DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 7
(Kamas)
April 2013

BOUNDARY DESCRIPTION

Summit and Wasatch counties - Boundary begins at the junction of I-80 and SR-32 (Wanship); south on SR-32 to the Weber Canyon Road at Oakley; east on this road to Holiday Park and the Weber River Trail; east on the Weber River Trail to SR-150 near Pass Lake; south on SR-150 to the North Fork of the Provo River; south along this river to the Provo River; south along this river to SR-35; west on SR-35 to Francis and SR-32; west on SR-32 to US-40 near Jordanelle; north on US-40 to I-80; north on I-80 to SR-32 and Wanship.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP*

	Yearlong range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
U.S. Forest Service	0	--	119,932	72.5%	6,511	19%
U.S. Bureau of Land Management	0	--	91	.1%	5	.1%
Utah School and Institutional Trust Lands Administration	0	--	74	.1%	153	.5%
Native American Trust Lands	0	--	0	0%	0	0%
Private	0	--	44,824	27%	26,084	78%
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%	148	.4%
Utah Division of Wildlife Resources	0	--	507	.3%	657	2%
TOTAL	0	--	165,428	100%	33,558	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 8,000 wintering deer. This population objective remains 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 7
1994-2005 Objective:	12,000
2001-2005 Objective:	8,000
2013-2018 Objective:	8,000
Change:	0

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 below the number of animals the range could support due to conflicts with crop production and private landscapes.

Habitat – Winter range availability and condition is the major limiting factor on the Kamas unit. 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 Kamas 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 Dept. 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); U.S. 40 (Milepost 1-7); I-80 between U.S. 40 and SR-32 (Wanship); and Hwy. 150. This agency cooperation has resulted in the installation of 8' wildlife exclusion fences, and the construction of wildlife escape ramps in some locations. Planning is currently underway for the construction of a joint pedestrian/wildlife underpass to be located around milepost 3-4 on U.S. 40. This underpass will be in conjunction with 8' wildlife exclusion fencing. 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 Kamas Unit, due primarily to a highly visible law enforcement effort, crippling losses are a concern, especially under buck-only hunting. Should illegal harvest be identified as a significant source of mortality, specific measures will be developed within the context of an Action Plan. This plan will be developed in cooperation with the Law Enforcement Section.

Hunter survey studies (Austin, D.D. 1992. Great Basin Naturalist 52:364-372) suggests as many as 18 deer may be left in the field per 100 hunters.

Disease is very difficult to evaluate, but high mortality in the spring is often associated with disease. 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.

HABITAT

Habitat Description

The Kamas Management unit is located between the Uinta and Wasatch Mountains in the north-central part of the state. The 1977 inventory of the Kamas unit, then known as Herd Unit 20, classified 10% of the unit as winter range (Giunta 1979). Boundary changes in 1985 reduced the total acreage and shifted a portion of the winter range north of the Weber River into the Chalk Creek management unit. There was another realignment of the herd unit boundaries again in 1996 and in 2004. Even with these changes, the ratio of winter to summer range has stayed basically the same, with about 10% of the area being classified as winter range. The limiting factor for big game in this management unit is the lack of adequate amounts of good quality winter range. With severe winters, the available range is reduced even further. An example of this problem can be illustrated by the large winter deer losses which occurred during the winter of 1992-93.

The western portion of the unit is primarily privately-owned land consisting of the Kamas valley and the "West Hills" which is situated between Kamas Valley and the Park city area, the mountainous, eastern portion of the unit is managed by the U.S. Forest Service. The Kamas Wildlife Management Area, administered by the Division of Wildlife Resources, is also located within this unit. Approximately 67% of the winter range is under private ownership with the Forest Service managing another 28% of the normal winter range. There is abundant summer range in the Uinta Mountains to the east. These mountains contain the headwaters of the Weber and Provo Rivers, which flow west through the Rhodes and Heber Valleys. The south and west exposures along these rivers, in addition to land along Beaver Creek and the mountain face east and north of Kamas, provide the major deer wintering areas.

Because of the varying topography, the deer winter range is separated into several distinct areas. The upper limits vary considerably, but lower limits generally follow the canyon bottoms, roads, and the upper limits of cultivated land. Wintering areas north of the Weber River, on the Kamas face, Beaver Creek, and the Provo River, have long been recognized as crucial to the deer herd on the western edge of the Uinta Mountains.

Habitat concerns

The summer mule deer habitat is mostly at higher elevations in the eastern part of the unit including private and National Forest Service lands. Summer range habitat concerns are the changes in the forest systems. In some areas the loss of aspen stands due to conifer encroachment is a concern. In addition, the Uinta Mountains are suffering from a high percentage of pine beetle kill. This is opening up some area to improved summer range due to increased water table and improved understory. The danger is from catastrophic wildfire burning through the beetle killed trees.

Lower elevation winter range is the major limiting factor for mule deer populations on the Kamas unit.

The winter range areas are also those areas that are most at risk. The largest threat to mule deer habitat in the Kamas area is 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. This development is occurring through all areas of the unit. From Oakley to Kamas on the west, including continuous development of summer homes up the canyons and scattered throughout the summer ranges. There is also significant development on the West Hills area.

In addition to the continual stresses put on the winter range by development, there is an increasing number of elk congregating on the unit. The elk are occupying the areas that were once reserved for mule deer, while the mule deer are forced to less productive areas. 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. In heavy winter years, these ranges are overwhelmed and have in the past been the cause of high winter mortality during deep snow years.

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.

There are also areas that are experiencing juniper encroachment and are in need of treatments to address this problem. Utilizing the tools available to remove juniper are important. Enhancement of existing winter range through increase and improvement of browse species, as well as increasing the diversity of the browse species is crucial to preventing future high mortality events.

Habitat Management

Loss of critical winter ranges to development is the highest cause of loss of mule deer habitat in the Kamas unit. The habitat quality of the sagebrush and other browse species on the remaining winter range is important to protect. . Contributing factors to the loss of browse species such as the impact of the increase in weedy species, (particularly annual grasses), juniper expansion, lack of browse regeneration and other variables are all of a concern in the habitat management of the Kamas Unit.

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 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 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.

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 2011 Range Trend Result

Unit 7 Kamas

Six interagency range trend studies were sampled in Unit 7 during the summer of 2011. A total of eight studies have been established within unit 7 since 1984. Two studies have been suspended over the years. If the need arises in the future these studies can be sampled again.

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 (ie., 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 (ie. 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.

Condition of deer winter range on Unit 7, as indicated by DWR range trend surveys.

Year	Mean DCI score for Unit	Classification	Unit-specific DCI score range: Poor	Unit-specific DCI score range: Fair	Unit-specific DCI score range: Good
1996	44.2	Fair	27-40	41-55	56-71
2001	52.2	Fair			
2006	41.2	Fair			
2011	44.2	Fair			

Current Population Status

Year	Buck Harvest	Post-Season F/100 D	Post-Season Buck/100 D	Post-Season Population	Objective	% of Objective
2010	441	78	21	5,950	8,000	74%
2011	446	76	21	6,000	8,000	75%
2012	424	76	21	5,500	8,000	68%

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.