RESOURCE PROTECTION ALTERNATIVE

MINERALS

Oil and Gas

BLM Impacts

Total annual production and associated disturbance would remain approximately the same as discussed in the Current Management Alternative and is summarized in Table 4-7.

A slight potential exists for oil and gas developments inadvertently being damaged or destroyed by oil shale construction activities such as mining equipment striking subsurface casing. Damage could generally be avoided if lease holders cooperate with each other when development occurs.

Oil Shale

BLM Impacts

Approximately 80,000 bpd could be produced on two future oil shale tracts located within the priority management area (Figure 2-9). Approximately 1,100 acres would be disturbed (nonreclaimed) at any given time during the production phase.

The priority management area identified for underground oil shale development could limit management and industry flexibility in locating future oil shale tracts. In addition, priority management areas identified for in situ development would not be available and could result in an unquantifiable delay of a Federal in situ oil shale lease program.

Tar Sand

BLM Impacts

Approximately 5,000 to 10,000 bpd could be produced on future hydrocarbon leases. Approximately 1,400 to 2,200 acres would be disturbed due to mining and related construction activities.

Special mitigating measures (lease categories) could affect tar sand development in a similar manner as discussed for oil and gas development. Certain areas (categories three and four) would not be available for tar sand development. However, by not developing these areas, conflicts with other resources would be avoided. The conflicts between the surface resources (reflected by the category designations) and the potential tar sand areas are shown in Table 4-11 (Tar Sand: Average Conflicts Between Category Designations and Potential Development Areas). Approximately *31* percent of public land within the three STSAs would not be available for tar sand development (Table 4-11). In addition, tar sand within the Naval Oil Shale Reserve is withdrawn and reserved for the U.S. Navy (Figure 1-4).

Gilsonite

BLM Impacts

Production levels and associated surface disturbance would remain the same as discussed in the Current Management Alternative.

Unleased gilsonite veins are known to exist within priority management areas for oil shale. Some of these veins could be eliminated from potential development by mining activities, spent shale disposal areas, retention dams and reservoirs, plant sites, etc.

Sand and Gravel

BLM Impacts

Because no additional areas would be opened to sand and gravel development, no environmental impacts to Federal land within the BCRA would occur. However, demand of 10 to 15 acres of sand and gravel material sites, due to BLM implemented actions, could occur. Sand and gravel products would have to be derived from a non-Federal source within the BCRA or from lands outside of the BCRA.

Building Stone

BLM Impacts

No environmental impacts would occur because collecting areas would be closed.

The public would have to use other types of building stone from areas outside the BCRA. No similar substitute sources are available for this type of stone.

RIGHT-OF-WAY CORRIDORS

BLM Impacts

Under this alternative, rights-of-way within designated corridors could affect 46,000 acres (Figure 2-11). Major resource conflicts would generally be avoided but could still occur in certain areas and are discussed in the affected resource section (Appendix 9, Utility Corridors and Segments by Alternative). Site specific environmental documentation would be prepared for construction within the 150 miles of proposed corridors when specific right-of-way applications are received.

Table 4-11

Tar Sand: Acreage Conflicts Between Category Designations and Potential Development Areas

STSA		Category 1 Standard Regulations	Category 2 Special Stipulations	Category 3 No Surface Occupancy
		Resource Protection		
PR Spring	Low Potential	11,000	33,000	32,000
	Moderate Potential	15,000	57,000	35,000
Hill Creek	Low Potential	4,000	12,000	0
	Moderate Potential	3,000	1,000	0
Raven Ridge	Low Potential	9,000	4,000	0
	Moderate Potential	1,000	0	0
Total		43,000	107,000	67,000
		Commodity Production		
PR Spring	Low Potential	72,000	3,000	0
	Moderate Potential	107,000	1,000	0
Hill Creek	Low Potential	16,000	0	0
	Moderate Potential	4,000	0	0
Raven Ridge	Low Potential	13,000	0	0
	Moderate Potential	1,000	0	0
Total		213,000	4,000	0
		Balanced Use		
PR Spring	Low Potential	38,000	13,000	25,000
	Moderate Potential	58,000	47,000	2,000
Hill Creek	Low Potential	8,000	8,000	0
	Moderate Potential	4,000	0	0
Raven Ridge	Low Potential	9,000	4,000	0
	Moderate Potential	1,000	0	0
Total		118,000	72,000	27,000

FORAGE

BLM Impacts

Blue Mountain Locality:

Authorization of 3,725 AUMs for livestock and 2,413 AUMs for wildlife would result in an improvement in ecological condition in five of the six allotments in this locality. Only the Cub Creek allotment would remain in a static ecological condition (Appendix 14, Anticipated Trend in Ecological Condition). Approximately 29,900 acres (79 percent) would improve and the remaining 8,100 acres would remain in a static ecological condition; no range would decline in condition. The net improvement would be a change of approximately 10 percent in ecological condition class, from fair to good (Appendix 16, Anticipated Change in Ecological Condition Class).

Improvements in plant vigor and ecological trend would occur primarily on mountain loam and mountain stony loam sites, as well as floodplains and riparian areas. Sagebrush would remain static or decline by a slight (unquantifiable) amount. The improvement in ecologic trend would result from deferment of spring livestock use (five allotments) and decreases of livestock use in floodplains and riparian areas (Green River allotment). The total livestock decreases would amount to approximately 2,110 AUMs (Appendix 5, Forage Actions by Alternative).

Forage allocated for deer would increase by 1,413 AUMs above the current allocated use of 1,000 AUMs for a total of 2,413 AUMs. This would be 1,004 AUMs less than the prior stable numbers objective (3,417 AUMs). By keeping the wildlife forage approximately 29 percent below the objective level and the livestock forage approximately 36 percent (2,062 AUMs) below active preference, the locality would be under allocated approximately 650 AUMs. This decrease in grazing pressure would result in a reversal in the range ecological trend from a decreasing to an increasing condition.

Development of four reservoirs, a spring, and one mile of pipeline within the Blue Mountain AMP, Green River, Stuntz Valley, and Point of Pines allotments, would allow better distribution of livestock and wildlife grazing.

Development of water in areas that have received light grazing pressure due to their distance from water, would be more efficiently utilized. Areas where grazing was previously concentrated due to the availability of water, would not be as heavily grazed. Reduced grazing pressure would result in improved ecological condition of the range.

Minerals development would result in a loss of 7 AUMs (Appendix 15, Forage Impacts).

Bonanza-Rainbow Locality:

Authorization of ***29,277*** AUMs for livestock, 1,390 AUMs for antelope, 600 AUMS for wild horses, and an unknown portion of 37,113 AUMs for deer would improve ecologic condition throughout this locality. Twenty-seven of the allotments would improve in ecological condition. Only two allotments (Walker Hollow and White River) would remain in a static condition (Appendix 14, Anticipated Trend in Ecological Conditions). Approximately 534,200 acres would show improving trend and 99,000 acres (16 percent) would remain static. No declines in overall ecological condition would occur in this locality. The net improvement would be 10 percent in ecological condition class, from fair to good (Appendix 16, Anticipated Change in Ecological Condition Class).

Improvements in ecological condition would result from several actions. Decreasing livestock use from 37,352 AUMs to ***29,277*** AUMs would result in 22 percent fewer livestock than currently use the range. Deferment of livestock use during the critical spring growth period on 27 allotments would eliminate a demand of ***6,832*** AUMs, thus avoiding the impacts of spring grazing. The other two allotments (White River and Walker Hollow) would not have any spring grazing and also avoid the impacts of spring grazing. Improvement of riparian areas and floodplains would result from decreasing livestock use by 479 AUMs within the White River Bottoms allotment. Development of three springs, one guzzler, and 17 reservoirs, would distribute livestock, wildlife, and wild horses more evenly within 12 allotments. The distribution would allow better utilization of forage, as described in the Blue Mountain locality.

The proposed use of ***29,277*** AUMs would represent 48 percent of the original allocation. Due to the current level of nonuse (32,132 AUMs), this decrease would result in ***8,075*** fewer livestock AUMs (22 percent) below average use. These decreases would have significant economic impacts upon the livestock permittee's operations. Refer to the socioeconomic section under this alternative.

Competition for forage between deer in herd unit 26 and livestock would decrease by 255 AUMs on four allotments (Cockleburr, Jensen, Miners Gulch, and Powder Wash). Heavy grazing pressure would thus be eliminated in those areas. No competition for forage would occur in the remaining 25 allotments. Forage allocated for deer in the 1960's would be adequate.

Wild horses would be authorized 600 AUMs. That amount of forage would be available due to the 22 percent decrease in livestock AUMs. The ecological trend in the allotments used by wild horses (Antelope Draw and Seven Sisters), would not be altered by the wild horses.

Antelope would be given an 82 percent (628 AUMs) increase over the current use. This amount of forage would also be available due to the livestock decrease in AUMs. The ecological condition of the range would not be altered by the antelope.

Approximately 534 AUMs of forage would be lost through mineral developments in this locality (Appendix 15, Forage Impacts).

Book Cliffs Locality:

Authorization of 15,412 AUMs for livestock, an unknown portion of 37,113 AUMs for deer, and an unknown portion of 14,681 AUMs for elk would improve ecological condition on five allotments (Atchee Ridge AMP, Horse Point AMP, McClelland, Sweetwater AMP, and Winter Ridge AMP). Two allotments (Book Cliffs Pasture and West Water Point) would remain in static condition (Appendix 14, Anticipated Trend in Ecological Conditions). Approximately 269,900 acres would show improving ecological trend and 34,200 acres (13 percent) would show a static condition. No declines in overall ecological condition would occur in this locality. The net improvement to ecological condition class would be a change of 5 to 10 percent, from fair to good (Appendix 16, Anticipated Change in Ecological Condition Class).

Improvements in ecological condition would result from several actions (Appendix 5, Forage Actions by Alternatives). Decreasing livestock use from 17,351 AUMs to 15,412 AUMs would result in 11 percent fewer livestock than currently use the range. The four allotments showing improvement would operate under grazing systems which would rotate grazing use to avoid the impacts of spring grazing upon plant vigor. The allotments remaining static would continue season long use.

A total of 1,317 AUMs of livestock use would be deferred from spring use in these allotments. Seven reservoirs, ten springs, and five guzzlers would be developed in the Sweetwater AMP, Winter Ridge AMP, West Water Point, Atchee Ridge AMP, and Horse Point AMP allotments, resulting in improved livestock distribution. Better forage utilization would result and grazing pressure would be reduced. Improvement of riparian areas and floodplains would result from decreasing livestock use by 18 AUMs within the Sweetwater AMP allotment.

The proposed use of 15,412 AUMs would be a 33 percent change from the original livestock forage allocation. Approximately 5,823 AUMs nonuse has been taken in this locality, so the actual decrease realized on-the-ground would be about 1,939 AUMs (11 percent). These decreases would have significant impacts upon the permittee's livestock operations. Refer to the socio-economic section of this alternative.

Wildlife would benefit from a 751 AUM livestock decrease on McCook Ridge (included in the overall livestock decrease). This would provide more forage for wildlife and eliminate possible competition for forage between livestock and wildlife. It would also avoid the impacts to plant vigor that would result from heavy grazing in areas of competition.

Wild horses would be removed from this locality. The forage that they consume (108 AUMs) would be available for both livestock and wildlife, because the use by wild horses was never allocated.

Approximately 306 AUMs for livestock and 297 AUMs for wildlife would be lost due to mineral developments (Appendix 15, Forage Impacts). These losses would be offset by the proposed land treatments which would produce 483 AUMs for livestock and 1,225 AUMs for wildlife.

Control burning 15,000 acres in the Atchee Ridge AMP, Horse Point AMP, Sweetwater AMP, and Winter Ridge AMP allotments, would eliminate or decrease decadent and overmature shrubs with grasses and younger, more palatable shrubs. Within one to two years after burning, the amount of forage would be increased up to 250 percent.

Clearcutting woodlands in the Sweetwater AMP and the Horse Point AMP allotments would open the woodland canopy and enable grasses, forbs, and shrubs to increase in density and vigor. The forage response would be similar to areas that would be burned.

Hill Creek Locality:

Authorization of 5,045 AUMs for livestock, 2,340 AUMs for wild horses, an unknown portion of 37,113 AUMs for deer, and an unknown portion of 14,681 AUMs for elk, would improve ecological condition in all 12 allotments within this locality (Appendix 14, Anticipated Trend in Ecological Condition). Approximately 112,600 acres would improve in ecological condition, 27,300 acres would remain in static condition, and no acreage would decline in condition. The net improvement in ecological condition class would be a change of less than 5 percent, from fair to good (Appendix 16, Anticipated Change in Ecological Condition Class).

Improvements in ecological condition would result from several actions (Appendix 5, Forage Actions by Alternatives). Deferment of grazing during the critical spring growth period would be required on eight allotments, for a decrease of 839 AUMs. Formal allocation of use to provide for wild horses would be made on eight allotments (Lower Showalter, Oil Shale, Pack Mountain-Wild Horse, Tabyago, Upper Showalter, Ute, and West Tabyago). A total of 2,340 AUMs would be taken from livestock nonuse to support wild horses. Grazing use (521 AUMs) would be retired on two allotments (Birchell and Green River AMP) to protect key floodplain and riparian areas. An adjustment of approxi-

mately 3,849 AUMs on nine allotments would be taken to reduce the impact of historic heavy grazing in livestock concentration areas (areas adjacent to water, trail areas, bedgrounds, etc.). Refer to Appendix 5 (Forage Actions by Alternative).

No use has been made on the Oil Shale allotment; however, if the permittee applied for use, up to 50 percent of active preference (549 AUMs) would be allowable. It is assumed this would continue, hence these AUMs are omitted from the total AUMs available for the locale.

Total impact to livestock use would amount to a decrease of 1,397 AUMs from average use (22 percent) and 7,586 AUMs below active preference. This level of livestock use would result in a significant economic impact upon the permittees. Refer to the socioeconomic section of this alternative.

Development of three reservoirs on two allotments (Pack Mountain-Wild Horse and Tabyago) would improve livestock and wild horse distribution by reducing heavy grazing use and increasing ecological condition.

Minerals developments would eliminate 37 AUMs of forage (Appendix 15, Forage Impacts). This loss would be absorbed by nonuse.

BLM actions would result in improvement in ecological condition in 49 allotments and a static condition in five allotments. No declines in ecological condition would occur on an allotment basis. Approximately 1,086,600 acres would improve, and 168,600 acres would remain in static ecological condition.

WILDLIFE/WILD HORSES

BLM Impacts

The utilization of 55,597 AUMs of existing forage from BLM lands by big game species, an additional 1,325 AUMs from Dinosaur National Monument, and 2,940 AUMs by wild horses, would be sufficient to support prior stable wildlife numbers in deer herd unit 28A, elk herd unit 21, and near prior stable numbers in deer herd unit 26 and increased wild horse populations. This level of forage utilization would meet or nearly meet (depending upon locality) the projected requirement of the UDWR big game population goals. The allocation level would also meet the forage requirement necessary to support the increased Vernal District wild horse population objectives at the Bonanza and Hill Creek locations. ***The additional forage for wild horses would be available from the original AUMs allocated to wildlife in the 1965 range adjudication (see Table 2-1), livestock reductions, and land treatments.*** Due to small herd size and low reproductive success, the Winter Ridge wild horse herd would cease to exist.

The distribution of the various wildlife species would be: 1,114 antelope (700 at Bonanza-herd unit 7, 414 at East Bench); 20,300 mule deer (1,800 at Blue Mountain-herd unit 26, 18,000 at Book Cliffs-herd unit 28A); 2,300 elk (all located at Book Cliffs-herd unit 21); 245 wild horses (50 at Bonanza, 195 at Hill Creek).

Projected oil and gas development would have the same effect as previously described under the Current Management Alternative.

Oil shale, tar sand, sand and gravel, and gilsonite development would not significantly affect big game or wild horse populations or crucial habitat. Any such mineral development would occur outside the identified crucial habitat areas.

Impacts to upland game bird and waterfowl would be the same as was described under the Current Management Alternative.

Wildlife habitat would improve as a result of reduced livestock grazing in certain key areas, such as the McCook Ridge winter area (deer herd 28A and elk herd 21) and all of the Blue Mountain summer area (deer herd 26).

Annual depletion of 28,000 acre-feet of water from the White River could jeopardize the continued existence of two endangered fish species, the Colorado squawfish and humpback chub, and one species which is a candidate for listing, the razorback sucker. No impacts to the species would occur if the water were purchased from the White River Dam Project (WRDP) because of agreed upon conservation measures in the biological opinion for that project (FWS 1982). However, the White River Dam Project could not supply water for all projects proposed in the UBS Development EIS and this additional oil shale development. If the water is not purchased from WRDP, the determination of the degree of impact would be determined in the Fish and Wildlife Service's Biological Opinion.

WOODLANDS

BLM Impacts

By 1995, demand resulting from BLM projects would be approximately 900 cords per year.

Restrictions imposed upon woodland management by other resource programs would limit the allowable cut to 3,470 cords per year, produced from 32,700 acres of woodland. About 11,600 acres would be eliminated from woodland management to protect severe and critical erosion areas. Two hundred acres would be lost to rights-of-way placed in utility corridors, 1,400 acres used for tar sand development, 100 acres lost to wildfires (over a ten-year period), and 1,200 acres would be set aside to protect crucial wildlife habitat on

Lower McCook Ridge. In total, 14,500 acres of woodlands, capable of contributing 1,350 cords of firewood to the annual allowable cut, would not be available for harvest by wood cutters.

RECREATION

BLM Impacts

By 1995, and as a result of BLM projects, big game hunting opportunities would increase by ***4,060*** visitor days. The demand for all other recreation activities would increase visitor days by 2,700. However, approximately 575 visitor days would be foregone as a result of proposed ORV closures and restrictions.

There would be no effect on recreation by discontinuing protection of two campsites because these sites have received almost no visitor use, future development potential is extremely low, and alternate dispersed camping sites would be available.

To be consistent with the Uintah and Ouray Indian Reservation's land use plan, 14,500 acres of land in the Hill Creek area contiguous to the Reservation boundary, would be closed to ORV travel. Decreased grazing on spring ranges and elimination of grazing in riparian zones, would enhance visual resources of the landscape and reduce conflict between livestock and recreationists along the White and Green Rivers.

Proposed utility and transportation corridors would cross 1,800 acres or four percent of the visual resource management Class II area and 2,840 acres or four percent of Class III land. Certain types of rights-of-way placed in the corridors would not comply with the visual standards of these classes.

Impacts to the visual resource would be minimized by consolidating the land disturbing activities to designated corridors. This would prevent the proliferation of construction scars and man-made intrusions from randomly crisscrossing the landscape.

The oil shale priority use areas contain four percent of visual resource Class II land, where development would degrade visual resources by creating contrasts with the natural landscape. The remainder of the area, 96 percent, contains only Class IV where impacts would be minimal as surface disturbance would be noticeable, but more acceptable in areas with low scenic qualities. All areas where tar sand development would be allowed contain only Class IV areas and again where development occurs, changes to the natural landscape may attract attention.

The effects of retaining the Book Cliffs Mountain Browse Natural Area would be the same as described for the Current Management Alternative.

FIRE MANAGEMENT

BLM Impacts

Full suppression of wildfire would protect approximately 84,500 acres throughout the BCRA, safeguarding private property, and preventing the spread of wildfire to non-Federal lands.

Over the next ten years, approximately 15,000 acres would be prescribed burned, providing additional wildlife habitat and forage. Under this alternative, prescribed burns would not be utilized to enhance livestock forage. The burn projects would include mature sagebrush, canyon bottoms, mature browse stands, old chainings and burns that were becoming overgrown. Prescribed burns would set back the ecological condition to earlier successional stages. Natural regeneration, mechanical reseeding, and/or tubeling transplants would improve forage quality and provide additional areas of habitat for wildlife species. "Edge effect" would be greatly improved in all these projects.

Where control would be difficult or where other resource values are not at risk of being damaged, a program of modified wildfire suppression would be utilized on 980,500 acres. At the discretion of the Resource Area Manager, wildfires could be allowed to burn until self extinguished, or until significant resource values are jeopardized. Using modified suppression, a much larger acreage could be allowed to burn, increasing the beneficial effects that fire would have on vegetation, thereby providing additional forage and habitat for wildlife. When fire conditions would cause damage to desirable resource values, and to minimize the adverse impacts of wildfire, suppression could then be used.

WATERSHED

Water Use

BLM Impacts

Development of two additional oil shale tracts would annually require approximately 28,000 acre-feet of water for underground mining (Table 4-12, Water Requirements for Energy Development). This amounts to six percent of the average annual flow of the White River. Less water would be required if modified in situ techniques are employed. If the water cannot be purchased from other water users with valid rights, development could be delayed or prevented since the White River is essentially closed to further appropriation.

Table 4-12
Water Requirements for Energy Development By Alternative
(acre-feet/year in thousands)

Project	Maximum White[a] River Development	Maximum Green[a] River Development
Total of Eight Uintah Basin Synfuels Projects	37	32
Related Development		
a. Bonanza Power Plant	0	22
b. White River Shale (Tracts Ua & Ub)	28	28
c. Municipal/Industrial[b]	20	20
d. Agricultural[c]	20	20
Subtotal	68	90
Estimated Ute Tribe	62	0
Baseline without additional oil shale development[d]	167	122
RESOURCE PROTECTION Two oil shale tracts	28	28
TOTAL for Resource Protection Alternative	195	150
COMMODITY PRODUCTION Four oil shale tracts	56	56
TOTAL for Commodity Production Alternative	223	178
BALANCED USE (Proposed Plan) Two to four oil shale tracts	28-56	28-56
TOTAL for Balanced Use Alternative	195-223	150-178

[a]Figures can not be totaled horizontally because the White River and Green River are alternative sources for several of the projects.

[b]Estimated increases of water use from projected population increases and from other industrial increases.

[c]Estimated requirement based upon agricultural trends.

[d]This baseline is assumed to exist under the Current Management Alternative. These water requirements have been identified in previous EIS's, although most of the projects are only planned. This plan will not effect the approval or outcome of these projects. The proposed plan and alternatives show additional water requirements which could result from BLM actions.

Water Quality

BLM Impacts

Prohibiting surface occupancy within public water reserves and within 600 feet of perennial streams would adequately protect water quality of these water sources. Closed and limited ORV travel designations and restrictions of mineral development in severe and critical erosion areas, would result in slight, unquantifiable improvements in water quality.

The Detailed Development Plan for the White River Shale Project assumes no wastewater discharge from tracts U-a and U-b and, therefore, no impacts to water quality (Bechtel Petroleum, Inc. 1981). Using the same assumption for any additional oil shale leases also leads to the conclusion of no impact to water quality. However, the wastewater would contain high concentrations of ammonia, sulfide, phenols, oil and dissolved solids, and has the potential to pollute both groundwater and surface water if any seepage or accidental discharge occurs. Based on depletion information in the UBS Development EIS, diverting 28,000 acre-feet per year from the White River would increase total dissolved solids concentration at the mouth of the White River by 2.6 mg/l and by 1 mg/l at Imperial Dam. This increase is less than 1 percent.

Soils

BLM Impacts

Surface disturbance of 1,400 to 2,200 acres for tar sand recovery, 800 acres for oil shale mining, 1,200 to 3,800 acres for oil and gas production would increase soil erosion. Sediment yields from reclaimed surface mines were 300 to 600 percent higher than for undisturbed sites (Lusby and Toy 1976). In the Piceance Basin of Colorado, increases in sediment yield of 5.8 to 11.6 tons per acre per year during initial construction of oil shale mining sites and 2.9 tons per acre per year after construction were reported (Frickel et al. 1975). Assuming a tripling of soil loss from disturbed sites in the BCRA, soil loss in the next 10 years would be an additional 9,900 to 19,700 tons.

Closed and limited ORV travel designations and restrictions on mineral development in severe and critical erosion areas would reduce soil loss by an unquantifiable amount. Although this additional soil loss would be less than one percent of the current soil loss from the entire BCRA, localized impacts could be severe in gully formations and areas with reduced vegetation cover.

Confining major rights-of-way to 23.8 miles of corridors totalling 9,000 acres in severe and critical erosion condition, would result in fewer acres disturbed and decreased soil erosion.

Constructing up to 5,555 detention-retention dams on 111,100 acres in severe and critical erosion condition, would reduce soil loss by 711,000 tons over the next 10 years. The short-term increase in wind and water erosion resulting from dam construction would be insignificant.

No other BLM actions would significantly affect soils.

Floodplains

BLM Impacts

Limiting or restricting livestock from 5,950 acres, closing 14,200 acres to ORV use, and allowing no surface occupancy for mineral development in floodplains, would result in an unquantifiable improvement in floodplain condition.

Boulevard Ridge Study Area

BLM Impacts

Impacts resulting from BLM actions are the same as discussed under the Current Management Alternative.

LAND TENURE ADJUSTMENT

BLM Impacts

Up to ***8,700*** acres could be acquired by BLM, if they become available (Figure 2-14). The identified lands are important riparian and wildlife habitat; their acquisition would enhance the management of wildlife habitat in the BCRA. Site specific environmental analyses would be done prior to acquisition.

AIR QUALITY

BLM Impacts

Impacts to air quality of a new Federal oil shale lease producing 80,000 bpd were assumed to be similar to those previously analyzed for (Dietrich et al. 1983). The location and assumed technology were similar. No NAAQS, or PSD, or Colorado Category I increment violations from new Federal leasing alone, would be expected.

The visibility analysis indicated no discernible visibility degradation at Dinosaur National Monument. Yellow-brown atmospheric discoloration could occasionally be visible near the new lease developments.

Tar sand development of 5,000 to 10,000 bpd would cause little impact to air quality or visibility, except for

potential local exceedances of the Class II TSP increments near surface mines and unpaved roads (Aerocomp 1984).

SOCIOECONOMICS

Methodologies and computations that were used to estimate economic impacts are discussed in Appendix 12 (Methodology for the Economic and Social Analysis).

Economic Conditions

BLM Impacts

The effect of implementing the Resource Protection Alternative on oil and gas development would be expected to be similar to that discussed for the Current Management Alternative. Employment and personal income opportunities for local residents would remain essentially the same, with only minor variations.

Production from oil shale and tar sand leasing would change local employment, population, infrastructure, and fiscal conditions. The production scenario, labor force requirements, settlement patterns, and impact analyzes from oil shale developments, are modeled after the "UBS Socioeconomics Technical Report" except, that construction would not be expected to begin until 1987. Full production would be reached by 1995 (Utah E.O. 1983). Similarly, the production scenario, labor force requirements, settlement patterns, and impact analysis from tar sand developments is modeled after the "Regional Analysis of Tar Sand Developments in Utah Socioeconomic Technical Report" (BLM 1983h).

By the year 1995, assumed production and timing with implementation of this alternative, would increase the regional population by 16,814 people. None of the counties or communities would accommodate a greater than 10 percent annual growth rate. Including baseline population projections, Uintah County and the communities and surrounding areas of Vernal and Rangely, would at some time, experience a greater than five percent annual growth rate. The BCRA would also experience a greater than five percent annual growth rate. The population increase would come in the form of work camps temporarily housing some of the construction work force. If a smaller proportion of the construction work force were to stay in the work camps, then the surrounding communities would experience a greater population peak while long-term population projections would remain unchanged.

Both the Uinta Basin Synfuel EIS and the Utah Combined Hydrocarbon Leasing Regional EIS have assumed that tar sand development in the PR Spring STSA would result in a new community being established in the Westwater area. A new community would reduce social and economic impacts that other nearby communities would realize if the Westwater community was not developed. Whether or not a new community would actually be established, is uncertain.

Oil shale and tar sand developments would directly increase regional employment and income earned in the mining and construction sectors. The induced and indirect effects of oil shale and tar sand activities would increase employment and income in other sectors as well, particularly the retail and service sectors. The increased relative importance of the high-paying mining and construction sectors and the increased demand for workers in other sectors would increase the regions per capita income by an unknown amount.

In areas where mineral resources overlap (e.g. oil shale, gilsonite, tar sand, oil and gas) only one resource could be developed at a time. In certain cases, the remaining mineral resources could not be developed at all. Therefore, unquantified employment and personal income opportunities associated with development of these other resources would be delayed, or not realized at all. These unquantified losses would be insignificant.

Gilsonite, metal mining, and miscellaneous mineral activities would continue essentially unchanged from that discussed in the Current Management Alternative.

Under this alternative, sand, gravel and building stone collection would not be allowed in the BCRA. Employment and personal income loss would be minor as other areas outside the BCRA could accommodate the projected demand.

Not allowing gravel or building stone collection in the BCRA would force those who would have used the BCRA (currently 25 to 50 people/year) to travel up to 50 additional miles round trip to obtain these materials. The lack of commercial activity in the area suggests that no company, employment, or income would be significantly affected.

The actions proposed by BLM would produce increased demands on infrastructure within the region. Table 3-6 projects the needs through the year 2000. These needs can be estimated for each community by comparing the projected population increases of that community (Table 4-13) with the projected population increases of the region (Table 4-14) and applying the resulting proportion to the projected infrastructure needs of the region (Table 3-6).

Compared to their existing use, 20 cattle operators would have 16 percent less available BCRA forage, resulting in an average $25,214 decrease in returns above cash costs, 3 percent less than what they presently earn.

Compared to their existing use, 18 sheep operators would have 19 percent less available forage, resulting

Table 4-13

Population Projections
for
Resource Protection Alternative

Area	1982	1985			1990			1995			2000		
	Base	Base	BLM	Other	Base	BLM	Other	Base	BLM	Other	Base	BLM	Other
Duchesne	15,273	17,778	0	4,965	18,632	1,179	10,226	18,684	1,900	13,082	18,929	1,900	15,723
Roosevelt CCD	11,827	13,695	0	348	15,057	1,169	3,019	15,005	1,881	3,122	14,636	1,881	3,799
Roosevelt	4,678	5,416	0	244	5,955	814	2,057	5,934	1,311	2,106	5,789	1,311	2,599
Myton	609	705	0	12	775	35	103	773	57	105	754	57	130
Other	6,540	7,514	0	92	8,327	318	859	8,298	513	911	8,093	513	1,070
Other	3,446	10,204	0	4,617	3,575	12	7,207	3,679	19	9,960	4,293	19	11,924
Uintah	24,170	25,730	0	18,940	29,326	8,020	35,679	29,863	12,923	45,196	28,985	12,923	53,500
Uintah-Ouray	4,737	5,061	0	40	5,699	160	726	5,730	258	698	5,565	258	757
Ballard	678	775	0	20	966	80	315	976	129	297	926	129	619
Other	4,059	4,286	0	20	4,733	80	411	4,754	129	401	4,639	129	138
Vernal	19,417	20,653	0	1,413	23,611	5,774	10,242	24,117	12,406	12,154	23,404	12,535	14,755
Vernal	8,549	9,291	0	565	11,065	2,566	4,148	11,369	5,557	4,912	10,941	5,686	5,972
Other	10,868	11,362	0	848	12,546	3,208	6,094	11,389	6,849	7,242	12,463	6,849	8,783
Bonanza	16	16	0	178	16	2,086	1,575	16	259	0	16	130	0
Moffat-Rio Blanco	23,934	24,355	0	146	28,345	281	1,738	27,646	425	2,016	28,144	452	2,403
Dinosaur	451	501	0	64	405	124	810	425	187	943	437	187	1,124
Rangely	3,235	3,193	0	82	3,993	157	928	3,805	238	1,073	3,962	238	1,279
Grand	8,100	9,850	9	691	10,570	155	834	10,324	1,156	915	9,676	441	919
Thompson		380	9	691	366	155	834	366	1,156	915	365	441	919
Westwater		38	9	691		155	834		1,156	915		441	919
Mesa			3			57			428			163	

CCD: Census County Division

in a $138,564 decrease in returns above cash costs, 7 percent less than what these operators presently earn.

The spring (March through May) exclusions of livestock would be of particular concern to livestock operators, since they have few options with which to respond to these exclusions. Most operators would have to either purchase feed to replace the lost forage, shift forage that is normally used in other months to this period, or reduce their herd size so that the forage produced from their base property would last longer. The spring exclusions would force sheep operators who had been lambing on public land, to lamb on their base property.

Replacing forage lost through spring exclusions with hay would represent a worst-case analysis. Feeding hay during the spring may adversely affect livestock weight gains and reduce gross revenues. If the feeding were to be done on alfalfa-producing property during the spring, alfalfa yields could be affected, and bloating problems could arise. However, reducing the herd size would usually be a more economical response to spring exclusions than purchasing hay (Godfrey 1981).

Under this alternative, 20 of the 21 cattle operators would be excluded from using forage during the spring, thereby losing the spring use of approximately ***3,389*** AUMs. The cost of replacing this forage with alfalfa produced at $60 per ton would be ***$203,340***. Eighteen of the 18 sheep operators would receive significant spring exclusions, thereby losing the use of approximately 6,352 AUMs during the spring. The cost of replacing this forage with alfalfa at $60 per ton would be $381,120. The number of livestock operators affected to varying degrees estimated worst-case impacts are shown in Table 4-15 and 4-16, respectively.

Because there are other options an operator could choose other than a reduction in AUMs of use on public lands, this option was not considered in estimating economic impacts.

Total impacts would not change if the proposed mineral developments were concentrated in several allotments rather than spread among all allotments with mineral development potential, as was assumed in the analysis. With concentrated mineral developments, several operators would be affected to a slightly greater extent than shown in Table 15.

Any decrease from active preference could affect operators wealth. Under this alternative, total long-term grazing privileges would be decreased by ***49,456*** AUMs from active preference. At a market value of $60 per AUM for BLM grazing permits, total operator wealth could decline by as much as ***$2,967,360***, a 10 percent base property value reduction.

Because total rancher income is expected to decrease under this alternative, the rancher's ability to repay loans should also decrease.

Projected population increases as the result of potential oil shale and tar sand development would result in increases in recreational activities and activity days. These BLM actions would result in an increase of 2,700 recreation days and an increase in revenue to the local economy of $121,500. This increase would be 37 percent higher than present BCRA levels.

BLM wildlife management actions would result in increased long-term big game populations and would result in more hunter days; thus, an increase in expenditures, income, and employment. With this large increase in wildlife numbers, hunters may be attracted to the BCRA from more areas outside of the county. More hunters from Salt Lake City and Denver may decide to hunt in the resource area. It could mean an increase of up to 4,060 hunter days and an increase in revenue to the local economy of $182,700. The increase would have significant long-term beneficial impacts to the recreation sector since they represent a 60 percent increase in BCRA recreation generated revenues.

Social Conditions

The region's traditional farming and ranching communities would continue to loose their cultural identity. Political, social, and economic diversity would continue to increase.

Short-term social impacts to existing communities would be significantly reduced by the construction of work camps and a new community in Grand County. However, the worker composition and probable work camp conditions would lead to an undesirable quality of life for those living in the work camps. The new sterile community would eventually become more like surrounding communities.

Social impacts to native-Americans would depend on the degree that they would benefit from the increased economic opportunities. Based on past experience, the existing disparity between Indian and non-Indian income and living conditions would not change. Indian out migration would continue. The projected influx of newcomers unfamiliar with American Indians could further increase trespass and poaching problems. Also, tribal customs and rituals may fade as Indians become further assimilated with the increasingly diverse population around them.

TRANSPORTATION

BLM Impacts

By 1995, BLM actions would result in increased traffic volumes on the four major highways in the area. The affected highways and the estimated average daily traf-

Table 4-14

Resource Protection Alternative
Summary of Regional Socioeconomic Impacts
Resulting from BLM Actions

Socioeconomic Development Category	Change From Projected Baseline			
	1985	1990	1995	2000
Population Growth				
Total	-	9,830	16,814	16,126
School Age	-	2,024	4,162	4,611
Employment Growth	-	4,983	7,807	6,556
Household Growth	-	3,411	5,412	4,414
Infrastructure Requirement				
Housing				
Single family	-	2,050	3,239	2,650
Multi-family	-	517	813	667
Mobile homes	-	857	1,353	1,107
Education				
Students	-	2,024	4,162	4,611
Classrooms	-	86	170	188
Teacher	-	86	170	188
Health Care				
Hospital beds				
General care	-	25	39	35
Long-term care	-	12	19	24
Medical personnel				
Doctors	-	12	16	14
Dentists	-	12	14	13
Nurses	-	21	32	31
Public health nurses	-	9	10	9
Medical health care				
Clinical psychologists	-	9	9	8
Methal health workers	-	9	9	8
Public Safety				
Law Enforcement				
Police officers	-	12	19	35
Patrol cars	-	12	19	35
Jail space (sq. ft.)	-	4,850	8,418	7,942
Juvenile holding cells	-	9	9	9
Fire Protection				
Fire flow (gpm)/ duration (hr.)[a]				
Emergency Medical Services				
Ambulances	-	9	10	9
Emergency medical technicians	-	65	70	61

Table 4-14 (Continued)

Resource Protection Alternative
Summary of Regional Socioeconomic Impacts
Resulting from BLM Actions

Socioeconomic Development Category	Change From Projected Baseline			
	1985	1990	1995	2000
Utility Service Demands				
Water System				
Connections	-	3,130	5,436	5,127
Supply (10^6 gal./yr.)	-	1,828	3,174	2,994
Storage (10^6 gal./yr.)	-	917	1,588	1,498
Treatment (10^6 gal./yr.)	-	1,828	3,174	2,994
Sewage System (10^6 gal./yr.)	-	352	614	580
Solid Waste Acres/Yr.		2.1	3.6	3.4

Source: BLM 1983h.

[a]Fire protection measured in fire flow (gpm)/duration (hr.) cannot be aggregated across the affected counties.

TABLE 4-15

Number of Operators Affected Under the Resource Protection Alternative and Degree of Impact

	Percent Increase From Existing Use and Revenues				Percent Decrease From Existing Use and Revenues		
	50-100	11-50	1-10	Not Affected	1-10	11-50	51-100
Public Rangeland Forage					8	31	
Operator Returns Above Cash Cost					28	10	1

Note: Changes are based on average use over the past 3 years.

TABLE 4-16

Summary of Short-Term and Long-Term Economic Impacts to Livestock Operators in Dollars

Cattle Operators	Current Situation	Average Resource Protection Case	Worst Resource Protection Case
Gross Revenue	$2,415,282	$2,397,835	
Total Cash Cost	1,441,458	1,449,225	
Returns Above Cash Cost	973,824	948,610	$ 906,224
Returns to Labor and Investment	526,204	503,541	459,591
Sheep Operators			
Gross Revenue	$3,585,258	$3,452,004	
Total Cash Cost	1,509,804	1,515,114	
Returns Above Cash Cost	2,075,454	1,936,890	$1,925,653
Returns to Labor and Investment	1,719,522	1,582,344	1,569,926

Table 4-17

Resource Protection Alternative
Cumulative Infrastructure Needs
BLM and Interrelated Projects

Socioeconomic Development Category	1985	1990	1995	2000
Population Growth				
Total	27,282	59,098	79,804	91,103
School Age	4,619	11,296	20,207	35,217
Employment Growth	15,817	30,591	36,010	38,609
Household Growth	8,264	18,593	23,782	25,575
Infrastructure Requirement				
Housing				
Single family	4,958	11,158	14,261	15,347
Multi-family	1,239	2,794	3,569	3,842
Mobile homes	2,066	857	5,946	6,398
Education				
Students	4,619	11,296	20,207	27,776
Classrooms	185	456	811	1,115
Teacher	185	456	811	1,115
Health Care				
Hospital beds				
General care	59	84	136	185
Long-term care	12	42	69	81
Medical personnel				
Doctors	16	42	53	59
Dentists	14	36	45	51
Nurses	46	105	138	157
Public health nurses	6	19	24	25
Medical health care				
Clinical psychologists	3	13	13	13
Methal health workers	4	15	15	17
Public Safety				
Law Enforcement				
Police officers	54	110	144	185
Patrol cars	54	110	144	185
Jail space (sq. ft.)	13,592	29,526	39,645	45,297
Juvenile holding cells	5	16	18	19
Fire Protection				
Fire flow (gpm)/ duration (hr.)[a]				
Emergency Medical Services				
Ambulances	6	19	24	25
Emergency medical technicians	38	133	165	171

Table 4-17 (Continued)

Resource Protection Alternative
Cumulative Infrastructure Needs
BLM and Interrelated Projects

Socioeconomic Development Category	1985	1990	1995	2000
Utility Service Demands				
Water System				
Connections	8,769	18,975	25,584	29,229
Supply (10^6 gal./yr.)	5,121	11,082	14,941	17,069
Storage (10^6 gal./yr.)	2,561	5,544	7,474	8,535
Treatment (10^6 gal./yr.)	5,121	11,082	14,941	17,069
Sewage System (10^6 gal./yr.)	992	2,144	2,894	3,307
Solid Waste Acres/Yr.	5.9	12.4	16.8	19.1

Source: BLM 1983h.

[a]Fire protection measured in fire flow (gpm)/duration (hr.) cannot be aggregated across the affected counties.

fic increases are shown in Table 4-18. Highway levels of service would not change. A slight, unquantifiable increase in traffic accidents would be expected to occur.

UNAVOIDABLE ADVERSE IMPACTS

Development of mineral resources such as oil and gas, tar sand, and oil shale would result in surface disturbance and modification of topography.

Forage utilized by wildlife, livestock, and wild horses would be lost as a result of various mineral and mineral-related developments. If this alternative is selected, livestock AUMs would decrease partially due to increasing wildlife numbers.

Wildlife and wild horses displaced by mineral development into surrounding areas of suitable habitat could be subject to crowding, stress, and competition for forage, water, and cover. In addition, an unquantifiable amount of habitat surrounding each oil and gas well would be abandoned by most wildlife species. However, restrictions on mineral development in deer and elk fawning and calving areas would lessen these impacts.

The White River could be depleted of 28,000 acre-feet of water per year for additional energy development. Salinity would increase at the mouth of the White River by 2.6 mg/l and at Imperial Dam by 1 mg/l.

Approximately 9,900 to 19,700 tons of soil would be lost as a result of surface-disturbing activities related to mineral development.

TSP concentrations would increase with a greater probability of exceeding PSD Class II limits. Atmospheric discoloration may occasionally be visible near synthetic fuel facilities and power plants, at Dinosaur National Monument, and the Uintah and Ouray Indian Reservation.

Overhead powerlines and communication lines within the designated utility and transportation corridors may not comply with visual resource management Class II and Class III areas.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Based on present technology, minerals mined and subsequently consumed, or left underground as unrecoverable, would be irretrievably lost.

Tar sand strip mining could permanently alter the site potential to produce forage on approximately 840 acres. The changes would be irreversible.

Soil would be irretrievably lost as a result of surface-disturbing activities.

Some degradation of air quality would be irreversible, due to established urbanization in the area after closure of the oil shale and tar sand facilities.

SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Because of the number and amount of minerals considered unrecoverable with present mining technology and practices, loss of mineral production could occur in the long term to achieve short-term minerals production.

In areas where grazing has resulted in poor ecological condition, the loss of topsoil or source of seed for perennial plants, would reduce the long-term productivity of the range.

Use of prescribed burning techniques would result in a short-term loss of forage in the treated area of from one to three years. The long-term productivity of the area can be increased by up to three times the annual production rate. Chemical treatments and clear cutting would have similar short-term losses for long-term forage gains. A total of 16,000 acres would be treated using these methods, resulting in an additional 1,700 AUMs of forage.

The harvesting of firewood would increase the long-term production of forage for wildlife and livestock.

Decreasing livestock use by ***13,521*** AUMs and deferring spring grazing in the short term would result in a long-term improvement in ecological condition in riparian areas, floodplains, and the overall range. Forage removed for mineral production sites and facilities along with oil and gas pads and roads would be considered a long-term forage loss. Forage, removed in areas with less than 10 inches of rainfall, would be considered a long-term loss (up to 30 years) unless special mitigation is employed, such as fencing and watering. Although a short-term loss of forage occurs from strip mining, in situ development, and oil and gas wells that do not go into production, a long-term forage production can be maintained or improved with adequate rainfall and proper reclamation techniques.

Although a short-term forage and habitat loss would result from forage and habitat improvement projects, a long-term forage and habitat benefit would result. The short-term effects of livestock project construction, timber harvest, and energy development would be the abandonment of habitats by wildlife during the developmental and operational phases. It would be expected that wildlife would return to these areas following a period of successful reclamation. In mineral-developed areas with limited rainfall or poor quality soils, reclamation of wildlife habitat could take up to 30 years resulting in a long-term loss of habitat. This period of time

Table 4-18

Projected Average Daily Traffic Levels
Caused By BLM Generated Impacts, By Alternative,
By Year 1995

Highway Segment	Resource Protection	1995 Commodity Production	Balanced Use
Utah 88			
From Ouray to U.S. 40	812	1,556	1,285
U.S. 40			
From Utah 88 to Vernal	1,618	3,102	2,562
From Vernal to Jensen	1,469	2,815	2,325
From Jensen to County 262	654	1,253	1,035
From County 262 to Colo. Line	634	1,215	1,004
County 262			
From Utah 45 to U.S. 40	95	182	150
Utah 45			
From Vernal to County 262	411	787	650

could be lessened to a short-term impact with proper reclamation techniques. A short-term impact to wildlife habitat from construction of range improvement projects would enhance wildlife habitat over the long term.

The 28,000 acre-feet of water used to develop two additional oil shale tracts would be considered a long-term allocation of water (up to 30 years). This water would be available for other use upon project completion. During the long-term period of water depletion from the White River, salinity would be increased downstream. The water quality would be restored when the water was no longer needed for oil shale development.

A long-term improvement of riparian areas and floodplains would result from short-term closure of 14,200 acres to ORV use and limiting grazing on 5,950 acres.

The removal of woodlands for energy-related activities, chainings, burnings, and others, is considered a long-term loss (up to 150 years).

Wildfires occurring in pinyon/juniper stands would delay the regeneration process by destroying the seed source. Reestablishment of stands would be delayed 40 to 80 years. Depending on the size of the burn, the allowable cut could be reduced, thus, less pinyon and juniper firewood would be available for firewood cutters.

The amount of air quality degradation that would result from oil shale and tar sand developments would be a long-term commitment.

CUMULATIVE SUMMARY

Direct cumulative impacts on minerals would generally be the same as were discussed under the BLM Impacts for this alternative. However, it should be noted that while air quality permits and water supplies would be available for additional oil shale and tar sand projects, if considered separately from interrelated projects, when considered cumulatively, air quality permits and sufficient water supplies may not be available, resulting in delays in development of Federal oil shale and tar sand resources.

Livestock forage use would be decreased by approximately ***13,521*** AUMs below average use. This would be an overall cut of approximately 20 percent from average use (present operating levels) and approximately 48 percent from active preference (allowable operating levels). Grazing would be eliminated on the White River Bottoms, Birchell, and Green River AMP allotments.

BLM actions would result in improvement in ecological condition in 49 allotments and a static condition in 5 allotments. No declines in ecological condition would occur on an allotment basis. Approximately 943,000 acres would improve, and 171,900 acres would remain in static ecological condition. The net improvement of ecological condition would be a change of 5 to 10 percent, from fair to good, and approximately one percent from good to excellent.

Wildlife forage use would increase by approximately 11,959 AUMs, (27 percent) above the allocated use. This would be an increase of approximately 200 percent above the average (current) use.

Wild horses would be allocated 2,940 AUMs, a change from no allocation. The change would be a 19 percent increase over average (current) use.

An estimated 1,181 AUMs would be lost due to mineral development activities; however, the land treatments would add an estimated 1,708 AUMs of forage.

Cumulative depletions of the White River would increase ***to*** 195,000 acre-feet per year or 42 percent of the average annual flow. This would exceed the capacity of the White River reservoir by 86,000 acre-feet.

The cumulative increase in total dissolved solids concentration at Imperial Dam resulting from interrelated projects and BLM actions, would be 6 mg/l. The amount is less than a one percent increase.

Cumulative impacts to the watershed study area and floodplains are the same as discussed for BLM actions under the Current Management Alternative.

The cumulative demand for firewood could reach 7,400 cords per year by 1995. Firewood demand would annually exceed the allowable cut by 3,930 cords. The BLM would not be able to supply firewood for slightly over half of the people seeking wood permits.

With increasing population in the Uintah Basin, as well as numbers of big game, hunting opportunities could expand from 6,770 visitor days in 1982 to ***17,580*** or an increase of ***10,810*** visitor days by 1995. The quality of hunting would remain the same, as the increase of big game numbers would be nearly the same proportion as the increase of hunter visitor days. Demand for all other forms of recreation, except big game hunting, would expand from the current level of 7,200 to 21,860 visitor days, an increase of 14,660. Sufficient undeveloped areas would be available to accommodate the increase in dispersed outdoor recreation activities such as sightseeing, camping, and river floating. Other activities requiring developed facilities, would be available on adjacent State and U.S. Forest Service lands.

Cumulative impacts to air quality would likely exceed

Class II TSP standards at some areas, including Dinosaur National Monument; the Uintah and Ouray Indian Reservation; Vernal, Utah; and Rangely, Colorado. Yellow-brown atmospheric discoloration resulting from emissions of nitrogen oxides from synthetic fuel facilities and power plants would likely be visible on the Uintah and Ouray Indian Reservation, at Dinosaur National Monument, and near power plants and synthetic fuel facilities.

Cumulative impacts on infrastructure needs for the Resource Protection Alternative are summarized in Table 4-17. Population projections for Uintah and Duchesne Counties and the communities of Ballard, Vernal, and Dinosaur, show a need to accommodate a greater than 10 percent annual growth rate. Roosevelt, Myton, and Rangely would need to accommodate a greater than five percent annual growth rate.

The cumulative transportation impacts of the baseline, interrelated projects, and BLM actions, are displayed on Table 4-19. All highways except County Road 262 would provide an unsatisfactory level of service resulting in traffic congestion, accident rate increase, and road deterioration.

Table 4-19

Cumulative Projected Average Daily Traffic Levels
for Baseline, Interrelated and BLM Actions, By Alternative,
By Year 1995

Highway Segment	Resource Protection	1995 Commodity Production	Balanced Use
Utah 88			
From Ouray to U.S. 40	8,075	8,819	8,548
U.S. 40			
From Utah 88 to Vernal	22,787	24,271	23,731
From Vernal to Jensen	22,169	23,515	23,025
From Jensen to County 262	9,841	10,440	10,222
From County 262 to Colo. Line	9,295	9,876	9,665
County 262			
From Utah 45 to U.S. 40	1,639	1,726	1,694
Utah 45			
From Vernal to County 262	NA	NA	NA

NA: Not Available