

Introduction

Chapter 4 identifies the significant environmental consequences of implementing specific actions proposed in each alternative, including the *Preferred Alternative*. The level of analysis for each element of the environment depends on the degree of impact expected. Each specialist evaluated the environmental consequences of the actions in every alternative to determine the degree of impact that was anticipated. These determinations form the basis of this chapter. The interdisciplinary team concluded that no significant impacts would occur to topography, air or climate. They will not be addressed further in this document.

Approval of all actions recommended in the alternatives will be subject to: (1) the completion of the appropriate type of National Environmental Policy Act document (Administrative determination, Categorical Exclusion Record, Environmental Assessment or Environmental Impact Statement) and (2) clearances as required by the Endangered Species Act, etc.

Assumptions

The impact analysis was based on the following assumptions:

1. Funding and personnel would be available to fully implement any alternative.
2. The definition of long-term is 5 years or more. All impacts are long-term unless otherwise noted.
3. Native American religious practices shall receive due consideration under the provisions of the *American Indian Religious Freedom Act*.
4. National Environmental Policy Act compliance documents will be prepared to determine the significance of environmental impacts from the implementation of activity plans or site-specific actions.
5. Inventories for cultural resources and Native American values will occur on areas of proposed land uses. Protection of significant values will occur through avoidance and mitigative actions. Compliance with Section 106 of the *National Historic Preservation Act of 1966* and its implementing regulations in 36 CFR 800 will be completed before starting specific projects resulting from decisions in this plan.
6. All impacts are direct unless otherwise noted.

7. Only those effects that are significant are listed. Positive effects are called benefits and adverse effects are called impacts.

Effects of the Alternatives on the Environment

Alternative A (Preferred Alternative)

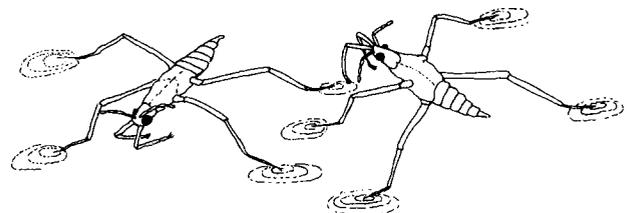
Water - Management prescriptions for four Areas of Critical Environmental Concern totalling 17,734 acres would provide low benefits to both water quality and quantity. Preservation of these areas would provide protection of water quality by reducing erosion and sedimentation, while promoting vegetation growth.

Withdrawal from mineral entry (2,411 acres), prohibition of surface occupancy for mineral leasing activities (6,869 acres) and prohibition of mineral material sales (6,869 acres) could give low benefits to water quality. This is because potential surface disturbances associated with these activities would not occur, thereby reducing sedimentation in local waters.

Restricting off highway vehicles to existing roads and trails or prohibiting use in certain areas (1,398,592 acres) would provide low benefits to water quality by reducing soil erosion and sedimentation in streams and rivers in the District.

Soil - The construction of Timber Draw detention dam and the repair of Oso Largo detention dam would prevent approximately 500 acre-feet of soil from leaving the watershed each year. The Timber Draw dam would accelerate the filling of the eroded San Simon River channel, and the repair of Oso Largo detention dam would rehabilitate eroded areas in Bear Springs Wash. These actions would have a moderate benefit.

Limiting off highway vehicles to existing roads and trails in most of the District would reduce soil erosion, a



low benefit. The designation of the Hot Well Dunes (1,708 acres) as open for off highway vehicle use would cause accelerated erosion on those acres, a localized low impact.

Riparian Vegetation - Management prescriptions for the Areas of Critical Environmental Concern containing riparian vegetation (Gila Box Outstanding Natural Area, Turkey Creek Riparian, Swamp Springs-Hot Springs Watershed and Guadalupe Canyon Outstanding Natural Area) would highly benefit riparian areas. Over 1,500 acres and 40 miles of riparian vegetation would improve one condition class.

Actions limiting vehicle use to existing roads and trails would provide high benefits to riparian vegetation by limiting disturbance from vehicles.

Disposal actions would have an insignificant impact on riparian systems since less than 25 acres of riparian areas would be removed from BLM management. Acquisitions would add to the riparian system, offsetting the 25-acre loss. These planned acquisitions would give moderate benefits by providing additional management and protection. Acquisition of in-stream

flow water rights would give high benefits to five riparian areas involving 350 acres by ensuring continued streamflow for riparian vegetation protection and survival.

Use of no surface occupancy stipulations for mineral leasing activities in riparian areas (2,411 acres) would provide low benefits to riparian vegetation because activities that would disturb the vegetation would not be permitted. Mineral leasing activities would have to occur out of the riparian zone.

Upland Vegetation - Land treatments would have a low benefit to vegetation. Generally, only small areas (less than 2,000 acres each) are thought to be suitable for land treatment. The lack of adapted plant species, discontinuous fuels, topographic limitations and economic considerations all make large-scale land treatments impractical.

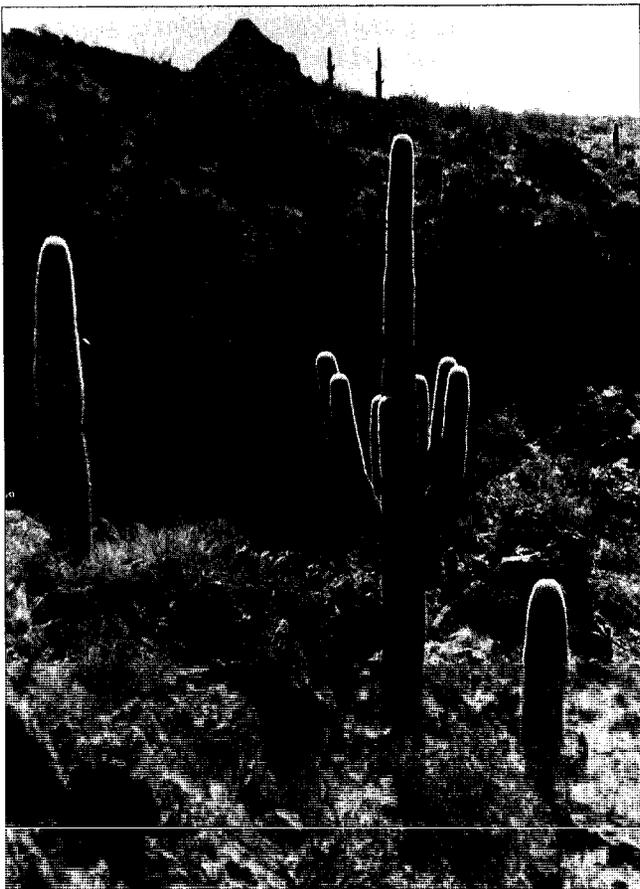
Restricting off highway vehicles to existing roads and trails or prohibiting use in certain areas (1,310,713 acres) would provide low benefits by protecting vegetation from vehicular disturbance.

Wildlife Habitat - Areas of Critical Environmental Concern designation of nine areas totalling 26,861 acres would give protection and moderate benefits to 18 wildlife species by increasing and improving habitat. Management of Gila Box Outstanding Natural Area, Turkey Creek Riparian, Swamp Springs-Hot Springs Watershed, Dos Cabezas Peaks, Guadalupe Canyon Outstanding Natural Area, and Eagle Creek Bat Cave Areas of Critical Environmental Concern would give high benefits to wildlife habitat by preserving unique habitat (bat cave, etc.) or riparian ecosystems. Designation of Table Mountain Research Natural Area, Desert Grasslands Research Natural Area, Bowie Mountain Scenic and Coronado Mountain Research Natural Area Areas of Critical Environmental Concern would provide low benefits to wildlife habitat by protecting necessary habitat from disturbances.

Designation of bighorn sheep lambing areas as limited or closed to off highway vehicle use would provide high benefits to the sheep by reducing disturbances, thereby increasing lamb survival. off highway vehicles limitations and closures would highly benefit 17 priority wildlife species and their habitat.

Management actions planned for priority wildlife species (spring protection, prescribed burning, etc.) and habitats would have a moderate benefit to wildlife.

Land acquisitions would provide high benefits to wildlife by providing more land under BLM management. Withdrawal of 9,829 acres from mineral entry, NSO



Canyons in the foothills of the Gila Mountains mark the easternmost range of the saguaro.

stipulations on 14,052 acres and no mineral materials sales on 12,371 acres would provide high benefits to wildlife habitat by protecting it from disturbance.

Acquisition of water rights would legally ensure a water supply in five streams, affecting 15 priority species. This would result in a moderate benefit.

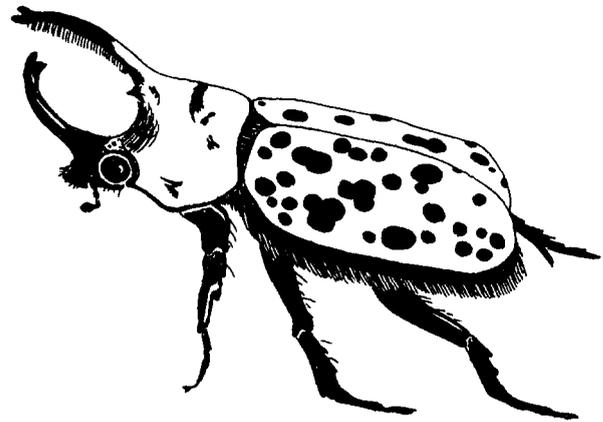
Cultural/Paleontological Resources - Withdrawal from mineral entry, no surface occupancy stipulations and closure to mineral material sales would highly benefit the paleontological and cultural resources on 2,927 acres of the Bear Springs Badlands Area of Critical Environmental Concern. Areas of Critical Environmental Concern management prescriptions for six areas, totalling 14,716 acres, would provide moderate benefits to cultural resources through protective actions. The action to close three Areas of Critical Environmental Concern (the Oak Grove Canyon part of Turkey Creek Riparian, Desert Grasslands Research Natural Area and Willcox Playa National Natural Landmark) to vehicles would moderately benefit cultural resources, preventing damage associated with vehicular use and visitor accessibility.

Construction of Timber Draw Dam would cause high impacts to a potentially eligible National Register Archaeological District containing 37 archaeological sites on 1,300 acres. Impacts would be primarily from loss of scientific data due to burial of archaeological resources, inundation and construction effects. Impacts would be reduced through intensive mitigation prior to construction.

Socio-economic - Withdrawal from mineral entry of 9,829 acres, no surface occupancy stipulations on 14,052 acres and the prohibition of mineral material sales on 12,371 acres would generally have, on a districtwide basis, a low impact on the economy, by precluding mineral exploration and extraction.

The only proposed mineral withdrawal in a highly "favorable area" (terminology by the U.S. Bureau of Mines) is the Coronado Mountain Area of Critical Environmental Concern, located on the western margin of the Copper Mountain mining district. This is a relatively large district, noted mostly for its porphyry copper deposits. Impacts to the mining industry should not be significant however, since the Area of Critical Environmental Concern occupies only 120 acres on the margin of the mining district and the district itself covers over 50 square miles.

Four of the areas proposed for mineral entry withdrawal are in areas of "moderately favorable" potential (Bureau of Mines terminology). Two of these (Eagle Creek Bat Cave Area of Critical Environmental Con-



cern and Yuma Wash) are less than 200 acres. Because very little land would be withdrawn, the impact on mining would be low in these areas. The other two areas (Bowie Mountain Scenic and Table Mountain Research Natural Area Areas of Critical Environmental Concern) are fairly large (1,220 and 2,230 acres respectively) and these could have a moderate to high impact on mining. The rest of the lands proposed for mineral withdrawal are not in areas with known potential and would, therefore, have a minimal impact on the industry.

Although there has been no production, the leasable minerals, oil, gas and geothermal energy are considered by the BLM to be prospectively valuable in scattered areas throughout the District. While all public lands (except wilderness areas) are open to the mineral leasing laws, a few areas would have no surface occupancy stipulations. These stipulations would have essentially no impact on geothermal activity since all such areas are either small (no larger than 160 acres) or are located along riparian zones.

This same situation holds true for prospectively valuable oil and gas lands except for the Bear Springs Badlands Area of Critical Environmental Concern. The relatively large size of this Area of Critical Environmental Concern (2,927 acres) probably precludes all of its lands being reached by the drill bit and thus the no surface occupancy stipulations for this Area of Critical Environmental Concern could have a moderate impact on the oil and gas industry in the District.

Mineral materials such as sand and gravel are common throughout the District, and even with restrictions on their sale in a few areas, no shortages are expected. The largest impact to the mineral materials industry would be the restrictions of such sales in riparian zones. However, given the ample supplies of these materials in the numerous dry washes in the district, such impacts should be insignificant.



Great horned owls are a common nocturnal raptor in southwestern Arizona.

The local economy would receive low benefits from the designation of Areas of Critical Environmental Concern and wilderness. Designation of these areas would result in increased primitive recreation use, adding to the diversification of tourism economies in the local communities. Areas of Critical Environmental Concern designations would result in the loss of 2,760 animal unit months of grazing.

The impacts to the economy on a districtwide basis from the disposal of 99,670 acres of public lands would be low. Any potential impacts from disposal would be offset by the benefits to the economy from acquisition of 108,562 acres.

Conclusion

The selection of this alternative would give moderate to high benefits to paleontological and cultural resources through the protection measures provided by Area of Critical Environmental Concern designation. The construction of Timber Draw Dam would cause high impacts to archaeological sites in the project area.

The implementation of the *Preferred Alternative* would provide moderate to high benefits to wildlife habitat and riparian vegetation through protection of habitat in Areas of Critical Environmental Concern management prescriptions. Restrictions on off highway vehicle use and mining and mineral leasing activities would also

have high benefits for wildlife habitat by minimizing disturbance to wildlife and their habitat.

Restrictions on mining, mineral leasing activities and off highway vehicle use would provide low benefits to soil and water quality. Construction or repair of detention dams would have a moderate benefit to soil retention in the San Simon River channel and the Bear Springs Flat area. Upland vegetation would receive low benefits from land treatments and restrictions on off highway vehicles use.

Mineral withdrawals, no surface occupancy stipulations, and restrictions on mineral material sales would have a low impact on segments of the local economy dealing with minerals extraction and exploration on a districtwide basis.

Alternative B

Water - Management prescriptions for four Areas of Critical Environmental Concern, totalling 78,522 acres, would give low benefits to water quality and quantity. Actions that restrict vehicles to existing roads and trails (1,309,646 acres) or deny their use (90,354 acres) would provide low benefits to water resources by reducing the silt in runoff. Withdrawal from mineral entry (17,220 acres), no surface occupancy stipulations for mineral leasing (21,729 acres), and prohibition of mineral material sales (21,948 acres) would reduce soil disturbance, providing moderate benefits for water quality.

Soil - Restrictions of vehicles to existing roads and trails or denying their use on 1,400,000 acres would provide a low benefit to soil by reducing soil disturbance and erosion. The construction of Timber Draw Dam and reconstruction of Oso Largo Dam would help regrade eroded areas and reduce soil erosion by about 500 acre feet per year causing a moderate benefit.

Riparian Vegetation - Management of four Areas of Critical Environmental Concern would protect over 8,455 acres of riparian vegetation. These actions would provide a high benefit to riparian vegetation.

Restricting vehicles to existing roads and trails or prohibiting their use in some areas would give a low benefit to riparian zones by minimizing vegetation disturbance.

Private land acquisitions would increase riparian vegetation under BLM management, a moderate benefit. Requiring no surface occupancy stipulations for mineral leases on 2,397 acres of riparian vegetation

would provide low benefits by protecting it from the disturbance of mineral leasing activities.

Unique Waters designations and acquisition of instream flow water rights would provide moderate benefits to riparian vegetation by ensuring a minimum continual flow needed to maintain riparian vegetation communities.

Upland Vegetation - Management prescriptions for Aravaipa Watershed and Muleshoe Riparian Areas of Critical Environmental Concern (72,684 acres) would enhance the vegetation by increasing the density and diversity of species and result in a low benefit to vegetation. Any successful revegetation method implemented on the Bear Springs Flat area that increases vegetation would provide low benefits.

Limiting or denying off highway vehicle use on 1,400,000 acres would provide low benefits to upland vegetation by protecting it from destruction by vehicles.

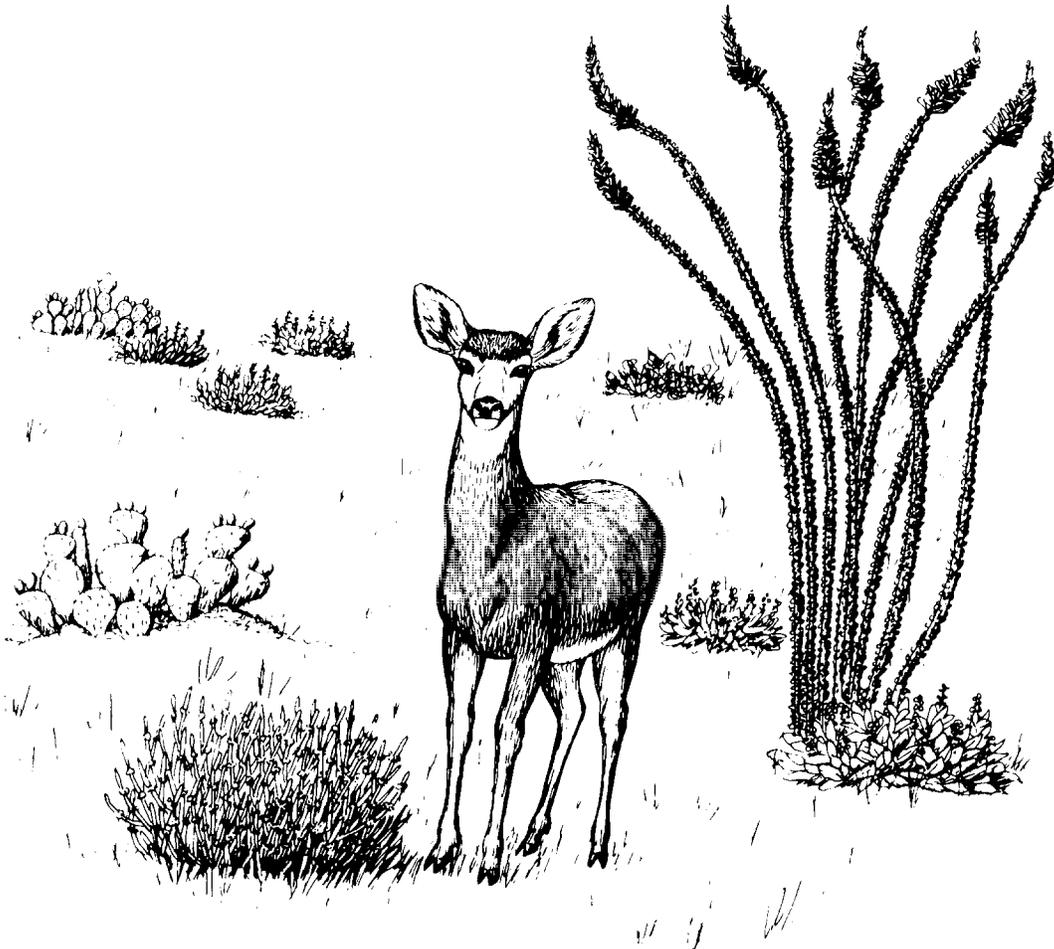
Wildlife Habitat - Designation and management of Gila Box Outstanding Natural Area, Muleshoe, Guadalupe Canyon Outstanding Natural Area, Eagle Creek Canyon, Dos Cabezas Peaks and Bowie Mountain Scenic Areas of Critical Environmental

Concern (80,279 acres total) would moderately benefit wildlife habitat. Management prescriptions for these areas provide for monitoring water quality, improving riparian vegetation and placing restrictions on mining activities. These prescriptions would benefit 15 priority wildlife species and their habitat.

Closing bighorn sheep lambing areas to vehicles would provide high benefits to the sheep by reducing disturbances during critical periods. Off highway vehicle limitations and closures would highly benefit 36 priority wildlife species and their habitat.

Management actions planned for priority wildlife species and habitats (spring protection, prescribed burning, etc.) would give a moderate benefit to wildlife.

Disposal of 67,716 acres of public lands would have negligible districtwide effects on wildlife habitat since the criteria for disposal would not permit lands with high-quality habitat to be traded or sold. In addition, approval of disposal actions will have National Environmental Policy Act compliance documentation. Acquisition of state or private lands having wildlife habitat would supply high benefits since these lands would be managed by BLM for the benefit of wildlife.





Withdrawal from mineral entry in seven areas (12,652 acres) would highly benefit all priority species through protection of their habitat from mining activities. Prohibiting mineral material sales on 21,948 acres would provide habitat protection for 17 species, a moderate benefit. No surface occupancy stipulations (21,669 acres) would give moderate benefits for 15 species.

Monitoring water quality would give moderate benefits for 17 species in riparian areas by increased water quality protection.

Cultural/Paleontological Resources - Withdrawal from mineral entry, no surface occupancy stipulations and closure to mineral material sales would highly benefit paleontological resources on 4,127 acres of the Bear Springs Badlands Area of Critical Environmental Concern. Proposed minerals restrictions on other public lands elsewhere in the District would give moderate benefits to cultural resources by eliminating activities that would damage the resource.

Area of Critical Environmental Concern management prescriptions for seven Areas of Critical Environmental Concern, totalling 35,899 acres, would provide moderate benefits to cultural resources through protective actions. The closure of two Areas of Critical Environmental Concern to vehicles would moderately benefit cultural resources by preventing damage associated with vehicular use and visitor accessibility.

Construction of Timber Draw Dam would cause high impacts to a potentially eligible National Register Archaeological District containing 37 archaeological sites on 1,300 acres. Impacts would be primarily from loss of scientific data due to burial of archaeological resources, inundation and construction effects. Impacts would be reduced through intensive mitigation prior to construction.

Socio-economic - Area of Critical Environmental Concern designations and additions to wilderness would cause low benefits to the local economy by diversifying recreation opportunities in the area.

Withdrawal from mineral entry of 12,652, no surface occupancy stipulations of 21,669 acres and the prohibition of mineral materials sales on 21,948 acres would generally have a low impact on the economy because of the extensive nature of the resource within the District.

Six of the areas proposed for withdrawal are in areas having moderately favorable potential (Bureau of Mines terminology). Coronado Mountain, Eagle Creek, Bowie Mountain Scenic, and Table Mountain Research Natural Area Areas of Critical Environmental Concern and Yuma Wash range from 160 to 3,600 acres and due to the total amount of acreage, the impact on mining would be moderate to high on those lands in the district having moderately favorable potential. The rest of the lands proposed for mineral withdrawal are not in areas with known potential and would, therefore, have a minimal impact on the industry.

Geothermal sources are the only known leasable energy potential. This occurs in scattered areas throughout the District. Six Areas of Critical Environmental Concern, particularly the Gila Box Outstanding Natural Area Area of Critical Environmental Concern, have geothermal energy potential. Impacts to the geothermal industry, however, would be minimal because of the no surface occupancy stipulations in five of the Areas of Critical Environmental Concern. No restrictions on leasing are placed on the sixth, the Swamp Springs-Hot Springs Watershed Area of Critical Environmental Concern. Although the no surface occupancy stipulation prohibits drilling in the Areas of Critical Environmental Concern, standard directional drilling practices are allowed from outside the Areas of Critical Environmental Concern.

Mineral materials are found throughout the District and no shortages are expected.

Impacts to the economy from disposal of public lands would be low. When public lands are exchanged or sold, there could be a decrease in the Payment in Lieu

of Taxes payment because of the decrease in the acreage of federal land in a county. When public land is exchanged with the state, the loss of Payment in lieu of Taxes money is mitigated by a payment made by the state. State law SB-1231, approved by the Governor on July 13, 1988, provides counties with a payment similar to the federal Payment in lieu of Taxes payment. When public land is transferred to private ownership, the loss of Payment in lieu of Taxes money is compensated by the addition of these lands to the property tax rolls.

Conclusion

The implementation of this alternative would provide high benefits to paleontological resources by protecting known fossil deposits. Moderate benefits would be gained for wildlife habitat, riparian vegetation, cultural resources and soils. Low benefits would result to upland vegetation. The construction of Timber Draw Dam would result in high impacts to archaeological sites in the project area. Low economic impacts would result from mineral restrictions. Low economic benefits would result from Areas of Critical Environmental Concern and wilderness recreation use.

Alternative C

Water - Protective management prescriptions for three Areas of Critical Environmental Concern, totalling 27,225 acres, would result in low benefits to water quality and quantity. Designation of 1,257,513 acres open to off-highway vehicle use would result in water quality and quantity impacts that would range from minimal to high depending on the amount of use in any particular area. Impacts would be due to increased sedimentation caused by soil erosion.

Soil - Restricting vehicles to existing roads and trails (88,931 acres) or denying their use (85,384 acres) would have low benefits to soil by reducing disturbance and erosion. The construction of Timber Draw dam and reconstruction of Oso Largo Dam would help regrade eroded areas and reduce soil erosion in floodplains by about 500 acre-feet per year. This would be a moderate benefit.

Riparian Vegetation - Management prescriptions for three Areas of Critical Environmental Concern would increase riparian vegetation quality from fair to good on 460 acres and maintain or improve other areas in good or better condition, a moderate benefit. Acquisition of in-stream flow water rights on five perennial streams and four intermittent streams would provide moderate benefits by assuring a minimum flow of water needed for riparian plant species.



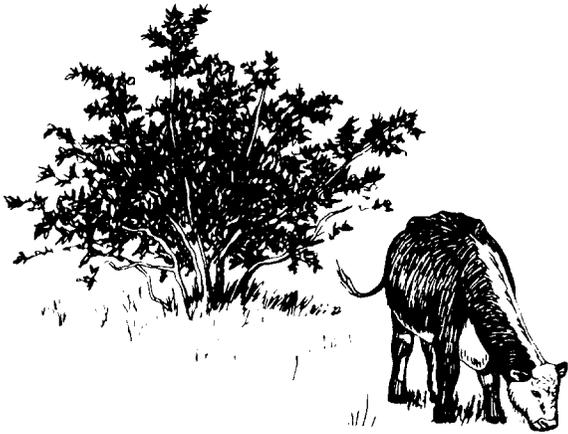
Designation of most of the District as open for off-highway vehicle use would cause moderate impacts to 35 riparian areas that would be used by off highway vehicles. Acquisition of state and private lands through exchange would give moderate benefits by the addition of riparian vegetation to public ownership and BLM management.

No surface occupancy stipulations for mineral leasing activities on 570 acres of riparian vegetation would provide a low benefit to riparian areas. Activities that would disturb riparian areas would not be permitted, unless located outside these areas.

Upland Vegetation - The objective of land treatments is to decrease invading woody plants and increase grasses and forbs for wildlife, watershed condition and livestock. Proposed land treatments would have low benefits on upland vegetation communities. Designation of 1,257,513 acres as open to off-highway vehicle use would have a range of impacts from minimal to high depending on the level of off-highway vehicle use in a particular area. The impacts on upland vegetation would be direct effects of vehicles on the vegetation resource.

Wildlife Habitat - Designation of 10 Areas of Critical Environmental Concern, totalling 42,988 acres, would provide moderate benefits to wildlife habitat by protecting against disturbance and loss of habitat.

Designating 57,214 acres as limited to existing roads and trails for off-highway vehicle use and 85,273 acres as closed would provide moderate benefits to 16 priority species by limiting or eliminating disturbance from vehicular use. Designating the remainder of the



area open to off highway vehicles would have impacts varying from low to high depending on the intensity and extent of use.

Any low impacts caused by disposal actions would be mitigated through actions developed in approved site-specific disposal plans. Each of these plans must comply with National Environmental Policy Act requirements. High benefits would result from acquisition of habitat through state and private exchanges.

Establishment of right-of-way exclusion areas in Guadalupe Canyon Outstanding Natural Area, Coronado Mountain Research Natural Area, and 111 Ranch Research Natural Area Areas of Critical Environmental Concern would result in low benefits to wildlife by prohibiting construction of pipelines, powerlines or roads that would disturb habitat.

Withdrawal from mineral entry of 2,562 acres, issuing mineral and energy leases with no surface occupancy stipulations on 7,525 acres and prohibiting the sale of mineral materials on 4,316 acres would result in low benefits for 11 priority species by protecting their habitat from disturbance.

Acquisition of instream flow water rights on five perennial streams and four intermittent streams would provide low benefits to three priority species.

Cultural/Paleontological Resources - Requiring no surface occupancy stipulations for three archaeological sites (totalling 320 acres) would provide a low benefit to the protection of these sites. Activities associated with mineral leasing would have to take place off-site, eliminating any possible disturbance to cultural resources. Management prescriptions (limiting off highway vehicle use, requiring mining plan, etc.) for four Areas of Critical Environmental Concern, totalling 8,553 acres, would provide moderate benefits to cultural and paleontological resources.

Designating most of the District (1,257,513 acres) open to off highway vehicles use would have localized low to

high impacts to cultural resources due to the possibility of increased soil erosion, theft, vandalism and destruction of sites by vehicles. Limiting off highway vehicles to existing roads and trails or closing areas to vehicles in the remainder of the District would provide low benefits to cultural resources by preventing damage associated with vehicular use and visitor accessibility.

Construction of Timber Draw Dam would result in high impacts to a potentially eligible National Register Archaeological District that contains 37 archaeological sites on 1,300 acres. Impacts would be caused primarily from loss of scientific data due to burial of archaeological resources, inundation and construction effects. Impacts would be reduced through an intensive mitigation effort prior to construction.

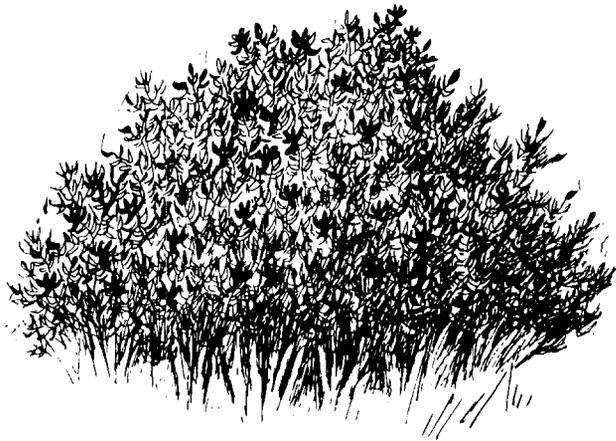
Socio-economic - There would be withdrawal from mineral entry of 2,411 acres, no surface occupancy stipulations on 7,525 acres and the prohibition of mineral material sales on 4,316 acres. Because this is a relatively small amount of land the impacts on the Districtwide economy would be low.

One area proposed for withdrawal, Bowie Mountain Scenic Area of Critical Environmental Concern, is in an area having "moderately" favorable potential (Bureau of Mines terminology). Because only 2,411 acres of the entire District are proposed for withdrawal from mineral entry, the impact on the mining industry and the economy would be low. The rest of the land proposed for mineral withdrawal are not in areas with known potential and would, therefore, have a minimal impact on the industry.

No leasable mineral withdrawals are proposed under this alternative. Four Areas of Critical Environmental Concern have geothermal energy potential. Geothermal sources which occur in scattered areas throughout the district are the only known leasable energy potential. Impacts to the geothermal industry, however, would be minimal because of the no surface occupancy stipulations. No restriction on leasing are placed on the sixth, the Muleshoe Riparian Area of Critical Environmental Concern. Although the NSO stipulation prohibits drilling in the Area of Critical Environmental Concern, standard directional drilling practices are allowed.

Mineral materials are found throughout the District and no shortages are expected.

Impacts to the economy on a Districtwide basis from disposal of 99,670 acres of public lands would be low. Any potential impacts from disposal would be offset by the benefits to the economy from acquisition of 97,190 acres.



Conclusion

Management of Areas of Critical Environmental Concern would provide moderate benefits to riparian vegetation and cultural and paleontological resources. Off highway vehicle use, however, would cause localized moderate to high, and possibly significant impacts to riparian areas, wildlife habitat and cultural and paleontological resources from disturbance caused by vehicles. The construction of Timber Draw dam would result in high impacts to archeological sites but moderate benefits to soils by regrading a highly eroded area.

Mineral entry withdrawals, no surface occupancy stipulations for mineral leasing and prohibiting mineral material sales would provide low benefits to riparian vegetation, wildlife and their habitat and cultural and paleontological resources.

The mineral industry would realize few impacts due to decreased opportunities from withdrawals of 2,411 acres from mineral entry and mineral materials restrictions on 4,316 acres of riparian habitat.

Alternative D No Action

Water - Restricting vehicles to existing roads and trails would reduce erosion, giving low benefits to water quality. Actions taken to protect desert washes would enhance vegetation cover and provide low benefits to water quality by reducing soil erosion. Construction of water control facilities would provide moderate benefits to water quality by reducing the rate of runoff, thereby decreasing the amount of erosion and sediment in the water.

Soil - Restricting vehicles to existing roads and trails would provide low benefits to soil by reducing the amount of erosion caused by physical disturbance of soil surfaces and the destruction of vegetation. Devel-

oping grazing management plans would moderately benefit soils by increasing vegetation density and diversity.

Construction of the Timber Draw Detention Dam would moderately benefit soil by reducing erosion. This construction would reduce soil loss by about 300 acre-feet per year. A low benefit would be achieved through the use of vegetation manipulation on the Bear Springs Flat area. Increasing vegetation cover would reduce erosion.

Riparian Vegetation - Management of riparian areas as Areas of Critical Environmental Concern would moderately benefit riparian vegetation through management prescriptions designed to improve and protect riparian vegetation. These designations would benefit 60 riparian areas covering about 1,267 acres. Management of livestock grazing in riparian areas would highly benefit those areas by providing for improved seedling establishment and increased survival of young plants.

Protection of vegetation cover from livestock grazing at natural and artificial waters would provide low benefits to riparian vegetation.

Designating off-highway vehicle use as limited to existing roads and trails would give low benefits to riparian areas by reducing vegetation disturbance caused by off-highway vehicles.

Low benefits to 570 acres of riparian vegetation through the imposition of no surface occupancy stipulations.

Upland Vegetation - Restricting vehicles to existing roads and trails would give low benefits to vegetation by reducing the disturbance caused by off highway vehicles. Continued development of livestock grazing systems, construction of water control facilities and application of land treatments would give low benefits to vegetation by preventing its destruction and encouraging increased vegetation density and vigor.

Effective wildfire suppression, in the long term, would not allow the natural development of vegetation diversity and control of shrubs by natural fire. In the short term, wildfire suppression would provide low benefits by protecting wildlife habitat and livestock forage from destruction. Vegetation manipulation in the Bear Springs Flat area would give low benefits to the vegetation density and diversity.

Wildlife Habitat - Management of riparian areas as Areas of Critical Environmental Concern would moderately benefit wildlife species due to the protection of

riparian habitat. Management prescriptions for Mescal Creek and the Gila River would provide a moderate benefit to 17 priority wildlife species found in those areas. Protection or enhancement of riparian areas would moderately benefit wildlife species dependent upon that habitat type.

Actions to retain or acquire lands important to wildlife would provide high benefits depending on the wildlife habitat types involved. Providing livestock management, by limiting numbers and season of use, on 10 ephemeral allotments would highly benefit desert tortoise habitat by providing adequate forage at critical times. Off-highway vehicle limitations and closures would highly benefit wildlife habitat.

Providing protection of vegetation around natural and artificial waters would provide moderate benefits to wildlife by providing critical food and cover.

Management of Bonita Creek for Safford's water supply would moderately benefit wildlife by ensuring continued water supply.

Cultural/Paleontological Resources - Restricting vehicles to existing roads and trails would moderately benefit cultural and paleontological resources. Those actions designed to protect riparian areas would provide moderate benefits to cultural and paleontological resources since riparian areas typically have high concentrations of historic and prehistoric archaeological sites.

Development of water control facilities in the lower elevations of the Gila Mountains, Bear Springs Flat and Ashurst area would give low benefits to cultural and paleontological resources by reducing soil erosion that destroys the resources. Construction of Timber Draw dam would result in high impacts to a potentially eligible National Register Archaeological District that contains 37 archaeological sites on 1,300 acres. Impacts would be primarily from loss of scientific data due to burial of archaeological resources, inundation and construction effects.

Socio-economic - There would be no measurable benefits or impacts to the existing environment from implementation of this alternative.

Conclusion

Continuation of current management practices would provide low benefits to water resources by controlling off highway vehicle activity that causes soil erosion and sedimentation of streams and rivers. This alternative would also provide moderate benefits to soil, wildlife

habitat, riparian vegetation and cultural and paleontological resources. The construction of Timber Draw Dam would result in high impacts to archaeological sites in the project area.

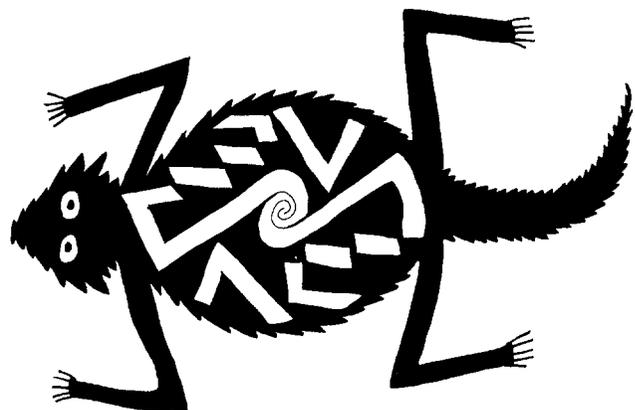
Mining and mineral leasing restrictions would cause low impacts to the economy. Designation of Areas of Critical Environmental Concern would provide low benefits to the economy of local tourism industries.

Mitigating Measures

No specific mitigation measures have been identified in this Resource Management Plan/Environmental Impact Statement that would reduce the anticipated impacts of implementing the Preferred Alternative. Mitigation will be incorporated when BLM begins implementing the specific actions of the Resource Management Plan. At that time, an environmental assessment will be prepared to analyze the expected impacts of each project and identify needed mitigation measures to deal with those impacts.

Unavoidable Adverse Impacts

The following impacts are expected to remain when the Preferred Alternative is implemented and the mitigation measures developed by BLM are applied. Closure of Areas of Critical Environmental Concern to mineral entry, mineral leasing or mineral material sales would result in low impacts to the local economy.



Cumulative Impacts

Since 1970 the administration of public lands in the Safford District has been governed by a number of Management Framework Plans. Although some of the Management Framework Plans were developed prior to National Environmental Policy Act and the Council on Environmental Quality Regulations, a review completed in 1981 by Arizona State Office specialists indicated all were in compliance with the Council on Environmental Quality regulations.

Thus, BLM public land management in the Safford District has fully conformed to the spirit and intent of National Environmental Policy Act. Public participation in issue identification and review has been used in developing plans. The environmental consequences of general, as well as site-specific proposals and reasonable alternatives to those proposals, have been considered early in the planning process. Direct and indirect impacts have been analyzed. Monitoring has been used to check mitigation and plans have been revised as appropriate and necessary.

In accordance with National Environmental Policy Act and the Council on Environmental Quality regulations, BLM plans for the past 20 years have undergone intergovernmental consultation and coordination, and a governor's consistency review.

In light of this, no significant cumulative adverse impacts are anticipated from adding the preferred alternative to the existing plans of other agencies. Similarly, because of the continuation of intergovernmental consultation and coordination in compliance with the Council on Environmental Quality Regulations (40 CFR 1501.1) and BLM Planning Regulations (43 CFR 1610.2 and 1610.1) no significant cumulative adverse effects on this or other plans, or from this or other plans are anticipated in the foreseeable future.

Short-Term Use versus Long-Term Productivity

Proposed disposals of public land would increase resource management efficiency during the short and long term. Acquisitions, through state and private exchanges, would also improve the management efficiency of the public lands.

Proposed land treatments and detention dams would destroy vegetation in the short term but would improve productivity of the land in the long term. Firewood cutting would increase the short-term use of the cutting areas but would not affect long-term productivity.

Irreversible and Irrecoverable Commitments of Resources

Implementation of the Preferred Alternative would cause the following irreversible and irretrievable commitments of resources. Soil erosion, caused by off highway vehicle use on 1,708 acres designated open, would be an irreversible and irretrievable commitment of resources.

Land disposals would cause the permanent loss of those lands from public use because most disposals are by state or private exchange. Inadvertant disposal of lands containing archaeological or paleontological resources to private entities would result in the loss or destruction of those resources since they would no longer be under BLM protection. Any disturbance to cultural or paleontological resources would be irreversible. Any loss of those resources would be irretrievable and they could not be replaced. Construction of Timber Draw Dam could inadvertently result in irreversible and irretrievable losses to archaeological sites.

