DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit #26
(Kaiparowits combined with Plateau, Boulder #25C)
April 2015

BOUNDARY DESCRIPTION

Kane and Garfield counties - Boundary begins at the Paria River and the Utah-Arizona state line; north along the Paria River to SR-12; east on SR-12 to the Burr Trail at Boulder; southeast on the Burr Trail to Lake Powell; southwest along the shore of Lake Powell to the Utah-Arizona state line; west along this state line to the Paria River.

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

	Year-long range		Summer Range		Winter Range	
Ownership	**Area (acres)**	**%**	**Area (acres)**	**%**	**Area (acres)**	**%**
Forest Service	23185	52 %	0	0%	801	0%
Bureau of Land Management	18765	42 %	119564	94 %	559081	93 %
Utah State Institutional Trust Lands	640	1%	0	0%	34120	1 %
Native American Trust Lands	0	??	0	0%	0	0%
Private	2150	5 %	556	1%	22523	4%
Department of Defense	0	??	0	0%	0	0%
USFWS Refuge	0	??	0	0%	0	0%
National Parks	0	??	0	0%	5614	1 %
Utah State Parks	0	??	0	0%	2187	0%
National Recreation Area	0	??	6447	5 %	7013	1 %
TOTAL	44738	??	126567	100 %	600638	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 - Manage for a 5-year target population size of 1,000 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.

- This unit has scattered areas of deer habitat and does not support high numbers of deer.

	Objective from past plan (2001)	Long-term Objective	2006-2014 Objective	Change
Kaiparowits	1,000	1,000	1,000	0

- 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 in combination with the Plateau, Boulder unit (25C).

- 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.

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

- Harvest - The primary means of monitoring harvest will be through the statewide statewide harvest survey. Achieve the target population size by use of antlerless harvest using a variety of harvest methods and seasons. The winter population should result in an expected annual buck harvest of 140 when normal conditions occur, but recognize that buck harvest will be above or below what is expected due to climatic and productivity variables. Buck harvest strategies will be developed through the RAC and Wildlife Board process to achieve management objectives for buck:doe ratios.

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 - Extensive dry desert conditions exist. Limited data suggest annual fawn recruitment is low. Classification of deer on this unit is done with very low overall numbers. Forb production is low, especially on dry years. Large areas of Pinyon/Juniper trees are not productive. Water distribution is limited in some areas. Excessive habitat utilization will be addressed. This unit is almost entirely within the Grand Staircase Escalante National Monument (Monument), Glen Canyon National Recreation Area, and the Dixie National Forest (Canaan Mountain). Extensive federal Wilderness Study Areas (WSA) exist in this unit. Questions involving future management of habitat within the Monument or the WSAs are yet to be determined.

- 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.
  -Predation by mountain lions and coyotes is significant factor to population growth. Rugged topography makes normal harvest of predators difficult in most areas of unit. Incentives for increasing

mountain lion harvest may be helpful. The area is currently a harvest objective cougar unit.

- Highway Mortality – DWR will Cooperate with the Utah Dept. Of Transportation to construct highway fences, passage structures and warning signs etc if needed. A few kills are recorded on SR-12 each year.

- 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.

- Maintain critical fawning habitat in good condition. Fawn recruitment is a major concern on this unit and may be the single greatest factor limiting the population.

- Work with federal and state partners in fire rehabilitation and prevention on crucial deer habitat through the WRI process

HABITAT MANAGEMENT STRATEGIES

- Increase water for wildlife by re-modeling BLM livestock catchments to include year long water availability.

- Several areas within the Grand Staircase-Escalante National Monument need manipulation (fire, chaining, lop and scatter, etc.) to return vegetation to diversity and production.

Climate Data

The 30-year (1981-2010) annual precipitation PRISM model shows precipitation ranges between 5 to 7 inches at Capitol Reef, 10 to 12 inches at Boulder and Escalante on the southern border, and 25 to 30 inches on Boulder Mountain. All of the Range Trend and WRI monitoring studies on the unit occur between 7-24 inch precipitations zones (Map) (PRISM Climate Group, Oregon State University, 2013).

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. 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. (Time Series Data, 2014).
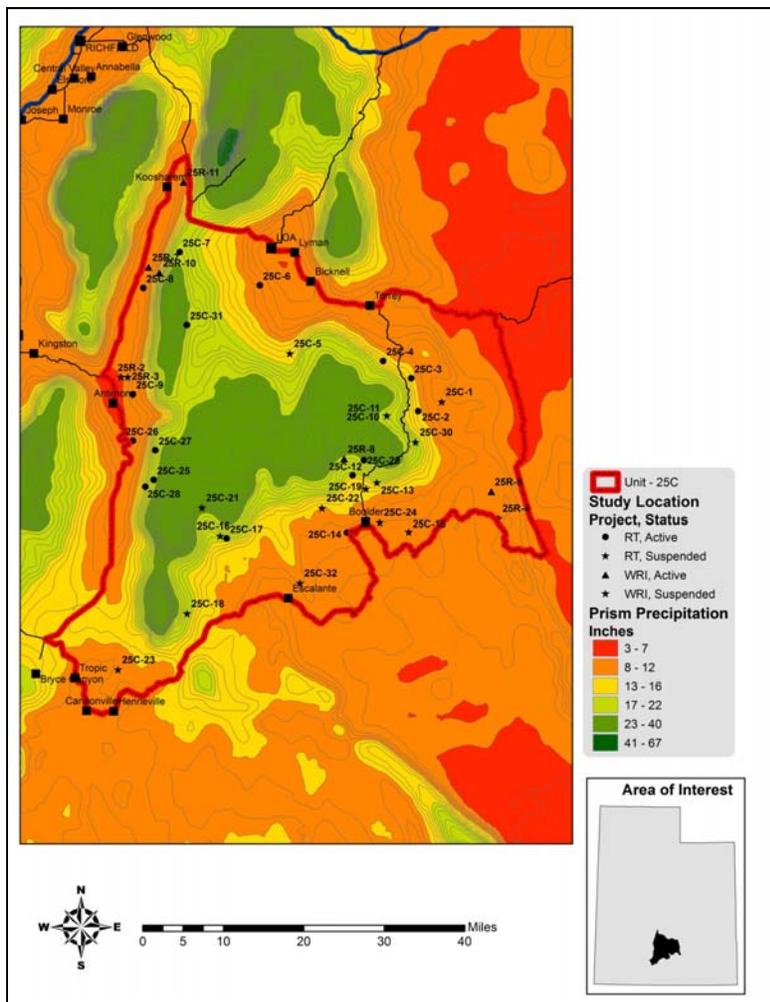
Map 2: The 1981-2010 PRISM Precipitation Model for WMU 25C, Boulder (PRISM Climate Group, Oregon State University, 2013)
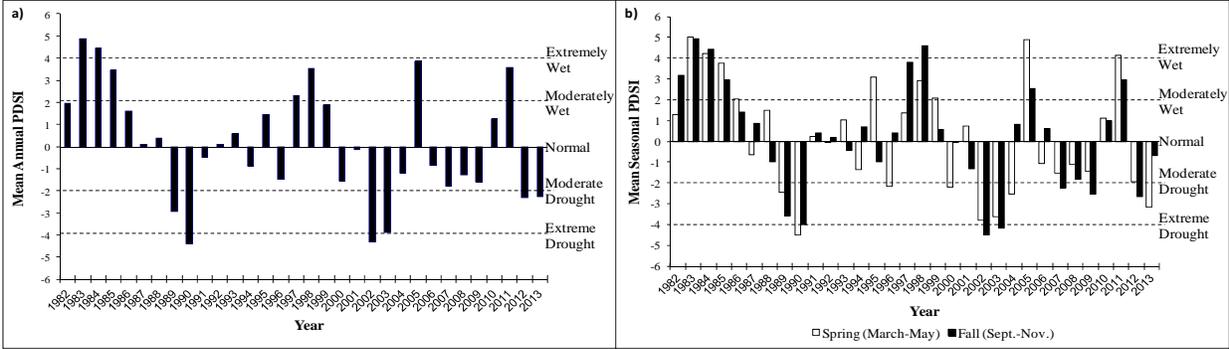
Figure.1: The 1982-2014l Palmer Drought Severity Index (PDSI) for the South Central division (Division 4). The PDSI is based on climate data gathered from 1895 to 2013. The PDSI uses a scale where 0 indicates normal, positive deviations indicate wet and negative deviations indicate drought. Classification of the scale is $\geq$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 $\leq$-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.