

NWSRS. The middle Green River segment, two Nine Mile segments, and Argyle Creek would be dropped from consideration.

Continue Protection

Continuing to protect the upper and lower Green River segments for possible future designation as wild and scenic rivers would compliment the protection given to cultural resources by proposed ACEC designations.

Areas closed to lease operations because of no surface occupancy stipulations proposed for these two areas will have significant negative impacts on oil and gas operations, as well as on surface disturbing seismic geophysical exploration. An increase in drilling costs due to directional drilling requirements will occur. These stipulations will also increase the possibility of loss of oil and gas resources through drainage by state or private wells and loss of associated federal revenues.

Outstandingly remarkable values identified on these two segments would continue to be protected and recreation use would increase.

Designation could have long term negative impacts on future water impoundments, however, since there are currently no proposals for such actions in the future, no socioeconomic impacts can be determined concerning these water projects.

The proposed plan's decision to recommend these two segments for inclusion in the system, by itself, should not significantly affect the individuals and entities holding existing water rights. However, should the recommendation be accepted and designation approved by Congress, some restrictions could be imposed on the existing water users to maintain the free flowing character of the river.

Drop From Further Consideration

Dropping the middle Green River segment, both Nine Mile segments, and the Argyle segment from further consideration for inclusion into the NWSRS would have the following impacts:

- Even though Nine Mile Creek would not be recommended, important cultural and paleontological values would continue to be protected by the proposed ACEC designation.
- The middle Green River segment would be left open to uses that could damage identified wildlife habitat. Increases in human activity could also

displace special status raptor species which use the river corridor for nesting and hunting.

- Not identifying the middle Green River segment, two segments along Nine Mile Canyon, and one in Argyle Canyon for protection and further study, would leave the stream corridors open to uses that could damage identified outstandingly remarkable values along the corridors. However, it is anticipated that the impacts to these rivers would be minor because cultural resources, scenic values, and riparian areas would continue to receive protection.

DIRECT AND INDIRECT IMPACTS OF IMPLEMENTING ALTERNATIVE A

IMPACTS TO CULTURAL AND PALEONTOLOGICAL RESOURCES

From Management Actions for Fish and Wildlife Habitat Programs

Accidental disturbance of both cultural and paleontology resources would continue to occur as surface disturbing actions such as land treatments and water developments are completed to benefit wildlife.

Any paleontological information lost would limit knowledge of the behavior of different species of animals, their social organization, including adaptive behavior and interspecies interaction.

Any cultural information that is lost would limit our ability to understand the behavior and social structure of past societies.

From Management Actions for Minerals Programs

Accidental disturbance of both cultural and paleontology resources by activities associated with mineral exploration and development would continue to occur at approximately the current rate. This rate is unknown.

Any paleontological information lost would limit knowledge of the behavior of different species of animals, their social organization, including adaptive behavior and interspecies interaction.

Any cultural information that is lost would limit our ability to understand the behavior and social structure of past societies.

From Management Actions for Recreation Programs

Continued active management of the John Jarvie National Historic District in Browns Park would allow the public to gain a better understanding of the history of this fascinating area. By preserving, displaying, and interpreting the many structures and items at the site, the public gains a better appreciation of the need to protect and preserve cultural resources.

Protecting the Desolation Canyon National Natural Landmark on the lower Green River below the Sand Wash Recreation Site would increase public awareness of the importance of John Wesley Powell's historic trip down the Green River in 1869.

Vandalism and accidental disturbance of resources would continue to occur at the present rate or increase slightly as OHV and other recreation use of public lands increase.

From Management Actions for Special Emphasis Areas Programs

Not designating Nine Mile Canyon, Red Mountain-Dry Fork or Browns Park Complexes as ACECs would make it more difficult to stabilize and protect the important cultural resources within these areas because they would not receive the management priority consideration afforded an ACEC. As a result site deterioration would continue and eventually some resources would be lost.

IMPACTS TO FISH AND WILDLIFE HABITAT RESOURCES

From Management Actions for Fish and Wildlife Habitat Programs

Approximately 19,000 acres (57 percent) of the total identified black-footed ferret habitat would be managed in a maximum of two areas for the recovery of the species. This could support up to 153 ferrets, assuming one ferret per 124 acres (Forrest, et al., 1985), and no more than two reintroduction areas used. This would be a better positive, long-term benefit than the proposed plan because it provides eight percent more habitat and maintains that habitat in two areas. This action would also meet BLM's policies concerning special status species habitat conservation as well as the Black-Footed Ferret Recovery Plan objectives.

The impacts to adjoining land owners from the reintroduction of black-footed ferrets on public lands is not considered significant. Please review the DMRA

guidelines for potential black-footed ferret reintroductions in Appendix 2 for further information.

Allowing permanent surface disturbance and routine human activity near active ferruginous hawk and golden eagle nest sites, even after the young have left the nest, could force these animals to continually seek new, possibly less quality, nesting habitat. This would be a significant negative long-term impact and could prolong the present special species status ranking.

Implementing seasonal restrictions precluding surface-disturbing activities on 57,000 acres (or 31 percent of the total identified) of sage grouse nesting habitat would be a slight negative long-term impact for this species. This would only protect 68 percent of all nests according to the Western States Sage Grouse Guidelines.

Approximately 31,000 acres (or 25 percent of the identified potential habitat) would be open to the reintroduction of bighorn sheep within the DMRA. This would limit the population to 44 animals yearlong, based on the 95 AUMs currently allocated for bighorn sheep. This would be a moderately negative impact for bighorn sheep management in the resource area, as UDWR objectives would not be met. Public demand for more bighorn sheep would also be met.

From Management Actions for Lands and Realty Programs

Acquiring additional public vehicle access could open 70,700 public acres of presently inaccessible public land. This action would have a negative long-term impact on wildlife by reducing wildlife populations due to increased hunter access, losing available forage as a result of road construction and OHV destruction, and increasing human harassment and poaching. The Utah Board of Big Game Control, the Utah State Interagency Committee and the Big Game Section of Utah Division of Wildlife Resources have all recommended access regulation to improve wildlife habitat security. A majority of the people attending the 1991 and 1992 Big Game Board meetings indicated that increased access and hunter crowding had a significant negative impact on buck-to-doe ratios, thus adversely affecting breeding success and populations.

A protective withdrawal for 19,400 acres of riparian habitat on the Green River Scenic Corridor would have significant positive impacts for 14 of the 23 known special status wildlife species and fisheries habitat in DMRA by maintaining their high quality habitat.

From Management Actions for Livestock Programs

Continuation of existing management actions on private land would accelerate the decline in high priority sage grouse habitat. About 56 percent of the known habitat has already been lost (see Chapter 3).

Negotiating with livestock permittees to eliminate domestic sheep use within a 10-mile buffer of identified bighorn sheep reintroduction areas has the potential to reduce the likelihood of disease transmission from domestic livestock to bighorn sheep. The same impacts as described in the proposed plan would also apply here.

From Management Actions for Minerals Programs

Approximately 100 percent of the known Ferruginous hawk and 90 percent of the golden eagle habitat occurs within the areas affected by mineral activities. Protective stipulations would protect nest sites only during the reproductive period each year. After the reproductive period, all nest sites would be left unprotected and, if rendered unusable by unacceptable human activities in the area, could lead to the loss of habitat for these species and could lead to the ultimate decline in population levels.

Black-footed ferret reintroductions would be limited to two locations within DMRA, accounting for about 58 percent (19,300 acres) of the acreage identified as potential habitat. Of the three alternatives proposed reintroductions, this alternative affords the second smallest amount of acreage, and thus reducing the number of ferrets capable of being reintroduced. Any proposed reintroduction area would be considered a significant, long-term, positive impact to the survival of this species.

Approximately 77 percent of priority fisheries habitat, including proposed Critical Habitat for the four endangered fish in the middle and lower segments of the Green River, would not be protected from future mineral entry under this alternative's decision regarding protective withdrawals. Loss or severe degradation of these habitats and increased human disturbance could have significant negative, long-term impacts on these special status species.

ACEC designation would be proposed on 6 percent within DMRA, protecting and enhancing critical wildlife habitat on the upper segment of the Green River and Red Creek only. Other critical/crucial wildlife habitat at Pariette Wetlands, Nine Mile Canyon, Browns Park and the Red

Mountain-Dry Fork areas would not be designated as ACECs which afford the best opportunity for increased habitat enhancement and management.

From Management Actions for Riparian Programs

Restricting OHV use to designated roads and trails on 88,500 acres (12 percent of the resource area) seasonally or yearlong, would be a moderately negative long-term impact to wildlife. Wildlife would be disturbed on 46 percent more of the resource area than in the proposed plan, during reproductive and other crucial times. Increased poaching would occur when compared to the proposed plan, as 326,100 acres would be open to OHV use. UDWR has reported a direct correlation between increased human access and wildlife poaching; increased human access may lead to increased wildlife poaching.

Management actions for riparian habitat within the resource area would provide direct long-term benefits to 14 of the 23 special status species in DMRA. These actions are seen to be significant long-term positive benefit to wildlife habitat management success for the resource area and the region. The same benefits for special status species, general wildlife population increases, and the realization of BLM's Riparian Wetlands Initiative goals as described for the proposed plan would also apply here.

From Management Actions for Vegetation Programs

The vegetation treatments outlined in this alternative to meet livestock use objectives would maintain existing livestock grazing preference, while maintaining or enhancing the viability of the vegetation communities involved. Old-age stands of pinyon-juniper woodlands and decadent big sagebrush-mountain browse vegetation types would be managed in a mid seral ecological stage maintaining livestock preference by providing approximately 3,500 additional AUMs.

A maximum of 35,000 AUMs would be assigned to wildlife; 7,430 AUMs over current wildlife use. This additional use could accommodate a 10 percent increase in big game. This has the potential to be a significant negative impact as any increases in big game use would intensify wildlife/private landowner conflicts.

Old age stands of pinyon and juniper woodlands and decadent big sagebrush-mountain browse vegetation types (22,950 acres) would be managed in a mid seral ecological stage, providing approximately 3,500 additional AUMs of forage.

Alternative A would allow wildlife forage demands to increase from current levels of 27,600 AUMs to 35,000 AUMs, a 21 percent increase. This would be a minor positive long-term benefit to wildlife. UDWR herd unit objectives for big game would not be achieved. Additional wildlife transplants for bighorn sheep, etc., might not be possible if forage allocations were not available.

IMPACTS TO LANDS AND REALTY MANAGEMENT

From Management Actions for Fish and Wildlife Habitat Programs

Restrictions would be imposed on lands containing active raptor nest sites and sage grouse strutting grounds. These restrictions would affect approximately 14,500 acres and would prohibit the construction of right-of-way projects unless the impacts could be mitigated.

Maintaining 19,300 acres of existing black-footed ferret habitat would limit but not necessarily preclude right-of-way development. Applicants may be required to relocate and/or modify proposals and restrict activity to specific times.

Seasonal restrictions would be imposed on 295,000 acres to protect wildlife resources. These restrictions would not preclude land use authorizations but would limit construction periods to specific times of the year.

From Management Actions for Lands and Realty Programs

Adherence to the designated corridors would prevent the proliferation of major utility systems across undisturbed

public lands. The designation of specific corridors for future major right-of-way projects may impact those companies preferring alternative locations to some extent. However, this will ensure the protection of resource values through the land use analysis process which will be required for projects proposed outside of the established corridors. Closure of the corridor in Jesse Ewing Canyon would essentially close off the only north-south passage from Wyoming through northeastern Utah on BLM-administered lands.

It can be expected that the counties of Daggett, Duchesne, and Uintah would not be largely affected by future acquisition of public lands as the preferred method for acquisition would be through exchange. The disposal of land by sale, state selection, or R&PP would have a positive impact on the counties.

From Management Action for Recreation Programs

Recreation sites encompassing 5,500 acres would restrict those land use authorizations that would cause visual/aesthetics impacts and found to be inconsistent with the purpose of the recreational sites.

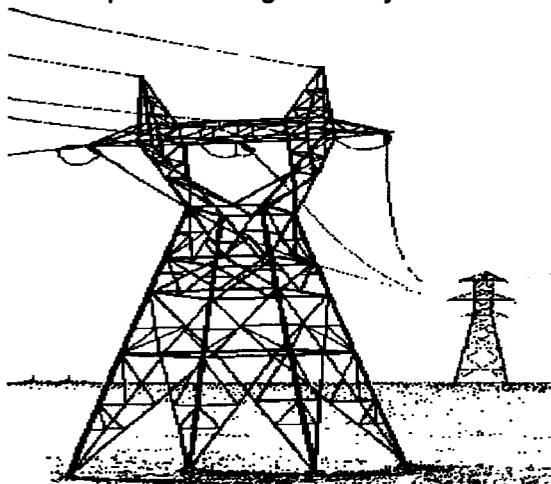
Land use authorizations would be prohibited on 19,400 acres within the Green River Scenic Corridor. Closure of the Jesse Ewing Canyon designated corridor upon reaching its capacity would essentially close the only feasible north-south passage from Wyoming through northeastern Utah on BLM-administered lands.

**TABLE 4-6:
POTENTIAL BLACK-FOOTED FERRET REINTRODUCTION AREAS
UNDER ALTERNATIVE A**

	SUNSHINE BENCH	SHINER	ANTELOPE FLAT	TWELVE MILE	BUCKSKIN HILLS
Priority of Reintroduction Areas	1	2	3	4	5
Oil/Gas Potential	Moderate	Moderate	Moderate	High	Moderate
Identified Habitat (in acres)	4,800	7,800	2,600	1,700	2,400
Percent of Area Leased*	38	0	98	98	0
Current Number of Producing Wells*	0	0	0	4	0
Projected Number of New Wells	5	5	15	20	5
Oil/Gas Spacing	160	40	40	160	40

* Source: BLM Automated Lands and Minerals Record System and Automated Inspection Records System, 1991

Seasonal restrictions on 8.5 miles of the designated corridor route within the Browns Park Complex would limit construction periods for rights-of-way.



Impacts due to restrictions in potential black-footed ferret reintroduction areas prior to and following reintroduction were analyzed for all potential black-footed ferret reintroduction areas. Table 4-6 outlines general information concerning the potential black-footed ferret habitat reintroduction areas as relates to oil and gas activities.

Prior to ferret releases in the reintroduction areas restrictions on surface-disturbing activities would increase operational costs by rerouting or moving surface disturbing activities (such as access roads, pipelines, drilling pads, and production facilities) in order to avoid areas of high prairie dog density (>10 burrows per acre). This will affect the overall orderly development of oil and gas fields by restricting the regular and orderly placement of wells. The amount of surface disturbing activities will be limited to a maximum of 10 percent in the reintroduction area to protect potential black-footed ferret reintroduction areas. This may substantially limit the amount of exploration and development activities and subsequent economic benefits to federal, state, and county governments. Significant surface disturbing seismic geophysical activities will be restricted to existing roads and trails. This may affect the quality and quantity of seismic data collected and may have an affect on subsequent exploration or production programs.

Prior to release of black-footed ferrets, prairie dog colonies in the Sunshine Bench and Twelve Mile reintroduction areas will be allowed to expand 10 percent from their present size to enhance potential black footed ferret habitat. The restrictions outlined in Appendix 2 will also apply to the expanded areas and impacts will be similar to those described above.

After the release of black-footed ferrets in one or several of the reintroduction areas, no new surface disturbing activities relating to oil and gas will be allowed between March 1 through August 31, within 1/4 mile of the habitat occupied by black-footed ferrets to protect reproductive and active litter periods (see the table below for the size of 1/4 mile buffer in each of the reintroduction areas. This timing restriction will limit all exploration, production, and associated oil and gas surface disturbing activities from September 1 to February 28. Such a restriction will cause construction associated with exploration and production to take place during winter months. This will cause increased construction and drilling costs. Increased costs will also be incurred by operators by the requirement of installing mufflers on all equipment within 1/4 mile or within the black-footed ferret occupied reintroduction area. Periods of heavy vehicular traffic (i.e., drilling) would be encouraged during daylight hours. To the extent BLM has the authority, human activity would only be allowed during daylight hours after sunrise to two

IMPACTS TO LIVESTOCK MANAGEMENT

From Management Actions for Woodlands Programs

Firewood harvests in areas presently little-used by livestock would benefit livestock by providing approximately 225 AUMs over the life of this plan.

IMPACTS TO LEASABLE MINERALS MANAGEMENT - OIL AND GAS

From Management Actions for Fish and Wildlife Habitat Programs

No surface occupancy stipulations and timing stipulations to protect sage grouse strutting grounds will have significant negative impacts on high potential mineral estate in the Myton Bench-Nine Mile Canyon and in the Horseshoe Bend-Ashley Valley gas producing regions. Seasonal restrictions from March 1-June 30 may result in altering drilling schedules of lessees which may further cause increased drilling costs. Surface disturbing geophysical exploration will be limited to designated roads and trails. This may influence the amount and quality of data collected, which in turn may have an indirect impact of increasing exploration risks. Public comment indicates that the number of restrictions will reduce the value of oil and gas leases as well as increase exploration costs.

Raptor protection zones would pose minor adverse impacts to the exploration and development for oil and gas resources.

hours before sunset. The only exceptions would be in case of emergencies, petroleum drilling, and associated servicing related traffic. This will cause some exploration, production, and associated oil and gas activities to take place during daylight hours. In turn, this will cause delays in exploration or production activities and will increase costs. There will be no impact to the maintenance and operation of existing production facilities in the Twelve Mile area.

Travel restrictions limiting OHV use to designated roads yearlong on 19,400 acres identified for possible reintroduction of black-footed ferrets would impact driving for pleasure and hunting. Restrictions prohibiting access during early morning and evening hours would impact antelope hunting opportunities on those areas. Small same hunting would take place, but fewer hunters would participate. This would result in a displacement of 50 visitor days for hunting each year to other parts of the resource area.

	OIL AND GAS POTENTIAL	1/4 MILE BUFFER IN ACRES
Sunshine Bench	Moderate	8,000
Shiner	Moderate	10,200
Antelope Flat	Moderate	4,300
Twelve Mile	High	3,400
Buckskin Hills	Moderate	3,400

From Management Action for Lands and Realty Programs

Acquiring public vehicle access will provide hunters and recreationists with additional opportunities on approximately 70,700 public lands presently surrounded by private land and thus unreachable. Increasing access to public lands along the Green River will provide additional fishing and recreational opportunities. These additional opportunities would result in an increase of 6,800 visits to the area annually over the long term.

From Management Actions for Riparian Management

Management actions for the protection of riparian areas under this alternative would continue to have a minor negative impact to oil and gas activities, including geophysical exploration.

Recommending protective withdrawals on identified developed recreation sites and along the Green River Scenic Corridor ACEC would protect scenic, historic, aesthetic and recreational values from future agricultural or mineral development. Use would be expected to continue to increase at a rate of 10 to 15 percent annually over the long term.

IMPACTS TO LEASABLE MINERALS MANAGEMENT - PHOSPHATE

Lands now under preference right lease for phosphate (7,650 acres) would be open to development and/or occupancy under this alternative with specific restrictions to minimize adverse impacts to crucial deer winter habitat.

From Management Actions for Minerals Programs

Development of identified high potential oil and gas areas would result in 150,900 acres currently identified as possessing semi-primitive, motorized values in the Three Corner and Myton areas, dropping one class to roaded natural in the Recreation Opportunity Spectrum inventory. This would change the type of recreation opportunities available in these areas from a somewhat primitive to a less natural experience. The number of persons affected is not known at this time, but it is expected to be significant over the long term.

IMPACTS TO RECREATION MANAGEMENT

From Management Actions for Fish and Wildlife Habitat Programs

Travel restrictions limiting OHV use to designated roads yearlong, on 8,200 acres at Parlette Wetlands to protect important waterfowl habitat could impact recreational hunting by restricting vehicular access. However, since foot access is available, this would not be significant for the majority of the public land users. These restrictions would also benefit the recreation program by protecting wildlife during their crucial reproduction season, thus enhancing watchable wildlife opportunities. Overall it is expected that recreation use would not change.

From Management Actions for Recreation Programs

Semi-primitive, nonmotorized values on 6,900 acres would be protected for the enjoyment of primitive forms of recreation. This is 11 percent of the semi-primitive, nonmotorized lands in the resource area, and would significantly impact recreation. Demand for these types

of areas is expected to increase 5 to 10 percent annually over the long term.

It is important that this type of primitive recreation opportunity be provided to the public. Currently, there are no wilderness areas and only two small areas identified as BLM wilderness study areas totalling approximately 10,000 acres in the resource area. This alternative would assure that 6,900 acres would be protected. This is 36,300 acres less than in the proposed plan.

Over the next 10 years, demand for these areas is expected to increase dramatically. With only 6,900 acres protected for this type of use, BLM will not be able to meet future demand for primitive-type recreation experiences.

Managing for both primitive and developed forms of recreation would provide opportunities for people preferring primitive types of experiences (such as hiking, backpacking, horseback riding, and bicycling), as well as those preferring more developed and concentrated forms of recreation. Both types of use on public lands would benefit, and as a result increase.

Although it is expected that recreation visits will go down in areas where OHV access will be limited to protect critical resource values, overall use in the resource area will not be significantly affected. Use patterns will simply change and people will move to areas with fewer restrictions.

From Management Actions for Soil and Water Programs

Management actions to protect highly erodible and saline soils, and floodplains by limiting OHV use on 19,000 acres to designated roads (March 1 to April 30 and September 1 to October 31) could adversely affect driving for pleasure and, in the fall of the year, close access by hunters to some hunting areas. It is expected that 300 visitor days to public lands would be displaced to other areas because of this restriction.

From Management Action for Special Emphasis Areas Programs

Outstandingly remarkable wild and scenic river values would continue to be protected along the three Green River segments identified as being eligible for further study and possible inclusion in the Wild and Scenic River System. This status would attract recreationists who enjoy various water-based recreation activities such as canoeing, rafting, fishing, hiking, and camping.

The upper segment through Browns Park is currently receiving heavy use (10,000 visitor days in 1991) that is increasing annually. The middle and lower segments currently receive very little use but wild and scenic river designation would cause use to increase an estimated 10 percent annually to 800 visitor days on the middle segment and 1,300 visitor days on the lower segment in 10 years.

Not identifying two segments in Nine Mile Canyon and one in Argyle Canyon for protection and further study would leave these stream corridors open to uses that could damage identified outstandingly remarkable cultural and/or scenic values along the corridors. It is anticipated these impacts would be minor because cultural resources, scenic values, and riparian areas would continue to receive protection.

From Management Actions for Visual Programs

Travel restrictions limiting OHV use to designated roads year long on 10,600 acres in Browns Park to protect scenic values along the Green River, could restrict access to the Green River by fishermen and hunters, but would improve scenic quality on Class II VRM lands in the river corridor and maintain existing wild and scenic river values and enhance the primitive recreationists' experience. Overall, it is expected that recreation use in the river corridor will increase at least 10 percent annually. The hunters and fishermen displaced by OHV restrictions would move to other areas.

From Management Actions for Woodlands Programs

Firewood gathering would continue to provide family-centered recreation opportunities for 300 families. This could increase to 425 families and still maintain the woodland stands on 202,700 acres.

IMPACTS TO RIPARIAN HABITAT RESOURCES

From Management Actions for Riparian Programs

Improving approximately 7,200 public acres, or 98 miles, of inventoried riparian areas from an early and mid to a late or climax ecological stage and implementing rangeland improvements and improved grazing systems on the uplands would increase vegetation and wildlife species diversity and create wildlife, recreation, and watershed benefits. Criteria for maintaining a minimum of

three (3) inches of herbaceous growth after livestock grazing in riparian areas would enhance riparian vegetation productivity, resulting in streambank and water quality improvements.

IMPACTS TO SOCIOECONOMICS

From Management Actions for Cultural and Paleontological Programs

Continuing the Green River Scenic Corridor ACEC would increase priority management of the area, reducing site deterioration of important cultural resources, which may have values not yet quantified. There would be no additional administration costs under this alternative.

From Management Actions for Fish and Wildlife Habitat Programs

Increasing wildlife allocation by 7,400 AUMs to 35,000 AUMs could lead to increased animals, to increased hunting pressure, and ultimately to more expenditures. Although this relationship is not clearly understood, if there were a one-to-one relationship, an allocation increase of 27 percent would lead to an increase of \$916,650, totalling to \$4,311,650 for the fish and wildlife resource. There are many steps between the allocation of additional AUM allocation in the planning process and the additional expenditures by increased hunter participation, which makes analysis of this procedure difficult at best. Further, increased allocations may lead to more damage to private landowners.

Administrative costs for issuing bear baiting permits, developing habitat for cavity dwelling birds, restricting

activities on crucial deer and elk winter range, antelope fawning areas, bighorn sheep winter and rutting areas, and sage grouse strutting grounds would cost about \$11,500 each year.

Reintroduction of black-footed ferrets on 2 areas where there would not be a conflict with other current existing uses would require about \$4,000 per year for planning, \$10,000 per year for inventory, and a one time cost of \$100,000 for two releases of up to 100 ferrets. If these reintroductions are successful, this species could ultimately be delisted and no longer act as a barrier to economic development.

The impacts to adjoining land owners from the reintroduction of black-footed ferrets on public lands is not considered significant. Please review the DMRA guidelines for potential black-footed ferret reintroductions in Appendix 2 for further information.

Providing stream habitat and allowing present forage allocation for: river otter, upland game, antelope, and bighorn sheep could require \$4,000 per year for planning and cost share of \$2,000. These measures may stimulate the viability of the targeted species and their affiliated benefits.

Total costs of administering the wildlife program under the proposed plan would total \$52,000 plus the one time cost of \$100,000 for the black-footed ferret releases. These expenditures by BLM and other agencies and interested parties may be viewed as an economic injection into the community and region. Alternative A for the wildlife program has the second highest costs of the five alternatives.

**TABLE 4-7:
ESTIMATED ANNUAL OIL AND GAS,
REVENUES FOREGONE BY THE COMMUNITY, ALTERNATIVE A**

Region	No of Precluded Successful Wells	Estimated Precluded Annual Production		Estimated Lost Annual Revenue		
		Oil	Gas	Oil	Gas	Total
Myton Bench/ Nine Mile Canyon	6	55,300 barrels	239,631 MCF	\$1,106,000	\$359,447	\$1,465,447
Horseshoe Bend/ Ashley Valley	3	88,332 barrels	44,168 MCF	\$1,766,649	\$66,252	\$1,832,901
Clay Basin/Manila	4	7,140 barrels	1,428,000 MCF	\$142,800	\$2,142,000	\$2,284,800

From Management Actions for Lands and Realty Programs

Acquiring needed public vehicle access for recreational purposes identified in the areas under this alternative would require about \$10,600 to administer. This added access may serve as an attraction to participants and their affiliated spending patterns.

Land use authorizations under this alternative are slightly more restrictive than the proposed plan as reflected in the slightly higher annual administration costs of \$104,107. Again, there could be future constraints to development between the Wyoming and northeastern Utah corridor which can allow only 3 more new facilities.

Making 7,500 acres available for agricultural leases is much more restrictive than the proposed plan to enterprises interested in such operations.

Site development plans would cost \$16,000. Though this alternative is slightly more restrictive, it would may still stimulate the local TCPU and dependent sectors.

Alternative A presents a less restrictive situation for parties interested in water development rights-of-way, which could promote associated expenditures to the community.

Consider 4,300 acres of isolated tracts and community expansion lands for sale. This is more conservative than the proposed plan, but could lead to less conflicts with the public over land management, decrease administration costs, and promote development opportunities for communities and entrepreneurs.

From Management Actions for Livestock Programs

Maintaining current livestock forage assignments at 50,299 AUMs could contribute \$498,463 annually. Costs to manage the current 108 grazing allotments under the category system outlined in Alternative A would be approximately \$46,500 annually.

From Management Actions for Minerals Programs

Gilsonite deposits in the Myton area would be generally available for development, which could lead to 15 additional jobs and \$525,000 each year.

Table 4-7 provides an estimate of the impacts to the community from implementing the decision of Alternative A.

If the above forecasted wells are precluded, a total of \$5,583,148 would be lost annually to the community. Of this total 12.5 percent or \$697,893 in royalties would be lost to the federal government. Of these royalties collected by the federal government, half would be returned to the State of Utah. Finally, of the royalty money returned to Utah, a percentage would be returned to the counties, based upon their total oil and gas production.

Losses from precluded wells would be primarily to oil and gas companies. The loss to the counties would be a loss of royalties, severance tax, ad valorem tax, property tax, and sales tax. There also would be a loss of revenues to oil service companies and community businesses.

Opening up 7,650 acres of moderate to high grade phosphate lands could lead to mineral development and ultimately to additional employment of 350 jobs and \$4 million each year during full production.

Tar sand development would be authorized on 66,200 acres of federal mineral estate and Duchesne county could forego between \$500,000 and \$1,500,000 annually in pavement costs, perhaps leading road paving.

From Management Actions for Recreation Programs

Total use in the DMRA in 1990 was 138,800 visits, if these are classified as "dispersed site recreation" then participants may spend \$11.76/day totalling to \$1,632,288. However, if these are mostly "developed site recreation" then participants may spend \$6.54/day, a total of \$907,752 would be spent annually. An average of \$1,270,020 each year.

Administering the OHV program could require a one time cost of \$2,000 or \$4,000 annually.

Develop recreation facilities at 4 new sites and expansion of 3 existing recreation could contribute a notable amount of contract business to local entities. Approximately \$375,000 over the life of the plan could be spent on development of new sites. The new recreation sites are similar to the proposed plan and would be an insubstantial difference.

Approximately \$140,000 may be spent on expansion of recreation sites over the life of the plan under Alternative A. The proposed plan has one additional site (Indian Crossing) than the current situation that would be expanded.

Provide minimum facilities to protect human health and safety at Pariette Wetlands could cost \$100,000 over the life of the plan.

Development of five interpretive facilities at Diamond Hoax, Taylor Flat, Pariette Wetlands, and Clay Basin Gas Field would require about \$40,000 over the life of the plan. The proposed provides an extra interpretive facility at Brush Creek.

Development of 15 miles of hiking and/or horseback trails, as described under Alternative A may require \$30,000. The proposed plan provides an additional 8 miles of hiking trails and 12 miles of bicycle trails.

Maintaining the character and values of 6,800 acres of identified semi-primitive non-motorized areas (see Map 2-7) could require \$1,000 and draw recreationists interested in such values. However, this would exclude OHV use and could have an overall decrease in revenues brought into the community.

Establishing back-country byways, as described under the proposed plan, could cost \$20,000 and draw more tourists to the area, thus increasing the probability of larger revenues to the community.

If these development totals are added up and divided by the number of years in the life of the plan an annual cost may be estimated, in this alternative equalling \$47,200. In addition, there would be \$50,000 required annually to administer and maintain these projects.

Not only will these developments cause injections into the community, but more recreationists will be able to use the area at any one time, perhaps leading to greater expenditures for local merchants.

From Management Actions for Riparian Programs

To improve the 7,200 public acres of riparian habitat to a late or climax seral stage, would require a total of \$88,500 (12.5 miles of fence and 9 miles of pipeline).

From Management Actions for Soil and Water Programs

Vegetation treatments outlined in the proposed plan would result in the annual retention of approximately 344,250 tons of potential sediment on site, leading to an annual savings of approximately \$24,097 (\$0.07/ton) to downstream Colorado River users. Assuming one percent of these retained sediments are salts, an additional savings of \$225,002 (\$65.36/ton) could be realized by downstream Colorado River users. Thus, total

erosion savings for these vegetation treatments would equal \$249,100 per year.

Oil and gas activities in the Myton Bench-Nine Mile Canyon and Horseshoe Bend-Ashley Valley regions could result in accelerated erosion producing about 5,500 tons of sediment, costing approximately \$385 per year. Additionally, salinity reclamation costs would equal \$3,595 per year, thus the total erosion costs from oil and gas would total \$3,980. The difference between retaining the soils on site versus estimated soil loss from oil and gas activities would be \$245,119 per year.

From Management Actions for Vegetation Programs

Under this alternative range improvement costs would be identical to the proposed plan totalling 168,267 annually, while administering this program would be \$31,000 annually, resulting in a total annual cost of \$199,267.

From Management Actions for Woodland Programs

If 2,300 cords are taken and personal wood cutting permits cost \$5 per cord, the BLM may realize \$11,500 annually. However, if commercial wood is sold in the Wasatch Front for \$100 per cord, individuals may forgo \$95 of cost per cord or derive a total value of \$218,500 annually. A crude benefit/cost ratio demonstrates the large benefit to individual wood cutters, $\$100/\$5 = 20$. This does not include costs of labor, equipment, and related supplies. This activity could have a significant value to individual families in the local community due to the savings compared to commercial wood.

Further benefits may be obtained by the harvesting of Christmas trees, juniper fence posts, pinyon pinenuts, live trees, and non-barrel cactus, although alternative A is more restrictive concerning acreage.

IMPACTS TO SOIL AND WATER RESOURCES

From Management Actions for Minerals Programs

In important watersheds in the Myton Bench-Nine Mile Canyon and the Horseshoe Bend-Ashley Valley oil and gas producing regions, approximately 1,100 acres could be disturbed, causing disruption of the water cycle by exposing bare soil to wind and water, thereby accelerating erosion. This area is difficult to revegetate due to low rainfall (less than 8 inches a year) and poor

soil development. Because of difficulty in revegetating these sites, accelerated erosion could increase if an active drilling program continues. This disturbance from oil and gas operations could cause an increase of soil erosion loss from two to five tons per acre per year. With five tons per acre per year increase in erosion from this activity, an additional 5,500 tons of soil per year could be lost.

Phosphate leases could occur on 7,650 acres. Actual surface-disturbing activities would involve a total of approximately 500 acres. It is unlikely that this total would be without any revegetation actions at any one time over the life of this plan. Thus, disturbance would have a short-term impact causing accelerated erosion only to the immediate area disturbed; however, long-term improved erosion conditions would occur due to successful reclamation as the mining activities progressed.

From Management Actions for Riparian Programs

Approximately 7,200 acres, or 98 miles, of riparian habitat would be improved, resulting in on-site and downstream benefits to the riparian ecosystem, affecting the vegetation, watershed and water quality values of the area. Downstream benefits to human health and safety due to reductions in flood hazards also would be gained.

From Management Actions for Soil and Water Programs

Restricting OHV use to designated roads with seasonal restrictions on 98,200 acres to minimize adverse surface runoff during periods of saturated soils and to protect critical (highly erodible or saline soils) and floodplains which would significantly benefit these valuable resources.

From Management Actions for Vegetation Programs

Achieving the ecological condition management goals outlined in this alternative would provide for a healthy watershed.

Treating 22,950 acres of closed, unproductive stands of predominantly pinyon-juniper and sagebrush vegetation types would improve long-term watershed conditions by increasing ground cover from herbaceous vegetation re-establishment following treatment. Estimating a long-term reduction in erosion by 50 percent, 344,250 tons of sediment would remain on-site over the life of this plan, resulting in a savings of approximately \$249,099. (See

Appendix 8 for possible treatment opportunities by type and acres for each grazing allotment.)

IMPACTS TO VEGETATION RESOURCES

From Management Actions for Livestock Programs

Treating 22,950 acres of closed stands of pinyon-juniper and sagebrush community types would result in increased vegetation diversity and overall community health, while providing forage production for livestock and wildlife. A benefit derived from pinyon and juniper burning is increasing diversity of herbaceous vegetation (Severson and Rinne, 1988).

From Management Actions for Minerals Programs

Oil and gas activities in the desert Myton Bench-Nine Mile Canyon and the Horseshoe Bend-Ashley Valley oil and gas regions could disturb approximately 1,100 acres. Low precipitation (less than 8 inches annually) and poor soil development in these areas, creates difficulty in vegetation reclamation. Surface-disturbed sites in these areas may remain devoid of desired vegetation for years, allowing opportunities for undesired plant species such as halogeton to invade. Wells may produce for five to twenty years before any rehabilitation efforts take place.

IMPACTS TO VISUAL RESOURCES

Development of high potential oil and gas resources in the Nine Mile area could negatively impact as much as 3,200 acres, or 5 percent of the 60,000 acres of Class II VRM in the resource area; therefore, VRM Class II could not be maintained. Any deterioration of visual quality would impact recreation users. These scenic areas would become less popular and visitor use would go down. The amount of this reduction cannot be predicted but it would take place over the long term.

IMPACTS TO WOODLAND MANAGEMENT

The prohibition on cottonwood harvesting to enhance bald eagle habitat and wild and scenic river values on 17,500 acres along the Green River corridor would negatively affect those people who prefer to cut and burn cottonwood. This demand could not be met.

Pinyon and juniper firewood could continue to be harvested to meet demand on a sustained-yield basis on 175,000 acres (96 percent of the woodland area in the resource area). Juniper fence posts and Christmas trees

would continue to be harvested on these same acres to meet the local demand. This means an increase of 23 percent could be accommodated and still meet sustained yield goals over the long term.

CUMULATIVE IMPACTS OF IMPLEMENTING ALTERNATIVE A

AREAWIDE CUMULATIVE IMPACTS

The cumulative effect of implementing the decisions outlined in this alternative, coupled with already existing decisions implemented by other land-managing federal, state, and local agencies affecting the Uinta Basin, is expected to have no significance.

The cumulative impacts to fish and wildlife under Alternative A would be:

- Special status raptor nest sites would only be protected seasonally from permanent surface disturbing activities resulting in a significant negative long-term loss of habitat for these species.
- Black-footed ferret reintroductions would be realized on a maximum of two sites totaling 19,000 acres, the second best alternative besides Alternative B for aiding in the recovery of the species. This represents 57 percent of all identified Black-footed ferret habitat in the DMRA.
- Approximately 57,000 acres (31 percent) of crucial sage grouse nesting habitat would be seasonally protected within 1.5 miles of all

strutting grounds. This would protect only 59 percent of all nests according to the Western States Sage Grouse Guidelines, a slight negative impact.

- Areas authorized for the reintroduction of bighorn sheep would remain at 31,000 acres (25 percent of the identified potential habitat). This would limit the population to 44 animals in one area of the resource area and be a significant negative impact to the reintroduction and survival of this native species.
- Wildlife forage assignments would be allowed to increase 21 percent over current use to 35,000 AUMs, a positive impact to wildlife. UDWR objectives for wildlife population levels and future transplants of native species to their historic range, might not be achieved.
- OHV use would be restricted to designated roads and trails on 88,600 acres (12 percent of the resource area) seasonally or year long. This would be a moderate negative impact as wildlife poaching would not be reduced nor human disturbance to wildlife during reproductive or other crucial periods.

The irreversible and irretrievable commitment of resources would be the same as described in the proposed plan.

The cumulative impacts to oil and gas activities under Alternative A are summarized below in Table 4-8 by 1) oil and gas producing regions, 2) oil and gas potential, and 3) level of protection (level 2-no surface occupancy).

**TABLE 4-8:
SUMMARY OF CUMULATIVE IMPACTS TO OIL AND GAS
ACTIVITIES UNDER ALTERNATIVE A**

OIL AND GAS PRODUCING REGIONS	HIGH POTENTIAL				MODERATE POTENTIAL			
	MANAGEMENT LEVEL 1		MANAGEMENT LEVEL 2		MANAGEMENT LEVEL 1		MANAGEMENT LEVEL 2	
	Acres*	%**	Acres*	%**	Acres*	%**	Acres*	%**
Myton Bench-Nine Mile Canyon	0	0	5,100	3	0	0	9,200	5
Horseshoe Bend-Ashley Valley	0	0	1,900	3	0	0	7,200	5
Clay Basin-Manila	0	0	7,100	47	0	0	8,900	21

* Acres of public land mineral estate
 ** Percentage of total high or moderate potential oil and gas mineral estate for the indicated region

Referring to Table 4-8, it is estimated that approximately \$5,583,000 could be lost annually to the community. Therefore, over the life of this plan, approximately \$82 million of oil and gas earnings (before royalty and tax payments) would not be realized. From these earnings, a total of \$10 million (12.5 percent of total oil and gas earnings) in royalty payments would not be obtained by the federal and state governments. Of this total, the State of Utah would lose total royalty payments of approximately \$5 million. In turn, the counties involved in the RMP would lose total royalty payments from the State of Utah of approximately 1.3 million. In addition, counties would lose revenues from associated and supporting taxes (i.e., property, sales, ad valorem, and severance).

OHV management actions allowing open use of 623,400 acres and use of designated or existing roads and trails on 85,600 acres could cumulatively impact watersheds resources, soils, scenic values, wildlife habitat and nesting sites, and threatened and endangered species.

Traffic counter and visitor register information in Browns Park indicate that visitor-use on the Upper Green River Corridor will continue to increase between ten (10) and fifteen (15) percent annually. This increase may have impacts on human health and safety, water quality, and aesthetic values within the river corridor.

Improving 7,200 acres (or 98 miles) of riparian areas by requiring a minimum of three (3) inches of herbaceous growth after grazing use and implementing range improvements and improved grazing prescriptions on the uplands would ensure maintenance of plant vigor, increase species diversity, aid deposition of sediments to rebuild degraded streambanks thereby providing protection, and increase wildlife habitat, recreation, and watershed benefits.

For the sake of analysis, costs represent expenditures by BLM which go into the community, thus stimulating the economy. On the other hand, benefits are a bit less tangible which are often based on economic forecasts that may be lacking adequate data. For example, the cultural program has well documented costs for various projects and developments, however the additional use or benefits that may occur due to these expenditures is not clear, neither is the "cause or effect" relationship.

Comparison between the "costs" and "benefits" is not reasonable for a variety of reasons; the lack of comparables, interrelated resources, missing measurable benefits, and omitted industry sizes. However, if the available benefits are divided by the available costs, a crude benefit/cost ratio may be devised. For Alternative A, benefits are approximately three times as much as costs, making it an economically feasible option.

The largest cost comes from the vegetation program and the biggest potential additional benefits are from the fish and wildlife programs. The lowest costs are from the riparian program and the minerals programs generating the lowest potential additional benefits. The problem with interconnected costs and benefits may be illustrated by the following example; the costs of the vegetation program generate benefits that show up in the livestock, wildlife, and soils programs. The magnitude of most economic impacts would be dependent upon the magnitude of the individual program changes.

Ranchers and business people would probably be opposed to any lands actions that would apply to special management designation or restrictions on commodities. Recreation, cultural, and visual resource management (VRM) resource programs draw tourism which is seen as beneficial, but if commodity development is restrained by restrictions and special management designations, support for these resources may decline.

Oil and gas development in the Myton Bench-Nine Mile Canyon and the Horseshoe Bend-Ashley Valley Regions could potentially increase annually 5,500 tons of soil erosion. However, seasonally restricting OHV use to designated roads (approximately 104,200 acres consisting of highly erodible soils, saline soils, and municipal watersheds), along with rangeland improvements (saving 22,950 tons annually) will mitigate negative, cumulative erosion impacts within DMRA.

SPECIAL EMPHASIS AREA CUMULATIVE IMPACTS

In Alternative A, the Crouse Canyon area, Green River Scenic Corridor ACEC, and the Red Creek Watershed ACEC, when analyzed together, encompass economic, ecological, and social values affecting public lands within Daggett County. The incremental impacts of the management prescriptions designed for these ACECs were analyzed for possible cumulative impacts to the resource area and outlined below. Since the Nine Mile Canyon, Pariette Wetlands, and Red Mountain areas are somewhat isolated pockets throughout the resource area they do not cumulatively, significantly impact the resource area and are not discussed in this section.

Suppression of wildfire to protect riparian zones in the Crouse Canyon and Green River Scenic Corridor ACEC will have long-term positive impacts to human safety, recreation, water quality, and aquatic-dependent wildlife in the Browns Park and northeast portion of the resource area.

Establishing a corridor for a common river crossing in level 2 lands in the Green River Scenic Corridor ACEC, and avoidance areas in level 2 lands in the Red Creek Watershed ACEC will mitigate negative, cumulative visual and watershed impacts.

The closure to livestock grazing within the Crouse Canyon and Green River Scenic Corridor ACEC level 2 lands will have both short- and long-term positive impacts on bighorn sheep reintroduction strategies and recreation activities for these areas. Reducing or eliminating the potential disease risks between livestock and bighorn sheep will directly, indirectly, and cumulatively impact the reintroduced populations as a whole.

Level 3 lands in the Green River Corridor ACEC and Red Creek Watershed ACEC will be open to mineral leasing with special conditions. This may have negative impacts to recreation, wildlife, visual, and vegetation resources, however, leasing minerals, geophysical activities, mineral material disposition, and localities in these ACECs may enhance cumulative economic impacts to the northeast portion of the resource area.

There will be potential impacts to a portion of the designated and/or nominated ACECs in the resource area from increased visitor-use days, development of facilities in level 2 areas, and OHV use in the Green River Scenic Corridor ACEC. Negative impacts would include riparian habitat damage, increased human health and safety risks, increased hunting pressures, and an overall lessening of recreational experience.

There are some socioeconomic cumulative impacts in the Green River Scenic Corridor ACEC, Red Creek Watershed ACEC, Red Mountain, Nine Mile, Pariette Wetlands, and the wild and scenic river values of the three segments of the Green River. The social perception in the community is divided; although sympathetic to conservation/preservation of these areas, many individuals would want to protect industry. Social perceptions in the communities are divided over wildlife management, visual resources, and scenic resources. Many ranchers and business people oppose additional restrictions placed on their use of the public lands, and conservation groups want to protect ecosystems.

As a result of vegetation management objectives to attain the ecological stage most benefitting wildlife in crucial habitat and manipulate 800 acres of pinyon-juniper habitats in level 3 areas of the Green River Scenic Corridor ACEC, there will be long-term, positive impacts to multiple high-value resources encompassing wildlife, recreation, special status plant and animal species, vegetation, and water quality.

Wild and Scenic Rivers

Three river segments were determined to be eligible for study and possible recommendation for designation into the NWSRS. They include the upper, middle, and lower Green River segments. All three segments were determined to be suitable for further study in this alternative.

Three other segments, two on Nine Mile and one on Argyle Creek, were not addressed in this alternative.

Outstandingly remarkable wild and scenic river values would continue to be protected along the three Green River segments identified as being eligible for further study and possible inclusion in the Wild and Scenic River System. This status would attract recreationists who enjoy various water-based recreation activities such as canoeing, rafting, fishing, hiking, and camping.

The upper segment through Browns Park is currently receiving heavy use (10,000 visitor days in 1991) that is increasing annually. The middle and lower segments currently receive very little use but wild and scenic river designation would cause use to increase an estimated 10 percent annually to 800 visitor days on the middle segment and 1,300 visitor days on the lower segment in 10 years.

Not identifying two segments in Nine Mile Canyon and one in Argyle Canyon for protection and further study would leave these stream corridors open to uses that could damage identified outstandingly remarkable cultural and/or scenic values along the corridors. It is anticipated these impacts would be minor because cultural resources, scenic values, and riparian areas would continue to receive protection.

DIRECT AND INDIRECT IMPACTS OF IMPLEMENTING ALTERNATIVE B

IMPACTS TO CULTURAL AND PALEONTOLOGICAL RESOURCES

From Management Actions for Fish and Wildlife Habitat Programs

Accidental disturbance of both cultural and paleontology resources would be less than in any other alternative because fewer land treatments and water developments would be completed to benefit wildlife.

Any paleontological information lost would limit knowledge of the behavior of different species of animals,