APPENDIX K: METHODOLOGY FOR ASSESSING RANCH RELATED ECONOMIC IMPACTS

Each M or I allotment was matched with the respective ranch operation. Some ranch operations may have more than one public grazing allotment. These operations are listed by record number in Appendix B.

There are a total of 66 operations in the M or I categories with public grazing lands. This analysis includes all 66 operations. These operations were placed into four ranch size classes based on total acreage. The small operation size is 0 to 3,500 acres, the medium size operation ranges from 9,001 to 14,000 acres and very large operations are 14,001 acres and above. The dependency of an operation is the quotient of acres of public land and acres of total land expressed as a percentage. Four dependency groups were established: 0-15%, 16% to 30%, 31% to 45%, and 46% and greater. The operations were placed in the appropriate strata of size class and dependency group.

Each alternative, except, which has no change, was reviewed to determine the number of ranches that may possibly have a change in AUMs. Changes occurred only in the long term. For each alternative, the number of operations that have an increase, decrease or no change are calculated. (See Tables K-1 through K-4.)

To determine the magnitude of change, the percentage change in AUMs was multiplied by the percent dependency on public lands. All changes over 10 percent were considered significant. All other reductions or increases are considered insignificant. The results are presented in the text for each alternative.

Gross revenue analysis has been based on $400 per animal unit. This value was derived from 1982 Census of Agriculture data for South Dakota.

Net revenue is the difference between total revenue and total costs. Net revenue can be estimated by developing budgets of total revenues and costs for typical ranch operations. Net analysis in this document uses the concept of ranch income. Ranch income is gross revenues minus cash costs and depreciation. This represents the returns to a ranch operator for family labor, entrepreneurial skill and investment. For ranch budgets developed for the region, average ranch income ranges between approximately $40 and $120 per brood cow.

It is difficult to project how individual operators would respond to a change in BLM AUMs. However, it will be assumed that the ranch income associated with BLM AUMs is approximately $10 per AUM.

TABLE K-1

ALTERNATIVE PREFERRED DEPENDENCY

Operation	Ft. Meade			0 to 15%			16 to 30%			31 to 45%			46% and greater		
	—	0	+	—	0	+	—	0	+	—	0	+	—	0	+
Small		1						2	5	2		1	1		3
Medium		1			1	1	4	4	7	3					
Large					5	2	2	1	1			1			1
Very Large				3		1	4	1	4	1			1	1	1

0 = No Charge

Source: BLM, 1985

TABLE K-2

ALTERNATIVE B DEPENDENCY

Operation	Ft. Meade			0 to 15%			16 to 30%			31 to 45%			46% and greater		
	—	0	+	—	0	+	—	0	+	—	0	+	—	0	+
Small			1						6	3		1	1		3
Medium			1	1		2	10		5	1		1			
Large				4		4	3			1				1	
Very Large				3		1	6		3	1			2		1

0 = No Charge

Source: BLM, 1985

TABLE K-3

ALTERNATIVE C DEPENDENCY

Operation	Ft. Meade			0 to 15%			16 to 30%			31 to 45%			46% and greater		
	—	0	+	—	0	+	—	0	+	—	0	+	—	0	+
Small			1						6			4	1		3
Medium			1	1		2	5		9	2		1			
Large				2		6	2		1			1			1
Very Large				3		1	4		5	1			2		1

0 = No Charge

Source: BLM, 1985

TABLE K-4

ALTERNATIVE D DEPENDENCY

Operation	Ft. Meade			0 to 15%			16 to 30%			31 to 45%			46% and greater		
	—	0	+	—	0	+	—	0	+	—	0	+	—	0	+
Small			1						6	2		2	1		3
Medium			1	1		2	5		9	2		1			
Large				2		5	2		2			1	1		
Very Large				3		1	5		4				3		1

0 = No Charge

Source: BLM, 1985