DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 24
(Mt. Dutton)
February 2015

BOUNDARY DESCRIPTION

Garfield and Piute counties - Boundary begins at US-89 and SR-62; south on US-89 to SR-12; east on SR-12 to the Widtsoe-Antimony road; north on the Widtsoe-Antimony road to SR-22; north on SR-22 to SR-62;west on SR-62 to US-89.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	YEARLONG RANGE		SUMMER RANGE		WINTER RANGE		TOTAL ACRES
Ownership	Area (acres)	%	Area (acres)	%	Area (acres)	%	
Forest Service	8,374	34%	131,391	100%	106,357	42%	246,122
Bureau of Land Management	1,166	5%	0	0%	76,366	30%	77,532
Utah State Institutional Trust Lands	623	2%	20	1%	35,768	14%	36,411
Native American Trust Lands	0	0%	0	0%	0	0%	0
Private	14,450	59%	30	0%	28,772	11%	43,252
Bankhead Jones	0	0%	0	0%	7,225	3%	7225
USFWS Refuge	0	0%	0	0%	0	0%	0
National Parks	0	0%	0	0%	0	0%	0
Utah State Parks	0	0%	0	0%	0	0%	0
Utah Division of Wildlife Resources	0	0%	0	0%	244	0%	244
TOTAL	24,663	100%	131,440	100%	254,733	100%	410,786

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 - Achieve a long-term combined target population size of 2,700 wintering deer (modeled number) during the five-year planning period unless range conditions become unsuitable, as evaluated by DWR. Range Trend data coupled with annual browse monitoring will be used to assess habitat condition. If habitat damage by deer is occurring due to inadequate habitat,

measures will be taken to reduce the population to sustainable levels. Change to the population objective is based on this population's performance, improved range conditions, the amount of available habitat and the lack of range damage from deer.

- Herd Composition – This is a General Season unit and will be managed to maintain a three year average postseason buck to doe ratio of 18-20 according to the statewide plan.

- Harvest – General Buck Deer hunt regulations, using archery, Rifle, and Muzzleloader hunts. Antlerless removal will be implemented to achieve the target population size using a variety of harvest methods and seasons. It is recognized that buck harvest may fluctuate due to climatic and productivity variables. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives.

POPULATION MANAGEMENT STRATEGIES

Monitoring

- Population Size - Utilizing harvest data, postseason and mortality estimates, a computer model has been developed to estimate winter population size. The 2014 model estimates the population at 2,900 deer.

- Buck Age Structure - Monitor age class structure of the buck population through the use of checking stations, postseason classification, uniform harvest surveys and bag checks.

- Harvest - The primary means of monitoring harvest will be through the statewide harvest survey and the use of checking stations.

Year	Buck harvest	Post-Season F/100 doe	Post-Season B/100 doe	Post-Season Population	Objective	% of Objective
2012	224	66	13.7	2250	2700	83.3%
2013	246	67	22.2	2600	2700	96.3%
2014	275	56	22.7	2900	2700	107.4%
3 Year Avg	248	62.9	19.5			

Limiting Factors (May prevent achieving management objectives)

- Crop Depredation – Strategies will be implemented to mitigate crop depredation as prescribed by state law and DWR policy.

- Habitat – The amount and condition of summer habitat on public lands, landowner acceptance and winter forage conditions will determine herd size. Excessive habitat utilization will be addressed through antlerless removal.

- Predation - Follow DWR predator management policy:
  - If the population estimate is less than 90% of objective and fawn to doe ratio drops below 70 for 2 of the last 3 years, or if the fawn survival rate drops below 50% for one year, then a Predator Management Plan targeting coyotes may be implemented.
  - If the population estimate is less than 90% of objective and the doe survival rate drops below 85% for 2 of the last 3 years or below 80% for one year, then a Predator Management Plan targeting cougar may be implemented.
  - This unit is currently under a Predator Management plan and coyotes are being targeted by contractors.

- Highway Mortality - DWR will Cooperate with the Utah Dept. Of Transportation to construct

highway fences, passage structures and warning signs etc if needed. Highway mortality occurs on U.S. 89 and SR 62, but is not a serious problem and in concentrated in only a few locations on this unit. Concentrated highway mortality occurs on US 89 south of Circleville. Illuminated warning signs are installed in this area.

- Illegal Harvest - If illegal harvest is identified as a limiting factor, a unit specific action plan will be develop in cooperation with the Law Enforcement Section.

HABITAT MANAGEMENT OBJECTIVES

- Maintain or enhance forage production through direct range improvements on winter and summer deer range throughout the unit to achieve population management objectives.

- Seek cooperative projects to improve the quality and quantity of deer habitat.

- Provide improved habitat security and escapement opportunities for deer.

HABITAT MANAGEMENT STRATEGIES

Monitoring

- Determine trends in habitat condition through permanent range trend studies, spring range assessments, pellet transects, and field inspections. Land management agencies will similarly conduct range monitoring to determine vegetative trends, utilization and possible forage conflicts.

- Range trend studies will be conducted by DWR to evaluate deer habitat health, trend, and carrying capacity using the deer winter range desirable component index (DCI) and other vegetation data. The DCI was created as an indicator of the general health of deer winter ranges. The index incorporates shrub cover, density and age composition as well as other key vegetation variables. Changes in DCI suggest changes in winter range capacity. However, the relationship between DCI and the changes in deer carrying capacity is difficult to quantify.

Habitat Protection, Improvement and Maintenance

- Work with public land management agencies to develop specific vegetative objectives to maintain the quality of important deer use areas.

- Continue to coordinate with land management agencies in planning and evaluating resource uses and developments that could impact habitat quality.

- Work toward long-term habitat protection and preservation through the use of agreements with land management agencies and local governments, and through the use of conservation easements, etc. on private lands.

- Work with land management agencies to evaluate and develop motorized travel plans to reduce disturbance during times of high stress, such as winter and fawning.

- Cooperate with federal land management agencies and private landowners in carrying out habitat improvement projects. Protect deer winter ranges from wildfire by reseeding burned areas, creating fuel breaks and reseed areas dominated by cheatgrass with desirable perennial vegetation.

- Reduce expansion of Pinion-Juniper woodlands into sagebrush habitats and improve habitats dominated by Pinion-Juniper woodlands by completing habitat restoration projects.

- Seek opportunities to increase browse in burned areas of critical winter range.

- Cooperate with federal land management agencies and local governments in developing and

administering access management plans for the purposes of habitat protection and to provide refuges.

- Seek out opportunities to improve the limited summer range across the unit. Develop summer range habitat improvement projects that remove encroaching trees, improves succulent vegetation and wet meadows, increases aspen recruitment, enhances and/or protects riparian areas, and use prescribed fire to promote early succession habitats where appropriate.
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- Cooperate with federal land management agencies and local governments in developing and administering access management plans for the purposes of habitat protection and escape or security areas.

- Future habitat work should be concentrated on the following areas:

    - Continue to reduce Pinyon and Juniper encroaching into shrubland, specifically in John's Valley, Pole Canyon north into Kingston Canyon, and south of Circeville into Horse Valley and other areas in critical winter range.

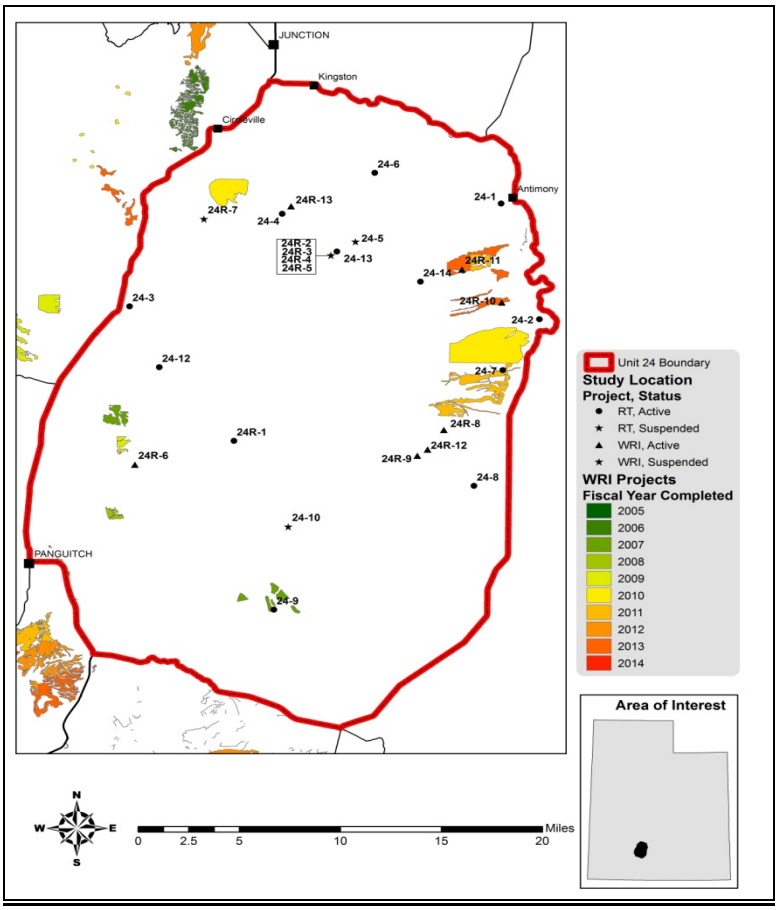
    - Seek opportunities on Panguitch East bench to reduce Sagebrush age class homomogenization and increase species diversity.

    - Seek opportunities to increase browse and perennial forbs in areas of critical winter range through mechanical treatment and reseeding

Habitat Project Summary

- There has been an active effort to address many of the limitations on this unit through the Watershed Restoration Initiative (WRI). A total of 10,875 acres have been treated within the Mt. Dutton unit since the WRI was implemented in 2004 (**Error! Reference source not found.**). 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 majority of treatment acreage, especially bullhog, chaining, lop and-scatter and seeding, was done to reduce pinyon and juniper woodlands. Other common management treatments are those to rejuvenate sagebrush stands such as chaining, mowing and harrow treatments. Herbicide treatments within the unit are primarily used to control cheatgrass and restore other more desirable species.

Treatment Action	**Acres**
Seeding	7,292
Bullhog	1,032
Harrow	1,424
Herbicide application	28
Mower	37
Lop-and-scatter	2,385
***Total Acres Treated**	**14,171**
Total Treatment Acres	**10,875**



PERMANENT RANGE TREND SUMMARIES

Unit 24 Mount Dutton

The condition of deer winter range within the Mt. Dutton management unit has generally improved on the study sites sampled since 1997. The majority of sites sampled within the unit are considered to be in fair to good condition based on the most current sample data, and the proportion of sites classified, as being in very poor condition has remained consistent, except in 2003, when two-thirds of the sites were classified as being very poor

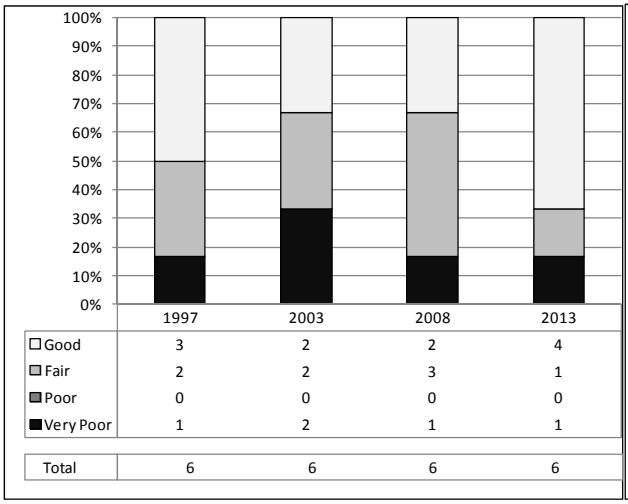


Figure **Error! No text of specified style in document.**.1: Deer winter range Desirable Components Index (DCI) summary by year of undisturbed sites for WMU 24, Mt. Dutton.

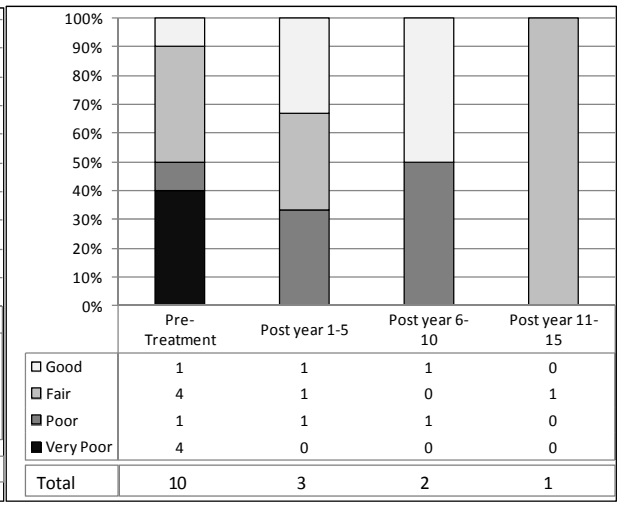


Figure 2.29: Deer winter range Desirable Components Index (DCI) summary by year of treated/disturbed sites for WMU 24, Mt. Dutton.

The only undisturbed study during the report period that has consistently remained in very poor condition is the Marshall Basin study, which has maintained a depleted browse component, and an herbaceous understory lacking in perennial forbs

The condition of disturbed and treated sites typically improves with increased time after disturbance on this unit. Mud Spring Chaining, Panguitch East Bench Harrow, and Cow Creek are the three studies that fit within this generalization. Mud Spring Chaining did not show immediate improvement in condition following treatment, and only reaching fair condition 11-15 years following treatment. Panguitch East Bench Harrow attained good condition 6-5 years following treatment, and Cow Creek's condition improved to good 1-5 years following treatment. All other remaining studies within the unit are within the pre-treatment sampling status. These study sites generally are still lacking in available browse and perennial forb species

The higher elevation upland and mountain sites that support Wyoming big sagebrush and mountain big sagebrush communities are generally considered to be in poor condition for deer winter range habitat on the Mt. Dutton management unit. These communities should have the potential to support robust shrub populations that provide valuable browse in mild and moderate winters; however, drought conditions have limited browse suitability as valuable winter range.

The low elevation semidesert black sagebrush communities are generally considered to be in good condition for deer winter range habitat on the unit. These communities support robust shrub populations that provide valuable browse in moderate to severe winters.

The lower elevation semidesert Wyoming big sagebrush communities that have not been disturbed are generally considered to be in good condition for deer winter range habitat on the unit. These communities support robust shrub populations that provide valuable browse in moderate to severe winters. However, these communities are prone to wildfire. Similarly to semidesert black sagebrush communities, the Wyoming big sagebrush communities respond slowly to wildfire, pinyon-juniper encroachment, and cheatgrass invasion and this should be taken into consideration when performing habitat rehabilitation projects.

Precipitation

Vegetation trends are dependent upon annual and seasonal precipitation patterns. Palmer Drought Severity Index (PDSI) data for the unit were compiled from the National Oceanic and Atmospheric Administration (NOAA) Physical Sciences Division (PSD) as part of the South Central division (Division 4).

The mean annual PDSI of the South Central division displayed years of moderate to extreme drought from 1989-1990, 2002-2003, and 2012-2013. The mean annual PDSI displayed years of moderate to extreme wet years from 1982-1985, 1997-1998, 2005, and 2011 (**Error! Reference source not found.**a). The mean spring (March-May) PDSI displayed years of moderate to extreme drought in 1989-1990, 1996, 2002-2004, and 2013; and displayed years of moderate to extreme wet years in 1982-1985, 1993, 1995, 1999, 2001, 2005, and 2011. The mean fall (Sept.-Nov.) PDSI displayed years of moderate to extreme drought in 1989-1990, 2002-2003, 2007, 2009 and 2012; and displayed years of moderate to extreme wet years in 1982-1985, 1997-1998, 2008 and 2011 (**Error! Reference source not found.**b) (Time Series Data, 2014).

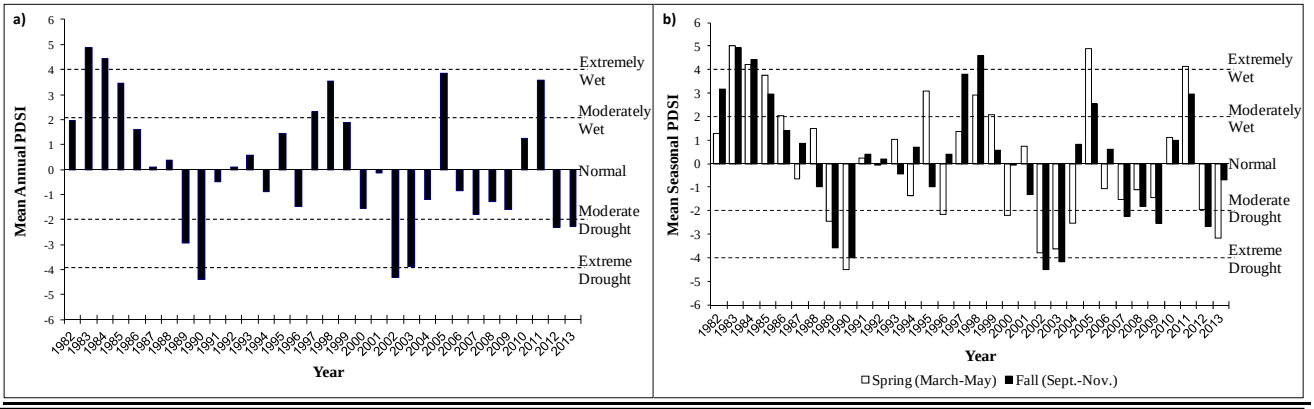


Figure **Error! No text of specified style in document.**.2: The 1982-2014l Palmer Drought Severity Index (PDSI) for the South Central division (Division 4). The PDSI is based on climate data gathered from 1895 to 2013. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is ≥4.0 = Extremely Wet, 3.0 to 3.9 = Very Wet, 2.0 to2.9 = Moderately Wet, 1.0 to 1.9 = Slightly Wet, 0.5 to 0.9 = Incipient Wet Spell, 0.4 to -0.4 = Normal, -0.5 to -.9 = Incipient Dry Spell, -1.0 to -1.9 = Mild Drought, -2.0 to -2.9 = Moderate Drought, -3.0 to -3.9 = Severe Drought and ≤-4.0 = Extreme Drought (Time Series Data 2014). a) Mean annual PDSI. b) Mean spring (March-May) and fall (Sept.-Nov.)(Time Series Data, 2014)

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.