4

Environmental Consequences

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter discusses the environmental consequences of implementing those alternatives described in Chapter 2. The discussion is presented by alternative and identifies impacts to those resource components of the affected environment described in Chapter 3. The environmental consequences provide the basis for selection of a preferred alternative in conjunction with public input and coordination with state and local governments, other federal agencies and Indian tribes.

The analysis performed by the interdisciplinary team was by management area for each alternative. That analysis is available for inspection in the Idaho Falls District Office. The discussion presented in this document concerning environmental consequences includes the entire resource area and represents a summary of impacts in each management area.

The impact analysis of land transfer represents a worst case analysis. This analysis is based on the following assumptions:

1. That all of the land listed will be transferred out of federal ownership through the sale process.

2. That after the subject lands are sold, the use of the land will change.

The worst case analysis does not consider that detailed analyses of each tract may reveal conflicts or resource values warranting protection, thus removing the parcels from the transfer category. It also does not consider that land exchanges will be an objective and that many of the transfer tracts will be exchanged for lands possessing equal or greater public values (i.e., wildlife habitat, improved range management).

Threatened and Endangered Plants

Plants listed as proposed threatened or endangered species will be managed under BLM policy which is the same for species already listed as either threatened or endangered. All BLM actions will be designed to conserve and maintain these species. Land treatment and brush control projects may need to be modified to follow this BLM policy. There is no difference between alternatives concerning these proposed T and E species, therefore they are not discussed further in this chapter.

Fire Management

There appear to be no significant impacts on Fire Management for any of the alternatives. For that reason, Fire Management is not discussed further in this chapter.

EFFECTS OF THE ALTERNATIVES

ALTERNATIVE A

Lands

This alternative would allow for the transfer of 2015 acres of public land. Sales and exchanges would be utilized to arrive at a balanced program for improving management efficiency and for acquiring valuable public lands.

Included in the total transfer areas are 1,475 acres identified for agricultural disposal only. If these areas meet the criteria for agricultural disposal, the following positive impacts may occur:

- Place land in a higher use such as agricultural. This could benefit the local economy by making more land available for agricultural production.

- Increase local property tax revenues.

Under agricultural disposal, the following adverse impacts may occur:

- Loss of resource values, primarily for wildlife range and recreation.

- High cost of processing applications.

- Potential for lowering crop prices if new farm lands go into production.

- Water withdrawal from the underground aquifer could add to declining water levels.

The remaining transfer areas would be analyzed for their exchange potential before being considered for sale. The following positive impacts may occur in a land exchange program:

- Provide opportunities for acquiring valuable public land resources, primarily wildlife and recreation.

- Improve manageability of existing public land for livestock grazing and by eliminating private inholdings with potential for conflicting uses.

- Provide public access to important resource values.

- Reduce management cost and improve efficiency by eliminating isolated tracts and blocking federal lands.

The major adverse impacts to an extensive land exchange program would be the cost. Exchanges are time consuming and costly to process.

Disposal of the transfer areas through public sale could result in the following positive impacts:

- Decrease management costs to the BLM because sales are relatively easy to process and management efficiency would increase by eliminating isolated tracts.

-Potential for placing land in a higher use such as agricultural, commercial or residential.

-Provide a one-time payment to the treasury.

-Increase local property tax revenues.

-Opportunity for ranchers to block up their holdings.

-Can be use to solve existing unauthorized use.

Sales could result in the following adverse impacts:

-Reduce the potential for future land acquisitions by depleting the stock of land available for future exchanges.

-Economic strains on person currently using the land but who cannot afford to purchase it.

Lower property values if a large scale sale program occurs.

Energy and Minerals

In this alternative, 408,100 acres would have standard stipulations, 320,920 acres with seasonal occupancy restrictions, and 65,630 acres with the no surface occupancy (NSO) restriction are open to fluid mineral leasing. About 793,110 acres are open to solid mineral leasing under standard stipulations. Closed to solid and fluid mineral leasing are 135,380 acres. About 136,920 acres are closed to locatable mineral entry and 132,490 acres are closed to salable minerals disposals. About 85 percent of the area is open to solid and fluid mineral leasing, 85 percent is open to mining claim location and 86 percent is open for mineral materials use. Standard stipulations do not restrict surface occupancy, but provide requirements for surface use and reclamation.

The seasonal occupancy restrictions on leasing do not significantly affect the availability of lands for mineral exploration and development. However, under the NSO restriction up to 17,200 acres are beyond the reach of directional drilling operations. These acres and the acres closed to leasing total 152,580 acres or 16 percent of the resource area unavailable for the development of fluid leasable minerals in management areas 2, 4, 5, 6, 7, and 9. All of these lands are prospectively valuable for oil and gas and about 600 of the acres are in the Wyoming-Utah-Idaho portion of the Overthrust Belt Oil and Gas Province, within which are producing fields. Six percent of these lands are also prospectively valuable for geothermal resources. The NSO leasing and no lease restrictions significantly limit the availability of lands for the development of potential oil, gas and geothermal resources.

The potential for the development of locatable minerals in 97 percent of the lands closed to mining claims is low. However, the 4,300 acres under Bureau of Reclamation (BOR) withdrawals along the South Fork of the Snake River are potential sources of placer gold. Three sites in management area 9 have produced roughly 600 ounces of gold from the 1870's to the 1950's, and prospecting activities in the area are continuing. These BOR withdrawals significantly limit the availability of lands for the development of potential placer gold resources.

About 43 percent of the lands closed to mineral materials disposals are in the INEL (management area 7) and are potential sources of sand, gravel and volcanic cinders. This closure of lands has a significant impact on the availability of lands for the development of mineral materials. The rest of the lands closed have a low potential for the development of salable minerals.

Forestry

Under this alternative, 14,410 acres of commercial forest land would be available for timber production with no restrictions. This would result in a potential sustainable allowable cut of approximately 5 MMBF/decade. Also, under this alternative 12,773 acres of woodland would be available for the limited harvest of sawtimber, fuelwood and minor forest products.

Harvest practices, including clearcutting, shelterwood and selective cutting would influence vegetative cover on approximately 165 acres per year. Forest development practices such as thinning, planting and the use of herbicides and pesticides would improve stocking and growth potential of forest stands and decrease pest and disease problems in these stands.

Grazing would influence forest management primarily by endangering the establishment of regeneration. This influence can be partially mitigated through control of season of use and livestock distribution.

Livestock

Under this alternative, the stocking rate would be 88,302 AUMs. This represents a 15 percent reduction from the current active preference of 103,281 AUMs. The long term stocking rate would be 88,851 AUMs. This would be a 1 percent increase form the initial stocking rate due to an increase of forage available in some allotments following wildfires (Morgan Fire and Meyers Fire, 1981) and the continuation of grazing use in some allotments which have been in nonuse for several years. A 40 acre tract of land identified for possible transfer would result in the loss of 16 AUMs. One allotment would be eliminated.

A total of 5,260 acres of prescribed burns would be identified under wildlife habitat improvement but would also benefit livestock grazing. The current ecological range condition (including the prescribed burns) is 1 percent excellent, 40 percent good, 39 percent fair, 4 percent poor, 15 percent disturbed and 1 percent unclassified.

In the long term, the downward trend areas would be expected to decline slightly in ecological range condition as undesirable species (noxious weeds and sagebrush) increase in density. The upward trend areas (wildfire and prescribed burns) would expected to change from disturbed to good ecological range condition. The long term ecological range condition is expected to be 1 percent excellent, 45 percent good, 40 percent fair, 4 percent poor, 9 percent disturbed, and 1 percent unclassified (see Appendix B, page 14).

The current apparent trend is 9 percent upward, 71 percent static and 20 percent downward. In the long term, the upward trend areas are expected to stabilize near the potential plant community and static trend. The downward trend areas are expected to remain downward as undesirable plant species

(noxious weeds and sagebrush) continue to increase in density. The long term apparent trend expected would be 80 percent static and 20 percent downward (see Appendix B, page 28).

Wildlife

Under this alternative the public lands would be able to meet the existing wildlife forage and cover requirements. Increases in all wildlife species could be accomodated except for those that are associated with riparian habitat. Riparian associated species such as moose are limited now in their ability to expand.

Big game winter range-livestock use conflicts would continue in management area 1 and in selected allotments throughout the resource area. Long term impacts could be the loss of 35 percent of the range in this management area.

Riparian habitat condition would continue to decline in management area 1 and management area 4.

Oil and gas leasing practices currently protect wildlife habitat. Other mineral activity, except locatable, can be mitigated. An additional 4,160 acres of big game winter range could be lost from production and BLM management through travertine mining.

ORV closures are in affect in areas that need big game winter range protection. Two other big game ranges, Victor Front and Kepps Crossing, not under a seasonal ORV closure should be. Direct big game mortality could occur with snow machine use in these two areas.

Water and Water Quality

The majority of all streams and riparian areas in the Medicine Lodge Resource Area are in good to excellent condition (52.9 miles) with no water quality or riparian impacts. These areas would remain in their present condition under this alternative. About 12.3 miles of stream in need of management for fishery enhancement and 19.9 miles of stream having high erosion potential would not be managed under this alternative and would continue in downward trend or would stabilize in poor condition.

Soils

Present erosion trends are expected to continue and follow the trend in range condition. Soil associations 2,3,4,5,7,8,9,10,14, and 16 have slight water erosion rates of about .5 to 1.0 tons per acre per year. Soil associations 1,6,11,12,13, and 15 have moderate to severe erosion potential on steeper slopes and some highly erosive soils where erosion rates may exceed 5 tons per acre. Erosion rates on sandy soil associations 5 and 7 sometimes exceed 5 tons per acre erosion and 8 tons per acre on loamy sand soils in association 8. Present grazing on 29 allotments could remove enough vegetation by combined range and wildlife use to exceed erosion rates of 5 tons per acre on loamy soils, damaging the soil resources. Present grazing on 9 allotments on sandy soil could remove enough vegetation by combined range and wildlife use to exceed erosion rates of 5 to 8 tons per acre, damaging the soil resources.

ORV damage in Kelly Canyon and on the Willow Creek drainage would continue.

Recreation and ORV Management

Data is not currently available to accurately describe what the capacity is for dispersed recreation on public lands in the Medicine Lodge Resource Area. However, it is estimated that current use is far below potential capacity. Use in some areas will often approach capacity on long holiday weekends and during the opening periods for hunting and fishing seasons. Dispersed recreation opportunities under all the alternatives would be maintained above current use and anticipated demand throughout the planning period. Changes within the alternatives have little effect on recreation capacity, except in Alternative E where wilderness designation of the St. Anthony Sand Dunes would eliminate ORV use. The alternatives would have an affect on the type and distribution of recreation use which can be seen by comparing the acres of land that would be managed under different categories of the Recreation Opportunity Spectrum (ROS). [Appendix D]

Recreation opportunity classes would remain narrow, with lands in the semi-primitive motorized (8%), roaded natural (69%) and rural (23%) classifications. Although ROS settings would be adopted, no specific actions or designations of recreation management areas would be implemented to protect or enhance the setting opportunities. Thus, the setting opportunities could be degraded or lost.

The sixteen existing undeveloped and unmaintained recreation sites would not be developed, maintained or managed, and would continue to deteriorate. Impacts would be most severe along major fishing streams and near the boundaries of the St. Anthony Sand Dunes, and would result from litter, inadequate sanitation facilities and uncontrolled motorized use. Opportunities for nature trail interpretation and study would go untapped. Current needs and projections (both short and long-term) for recreation facilities in the planning area would not be met, according to the 1983 Idaho Outdoor Recreation Plan.

Motorized use will continue to occur randomly throughout the resource area and remain at nearly the current level. Use will continue to be relatively light in most areas, with heavier activity occuring on the sand dunes and Stinking Springs area. Recreational ORV use will continue to be closed year-round on 1,120 acres of North Menan Butte and during the winter months on 21,580 acres of big game winter habitat.

Recreation opportunities will remain secure on lands retained in federal ownership. Public recreation uses will be eliminated on lands that are disposed of, unless they are transferred to another public agency. The proposed disposals would have a low impact on recreation use, because most of the land parcels are small and inaccessible to public use.

Public lands along the South Fork of the Snake River have been withdrawn for power sites or reclamation projects. If any of these withdrawals were developed for hydroelectric power and/or reservoirs for irrigation and flood control, the recreation opportunities would change significantly. These changes would be addressed in a project specific impact analysis.

Mining and mineral leasing activities could impact dispersed recreation by disrupting the natural appearance of the landscape and by shifting the

recreation opportunity setting from the more natural appearing to the rural type. However, since the extent, location and nature of what operations may occur is not known, the actual impacts cannot be predicted. In general, impacts would be lessened from mineral leasing due to restrictions and stipulations that are made on leasing activities.

The removal of timber and associated activities such as road building will have a tendency to shift recreation opportunities to less primitive forms. Hunting opportunities will increase with better vehicle access as will motorized recreation and wood gathering.

The primary impact areas of grazing on recreation are the riparian zones near fishing streams and campgrounds. In some cases, grazing reduces the desirability of a site for camping and fishing. This is particularly true along the South Fork of the Snake River where grazing occurs during the spring, summer and fall months.

Wilderness

Under Alternative A, none of the Sand Mountain WSA would be recommended suitable for designation as wilderness. Wilderness values on 21,100 acres of public land would be affected because the surface would be open for use and development.

The WSA is listed as having low-moderate potential for oil and gas and geothermal resources. The entire area is leased for oil and gas, but is protected from any exploration or development activities that would impair the WSA's suitability for designation as wilderness. This protection would last until Congress decides whether or not to designate the area. As this alternative suggests, nondesignation would open the area to long-term oil and gas occupancy. Impacts such as access roads, drilling sites, pipelines, and storage areas would degrade the natural character of the area and opportunities for solitude and primitive recreation. The extent and distribution of the oil and gas actitivities and where the wilderness values would be affected are impossible to predict because the WSA is solidly blocked with leases. It is not known which ones would be explored or developed.

Nondesignation of the WSA would allow continued public use of motorized recreational vehicles in the area. Under this alternative, motorized vehicle use would not be regulated or restricted during the spring, summer and fall months. During this time, both visual and audible impacts from motorized recreational vehicles would diminish solitude and primitive recreation opportunities. The more lasting surface disturbances in vegetated areas would degrade the natural appearance of the WSA.

From December 1 through April 30 of each year, 15,800 acres of the WSA are closed to all motorized vehicles. This closure protects wintering elk herds and provides a setting for solitude and winter primitive recreation opportunities. These opportunities would not be affected by ORV use if the areas is not designated.

Under this alternative, diversity in the National Wilderness Preservation System (NWPS) would not be enhanced. The WSA represents an uncommon inland sand dunes complex, which is represented in only one other designated area in the wilderness system.

The Sand Mountain WSA would not be recommended wilderness. This means that the WSA's wilderness values will be subjected to more short term and long term impacts. While unnecessary damage to lands and resources will be prevented by standard procedures, permanent damage could occur to the area's wilderness values from oil and gas activities and motorized vehicle use. Diversity in the NWPS would not be enhanced by not adding a 21,100 acre sand dune complex.

Under Alternative A, none of the Snake River Islands WSA would be recommended suitable for designation as wilderness. Wilderness values on 770 acres of public land would be open for use and development, except mineral leasing activities would be regulated to prevent surface disturbing activities. These limitations on mineral leasing would help protect the natural values of the islands. Other development activities that could affect wilderness values would not likely occur because of the islands' inaccessible nature.

Twenty-five of the 39 islands have been withdrawn for power sites or reclamation projects. If any of these withdrawals were developed for hydroelectric power and/or reservoirs for irrigation and flood control, the islands would likely be flooded. Wilderness values on the islands would be lost.

Ecosystem diversity in the NWPS would be enhanced under this alternative. Even though the islands are small in comparison to other designated wilderness, they contain an ecosystem that is not currently represented in the NWPS.

The Snake River Islands WSA would not be recommended for designation as wilderness. The WSA's wilderness values would not be adversely affected by development activities unless the power site withdrawals were developed. Ecosystem diversity in the NWPS would not be enhanced.

Cultural Resources

Livestock grazing has affected and would continue to affect at least 95 sites in the Resource Area. It would also affect an unknown number of unidentified sites. However, few sites have been recorded at troughs, water holes or livestock congretation areas. As long as livestock are not concentrated on cultural sites for long time periods, trampling impacts should be minimized. ORV use, general recreation use and natural and man-caused surface and streambank soil erosion would also continue to have some effect on cultural resource sites. However, the most severe and significant impacts would continue to be unauthorized surface and subsurface looting.

Activity Plans

Cultural resource uses should vary little for each Alternative. Conversely, public land allocations for cultural resource site protection should not significantly affect other resource activities. Fencing springs to protect prehistoric tool-making sites from livestock trampling would not reduce available livestock forage or water (it would be piped away from the source). It would harmonize two conflicting resource activities. The greatest threat to Medicine Lodge Resource Area cultural resources is, and would continue to be, vandalism, illegal site excavation and unauthorized surface artifact collection. These unplanned and unmanaged activities do not comply with

A.R.P.A. (Archaeological Protection Act of 1979) and other federal cultural resource protection laws. Separate, detailed cultural resource activity plans should be developed for selected Medicine Lodge Resource Area management areas. These may be separate cultural resource plans or they may be part of a comprehensive management plan. A typical management plan should describe the management area's cultural resource protection needs (patrol-surveillance, stabilization, signing, monitoring, salvage, ACEC designation, National Register nomination, etc.). It may also allocate cultural resources for specific socio-cultural, scientific or management uses. Coordination, consultation and public contact would be part of each activity plan.

Economics

Lands

Transfer of lands out of federal ownership and into private ownership (whether by sale, exchange, or agricultural entry) has several economic impacts. If transferred by sale then the government earns some income (sale price less costs of making the sale). Any net additions to private ownership reduce the amount of payments in lieu of taxes, minerals royalties, grazing fee refunds, etc., that accrue to the county governments. On the other hand, these additions increase the amount of property taxes collected. If lands are developed for irrigated agriculture than a certain amount of income and employment would be generated with each new farm.

This alternative contains 540 acres of transfer lands and 1475 acres of agricultural entry. For ease of analysis it is assumed that all of the transfer lands will be public sales.

The estimated average selling price would be $100 per acre and the average cost of putting lands up for sale is estimated at $30 per acre. Thus, 540 acres of land sale would generate $37,800 in net revenue to the government.

If the 1475 acres of lands in the agricultural entry category are developed, then direct income of $74,000 (labor income) and 6 jobs would be generated (BLM 1984, BEA 1983). In addition, the purchases of seed, fertilizers, fuel, etc., would generate annual expenditures of $310,000 (BLM 1984, Powell and Lindeborg 1981). Using the earnings to gross output ratio (see appendix) for retail trade would translate this level of expenditures into secondary income and employment of $123,000 income and 12 jobs. The direct earnings increase would amount to less than 1 percent of current farm income in the RMP area. The secondary earnings increase would amount to 1 percent of the current retail trade income in the RMP area.

Counties receive funds from the federal government due to federal lands located within their boundaries, for a variety of reasons. Some, such as grazing fee receipts, must be used for a specific purpose--in this case range improvements. Others, such as payments in lieu of taxes (PILT), can be used for any need the county has. The total revenues generated by PILT payments and other activities occurring on BLM lands amount to roughly $0.50 per acre. This is made up of $0.40 per acre from PILT payments, $0.03 per acre from grazing fee receipts, and $0.07 per acre from mineral leasing royalties. Timber receipts are less than $0.01 per acre. This means that the transfer of 2,015 acres out of federal ownership would cost the counties in the RMP area

$1,000 per year. These acres would then come under provisions of the county's property tax codes. This would increase the RMP county's revenues by approximately $2,600 Dornfest1984). This is based on market values of $100 per acre for the lands sold and $500 per acre for those acres developed for irrigated agriculture. The net gain to the counties would be $1,600, or .004 percent of total revenues of the RMP area counties (Bonneville, Clark, Fremont, Jefferson, Madison, and Teton Counties 1983).

Forestry

Under this alternative there would be 0.5 MMBF of timber cut each year (5 MMBF per decade). This would generate revenues of $10,000 (500,000 board feet x $20/MBF). Data in Rudermann (1982) and Schuster, et al (1976) indicate that this level of timber harvest would result in approximately 4 jobs. Bureau of Economic Analysis data indicate that each job in the manufacturing sector in the RMP area generates $13,700 in earnings. The total direct earnings from this level of timber harvest would be $60,400. This would be less than 1 percent of the RMP area manufacturing income. Based on the gross output multipliers (see appendix) it is estimated there would be secondary employment and earnings of 5 jobs and $52,600, which is less than 1 percent of the RMP area manufacturing income. Based on the gross output multipliers (see appendix) it is estimated that there would be secondary employment and earnings of 5 jobs and $52,600, which is less than 1 percent of the area's retail trade earnings. The secondary earnings are compared to total earnings for the retail trade industry since it is assumed this is where most of this impact would occur. The actual breakdown of secondary impacts by industry is unknown.

Recreation

The analysis presented in this section is not a complete discussion of the economic impacts of all types of recreation. Only those activities for which there was some basis for making use estimates have been analyzed. In this case this means that motorized recreation in the St. Anthony Dunes area, big game hunting, and sagegrouse hunting were the only activities analyzed. In the case of motorized recreation there is no known study that estimates expenditures per use day. For that reason, the expenditures reported by the U.S. Fish and Wildlife Service (1980) for nonconsumptive wildlife use have been used to estimate the economic impact of this activity. Under this alternative it is estimated that there are 2,600 visitor days of motorized recreation use in the long term. This would be annual expenditures of $33,200 (at $12.76 per visitor day). Using the earnings to gross output ratio for retail trade converts this to earnings of $13,200. This would be roughly 1 job. Big game hunting (elk, deer, moose, antelope) would generate annual expenditures of $2,377,700 (114,800 hunter days x $20.72 per hunter day). This would convert to earnings and employment of $943,700 and 95 jobs. Sagegrouse hunting would generate annual expenditures of $5,400 (875 hunter days x $6.14 per hunter day). This would be earnings of $2,100. No jobs would be generated from this activity. The total direct income and employment generated by these recreation activities would be $959,000 and 97 jobs. This would be 5 percent of the RMP area's retail trade income. The secondary income and employment would be $1,158,500 and 117 jobs. This would be 7 percent of the RMP area's retail trade income. Total income (direct and secondary) would be $2,117,500 (12 percent of retail trade income) while total employment would be 214.

Livestock

The initial livestock stocking levels would be 88,302 AUMs. This would go up to 88,851 AUMs in the long term. This long-term stocking level would represent direct income and employment of $490,300 and 40 jobs. This would represent 6 percent of the RMP area livestock income and 1 percent of farm income. Secondary income and employment would amount to $758,300 and 77 jobs. This would be 4 percent of the retail trade income.

In order to attain this long-term level of grazing use, approximately $11,800 in range improvements would be required.

Grazing fees are distributed in the following manner: 50 percent to the range improvement fund, 37-1/2 percent to the federal treasury, and 12-1/2 percent to the State of Idaho (which redistributes it to the county of collection for range improvements). Based on a $2.00 grazing fee (the average fee over the grazing years 1979-1984 was $1.86), the following grazing fee collection distribution would take place with this alternative:

Range Improvement Fund	$ 88,851
Federal Treasury	$ 66,638
State of Idaho	$ 22,213
TOTAL	$177,702

This level of AUM use would represent capital value of between $5,012,500 and $22,212,000 (Boly 1980, Fowler and Gray 1980).

Total direct and secondary income of $3,676,100 would be generated by this alternative. This would represent 1.7 percent of the total Medicine Lodge RMP area current income. Employment generated by this alternative would be 358 jobs or 2.0 percent of total RMP area employment.

ALTERNATIVE B

Lands

The impacts associated with this alternative would be the same as for Alternative A described in the following pages, only on a greater scale. This alternative would increase the local property tax revenue base more than any other alternative. The overall impact to management efficiency would be adverse because of the disruption and dislocation that would affect people currently authorized to use the land.

Minerals

As compared to Alternative A, this alternative has 39 percent more acres under standard stipulations, 4 percent less under seasonal occupancy restrictions, and 59 percent less acres with the no surface occupancy restriction open to fluid mineral leasing. Fourteen percent more acres are open to solid mineral leasing under standard stipulations, 79 percent less acres are closed to solid and fluid mineral leasing. About 0.1 percent more lands are open to locatable mineral entry and 15 percent more are open to mineral materials disposals. In this alternative, 97 percent of the area is open to solid and fluid mineral leasing, 85 percent is open to mining claims and 98 percent is open to salable minerals use.