

**DEER HERD UNIT MANAGEMENT PLAN**  
**Deer Herd Unit # 5**  
**(East Canyon)**  
**March 2013**

**BOUNDARY DESCRIPTION**

**Morgan, Summit, Salt Lake and Davis counties** – Boundary begins at the junction of I-80 and I-84 (Echo Junction); southwest on I-80 to I-15; north on I-15 to its junction with I-84 near Ogden; east on I-84 to Echo Junction and I-80.

**LAND OWNERSHIP**

**RANGE AREA AND APPROXIMATE OWNERSHIP\***

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	561	14%	45802	19%	18626	21%
Bureau of Land Management	0	0%	173	<1%	314	<1%
Utah State Institutional Trust Lands	0	0%	754	1%	59	<1%
Native American Trust Lands	0	0%	0	0%	0	0%
Private	3516	86%	188243	79%	65865	75%
Department of Defense	0	0%	193	<1%	773	1%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	840	1%
Utah Division of Wildlife Resources	0	0%	2296	<1%	1273	2%
<b>TOTAL</b>	<b>4077</b>	<b>100%</b>	<b>237461</b>	<b>100%</b>	<b>87750</b>	<b>100%</b>

**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 13,500 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 4**

1994-2003 Objective:	9,500
2003 Objective:	8,500
2003-2013 Objective:	7,000
<u>2013-2018 Objective:</u>	<u>13,500</u>

Change since 2003: +6,500

Change to population objective is based primarily on new data and models available beginning in 2006. New estimates of actual population numbers have been taken into account and the new objective should reflect the numbers of deer that are currently on the unit.

## **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 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 due to conflicts with crop production and private landscapes.

Habitat – Winter range condition is the major limiting factor on the East Canyon unit. Range condition is currently ranked as fair due to a reduction of browse and competition from introduced weedy species. 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 East Canyon 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 - Cooperate with the Utah Dept. of Transportation in construction of highway fences, passage structures and warning signs.

Illegal Harvest, Crippling Loss, Disease and Parasites - Although poaching losses appear insignificant on the East Canyon Unit, due primarily to a highly visible law enforcement effort, crippling losses are a concern, especially under buck-only hunting. 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 though it has not yet been detected on the unit. Surveillance will be implemented by testing hunter harvested animals as well as targeted surveillance of symptomatic animals.

## **HABITAT**

### **Habitat Description**

The East Canyon Management Unit is located mostly on the east side of the Wasatch Mountains. The topography varies across the unit from fairly deep canyons and steep slopes in the western portion to more gentle open slopes and fewer cliffs in the east. Most of the unit is drained by the Weber River. Several creeks along the north and east edges of the unit drain directly into the river. The East Canyon Creek flows into the Weber River. East Canyon Reservoir is located approximately in the center of the unit. The highest elevations are along the western boundary on peaks of the Wasatch Range which reach above 9,500 feet. The lowest point is 4,800 feet in the northwest corner where the Weber River flows out of the unit.

The upper limit of normal winter range is generally considered to be about 7,000 feet. Winter range is found in the major drainages and around East Canyon Reservoir. All of the valleys have been developed for agriculture and housing. The major canyons, Weber, East, and Main Canyons, contain housing developments and high-use roads. The northern, eastern, and southern boundaries are formed by Interstates 80 and 84. Other more narrow and higher elevation canyons have seasonal roads. The area is highly developed because a majority of the unit is private land. Not only is the quantity of winter range limited, but the quality is compromised by development and roads. Many deer that summer on the unit migrate over to the Davis County side of the unit (Wasatch Face) to winter. Winter migration into the unit from other areas is minimal.

Most of the winter range is comprised of sagebrush range types. The sagebrush type has a good mix of browse species and can provide substantial forage for wintering deer. This browse type, which is 20% of the total range, is composed mainly of big sagebrush, but also includes bitterbrush, service berry and Gambel oak. Other range types include agricultural lands.

### **Habitat concerns**

Mule deer habitat on the East Canyon Unit is fairly abruptly divided between summer range and winter range.

Lower elevation winter range is the major limiting factor for mule deer populations on the East Canyon unit. The winter range areas are also those areas that are most at risk. A large threat to mule deer habitat on the East Canyon Unit 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 on the Wasatch Face.

Additional threats and losses to deer winter range on the East Canyon unit is the reduction in habitat quality due to the loss of critical browse species (sagebrush, bitterbrush etc). This loss has been attributed to a number of factors, fire, agriculture, drought etc. However, the abundance of weedy annual grass species, and the increase of the exotic, weedy, perennial grass bulbous bluegrass are the more likely causes 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.

The Wasatch Face area of the East Canyon Unit has endured major housing development in historic winter range. The majority of winter range has been converted, leaving wintering mule deer short on winter range on the face. To mitigate for this loss, winter habitat on the Wasatch Back needs to be improved to accommodate wintering big game. This is a challenge with the high percentages of winter range being privately held.

Mule deer winter range habitat has seen a decrease in sagebrush density. Causes of sagebrush decline are varied and multiple causes may have compounded effects on the low potential studies in this unit. The moderate drought in recent years has likely caused increased stress on plants, and negatively impacted them. Sagebrush age structure across the area is generally old and one age class. The lack of regeneration of the stand through establishment of young sagebrush is a concern. Annual grass species are present but not prevalent through most of the areas. However, the range trend does show increases of weedy species such as cheatgrass and bulbous bluegrass in many of the low potential studies in this unit. Perennial grass and forb species have increased on many of the studies as browse species decline, and may compete with browse establishment.

### **Habitat Management**

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

Encourage conservation easements in all ownership sectors, and additional acquisitions for DWR.

To address habitat quality and degradation, habitat improvement projects will be planned throughout the unit when possible.

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

- East Canyon Wildlife Management Area
- Private lands

### **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.

The majority of the permanent range trend studies are located on deer and elk winter ranges. Range trend data are used for habitat improvement 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 studies 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 5 East Canyon**

Five interagency range trend studies were sampled in Unit 5 during the summer of 2011. A total of twelve studies have been established within Unit 5 since 1984. Seven of these studies were suspended for various reasons. If the need arises in the future these studies can be sampled again. To access maps, discussions, and data tables for suspended studies see: <http://www.wildlife.utah.gov/range>.

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 5, as indicated by DWR range trend surveys.**

<b>Year</b>	<b>Mean DCI score for Unit</b>	<b>Classification</b>	<b>Unit-specific DCI score range: Poor</b>	<b>Unit-specific DCI score range: Fair</b>	<b>Unit-specific DCI score range: Good</b>
1996	38.7	Poor	35-49	50-64	65-79
2001	49.6	Poor to Fair			
2006	44.9	Poor			
2011	53.0	Fair			

**Current Population Status**

Year	Buck Harvest	Post-Season F/100 D	Post-Season Buck/100 D	Post-Season Population	Objective	% of Objective
2010	626	75	26	11,900	7,000	170%
2011	659	61	33	10,600	7,000	151%
2012	910	84	27	12,900	7,000	184%

**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.