WILDLIFE MANAGEMENT UNIT 11B - NINE MILE/RANGE CREEK

Boundary Description

Carbon, Duchesne, and Emery counties - Boundary begins in Green River and Interstate 70; then west on I-70 to highway US-6; northwest on US-6 to Highway US-191; northeast on US-191 to the Argyle Canyon road; southeast on the Argyle Canyon road to the Nine-mile Canyon road; east on the Nine-Mile Canyon road to its end near Bull Canyon; then continuing along Nine-Mile Creek to the Green River; south along the Green River to I-70 and beginning point.

Herd Unit Description

Unit 11B contains the eastern portion of Carbon County, the northeastern part of Emery County, and a small piece of southern Duchesne County. This triangular unit encompasses the West Tavaputs Plateau, bounded by the Book Cliffs and Soldier Canyon on the west, the Price River-Duchesne River drainage divide on the north and Green River on the east. Topography is steep and rough. The major drainages are: Nine-Mile Creek, which drains Minnie Maude, Dry, Argyle, Cow, and Harmon Canyons into the Green River; Range Creek, which drains the east side; and Pace, Whitmore and Horse Canyons. Elevation ranges from 4,064 feet at Green River to 10,285 feet on Bruin Point. Communities within the unit include Helper, Price, Wellington, Sunnyside, East Carbon, and Green River.

Normal winter range below the 8,500 foot elevation completely encompasses the summer range. Severe winter range is limited to areas below 7,000 feet. On the east side of the unit, steep bare slopes limit use to the ridge tops and canyon bottoms along lower Nine-Mile Creek and the Green River. During severe winters, all deer wintering in these areas are forced into the canyon bottoms, usually causing heavy winter losses. Along the west side of the unit, from Soldier Creek Canyon east to Horse Canyon, access to the winter range is good. However, from Horse Canyon south, the Roan and Book Cliffs drop off sharply presenting major obstacles to deer migration and preventing use of much of the lower elevation range. Winter concentration areas include: Nine-Mile Creek, Rock House Cow Camp area, Cedar Ridge, Argyle Canyon, and Little Park.

During the summer of 1966, Coles and Pederson (1967) inventoried the deer winter range on the Range Creek unit. The overstory types identified were: pinyon-juniper (covering 89% of the winter range), sagebrush (3%), greasewood (3%), seedings (2%), and agricultural land (2%). Although the most extensive, the pinyon-juniper type is the least productive. This type averages 327 lbs/forage/acre and has been heavily grazed historically. The sagebrush-rabbitbrush and sagebrush-grass associations have also been intensely grazed, but with production of 942 lbs/acre and 381 lbs/acre respectively, these can be very important vegetation types on the winter range. With an estimated 1,498 lbs/acre, the greasewood-grass type is the most productive on the unit. However, this type is restricted to only canyon bottoms and the valley floors, and receives greatest use only during severe winters. Coles and Pederson (1967) concluded that overall forage production on the unit (winter range) was low due to the nature of the land, soils and native vegetation, and also past grazing abuses.

The unit presents several challenges to public land and wildlife managers. Since 75% of the summer range is private land, hunting access is limited and may become more restricted unless hunters are willing to pay trespass fees. Some of the ranches are privately managed for trophy hunting.

Grazing Summary

All of the study sites on the Range Creek deer herd unit occur on lands administered by the BLM or are privately owned. The 16 study sites on the unit occur in 6 different allotments. Sites at Deadman (11B-1) and Airport Bench (11B-2) occur in the Coal Creek allotment which is grazed by a total of 664 cows, 405 graze the allotment from April 16 to May 31 and 259 graze it from October 16 to 31. The Airport (11B-3) site occurs on

the Hayes Wash allotment, a winter and spring allotment, which is grazed by 61 cows for short periods between October 15 and May 31. Trend studies Coal Creek (11B-4), Dugout Creek Unchained (11B-17), Dugout Creek Sagebrush Chaining (11B-18), and Dugout Creek Pinyon-Juniper Chaining (11B-19) are in the Soldier Canyon allotment which is also a winter and spring allotment. Grazing occurs from November 1 to February 28 with 119 cows. Grazing is also permitted from March 1 to May 31. The studies 'B' Canyon (11B-5), East Carbon Burn 2 (11R-6), and East Carbon Burn 3 (11R-7) occur within the Mud Springs allotment. This allotment utilizes a four pasture deferred rotation schedule to graze 338 cows from October 15 to June 15.

Study sites Cottonwood (11B-7), Cedar Ridge (11B-9), Twin Hollow (11B-15) and Steer Ridge (11B-16) occur in the large Green River allotment. It consists of 8 pastures in which 500 cows graze from February 1 to April 15, 150 from March 16 to April 15, 750 from April 16 to May 31, and 1,110 from June 1 to October 15. A large herd of wild horses also uses this allotment.

Study site number 11B-14, Prickly Pear, is in the Stone Cabin allotment which utilizes a four pasture deferred rotation schedule to graze 350 cows from May 1 to September 30 and 6 horses from May 1 to September 30.

Cedar Corral (11B-8) was acquired by the Nutter Ranch and is part of the Nutter Ranch CWMU.

Big Game Trends

The management objectives in the 2001 management plan for the Range Creek portion of unit 11 are to maintain a wintering population of 8,500 deer (combined with unit 11A) with a herd composition of 15 bucks to 100 does. Thirty percent of these bucks are to be 2 point or better. Harvests have continually increased since the harsh winters of the mid 1980's when less than 400 bucks were harvested. Buck harvests ranged between 830 and 756 between 1988 and 1991, then dropped dramatically to 581 in 1992 and only 282 in 1993. This decline is due to the extremely harsh winter of 1992-93. In 1994, 316 bucks were harvested and 355 in 1996. The fawn/doe ratio has also declined from a high of 67 fawns/100 does in 1988-89 to only 34 in 1992-93. The ratio rebounded somewhat to 47 fawns/100 does in 1994-95, then dropped to only 25 in 1995-96. Wildlife management units Anthro and Range Creek were combined in 1998 into the Nine Mile management unit with the Anthro portion being subunit 11A and Range Creek subunit 11B. In 1997, 454 bucks were harvested, 583 in 1998, 358 in 1999, and 453 in 2000. Fawn/doe ratios for the entire unit were moderately high at 74 fawns/100 does in 1997-98, 69 in 1998-99, and 66 in 1999-2000.

Elk are present in the area in small but increasing numbers. Current management objectives are to maintain a winter herd size of 1,000 elk on the Range Creek subunit (1,700 with unit 11A) with a herd composition of 8 bulls to 100 cows. At least 4 of those bulls being 2 ½ years of age or older. Aerial counts in 1999 estimated 1,200 elk, which is above the management objective (BLM, 2000).

There is a portion of what once was the Icelander Wash pronghorn unit between the Book Cliffs and US Highway 6, which is now part of the Range Creek Wildlife Management unit. In 1972, 150 antelope were introduced to the area and then 165 more in 1982. Aerial counts have increased from 174 in 1977 to 1,022 in 1989 and 703 in 1995. The pronghorn numbers in 1998-1999 for units 11A and 11B were 580. Hunting was allowed in 1974 and permits have increased from 10 that year to 235 in 1999 for both units 11A and 11B. In 1997, 20 pronghorn were harvested in both units 11A and 11B, 42 in 1998, 50 in 1999, and 46 in 2000. Although only a small percentage of the herd is found east of Highway 6, that number is increasing with the rest of the herd. These increasing numbers of elk and antelope will necessitate continued monitoring of vegetation trend on the Range Creek unit.

Trend Study Site Establishment

Interagency Range Trend Studies were established on 16 sites within the Range Creek unit in June 1986. Of these, three were located on summer range and the remainder were placed on winter range. In 1994, three new winter range sites were added and four suspended after meetings with BLM and Division managers. During the 2000 season, 13 of the remaining 15 sites were reread and two old special study sites were reread. In 2005, two additional sites were suspended, three old special study sites at the Dugout Creek chaining were added to the rotation, and two other special study sites were read to finalize the 1997 roving data.

SUMMARY

WILDLIFE MANAGEMENT UNIT 11B - RANGE CREEK

Of the 13 trend study sites read in 2000, eleven were re-read in 2005. The sites Upper Cottonwood (11B-6) and Little Park Exclosure (11B-11) were not read this year. Five other sites were read this year, all of which were special study sites established in 1997. The sites Dugout Creek Unchained (11B-17), Dugout Creek Sagebrush Chaining (11B-18), and Dugout Creek Pinyon-Juniper Chaining (11B-19) were added to the regular rotation and had only been read in 1997. The sites East Carbon Burn 2 (11R-6) and East Carbon Burn 3 (11B-7) were read to finalize their special studies and had been read in 1997 and 2000. All sites sampled deer and/or elk winter ranges.

In 2000, the browse component on the majority of the studies in this unit showed negative characteristics due to drought. This trend continued in 2005 to a greater extent with decreases in sagebrush density observed. The herbaceous vegetation cover was very low in 2000, but typically increased with above normal precipitation in 2005. Of the trend studies read in 2005 (excluding new studies):

The key browse species mountain big sagebrush, Wyoming big sagebrush, and black sagebrush are of primary importance during the critical months of winter. These principal species have shown continuing increases in decadence and loss of plants. Their respective perennial understories have also shown similar downward changes. Mountain big sagebrush and Wyoming big sagebrush have showed similar increases in decadence and dying. However, Wyoming big sagebrush, which is of a lower site potential, has showed a more stable population density than mountain big sagebrush. Black sagebrush, which has had lower percent decadence and dying experienced the largest decrease in population density. The following series of values are averages listed in order of year sampled (1994 (or 1997 on some sites), 2000, and 2005). These values help illustrate best the differences between the two species of sagebrush. These averages are as follows:

- percent decadence... 10%, 20%, and 19% for mountain big sagebrush
- percent decadence... 15%, 20%, and 24% for Wyoming big sagebrush
- percent decadence... 8%, 9%, and 13% for black sagebrush
- percent dying..... 1%, 8%, and 9% for mountain big sagebrush
- percent dying..... 6%, 9%, and 10% for Wyoming big sagebrush
- percent dying..... 2%, 2%, and 2% for black sagebrush
- population changes. 3,224 (1994) and 2,760 plants/acre for mountain big sagebrush (-14% change)
- population changes. 2,363 (1994) and 2,593 plants/acre for Wyoming big sagebrush (+10% change)
- population changes. 8,295 (1994) and 4,130 plants/acre for black sagebrush (-50% change)

The perennial herbaceous understories associated with mountain big sagebrush and Wyoming big sagebrush have similar downward trends with regard to the site potentials of the two sagebrush subspecies communities. Black sagebrush, on the other hand, has showed a decrease in perennial forbs, but an increase in perennial grasses. The following values show percent change in nested frequency for perennial grasses and forbs for the three sagebrush from 1994 (1997) and 2005:

- percent change for perennial grasses..... -14% for mountain big sagebrush
- percent change for perennial grasses..... -7% for Wyoming big sagebrush
- percent change for perennial grasses..... +24% for black sagebrush
- percent change for perennial forbs..... -32% for mountain big sagebrush
- percent change for perennial forbs..... -30% for Wyoming big sagebrush
- percent change for perennial forbs..... -19% for black sagebrush

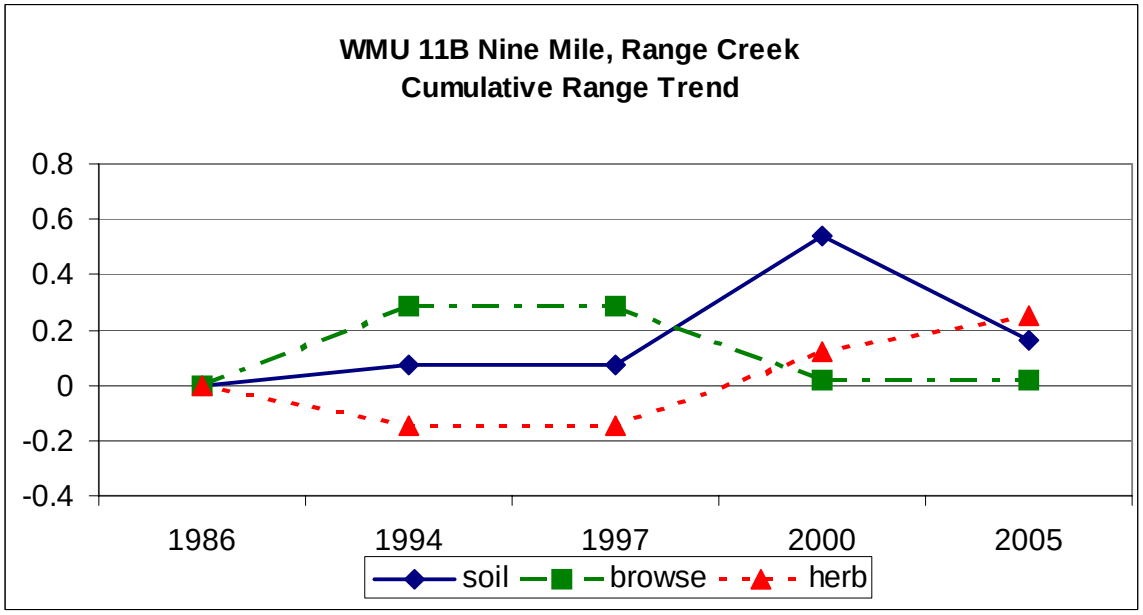
Cheatgrass can greatly effect the sagebrush community when present. It was sampled on 8 study sites in 2005, 3 of which were sampled for the first time in 2005 (1 Wyoming big sagebrush and 2 black sagebrush sites). The following is information concerning cheatgrass:

- Four of the 10 studies under 7,000 feet have cheatgrass
- Four of the 6 studies over 7,000 feet have cheatgrass
- Cheatgrass was sampled on 3 Wyoming big sagebrush and 3 black sagebrush studies
- The other 2 sites were mountain big sagebrush and mountain browse studies
- 50% of those with cheatgrass show a significant increase of cheatgrass nested frequency since 2000

The soil trends were down or slightly down on 4 of the 16 sites (25%), the others were all stable in 2005. The browse trends were down or slightly down on 6 of the 16 sites sampled in 2005 (38%). Herbaceous trends were down on 5 of the 16 sites (31%). However, due do the extremely dry conditions, sum of nested frequency of perennial forbs declined on 10 of the 13 sites (77%).

Cumulative Range Trends -- WMU 11B Nine Mile, Range Creek

	1986	1994	1997	2000	2005
soil	0	0.1	0.1	0.5	0.2
browse	0	0.3	0.3	0.0	0.0
herb	0	-0.1	-0.1	0.1	0.2
	12 sites	14 sites	5 sites	15 sites	16 sites



TREND SUMMARY

	Category	1986	1994	2000	2005
11B-1 Deadman	soil	est	-2	0	0
	browse	est	0	-2	-1
	herbaceous understory	est	-2	0	-2
11B-2 Airport Bench	soil	est	-1	+1	0
	browse	est	-1	-1	+1
	herbaceous understory	est	-1	+1	-2
11B-3 Airport	soil	est	-1	0	0
	browse	est	0	+2	+2
	herbaceous understory	est	0	0	-2
11B-4 Coal Creek	soil	est	0	0	0
	browse	est	+2	+2	-2
	herbaceous understory	est	+2	+2	+2
11B-5 ‘B’ Canyon	soil	est	0	-2	-1
	browse	est	0	-2	0
	herbaceous understory	est	0	+2	0
11B-6 Upper Cottonwood	soil	est	+1	0	NR
	browse	est	-1	0	NR
	herbaceous understory	est	+1	0	NR
11B-7 Cottonwood	soil	est	+1	+1	0
	browse	est	0	0	-2
	herbaceous understory	est	+1	0	0
11B-8 Cedar Corral	soil	est	0	+1	0
	browse	est	+1	0	-2
	herbaceous understory	est	-1	-1	-1
11B-9 Cedar Ridge	soil	est	+1	+1	0
	browse	est	+2	0	0
	herbaceous understory	est	0	0	+1

(-2) = down, (-1) = slightly down, (0) = stable, (+1) = slightly up, (+2) = up
est = site established, NR = site not read

	Category	1994	2000	2005
11B-10 Upper Little Park	soil	+1	NR	NR
	browse	+2	NR	NR
	herbaceous understory	-2	NR	NR
11B-11 Little Park Exclosure	soil	est	+1	NR
	browse	est	-1	NR
	herbaceous understory	est	+1	NR
11B-12 Williams Draw	soil	est	NR	NR
	browse	est	NR	NR
	herbaceous understory	est	NR	NR
11B-14 Prickly Pear	soil	est	0	0
	browse	est	0	0
	herbaceous understory	est	-2	-1
11B-15 Twin Hollow	soil	est	0	0
	browse	est	0	-1
	herbaceous understory	est	-2	+1
11B-16 Steer Ridge	soil	est	0	0
	browse	est	-2	+2
	herbaceous understory	est	0	-1
	Category	1997	2000	2005
11B-17 Dugout Creek Unchained	soil	est	NR	-2
	browse	est	NR	-1
	herbaceous understory	est	NR	0
11B-18 Dugout Creek Sagebrush Chaining	soil	est	NR	0
	browse	est	NR	+2
	herbaceous understory	est	NR	+2
11B-19 Dugout Creek Pinyon-Juniper Chaining	soil	est	NR	0
	browse	est	NR	+2
	herbaceous understory	est	NR	+1

(-2) = down, (-1) = slightly down, (0) = stable, (+1) = slightly up, (+2) = up
est = site established, NR = site not read

	Category	1997	2000	2005
11R-6 East Carbon Burn 2	soil	est	+2	-2
	browse	est	0	0
	herbaceous understory	est	+1	+2
11R-7 East Carbon Burn 3	soil	est	+2	-1
	browse	est	0	0
	herbaceous understory	est	+2	+2

	Category	1994	1997	2000	2005
Average Range Trend	soil	0.1	0.0	0.5	-0.4
	browse	0.3	0.0	-0.3	0.0
	herbaceous understory	-0.1	0.0	0.3	0.1
Number of sites read		14	5	15	16

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est = site established, NR = site not read

Precipitation graphs for the Anthro and Range Creek units. Data is percent of normal precipitation averaged for weather stations in Sunnyside, Wellington, and Duchesne (Utah Climate Summaries 2005).