an average of 40 lions was killed during the 15-year period from 1997-2012. Yearly fluctuations were the norm as evidenced by the last 2 years (Table 4). Data indicate regulations and harvest limits are compatible with the lion resource and its capability to support the sport harvest.

Table 4. 10-year Western Region Mountain Lion Harvest Trend – All Known Mortalities.
*Predator project killed lions were not classified separately prior to 2011

Season Year	Season Length	Sport Harvest Limits	Harvest Type				
			Sport	Depredation	Predator Project	Other	Total
2002-2003	212	114	40	5	NA*	3	48
2003-2004	365	114	48	15	NA*	3	66
2004-2005		114	33	6	NA*	8	47
2005-2006		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**	**27**	**15**	**9**	**69**
10 year avg.	NA	NA	40.3	14.2	NA*	5.4	61.5

Eastern Region: Areas 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15

Report by: Scott Roberts

Harvest Results

The Eastern Region maximum allowable sport harvest for the 2011-12 season was 232 lions. Three of those lions were allocated to Game Management Unit 091 (Pilot Peak) which exists as an interstate cooperative hunt with the State of Utah and the remaining 229 were allocated to the rest of the Eastern Region hunt units. No area closures took place in 2011-12.

The Eastern Region sport harvest for mountain lions for the 2011-12 season totaled 59 animals (Table 1). The sport harvest for the previous year (2010-11) was 71. Guided hunters made up 32% of the region's annual sport harvest. The 2011-12 sport harvest composition was 38 males and 21 females for a ratio of 1.8 males:female. The sport harvest ratio for the 2010-11 season was 2.2. The average sport harvest for the previous 5 years (2007-2011) was 62 lions. Average sport harvest reported during those same 5 years averaged 39 males and 23 females for a ratio of 1.7 males:female.

The total documented mountain lion harvest for the Eastern Region in 2011-12, including all known causes of take was 74 lions (Table 2). The annual harvest was comprised of 44 males, 30 females.

Table 1. Eastern Region Lion Sport Harvest by Unit Groups for 2011-12 and Previous 5 Years.

Area Group	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
66	0	3	1	1	4	2
061-068	4	6	13	19	13	9
65	2	3	2	1	1	1
071-081	11	8	3	6	10	7
91	1	0	0	0	0	0
101,105,106,107	1	6	0	1	3	2
102,103,104,108	7	1	6	13	18	13
111, 112	7	8	7	9	4	7

Area Group	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
113,114,115	5	3	6	8	4	7
121	7	1	3	6	2	2
131-134	0	2	0	3	1	3
141	1	1	2	0	0	1
142-145	7	7	4	6	3	2
151,152,154,155	3	6	7	1	8	3
Eastern Region Total	56	55	54	74	71	59

Depredation and Other Harvest

Depredation issues in 2011-12 resulted in the removal of 11 lions compared to 13 in 2010-11 (Table 4). Three of these lions were removed by USDA Wildlife Services at the request of NDOW for the protection of Rocky Mountain Bighorn Sheep in Units 114 and 115. Depredation harvest for the last 10 seasons has averaged 11 lions per year (Table 4).

The Other Harvest for the 2011-12 season was comprised of 1 instance of natural mortality and 3 road kills. Other Harvest for the last 10 seasons has averaged 4 lions per year (Table 4).

Table 2. All Eastern Region Mountain Lion Mortalities by Type / Distribution for 2011-2012.

Management Area Groups	Maximum Allowable Sport Harvest	Sport Harvest	Depredation Harvest	Other Harvest	Total Harvest
066	Regional	2	0	0	2
061-068	229	9	0	0	9
065		1	0	0	1
071-081		7	0	1	8
091	3	0	0	0	0
101,105,106,107	Regional	2	0	0	2
102,103,104,108	229	13	0	0	13
111, 112		7	1	0	8
113,114,115		7	3	0	10
121		2	3	0	5
131-134		3	3	2	8
141		1	0	0	1
142-145		2	0	1	3
151,152,154,155		3	1	0	4
Totals:	232	59	11	4	74

Population Trend

Mountain lion habitat remains in good condition throughout the Eastern Region with a minimal overall loss of habitat due to development activities and an ample prey base. Range fires over the last 12 summers have converted tens of thousands of acres of deer habitat to vegetation dominated by grasses and annuals in the Eastern Region. Some deer summer ranges, and more importantly, some critical deer winter ranges burned. The future status and trend of deer herds in the burned areas will have the most significant impact on lion productivity and survivability. The protection of intact deer winter ranges and the rehabilitation of degraded areas will be paramount in maintaining both deer and lion populations. Documented mortality in the form of harvest and accidental loss has not exceeded the reproductive/recruitment capabilities of the mountain lion resource.

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 lions within the Eastern Region. A review of statistics within the region indicates that although some members of the sporting public may witness a locally reduced population (e.g., they are seeing fewer lions in their favorite canyon or hunting location), regionally the population is holding up well. Local lion populations are not directly proportional to harvest as many factors can influence harvest pressure and effort. For example; factors such as weather conditions, level of interest, economics, etc. can have an affect annual lion harvest. Age and sex structure is a good measure of lion populations. Over harvest will result in obvious age structure changes (e.g., the number of mature males harvested will drop while the number of adult females and sub-adult males in the harvest will increase).

The average age of lions taken by sport hunters in the Eastern Region was 4.0 which mirrors the 10-year-average. The average age of all recorded lion mortalities was 3.6 and includes sport harvest, depredation harvest, and other mortalities (Table 3). The overall sex ratio for all known mortalities was 1.5 males: female compared to 2.0 males: female last year. Based on population estimates, 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 3 and 4).

Table 3. Eastern Region Lion Sport Harvest - Sex and Age Comparisons Since 2000.

Season Year	# Males Harvested	# Females Harvested	Average Age Males	Average Age Females	Average Age All Lions
2000-01	53	47	4.4	4.5	4.5
2001-02	60	38	4.3	4.1	4.3
2002-03	44	22	4.3	4.9	4.5
2003-04	61	54	4.6	4.2	4.4
2004-05	37	22	4.3	3.9	4.1
2005-06	37	22	3.8	3.7	3.8
2006-07	38	18	4.2	3.4	3.9
2007-08	31	24	3.8	3.8	3.8
2008-09	38	16	4	4.1	4.1
2009-10	40	34	3.8	3.8	3.8
2010-11	49	22	3.7	3.2	3.6
2011-12	38	21	3.9	4.1	4.0

Management Conclusions

Hunter interest and participation remained high in the Eastern Region. The majority of lions were taken in December, January and February, with 73% of the total lions being harvested during these peak months. The open winter and below-average snowpack that the region experienced made the 2011-12 season difficult for lion hunting (National Weather and Climate Center website). The maximum allowable sport harvest objective for the Eastern Region was 232, of which sport hunters took only 59 lions. There were no area closures in the 2011-12 season.

Mountain lion population trends are stable in the Eastern Region. Although some of the more accessible and popular lion hunting areas may hold depressed populations, there are sufficient base populations of lions to allow for adequate reproduction and population maintenance. The dispersal of lions from adjacent mountain ranges with little or no harvest mortality moderates the effects of harvest in more heavily hunted areas. Base populations of preferred prey species (deer) are currently at levels expected to continue to sustain lion populations. Body condition was rated from good to excellent on 83% of the sport harvested lions in the Eastern Region during the 2011-12 season. This and other indices demonstrate both the health of individual lions and a healthy overall population.

Table 4. 10 Year Eastern Region Mountain Lion Harvest Trend – All Known Mortalities.

Season Year	Season Length	Maximum Allowable Sport Harvest	Sport Harvest	Depredation Harvest	Other Harvest	Total Harvest
2002-03	212	167	66	6	3	75
2003-04	365	167	115	9	0	124
2004-05	365	167	59	10	7	76
2005-06	365	167	59	6	5	70
2006-07	365	167	56	12	6	74
2007-08	365	167	55	10	0	65
2008-09	365	167	54	11	3	68
2009-10	365	143	74	18	6	98
2010-11	365	143	71	13	3	87
2011-12	365	232	59	11	4	74
Averages	350	169	67	11	4	81

Southern Region: Areas 16, 17, 21, 22, 23, 24, 25, 26 and 27

Report by: Mike Scott

Harvest Results

The 2011-2012 mountain lion season ran from March 1, 2011 through February 29, 2012 in all areas of the Southern Region, with the exception of Area 28, which remains closed to mountain lion hunting. Harvest limits in all areas were combined to form a regional harvest objective of 99 lions. Table 1 displays a comparison of harvest for the last 10 years. Table 2 displays the regional lion harvest for the 2011-12 season.

Table 1: Comparison of Southern Region Harvest by Unit Groups for the Last 10 Years

Area Group	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
161-164	0	6	0	4	5	6	3	11	8	5
171-173	5	7	3	7	10	10	8	4	4	3
211-212	0	0	0	0	2	1	0	0	0	0
221-223	4	7	5	4	1	6	6	3	6	12
231	6	4	0	5	1	1	6	2	4	2
241-245	3	2	2	3	4	5	4	4	7	5
251-253	0	0	0	0	0	1	3	1	1	0
261-268	2	3	3	0	2	4	2	0	1	1
271-272	0	0	0	0	2	0	0	0	0	1
Totals	**20**	**29**	**13**	**23**	**27**	**34**	**32**	**25**	**31**	**29**

Table 2: All Southern Region Mountain Lion Mortalities by Type/ Distribution for 2011-2012

Management Area Groups	Harvest Limit	Sport Harvest	Depredation Harvest	Other Harvest	Total Harvest
161-164	*Regional*	5	0	0	**5**
171-173		2	1	0	**3**
211-212		0	0	0	**0**
221-223		10	2	1	**13**
231		2	0	0	**2**
241-245		5	0	0	**5**
251-253		0	0	0	**0**
261-268		1	0	0	**1**
271-272		1	0	0	**1**
Totals:	**99**	**26**	**3**	**1**	**30**

Regional sport harvest for the 2011-2012 season consisted of 26 lions, which nearly equals the 25 lions taken during the previous 3 seasons. Two lions were removed for attacking domestic animals and 1 was removed that was living in a barn near a residence. One lion was hit by a car. Regional depredation complaints have averaged 2.4 per year (range 0 to 8) during the last 10 seasons (2002-2012).

Population Trend

The 2011-2012 Southern Region mountain lion sport harvest consisted of 16 males and 10 females for a male to female ratio of 1.6. The 5-year average is 1.2. The average age of lions taken during the 2011-2012 season averaged 4.8 years for males (compared to 5.2 in 2010-2011) and 3.6 years for females (compared to 3.5 in 2010-2011). The number of lions taken decreased overall with 3 depredation lions harvested and 1 road kill during 2011-2012. The average age of males harvested decreased while average age for females increased, although neither significantly. The male to female ratio increased compared to the previous year. The total harvest of 29 lions was above the average of 28 over the last 10 seasons (2002 – 2012). The Southern Region combined harvest was well below the 2011-2012 harvest limit of 99.

Table 3: Southern Region Harvest – 10-Year Sex and Age Comparisons.

Season/Year	Harvest		Average Age		
	# Males	# Females	Males	Females	All Lions
2002-2003	12	8	4.8	4.5	4.7
2003-2004	18	11	3.4	3.8	3.6
2004-2005	6	7	5.9	3.6	4.7
2005-2006	15	8	4.7	3.4	4.3
2006-2007	14	16	4.1	4.0	4.0
2007-2008	18	14	4.8	4.6	4.7
2008-2009	11	14	3.6	4.0	3.8
2009-2010	13	12	5.0	4.5	4.8
2010-2011	13	12	5.2	3.5	4.6
2011-2012	**16**	**10**	**4.8**	**3.6**	**4.3**

Table 4: 10-Year Southern Region Mountain Lion Harvest Trend – All Known Mortalities.

Season Year	Season Length	Harvest Limits	Harvest Type			
			Sport	Depredation	Other	Total
2002-2003	212	68	20	1	0	**21**
2003-2004	365	68	29	8	3	**37**
2004-2005	365	68	13	0	0	**13**
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	99	25	3	1	**29**
Averages:	**349.7**	**69.5**	**24.2**	**2.4**	**1.2**	**27.5**

Management Conclusions

The sport harvest of 26 mountain lions was 1 more than last year. Three depredation lions were taken in the Southern Region during the reporting period as well as one road kill. Average precipitation received throughout the Southern Region during 2011 should support continued availability of prey species. The western portion of the Southern Region (Areas 16, 17, & 21) accounted for 28% of the Southern Region lion harvest compared to 40% in 2010-2011. In reviewing harvest reports, it appears many hunters observed multiple lion tracks during their hunts, indicating additional lions were present throughout the Southern Region. Base populations of primary prey species (deer) are currently at levels expected to continue to sustain lion populations. Body condition of 81% of sport harvested lions in the Eastern Region was rated from good to excellent during the 2011-12 season. The conclusion drawn from looking at the data from harvested lions, as well as Mountain Lion Harvest Reports, was that the mountain lion population in the Southern Region appears to be stable.

BLACK BEAR

Western Region
Report by: Carl Lackey

This status report contains information for the 2011 calendar year. Specific data on all black bears handled by department personnel was first recorded in 1997 with a sample size of 5 individuals. Subsequent yearly samples for the last ten years are depicted in Table 1. These figures are for all bears handled including recaptures and all documented mortalities.

Table 1. Bears handled in the Western Region 2002-2011.

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	**2011**
Bears Captured	44	43	69	74	88	158	68	40	78	**75**
Cumulative Total (since 1997)	151	194	263	337	425	583	651	691	769	**844**

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. PIT tags were first applied in 2010 as an additional means of permanently marking each bear. To date NDOW has marked 323 bears and has collected data on 536 individual bears.

Harvest

Results from the 2011 hunt are listed in the Appendix section.

Conflicts

Bear complaints decreased 70% from 440 complaints and reports of bears handled by NDOW personnel in 2010 to 130 in 2011. There are 2 plausible reasons for the decrease. First, habitat conditions were excellent following one of the best winter snowpack's on record. Second, NDOW personnel had to kill a record number of conflict bears in 2010. Consequently, without these particular bears in the system conflicts were likely to decrease. Yearly complaints vary in number depending on climatic conditions and other factors but when the complaint history is viewed as 5-year periods, it is clear that complaints continue to rise (Figure 1).

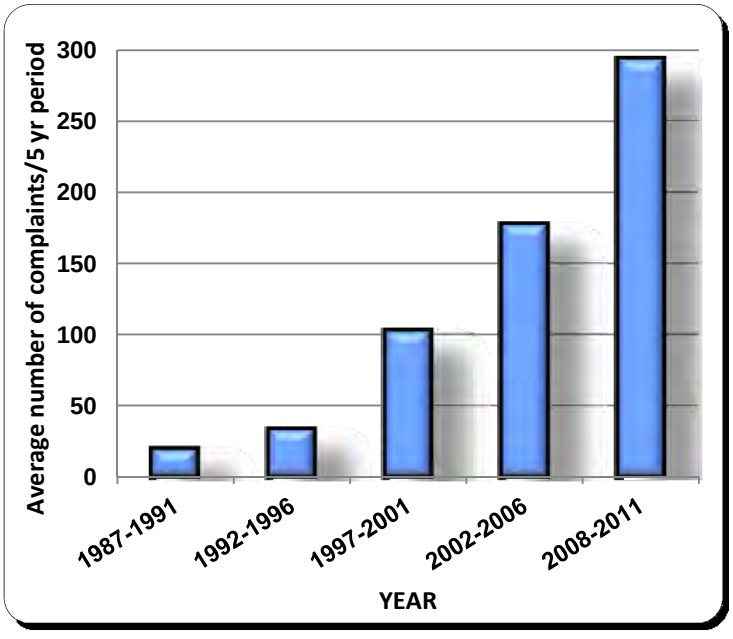


Figure 1. Statewide black bear complaints by 5-year period. The 2007 year was excluded due to its extreme high count of 1,531 complaints.

Calls are usually either routed through NDOW dispatch or they are received by the biologist/wardens directly. The first option is to advise

the complainant of ways to avoid conflicts by restricting access to human foods. If the conflict persists or if the bear has caused substantial property damage NDOW personnel will usually respond to the area and investigate. Per NDOW policy, if the bear is classified as a Category 1 or 2 (dangerous, aggressive or depredating) personnel will respond, investigate and if necessary, attempt to capture the bear. The majority of complaints received pertained to conflict bears accessing garbage or other sources of human foods. Other common complaints were bears breaking into garbage enclosures or sheds, damage to fruit trees, bears breaking into homes and vehicles and bears frequenting a particular area. All of these were directly related to bears having access to human foods, which historically accounts for >95% of the total number of calls received.

Complaints were predominantly from Washoe County (59%), and in particular Incline Village which accounted for 34% of all calls received statewide (Figure 2). Property damage for the year was reported in excess of $83,000. Approximately $80,000 of this was for one incident attributed to multiple bears, possibly siblings. The bear(s) broke into a vacant but furnished home in Incline and used it as living quarters for what appeared to be several weeks. Flooring, furniture and appliances throughout the home had to be replaced. Attempts to capture these bears failed. It should be noted that most people don't report damage unless it is significant and even then these figures are not often recorded.

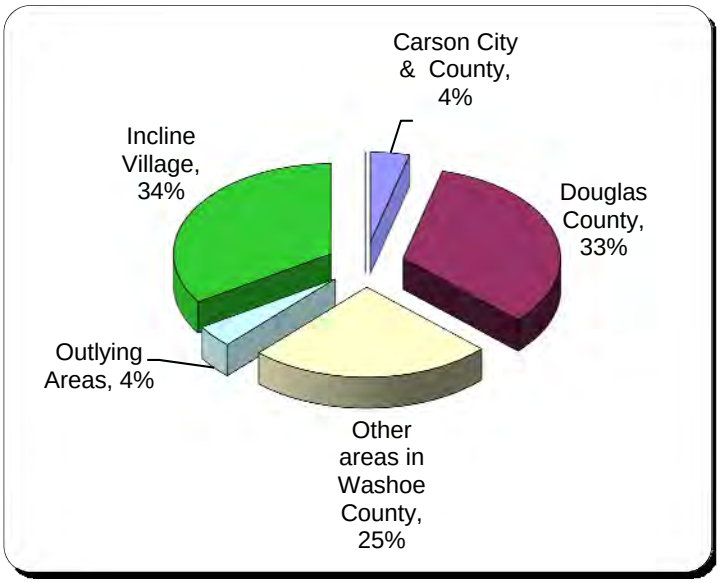


Figure 2. Black bear complaints by county of origin.

During approximately 74 events (includes recaptures and multiple captures per event), 73 individual bears were handled, including 20 bears that were handled for research purposes only. Of the 73, 51 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. Of the new bears handled, 25 were tagged and released, while 26 were documented as mortalities on the initial incident (sport hunt, unknown bears hit by vehicles, etc). An account of age cohorts for all new bears handled is summarized below in Table 2 which contains figures for both conflict and research captured bears. Most bears were either caught in culvert traps or by free-ranging capture techniques. Fourteen cubs of the year were handled, and 6 of these were in the natal den. Two cubs were captured and sent to Animal Ark for maintenance and ultimately a release at a later date, after they were orphaned when the sow was euthanized for entering homes in Galena.

Table 2. Number sampled, age cohort and sex of all first-event bears for past 10 years with average age in years for adults.

Age cohort	Sex	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cubs ≤ 12mo.	♂	2	4	8	7	9	12	5	5	1?	7
	♀	5	4	8	3	4	17	2	0	1?	7
Sub-adults 1 – 3 yrs	♂	4	4	7	9	8	25	12	4	3	11
	♀	3	5	1	5	6	11	4	3	8	6
#Adults 4+ yrs / Avg. Age	♂	6 @ 8.2	3 @ 7.0	2 @ 7.5	2 @ 6.5	17 @ 6.2	21 @ 7.6	5 @ 5.2	6 @ 5.2	13@ 6.2	15@ 7.2
	♀	8 @ 9.4	2 @ 7.5	6 @ 6.5	2 @ 11.0	5 @ 7.8	23 @ 8.9	1 @ 6.0	2 @ 13.5	8@ 6.6	7@ 9

The Department's public education program, *Bear Aware*, has remained static over the last 3 years due to funding shortfalls. Handout materials are limited to stock on hand. Regardless, several public presentations were given throughout the year. After many draft versions NDOW completed the *Black Bear Management Plan-2012* which will guide the agency in future adaptive management decisions.

Mortalities

There were 33 documented mortalities recorded this year, (Table 3) and 7 of these were marked bears (recaptures). The total consisted of 17 males, 13 females and 3 of unknown gender. NDOW had to kill 8 bears in deference to public safety for breaking and/or entering homes or as chronic nuisance bears (3 males and 5 females). Five bear mortalities were considered accidental. Four of these were non-target kills by USDA-Wildlife Services during ongoing snaring projects on the Rafter 7 Ranch in Lyon County. One bear was accidentally shot with lethal rounds by a sheriff's deputy while trying to haze the bear. Anthropogenic reasons other than legal hunting are the leading cause of documented bear mortalities in Nevada.

Table 3. Documented Mortalities 2002-2011

Mortality Type	2002	2003	2004	2005	2006	2007	2008	2009	2010	**2011**	Total (1997-present)
Hit by Car	13	4	9	14	22	35	6	8	8	**3**	**149**
Public Safety	5	2	3	1	4	10	17	3	12	**8**	**75**
3 Strikes	NA	NA	NA	NA	NA	1	6	3	8	**0**	**18**
Depredation	1	0	0	2	5	5	1	0	2	**1**	**30**
Sport Hunt	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14**	**14**
Illegal	0	0	0	0	0	3	0	0	1	**1**	**6**
Other	1	4	1	0	1	8	2	1	3	**6**	**35**
Total	20	10	13	17	32	62	32	15	34	**33**	**327**
Cumulative Total (since 1997)	79	89	102	119	151	213	245	260	294	**327**	

Marked Nevada bears killed in other states (18 since 2001) were not recorded in Table 1.

Expenditures

Expenditures for the time period covered by this report include monies spent on capture equipment, trap maintenance, and drugs and medical supplies. Monies spent on controlled substances and capture supplies totaled $14,228 which included new dart guns and PIT-tag scanners for game and law enforcement divisions. For all operating accounts (Category 58) a total of $20,150 was expended in calendar year 2011

for bear management related activities. Expenditures for salary and mileage are not included in these figures. No monies were available for the *Bear Aware* public education program.

Research

NDOW continues to collect data from satellite collars deployed on 4 female bears. The current study of wildland female reproductive success continues to be plagued by faulty collars provided by North Star and only 3 bears were successfully denned this year. Two of these bears had litters of 3 cubs each and sex ratios of these cubs were 50:50, male/female. Nonetheless, valuable data on reproduction and habitat use have been successfully collected with the collars that are working. This project continues with funding from the Wildlife Conservation Society. NDOW is also now working with a PhD student from Columbia University who will be conducting field work beginning in 2012 to further investigate wildland female black bear reproductive success. This student will also be analyzing GPS collar data collected since 2006 to evaluate Resource Selection Function (RSF) modeling which will help identify those habitats and travel corridors most important to bears.

Population Status

A statistical analysis of NDOW's mark/recapture data was completed in 2010. The analysis was performed in Program MARK using the Jolly-Seber model structure to calculate population size and the Pradel model structure to derive estimates of survival and recruitment. A simplified definition of this method is described by Dr. James Sedinger, the population ecologist with the University of Nevada, Reno who did the analysis.

> "*A sample of animals is captured, marked and released. A second sample is then captured. If the first sample mixed with the entire population the ratio of marked animals to the size of the total sample in the second sample is the same as the ratio of total marked animals (from the first sample) to the size of the entire population. If the size of the entire population is N (which we don't know but are trying to estimate), the number of marked animals released in the first sample is M, the size of the second sample is n and the number of marked animals in the second sample is m, we can write a formula for our estimate of population size as*:
>
> $$\frac{M}{N} = \frac{m}{n}$$
>
> $$\xrightarrow{yields} N = \frac{Mn}{m}$$
>
> *The Jolly-Seber approach is a little more complex because it allows for mortality between the first and second samples (which it adjusts for), and combines the results from multiple samples. The basic logic of the calculation remains the same. It is important to note that these approaches generally produce underestimates of population size."*

The 2008 bear population estimate was 253 ± 27 (165 males and 88 females). It was derived by using data from bears captured between 1997-2008 mostly in the study area (management areas 19 and 29). Further analysis was completed for this status report and included data from 1997 through 2011. This analysis resulted in a population estimate of 456 ± 39 bears (296 males and 160 females). Nevada's bear population is believed to be only a small portion of the greater Sierra Nevada population, estimated at 10,000-15,000 bears. In addition to our study area there are viable bear populations in the Pine Grove Hills, Wassuk Range, Sweetwater Mountains, East Walker River area, and quite possibly the Excelsior Range and the Silver Peak Range. It is also likely that black bears are reoccupying very small parts of eastern Nevada as evidenced by recent captures (Jarbidge 2005) and sightings of family groups (Ruby Mountains 2011). 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 thriving, and is likely increasing in distribution. The thresholds of harvest criteria set forth

in the Black Bear Management plan were not met, indicating that legal harvest was light and could be increased in the future.

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 causing bear-human conflicts to increase. Good climatic conditions persisted in the winter and spring of 2011 and bear complaints were at a 9-year low. Thus far in 2012 these conditions do not look as favorable. It is likely that past drought conditions have caused the bear population to fluctuate in number. First, cub survival and recruitment is directly tied to adult female body condition so in drought years some adult females are not likely to be in optimum physical condition. Second, as bear-human conflicts increase, particularly in drought years, anthropogenic causes of mortality increase. Therefore, Nevada's bear population, although showing an increasing trend, will likely experience periodic declines in survival and recruitment. Nonetheless, the long-term viability of the population appears favorable.

APPENDIX

Harvest, Survey, and Population Tables

APPENDIX - TABLE OF CONTENTS
Harvest, Survey, and Population Tables

TABLE 1. 2011 MULE DEER HARVEST BY POINT CLASS AND UNIT FOR ALL HUNTS

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	1			1	3	7	22	2		35			
012	1				4	13	15			32			
013	1				6	10	16	1		33	100	56%	103
014	2			1	8	33	32	4	2	80	80	48%	82
015					4	5	11	1	1	22	22	59%	22
021	1			2	2	11	15	3	1	34	34	56%	35
022	1				4	4	16	5	1	30	30	73%	31
031	2			3	27	47	37	5	1	120	120	36%	122
032	2			2	22	21	13	1		59	59	24%	61
033	1			1	8	16	22	2		49	49	49%	50
034					5	7	12	3		27	27	56%	27
035	2			1	11	16	16		2	46	46	39%	48
041	1				3	5	10			18			
042	1				2	7	2	1		12	30	43%	32
043	5			1	26	28	23	1	1	80			
044	1		1	1	12	14	17			44			
045	2				2	3	2			7			
046	1			3	8	15	14			40	171	34%	181
051	19	2	2	6	59	43	36	9	1	154	154	30%	177
061	4			4	31	28	41	3		107			
062	9	1	1	4	62	74	117	13	6	276			
064	1			1	11	16	14	5	3	50			
066	1			2	8	6	16			32			
067	1			2	5	5	19	1		32			
068	1		1	1	9	16	29	3	1	59	556	49%	576
065					5	7	22	5	4	43	43	72%	43
071	5			4	39	43	40	7	1	134			
072	2		1	1	34	35	42			112			
073	7		2	5	22	14	34	7	3	85			
074	1			1	3	6	15	1		26			
075	9			9	49	44	47	3	4	156			
076	1			3	9	16	15	1	1	45			
077	3			1	9	8	10	3		31			
078	1				3	2	4			9			
079				2	1	3	3			9			
091										0	607	40%	639
081					1	9	26	8	1	45	45	78%	45
101	14	1	1	16	75	65	88	11	2	257			
102	19	1	1	31	129	133	164	16	3	476			
103	10		1	8	55	24	30	2		119			
104	4		3	7	24	14	24	2	2	73			
105					2	4	3	1		10			
106	1				1	3	2	1		7			
107					2	2	2			6			
108	2			3	26	17	14	2	1	63	1011	37%	1069
111	27	2	2	14	64	40	46	3	1	168			

hunt returns thru 4/10/12

TABLE 1. 2011 MULE DEER HARVEST BY POINT CLASS AND UNIT FOR ALL HUNTS

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+				
112							2			2			
113	2			1	2		3			6	176	31%	209
114	5		5		6	7	3	2		18			
115	5			3	4	9	29	6	1	52	70	59%	85
121	6		2	6	37	48	33	6	3	133	133	32%	141
131	4			4	23	34	67	5	3	136			
132	2				7	9	15	1	1	33			
133					2	4	9			15			
134			1				3			3	187	56%	194
141	2			4	17	21	22	1	2	67			
142	1	1			2	9	6			17			
143					13	13	8			34			
144	5		1	5	20	27	28	2	2	84			
145	3				10	4	7	2		23	225	36%	238
151	2	1		3	20	18	26	3	4	74			
152	2				15	19	32	2		68			
154	3		1	2	10	14	9	1	1	37			
155					10	21	13	3		47	226	42%	235
161	10		1	3	30	31	18	4		86			
162	3			1	18	20	26	4	1	70			
163	2				11	4	7	2		24			
164		1			3	2	2	1	1	9	189	35%	206
171	6			1	16	10	15			42			
172	6	1		1	10	10	8			29			
173	16	1	1	7	25	40	40	3	2	117	188	36%	219
181	1			2	14	14	12	1	1	44			
182	2				2	2	7			11			
183				1	3	6	4	5		19			
184	1			1	7	6	8		1	23	97	40%	101
192	4			3	10	6	4			23	23	17%	27
194				1	2	5	14	3	5	30			
196				1	3	6	14	2		26	56	68%	56
195					7	3	6			16	16	38%	16
201	1			2	11	18	8			39			
204				2	3	2	4	1		12	51	25%	52
202					2	5	15	1		23			
205						3	4	1		8			
206					4	5				9	40	53%	40
203	2			2	13	15	13	2	1	46	46	35%	48
211					2	6	3	1		12			
212	2					6	2			8	20	30%	22
221	4			1	13	11	22	3	2	52			
222	7			3	27	35	45	10	1	121			
223					6	9	9	1	3	28	201	48%	212
231	5			2	29	44	112	18	10	215	215	65%	220
241					5	4	14	3	10	36			

hunt returns thru 4/10/12

TABLE 1. 2011 MULE DEER HARVEST BY POINT CLASS AND UNIT FOR ALL HUNTS

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+				
242					2	2	11	1	2	18			
243						1		1		2			
245					1	2	6		1	10	66	74%	66
251	2		1	1	1	2	6	3	2	15			
253					2					2	17	65%	20
261						4				4			
262	2			2	11	12	8	1	1	35			
263					2		1			3			
268					1		1			2	44	27%	46
271					1	3	1	1		6			
272					1		2			3	9	44%	9
291				1	8	11	5	1		26	26	23%	26
TOTAL	**285**	**12**	**29**	**207**	**1,399**	**1,561**	**1,990**	**244**	**104**	**5,505**		**42%**	**5,831**

PIW AND HERITAGE TAGHOLDER HARVEST BY UNIT

UNIT	#	UNIT	#	UNIT	#	UNIT	#
081	1	194	4	231	1	243	1
154	1	196	2	241	1	262	1
171	1	221	1	242	1		

hunt returns thru 4/10/12

TABLE 2. FOUR-POINT OR BETTER MULE DEER HARVEST BY UNIT GROUP, 2002 - 2011

Unit Group	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
011- 013	65%	59%	55%	59%	51%	47%	59%	56%	51%	56%
014	54%	50%	62%	61%	59%	38%	49%	60%	51%	48%
015	58%	70%	46%	59%	52%	40%	50%	44%	53%	59%
021	45%	65%	48%	69%	63%	60%	50%	48%	42%	56%
022	61%	55%	56%	51%	50%	48%	48%	50%	48%	73%
031	39%	38%	52%	51%	51%	44%	46%	54%	46%	36%
032	40%	42%	27%	45%	36%	39%	34%	43%	38%	24%
033	70%	57%	49%	53%	51%	45%	38%	44%	51%	49%
034	41%	37%	45%	64%	59%	49%	36%	75%	62%	56%
035	54%	39%	40%	59%	46%	49%	63%	60%	67%	40%
041, 042	61%	29%	39%	47%	42%	41%	55%	58%	55%	43%
043 - 046	35%	31%	38%	43%	38%	47%	49%	47%	47%	34%
051	33%	34%	34%	36%	34%	39%	39%	46%	33%	29%
061,062,064,066-068	32%	37%	46%	45%	44%	47%	47%	47%	44%	49%
065	65%	32%	58%	53%	60%	64%	72%	64%	65%	71%
071 - 079, 091	28%	26%	30%	39%	42%	41%	38%	43%	41%	40%
081	50%	54%	61%	42%	59%	58%	59%	84%	71%	78%
101 - 108	32%	31%	35%	30%	34%	33%	33%	39%	39%	37%
111 - 113	27%	27%	22%	32%	29%	21%	27%	32%	27%	31%
114, 115	47%	46%	59%	53%	57%	43%	44%	46%	48%	59%
121	26%	28%	39%	30%	32%	20%	31%	32%	28%	32%
131 - 134	35%	40%	50%	45%	50%	43%	44%	53%	43%	56%
141 - 145	33%	31%	31%	32%	28%	29%	37%	36%	40%	35%
151, 152, 154, 155	37%	39%	33%	38%	38%	40%	48%	54%	49%	42%
161 - 164	42%	35%	43%	36%	40%	29%	46%	47%	34%	35%
171 - 173	47%	43%	38%	39%	36%	33%	41%	45%	33%	36%
181 - 184	47%	26%	37%	38%	28%	37%	49%	41%	40%	39%
192	28%	45%	50%	51%	43%	51%	35%	35%	46%	17%
194, 196	54%	58%	62%	73%	66%	61%	62%	59%	54%	68%
195	38%	65%	60%	38%	49%	35%	35%	46%	52%	38%
201, 204	26%	29%	37%	31%	39%	43%	30%	45%	17%	25%
202, 205, 206	35%	24%	39%	37%	43%	31%	44%	46%	38%	53%
203	34%	48%	29%	39%	37%	38%	28%	34%	26%	35%
211, 212	27%	24%	63%	47%	24%	29%	33%	42%	64%	30%
221 - 223	37%	36%	57%	46%	47%	37%	48%	48%	48%	48%
231	40%	45%	49%	50%	57%	51%	61%	69%	61%	65%
241 - 245	58%	68%	69%	62%	52%	56%	66%	65%	76%	74%
251 - 253	44%	68%	44%	67%	40%	54%	72%	54%	31%	65%
261 - 268	14%	29%	48%	41%	13%	7%	25%	40%	52%	27%
271, 272	33%	50%	73%	73%	57%	35%	55%	70%	90%	44%
291	54%	56%	44%	43%	42%	51%	40%	41%	46%	23%
Statewide	**38%**	**36%**	**39%**	**40%**	**40%**	**38%**	**41%**	**46%**	**42%**	**42%**

TABLE 3. 2011 MULE DEER JUNIOR HUNT RESULTS BY UNIT GROUP

UNIT GROUP	Apps*	1st draw tag sales	Tags Sold	Draw Odds**	% Return	# Succ. Hunters	% Hunter Success***	% Bucks
011 - 013	83	49	49	2 to 1	98%	30	61%	90%
014	55	24	24	3 to 1	100%	21	88%	90%
015	25	10	10	3 to 1	100%	5	50%	100%
021	46	19	19	3 to 1	74%	13	79%	92%
022	26	10	10	3 to 1	100%	9	90%	89%
031	71	60	60	2 to 1	93%	41	70%	95%
032	39	34	34	2 to 1	91%	14	44%	86%
033	29	18	18	2 to 1	100%	14	78%	93%
034	8	7	7	2 to 1	100%	5	71%	100%
035	27	27	27	1 to 1	96%	17	63%	88%
041, 042	18	12	12	2 to 1	100%	6	50%	67%
043 - 046[A]	97	76	76	2 to 1	91%	51	71%	82%
051	129	129	164	1 to 1	95%	72	45%	71%
061, 062, 064, 066 - 068	291	257	257	2 to 1	95%	160	64%	89%
065	19	12	12	2 to 1	92%	9	75%	100%
071 - 079, 091	328	312	312	2 to 1	93%	191	63%	85%
081	21	17	17	2 to 1	100%	15	88%	100%
101 - 108	329	329	371	1 to 1	94%	170	47%	69%
111 - 113	195	168	168	2 to 1	92%	88	55%	65%
114, 115	54	52	52	2 to 1	96%	20	38%	75%
121	67	59	59	2 to 1	92%	43	76%	86%
131 - 134	135	99	99	2 to 1	97%	68	70%	91%
141 - 145	117	114	114	2 to 1	96%	71	64%	83%
151, 152, 154, 155	90	83	83	2 to 1	95%	51	63%	84%
161 - 164	115	111	111	2 to 1	95%	64	59%	75%
171 - 173	144	143	143	2 to 1	96%	75	54%	60%
181 - 184	67	65	65	2 to 1	94%	22	35%	82%
192	32	18	18	2 to 1	94%	8	44%	50%
194, 196	125	34	34	4 to 1	97%	26	76%	100%
195	25	9	9	3 to 1	89%	5	56%	100%
201, 204	37	24	24	2 to 1	92%	10	42%	90%
202, 205, 206	26	21	21	2 to 1	95%	11	52%	100%
203	34	26	26	2 to 1	85%	16	65%	88%
211, 212	12	11	11	2 to 1	82%	7	73%	71%
221 - 223	200	142	142	2 to 1	92%	78	57%	86%
231	158	57	57	3 to 1	98%	48	84%	90%
241 - 245	86	21	21	5 to 1	95%	17	81%	100%
251 - 253	18	18	25	1 to 1	96%	10	40%	80%
261 - 268	34	21	21	2 to 1	90%	13	67%	85%
271, 272	18	9	9	2 to 1	100%	3	33%	100%
291	35	16	16	3 to 1	94%	6	38%	100%
TOTALS	**3,465**	**2,723**	**2,807**	**2 to 1**	**94%**	**1,603**	**59%**	82%

*Apps - # of 1st choice applicants plus successful applicants as 2nd - 5th choice

** Draw Odds - # of 1st choice applicants plus successful applicants for every one tag sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; a portion of nonreturns are assumed to be successful based on past trends of hunt records not yet returned)

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
RESIDENT PIW ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1000							
STATEWIDE	4,091	22	186 to 1	100%	15	68%	93%
HERITAGE MULE DEER ANY LEGAL WEAPON HUNT 1100 AND 1201							
STATEWIDE		2		100%	0	0%	--
SILVER STATE MULE DEER ANY LEGAL WEAPON HUNT 1300							
STATEWIDE	2,162	1	2162 to 1	100%	0	0%	--
RESIDENT AND NONRESIDENT MULE DEER LANDOWNER DAMAGE COMPENSATION HUNT 1115 AND 1215							
011, 013		5		100%	3	60%	100%
015		1		100%		0%	
031		16		100%	5	31%	80%
032		4		100%	3	75%	67%
034		8		100%	8	100%	88%
035		6		100%	5	83%	80%
044		1		100%	1	100%	0%
051		13		100%	11	85%	73%
062		3		100%	2	67%	100%
065		2		100%	2	100%	100%
073		3		100%	3	100%	100%
101 -103		38		97%	25	66%	72%
111		3		100%	2	67%	100%
114		6		100%	4	67%	100%
131, 132		8		100%	5	63%	100%
141 - 144		12		100%	11	92%	55%
152, 154		6		100%	6	100%	50%
163		1		100%	1	100%	100%
204		1		100%	1	100%	100%
223		2		100%	1	50%	100%
231		52		96%	33	65%	85%
241, 242, 245		9		100%	7	78%	100%
TOTALS		**200**		**99%**	**139**	**70%**	80%
RESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1331							
011 - 013 Early	556	92	7 to 1	99%	41	45%	41%
011 - 013 Late	406	23	18 to 1	96%	13	57%	69%
014 Early	358	49	8 to 1	100%	38	78%	47%
014 Late	367	15	25 to 1	93%	9	60%	67%
015	127	21	7 to 1	90%	11	57%	64%
021	256	28	10 to 1	100%	14	50%	50%
022	276	30	10 to 1	93%	18	63%	72%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
031	670	128	6 to 1	97%	57	45%	26%
032	170	80	3 to 1	99%	31	39%	13%
033 Early	111	27	5 to 1	100%	12	44%	33%
033 Late	213	19	12 to 1	100%	11	58%	64%
034	103	20	6 to 1	85%	8	45%	38%
035	173	56	4 to 1	93%	21	39%	33%
041, 042	166	34	5 to 1	100%	17	50%	47%
043 - 046 Early	553	171	4 to 1	95%	71	43%	27%
043 - 046 Late	276	55	6 to 1	100%	36	65%	42%
051 Early	471	283	2 to 1	96%	55	20%	27%
051 Late	125	32	4 to 1	100%	11	34%	27%
061, 062, 064, 066 - 068 E	1,646	604	3 to 1	95%	272	46%	38%
061, 062, 064, 066 - 068 L	974	68	15 to 1	96%	53	79%	75%
065	386	31	13 to 1	97%	23	74%	70%
071 - 079, 091 Early	1,521	648	3 to 1	96%	249	39%	31%
071 - 079. 091 Late	1,068	116	10 to 1	99%	81	70%	47%
081	286	36	8 to 1	97%	20	56%	70%
101 - 108, Early	1,427	937	2 to 1	94%	219	24%	25%
101 - 108 Mid	1,008	938	2 to 1	93%	250	28%	24%
101 - 108, Late	881	255	4 to 1	95%	118	47%	49%
111 - 113 Early	950	319	3 to 1	97%	72	23%	21%
111 - 113 Late	357	36	10 to 1	100%	14	39%	50%
114, 115 Early	123	47	3 to 1	100%	18	38%	44%
114, 115 Late	70	12	6 to 1	92%	3	25%	67%
121 Early	388	149	3 to 1	96%	69	47%	26%
121 Late	123	8	16 to 1	75%	5	75%	60%
131 - 134 Early	665	176	4 to 1	97%	82	47%	56%
131 - 134 Late	303	10	31 to 1	90%	5	50%	80%
141 - 145 Early	468	239	2 to 1	97%	92	39%	29%
141 - 145 Late	173	28	7 to 1	100%	18	64%	67%
151, 152, 154, 155 Early	480	264	2 to 1	97%	107	41%	35%
151, 152, 154, 155 Late	180	33	6 to 1	97%	23	70%	43%
161 - 164 Early	586	214	3 to 1	96%	76	36%	32%
161 - 164 Late	261	25	11 to 1	100%	16	64%	31%
171 - 173 Early	558	281	2 to 1	95%	72	26%	31%
171 - 173 Late	287	62	5 to 1	97%	24	39%	42%
181 - 184	363	166	3 to 1	95%	61	38%	41%
192	194	40	5 to 1	95%	11	28%	9%
194, 196	1,400	15	94 to 1	100%	11	73%	82%
195	204	17	12 to 1	100%	6	35%	33%
201, 204	328	56	6 to 1	100%	32	57%	25%
202, 205, 206	226	44	6 to 1	100%	23	52%	61%
203	122	38	4 to 1	95%	23	63%	39%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
211, 212	93	26	4 to 1	100%	11	42%	18%
221 - 223 Early	1,179	368	4 to 1	95%	90	25%	40%
221 - 223 Late	559	18	32 to 1	100%	12	67%	75%
231	1,470	142	11 to 1	98%	112	80%	58%
241 - 245 Early	348	43	9 to 1	93%	26	63%	54%
241 - 245 Late	554	5	111 to 1	100%	3	60%	100%
251 - 253	70	23	4 to 1	74%	8	39%	75%
261 - 268	386	34	12 to 1	97%	23	68%	26%
271, 272	94	20	5 to 1	95%	3	15%	67%
291	251	41	7 to 1	100%	15	37%	27%
TOTALS	**28,387**	**7,795**	**4 to 1**	**96%**	**2925**	**38%**	38%

RESIDENT ANTLERED MULE DEER MUZZLELOADER HUNT 1371

011 - 013	36	3	12 to 1	100%		0%	
014	54	5	11 to 1	100%	3	60%	33%
015	10	2	5 to 1	100%	2	100%	100%
021	17	2	9 to 1	100%	2	100%	100%
022	8	2	4 to 1	100%		0%	
031	23	7	4 to 1	100%	4	57%	25%
032	15	7	3 to 1	100%	3	43%	33%
033	13	4	4 to 1	100%	2	50%	0%
034	10	2	5 to 1	100%		0%	
035	15	4	4 to 1	100%		0%	
041, 042	9	3	3 to 1	67%		0%	
043 - 046	52	24	3 to 1	92%	5	21%	60%
051	57	51	2 to 1	88%	9	20%	11%
061, 062, 064, 066 - 068	146	51	3 to 1	94%	16	33%	44%
065	24	3	8 to 1	100%	1	33%	0%
071 - 079, 091	162	80	3 to 1	99%	24	30%	46%
081	35	5	7 to 1	100%	3	60%	100%
101 - 108	260	248	2 to 1	95%	54	22%	20%
111 - 113	71	23	4 to 1	100%	7	30%	14%
114, 115	154	35	5 to 1	97%	20	57%	75%
121	42	14	3 to 1	100%	8	57%	50%
131 - 134	158	24	7 to 1	100%	16	67%	63%
141 - 145	44	20	3 to 1	95%	8	40%	13%
151, 152, 154, 155	56	35	2 to 1	89%	10	31%	50%
161 - 164	71	23	4 to 1	100%	11	48%	27%
171 - 173	108	81	2 to 1	93%	17	22%	29%
181 - 184	9	6	2 to 1	100%	1	17%	0%
192	9	3	3 to 1	100%	1	33%	0%
194, 196	55	3	19 to 1	100%	2	67%	0%
195	13	4	4 to 1	100%	2	50%	0%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
201, 204	8	3	3 to 1	100%	1	33%	0%
202, 205, 206	7	2	4 to 1	100%	1	50%	100%
211, 212	4	2	2 to 1	100%	1	50%	0%
221 - 223	99	26	4 to 1	96%	7	27%	86%
231	97	14	7 to 1	100%	2	14%	100%
241 - 245	20	2	10 to 1	100%	2	100%	100%
251 - 253	2	2	1 to 1	100%		0%	
261 - 268	18	3	6 to 1	100%	3	100%	0%
271, 272	3	2	2 to 1	100%		0%	
291	10	4	3 to 1	100%		0%	
TOTALS	**2,004**	**834**	**3 to 1**	**95%**	**248**	**30%**	40%
RESIDENT ANTLERED MULE DEER ARCHERY HUNT 1341							
011 - 013	71	22	4 to 1	95%	5	23%	80%
014	49	8	7 to 1	100%	2	25%	50%
015	7	2	4 to 1	100%		0%	0%
021	24	8	3 to 1	100%	1	13%	100%
022	21	5	5 to 1	80%		0%	0%
031	36	23	2 to 1	96%	5	22%	40%
032	28	27	2 to 1	93%	4	15%	0%
033	18	10	2 to 1	100%	2	20%	50%
034	11	7	2 to 1	100%	2	29%	50%
035	8	6	2 to 1	100%	1	17%	0%
041, 042	20	12	2 to 1	100%	4	33%	75%
043 - 046	75	49	2 to 1	96%	10	20%	40%
051	115	107	2 to 1	96%	6	6%	0%
061, 062, 064, 066 - 068	161	97	2 to 1	96%	26	28%	65%
065	10	2	5 to 1	100%		0%	0%
071 - 079, 091 Early	168	149	2 to 1	93%	17	12%	53%
071 - 079. 091 Late	87	38	3 to 1	92%	7	18%	71%
081	7	2	4 to 1	100%	1	50%	100%
101 - 108 Early	422	437	1 to 1	94%	60	14%	43%
101 - 108 Late	207	131	2 to 1	96%	14	11%	57%
111 - 113	102	35	3 to 1	97%	6	17%	50%
114, 115	52	48	2 to 1	96%	4	8%	75%
121 Early	32	16	2 to 1	100%	1	6%	0%
121 Late	23	6	4 to 1	100%	3	50%	100%
131 - 134	93	21	5 to 1	90%	3	14%	0%
141 - 145	98	96	2 to 1	98%	14	15%	36%
151, 152, 154, 155	85	80	2 to 1	99%	16	20%	56%
161 - 164	129	86	2 to 1	100%	18	21%	39%
171 - 173	139	130	2 to 1	95%	10	8%	30%
181 - 184	62	59	2 to 1	98%	11	19%	27%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
192 Early	17	8	3 to 1	88%		0%	0%
192 Late[A]	12	6	3 to 1	67%	2	50%	100%
194, 196 Early	64	6	11 to 1	83%	2	33%	0%
194, 196 Late	49	7	7 to 1	100%	3	43%	100%
195	16	4	4 to 1	75%	1	25%	100%
201, 202, 204 - 206 Early	6	4	2 to 1	75%		0%	0%
201, 204 Late*	10	5	2 to 1	100%	1	20%	0%
202, 205, 206* Late*	11	5	3 to 1	100%	1	20%	0%
203	58	51	2 to 1	94%	5	10%	0%
211, 212	7	13	1 to 1	100%	1	8%	100%
221 - 223	131	44	3 to 1	98%	5	11%	40%
231	137	28	5 to 1	96%	7	25%	100%
241 - 245	35	4	9 to 1	100%	1	25%	100%
251 - 253	4	4	1 to 1	100%		0%	0%
261 - 268	29	5	6 to 1	80%	3	60%	33%
271, 272[B]	6	5	2 to 1	100%	1	20%	0%
291	12	5	3 to 1	100%	2	40%	50%
TOTALS	**2,964**	**1,923**	**2 to 1**	**95%**	**288**	**15%**	48%

[A]Extra tag issued for 2010 military deferrment tag

[B]Extra tag issued from leftover NR archery tag in 1st draw

RESIDENT ANTLERLESS MULE DEER DEPREDATION HUNT 1101

114, 115	55	30	2 to 1	83%	9	33%	

NONRESIDENT PIW ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1200

STATEWIDE	2,412	3	804 to 1	100%	2	67%	100%

NONRESIDENT GUIDED ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1235

011- 013	6	6	1 to 1	100%	4	67%	100%
014	2	2	1 to 1	100%	1	50%	100%
015	26	1	26 to 1	100%		0%	
021	2	2	1 to 1	100%	2	100%	100%
022	1	1	1 to 1	100%	1	100%	100%
031	6	6	1 to 1	100%	4	67%	75%
032	3	3	1 to 1	100%	2	67%	0%
033 Early	1	1	1 to 1	100%	1	100%	100%
033 Late	13	1	13 to 1	100%	1	100%	100%
034	2	1	2 to 1	100%	1	100%	100%
035	3	1	3 to 1	100%		0%	
041, 042	8	1	8 to 1	100%		0%	
043 - 046 Early	10	10	1 to 1	100%	1	10%	0%
043 - 046 Late	11	2	6 to 1	100%	2	100%	100%
051 Early	0	0	to 1			--	

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
051 Late	0	0	to 1			--	
061, 062, 064, 066 - 068 E	28	28	1 to 1	100%	12	43%	92%
061, 062, 064, 066 - 068 L	57	3	19 to 1	100%		0%	
065	3	1	3 to 1	100%	1	100%	100%
071 - 079, 091 Early	39	30	2 to 1	97%	24	80%	46%
071 - 079. 091 Late	46	5	10 to 1	100%	5	100%	100%
081	16	1	16 to 1	100%	1	100%	100%
101 - 108, Early	33	33	1 to 1	100%	18	55%	83%
101 - 108 Mid	44	43	2 to 1	98%	26	60%	64%
101 - 108, Late	53	22	3 to 1	100%	18	82%	79%
111 - 113 Early	14	14	1 to 1	100%	7	50%	100%
111 - 113 Late	1	1	1 to 1	100%		0%	
114, 115 Early	3	3	1 to 1	100%	2	67%	100%
114, 115 Late	5	1	5 to 1	100%	1	100%	100%
121 Early	7	7	1 to 1	86%	5	71%	20%
121 Late	6	1	6 to 1	100%		0%	
131 - 134 Early	6	6	1 to 1	100%	4	67%	100%
131 - 134 Late	5	1	5 to 1	100%		0%	
141 - 145 Early	13	9	2 to 1	89%	7	78%	71%
141 - 145 Late	3	1	3 to 1	100%	1	100%	100%
151, 152, 154, 155 Early	8	7	2 to 1	100%	5	71%	80%
151, 152, 154, 155 Late	3	1	3 to 1	100%	1	100%	100%
161 - 164 Early	9	9	1 to 1	100%	4	44%	75%
161 - 164 Late	2	1	2 to 1	100%	1	100%	100%
171 - 173 Early	12	12	1 to 1	92%	3	25%	67%
171 - 173 Late	4	3	2 to 1	100%	1	33%	100%
181 - 184	5	5	1 to 1	100%	3	60%	100%
192	0	0	to 1			--	
194, 196	8	2	4 to 1	100%	1	50%	100%
195	0	0	to 1			--	
201, 204	0	0	to 1			--	
202, 205, 206	1	1	1 to 1	100%	1	100%	0%
203	2	2	1 to 1	100%	2	100%	100%
211	1	1	1 to 1	100%	1	100%	100%
221 - 223 Early	42	18	3 to 1	100%	8	44%	63%
221 - 223 Late	147	1	147 to 1	100%	1	100%	100%
231	27	5	6 to 1	100%	5	100%	100%
241 - 245	63	3	21 to 1	100%	2	67%	100%
251 - 253	1	1	1 to 1	100%		0%	
261 - 268	0	0	to 1			--	

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
271, 272	2	1	2 to 1	100%	1	100%	100%
291	1	1	1 to 1	100%		0%	
TOTALS	**814**	**322**	**3 to 1**	**98%**	**192**	**60%**	76%

NONRESIDENT ANTLERED MULE DEER ANY LEGAL WEAPON HUNT 1331

011 - 013 Early	141	6	24 to 1	100%	4	67%	75%
011 - 013 Late	134	2	67 to 1	100%	2	100%	50%
014 Early	54	4	14 to 1	100%	3	75%	33%
014 Late	91	2	46 to 1	100%	2	100%	50%
015	119	2	60 to 1	100%		0%	
021	67	2	34 to 1	100%		0%	
022	42	2	21 to 1	100%	1	50%	0%
031	157	10	16 to 1	100%	4	40%	75%
032	39	7	6 to 1	86%	2	29%	100%
033 Early	38	2	19 to 1	100%	2	100%	100%
033 Late	104	2	52 to 1	100%	2	100%	100%
034	42	2	21 to 1	100%	2	100%	50%
035	40	5	8 to 1	100%	1	20%	100%
041, 042	23	3	8 to 1	100%	3	100%	33%
043 - 046 Early	51	10	6 to 1	100%	3	30%	0%
043 - 046 Late	48	5	10 to 1	100%	3	60%	33%
051 Early	86	32	3 to 1	97%	10	31%	50%
051 Late	44	4	11 to 1	100%	1	25%	0%
061, 062, 064, 066 - 068 E	419	50	9 to 1	98%	26	52%	73%
061, 062, 064, 066 - 068 L	605	6	101 to 1	100%	6	100%	83%
065	88	3	30 to 1	100%	2	67%	100%
071 - 079, 091 Early	315	50	7 to 1	84%	26	56%	69%
071 - 079. 091 Late	337	9	38 to 1	100%	7	78%	71%
081	320	3	107 to 1	100%	2	67%	100%
101 - 108, Early	282	80	4 to 1	90%	31	41%	45%
101 - 108, Mid	81	72	2 to 1	97%	33	46%	39%
101 - 108, Late	324	12	27 to 1	92%	7	58%	71%
111 - 113 Early	110	23	5 to 1	96%	9	39%	0%
111 - 113 Late	69	3	23 to 1	100%	2	67%	50%
114, 115 Early	48	3	16 to 1	100%	1	33%	100%
114, 115 Late	32	2	16 to 1	100%	2	100%	100%
121 Early	30	11	3 to 1	100%	5	45%	40%
121 Late	25	2	13 to 1	100%	1	50%	100%
131 - 134 Early	92	15	7 to 1	93%	8	53%	63%
131 - 134 Late	97	2	49 to 1	100%	2	100%	100%
141 - 145 Early	66	20	4 to 1	85%	11	60%	45%
141 - 145 Late	26	2	13 to 1	100%	1	50%	0%
151, 152, 154, 155 Early	61	23	3 to 1	91%	15	70%	33%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
151, 152, 154, 155 Late	38	3	13 to 1	100%	1	33%	100%
161 - 164 Early	92	17	6 to 1	94%	10	59%	40%
161 - 164 Late	59	2	30 to 1	100%	2	100%	100%
171 - 173 Early	88	23	4 to 1	100%	8	35%	75%
171 - 173 Late	37	5	8 to 1	100%	2	40%	50%
181 - 184	31	11	3 to 1	100%	4	36%	75%
192	20	5	4 to 1	100%	1	20%	0%
194, 196	430	4	108 to 1	100%	3	75%	67%
195	17	2	9 to 1	50%	1	100%	0%
201, 204	38	6	7 to 1	100%	5	83%	40%
202, 205, 206	30	5	6 to 1	100%	1	20%	100%
203	13	3	5 to 1	100%	1	33%	0%
211, 212	18	2	9 to 1	100%	1	50%	100%
221 - 223 Early	138	27	6 to 1	100%	8	30%	75%
221 - 223 Late	696	2	348 to 1	100%	1	50%	100%
231	329	12	28 to 1	100%	9	75%	89%
241 - 245 Early	83	2	42 to 1	100%	1	50%	0%
241 - 245 Late	1,135	2	568 to 1	100%	1	50%	100%
251 - 253	24	2	12 to 1	100%	1	50%	100%
261 - 268	5	4	2 to 1	100%	2	50%	50%
271, 272	23	2	12 to 1	100%	1	50%	0%
291	21	4	6 to 1	100%	2	50%	0%
TOTALS	**8,112**	**638**	**13 to 1**	**95%**	**308**	**50%**	56%

NONRESIDENT ANTLERED MULE DEER MUZZLELOADER HUNT 1371

011 - 013	19	2	10 to 1	100%	1	50%	100%
014	19	2	10 to 1	100%		0%	
015	16	2	8 to 1	100%	1	50%	100%
021	19	2	10 to 1	100%	2	100%	50%
022	7	2	4 to 1	100%	1	50%	100%
031	15	2	8 to 1	100%	2	100%	50%
032	8	2	4 to 1	100%	2	100%	50%
033	6	2	3 to 1	100%	2	100%	50%
034	10	2	5 to 1	50%	1	100%	100%
035	8	2	4 to 1	50%	1	100%	100%
041, 042	5	2	3 to 1	100%		0%	
043 - 046	13	2	7 to 1	100%		0%	
051	8	5	2 to 1	100%	1	20%	0%
061, 062, 064, 066 - 068	68	3	23 to 1	100%	3	100%	67%
065	10	2	5 to 1	100%	1	50%	100%
071 - 079, 091	23	5	5 to 1	100%	2	40%	0%
081	61	2	31 to 1	50%	1	100%	100%
101 - 108	29	16	2 to 1	100%	8	50%	63%
111 - 113	11	2	6 to 1	100%		0%	

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
114, 115	96	2	48 to 1	100%	1	50%	100%
121	4	2	2 to 1	100%	1	50%	0%
131 - 134	37	3	13 to 1	100%	1	33%	100%
141 - 145	8	2	4 to 1	100%	1	50%	0%
151, 152, 154, 155	7	4	2 to 1	100%	1	25%	0%
161 - 164	12	2	6 to 1	100%		0%	
171 - 173	7	6	2 to 1	83%	2	33%	50%
181 - 184	3	2	2 to 1	100%		0%	
192	2	2	1 to 1	100%	1	50%	0%
194, 196	14	2	7 to 1	100%		0%	
195	2	2	1 to 1	100%	1	50%	100%
201, 204	7	2	4 to 1	100%	2	100%	0%
202, 205, 206	7	2	4 to 1	100%	1	50%	0%
211, 212	5	2	3 to 1	100%		0%	
221 - 223	38	2	19 to 1	100%	1	50%	100%
231	53	2	27 to 1	100%	1	50%	100%
241 - 245	24	2	12 to 1	100%	1	50%	100%
251 - 253	4	2	2 to 1	100%	1	50%	100%
261 - 268	2	2	1 to 1	100%	1	50%	0%
271, 272	3	2	2 to 1	100%		0%	
291	5	2	3 to 1	100%	1	50%	0%
TOTALS	**695**	**108**	**7 to 1**	**96%**	**47**	**46%**	55%
NONRESIDENT ANTLERED MULE DEER ARCHERY HUNT 1341							
011 - 013	27	2	14 to 1	100%		0%	
014	18	2	9 to 1	100%	2	100%	100%
015	8	2	4 to 1	100%	1	50%	100%
021	7	2	4 to 1	100%	1	50%	0%
022	12	2	6 to 1	100%	1	50%	100%
031	11	2	6 to 1	100%		0%	
032	4	3	2 to 1	100%		0%	
033	8	2	4 to 1	100%	1	50%	0%
034	4	2	2 to 1	100%	1	50%	100%
035	6	2	3 to 1	100%	2	100%	50%
041, 042	2	2	1 to 1	100%		0%	
043 - 046	14	5	3 to 1	80%		0%	
051	14	12	2 to 1	92%	1	8%	100%
061, 062, 064, 066 - 068	67	10	7 to 1	90%	4	40%	75%
065	13	2	7 to 1	100%		0%	
071 - 079, 091 Early	53	15	4 to 1	93%	3	20%	67%
071 - 079. 091 Late	34	4	9 to 1	100%	1	25%	100%
081	18	2	9 to 1	100%	1	50%	100%
101 - 108 Early[A]	142	48	4 to 1	92%	14	31%	50%
101 - 108 Late	85	13	7 to 1	100%	6	46%	83%

hunt returns thru 4/10/12

TABLE 4. 2011 MULE DEER HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	% 4+pts
111 - 113	14	4	4 to 1	75%	2	50%	0%
114, 115	14	5	3 to 1	100%		0%	
121 Early	11	2	6 to 1	100%		0%	
121 Late	5	2	3 to 1	100%		0%	
131 - 134	24	2	12 to 1	100%		0%	
141 - 145	14	11	2 to 1	91%	2	18%	0%
151, 152, 154, 155	15	9	2 to 1	89%		0%	
161 - 164	26	10	3 to 1	90%	3	30%	67%
171 - 173	24	14	2 to 1	100%	5	36%	80%
181 - 184	8	6	2 to 1	100%		0%	
192 Early	4	2	2 to 1	100%	1	50%	0%
192 Late	8	2	4 to 1	100%	1	50%	0%
194, 196 Early	6	2	3 to 1	100%		0%	
194, 196 Late	82	2	41 to 1	100%	1	50%	100%
195	4	2	2 to 1	100%		0%	
201, 202, 204 - 206 Early	2	2	1 to 1	100%		0%	
201, 204 Late	6	2	3 to 1	100%		0%	
202, 205, 206* Late	2	2	1 to 1	100%	1	50%	0%
203	3	3	1 to 1	67%	1	33%	0%
211, 212	0	0	to 1			--	
221 - 223	93	5	19 to 1	80%		0%	
231	79	3	27 to 1	100%	2	67%	100%
241 - 245	13	2	7 to 1	100%		0%	
251 - 253	2	2	1 to 1	100%		0%	
261 - 268	2	2	1 to 1	100%		0%	
271, 272	1	1	1 to 1	100%		0%	
291	5	2	3 to 1	100%		0%	
TOTALS	**1,014**	**235**	**5 to 1**	**94%**	**58**	**25%**	60%

[A]Extra tags sold from leftover resident archery tags from 1st draw

Apps - # of 1st choice applicants plus successful applicants as 2nd - 5th choice

Tags Avail - Available tags at season opener - accounts for tags returned for any reason

* Draw Odds - # of 1st choice applicants plus successful applicants for every one tag sold

** % Return - Percent of hunter return cards received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; a portion of nonreturns are assumed to be successful based on past trends of hunt records not yet returned)

TABLE 5. 2011 PRONGHORN HARVEST BY GENDER BY UNIT FOR ALL HUNTS

UNIT	Does	Fawns		Yrlg	Adult	Bucks Only	All Pronghorn	
		Female	Male	Bucks	Bucks	Unit Group Total	Unit Total	Unit Group Total
011					74	74	74	74
012					46		46	
013					30		30	
014					38	114	38	114
015					95	95	95	95
021					8		8	
022					24	32	24	32
031	66	1	5	15	121	121	208	208
032	9			1	62		72	
034	6				50		56	
035	13		1	1	50	162	65	193
033	1				81	81	82	82
041					82		82	
042					69	151	69	151
043					1		1	
044					2		2	
046					1	4	1	4
051					56	56	56	56
061	7		1	2	19		29	
062	6		1	5	29		41	
064	2			1	17		20	
071	1				11		12	
073	8				24	100	32	134
065					24		24	
142							0	
144						24	0	24
066					12	12	12	12
067	11				39		50	
068	17	1	3	8	50	89	79	129
072					30		30	
074					7		7	
075					27	64	27	64
076					7		7	
077					13		13	
079					1		1	
081					3		3	
091					6	30	6	30
078					4		4	
105					4		4	
106					8		8	
107							0	
121	11		1		22	38	34	50
101					10		10	
102					5		5	
103					8		8	
104					10		10	
108					22		22	
144						55	0	55

hunt returns thru 4/10/12

TABLE 5. 2011 PRONGHORN HARVEST BY GENDER BY UNIT FOR ALL HUNTS

UNIT	Does	Fawns Female	Fawns Male	Yrlg Bucks	Adult Bucks	Bucks Only Unit Group Total	All Pronghorn Unit Total	All Pronghorn Unit Group Total
111	3			1	36		40	
112					5		5	
113	1				6		7	
114	9			1	13	60	23	75
115	2		1	1	19		23	
231					11		11	
242						30	0	34
131					28		28	
145					6		6	
163					7		7	
164					11	52	11	52
132					20		20	
133					10		10	
134					1		1	
245					10	41	10	41
141					34		34	
143					12		12	
151					31		31	
152					2		2	
154					8		8	
155					18	105	18	105
161					16		16	
162					8	24	8	24
171					11		11	
172					12		12	
173					8	31	8	31
181					7		7	
182					1		1	
183					11		11	
184					24	43	24	43
202					1		1	
204					3	4	3	4
203					2		2	
291					2	4	2	4
205					12		12	
206					2	14	2	14
221					7		7	
222					6		6	
223					4		4	
241						17	0	17
251					22	22	22	22
TOTAL	**173**	**2**	**13**	**36**	**1,749**			**1,973**

HERITAGE, SILVER STATE AND PIW TAGHOLDER HARVEST BY UNIT

HUNT	UNIT	#		UNIT	#
Heritage	011	1	PIW	068	1
PIW	022	1	PIW	161	1
PIW	033	2	Silver	035	1

hunt returns thru 4/10/12

TABLE 6. 2011 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***
RESIDENT PIW ANTELOPE ANY LEGAL WEAPON HUNT 2000						
STATEWIDE	1,784	5	357 to 1	100%	5	100%
HERITAGE ANTELOPE ANY LEGAL WEAPON HUNT 2100 & 2200						
STATEWIDE		2		100%	1	50%
SILVER STATE ANTELOPE ANY LEGAL WEAPON HUNT 2300						
STATEWIDE	2,681	1	2681 to 1	100%	1	100%
RESIDENT AND NONRESIDENT BUCK ANTELOPE LANDOWNER COMPENSATION HUNT 2115 AND 2215						
031		16		100%	12	75%
032, 035		14		93%	12	93%
042		1		100%	1	100%
051		2		100%	2	100%
068		2		50%	1	100%
114		1		100%	0	0%
115		1		100%	1	100%
121		1		100%	1	100%
141, 151		4		100%	4	100%
161		3		67%	2	100%
172		4		100%	4	100%
184		3		33%	1	67%
245		1		100%	1	100%
TOTALS		53		91%	42	87%
RESIDENT BUCK ANTELOPE ANY LEGAL WEAPON HUNT 2151						
011	468	100	5 to 1	97%	62	63%
012 - 014	1,049	138	8 to 1	98%	95	70%
015	468	99	5 to 1	98%	74	76%
021, 022	633	31	21 to 1	97%	26	84%
031	648	125	6 to 1	96%	92	75%
032, 034, 035	938	215	5 to 1	97%	127	60%
033 Early	585	39	15 to 1	97%	26	67%
033 Late	181	39	5 to 1	97%	33	85%
041, 042 Early	774	97	8 to 1	98%	72	75%
041, 042 Late	182	57	4 to 1	98%	46	81%
043 - 046	63	7	9 to 1	100%	4	57%
051	312	62	6 to 1	92%	45	76%
061, 062, 064, 071, 073	812	108	8 to 1	97%	87	81%
065, 142, 144	257	30	9 to 1	97%	23	77%
066	125	14	9 to 1	100%	10	71%
067, 068	458	106	5 to 1	92%	75	74%
072, 074, 075	335	76	5 to 1	93%	55	75%

hunt returns thru 4/10/12

TABLE 6. 2011 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***
076, 077, 079, 081, 091	290	30	10 to 1	100%	25	83%
078, 105 - 107, 121	273	39	7 to 1	97%	26	67%
101 – 104, 108, 144	310	75	5 to 1	97%	48	65%
111 – 114	863	66	14 to 1	98%	51	77%
115, 231, 242	254	32	8 to 1	97%	21	66%
131, 145, 163, 164	296	55	6 to 1	98%	45	82%
132 – 134, 245	370	37	10 to 1	100%	31	84%
141, 143, 151- 155	300	108	3 to 1	95%	82	78%
161, 162	193	22	9 to 1	100%	19	86%
171 - 173	118	27	5 to 1	96%	23	85%
181 - 184	146	42	4 to 1	98%	31	74%
202, 204	50	7	8 to 1	100%	4	57%
203, 291	34	7	5 to 1	100%	4	57%
205, 206	74	21	4 to 1	100%	13	62%
221 – 223, 241	257	20	13 to 1	100%	13	65%
251	158	18	9 to 1	100%	18	100%
TOTALS	12,274	1,949	7 to 1	97%	1,406	73%

RESIDENT BUCK ANTELOPE MUZZLELOADER HUNT 2171

078, 105 - 107, 121	10	6	2 to 1	100%	5	83%
111 – 114	22	5	5 to 1	100%	1	20%
115, 231, 242	7	2	4 to 1	100%	2	100%
131, 145, 163, 164	7	3	3 to 1	100%	2	67%
132 - 134, 245	10	2	5 to 1	100%	1	50%
221 – 223, 241	7	2	4 to 1	100%	0	0%
TOTALS	63	20	4 to 1	100%	11	55%

RESIDENT BUCK ANTELOPE ARCHERY HUNT 2161

011	45	27	2 to 1	89%	2	7%
012 - 014	71	33	3 to 1	100%	8	24%
015	55	33	2 to 1	91%	8	24%
021, 022	41	9	5 to 1	89%	2	22%
031	37	16	3 to 1	100%	5	31%
032, 034, 035	87	72	2 to 1	99%	5	7%
033	48	11	5 to 1	100%	7	64%
041, 042	69	19	4 to 1	100%	14	74%
051	48	33	2 to 1	97%	4	12%
061, 062, 064, 071, 073	51	33	2 to 1	97%	3	9%
065, 142, 144	16	8	2 to 1	100%	0	0%
066	6	4	2 to 1	100%	0	0%
067, 068*	38	30	2 to 1	97%	3	10%
072, 074, 075	31	27	2 to 1	96%	2	7%
076, 077, 079, 081, 091	21	11	2 to 1	91%	4	36%
078, 105 - 107, 121	14	7	2 to 1	100%	2	29%
101 – 104, 108, 144	30	21	2 to 1	90%	3	14%

hunt returns thru 4/10/12

TABLE 6. 2011 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***
111 – 114	46	12	4 to 1	100%	1	8%
115, 231, 242	16	5	4 to 1	100%	3	60%
131, 145, 163, 164	22	11	2 to 1	100%	2	18%
132 – 134, 245	42	7	6 to 1	100%	4	57%
141, 143, 151- 155	31	28	2 to 1	100%	9	32%
161, 162	8	3	3 to 1	100%	1	33%
171 - 173	16	8	2 to 1	100%	3	38%
181 - 184*	26	21	2 to 1	95%	6	29%
203, 291	2	2	1 to 1	100%	0	0%
205, 206	11	10	2 to 1	90%	1	10%
221 – 223, 241	18	9	2 to 1	78%	2	22%
251	21	4	6 to 1	100%	3	75%
TOTALS	967	514	2 to 1	96%	107	21%

***Nonresident tags sold as resident tags in second draw

RESIDENT DOE ANTELOPE ANY LEGAL WEAPON HUNT 2181

031	376	107	4 to 1	98%	87	82%
032, 034, 035	228	42	6 to 1	95%	31	76%
061 - 064, 071, 073	248	56	5 to 1	93%	34	63%
067, 068	183	64	3 to 1	94%	40	64%
111 - 114	158	10	16 to 1	100%	9	90%
114, 115[A] Baker Ranch	26	15	2 to 1	100%	10	67%
121	70	13	6 to 1	100%	12	92%
TOTALS	1,289	307	5 to 1	96%	223	74%

NONRESIDENT BUCK ANTELOPE ANY LEGAL WEAPON HUNT 2251

011	113	11	11 to 1	100%	8	73%
012 – 014	188	15	13 to 1	93%	9	60%
015	144	11	14 to 1	100%	11	100%
021, 022	108	3	36 to 1	100%	3	100%
031	165	14	12 to 1	100%	11	79%
032, 034, 035	669	21	32 to 1	95%	15	71%
033 Early	526	6	88 to 1	100%	6	100%
033 Late	90	6	15 to 1	100%	6	100%
041, 042 Early	193	15	13 to 1	93%	13	93%
041, 042 Late	45	5	9 to 1	100%	3	60%
051	52	7	8 to 1	100%	6	86%
061 - 064, 071, 073	66	12	6 to 1	100%	11	92%
065, 142, 144	16	3	6 to 1	100%	1	33%
066	15	2	8 to 1	100%	2	100%
067, 068	41	12	4 to 1	92%	7	58%
072, 074, 075	35	8	5 to 1	100%	5	63%
076, 077, 079, 081, 091	61	3	21 to 1	100%	1	33%
078, 105 - 107, 121	20	6	4 to 1	83%	3	50%

hunt returns thru 4/10/12

TABLE 6. 2011 PRONGHORN HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***
101 – 104, 108, 144	43	8	6 to 1	88%	5	63%
111 – 114	44	7	7 to 1	100%	6	86%
115, 231, 242	39	4	10 to 1	100%	3	75%
131, 145, 163, 164	26	6	5 to 1	83%	4	67%
132 - 134, 245	24	4	6 to 1	100%	2	50%
141, 143, 151 - 155	29	12	3 to 1	100%	8	67%
161, 162	17	2	9 to 2	100%	1	50%
171 - 173	7	3	3 to 2	67%	2	100%
181 - 184	16	5	4 to 1	100%	4	80%
205, 206	12	1	12 to 1	100%	0	0%
221 – 223, 241	19	2	10 to 1	100%	2	100%
251	11	2	6 to 1	100%	1	50%
TOTALS	2,834	216	14 to 1	96%	159	75%

NONRESIDENT BUCK ANTELOPE ARCHERY HUNT 2261

011	11	3	4 to 1	100%	1	33%
012 – 014	21	5	5 to 1	100%	2	40%
015	21	5	5 to 1	100%	2	40%
031	16	2	8 to 1	100%	1	50%
032, 034, 035	40	11	4 to 1	100%	2	18%
033	51	1	51 to 1	100%	1	100%
041, 042	19	2	10 to 1	100%	2	100%
051	4	4	1 to 1	100%	0	0%
061 - 064, 071, 073	4	4	1 to 1	100%	0	0%
067, 068	4	4	1 to 1	100%	2	50%
072, 074, 075	7	3	3 to 1	67%	1	33%
076, 077, 079, 081, 091	3	1	3 to 1	100%	0	0%
101 – 104, 108, 144	2	2	1 to 1	100%	0	0%
111 – 114	6	1	6 to 1	100%	1	100%
131, 145, 163, 164	3	1	3 to 1	100%	0	0%
132 - 134, 245	2	1	2 to 1	100%	1	100%
141, 143, 151 - 155	3	3	1 to 1	100%	2	67%
181 - 184	0	0				
205, 206	3	1	3 to 1	0%	0	
TOTALS	220	54	5 to 1	96%	18	33%

Apps - # of unsuccessful 1st choice applicants plus successful applicants as 1st - 5th choice

* Draw Odds - # of "Apps" for every one tag sold.

** % Return - Percent of hunter return cards received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; a portion of nonreturns are assumed to be successful based on past trends of hunt results of records not yet returned)

hunt returns thru 4/10/12

TABLE 7. 2011 PRONGHORN BUCK HORN LENGTH BY UNIT AND UNIT GROUP

	BUCK HORN LENGTH IN INCHES												Unit Group	% 15+
Unit	4	7	8	9	10	11	12	13	14	15	16	17+	Totals	inches
011		1			4	4	1	12	22	24	3	2	73	40%
012				2	1	1	6	6	15	8	6	1		
013				2		1	4	6	6	8	3			
014		1				2	4	4	10	12	4	1	114	38%
015		1	2	2	1	5	7	13	29	21	10	4	95	37%
021							2	1	1	3	1			
022								3	8	3	5	5	32	53%
031*		1		1	7	3	20	23	30	11	9	1	106	20%
032*			2	1	3	2	5	14	11	9	7	2		
034			1	1	2	2	1	8	14	15	6			
035*		1		4	3	3	3	7	11	8	4		150	34%
033						1	2	10	22	28	11	5	79	56%
041				1	4	2	7	13	27	22	4	1		
042					1	1	7	11	24	16	4	3	148	34%
043								1						
044										1		1		
046								1					4	50%
051					2	2	11	10	8	15	4	2	54	39%
061						1	4	2	5	5	1	1		
062						2	5	7	7	7	1			
064					1	1	1	6	3	3	1	1		
071				1			1	5	2	2				
073					1	1	2	5	7	7	1		100	30%
065							1	3	7	6	5	2		
142														
144													24	54%
066							1	1	2	4	3	1	12	67%
067						2	8	1	11	11	5	1		
068					2	2	6	18	12	6	2	1	88	30%
072		1		1	1	1	2	9	5	8	2			
074				1				1	3	1	1			
075		1		3	1		2	6	5	5	3	1	64	33%
076								1	2	4				
077							1	3	5	2	1	1		
079										1				
081								1			2			
091							1	2	2		1		30	40%
078								1	3					
105								1	1	1		1		
106														
107					1	1	1		2	2	1			
121						2	3	5	3	6	1	1	37	35%
101							1	3	4	2				
102							2	1	1	1				
103								3	2	1	1	1		
104						3	3	3			1			
108						2	7	2	3	5	3			

hunt returns thru 4/10/12

TABLE 7. 2011 PRONGHORN BUCK HORN LENGTH BY UNIT AND UNIT GROUP

	BUCK HORN LENGTH IN INCHES												Unit Group	% 15+
Unit	4	7	8	9	10	11	12	13	14	15	16	17+	Totals	inches
144													55	27%
111		1	1	2	2	4	8	9	5	3		1		
112						1	2	1			1			
113					1	1		1	1	1	1			
114			1				4	4	2	1	1		60	15%
115	1				1	1	5	5	3	1	1			
231					1	1	2	3	3	1				
242													29	10%
131					2	1	4	5	9	7				
145							1		3	2				
163							1	2	1	1	2			
164								1	3	5	1		51	41%
132							1	7	3	5	2	2		
133							1	2	4	2	1			
134									1					
245						1	1	1	1	4	1		40	43%
141					2	5	6	5	6	8		1		
143					1		1	4	4	1	1			
151						3	3	5	8	8	1			
152									1			1		
154							1	1	2	4				
155			1		1	1	1	4	6	4			101	29%
161*		1				2	3	2	3	1	1	1		
162								2	4	1	1		22	23%
171						1	3	1	3	1	2			
172*						1		2	3	2	1			
173					1			1	2	3	1		28	36%
181				1				1	2	2		1		
182								1						
183				1				5	3	2				
184				1	2		1	5	6	6	1		41	29%
202								1						
204					1			1	1				4	0%
203								1	1					
291			1						1				4	0%
205						1	2	3	5		1			
206				1			1						14	7%
221				1		1			3	2				
222							4	1		1				
223			1					1	1	1				
241													17	24%
251							1		4	7	8	1	21	76%
TOTALS	**1**	**9**	**10**	**27**	**50**	**72**	**189**	**321**	**443**	**381**	**146**	**48**	**1,697**	34%

Horn length measured by hunter of the longest horn to the nearest inch for bucks harvested from Horns Longer than Ear Hunts. Statewide 97% response rate on measuring the horn.

*> 5% of successful hunters for that unit didn't provide horn measurement

hunt returns thru 4/10/12

TABLE 8. 2011 ELK HARVEST BY UNIT AND UNIT GROUP FOR ALL HUNTS

	Female		Male	Number of Left Antler Points							Unit Bull	Unit Group	% 6+	TOTAL
Unit	Cows	Calves	Calves	1	2	3	4	5	6	7+	Total	Bull Total	pts	ELK
061	56	1	4	1		1	3	9	28	2	44			
071	76	4	4	2	1	1	6	17	29	6	62	106	61%	251
062	15	1						2	8	2	12			
064	1		1	1					1		2			
066	1								2	1	3			
067			1				1		9	1	11			
068	6						1	1	9	6	17	45	87%	71
072	120		5			2	3	19	60	13	97			
074	32	2	3			1		2	10	3	16	113	76%	275
073	35		2			1		6	10	1	18	18	61%	55
075	27		1	1					7	1	9	9	89%	37
076	39	1					1	3	8	3	15			
077	40	3	1			1	1	5	26	4	37			
079	2									1	1			
081	53	2	2			1		11	22	7	41	94	76%	237
078	6								4	1	5			
104	5										0			
105	11							1	3	2	6			
107									1		1	12	92%	34
091									2		2	2	100%	2
101	2						1	2	3	1	7			
102	5							1	4	1	6			
103								2	7		9	22	73%	29
104	2								2	1	3			
108	4					1					1			
121	22	1	2						15	2	17	21	95%	52
111	202	5	6	6	3		5	16	48	10	88			
112	3									1	1			
113	18						1	3	3	2	9			
114	15		1						12	2	14			
115	1							1	9	3	13			
221	36	2	1			1	3	12	18	2	36			
222	134	2	8	3	1	1	2	13	36	8	64	225	68%	659
108	2										0			
131	13	1					1	4	13	3	21			
132								2	4		6	27	74%	43
161	1			2			1	1	7	1	12			
162	19						4	7	19	3	33			
164	2								1		1			
171								1			1			
172				1				1			2			
173								1			1	50	62%	72

hunt returns thru 4/10/2012

TABLE 8. 2011 ELK HARVEST BY UNIT AND UNIT GROUP FOR ALL HUNTS

223	8								6		6				
231	77	4	6				2	24	46	10	82				
241											0				
242	2								1		1	89	64%	186	
262								2	2		4	4	50%	4	
TOTAL	**1093**	**29**	**48**	**17**	**5**	**11**	**36**	**169**	**495**	**104**	**837**		**72%**	**2,007**	

PIW, HERITAGE, and SILVER STATE TAGHOLDER HARVEST BY UNIT

HUNT	UNIT	#
PIW	072	1
PIW	231	1

HUNT	UNIT	#
Heritage	115	1
Heritage	231	1

HUNT	UNIT	#
Silver State	111	1

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
PIW RESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4000							
STATEWIDE	2,396	2	1198 to 1	100%	2	100%	100%
HERITAGE ELK ANY LEGAL WEAPON HUNT 4100 and 4200							
STATEWIDE		2		100%	2	100%	100%
SILVER STATE ELK ANY LEGAL WEAPON HUNT 4300							
STATEWIDE	5,772	1	5772 to 1	100%	1	100%	100%
EMERGENCY DEPREDATION ANTLERED ELK ANY LEGAL WEAPON HUNT 4105							
222, 231 1st		5		100%	1	20%	100%
222, 231 2nd		5		100%	1	20%	0%
222, 231 3rd		5		100%	1	20%	0%
TOTALS	0	15		100%	3	20%	33%
RESIDENT ANTLERED ELK ANY LEGAL WEAPON DEPREDATION HUNT 4102							
101 - 103 Early	531	25	22 to 1	100%	16	64%	81%
101 - 103 Late	122	15	9 to 1	100%	6	40%	50%
TOTALS	653	40	17 to 1	100%	22	55%	73%
ELK INCENTIVE ANY LEGAL WEAPON HUNT 4131 AND 4231							
061, 071		4		100%	3	75%	67%
062, 064, 066 - 068*		3		100%	2	67%	0%
072, 074		4		100%	3	75%	100%
073		1		100%	1	100%	100%
075		4		100%	2	50%	100%
076, 077, 079, 081		32		97%	30	97%	73%
111-115, 221, 222		13		100%	11	85%	91%
223, 231, 241, 242		5		100%	4	80%	50%
TOTALS		66		98%	56	86%	76%

*1 anterless elk harvested

ELK INCENTIVE MUZZLELOADER HUNT 4133 AND 4233							
104, 108, 121		1		100%	0	0%	--
223, 231, 241, 242		1		100%	1	100%	100%
TOTALS		2		100%	1	50%	100%
ELK INCENTIVE ARCHERY HUNT 4132 AND 4232							
061, 071		2		100%	2	100%	100%
076, 077, 079, 081		1		100%	0	0%	--
104, 108, 121		1		100%	0	0%	--
111-115, 221, 222		9		78%	5	67%	100%

hunt returns thru 4/10/12

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
223, 231, 241, 242		4		75%	1	25%	100%
TOTALS		17		82%	8	53%	100%

RESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4151

061, 071 Early	531	74	8 to 1	96%	42	58%	57%
061, 071 Late	346	84	5 to 1	100%	40	48%	58%
062, 064, 066 - 068 Early	381	23	17 to 1	96%	13	57%	92%
062, 064, 066 - 068 Late	269	26	11 to 1	100%	20	77%	80%
072, 074 Early	642	16	41 to 1	94%	15	100%	87%
072, 074 Mid	262	57	5 to 1	96%	40	72%	75%
072, 074 Late	147	58	3 to 1	100%	31	53%	59%
073 Early	69	13	6 to 1	100%	7	54%	83%
073 Late	42	12	4 to 1	100%	6	50%	20%
075* Early	82	7	12 to 1	100%	3	43%	100%
075* Late	30	7	5 to 1	100%	2	29%	50%
076, 077, 079, 081 Early	799	35	23 to 1	97%	29	83%	76%
076, 077, 079, 081 Late	332	34	10 to 1	100%	24	71%	75%
078, 104, 105 - 107	122	10	13 to 1	90%	7	70%	86%
091	178	3	60 to 1	100%	2	67%	100%
104, 108, 121	188	24	8 to 1	100%	13	54%	92%
108, 131, 132 Early	540	3	180 to 1	100%	2	67%	100%
108, 131, 132 Late	85	22	4 to 1	100%	16	73%	56%
111 - 115, 221-222 Early	2,398	122	20 to 1	97%	82	69%	61%
111 - 115, 221 - 222 Late	799	103	8 to 1	96%	71	71%	65%
161-164, 171-173 Early	952	10	96 to 1	100%	10	100%	100%
161-164, 171-173 Mid	106	27	4 to 1	100%	20	74%	35%
161-164, 171-173 Late	159	27	6 to 1	96%	11	41%	45%
223, 231, 241, 242 Early	916	36	26 to 1	97%	24	67%	75%
223, 231, 241, 242 Late	343	46	8 to 1	98%	35	76%	69%
262	195	4	49 to 1	100%	3	75%	33%
TOTALS	10,913	883	13 to 1	98%	568	65%	67%

RESIDENT ANTLERED ELK MUZZLELOADER HUNT 4156

061, 071	61	14	5 to 1	93%	4	29%	100%
062, 064, 066 - 068	35	3	12 to 1	100%	1	33%	100%
072, 074	47	10	5 to 1	100%	4	40%	100%
073	7	3	3 to 1	100%	2	67%	100%
075	7	1	7 to 1	100%	0	0%	--
076, 077, 079, 081	36	5	8 to 1	100%	3	60%	67%
078, 104, 105 - 107	15	2	8 to 1	100%	1	50%	100%
104, 108, 121	25	5	5 to 1	100%	4	80%	100%
108, 131, 132	25	6	5 to 1	83%	3	50%	100%
111 – 115, 221 - 222	142	18	8 to 1	100%	8	44%	38%

hunt returns thru 4/10/12

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
161 - 164, 171 - 173	27	3	9 to 1	100%	2	67%	100%
223, 231, 241, 242	113	8	15 to 1	100%	3	38%	67%
262	18	1	18 to 1	100%	1	100%	100%
TOTALS	558	79	8 to 1	97%	36	46%	81%
RESIDENT ANTLERED ELK ARCHERY HUNT 4161							
061, 071	73	22	4 to 1	95%	5	23%	80%
062, 064, 066 - 068	52	7	8 to 1	100%	5	71%	100%
072, 074	115	19	7 to 1	95%	5	26%	80%
073	15	7	3 to 1	86%	1	14%	100%
075	12	4	3 to 1	75%	2	50%	100%
076, 077, 079, 081	66	6	11 to 1	100%	2	33%	100%
078, 104, 105 - 107	22	4	6 to 1	100%	3	75%	100%
104, 108, 121	24	5	5 to 1	100%	1	20%	100%
108, 131, 132	53	4	14 to 1	100%	3	75%	100%
111 – 115, 221 - 222	360	29	13 to 1	97%	16	55%	94%
161 - 164, 171 - 173	60	3	20 to 1	100%	0	0%	--
223, 231, 241, 242	192	13	15 to 1	92%	9	69%	56%
262	25	1	25 to 1	100%	0	0%	--
TOTALS	1,069	124	9 to 1	95%	52	42%	86%
RESIDENT ANTLERLESS ELK ANY LEGAL WEAPON HUNT 4181							
061, 071 Early	435	176	3 to 1	97%	61	35%	
061, 071 Late	226	190	2 to 1	95%	54	29%	
062, 064, 066 - 068 Early	220	56	4 to 1	95%	11	20%	
062, 064, 066 - 068 Late	91	58	2 to 1	97%	9	16%	
072 Early	310	208	2 to 1	98%	76	37%	
073 Early	63	39	2 to 1	97%	10	26%	
074 Early	99	48	3 to 1	100%	24	50%	
075* Early	41	18	3 to 1	100%	12	67%	
072 - 075 Late	300	171	2 to 1	94%	73	44%	
076, 077, 079	490	132	4 to 1	100%	66	50%	
078, 104, 105 - 107	42	32	2 to 1	94%	15	50%	
081	172	88	2 to 1	99%	49	56%	
101 - 103 1st	14	10	2 to 1	90%	3	30%	
101 - 103 2nd	11	10	2 to 1	90%	4	40%	
101 - 103 3rd	11	10	2 to 1	90%	0	0%	
101 - 103 4th	11	10	2 to 1	90%	0	0%	
104, 108, 121	84	43	2 to 1	95%	24	58%	
108, 131	78	31	3 to 1	97%	12	39%	
111, 112	861	442	2 to 1	94%	170	40%	
113	70	48	2 to 1	88%	15	33%	
114, 115	77	50	2 to 1	96%	10	20%	

hunt returns thru 4/10/12

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Tags Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
161 - 164	300	71	5 to 1	97%	15	21%	
221	134	78	2 to 1	90%	30	41%	
222	538	362	2 to 1	94%	115	33%	
222, 231 1st	70	10	7 to 1	100%	2	20%	
222, 231 2nd	14	10	2 to 1	100%	3	30%	
222, 231 3rd	18	10	2 to 1	60%	3	40%	
222, 231 4th	38	10	4 to 1	100%	2	20%	
223, 231, 241, 242 Early	401	84	5 to 1	99%	25	30%	
223, 231, 241, 242 Late	319	164	2 to 1	95%	39	24%	
TOTALS	5,538	2,669	3 to 1	95%	932	36%	

RESIDENT ANTLERLESS ELK MUZZLELOADER HUNT 4176

061, 071	123	85	2 to 1	96%	28	34%	
062, 064, 066 - 068	32	17	2 to 1	100%	2	12%	
072	45	38	2 to 1	97%	16	42%	
073	13	8	2 to 1	100%	1	13%	
074	8	6	2 to 1	100%	2	33%	
075*	11	9	2 to 1	100%	2	22%	
076, 077, 079	39	24	2 to 1	96%	13	54%	
078, 104, 105 - 107	4	4	1 to 1	100%	4	100%	
081	17	16	2 to 1	100%	6	38%	
104, 108, 121	9	6	2 to 1	100%	4	67%	
108, 131	22	5	5 to 1	100%	1	20%	
111, 112, 221, 222	231	97	3 to 1	97%	47	49%	
113	9	7	2 to 1	100%	2	29%	
114, 115	14	3	5 to 1	100%	2	67%	
161 – 164	30	10	3 to 1	90%	5	50%	
223, 231, 241, 242	117	56	3 to 1	96%	20	36%	
TOTALS	724	391	2 to 1	97%	155	40%	

RESIDENT ANTLERLESS ELK ARCHERY HUNT 4111

061, 071	54	51	2 to 1	96%	3	6%	
062, 064, 066 - 068	22	21	2 to 1	95%	2	10%	
072	30	49	1 to 1	94%	8	16%	
073	8	14	1 to 1	100%	3	21%	
074	4	3	2 to 1	33%	0	0%	
075*	7	6	2 to 1	100%	0	0%	
076, 077, 079	30	25	2 to 1	92%	7	28%	
078, 104, 105 - 107	7	6	2 to 1	100%	3	50%	
081	18	16	2 to 1	94%	2	13%	
104, 108, 121	14	8	2 to 1	100%	3	38%	
108, 131	23	8	3 to 1	100%	3	38%	
111, 112, 221, 222	225	102	3 to 1	95%	31	31%	
113	10	9	2 to 1	89%	1	11%	

hunt returns thru 4/10/12

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
114, 115	18	18	1 to 1	94%	5	28%	
161 – 164	20	10	2 to 1	100%	2	20%	
223, 231, 241, 242	94	68	2 to 1	99%	9	13%	
TOTALS	584	414	2 to 1	95%	82	20%	
NONRESIDENT ANTLERED ELK ANY LEGAL WEAPON HUNT 4251							
061, 071 Early	175	9	20 to 1	89%	5	56%	80%
061, 071 Late	96	10	10 to 1	100%	4	40%	25%
062, 064, 066 - 068 Early	70	3	24 to 1	100%	3	100%	100%
062, 064, 066 - 068 Late	27	3	9 to 1	100%	1	33%	100%
072, 074 Early	291	8	37 to 1	88%	4	50%	100%
072, 074 Late	94	8	12 to 1	100%	4	50%	100%
073	6	1	6 to 1	100%	1	100%	100%
076, 077, 079, 081 Early	260	4	65 to 1	100%	3	75%	67%
076, 077, 079, 081 Late	82	4	21 to 1	100%	3	75%	100%
078, 104, 105 - 107	34	1	34 to 1	100%	1	100%	100%
104, 108, 121	42	3	14 to 1	100%	3	100%	100%
108, 131, 132	27	2	14 to 1	100%	1	50%	100%
111 - 115, 221-222 Early	512	15	35 to 1	100%	13	87%	69%
111 - 115, 221 - 222 Late	159	13	13 to 1	100%	10	77%	90%
161 - 164, 171-173 Early	1,476	1	1476 to 1	100%	1	100%	100%
161 - 164, 171 - 173 Mid	28	4	7 to 1	100%	2	50%	100%
161 - 164, 171 - 173 Late	36	4	9 to 1	100%	4	100%	100%
223, 231, 241, 242 Early	397	5	80 to 1	100%	2	40%	33%
223, 231, 241, 242 Late	121	6	21 to 1	83%	3	50%	100%
TOTALS	3,933	104	38 to 1	97%	68	65%	83%
NONRESIDENT ANTLERED ELK MUZZLELOADER HUNT 4256							
061, 071	56	2	28 to 1	100%	1	50%	100%
072, 074	95	2	48 to 1	100%	2	100%	100%
108, 131, 132	6	1	6 to 1	100%	1	100%	100%
111 – 115, 221 - 222	44	3	15 to 1	67%	0	0%	--
161 - 164, 171 - 173	13	1	13 to 1	100%	0	0%	--
223, 231, 241, 242	65	2	33 to 1	100%	2	100%	100%
TOTALS	279	11	26 to 1	91%	6	55%	100%
NONRESIDENT ANTLERED ELK ARCHERY HUNT 4261							
061, 071	35	3	12 to 1	100%	0	0%	--
062, 064, 066 - 068	24	1	24 to 1	100%	1	100%	100%
072, 074	108	3	36 to 1	100%	3	100%	67%
076, 077, 079, 081	55	1	55 to 1	100%	0	0%	--
108, 131, 132	237	1	237 to 1	100%	1	100%	100%
111 – 115, 221 - 222	14	5	3 to 1	100%	4	80%	100%

hunt returns thru 4/10/12

TABLE 9. 2011 ELK HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags Sold	Draw Odds*	% Return**	# Succ. Hunters	% Hunter Success***	%6+pts
161 - 164, 171 - 173	49	1	49 to 1	100%	0	0%	--
223, 231, 241, 242	360	3	120 to 1	100%	2	67%	100%
TOTALS	882	18	49 to 1	100%	11	61%	91%

Apps - # of unsuccessful 1st choice applicants plus successful applicants as 1st - 5th choice

* Draw Odds - # of "Apps" for every one tag sold.

** % Return - Percent of hunter return cards received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; a portion of nonreturns are assumed to be successful based on past trends of hunt records not

TABLE 10. 2012 BULL ELK HARVEST ANTLER MAIN BEAM LENGTH* BY UNIT

	Count of Antler Main Beam by Class Size						%	Percent of Antlers by Class Size			
Unit	5"- 29"	30"- 43"	44"- 49"	50	50"+	Total	response	5"- 29"	30"- 43"	44"- 49"	50"+
061	5	18	14	3	7	44	100%	11%	41%	32%	16%
071	9	23	18	4	11	61	98%	15%	38%	30%	18%
062	1	1	3	1	7	12	100%	8%	8%	25%	58%
064	1	0	0		1	2	100%	50%	0%	0%	50%
066	0	1	0		2	3	100%	0%	33%	0%	67%
067	0	1	4	1	6	11	100%	0%	9%	36%	55%
068	0	3	6		8	17	100%	0%	18%	35%	47%
072	3	27	32	6	34	96	99%	3%	28%	33%	35%
074	0	5	9		2	16	100%	0%	31%	56%	13%
073	1	9	3	1	5	18	100%	6%	50%	17%	28%
075	0	3	5	1	1	9	100%	0%	33%	56%	11%
076	1	7	6		1	15	100%	7%	47%	40%	7%
077	1	11	10	3	14	36	97%	3%	31%	28%	39%
079	0	0	0		1	1	100%	0%	0%	0%	100%
081	1	14	17	3	9	41	100%	2%	34%	41%	22%
078	0	2	0		3	5	100%	0%	40%	0%	60%
105	0	2	0	1	4	6	100%	0%	33%	0%	67%
107	0	0	1		0	1	100%	0%	0%	100%	0%
091	0	0	0		1	1	50%	0%	0%	0%	100%
101	1	2	1	1	3	7	100%	14%	29%	14%	43%
102	0	2	4		0	6	100%	0%	33%	67%	0%
103	0	3	4		2	9	100%	0%	33%	44%	22%
104	0	1	1	1	1	3	100%	0%	33%	33%	33%
108	0	1	0		0	1	100%	0%	100%	0%	0%
121	0	1	7	1	9	17	100%	0%	6%	41%	53%
111	12	21	26	7	27	86	98%	14%	24%	30%	31%
112	0	0	1		0	1	100%	0%	0%	100%	0%
113	1	2	4		2	9	100%	11%	22%	44%	22%
114	0	2	2	1	9	13	93%	0%	15%	15%	69%
115	0	0	3		10	13	100%	0%	0%	23%	77%
221	1	15	14	1	6	36	100%	3%	42%	39%	17%
222	5	19	17	4	21	62	97%	8%	31%	27%	34%
131	1	5	6	5	9	21	100%	5%	24%	29%	43%
132	0	3	1		1	5	83%	0%	60%	20%	20%
161	2	3	2	2	5	12	100%	17%	25%	17%	42%
162	1	11	6	2	15	33	100%	3%	33%	18%	45%
164	0	1	0		0	1	100%	0%	100%	0%	0%
171	0	0	1		0	1	100%	0%	0%	100%	0%
172	1	1	0		0	2	100%	50%	50%	0%	0%
173	0	1	0		0	1	100%	0%	100%	0%	0%
223	0	0	2	3	4	6	100%	0%	0%	33%	67%
231	0	28	26	5	27	81	99%	0%	35%	32%	33%
242	0	0	1		0	1	100%	0%	0%	100%	0%
262	0	4	0		0	4	100%	0%	100%	0%	0%
TOTAL	**48**	**253**	**256**	**57**	**268**	**826**	**99%**	**6%**	**31%**	**31%**	**32%**

*Antler length from hunter measurement of the longest main beam. Statewide 99% response rate on measuring

TABLE 11. 2011 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Unit Group	Apps	Tags	Draw Odds*	% Returns**	# Succ. Hunters	% Hunter Success***	Avg Age	160+
RESIDENT PARTNERSHIP IN WILDLIFE (PIW) DESERT BIGHORN SHEEP HUNT 3000								
Statewide	2,021	1	2021 to 1	100%	1	100%	8.0	1
HERITAGE DESERT BIGHORN SHEEP HUNT 3100 and 3200								
Statewide		1		100%	1	100%	7.0	1
RESIDENT DESERT BIGHORN SHEEP HUNT 3151								
044,182	323	6	54 to 1	100%	6	100%	5.8	
045	90	2	45 to 1	100%	2	100%	5.5	
131	153	4	39 to 1	100%	3	75%	5.3	
132	25	2	13 to 1	100%	2	100%	6.0	
133, 245	35	4	9 to 1	75%	1	25%	7.0	
134	129	5	26 to 1	100%	4	80%	4.5	1
161 Early	374	5	75 to 1	100%	4	80%	5.6	1
161 Late	109	3	37 to 1	100%	2	67%	5.6	1
162, 163	120	4	30 to 1	100%	4	100%	5.8	1
173	125	5	25 to 1	100%	5	100%	6.0	
181	256	8	32 to 1	100%	8	100%	7.3	6
183	373	5	75 to 1	100%	5	100%	6.5	1
184 Early	227	3	76 to 1	100%	3	100%	5.8	
184 Late	60	2	30 to 1	100%	2	100%	5.8	
202	78	3	26 to 1	100%	3	100%	6.3	2
204	30	2	15 to 1	100%	1	50%	7.0	
205 North	141	5	29 to 1	100%	4	80%	7.0	2
205 South	67	5	14 to 1	100%	4	80%	5.8	
206	23	3	8 to 1	100%	2	67%	4.5	
211 North	76	8	10 to 1	100%	8	100%	5.7	
211 South	73	6	13 to 1	100%	6	100%	7.0	1
212	56	6	10 to 1	100%	6	100%	7.2	1
223, 241	66	6	11 to 1	100%	3	50%	7.3	1
243	31	3	11 to 1	100%		0%		
244	75	4	19 to 1	100%	4	100%	10.3	3
252	331	7	48 to 1	100%	6	86%	6.8	5
253 Bares	991	5	199 to 1	100%	5	100%	7.7	7
253 Specters	94	3	32 to 1	100%	3	100%	6.3	
261	63	7	9 to 1	100%	6	86%	7.8	1
262	286	5	58 to 1	100%	5	100%	7.6	3
263	616	7	88 to 1	100%	7	100%	7.3	6
264, 265	77	4	20 to 1	100%	4	100%	7.5	3
266	111	3	37 to 1	100%	3	100%	7.3	2
267	184	4	46 to 1	100%	4	100%	6.8	4
268	805	17	48 to 1	100%	17	100%	7.2	9

TABLE 11. 2011 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Unit Group	Apps	Tags	Draw Odds*	% Returns**	# Succ. Hunters	% Hunter Success***	Avg Age	160+
271	98	6	17 to 1	100%	6	100%	6.6	5
272	43	3	15 to 1	100%	1	33%	2.0	
280	31	4	8 to 1	100%	2	50%	3.5	
281	49	5	10 to 1	100%	5	100%	6.4	
282	26	3	9 to 1	100%	2	67%	7.5	1
283, 284	53	5	11 to 1	100%	3	60%	5.5	1
286	27	2	14 to 1	100%	2	100%	7.5	
TOTAL	**7,000**	**199**	**36 to 1**	**99%**	**173**	**87%**	**6.6**	**68**
NONRESIDENT DESERT BIGHORN SHEEP HUNT 3251								
044,182	202	2	101 to 1	100%	2	100%	5.8	
161	783	3	261 to 1	100%	3	100%	5.6	1
183	295	1	295 to 1	100%	1	100%	6.5	1
205 N	111	2	56 to 1	100%	2	100%	7.0	2
205 S	191	2	96 to 1	100%	2	100%	5.8	
263	3,140	2	1570 to 1	100%	2	100%	7.3	6
266	260	1	260 to 1	100%	1	100%	7.3	2
267	181	2	91 to 1	100%	2	100%	6.8	4
268	677	3	226 to 1	100%	2	67%	7.2	9
271	141	2	71 to 1	100%	2	100%	6.6	5
283, 284	79	1	79 to 1	100%	1	100%	5.5	1
TOTAL	**6,060**	**21**	**289 to 1**	**100%**	**20**	**95%**		
RESIDENT PARTNERSHIP IN WILDLIFE (PIW) CALIFORNIA BIGHORN SHEEP HUNT 8000								
Statewide	1,927	1	1927 to 1	100%	1	100%	9.0	1
HERITAGE CALIFORNIA BIGHORN SHEEP HUNT 8100 & 8200								
Statewide		1		100%	1	100%	10.0	
RESIDENT CALIFORNIA BIGHORN SHEEP HUNT 8151								
012	1,152	8	144 to 1	100%	8	100%	6.7	2
014	187	3	63 to 1	100%	3	100%	6.7	
021, 022	211	2	106 to 1	100%	2	100%	5.0	
031	1,311	6	219 to 1	100%	6	100%	7.6	7
032	727	9	81 to 1	100%	9	100%	7.1	2
033	300	4	75 to 1	100%	3	75%	7.8	
034	686	9	77 to 1	100%	8	89%	7.3	3
035	123	2	62 to 1	100%	2	100%	6.5	
051	267	2	134 to 1	100%	1	50%	10.0	
066, 068	651	5	131 to 1	100%	5	100%	6.5	1
TOTAL	**5,615**	**50**	**113 to 1**	**100%**	**47**	**94%**	**7**	**15**

TABLE 11. 2011 BIGHORN SHEEP HUNT RESULTS BY HUNT AND UNIT GROUP

Unit Group	Apps	Tags	Draw Odds*	% Returns**	# Succ. Hunters	% Hunter Success***	Avg Age	160+
NONRESIDENT CALIFORNIA BIGHORN SHEEP HUNT 8251								
012	1,211	2	606 to 1	100%	2	100%	6.7	2
032	2,704	1	2704 to 1	100%	1	100%	7.1	2
033	417	1	417 to 1	100%	1	100%	7.8	
066, 068	723	1	723 to 1	100%	1	100%	6.5	1
TOTAL	**5,055**	**5**	**1011 to 1**	**100%**	**5**	**100%**		
RESIDENT ROCKY MOUNTAIN BIGHORN SHEEP HUNT 9151							**Avg Age**	**170+**
074	2,064	2	1032 to 1	100%	2	100%	7.5	
114	935	2	468 to 1	100%	0	0%		
115	860	1	860 to 1	100%	1	100%	8.0	
TOTAL	**3,859**	**5**	**772 to 1**	**100%**	**3**	**60%**		

Apps - # of unsuccessful 1st choice applicants plus successful applicants as 1st - 5th choice.

* Draw Odds - # of "Apps" for every one tag sold.

** % Return - Percent of hunter return records received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; nonreturns are assumed to be unsuccessful).

Avg Age - Average age of rams from all tagholders for given unit group including early and late seasons.

160+/170+ - # of rams scoring 160+/170+ B&C points from all tagholders (resident and nonresident) for given unit group including early and late seasons.

TABLE 12. BIGHORN SHEEP HARVEST HISTORY, 1992 - 2011

Year	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
DESERT BIGHORN						
1992	115	77%	7.1	6.7	151 7/8	172 2/8
1993	123	84%	7.4	6.4	150 3/8	178 6/8
1994	125	71%	8.6	6.1	149 4/8	179 4/8
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
Total/Avg	**2,925**	**85%**	**6.2**	**6.3**	**150 7/8**	**189 6/8**

* Includes Rocky Mtn and hybrid Desert/Rocky Rams harvested in Unit 131

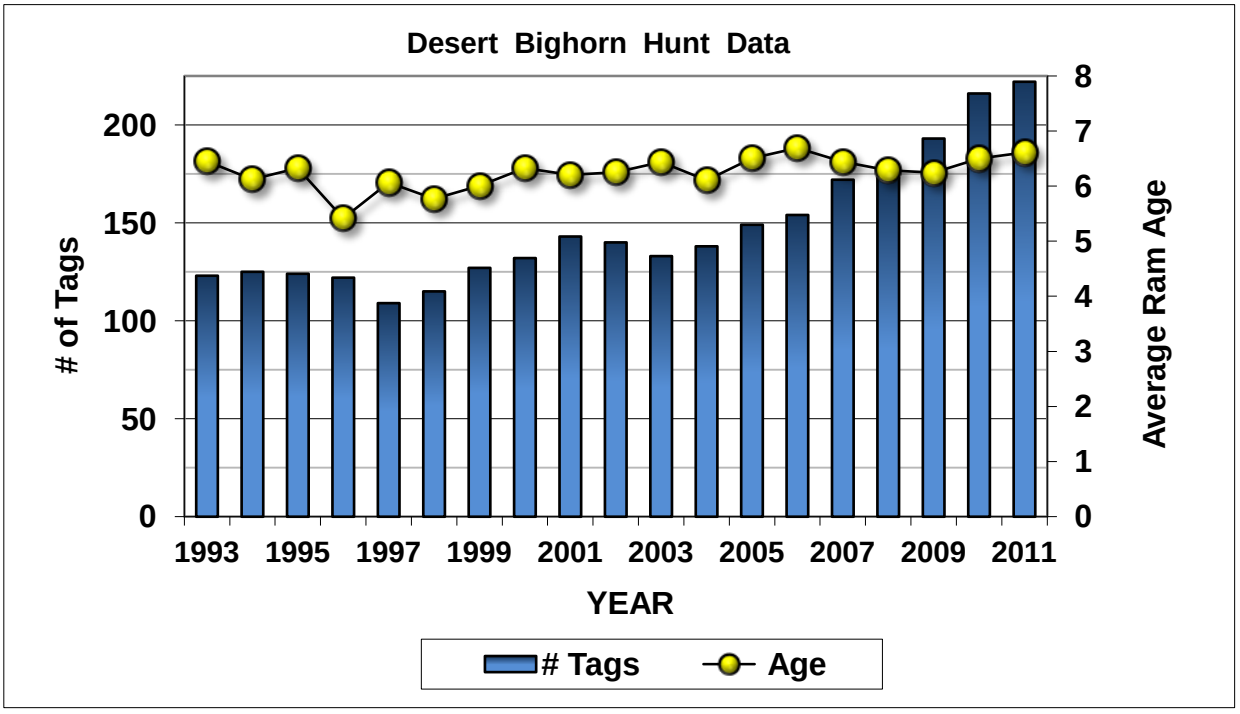


TABLE 12. BIGHORN SHEEP HARVEST HISTORY, 1992 - 2011

Year	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
DESERT BIGHORN						
044, 182	106	90%	6.5	5.4	145 1/8	162 5/8
045	4	100%	5.3	6.0	152 6/8	163 5/8
131, 164*	16	88%	4.5	6.5	154 3/8	189 6/8
132	12	75%	6.3	5.9	124 3/8	158 6/8
133, 245	33	58%	8.9	6.5	149 3/8	165 7/8
134	100	92%	5.0	5.8	151 1/8	170 6/8
161	146	87%	5.5	7.0	157 1/8	173
162, 163	41	95%	4.2	6.5	153 7/8	167
173	59	90%	5.2	5.8	144 1/8	175 3/8
181	52	94%	5.1	6.4	157 5/8	179 2/8
183	90	96%	4.7	5.9	152 5/8	171 4/8
184	90	82%	6.7	5.5	148 4/8	166
202	35	86%	5.9	4.8	138 1/8	164 7/8
204	9	89%	6.1	5.6	143 7/8	163 4/8
205	107	90%	5.7	5.9	145	166 3/8
205 North**	30	80%	5.4	6.3	149 4/8	173
205 South**	33	91%	5.2	5.6	145 5/8	160 4/8
206	41	88%	7.9	6.9	146 4/8	173 2/8
211 North	83	92%	3.8	5.7	136 6/8	157 3/8
211 South	54	85%	5.5	6.5	146 2/8	166
212	47	85%	5.5	6.9	148 3/8	164
221	19	84%	6.2	5.4	144 7/8	161 7/8
223, 241	48	73%	9.1	5.9	148 6/8	170 4/8
243	21	38%	10.4	7.5	146 4/8	157 3/8
244	65	80%	8.4	6.9	152	179 4/8
252	86	87%	7.3	6.5	160	180 3/8
253 Bares	66	97%	3.8	7.2	165	181 7/8
253 Specters	23	91%	6.9	7.3	151 3/8	170 3/8
261	68	87%	6.7	6.5	148 5/8	168 7/8
262	100	89%	6.9	6.7	155 3/8	174 3/8
263	132	95%	6.0	6.9	161 7/8	183 2/8
264, 265	56	75%	8.1	6.5	149 5/8	167 3/8
266	111	87%	6.5	5.6	145 3/8	170
267	170	95%	4.3	6.3	150 5/8	181 6/8
268	318	92%	5.0	6.9	152 6/8	175 1/8
271	123	81%	8.6	5.9	146 2/8	178 6/8
272	44	55%	9.1	5.2	143	172 3/8
280	23	52%	6.7	7.8	154	163 1/8
281	81	51%	7.5	7.0	154 1/8	177 3/8
282	44	61%	7.0	6.1	148 7/8	174
283, 284	82	63%	9.5	5.8	149 4/8	169 6/8

TABLE 12. BIGHORN SHEEP HARVEST HISTORY, 1992 - 2011

Year	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
286	55	84%	8.2	5.7	152	171 6/8

* Includes Rocky Mtn and hybrid Desert/Rocky Rams

**Unit 205 was first split in 2007

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
Total	93	90%	4.9	7.3	168 5/8	195 4/8

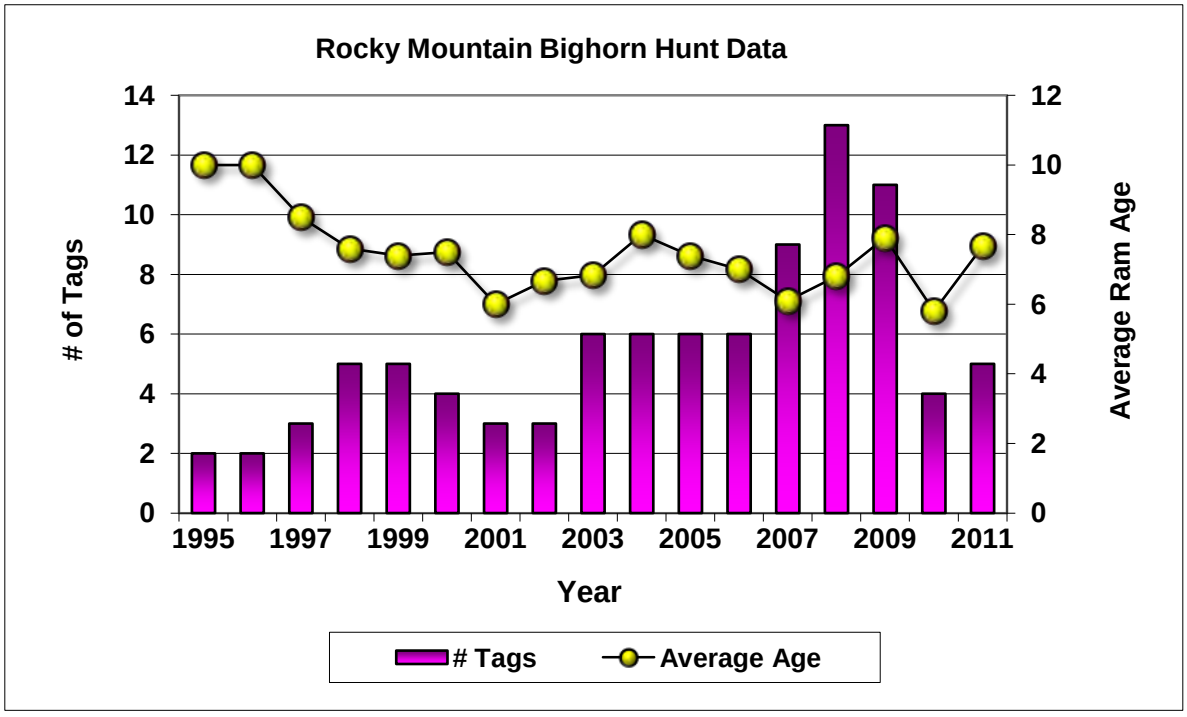
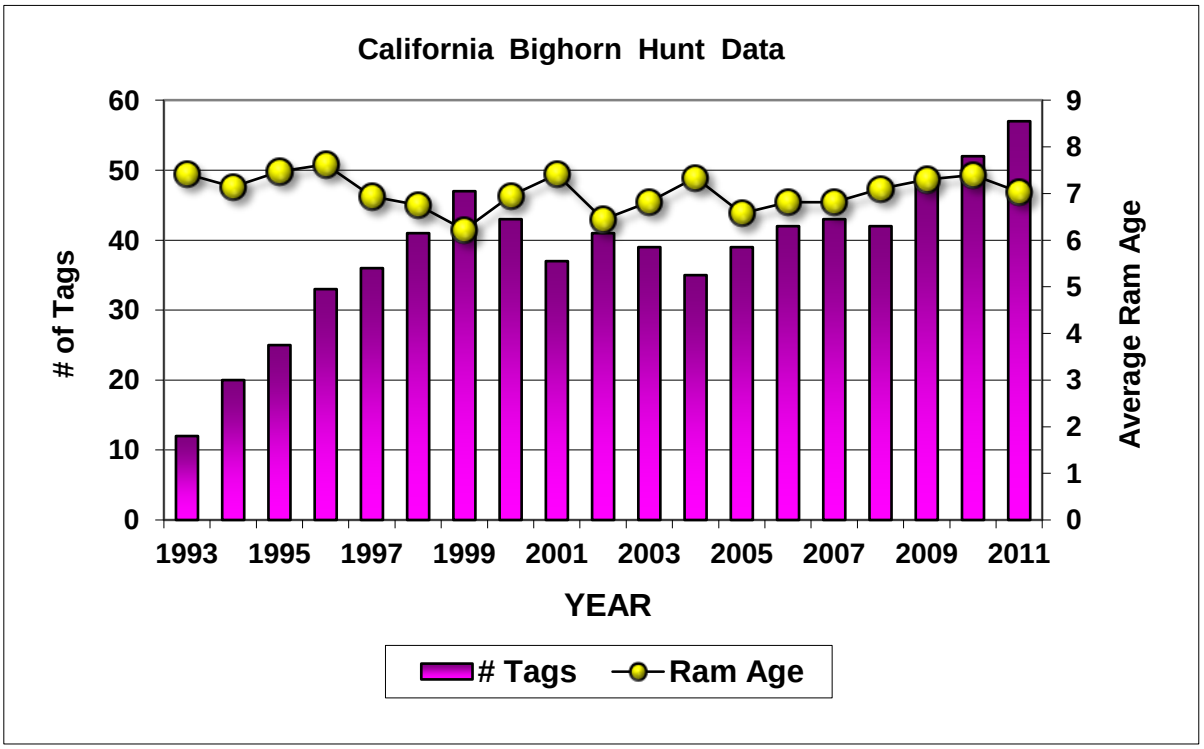


TABLE 12. BIGHORN SHEEP HARVEST HISTORY, 1992 - 2011

Year	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
ROCKY MOUNTAIN BIGHORN						
074	20	95%	4.8	7.3	159 2/8	176 7/8
091	2	50%	11.0	11.0	164 7/8	164 7/8
101	41	95%	3.7	6.8	173 5/8	195 4/8
102	20	85%	4.3	8.1	175 7/8	188 3/8
114	9	78%	10.4	6.7	150 7/8	161 2/8
115	1	100%	6.0	8.0	163 1/8	163 1/8
CALIFORNIA BIGHORN						
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
TOTAL	742	89%	6.3	7.0	150 2/8	184 7/8

TABLE 12. BIGHORN SHEEP HARVEST HISTORY, 1992 - 2011



CALIFORNIA BIGHORN

Year	# Tags Issued	Percent Success	Average Days Hunted	Average Age	Average B&C Score	Maximum B&C Score
011, 013	25	84%	6.7	7.0	146 6/8	164 7/8
012	79	99%	5.4	7.3	153 4/8	169 7/8
014	42	86%	4.2	6.5	136 2/8	166 2/8
022	14	100%	7.4	5.9	146 3/8	159 4/8
031	58	97%	4.7	7.0	154 1/8	171 3/8
032	122	89%	6.4	7.1	150 4/8	175 1/8
033	62	95%	6.7	7.3	151 1/8	165.75
034	71	97%	4.4	7.6	157 6/8	172 4/8
035	83	73%	7.1	7.7	148 4/8	168 7/8
041	9	100%	6.8	7.6	155	184 7/8
051	103	89%	7.8	6.5	153 1/8	175 2/8
066, 068	74	81%	7.6	5.8	139 2/8	167 7/8

TABLE 13. 2011 MOUNTAIN GOAT HUNT RESULTS BY HUNT AND UNIT GROUP

UNIT GROUP	Apps	Tags	Draw Odds*	% Returns**	# Succ. Hunters	% Hunter Success***
RESIDENT PIW MOUNTAIN GOAT HUNT 7000						
Statewide	1,223	1	1,223 to 1	100%	1	100%
RESIDENT MOUNTAIN GOAT HUNT 7151						
101	1,348	3	450 to 1	100%	3	100%
102	2,335	5	467 to 1	100%	5	100%
103	422	1	422 to 1	100%	1	100%
TOTAL	**4,105**	**9**	**457 to 1**	**100%**	**9**	**100%**
NONRESIDENT MOUNTAIN GOAT HUNT 7251						
101, 102	2,512	1	2,512 to 1	100%	1	100%

Apps - # of unsuccessful 1st choice applicants plus successful applicants as 1st - 5th choice.

* Draw Odds - # of "Apps" for every one tag sold.

** % Return - Percent of hunter return records received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold (includes did not hunts; nonreturns are assumed to be unsuccessful).

TABLE 14. MOUNTAIN GOAT HARVEST HISTORY BY UNIT AND YEAR, 1999 - 2011

Unit 101 - East Humboldt Range

Year	Harvest	Average Age	Average Left Horn	Average Right Horn	Average Days Hunted
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
5-Year Avg.	**5**	**5.3**	**8.7**	**8.7**	**2.4**
Long-term Avg.	**6**	**4.5**	**8.5**	**8.5**	**2.2**

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
5-Year Avg.	**17**	**4.7**	**8.7**	**8.8**	**3.5**
Long-term Avg.	**14**	**4.7**	**8.7**	**8.8**	**4.1**

TABLE 14. MOUNTAIN GOAT HARVEST HISTORY BY UNIT AND YEAR, 1999 - 2011

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
5-Year Avg.	**1**	**4.7**	**9.1**	**9.1**	**4.4**
Long-term Avg.	**1**	**4.6**	**8.7**	**8.7**	**3.4**

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%
Total/Avg.	92%	297	273	222	51	19%

TABLE 15. 2011 BLACK BEAR DRAW AND HUNT RESULTS

RESIDENT AND NONRESIDENT BLACK BEAR HUNT 6351

UNIT GROUP	Apps	Tags	Draw Odds*	# Returns	% Returns**	# Succ. Hunters	% Hunter Success***
Statewide	1,156	45	26 to 1	45	100%	14	31%

BLACK BEAR HUNT RESULTS

YEAR	Gender	Harvest	Median Age	3-yr Average Age	Hunter Effort of Successful Tagholders
2011	Males	9	8	NA	9.9 days/kill
	Females	5	9	NA	

Apps - # of unsuccessful applicants plus successful applicants.

* Draw Odds - # of "Apps" for every one tag sold.

** % Return - Percent of hunter return records received compared to total tags sold

*** % Hunter Success - based on # of successful hunters divided by total tags sold

TABLE 16. FALL 2011 AND SPRING 2012 MULE DEER SURVEY COMPOSITION

UNIT GROUP	2011 FALL TOTAL	2011 Bucks/ 100 Does	2011 Fawns/ 100 Does	2011 Fawns/ 100 Adults	2012 Spring Adults	2012 Spring Fawns	2012 Spring TOTAL	2012 Fawns/ 100 Adults	*2011 Fawns/ 100 Adult*
011 - 013	595	29	50	**39**	77	33	110	**43**	*41*
014	576	33	52	**39**	201	82	283	**41**	*43*
015	--	--	--	**--**				**--**	*39*
021	--	--	--	**--**	101	41	142	**41**	*47*
022	--	--	--	**--**	60	25	85	**42**	*45*
031	399	32	65	**49**	384	184	568	**48**	*44*
032, 034	291	31	52	**40**	158	63	221	**40**	*45*
033	180	29	55	**43**	85	39	124	**46**	*40*
035	145	44	49	**34**	173	80	253	**46**	*33*
041, 042	--	--	--	**--**	85	33	118	**39**	*35*
043 - 046	661	24	50	**40**	446	174	620	**39**	*36*
051	270	28	53	**41**	97	50	147	**52**	*43*
061,062,064, 066-068	3,882	40	79	**57**	1,945	1,023	2,968	**53**	*43*
065	415	45	54	**37**	78	34	112	**44**	*35*
071 - 079, 091	2,664	26	56	**45**	1,624	567	2,191	**35**	*42*
081	--	--	--	**--**			--	**--**	--
101 - 109	6,629	33	50	**38**	6,523	1,573	8,096	**24**	*27*
111 - 113	--	--	--	**--**	749	231	980	**31**	*25*
114 - 115	--	--	--	**--**	87	34	121	**39**	*17*
121	1,258	24	66	**53**	452	244	696	**54**	*35*
131 - 134	--	--	--	**--**	509	193	702	**38**	*34*
141 - 145	1,456	36	63	**46**	647	284	931	**44**	*34*
151, 152, 154-156	1,386	39	83	**60**	775	428	1,203	**55**	*49*
161 - 164	852	25	59	**47**	379	168	547	**44**	*22*
171 - 173	1,643	34	53	**40**	364	132	496	**36**	*26*
181 - 184	--	--	--	**--**	71	23	94	**32**	*39*
192	89	21	50	**41**			--	**--**	*38*
194, 196	207	19	65	**55**			--	**--**	*39*
195	--	--	--	**--**			--	**--**	--
201 - 206	515	27	41	**32**	551	164	715	**30**	*47*
203	--	--	--	**--**	70	26	96	**37**	*33*
211, 212	--	--	--	**--**	--	--	--	**--**	--
221 - 223	1,300	31	61	**47**	882	435	1,317	**49**	*35*
231	1,171	24	60	**48**	726	349	1,075	**48**	*39*
241 - 244	447	30	70	**54**	153	73	226	**48**	*31*
251 - 253	--	--	--	**--**	--	--	--	**--**	--
261 - 268	--	--	--	**--**	--	--	--	**--**	--
271, 272	--	--	--	**--**	--	--	--	**--**	--
291	--	--	--	**--**	--	--	--	**--**	--
2011-12 TOTALS	**27,031**	**32**	**59**	**45**	**18,452**	**6,785**	**25,237**	**37**	
2010-11 TOTALS	*18,611*	*28*	*52*	***41***	*24,248*	*8,219*	*32,467*	***34***	

Spring fawn/100 adults ratios that are higher than its fall ratio are assumed to be biased high.
Units with (--) were not surveyed.

TABLE 17. LATE SUMMER/FALL/WINTER 2011 PRONGHORN SURVEY COMPOSITION

UNIT GROUP	BUCKS	DOES	FAWNS	TOTAL	2011 BUCKS/ 100 DOES	2011 FAWNS/ 100 DOES	*2010 FAWNS/ 100 DOES*
011	31	132	53	216	24	**40**	*35*
012 - 014	86	273	107	466	32	**39**	*40*
015	66	215	94	375	31	**44**	*62*
021 - 022	11	33	14	58	33	**42**	*43*
031	61	242	95	398	25	**39**	*30*
032, 034, 035	36	204	79	319	18	**39**	*29*
033	118	451	153	722	26	**34**	*30*
041, 042	169	532	275	976	32	**52**	*43*
043, 044, 046	43	100	31	174	43	**31**	*43*
051	55	119	22	196	46	**19**	*30*
061 - 064, 071, 073	147	343	114	604	43	**33**	*47*
065, 142, 144	*127*	*228*	*83*	438	56	**36**	--
066	*74*	*189*	*31*	294	39	**16**	--
067 - 068	108	271	125	504	40	**46**	*37*
072, 074, 075	55	225	57	337	24	**25**	*40*
076, 077, 079, 081, 091	82	234	37	353	35	**16**	*21*
078, 105 - 107, 121	67	217	45	329	31	**21**	*32*
101 - 104, 108	159	415	145	719	38	**35**	*36*
111 - 114	225	742	253	1,220	30	**34**	*24*
115, 231, 242	52	200	35	287	26	**18**	*24*
131, 145, 163, 164	51	135	71	257	38	**53**	*34*
132 - 134, 245	21	55	25	101	38	**46**	*27*
141, 143, 151 - 155	148	270	155	573	55	**57**	*45*
161, 162	79	189	71	339	42	**38**	*35*
171 - 173	38	93	54	185	41	**58**	*46*
181 - 184	76	216	116	408	35	**54**	*60*
202, 204	17	34	11	62	50	**32**	*31*
203, 291	22	32	10	64	69	**31**	*43*
205, 206	20	34	17	71	59	**50**	*37*
221 - 223, 241	29	110	40	179	26	**36**	*22*
251	49	71	35	155	69	**49**	*35*
2011 TOTALS	**2,322**	**6,604**	**2,453**	**11,379**	**35**	**37**	
2010 TOTALS	*2,321*	*5,866*	*2,065*	*10,252*	*40*	*35*	

Units with (--) were not surveyed.

TABLE 18. LATE SUMMER/FALL 2011 DESERT BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2011 RAMS/ 100 EWES	2011 LAMBS/ 100 EWES	*2010 LAMBS/ 100 EWES*
044, 182	33	22	10	65	150	**46**	*44*
045	11	23	13	47	48	**57**	*44*
131, 164	21	80	12	113	26	**15**	*31*
132	9	33	11	53	27	**33**	*41*
133, 245	10	25	13	48	40	**52**	*35*
134	60	164	14	238	37	**9**	*--*
153	7	8	1	16	88	**13**	*--*
161				--	--	**--**	*43*
162				--	--	**--**	*--*
163				--	--	**--**	*43*
173				--	--	**--**	*41*
181	13	12	6	31	108	**50**	*41*
183	33	60	14	107	55	**23**	*38*
184	14	37	16	67	38	**43**	*24*
202				--	--	**--**	*47*
204	9	13	10	32	69	**77**	*50*
205	42	65	23	130	65	**35**	*56*
206				--	--	**--**	*33*
211N Monte Cristos				--	--	**--**	*32*
211S Silver Pks.	75	95	51	221	79	**54**	*59*
212	96	139	70	305	69	**50**	*--*
221				--	--	**--**	*0*
223, 241	34	74	27	135	46	**37**	*34*
243	19	36	15	70	53	**42**	*27*
244				--	--	**--**	*47*
252	117	193	74	384	61	**38**	*--*
253 - Specters				--	--	**--**	*32*
253 - Bares	55	104	76	235	53	**73**	*--*
261	42	47	22	111	89	**47**	*--*
262				--	--	**--**	*18*
263	50	91	36	177	55	**40**	*--*
264				--	--	**--**	*20*
265				--	--	**--**	*--*
266	26	32	17	75	81	**53**	*--*
River Mountains	79	114	40	233	69	**35**	*--*
267				--	--	**--**	*17*
268	161	199	125	485	81	**63**	*24*
271				--	--	**--**	*30*
272	11	11	5	27	100	**46**	*86*
280	28	58	10	96	48	**17**	*19*
281	25	27	19	71	93	**70**	*43*
282	42	36	15	93	117	**42**	*36*
283, 284				--	--	**--**	*36*
286				--	--	**--**	*62*
2011 TOTALS	**1,122**	**1,798**	**745**	**3,665**	**62**	**41**	
2010 TOTALS	*1,027*	*1,857*	*658*	*3,542*	*55*	*35*	

TABLE 19. LATE SUMMER/FALL 2011 CALIFORNIA BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2011 RAMS/ 100 EWES	2011 LAMBS/ 100 EWES	*2010 LAMBS/ 100 EWES*
011, 013				--	--	--	
012	46	77	33	156	60	43	*36*
014	1	22	5	28	5	23	
022	21	5	2	28	420	40	
031	65	55	22	142	118	40	51
032	50	101	43	194	50	43	52
033	16	24	11	51	67	46	0
034	25	57	24	106	44	42	49
035	11	52	33	96	21	64	40
041	2	12	4	18	17	33	29
051	15	41	17	73	37	42	51
066				--	--	--	
068	11	34	15	60	32	44	*70*
2011 TOTALS	**263**	**480**	**209**	**952**	**55**	**44**	
2010 TOTALS	*193*	*457*	*220*	870	42	48	

TABLE 20. WINTER/EARLY SPRING 2011 - 2012 ROCKY MOUNTAIN BIGHORN SHEEP SURVEY COMPOSITION

UNIT GROUP	RAMS	EWES	LAMBS	TOTAL	2011-12 RAMS/ 100 EWES	2011-12 LAMBS/ 100 EWES	*2010-11 LAMBS/ 100 EWES*
074	17	10	5	32	170	50	*44*
091	17	14	0	31	121	0	*9*
101				--	--	--	*0*
102				--	--	--	*0*
114	15	26	7	48	58	27	*43*
115				--	--	--	--
2011-12 TOTALS	**49**	**50**	**12**	**111**	**98**	**24**	
2010-11 TOTALS	*36*	*61*	*14*	*111*	*59*	*23*	

Units with (--) were not surveyed.

TABLE 21. FEBRUARY 2012 MOUNTAIN GOAT SURVEY COMPOSITION

UNIT GROUP	ADULTS	KIDS	TOTAL	2012 KIDS/ 100 ADULTS	*2011* KIDS/ 100 ADULTS
101	75	4	79	5	*9*
102	96	7	**103**	7	*11*
103	9	2	**11**	*22*	*0*
2012 TOTALS	**180**	**13**	**193**	**7**	
2011 TOTALS	*208*	*20*	*228*	*10*	

TABLE 22. FALL/WINTER 2011 - 2012 ROCKY MOUNTAIN ELK SURVEY COMPOSITION

UNIT GROUP	BULLS	COWS	CALVES	TOTAL	2011-2012 BULLS/ 100 COWS	2011-2012 CALVES/ 100 COWS	*2010-2011 CALVES/ 100 COWS*
061, 071	355	1,019	459	1,833	35	45	*45*
062,064, 066-068	237	272	146	655	87	54	*58*
072, 074	220	580	285	1,085	38	49	*44*
073	132	426	183	741	31	43	*50*
075	83	119	53	255	70	45	*18*
076, 077,079, 081	319	697	361	1,377	46	52	*55*
078,104, 105-107	66	102	32	200	65	31	*42*
091	23	49	23	95	47	47	--
104,108,121	60	195	99	354	31	51	*49*
108, 131 - 132	67	78	34	179	86	44	*32*
111-115, 221, 222	458	1,497	569	2,524	31	38	*35*
161 - 164	113	253	79	445	45	31	*37*
171 - 173				--	--	--	--
223, 231, 241, 242	198	189	102	489	105	54	*43*
262	20	83	19	122	24	23	*23*
2011-2012 TOTALS	**2,351**	**5,559**	**2,444**	**10,354**	**42**	**44**	
2010-2011 TOTALS	*1,880*	*5,793*	*2,451*	10,124	32	42	

Units with (--) were not surveyed.

TABLE 23. 2012 MULE DEER POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
011 - 013	2,100	2,500
014	1,400	1,400
015**	290	270
021**	580	540
022	700	700
031	1,900	1,800
032***	1,200	1,100
033	950	900
034***	290	280
035	1,000	950
041, 042***	800	750
043 - 046	3,400	3,300
051	3,000	3,400
061,062,064, 066 - 068	9,300	7,200
065	700	650
071 - 079, 091	13,300	12,700
081	900	900
101 - 108	23,000	24,500
111 - 113	4,700	4,700
114 - 115	2,100	2,000
121	2,500	2,000
131 - 134	3,400	3,200
141 - 145	4,800	4,600
151, 152 ,154, 155	4,900	4,000
161 - 164	3,800	4,000
171 - 176	4,500	4,800
181 - 184	1,500	1,600
192**	390	390
194, 196**	800	750
195	400	400
201, 204 **	950	950
202, 205, 206 **	800	750
203	700	700
211, 212	400	350
221 - 223	4,400	4,500
231	3,300	3,100
241 - 245	1,100	850
251 - 253	400	350

TABLE 23. 2012 MULE DEER POPULATION ESTIMATES

261 - 268	400	350
271, 272	240	240
291	450	500
TOTAL	**112,000**	*109,000*
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%.

**Estimate based on apportionment of an interstate herd

***Estimate includes deer that primarily inhabit agricultural fields

TABLE 24. 2012 ROCKY MOUNTAIN ELK POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
061, 071	2,700	2,500
062, 064, 066 - 068	800	550
065	35	
072, 074	1,800	1,600
073	470	460
075	270	120
076, 077, 079, 081	1,600	1,300
078, 105 - 107, 109	350	340
091	220	190
104, 108, 121	650	560
108, 131, 132	350	300
111 - 115, 221, 222	4,300	4,300
161 - 164	650	670
171 - 173	100	
223, 231, 241, 242	620	490
262	160	140
TOTAL	**15,100**	*13,500*
Percent Change	**12%**	

*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 25. 2012 PRONGHORN POPULATION ESTIMATES

UNIT GROUP	**2012 ESTIMATE***	*2011 ESTIMATE**
011	1,400	1,400
012-014	2,400	2,400
015	1,600	1,600
021, 022	470	420
031	1,500	1,500
032, 034, 035	3,000	2,900
033	1,500	1,500
041, 042	1,900	1,700
043-046	210	160
051	700	800
061, 062, 064, 071, 073	1,100	950
065, 142, 144	500	420
066	360	310
067, 068	1,000	1,100
072, 074, 075	1,000	1,000
076, 077, 079, 081, 091	440	490
078, 105 - 107, 121	1,000	1,000
101 - 104, 108	900	800
111 - 114	1,400	1,300
115, 231, 242	430	500
131, 145, 163, 164	700	650
132 - 134, 245	500	480
141, 143, 151 - 155	1,600	1,500
161, 162	440	280
171, 172	390	290
181 - 184	600	600
202, 204	150	150
203, 291	80	60
205, 206	330	300
211, 212	70	
221 - 223, 241	300	320
251	230	250
TOTAL	**28,000**	*27,000*
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 26. 2012 DESERT BIGHORN POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
044, 182	250	240
045	100	90
131, 164	150	130
132	100	90
133, 245	110	130
134	260	210
153	20	
161	340	280
162	20	20
163	180	140
173	180	160
181	250	220
183	280	270
184	190	180
195	40	
202	120	120
204	60	60
205	480	460
206	100	90
211 North	360	300
211 South	360	320
212	350	180
221	20	30
223, 241	230	250
243	150	110
244	130	130
252	330	250
253 Bares	210	150
253 Specters	80	70
261	180	170
262	170	160
263	250	250
264	100	90
265, 266	200	160
267, 268	900	800
River Mountains	210	250
271	290	260
272	130	120
280	100	110
281	170	160
282	130	110
283, 284	230	200
286	110	100
TOTAL	**8,600**	*7600*
Percent Change	**13%**	

*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. 2012 CALIFORNIA BIGHORN POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
012	280	270
011, 013	60	40
014	110	130
021, 022	110	110
031	190	200
032	270	290
033	180	220
034	220	220
035	130	130
041	30	30
051	210	190
066, 068	140	230
TOTAL	**1,900**	*2,100*
Percent Change	**-10%**	

TABLE 28. 2012 ROCKY MOUNTAIN BIGHORN POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
074	70	70
091	40	30
102	30	20
114	60	60
115	20	30
TOTAL	**220**	*210*
Percent Change	**5%**	

TABLE 29. 2012 MOUNTAIN GOAT POPULATION ESTIMATES

UNIT GROUP	2012 ESTIMATE*	*2011 ESTIMATE**
101	100	110
102	160	180
103	30	20
TOTAL	**290**	*310*
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 30. BIG GAME POPULATION ESTIMATE HISTORY, 1977 - 2012

YEAR	MULE DEER	ANTELOPE	ELK	DESERT BIGHORN	CALIFORNIA BIGHORN	ROCKY MOUNTAIN BIGHORN	MOUNTAIN GOAT
1977	113,000						
1978	122,000						
1979	113,000						
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	28,500	15,100	8,600	1,900	220	290
10-YR AVG	*109,000*	*23,000*	*10,200*	*6,500*	*1,700*	*350*	*380*
% Diff to AVG	**3%**	**24%**	**48%**	**32%**	**12%**	**-37%**	**-24%**

TABLE 31. BIG GAME TAG SALES AND HARVEST HISTORY BY SPECIES, 1983 - 2011

	DEER		ANTELOPE		ELK		DESERT BIGHORN		CALIFORNIA BIGHORN		ROCKY MTN BIGHORN		MOUNTAIN GOAT	
YEAR	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST	TAGS	HARVEST
1983	24,124	11,758	757	475	13	12	110	93	--	--	--	--	3	3
1984	25,118	11,794	718	444	49	46	119	85	3	3	--	--	--	--
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
10-YR AVG	16,785	7,029	2,463	1,645	2,776	1,318	169	149	44	41	7	6	24	23
% Difference	-11%	-17%	27%	20%	74%	52%	31%	30%	31%	33%	-28%	-52%	-55%	-52%

TABLE 32. MOUNTAIN LION HARVEST BY SEX AND MANAGEMENT AREA, MARCH 1, 2011– FEBRUARY 29, 2012

Management Areas	Sport Hunter Harvest				Depredation Take				NDOW Pred Project				Other Mortalities				Management Area Totals			
	Male	Female	Unk	Total	Male	Female	Unk	Total	Male	Female	Unk	Total	Male	Female	Unk	Total	Male	Female	Unk	Total
1	1	2	0	3	4	6	0	10	8	4	0	12	0	0	0	0	**13**	**12**	**0**	**25**
2	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	**1**	**2**	**0**	**3**
3	0	1	0	1	1	1	0	2	1	1	0	2	0	0	0	0	**2**	**3**	**0**	**5**
4	2	1	0	3	1	0	0	1	0	1	0	1	0	0	0	0	**3**	**2**	**0**	**5**
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
6	10	2	0	12	0	0	0	0	0	0	0	0	0	0	0	0	**10**	**2**	**0**	**12**
7	3	4	0	7	0	0	0	0	0	0	0	0	1	0	0	1	**4**	**4**	**0**	**8**
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
10	8	7	0	15	0	0	0	0	0	0	0	0	0	0	0	0	**8**	**7**	**0**	**15**
11	8	6	0	14	0	3	0	3	1	0	0	1	0	0	0	0	**9**	**9**	**0**	**18**
12	2	0	0	2	1	2	0	3	0	0	0	0	0	0	0	0	**3**	**2**	**0**	**5**
13	3	0	0	3	1	2	0	3	0	0	0	0	1	1	0	2	**5**	**3**	**0**	**8**
14	2	1	0	3	0	0	0	0	0	0	0	0	0	1	0	1	**2**	**2**	**0**	**4**
15	2	1	0	3	1	0	0	1	0	0	0	0	0	0	0	0	**3**	**1**	**0**	**4**
16	2	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**3**	**0**	**5**
17	2	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	**3**	**0**	**0**	**3**
18	4	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	**4**	**2**	**0**	**6**
19	0	3	0	3	2	1	0	3	0	0	0	0	3	3	0	6	**5**	**7**	**0**	**12**
20	1	0	0	1	1	3	1	5	0	0	0	0	0	2	0	2	**2**	**5**	**1**	**8**
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
22	6	4	0	10	0	2	0	2	0	0	0	0	0	1	0	1	**6**	**7**	**0**	**13**
23	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**0**	**0**	**2**
24	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	**4**	**1**	**0**	**5**
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	**0**	**0**
26	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**1**	**0**	**1**
27	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**1**	**0**	**1**
29	0	1	0	1	2	1	0	3	0	0	0	0	0	1	0	1	**2**	**3**	**0**	**5**
Totals	**62**	**41**	**0**	**103**	**16**	**23**	**1**	**40**	**10**	**6**	**0**	**16**	**5**	**9**	**0**	**14**	**93**	**79**	**1**	**173**

TABLE 33. NEVADA MOUNTAIN LION HARVEST AND MORTALITY TYPE, 2010-2011

Region	Sport Hunters	Guided Sport Hunters	Illegal Harvest	Human Conflict Depredation	NDOW Pred Project	Other: Road Kill, Etc.	Totals
Western	18	4	1	27	15	8	**69**
Eastern	59	44	0	10	1	4	**74**
Southern	26	7	0	3	0	1	**30**
Totals	**103**	**55**	**1**	**40**	**16**	**13**	**173**

Note: Guided Sport Hunters are a subset of Sport Hunters and are not included in total.

TABLE 34. NEVADA MOUNTAIN LION TAG SALES, SPORT HARVEST AND HUNTER SUCCESS BY HUNTER CLASS

	Tag Sales			Sport Harvest			Hunter Success		
Year	Resident	Nonresident	Total	Resident	Nonresident	Total	Resident	Nonresident	Total
1973 - 1974	314	114	428	52	39	91	17%	34%	21%
1974 - 1975	281	46	327	57	30	87	20%	65%	27%
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%
Totals	**34,901**	**5,080**	**39,981**	**2,605**	**1,721**	**4,326**			
Avg. (38 yrs)	**895**	**130**	**1025**	**67**	**44**	**111**	**12%**	**37%**	**16%**
10-Year Avg.	**2265**	**220**	**2485**	**86**	**46**	**132**			
5-Year Avg.	**3377**	**272**	**3649**	**85**	**43**	**128**			

TABLE 35. NEVADA MOUNTAIN LION DEPREDATION HARVEST, 1971 - 2012
(Conducted by US Department of Agriculture – Wildlife Services)

Year	Males	Females	Unknown	Total
1971 - 1972	8	5	1	14
1972 - 1973	4	7	0	11
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
Total	**606**	**478**	**5**	**1089**
Average	**15**	**12**	**0.1**	**27**

*includes lions taken for NDOW predator management projects

TABLE 36. NEVADA MOUNTAIN LION SEASON HISTORY, 1966-2011

Year	Harvest Year	Dates	Season Length	Season Type	Regulations	Bag Limit	Sex	Harvest Objective	Male	Female	Total
1966											
1967		year-round			no check-in	**none**					
1968											
1969											
1970	1970/71	Oct 1-March 31	171 days	open hunting season / year-round and statewide / hunting license required					22	20	42
1971	1971/72								24	17	41
1972	1972/73								36	36	72
1973	1973/74	year-round						**no quota**	42	48	90
1974	1974/75	?	6 mos.						32	48	80
1975	1975/76	year-round							16	37	53
1976	1976/77	Oct 1-March 31	6 mos.					111	8	3	11
1977	1977/78							151	16	6	22
1978	1978/79	Oct 1-Apr 30	7 mos.	**Tag quota by management area** (ie limited entry) (hunters were limited to a hunt unit)				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						135	23	37	60
1982	1982/83	year-round						135	43	21	64
1983	1983/84							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	Oct 1-Apr 30	7 mos.	**Quota by management unit** / unlimited # of tags sold/ hunters could hunt any open unit/ harvest objective	mandatory check in w/in 48 hrs	**1 lion**	**either**	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							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		1per tag - maximum 2 tags per hunter		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							349	98	95	193
2004	2004/2005							349	83	55	138
2005	2005/2006							349	87	59	146
2006	2006/2007	**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	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**

*Total harvest includes 5 mountain lions of unknown gender.

TABLE 37. 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
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
1181	RESIDENT ANTLERLESS MULE DEER ANY LEGAL WEAPON
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
2000	RESIDENT PARTNERSHIP IN WILDLIFE HORNS LONGER THAN EARS ANTELOPE ALL WEAPONS
2100	RESIDENT WILDLIFE HERITAGE ANY ANTELOPE ANY LEGAL WEAPON
2104	RESIDENT EMERGENCY HORNS SHORTER THAN EARS ANTELOPE ANY LEGAL WEAPON
2106	RESIDENT 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
3000	RESIDENT PARTNERSHIP IN WILDLIFE ANY RAM NELSON (DESERT) BIGHORN SHEEP
3100	RESIDENT WILDLIFE HERITAGE ANY RAM NELSON (DESERT) BIGHORN SHEEP
3151	RESIDENT ANY RAM NELSON (DESERT) BIGHORN SHEEP ANY LEGAL WEAPON

TABLE 37. HUNT NUMBER DESCRIPTIONS

HUNT NUMBER	HUNT DESCRIPTION
3200	NONRESIDENT WILDLIFE HERITAGE ANY RAM NELSON (DESERT) BIGHORN SHEEP
3251	NONRESIDENT ANY RAM NELSON (DESERT) BIGHORN SHEEP ANY LEGAL WEAPON
4000	RESIDENT PARTNERSHIP IN WILDLIFE ANTLERED ELK ALL WEAPONS
4100	RESIDENT WILDLIFE HERITAGE ELK WITH AT LEAST ONE ANTLER
4102	RESIDENT DEPREDATION ANTLERED ELK
4104	RESIDENT EMERGENCY DEPREDATION ANTLERLESS ELK
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
5132	RESIDENT EITHER SEX MOUNTAIN LION
5232	NONRESIDENT EITHER SEX MOUNTAIN LION
7000	RESIDENT PARTNERSHIP IN WILDLIFE ANY MOUNTAIN GOAT
7151	RESIDENT ANY MOUNTAIN GOAT ANY LEGAL WEAPON
7251	NONRESIDENT ANY MOUNTAIN GOAT ANY LEGAL WEAPON
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
8200	NONRESIDENT WILDLIFE HERITAGE ANY RAM CALIFORNIA BIGHORN SHEEP
8251	NONRESIDENT ANY RAM CALIFORNIA BIGHORN ANY LEGAL WEAPON
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