APPENDIX 12

METHODOLOGY FOR THE ECONOMIC AND SOCIAL ANALYSIS

Minerals Analysis

The oil shale related economic impacts are based upon the aggregate production and impacts from the Tosco, Magic Circle, Syntana, and Paraho oil shale projects, described in the Uintah Basin Synfuels Development EIS 1982; and adjusted by the oil shale production estimates for various management actions that were developed for this RMP.

The tar sands related economic impacts were based upon the production and impact estimates for the PR Spring special tar sands area described in the Utah Combined Hydrocarbon Regional Tar Sands EIS, and adjusted by the production estimates resulting from the various management actions that were developed for this RMP.

Each EIS's impact estimates were adjusted using the following ratio:

$$\frac{\text{Production estimate resulting from a management action}}{\text{Production estimate in the EIS}}$$

The resulting population estimates are given in Table 12-1 of this Appendix.

Wildlife/Recreation Analysis

The number of days associated with hunting and recreational permits in the BCRA was established by the Vernal District Outdoor Recreation Planner in conjunction with the Utah Division of Wildlife Resources.

Expenditure information for recreation visits was calculated from Outdoor Recreation in Utah: The Economic Significance (Utah State University 1982).

Forage Analysis

The Economic Statistics and Cooperative Service (ESCS), U.S. Department of Agriculture, collected rancher economic data for the USFS and BLM in 1979.

The forage and season of use in the Diamond Mountain Resource Area (DMRA) is similar to that of the Book Cliffs Resource Area (BCRA) and the two resource areas have 6 livestock operators in common. Because of the lack of budgets specific to the BCRA, and the similarities of resource and livestock operations between the 2 resource areas, the DMRA budgets and linear programming results were applied to the BCRA. Although operations in the BCRA tend to be slightly larger, and the analysis is one year old, this and other dissimilarities were not judged to be significant enough to invalidate the analysis.

Producers using BLM forage in the Diamond Mountain Resource Area (DMRA) were stratified according to herd size, season of Federal rangeland use, and dependency on Federal lands for grazing. Average costs and returns for producers in these strata were first based upon U.S. Department of Agriculture cost of production survey data for a broad geographic area including the BCRA.

To reflect local conditions, the survey data were adjusted through local producers' panels, extension specialists, lending institutions, and universities. The final ranch budgets for the DMRA are shown in Tables 12-2, 12-3, 12-4, and 12-5 of this Appendix.

Based upon these ranch budgets, a linear programming model was developed for each rancher strata. Models were set up to maximize net income based on a series of production parameters and constraints. The amount of grazing on public lands enters the model at a constrained level equal to that used by each of the typical ranches. The BLM forage constraints were then varied to see how the typical profit-maximizing ranches would adjust to these changes. Average costs, returns, herd size, and hired labor requirements were then computed by rancher strata for 10 through 30 percent increases in available public land forage, and 10 through 50 percent decreases in available public land forage. The results of this modeling are shown in Tables 12-6, 12-7, 12-8, and 12-9 of this Appendix.

Operators in the BCRA were grouped into the same strata used in the linear programming models. Each ranch has a unique set of characteristics affecting its operation which cannot be fully represented by a ranch model. However, the ranch models can be used to estimate the aggregate impacts of changing the allocation of public land forage to those ranches in each stratum.

Impacts were estimated assuming that those operations using less than 90 percent of their full active preference would continue grazing at their 5-year average licensed use. Therefore, only when a management action reduced the level of use below an operator's 5-year average was a decrease in income recorded. This assumption tends to underestimate the rancher impacts of each alternative. Increases in forage use were recorded either when a management action would increase the forage allocated to an operator, using 90 percent or more of active preference, or anytime when a range improvement would increase available livestock forage.

The changes in forage availability were evaluated by assuming that the changes would be uniform throughout the existing period of use. Changes in season of use constrain the periods that operators can use public forage. These changes were not evaluated by ESCS or through linear program modeling. The proposed changes in season of use most consistently exclude grazing during some periods in the spring (March through May). Spring is also the period when ranchers have the fewest alternative sources of forage.

The average licensed use that would be excluded during the spring under each alternative was estimated for all operators. This figure was adjusted for each alternative according to the herd size change predicted by the linear programming model. To calculate the worst-case impact of these changes, it was assumed that this forage loss would be replaced with alfalfa hay produced at $60 per ton. It was further assumed that an animal unit month (AUM) of public forage supplied to a typical herd combination during the spring would have to be replaced with 730 pounds of alfalfa hay.

Changes in hired labor requirements were computed using the predicted expenditures for hired labor and the average income for farm laborers in Uintah County.

Direct operator income changes were calculated using linear programming estimated returns above cash cost. Indirect and induced income changes were calculated using an input-output model for Uintah-Duchesne Counties. Returns above cash cost were not used to measure induced effects, since induced impacts are determined by reportable income, which is less than returns above cash costs. Reportable income was measured from changes in livestock sales and the income-to-sales ratio in the input-output model. Indirect and induced effects were, therefore, based on changes in sales that would result from each alternative.

Although BLM does not recognize a capitalized value for grazing preferences, the market does recognize such a capitalized value whenever grazing fees are lower than their economic value (Gardner 1962). Grazing fees represent a minimum value for public forage; however, the grazing fee is not determined through the market, and it is generally agreed that the fee is lower than it's true economic value (USDA, USDI 1977). Although there are numerous restrictions preventing the outright sale of permits, those in the livestock business sometimes mention grazing permit sales, and although the prices are highly variable, they are generally near the $40 to $80/AUM price range. Although forage quality, season of use, and added services rendered make comparisons between BLM forage and privately leased forage questionable, private lease rates still provide one of the best measures of annual value. Utah's private lease rate averaged $7.24 per AUM in 1982 (USDA 1983). There are a number of other indications that the value of public forage in the BCRA is close to $7.24 per AUM figure (Gee 1981, USFS 1980). With an annual permit value of $7.24, a 5-year average grazing fee of $1.96 (1979-1983) and a discount rate of 7 7/8, economic theory suggests that permit values would be $69 per AUM.

Social Analysis

The existing social conditions of communities and groups in the affected area was obtained from various published and unpublished sources. The attitudes of various groups towards each issue was obtained from the resource area specialists. These specialists live in the affected area and have worked and dealt with members of those groups who have major interest

in the issues. Precise representation of the communities was not possible through this information gathering technique; however, major social concerns and effects were identified for each issue.

Appendix 12, Table 12-1
Baseline, Interrelated and BLM Related Population Growth
By Alternative

	1980	1985		1990		1995		2000		Resource Protection Alternative				Commodity Production Alternative				Balanced Use Alternative			
		Base	Other	Base	Other	Base	Other	Base	Other	1985	1990	1995	2000	1985	1990	1995	2000	1985	1990	1995	2000
Duchesne	12,565	17,778	4,965	18,632	9,542	18,684	12,333	18,292	14,910	0	1,181	1,900	1,900	0	2,575	4,135	4,135	0	2,049	3,296	3,296
Roosevelt CCD	9,714	13,695	4,897	15,057	9,404	15,005	12,190	14,636	14,701	0	1,169	1,881	1,881	0	2,549	4,093	4,094	0	2,029	3,263	3,263
Roosevelt	3,842	5,416	3,428	5,995	6,582	5,934	8,533	5,789	10,291	0	814	1,311	1,311	0	1,759	2,824	2,825	0	1,414	2,274	2,274
Myton	500	705	171	775	329	773	427	754	515	0	35	57	57	0	53	85	85	0	61	99	99
Unincorp. Area	5,372	7,574	1,298	8,287	2,493	8,298	3,230	8,093	3,895	0	318	513	513	0	737	1,184	1,184	0	554	890	890
Duchesne & S & N Duchesne CCD	2,851	4,083	68	3,575	138	3,679	143	3,656	209	0	12	19	19	0	26	42	40	0	20	33	33
Uintah	20,506	25,730	18,940	29,326	34,690	29,863	44,174	28,985	52,445	0	8,020	12,923	12,923	0	17,520	28,127	28,127	0	13,942	22,425	22,425
Uintah-Ouray CCD	4,338	5,061	445	5,699	830	5,730	926	5,565	1,027	0	160	258	258	0	526	562	562	0	418	449	449
Ballard	558	775	223	966	416	976	464	926	514	0	80	129	129	0	175	281	281	0	139	224	224
Unincorp. Area	3,780	4,286	222	4,733	414	4,754	462	4,639	513	0	80	129	129	0	351	281	281	0	279	225	225
Vernal CCD	16,168	20,653	13,858	23,611	32,011	24,117	43,041	23,404	51,209	0	5,774	12,406	12,535	0	12,614	27,002	27,283	0	10,038	21,528	21,752
Vernal	6,600	9,291	6,165	11,065	13,918	11,369	18,786	10,941	22,328	0	2,566	5,557	5,686	0	5,606	12,095	12,376	0	4,461	9,642	9,867
Unincorp. Area	9,568	11,362	12,330	12,546	19,942	12,748	24,462	12,463	29,090	0	3,208	6,849	6,849	0	7,008	14,907	14,907	0	5,577	11,886	11,885
Bonanza*		16	4,637	16	1,849	16	207	16	209	0	2,086	259	130	0	4,380	563	280	0	3,486	448	224
Moffat-Rio Blanco		24,255	1,176	28,345	3,004	27,646	3,837	28,144	4,518	0	281	425	452	0	613	984	984	0	488	775	775
Dinosaur	410	501	517	405	1,367	425	1,744	437	2,055	0	124	187	187	0	343	551	551	0	215	440	440
Rangely	2,614	3,193	659	3,993	1,637	3,805	2,093	3,962	2,463	0	157	238	238	0	270	433	433	0	273	335	335
Grand	8,241	9,850	691	10,570	834	10,324	915	9,676	919	0	155	1,156	441	0	830	6,215	2,372	0	522	3,916	1,494
Thompson CCD	326	380	691	366	834	366	915	365	919	0	155	1,156	441	0	830	6,215	2,372	0	522	3,916	1,494
Moab CCD	7,915	9,470	-	10,204	-	9,958	-	9,311	-	0	-	-	-	0	-	-	-	0	-	-	-
Daggett Co., Utah & Mesa Co., Colo.			1,510		1,198		1,731		2,185	0	193	410	410	0	424	987	987	0	340	760	760

Note: Daggett County, Utah and Mesa County, Colorado are not within the affected area as the term is used in the text.

*Bonanza does not correspond with any official census area, but is roughly the area delineated by the BCRA.

Ranch Budgets

APPENDIX 12, TABLE 12-2

Average Costs and Returns for Small Beef Herds (0-99 Cows)

Item	Unit	Number	Average Weight	Price Cwt	Total Value
Sales:					
Steer Calves	Head	20	390	$86.13	$ 6,718
Heifer Calves	Head	10	375	77.49	2,906
Yearling Steers	Head	--	--	--	--
Yearling Heifers	Head	3	650	65.47	1,277
Cull Cows	Head	6	850	41.27	2,105
Total					13,006
Total Per Cow					250

Cash Costs:	Value/Cow	Total Values
BLM Grazing Fee	$ 7.85	$ 408
Forest Grazing Fee	6.12	318
Private Range Lease/Rent	9.97	518
State Lease	1.26	65
Hay (produce)	13.57	706
Hay (purchase)	--	--
Protein Supplement	--	--
Irrigated Pasture	5.50	286
Salt and Mineral	1.40	73
Concentrate Feeds	--	--
Veterinary and Medicine	3.75	195
Hired Trucking	3.83	199
Marketing	3.71	193
Fuel and Lubricants	27.20	1,414
Repairs	23.84	1,239
Taxes	26.89	1,398
Insurance	6.72	349
Interest on Operating Capital	6.86	357
General Farm Overhead	11.42	594
Other Cash Costs	--	--
Hired Labor	.94	49
Total Cash Costs	160.79	8,361
Other Costs:		
Family Labor	44.84	2,332
Depreciation	49.43	2,570
Interest on Investment Other Than Land	117.42	6,106
Interest on Land	385.01	20,021
Total Other Costs	596.72	31,029
Total All Costs	$757.50	$39,390

Source: Gee 82

APPENDIX 12, TABLE 12-3

Average Costs and Returns for Medium Beef Herds (100-299 Cows)

Item	Unit	Number	Average Weight	Price Cwt	Total Value
Sales:					
Steer Calves	Head	70	390	$86.13	$23,629
Heifer Calves	Head	24	375	77.49	6,974
Yearling Steers	Head	8	670	72.58	3,901
Yearling Heifers	Head	20	650	65.47	8,511
Cull Cows	Head	28	850	41.27	9,822
Total					52,832
Total Per Cow					262

Cash Costs:	Value/Cow	Total Values
BLM Grazing Fee	$ 3.26	$ 655
Forest Grazing Fee	4.44	892
Private Range Lease/Rent	13.33	2,679
State Lease	1.34	269
Hay (produce)	10.72	2,155
Hay (purchase)	4.31	866
Protein Supplement	--	--
Irrigated Pasture	11.70	2,352
Salt and Mineral	1.40	281
Concentrate Feeds	--	--
Veterinary and Medicine	4.95	995
Hired Trucking	1.70	342
Marketing	2.15	432
Fuel and Lubricants	22.33	4,488
Repairs	21.63	4,348
Taxes	24.16	4,856
Insurance	6.50	1,307
Interest on Operating Capital	8.40	1,688
General Farm Overhead	10.05	2,020
Other Cash Costs	--	--
Hired Labor	13.35	2,683
Total Cash Costs	165.72	33,308
Other Costs:		
Family Labor	25.90	5,206
Depreciation	49.00	9,849
Interest on Investment Other Than Land	117.07	23,531
Interest on Land	344.55	69,255
Total Other Costs	$536.52	$107,841
Total All Costs		$141,150

Source: Gee 82

APPENDIX 12, TABLE 12-4

Average Costs and Returns for Large Beef Herds (over 300 Cows)

Item	Unit	Number	Average Weight	Price Cwt	Total Value
Sales:					
Steer Calves	Head	260	390	$86.13	$ 87,282
Heifer Calves	Head	101	375	77.49	29,349
Yearling Steers	Head	52	670	72.58	25,287
Yearling Heifers	Head	93	650	65.47	39,577
Cull Cows	Head	119	850	41.27	41,744
Total					223,239
Total Per Cow					263

Cash Costs:	Value/Cow	Total Values
BLM Grazing Fee	$ 2.29	$ 1,940
Forest Grazing Fee	10.57	8,953
Private Range Lease/Rent	14.79	12,527
State Lease	1.50	1,271
Hay (produce)	10.86	9,198
Hay (purchase)	4.15	3,515
Protein Supplement	--	--
Irrigated Pasture	12.93	10,952
Salt and Mineral	1.40	1,186
Concentrate Feeds	--	--
Veterinary and Medicine	1.55	1,313
Hired Trucking	1.85	1,567
Marketing	2.10	1,779
Fuel and Lubricants	10.75	9,105
Repairs	14.38	12,180
Taxes	27.01	22,877
Insurance	6.83	5,785
Interest on Operating Capital	6.99	5,921
General Farm Overhead	7.72	6,539
Other Cash Costs	--	--
Hired Labor	18.71	15,847
Total Cash Costs	156.38	132,454
Other Costs:		
Family Labor	12.35	10,460
Depreciation	48.65	41,207
Interest on Investment Other Than Land	112.77	95,516
Interest on Land	321.48	272,294
Total Other Costs	$495.25	$419,477

Source: Gee 82

APPENDIX 12, TABLE 12-5

Average Costs and Returns for Large Sneep Herds

Item	Unit	Number	Average Weight	Price Cwt	Total Value
Sales:					
Slaughter Lambs	Head	1,621	93	$66.30	$ 99,949
Feeder Lambs	Head	835	82	73.96	50,640
Ewes	Head	278	145	26.86	10,827
Wool	Lbs.	2,831	10	.88	24,913
Wood Incentive Payment	Dol.	24,913		.39	9,716
Unshorn Lamb Payment	Cwt.	2,193		1.43	3,136
Total					199,181
Total Per Sheep					71

Cash Costs:	Value/Cow	Total Values
BLM Grazing Fee	$ 1.59	$ 4,430
Forest Grazing Fee	1.57	4,360
State Lease	.25	708
Irrigated Pasture	--	--
Private Range Lease/Rent	2.52	7,014
Hay (produce)	.51	1,417
Hay (purchase)	1.82	5,061
Grain	--	--
Protein Supplement	1.33	3,694
Other Feed	--	--
Salt and Mineral	.28	778
Spray and Dipping	.02	58
Veterinary and Medicine	.36	1,001
Marketing	.10	278
Trucking	2.44	6,783
Shearing and Tagging	1.90	5,282
Utilities	.63	1,751
Lamb Promotion	.03	83
Organizations	.10	278
Legal and Accounting	.38	1,057
Wool Storage	.08	222
Predator Control	.67	1,862
Ram Death Loss	.59	1,640
Fuel and Lubricants	1.78	4,948
Repairs	1.72	4,787
Hired Labor	3.47	9,647
Taxes	2.81	7,807
Insurance	.65	1,810
General Farm Overhead	1.19	3,308
Interest on Operating Capital	1.37	3,815
Total Cash Costs	$30.17	$83,878

Source: Gee 82

Appendix 12, Table 12-6

Impact Analysis on Partial Ranch Budgets for Small Cattle Operator

Item	No Change	Percent Increased			Percent Reduced				
		10	20	30	10	20	30	40	50
				Dollars					
Gross Income	13,006	13,181	13,367	13,542	12,582	12,134	11,710	11,286	10,863
Total Cash Costs	8,361	8,450	8,545	8,634	8,089	7,800	7,527	7,254	6,981
Value of Family Labor	2,332	2,363	2,396	2,428	2,256	2,175	2,099	2,023	1,948
Depreciation	2,570	2,576	2,582	2,587	2,556	2,542	2,528	2,514	2,501
Interest on Investment Other Than Land	6,106	6,163	6,224	6,282	5,967	5,820	5,682	5,543	5,404
Return Above:									
Cash Costs	4,645	4,731	4,822	4,908	4,493	4,334	4,183	4,032	4,882
Cash Costs and Family Labor	2,313	2,368	2,426	2,480	2,237	2,159	2,084	2,009	1,934
Return to Total Investment	-257	-208	-156	-107	-319	-383	-444	-505	-567
Return to Land	-6,363	-6,371	-6,380	-6,389	-6,286	-6,203	-6,126	-6,048	-5,971
				Head					
Herd Size	52	53	53	54	50	49	47	45	43

Appendix 12, Table 12-7

Partial Ranch Budgets and Impact Analysis for Medium Cattle Operator

Item	No Change	Percent Increased			Percent Reduced				
		10	20	30	10	20	30	40	50
				Dollars					
Gross Income	52,832	53,301	53,769	54,238	52,141	51,451	50,760	50,070	49,380
Total Cash Costs	33,308	33,670	34,032	34,394	33,188	33,068	32,947	32,827	32,707
Value of Family Labor	5,206	5,234	5,261	5,289	5,128	5,050	4,972	4,894	4,816
Depreciation	9,849	9,851	9,854	9,856	9,821	9,794	9,766	9,739	9,711
Interest on Investment Other Than Land	23,531	23,617	23,702	23,788	23,275	23,019	22,762	22,506	22,250
Return Above:									
Cash Costs	19,523	19,630	19,737	19,844	18,953	18,383	17,812	17,242	16,672
Cash Costs and Family Labor	14,317	14,396	14,476	14,555	13,825	13,333	12,840	12,348	11,856
Return to Total Investment	4,468	4,545	4,622	4,699	3,755	3,042	2,329	1,616	903
Return to Land	-64,786	-49,554	-34,321	-19,089	-55,850	-46,914	-37,977	-29,041	-20,105
				Head					
Herd Size	201	202	203	204	198	195	192	189	186

Appendix 12, Table 12-8

Partial Ranch Budgets and Impact Analysis for Large Cattle Operator

Item	No Change	Percent Increased			Percent Reduced				
		10	20	30	10	20	30	40	50
				Dollars					
Gross Income	223,239	223,473	223,708	223,942	222,998	222,757	222,517	222,276	222,035
Total Cash Costs	132,454	131,647	130,839	130,032	133,549	134,645	135,740	136,836	137,931
Value of Family Labor	10,460	10,089	9,719	9,348	10,209	9,958	9,706	9,455	9,204
Depreciation	41,207	40,979	40,751	40,523	41,059	40,911	40;762	40,614	40,466
Interest on Investment Other Than Land	95,516	95,627	95,738	95,849	95,469	95,422	95,376	95,329	95,282
Return Above:									
Cash Costs	90,785	91,827	92,868	93,910	89,449	88,113	86,776	85,440	84,104
Cash Costs and Family Labor	80,325	81,737	83,149	84,561	78,148	75,971	73,795	71,618	69,441
Return to Total Investment	39,118	40,758	42,398	44,038	37,089	35,061	33,032	31,004	28,975
Return to Land	-233,176	-172,721	-112,266	-51,811	-198,710	-164,245	-129,779	-95,314	-60,848
				Head					
Herd Size	847	848	849	850	846	845	844	843	842

Appendix 12, Table 12-9

Partial Ranch Budgets and Impact Analysis for Sheep Operators

Item	No Change	Percent Increased			Percent Reduced				
		10	20	30	10	20	30	40	50
				Dollars					
Gross Income	199,181	202,898	206,591	210,305	195,471	191,778	188,065	184,[illegible]	180,658
Total Cash Costs	83,878	84,804	85,013	85,224	84,383	84,173	83,963	83,752	83,543
Value of Family Labor	9,647	9,826	10,005	10,185	9,467	9,288	9,108	8,928	8,749
Depreciation	19,774	19,812	19,851	19,889	19,736	19,697	19,659	19,621	19,582
Interest on Investment Other Than Land	40,101	40,593	41,082	41,574	39,609	39,119	38,627	38,135	37,646
Return Above:									
Cash Costs	115,303	118,094	121,578	125,081	111,088	107,605	104,102	100,599	97,115
Cash Costs and Family Labor	105,656	108,268	111,573	114,896	101,621	98,317	94,994	91,671	88,366
Return to Total Investment	85,882	88,456	91,722	95,007	81,885	78,620	75,335	72,050	68,784
Return to Land	45,781	47,863	50,640	53,433	42,276	39,501	36,708	33,915	31,138
				Head					
Herd Size	2,780	2,832	2,883	2,935	2,728	2,676	2,624	2,572	2,521

APPENDIX 13

PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS AND NATIONAL AMBIENT AIR QUALITY STANDARDS.

Prevention of Significant Deterioration

The United States Environmental Protection Agency and State of Utah prevention of significant deterioration requirements both allow only a limited increase in the second-highest short-term TSP and SO_2 concentrations, and annual-average TSP and SO_2 concentrations associated with emissions from a new source. These SO_2 and TSP increments for each class are listed in Table 13-2.

Ambient Air Quality Standards

The applicable State and Federal ambient air quality standards are listed. The Utah and Colorado State standards are the same as the National Ambient Air Quality Standards.

All ambient air quality standards are of potential concern; however, for the region and sources of interest, sulfur dioxide (SO_2), total suspended particulates (TSP), nitrogen dioxide (NO_2), carbon monoxide (CO), and ozone (O_3) are the pollutants of principal concern.

Federal, Utah, and Colorado ambient air quality standards are displayed in Table 13-1.

TABLE 13-1

Applicable State and Federal Ambient Air Quality Standards
(micrograms per cubic meter)

Pollutant	Federal	Utah	Colorado
Sulfur Dioxide (SO_2)			
(annual)	80	80	80
(24-hour)	365	365	365
(3-hour secondary)	1,300	1,300	1,300
Total Suspended Particulates (TSP)			
Primary			
(annual)	75	75	75
(24-hour)	260	260	260
Secondary			
(annual)	60	60	60
(24-hour)	150	150	150
Carbon Monoxide (CO)			
(8-hour)	10,000	10,000	10,000
(1-hour)	40,000	40,000	40,000
Ozone (O_3)			
(1-hour)	240	240	240
Nitrogen Oxide (NO_2)			
(annual)	100	100	100

TABLE 13-2

Prevention of Significant Deterioration Increments

Pollutant	Averaging Time	Maximum Allowable Concentrations (ug/m3)		
		Class I	Class II	Class III
SO_2	Annual	2	20	40
	24-hr	5	91	182
	3-hr	25	512	700
TSP	Annual	5	19	37
	24-hr	10	37	75

APPENDIX 14

ANTICIPATED TREND IN ECOLOGICAL CONDITIONS

LEGEND

Apparent Trend: D = Down S = Stable U = Up

Factors Considered to Appraise and Assign Trend to Ecological Condition

1. Large amounts of nonuse = U
2. Deferment of use during the critical plant growth periods = U
3. Vegetative studies show a current downward trend = D
4. Vegetative studies show a current upward trend = U
5. Grazing system to defer use during critical plant growth periods = U
6. Current trend is static or studies are incomplete = S
7. Land treatments = U
8. Development of water to improve distribution = U
9. Ongoing field observations = U or D or S
10. Continuous season long use = D
11. Utilization and actual use studies show heavy use = D
12. Wildlife numbers are above the level allocated for wildlife = D
13. Decrease in wild horse use = U
14. Increase in wild horse use = D

		Anticipated Trend							
		Current Management		Resource Protection		Commodity Production		Balanced Use	
Allotment Name and Number		Apparent Trend	Trend Factors	Apparent Trend	Trend Factors	Apparent Trend	Trend Factors	Apparent Trend	Trend Factors
BLUE MOUNTAIN LOCALITY									
Blue Mountain AMP	5825	D	3, 11, 12	U	2	U	5, 7, 8	U	5, 7, 8
Cub Creek	5823	S	6	S	6	S	6	S	6
Doc's Valley	5821	S	6	U	2	U	5, 7	U	5, 7
Green River	5820	S	6	U	2	S	6	S	6
Point of Pines	5822	D	3, 11, 12	U	2	U	5, 7, 8	U	5, 7, 8
Stuntz Valley	5824	D	3, 11, 12	U	2	U	5, 7	U	5, 7, 8

Appendix 14 (Continued)

Anticipated Trend in Ecological Condition

Allotment Name and Number		Anticipated Trend: Current Management Apparent Trend	Current Management Trend Factors	Resource Protection Apparent Trend	Resource Protection Trend Factors	Commodity Production Apparent Trend	Commodity Production Trend Factors	Balanced Use Apparent Trend	Balanced Use Trend Factors
BONANZA-RAINBOW LOCALITY									
Antelope Draw	5854	U	1, 4	U	1, 2, 4	U	4, 5, 8, 13	U	4, 5, 8, 13
Asphalt Draw AMP	8817	U	1	U	1, 2	U	5, 8	U	5, 8
Badlands	5848	D	9, 10	U	2	S	6	U	5, 8
Baeser Wash	5832	S	6	U	2	U	5	U	5
Bohemian Bottoms	5840	S	6	U	2	S	6	S	6
Bonanza	5842	S	6	U	2	U	5	U	5
Brewer	8831	S	6	U	2	S	6	S	
Cockleburr	5833	S	6	U	2	U	5	U	5
Halfway Hill	5861	S	6	U	2	U	5	U	5
Hells Hole	8819	U	1	U	1, 2	S	6	S-U	1-6
Jensen	5836	D	9, 10	U	2	U	5, 8	U	5, 8
K Ranch**	5849								
Kane Hollow	5837	D	9, 10	U	2	U	5, 8	U	5, 8
Little Emma	5852	S-U	6	U	2	S	6	S-U	1, 6
Miners Gulch	5838	S	6	U	2	S	6	S	6
Olsen AMP	8816	S-U	1, 6	U	2	S	5, 6	S-U	1, 5, 6
Powder Wash	5857	S	6	U	2	U	5, 8	U	5, 8
Raven Ridge	5851	S	6	U	2	U	7	U	7
Sand Wash	8818	S-U	1-6	U	2	S	6	S-U	1, 6
Seven Sisters AMP	5845	S	6	U	2	U	5, 13	U	5, 13
Snake John	5860	S	6	U	2	U	5	U	5
Spring Hollow	5862	D	3, 9	U	2	S	6	U	5, 8
Stateline	5863	S-U	1, 6	U	1, 2	S	6	U	1-6
Stirrup AMP	5847	S	6	U	2	S	5, 6	U	5, 6

**Allotment managed by Colorado

Appendix 14 (Continued)

Anticipated Trend in Ecological Condition

Allotment Name and Number		Anticipated Trend: Current Management Apparent Trend	Current Management Trend Factors	Resource Protection Apparent Trend	Resource Protection Trend Factors	Commodity Production Apparent Trend	Commodity Production Trend Factors	Balanced Use Apparent Trend	Balanced Use Trend Factors
Sunday School Canyon AMP	8814	S	6	U	2	U	5, 8	U	5, 8
Walker Hollow AMP	5839	S	6	S	6	U	5, 8	U	5, 8
Watson	8815	S	6	U	2	S	6	S	6
West Deadman	5841	S-U	1, 6	U	1, 2	S	6	S-U	1, 6
White River	8829	S	6	S	6	S	6	S	6
White River Bottoms	5850	S	6	U	2	S	6	S	6
BOOK CLIFFS LOCALITY									
Atchee Ridge AMP	8824	U	4, 5	U	2, 4, 5	U	4, 5, 7, 8	U	4, 5, 7, 8
Book Cliffs Pasture	8828	S	6	S	6	S	6	S	6
Davis Canyon**	8823								
Horse Point AMP	8825	S-U	1, 6	U	1, 2	U	5, 7, 8, 13	U	5, 7, 8
McClelland	8826	S	6	U	2	S	6	S	6
Sweetwater AMP	8822	U	4, 5	U	1, 4, 5	U	5, 7, 8	U	5, 7, 8
West Water Point	8833	S	6	S	6	S	6	S	6
Winter Ridge AMP	8827	S	6	U	2	U	5, 7, 13	U	5, 7, 8, 13
HILL CREEK LOCALITY									
Birchell	8804	S	6	U	2	U	5, 7	U	5, 7
Green River AMP	8803	S	6	U	2	S	5, 6	S-U	5, 6

**Allotment managed by Colorado

Appendix 14 (Continued)

Anticipated Trend in Ecological Condition

Allotment Name and Number		Anticipated Trend: Current Management Apparent Trend	Current Management Trend Factors	Resource Protection Apparent Trend	Resource Protection Trend Factors	Commodity Production Apparent Trend	Commodity Production Trend Factors	Balanced Use Apparent Trend	Balanced Use Trend Factors
Hatch-Broome-Bartholomew	8805	S	6	U	2	S	6	S	6
Lower Showalter (Wild Horse Bench)	8811	S-U	1, 6	S-U	1, 6, 14	S-U	13	S	1, 6, 14
Oil Shale	8813	U	1, 6	U	1, 6	S-U	6, 13	S	6, 14
Pack Mountain - Wildhorse	8808	S	6	S-U	2	S-U	13	S	6
Santio Sibellò	8806	S	6	U	2	S	6	S	6
Tabyago	8801	S	6	S-U	2, 14	U	7, 13	S	1, 6, 14
Thorne-Ute-Broome	8812	S	6	U	2	S	6	S	6
Upper Showalter (Mustange)	8810	S	6	U	2, 14	U	7, 13	U	1, 7, 14
Ute	8809	S-U	1, 6	U	1, 2, 14	U	7, 13	S	1, 6, 14
West Tabyago AMP	8807	S	6	S-U	2, 14	S-U	1, 5, 13	S-U	1, 5, 14
TOTALS		U = 6 D = 7 S = 33 S-U = 8 54		U = 45 D = 0 S = 5 S-U = 4 54		U = 26 D = 0 S = 24 S-U = 4 54		U = 28 D = 0 S = 19 S-U = 7 54	