

DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 6
(Chalk Creek)
October 2017

BOUNDARY DESCRIPTION

Summit and **Duchesne** counties - Boundary begins at the junction of Interstates 84 and 80 near Echo; then northeast on I-80 to the Utah-Wyoming state line; south and east along this state line to Highway SR-150; south on SR-150 to Pass Lake and the Weber River Trail; west on this trail to Holiday Park and the Weber River road; west on this road to Highway SR-32; north and west on SR-32 to I-80 and Wanship; north on I-80 to I-84 near Echo.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP*

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
U.S Forest Service	0	--	33,719	11%	91	.1%
U.S. Bureau of Land Management	0	--	507	.2%	324	.4%
Utah School and Institutional Trust Lands Administration	0	--	363	.1%	259	.3%
Native American Trust Lands	0	--	0	0%	0	0%
Private	0	--	271,558	88.7%	71,612	96%
U.S. Department of Defense	0	--	0	0%	0	0%
USFWS Refuge	0	--	0	0%	0	0%
National Park Service	0	--	0	0%	0	0%
Utah Division of Parks and Recreation	0	--	0	0%	131	.2%
Utah Division of Wildlife Resources	0	--	0	15%	2,044	3%
TOTAL	0	--	306,147	100%	139,907	100%

UNIT MANAGEMENT GOALS

Manage for a population of healthy animals capable of providing a broad range of recreational opportunities, including hunting and viewing. Balance deer herd impacts on human needs, such as private property rights, agricultural crops and local economies. Maintain the population at a level that is within the long-term capability of the available habitat to support.

POPULATION MANAGEMENT OBJECTIVES

- < Target Winter Herd Size – Maintain a target population size of 12,000 wintering deer. This population objective remains for both the short-term (5 year life of this plan) and long term, barring significant changes in range conditions.
- < Herd Composition – Maintain a minimum 3-year average postseason buck to doe ratio of 18-20:100 in accordance with the statewide plan.

Unit 6

1994-2005 Objective:	11,500
2006-2013 Objective:	10,500
2013-2018 Objective:	10,500
2018-2013 Objective:	10,500
<u>2020-2023 Objective:</u>	<u>12,000</u>

POPULATION MANAGEMENT STRATEGIES

Monitoring

Population Size - Utilizing harvest data, postseason and spring classifications and mortality estimates, a computer model will be used to estimate winter population size. Annual mortality will be estimated based on survival of radio-collared animals on a nearby representative unit.

Buck Age Structure - Estimates of the age class structure of the buck population will be determined primarily (directly) through the use of hunter harvested bucks at checking stations and field bag checks, and secondarily (indirectly) using post-season classification observations.

Harvest - The primary technique used to estimate harvest over the unit is the statewide uniform harvest surveys.

Limiting Factors (May prevent the unit from achieving management objectives)

Crop Depredation - Address depredation issues as prescribed by state law and DWR policy. Some geographic populations may be maintained at lower levels than the range can support due to conflicts with crop production and private landscapes.

Habitat – Winter range condition is the major limiting factor on the Chalk Creek Unit. Winter and summer forage conditions, private land range availability and landowner acceptance will ultimately determine herd size. One factor that is potentially limiting is the increasing population and density of elk on the limited winter range. Elk numbers continue to increase on the unit and occupy and dominate what was once mule deer winter range. Excessive habitat utilization will be addressed by antlerless harvests.

Predation - Consistently high fawn/doe ratios seem to indicate that predation is not a primary limiting factor for deer on the Chalk Creek WMU. Coyote removal through a bounty system is currently underway and future fawn/doe ratios will be used to determine if the removal was effective.

Highway Mortality - UDWR has been working closely with the Utah Department of Transportation to prevent WVC's (wildlife vehicle collisions) in this unit. Several areas have been previously identified as having high WVC's: the I-80 and SR-32 area (especially around Rockport Reservoir and the agricultural fields surrounding I-80 and the Weber River); the I-80 area around the Echo Junction and several miles to the north-east; and Hwy. 150. This agency cooperation has resulted the installation of 8' wildlife exclusion fences, the construction of wildlife escape ramps (along I-80), and the inclusion of wildlife paths under the I-80 Weber River bridge. In addition, a consultant firm completed a wildlife mortality study for UDOT for I-

80 from Salt Lake City to Echo Junction. This study identified additional fencing, escape ramp, and wildlife passage needs throughout the I-80 corridor.

Illegal Harvest, Crippling Loss, Disease and Parasites - Although poaching losses appear insignificant on the Chalk Creek Unit, due primarily to a highly visible law enforcement effort, crippling losses are a concern, especially under buck-only hunting. If illegal kills be identified as a significant source of mortality, specific preventative measures will be developed within the context of an Action Plan. This plan will be developed in cooperation with the Law Enforcement section.

Disease is very difficult to evaluate, but high mortality in the spring is often associated with disease and malnutrition. The animal disease diagnostic facility associated with Utah State University acts as the laboratory to identify disease problems. Chronic Wasting disease is of further concern although it has not yet been detected on the unit. Surveillance will continue to be implemented by testing hunter harvested animals as well as targeted surveillance of symptomatic animals.

Urban Deer - Continued development across this Unit has lead to an increase in nuisance deer complaints. The Urban Deer Control Rule, R657-65, will be used to help municipalities address urban deer issues. Additional hunting opportunities outside of municipal boundaries will also be used to address nuisance complaints.

HABITAT

Habitat Description

The Chalk Creek Management Unit has an estimated 74,461 acres of winter habitat and 306,147 acres of summer habitat for mule deer range. The majority of the range is privately owned (96% of the winter range, 89% of summer range). Widespread private ownership leads to numerous management complications. Development and loss of habitat due to other land disturbances are some of the biggest concerns to mule deer winter range. The discovery, development, and removal of oil throughout the unit, especially the Chalk Creek area, has led to increased road densities and scattered housing developments. New agricultural projects on crucial winter range also continue to increase depredation problems and further decrease the available big game habitat. Because of the preponderance of private land and the establishment of Cooperative Wildlife Management Areas (CWMU's) access is severely restricted for public hunting on large areas.

The topography of the unit is influenced mainly by the Uinta Mountains to the east, with their drainages flowing through long, gradual slopes down into the Weber River Valley. Other major drainages include Crandall Canyon, Chalk Creek, Echo Canyon, Hixon Canyon, Pecks Canyon, and Grass Creek. The southern exposures of these canyons are especially important winter ranges. The rest of the winter range is found in the low rolling foothills of the western and central areas of the unit. The upper limits of the winter range vary between approximately 6,800 and 7,200 feet (Giunta 1979).

Towns located in the valley along the Weber River include: Oakley, Peoa, Wanship, Hoytsville, and Coalville. Echo and Rockport Reservoirs, located on the west side of the unit on the Weber River, are both significant barriers to big game movement. Additionally, I-80 through Echo Canyon discourages big game movement and many deer deaths occur there during winter and spring.

Habitat Concerns

Mule deer habitat on the Chalk Creek Unit is divided between summer range and winter range. The summer range is mostly at higher elevations with the majority of the summer range being on private property. Due to the loss of habitat and the increasing number of elk on the unit, overuse on remaining winter range is a serious threat to the health and productivity of the winter browse species contained in the heavily utilized ranges.

Lower elevation winter range is the major limiting factor for mule deer populations on the Chalk Creek

Unit. The winter range areas are also those areas that are most at risk. Threats to mule deer habitat on the Chalk Creek Unit include the continued loss of acres and the reduction in habitat quality due to the loss of critical browse species (sagebrush, bitterbrush etc). The loss of habitat can be attributed to different factors and may be specific to specific areas. One factor is the expansion of juniper across the winter range particularly from Echo south to Oakley. Other concerns are the direct loss of crucial winter range acres due to development and urbanization. Most of the increase in home building is occurring on the foothills in what was historic deer winter range.

The increasing abundance of weedy annual grass species, and the increase of the exotic, weedy, perennial grass bulbous bluegrass are also contributing factors of sagebrush decline. These weedy species can form dense mats of cover that compete with seedling and young sagebrush plants, which limits establishment of new sagebrush plants into the population. As the sagebrush population matures, decadence increases and density decreases as old plants begin to die. Annual grass species such as cheatgrass can also increase fuel loads and increase the chance of a catastrophic fire event.

Habitat Management

Loss of critical winter ranges to development is the highest cause of loss of mule deer habitat in the Chalk Creek unit. The habitat quality of the sagebrush and other browse species on the remaining winter range is important to protect.

To address the direct loss of habitat, efforts will be made towards the protection and conservation of remaining mule deer habitat. Efforts must be made to work with counties, cities, private landowners, non-governmental organizations (NGO's), state and federal agencies to maintain and protect critical and existing winter range from future losses. Through existing partnerships and developing new conservation partners, efforts are being made to identify and prioritize critical habitat areas. Conservation easements will continue to be an important part of this effort. Other conservation efforts are ongoing throughout the unit.

To address habitat quality and degradation, habitat improvement projects have been and will continue to be planned throughout the unit. Habitat projects have been and are being done on UDWR Wildlife Management Areas, and private lands throughout the unit. The habitat projects are designed to address the specific issues within each project area. The major issues are Juniper encroachment and annual grass competition reducing the amount of browse species available to wintering wildlife. This in turn causes over-utilization of remaining browse, causing degeneration of existing plants. Recruitment of browse plants is also a concern due to annual grasses and over utilization by removing immature plants. Areas such as Crandall Canyon and the surrounding drainages are very dense in Juniper and are prime areas for Juniper removal projects, utilizing chaining, lop and scatter, bullhog and other accepted methods for thinning and removing Juniper.

There has been an active effort to address many of the limitations on this unit through the Watershed Restoration Initiative (WRI). A total of 709 acres of land have been treated within the Chalk Creek unit since the WRI was implemented in 2004; 1,168 acres are currently undergoing treatment projects. Treatments frequently overlap one another bringing the total completed treatment acres to 709 acres for this unit. Other treatments have occurred outside of the WRI through independent agencies and landowners, but the WRI comprises the majority of work done on deer winter ranges throughout the state of Utah.

The following are some of the areas that have been targeted for habitat projects within the unit over the next five years.

- Crandall Canyon winter range rehabilitation and pinyon/juniper (PJ) tree removal.
- South Fork PJ thinning and winter range enhancement.
- A particular focus of treatment area is the expanding juniper that dominates the crucial winter ranges from Echo south to Oakley. Those areas of Phase I and II juniper will be targeted. The challenge is to find multiple cooperative landowners in a given area, where larger projects can be done.

PERMANENT RANGE TREND SUMMARIES

Purpose of Range Trend Studies

The ability to detect changes in vegetation composition (range trend) on big game winter ranges is an important part of the Division's big game management program. The health and vigor of big game populations are closely correlated to the quality and quantity of forage in key areas.

Statewide, the majority of the permanent range trend transects are located on deer and elk winter ranges. The range trend data resulting from these studies are used for habitat improvement and planning purposes.

Objective

Monitor, evaluate, and report range trend at designated key areas throughout the state, and inform Division biologists, public land managers, and private landowners of significant changes in plant community composition in these areas.

Expected Results and Benefits

Range trend transects are resurveyed every five years, and vegetation condition and trend assessments are made for key areas.

Summary and Excerpts of 2016 Range Trend Result

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Range Trend studies have been sampled within WMU 6 on a regular basis since 1984, with studies being added or suspended as was deemed necessary. Due to changes in sampling methodologies, only data collected following the 1992 sample year is included in this summary. Monitoring studies of WRI projects began in 2004, when possible; WRI monitoring studies are established prior to treatment and sampled on a regular basis following treatment. Due to the long-term nature of the studies, many of the Range Trend and WRI studies have had some sort of disturbance or treatment prior to or since study establishment.

The condition of deer winter range within the Chalk Creek management unit has continually changed on the sites sampled since 1996. The Range Trend sites sampled within the unit are considered to be in very poor to good condition as of the most recent sample years. Crandall Canyon, North Oakley Bench, and Mahogany Hills improved from fair or fair-good to good condition. Anshutz Ranch went from good to fair condition, and Stag Canyon remained in poor condition. The Echo Canyon Rest Area, Spring Hollow Burn, and Spring Canyon studies are considered to be in very poor or very poor-poor condition generally due to the lack of preferred browse cover and sagebrush diversity. The treated study sites range from very poor-poor to poor condition; Echo Canyon Rest Area is also considered to be a Range Trend site and is therefore discussed above. Lower Crandall Canyon was not sampled prior to treatment, but is in very poor condition upon the first post-treatment sampling due to lack of preferred browse cover and sagebrush diversity. It is possible given more time and continual monitoring that these sites will continue to improve.

Desirable Components Index:

The desirable components index (DCI) for deer was created as a tool to address condition and/or value of winter ranges for mule deer. This index was designed to score mule deer winter range based upon several important vegetation components (i.e., preferred browse cover, shrub decadence, shrub young recruitment, cover of perennial grasses, cover of perennial forbs, cover of annual grasses and cover of noxious weeds). Although the index may be useful for assessing habitat for other species (i.e. sage grouse and elk), the rating system was devised to specifically address mule deer winter range requirements.

This index is used primarily to determine if a particular site has the vegetation components necessary to be a good winter range for mule deer. It can also be used to identify areas where habitat restoration projects may be needed and assist land managers in determining possible rehabilitation options. Because

it does not take into account factors such as soil stability, hydrologic function, and other environmental factors, it should not be used to assess a sites function and/or condition as typically used by the federal land management agencies. Desirable mule deer winter range provides 12-20% of preferred browse cover, 20% or less shrub decadency, and 10% or more of the shrub population is young. The herbaceous understory contains 8-15% perennial grasses cover, 5% perennial forb cover, and less than 5% annual grass cover.

Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 6, Chalk Creek.

	1996	2001	2006	2011	2016
■ Good	4	1	1	3	1
■ Fair-Good	0	0	1	0	0
■ Fair	2	4	4	2	1
■ Poor-Fair	0	1	0	0	0
■ Poor	0	0	0	1	1
■ Very Poor-Poor	0	1	1	1	2
■ Very Poor	3	2	3	2	0

Number of Study Sites

More detailed information regarding Range Trend data, results, trends, tables and summaries can be found at the Utah's Big Game Range trend Studies web site at <https://wildlife.utah.gov/range-trend.html>

Current Population Status

Year	Buck Harvest	Post-Season F/100 D	Post-Season Buck/100 D	Post-Season Population	Population Objective	% of Objective
2014	957	68	36	15,000	10,500	143%
2015	1,038	65	42	18,300	10,500	174%
2016	1,175	60	30	15,700	10,500	150%

Duration of Plan

This unit management plan was approved by the Wildlife Board on _____ and will be in effect for five years from that date, or until amended.