

DEER HERD UNIT MANAGEMENT PLAN
Deer Herd Unit # 10
Book Cliffs
October, 2016

BOUNDARY DESCRIPTION

Grand and Uintah counties—Boundary begins at Exit 164 on I-70 near the town of Green River; east on I-70 to the Utah-Colorado state line; north on this state line to the White River; west along this river to the Green River; south along this river to Swasey's Boat Ramp and the Hastings Road; south on this road to SR-19; south and east on SR-19 to Exit 164 on 1-70 near the town of Green River. **EXCLUDES ALL NATIVE AMERICAN TRUST LAND WITHIN THE BOUNDARY.**

LAND OWNERSHIP

RANGE AREA AND APPROXIMATE OWNERSHIP

Ownership	Yearlong range		Summer Range		Winter Range	
	Area (acres)	%	Area (acres)	%	Area (acres)	%
Forest Service	0	0%	0	0%	0	0%
Bureau of Land Management	145453	62%	160399	34%	899786	66%
Utah State Institutional Trust Lands	33770	14%	127776	27%	119242	9%
Native American Trust Lands	51816	22%	161229	35%	253474	19%
Private	4216	2%	9608	2%	90387	7%
Department of Defense	0	0%	0	0%	0	0%
USFWS Refuge	0	0%	0	0%	0	0%
National Parks	0	0%	0	0%	0	0%
Utah State Parks	0	0%	0	0%	0	0%
Utah Division of Wildlife Resources	0	0%	6518	1%	1689	0%
TOTAL	235255	100%	465531	100%	1364578	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.

POPULATION MANAGEMENT OBJECTIVES

- < Maintain a healthy mule deer population within the long term carrying capacity of the available habitat, based on winter range trend studies conducted by the DWR every five years.
- < Manage the deer population at a level capable of providing a broad range of recreational opportunities, including hunting and viewing.
- < Balance deer herd goals and objectives with impacts on human needs, such as private property rights, agricultural crops and local economies.

Target Winter Herd Size – Manage for a target population size of 15,000 wintering deer (modeled number) distributed in the following subpopulations:

Bitter Creek, Subunit 10A:	10,000
South, Subunit 10B:	5,000
Unit 10 Total:	15,000

(Subunit boundary descriptions are provided in the Appendix)

- < Herd Composition and Harvest – The Book Cliffs will be managed as a Limited Entry buck deer hunting unit, with a 3 year average postseason buck to doe ratio objective ranging from 25 to 35 bucks per 100 does. If buck to doe ratios are significantly different on the northern and southern subunits, hunting permits for the rifle season may be adjusted between subunits to better distribute hunter pressure and buck deer harvest. Furthermore, changes to season dates, hunt boundaries, and implementing creative hunt strategies may be explored to ensure that large disparities in buck to doe ratios on subunits are addressed, while maintaining quality on the unit.

POPULATION MANAGEMENT STRATEGIES

Monitoring

- < Population Size - Utilizing harvest data, postseason & spring classifications, and mortality estimates, a model has been developed to estimate winter populations. Wintering populations may be modeled separately for each subunit when appropriate.
- < Harvest - The primary means of monitoring harvest will be through the statewide uniform harvest survey. Buck harvest strategies are developed through the Statewide Deer Plan process and approved by the Wildlife Board to achieve management objectives for buck/doe ratios. A committee was formed to provide a strategy to harvest more bucks on the South Subunit of the Book Cliffs which had a higher buck/doe ratio than the North. The RAC and Wildlife Board accepted the committee's proposal to split the North and South subunits during the any weapon buck deer hunt. .

Strategies to address Limiting Factors:

- < Crop Depredation - Take all steps necessary to minimize depredation as prescribed by state law and DWR policy.
- < Habitat Changes - The vast expanse of the Book Cliffs herd unit is public land managed under a "multiple use" directive. In recent years increased energy development activities have and will

continue to contribute to substantial habitat losses and increasing habitat fragmentation. Development of mineral resources through traditional well pads and associated drilling and production facilities may negatively impact deer habitat quality and quantity through loss, disturbance and fragmentation. The paving of the Seep Ridge Road has increased habitat fragmentation and deer vehicle collisions. In addition to existing mineral lease activities, future development of tar sands and/or oil shale extraction activities pose a significant additional threat to deer habitat. The Book Cliffs deer herd is summer range limited and exhibits slower herd recovery following significant population declines. Proliferation of nonsystem roads and increasing ATV and OHV use compromises deer security and escape possibilities. Domestic cattle grazing outside of recognized grazing plan utilization levels and seasons may negatively impact deer forage availability and condition. Excessive habitat utilization will be addressed when observed. We will continue habitat improvement projects in critical habitat areas.

- < Predation - DWR will follow the strategies outlined in the predator management policy.
- < Highway Mortality - Cooperate with the Utah Department of Transportation and appropriate county road departments in construction of fences, crossing structures, and warning signs, especially in conjunction with the paving of the Seep Ridge Road.
- < Illegal Harvest - Support law enforcement efforts to educate the public concerning poaching and reduce illegal taking of deer. In cooperation with the Law Enforcement Section, develop specific preventative measures within the context of an Action Plan to prevent illegal harvest.

HABITAT MANAGEMENT OBJECTIVES

- < Maintain and/or enhance forage production through direct range improvements to support and maintain herd population management objectives.
- < Work with private landowners and federal, state, local and tribal governments to maintain and protect critical and existing ranges from future losses and degradation.
- < Provide improved habitat security and escapement opportunities for deer.
- < Mitigate impacts from energy development activities.
- < Minimize deer vehicle collisions along the Seep Ridge Road corridor.

HABITAT MANAGEMENT STRATEGIES

- < Continue to monitor permanent range trend studies located throughout the unit.
- < Conduct cooperative seasonal range rides and surveys to evaluate forage condition and utilization. Determining opportunities for habitat improvements will be an integral part of these surveys.
- < Work cooperatively to utilize grazing, prescribed burning and other recognized vegetative manipulation techniques to enhance deer forage quantity and quality.
- < Utilize antlerless deer harvest to improve or protect forage conditions when vegetative declines are attributed to deer over-utilization.
- < Cooperate with and provide input to land management planning efforts dealing with actions

affecting habitat security, quality and quantity.

- < Work with land management agencies and energy companies to minimize and mitigate impacts of energy development activities. Oil and Gas specific habitat biologists will lead this effort.
- < Continue to monitor deer survival in relation to the paving of the Seep Ridge Road and work to minimize deer vehicle collisions through fencing, crossing structures, signage, etc.

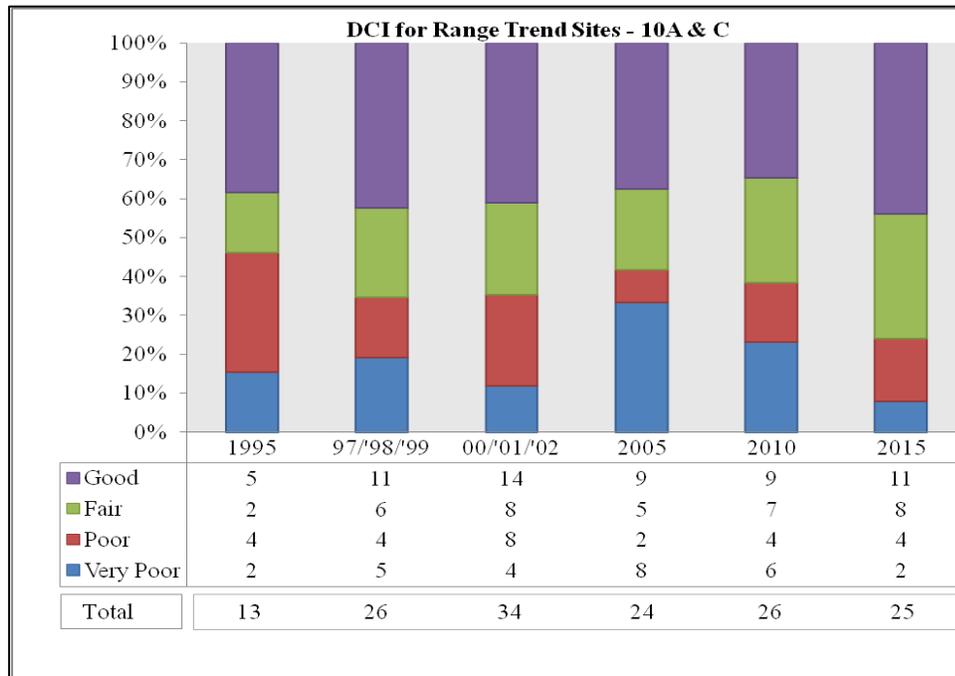
BOOK CLIFFS HABITAT PROJECTS COMPLETED AND PROPOSED

Completed Projects – 2011 through 2016

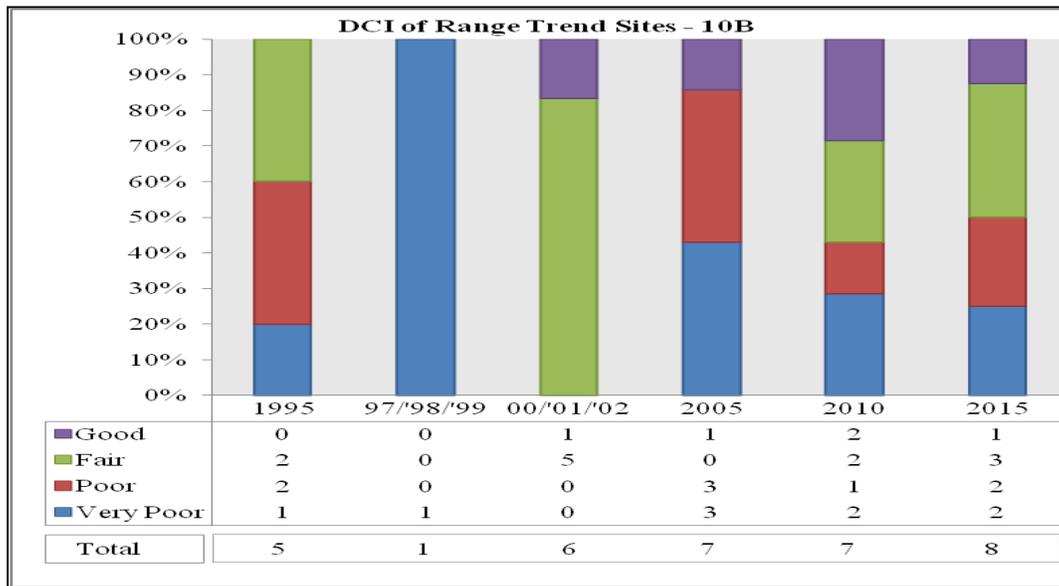
Project Name	Acres	Project Name	Acres
Little Creek Boundary Fence	0	Indian Springs Bullhog Maintenance	610
Meadow Creek Boundary Fence	0	Bookcliffs Aspen Exclosure Phase III	0
Book Cliffs Spring Protection and Enhancement	0	Bookcliffs Water Development	0
Bitter Creek Riparian Protection	0	West Bookcliffs Aspen Study	0
Seep Ridge Bullhog Phase II	389	Tom Patterson Rx Line Preparation	47
Seep Ridge Chaining	321	Atchee Ridge Guzzler Project	0
Indian Ridge Sagebrush	224	Little Creek WMA Guzzlers	0
Cedar Camp lop and scatter phase II	869	Monument Ridge Slashing	1,019
Moonshine Ridge Mountain Browse Enhancement	361	Book Cliffs Gobbler Guzzler Project	0
Boulevard Ridge Pinyon and Juniper Removal	392	Monument Ridge Bullhog	4,625
Bookcliffs Aspen Exclosures	0	Bottom Canyon Bullhog Phase II	415
Archy Bench Sagebrush Restoration	606	North Book Cliffs Wildlife Guzzler Project II	0
Buck Camp Canyon P-J Project	212	Wolf Den - Rector Ridge Fire Rehabilitation	2,228
Pine Springs bullhog phase II	494	Wolf Den Fire-Rainbow	525
Moon Ridge Chaining	540	Park Ridge bullhog maintenance	474
Little Jim Bullhog	668	Moonshine Bullhog Phase III	426
Moonshine Bullhog Phase II	619	Steer Ridge Lop and Scatter	566
Atchee Ridge Lop and Scatter Phase II	483	NER Pronghorn Guzzler Replacement	0
Book Cliffs Aspen Exclosures Phase II	0	Jack Trap Canyon	334
Seep Ridge Phase II/Bullhog Maintenance	7293	South Book Cliffs Vegetation Improvement Phase 3 (Hay Canyon)	458
Bitter Creek (South Books) Restoration Phase 1	1,130	South Book Cliffs Vegetation Improvement Phase 1	343
Bitter Creek (South Books) Restoration Phase 2	2,250		
South Book Cliffs Vegetation Improvement Phase 2	1,302		
Total Acres Treated			23,672

PERMANENT RANGE TREND SUMMARIES

In 2015 mule deer habitat range trend Desirable Conditions Indices were calculated for 22 permanent range trend sites on the North Book Cliffs and 7 permanent range trend study sites on the South Book Cliffs. On the North Book Cliffs 5 “High Potential” summer range sites were evaluated, 8 “Mid Potential” spring/fall transition range sites were evaluated, and 9 “low potential” winter range sites were evaluated. On the South Book Cliffs 7 “low potential” winter range sites were evaluated. These range trend studies show a general trend of stability over the last 10 years with the exception of browse availability on the South Book Cliffs which has declined. In addition, the forb component has generally declined in all these study sites as it has across much of Utah. Weather patterns are the driving force behind much of the trend in range conditions, but continued efforts to reduce pinion juniper monocultures, diversify plant communities, develop/protect limited water resources, increase vigor of browse communities and promote sustainable livestock grazing practices are critical.



Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 10A & C, North Book Cliffs.



Deer winter range Desirable Components Index (DCI) summary by year of Range Trend sites for WMU 10B, South Book Cliffs.

APPENDIX

Unit 10 Book Cliffs, South subunit

Grand County - Boundary begins at the Utah-Colorado state line and the summit and drainage divide of the Book Cliffs; west along this summit and drainage divide to Diamond Ridge; southwest along Diamond Ridge and the Book Cliffs summit (north-south drainage divide) to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sege Canyon); west along this boundary to the Green River; south along the Green River to Swasey boat ramp and Hastings Road; south along Hastings Road to SR-19; south and east along SR-19 to exit 164 of I-70;; east along I-70 to the Utah-Colorado state line; north along this state line to the summit and drainage divide of the Book Cliffs.

Unit 10 Book Cliffs, North subunit

Grand and Uintah counties -- Boundary begins at the Utah-Colorado state line and the White River; south along this state line to the Book Cliffs summit (north-south drainage divide); west along this summit and drainage divide to Diamond Ridge; southwest along Diamond Ridge and the Book Cliffs summit (north-south drainage divide) to the Uintah and Ouray Indian Reservation boundary (Hells Hole/head of Sege Canyon); west along this boundary to the Green River; north along the Green River to the White River; east along this river to the Utah-Colorado state line.