

**ELK USE AND CATTLE GRAZING IN WEST WILLOW AND SHE CANYON
BOOK CLIFFS ROADLESS AREA**

Roger E. Banner

October 6, 2009

Greg Cunningham, Bill Cunningham, Stan Baker, and I placed utilization cages at 12 locations in She Canyon and West Willow in late July 1990. I also took photos at each location so repeat photography would be possible. Cages were placed and photos were taken after the cattle had been moved out of the canyons to the higher country. In late September 1990, Greg and I returned to take photographs and to clip paired plots. Later, I dried and weighed the samples. We did this in order to estimate the amount of elk use occurring on regrowth in the canyon bottoms. Greg and I encountered numerous elk in She Canyon and West Willow in July and September 1990. In September we encountered numerous elk wallows in the canyon bottoms as well. Bill and Greg wanted information so they would know how their private land contributed to the elk forage (regrowth) use and habitat. They did not feel they were being fairly treated in terms of receipt of landowner elk permits when permits were based on acreage, not contribution to elk forage and habitat. Since this was only a partial estimate of elk use of the private land, we had planned to try and estimate elk use at these 12 locations prior to cattle grazing in 1991. As it turned out, the summer of 1990 was the last summer the Cunninghams grazed cattle in the Roadless Area. So, the photos taken in July and September 1990 depict how the area looked after the last formal cattle grazing took place in the Roadless Area 19 years ago. Estimated elk use of regrowth is presented in Table 1.

Table 1. Utilization Estimates: She Canyon (9-26-1990) and West Willow Creek (9-25-1990) - Paired Plots						
Clipping Date	Site #	Location	Caged Plot ADW #/ac	Uncaged Plot ADW #/ac	Difference ADW #/ac	Utilization %
9/25/90	11	Clear Creek	1895	829	1066	56%
9/25/90	10	West Willow	1658	1066	592	36%
9/25/90	9	Supply Canyon	1658	1421	237	14%
9/25/90	8	Steamboat Rock	1421	948	474	33%
9/25/90	7	W. Willow Fence	1185	829	355	30%
9/26/90	6	Byron's	3672	2014	1658	45%
9/26/90	5	Rope 'em up Flat	1777	829	948	53%
9/26/90	4	Fish Creek	1895	948	948	50%
9/26/90	3	Big Meadow	2724	948	1777	65%
9/26/90	2	Deep Wash	2487	1185	1303	52%
9/26/90	1	Riviguts	1895	1066	829	44%
9/26/90	12	Head She Canyon	1895	829	1066	56%
TOTALS			24162	12912	11,253	47%
MEANS			2,014	1,076	938	47%

Averages for all Canyon Bottom Locations (12 Paired Plots):

Standing Crop Inside Cage at Clipping = 2,014 #/ac Air Dry Herbage
 Standing Crop Outside Cage at Clipping = 1,076 #/ac Air Dry Herbage
 Estimated Elk Use = 938 #/ac Air Dry Herbage or 1.17 AUMs/ac
 % Utilization of Regrowth by Elk = 938 # divided by 2014 # = 47%

Averages for West Willow Creek Drainage Subset (5 Paired plots):

Standing Crop Inside Cage at Clipping = 1,564 #/ac Air Dry Herbage
 Standing Crop Outside Cage at Clipping = 1,019 #/ac Air Dry Herbage
 Estimated Elk Use = 545 #/ac Air Dry Herbage or 0.68 AUMs/ac
 % Utilization of Regrowth by Elk = 545# divided by 1,564# = 35%

Averages for She Canyon Drainage Subset (7 Paired Plots):

Standing Crop Inside Cage at Clipping = 2,335 #/ac Air Dry Herbage
 Standing Crop Outside Cage at Clipping = 1,117 #/ac Air Dry Herbage
 Estimated Elk Use = 1,218 #/ac Air Dry Herbage or 1.52 AUMs/ac
 % Utilization of Regrowth by Elk = 1,218# divided by 2,335# = 52%

Rainfall measured at Bogart during the summer of 1990 is presented in Table 2.

**Table 2. 1990 SUMMER PRECIPITATION
 DATA: BOGART**

Date	Inches	Date	Inches
Uncaged		Caged	
2/29/90	0.75	8/13/90	0.30
6/1/90	0.25	8/16/90	0.40
6/11/90	1.00	8/20/90	0.30
7/7/90	0.75	8/30/90	0.10
7/8/90	0.20	9/2/90	0.55
7/9/90	0.20	9/3/90	0.10
7/16/90	1.25	9/9/90	0.60
7/19/90	0.20	9/18/90	0.90
7/24/90	0.24	9/24/90	0.25
TOTAL	4.84		3.50

I returned to the Roadless Area with Cory Vetere, Randy Campbell, and Tate Jensen in late July 2009 to find each of the 12 locations and repeat the photographs. We did not see any elk and very little, if any, sign in 2½ days going into Bogart, down She Canyon and East Willow, up West Willow, and out to the parking area. What little sign we saw was old. The vegetation showed virtually no sign of utilization. As the photographs show, the bottoms are now dominated by dense stands of perennial grasses and a fair amount of weeds including large amounts of coarse vegetation such as Basin Wildrye. There is also a great deal

of accumulated litter. It is apparent that elk are not using the canyon bottoms to a significant extent and have not for some time.

The message is clear that the cattle grazing that occurred during the Cunningham period of private land ownership and permitted use of the Roadless Area State Land Block was not competitive with elk. Rather, it was complementary for elk. After all, that was the period of rapid expansion of the elk herd in the Book Cliffs. This is because managed cattle grazing systematically conditioned fresh forage growth and regrowth used by elk. Fresh growth and regrowth forage is highly nutritious and far superior to the coarse accumulated mature vegetation and general biomass available to elk as is shown by the low preference for use of the canyon bottoms by elk in 2009. Elk alone cannot do what cattle do to condition the forage. First, they are not managed so they cannot be contained to produce a desired result in any given area. Since they use preferred plants and places first, their use is distributed over a much larger area than managed cattle grazing. Gradually the preferred areas used get smaller and unused areas become larger until essentially the entire area is converted to forage low in nutrition that is not preferred as the elk move on to forage in areas where more nutritious forage is available.

The following series of photos taken at the 12 locations provides some evidence to support these observations.

Location #1: Rivigits
Late July 1990



Late September 1990



Late July 2009



Location #2: Deep Wash
Late July 1990



Late September 1990



Late July 2009



Location #3: Big Meadow
Late July 1990



Late September 1990



Late July 2009



Location #4: Fish Creek
Late July 1990



Late September 1990



Late July 2009



Location #5: Rope'em Up Flat
Late July 1990



Late September 1990



Late July 2009



Location #6: Byron's
Late July 1990



Late September 1990



Late July 2009



Location #7: Lower West Willow Fence
Late July 1990



Late September 1990



Late Jul 2009



Location #8: Steamboat Rock
Late July 1990



Late September 1990



Late July 2009



Location #9: Supply Canyon
Late July 1990



Late September 1990



Late July 2009



Location #10: West Willow
Late July 1990



Late September 1990



Late July 2009



Location #11: Clear Creek
Late July 1990



Late September 1990



Late July 2009



Location #12: Head of She Canyon
Late July 1990



Late September 1990



Late July 2009

