

The 49,100 acres selected for disposal by the second set of criteria mainly consist of scattered lands disconnected from other BLM-managed lands. Disposal of some parcels might disrupt the connectivity of the route network if the new owner closes routes across the property. Because the lands are isolated from other BLM-managed lands, BLM could not develop new routes to mitigate the losses. Camping, target shooting, rock hounding, and other site-specific recreation could be affected for some users if such sites are on the disposed lands and are later closed. Loss of these lands would not appear to affect other recreation activities (e.g. wildlife viewing, most other motorized and non-motorized activities).

Impacts from utility and transportation corridors would be similar to those under *Alternative A*.

#### ***Alternative D***

Lands-related impacts to Agua Fria National Monument would be similar to those described for *Alternative C*. Because no lands would be disposed in the Bradshaw-Harquahala Planning Area, no impacts are expected. Impacts from corridors would be similar to those under *Alternative A*.

#### ***Alternative E (Proposed Alternative)***

Lands-related impacts to Agua Fria National Monument would be similar to those described for *Alternative B*.

No impacts are expected to result from disposing of lands in the Bradshaw-Harquahala Planning Area because parcels are small, isolated, or generally in the Phoenix urban area. Because recreation on these parcels is generally minimal, relocating the activities to other BLM-managed lands is not expected to have noticeable impacts.

Impacts from other lands actions on recreation would be similar to those described for *Alternative B*. An important recreation feature that may be affected by utility development is the Black Canyon Trail. Approximately 80 acres of corridor set aside by the Secretary of

Interior in 1969 could be affected by the corridor location in the Proposed Alternative. As with other resources, allocation of a utility corridor itself has no effect on the trail. However, utility development in the vicinity of the trail could affect access to the trail, the views from the trail, recreation settings along the trail, and with those, the potential benefits derived by trail users. Possible mitigations for these impacts would be the same as those described above under *Alternative A*.

### **4.14.3 From Management of Soil, Water, and Air Resources**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Maintaining or improving water quality and providing for surface and subsurface flows in Agua Fria National Monument would benefit recreation. Both wildlife viewing and water-related recreation would be enhanced.

Managing air quality could affect recreation through restrictions to protect Agua Fria National Monument's values. The potential for excessive dust might result in rescheduling or redirecting recreation events authorized through SRPs.

Managing air quality could affect certain recreational activities, such as large OHV events and motorized competitive races, by restricting or rescheduling events so that they comply with county air quality rules. Failure to meet fugitive dust and PM<sub>10</sub> emission standards could cause public lands to be closed for OHV riding, permitted events, and staging for OHV and equestrian or organized group activities. Facilities and developments would have to be designed and installed with dust abatement features.

## 4.14.4 From Biological Resource Management

### *Alternative A (No Action)*

Modifying fencing to allow wildlife movement would improve wildlife viewing opportunities by enhancing the ability of wildlife to move throughout Agua Fria National Monument. Developing new water sources could also enhance viewing opportunities by strengthening wildlife populations and providing areas where wildlife would congregate.

Use of prescribed burns for habitat enhancement could temporarily impair recreational experiences by disturbing the visual setting and by closing burn areas to recreation. Habitat improvements could enhance wildlife populations and viewing opportunities.

Managing Arizona night lizard and Sonoran mountain king snake habitat by closing mining roads to recreational use could limit opportunities for recreation in habitat areas.

Developing wildlife waters and protecting big horn sheep habitat as described for the Lower Gila North MFP (BLM 1983) would continue to sustain wildlife populations for wildlife viewing and hunting.

The Lower Gila North MFP (BLM 1983) limits motorized vehicles in desert tortoise, Arizona night lizard, and Sonoran mountain king snake habitat to existing routes only. This management has not been implemented. The MFP planning area is considered open to cross-country travel, and current OHV recreation would continue to be allowed.

### *Alternative B*

Impacts in the Agua Fria National Monument would be the same as *Alternative A*.

Managing desert tortoise habitat could reduce opportunities for motorized recreation by limiting the development of new routes.

Limiting motorized special events to the period from October 15 to March 31 in Category I and II desert tortoise habitat would limit the potential number of events in some locations. Evaluating permits for impacts on desert tortoise habitat (Map 2-58) could affect opportunities for events in otherwise desirable settings if impacts on desert tortoise occur in the proposed event location. Events might have to be postponed, cancelled, or relocated to a less desirable location.

Ensuring connectivity of habitat for wildlife could affect motorized recreation by closing routes that cross sensitive areas or movement corridors. Opportunities for wildlife viewing could be enhanced because wildlife would be able to move through their traditional corridors.

Designation of Harquahala Mountains Wildlife Habitat Area (WHA) would protect sensitive wildlife habitat and enhance opportunities for wildlife viewing by strengthening populations.

Ensuring connectivity of habitat for wildlife could affect motorized recreation by closing routes that cross sensitive areas or movement corridors. Opportunities for wildlife viewing could be enhanced because wildlife would be able to move through their traditional corridors.

### *Alternative C*

Limiting routes in pronghorn corridors in Agua Fria National Monument could reduce the connectivity of the route network and diminish the motorized recreation experience of some users. Prohibiting the development of recreational sites in pronghorn corridors could affect recreation opportunities by eliminating such facilities as restrooms, parking areas, or ramadas, which could enhance the recreation experience for some users.

*Alternative C* would, however, provide more areas for visitors to enjoy viewing wildlife and experiencing solitude. Wildlife corridor concerns were considered as part of the evaluation process for designating the route network for *Alternative C*.

Agua Fria National Monument has no developed recreational sites except for minimal improvements at Badger Springs and in the Cordes Lakes area. Prohibiting the development of recreational sites in pronghorn corridors would eliminate the possibility of such facilities as restrooms, parking areas, or ramadas, which could enhance the recreation experience of some users. Modifying fences to allow wildlife to move more freely could enhance wildlife viewing opportunities in the national monument.

Prohibiting new fences in the Belmont/Big Horn Mountains and Date Creek Mountains WHAs, and the Upper Agua Fria River Wildlife Habitat Corridor would maintain the current connectivity of the route network.

In the Bradshaw-Harquahala Planning Area, WHAs to protect wildlife habitat would have the same impact on recreation as described in *Alternative B*. Prohibiting construction of new routes in the Date Creek Mountains WHA and the Upper Agua Fria River Habitat Corridor could lessen motorized recreation opportunities by preventing maintenance of route connections when other routes are closed for resource protection. Fragmented route systems could diminish the recreational experience for some users and possibly lead to an increase in unauthorized cross-country travel to connect routes.

Impacts from desert tortoise restrictions would be the same as those identified in *Alternative B*.

#### ***Alternative D***

Impacts from route limitations and development of sites for recreation in the pronghorn corridors in Agua Fria National Monument would be similar to those under *Alternative C*.

Removing all fences and prohibiting new ones in Agua Fria National Monument would maintain connectivity in the motorized route system developed for *Alternative D* and enhance the natural appearance of the landscape. Wildlife viewing could be enhanced because wildlife

could move throughout most of the national monument.

In the Bradshaw-Harquahala Planning Area most wildlife management would be accomplished through ACEC and WHA designation and management. Impacts would be the same as those discussed in *Alternative B* and in Section 4.14.1.

Management restrictions for desert tortoises and in the Harquahala/Belmont/Big Horn Wildlife Corridor could limit recreation developments and restrict or preclude some recreation activities, diminishing the recreation experience of some users. Impacts from other desert tortoise restrictions would be the same as those identified in *Alternative B*.

#### ***Alternative E (Proposed Alternative)***

Designation of specified pronghorn corridors in the monument would have the same impacts as described under *Alternative C*.

Prohibiting the developing of recreational sites in pronghorn corridors could affect recreation opportunities by eliminating the possibility of such facilities as restrooms, parking areas, or ramadas, which could enhance the recreation experience for some users.

Prohibiting new fences in the Belmont/Big Horn Mountains WHA would help maintain the current connectivity of the route network.

Closing or limiting vehicle routes in the Belmont/Big Horn Mountains WHA, the Harquahala/Belmont/Big Horn Wildlife Corridor, and the Harquahala Mountains and Black Butte ACECs would have the same impacts as *Alternative C*.

Prohibiting the building of new routes in WHAs and ACECs would have similar impacts as described in *Alternative B*.

Impacts from desert tortoise restrictions would be the same as those identified in *Alternative B*.

## 4.14.5 From Cultural Resource Management

### *Alternative A (No Action)*

Current conditions would be maintained with no significant change in interpretive opportunities. Two permittees now offer cultural resource tours and activities in Agua Fria National Monument, but BLM has devised no management procedure for controlling the number of permits. More permits could lead to allocation and protection problems if larger numbers of tours and activities visit the same sites. Increased group use could also diminish the recreation experience of the general user.

The Lower Gila North MFP (BLM 1983) called for study plots and inventories to reduce land use impacts on cultural resources and to allocate sites for scientific use and preservation for future use. The study plots have not been established and should not restrict recreation at cultural sites. Allocation to scientific use or preservation would limit certain sites for commercial or general recreation use.

### *Alternative B*

Potential closures of routes as protective measures for sites would affect certain recreational activities, especially where such activities are influenced by the interconnectedness of the route network. However, conflicts among user types could decline, and opportunities could increase for an enhanced sense of solitude and enjoyment of cultural resources in a natural setting.

Maintaining signs and developing interpretive programs would lead to a better understanding and appreciation of the sites selected to be open to the public. Increased visitation to sites resulting from promoting public access could affect the interpretive recreational experience by (1) increasing interaction with other visitors and (2) diminishing the sense of site discovery that visitors experience before sites are allocated for public access.

Also affecting opportunities for recreation would be stipulations on SRPs to limit damage such as artifact removal or displacement, and requirements for SRP holders to implement customer education programs. The recreational experience for visitors would be enhanced by learning the value of the cultural resources and the importance of retaining their integrity and of protecting sites for future recreational opportunities.

Limiting group visits to cultural sites to 25 persons at a time, could limit opportunities for some groups to experience the cultural resources at popular sites. Such limitation could maintain an enjoyable experience for the public by reducing possible overcrowding caused by large groups at sites and preserving a more natural experience.

Developing public use areas according to the various levels of development and use described in Cultural Resources in Chapter 2, would maintain opportunities for a variety of recreational experiences relating to the cultural resources in the national monument. Specifically, sites would have interpretive and educational components. Access for multiple users (including the disabled) would be improved, and sites would be stabilized and preserved for future recreational opportunities.

Improving routes and trails would open sites to a wider variety of users. Limiting motorized access to at least a quarter mile to a half mile from sites would limit the opportunities for recreation of some users but would also reduce conflicts among user types and maintain a non-motorized setting at the resources.

Educational programs and interpretive signs would raise visitor awareness and sensitivity.

Developing areas for Moderate and Low public use would enhance the experience of the general user by limiting commercial tours and allowing increased opportunities for experiencing the cultural resources in a natural setting.

Developing five sites for High public use and four sites for Moderate public use in the national monument would affect recreational opportunities involving cultural resources by increasing access and education programs on 16,000 acres. Limiting motorized access would reduce some user conflicts at the sites. A potential increase in commercial permit use for the sites could increase interaction with large groups at Low public use sites and diminish the recreational experience of some users. Public use on 49,100 acres would remain limited, with no improvements in access or interpretive elements. This lack of improvements would allow users to experience the cultural resources through discovery.

In the Bradshaw-Harquahala Planning Area developing sites for public use in all eight cultural priority areas would increase awareness and recreational opportunities for experiencing the cultural resources on 316,000 acres throughout the planning area. Some user conflicts would be reduced through controlling access of motorized vehicles. The recreation experience of some casual users could be lessened by increased interaction with large groups at sites authorized for group tours.

#### *Alternative C*

In Agua Fria National Monument, impacts under *Alternative C* would be similar to those under *Alternative B*, except that one site would be allocated to High public use and eight sites would be allocated to Moderate public use. The total area of public use would be the same. However, developing fewer sites to High public use would decrease the publicity and awareness of cultural resources and limit opportunities for recreation for some users, especially those with mobility challenges. Allocating more sites to Moderate public use would increase opportunities to experience cultural resources in a less developed setting and reduce the potential for interaction with large groups.

In the Bradshaw-Harquahala Planning Area four priority areas, comprising 276,500 acres would be allocated for public use. In these areas

impacts to recreational opportunities would be similar to those under *Alternative B*. The opportunity to experience cultural resources through self-discovery would still exist in the priority areas not allocated for public use. For those areas *Alternative C* would not provide the educational and interpretive opportunities provided by *Alternative B*.

Restricting SRPs to educational tours involving site recording or protection could reduce recreational and educational opportunities for casual.

#### *Alternative D*

In Agua Fria National Monument no areas or sites would be developed for High public use. Only one site would be developed for Moderate public use. Awareness of cultural resources would be less under *Alternative D* than under *Alternatives B* and *C*. Opportunities for educational programs, along with the ability to experience the resources in a developed setting, would be eliminated. Lack of facilities could restrict access by certain visitors, especially those with mobility challenges. With limits on tours and group visits in Moderate public use areas, the potential for interaction with large groups would be reduced from that under *Alternatives B* and *C*. The entire national monument would be open for experiencing cultural resources through self-discovery. Opportunities for user conflicts would increase, especially at popular known sites such as Pueblo la Plata and Pueblo Pato, which would not be managed for public use.

In the Bradshaw-Harquahala Planning Area two priority areas, comprising 134,500 acres, would include sites developed for public use. Impacts would be similar to those under *Alternative B*. Educational and interpretive recreational opportunities would be reduced from those under *Alternative C* because fewer sites would be allocated to public use. Opportunities for self-discovery experiences would increase, as would potential conflict among user types.

**Alternative E (Proposed Alternative)**

Impacts on recreation resources from cultural resource management would be similar to those described for *Alternative B* except for the following. Potential closing of routes in the planning areas as a protective measure for sites would affect recreational activities, especially where such activities are influenced by the interconnectedness of the route network. Visitor awareness of the cultural resources and of recreational opportunities to experience the resources through improved access and education programs would increase as a result of managing cultural resources in the following areas in the Bradshaw-Harquahala Planning Area:

- Black Mesa/Bumble Bee Cultural Resource Priority Area
- Black Canyon corridor, Lake Pleasant/Agua Fria, Wickenburg/Vulture, Weaver/Octave, Harquahala, and Galena Gulch SCRMA.

Varying levels of public use development, similar to the levels used in Agua Fria National Monument would limit opportunities and access for some users. However, the levels would also reduce conflicts among user types. Future opportunities for recreation would be maintained by protecting the resources.

In the monument, impacts under *Alternative E* would be similar to *Alternative B* except that two sites would be developed for High public use and six sites for Moderate public use. The total area of public use would be less than *Alternative B* (12,440 acres). Public use limitations on 57,200 acres would increase the impacts over what is described in *Alternative B*.

In the Bradshaw-Harquahala Planning Area developing sites for public use in each cultural priority area would increase awareness and recreational opportunities for experiencing cultural resources. Although some user conflicts would be reduced by controlling access of motorized vehicles, the recreation experience of

some casual users could be impaired by increased interaction with large groups at sites authorized for group tours.

**4.14.6 From Paleontological Resource Management****Alternatives A (No Action), B, C, D, and E (Proposed Alternative)**

There are no impacts expected. Although including paleontological resources in the Cultural Resource Program could increase awareness recreation opportunities, no paleontological sites are known to exist on BLM's land in the planning areas.

**4.14.7 From Recreation Management****Alternative A (No Action)**

The increasing use and intensity of non-permitted/dispersed general recreation, and permitted commercial/organized activities, could diminish the recreation experience of some users. Furthermore, it could alter the recreation setting for many activities. The changes in settings could reduce opportunities for certain types of activities, such as hiking, backpacking, non-motorized camping, hunting, and wildlife viewing; especially those in primitive or semi-primitive settings.

Current management is reactive; therefore, prescriptive actions are implemented to solve problems or reduce conflicts as they occur. Moreover, a lack of proactive management for recreation could lead to an overall decline in the quality of recreation as measured by recreation settings, opportunities, and experiences on public lands.

Recreational shooters, equestrians, hikers, bicyclists, campers, hunters, OHV users, mining clubs, and other recreation users would not be directed to areas suitable or compatible for their use. The following problems could increase in

all areas, especially near expanding communities:

- heavy uses in sensitive areas,
- overcrowding,
- user conflicts,
- adverse effects on adjacent State and private lands, and
- resource conflicts.

Visitor dispersal seeks to minimize visitor impacts and social conflicts by distributing visitor use to such a large number of sites that no site develops any obvious signs of wear. Sites that are convenient or easy to access might show such signs. Pre-existing sites are more convenient, more comfortable, and require less work to use. The lack of limiting established group sizes could possibly affect users because they might have forfeit a natural experience so large groups can settle in close together; which in turn, creates noise, other disturbances, or distractions.

Campfires are now allowed at dispersed campsites in the monument. Some proliferation of fire rings has occurred, though the impact is now low. Collection of dead, down, and detached woody material is allowed for campfire use. Although such fuel is generally scarce, no noticeable impact to woody vegetation has yet occurred.

Recreational target shooting would be allowed throughout Agua Fria National Monument. Many areas which have experienced high levels of such use in the past have been notorious for trash accumulation, including large amounts of spent shell casings. In addition, as visitation has increased, visitors' complaints have escalated along with conflicts between shooters and other visitors. Under the No Action Alternative these conflicts are expected to increase.

#### *Special Recreation Management Areas/Recreation Management Zones*

The No-Action Alternative would designate no Special Recreation Management Areas (SRMAs) or Recreation Management Zones

(RMZs). Recreational mining clubs, OHV users, campers and other intensive users would not be directed to areas suitable or compatible for their use.

#### *Off-Highway Vehicle Use*

Agua Fria National Monument is closed to cross-country motorized travel to protect the monument objects; however, existing routes are open. Specifically, no impacts are likely to occur unless resources are found to be damaged. Closing OHV routes or activity areas to protect resources could limit recreation in some areas, but resources would be protected for future activities.

In the Bradshaw-Harquahala Planning Area 2,240 miles of vehicle routes would remain open, and recreation would not be affected. However, in the western part of the planning area that is covered by the Lower Gila North Management Framework Plan (MFP) (BLM 1983), cross-country travel by some users could affect others, by disrupting recreational and disturbing recreation settings. Additionally, recreation settings would shift over time to more motorized settings and opportunities.

#### *Special Recreation Permits*

Current conditions would continue. BLM would continue to issue SRPs on request in both planning areas. Growth in the number of permits requested is expected to meet the increased demand but could lead to overcrowded use areas and conflicts between the public and permit holders. In the Agua Fria National Monument, this increase could quickly result in visitor dissatisfaction as the anticipated impacts from the increased use could negatively impact the recreational experience expected in a national monument. In the Bradshaw-Harquahala planning area, the unlimited growth in the number of permits and the subsequent increased number of users and related impacts would eventually result in unacceptable social encounters and impede the quality of recreational experience for most users if left unmanaged. In some locales such as the Vulture

Mountains, San Domingo Wash, Hieroglyphic Mountains, and Black Canyon corridor, requests for permitted commercial and competitive events could encumber all or most weekends during the peak cool-weather visitor season. Visitors not engaged in these permitted activities could be displaced to other areas or have their recreation experiences and expectations diminished. With no limits on the number of motorized competitive races the number of permits could increase to a point where the races would overshadow the casual use and organized group opportunities in the intensive OHV use areas. Consequently, this would result in decreasing recreational opportunities and quality of experience for the average motorized user. In addition, by not confining the use within appropriate use areas, visitors who prefer less intensive OHV uses and more casual rural settings could be displaced as this use moves into areas where they do not currently occur.

### ***Alternative B***

Under *Alternative B* Agua Fria National Monument's Front Country RMZ would comprise 57,900 acres and the Back Country RMZ 12,700 acres. Managing Agua Fria National Monument's Back Country RMZ for more primitive recreational opportunities would retain the semi-primitive setting and benefit visitors seeking non-motorized challenge and discovery. Activities such as camping would remain dispersed, and opportunities for solitude would be enhanced because intrusion by vehicles would be minimized. In the Bradshaw-Harquahala Planning Area more remote areas could retain good to high quality non-motorized or primitive recreation opportunities and experiences.

Managing the Front Country RMZ for more visitor uses would affect opportunities for recreation by concentrating popular and more intensive uses in areas that can tolerate the higher level of use. Concentrating visitors could change the recreation setting to one offering a less primitive experience because of (1) the increased social contact and (2) the required management for more visitors. Impacts from

increased noise, litter, and vehicular use would increase in the Front Country RMZ. Access for multiple types of activities would be enhanced and interpretive and educational opportunities would be open to a broad range of visitors.

Impacts to Agua Fria National Monument from dispersed camping would be similar to those under *Alternative A* describing recreational use near expanding communities. However, dispersed camping would be restricted near some facilities such as developed campgrounds, archaeological sites, and water sources. This restriction might slightly reduce the number of sites for dispersed camping and lead to other sites being established by the public. Motorized vehicles might pull off the designated road up to 25 feet. However, this might disturb the campers' solitude if parked along Bloody Basin in a camper unit. Additionally, other vehicles passing might create dust and impair visual clarity.

In contrast to *Alternative A*, campfires would be allowed at dispersed campsites in the national monument with some limitations; for example, only in built fire rings in developed campgrounds. Collecting dead, down, and detached woody material would be allowed for campfires at dispersed campsites.

Two 20-unit campgrounds would be developed at or near the two major access roads into the national monument. The ease of pulling into an established campsite with amenities offers convenience and security. Being close to other campers would enhance security and might also affect the social setting. The developed campgrounds would create a permanent disturbance at the development; however, careful site design would reduce the impacts of the disturbance to soil, vegetation, and visual resources. Developed campgrounds could also attract more visitors to the monument, creating intensified disturbance to wildlife habitat and other resources near the developed campgrounds. Camping opportunities in a developed campground would increase by 40 planned sites.

The impacts of recreational target shooting in the monument under *Alternative B* would be similar to those under *Alternative A*, except that some areas would be closed for the safety of other visitors. Some of the most popular shooting sites are within a half mile of now popular trailheads. Shooters who use these sites (such as the area near the Badger Springs trailhead) would be displaced and would have to move their use to another location. Whether that location might be within the monument is unknown.

Prohibiting material collection and paintball activities in the monument would affect visitors who have traditionally engaged in these activities. Nevertheless, this approach would maintain the landscape in a natural setting for other visitors, especially for cultural resource interpretive and educational programs.

Developing connecting route networks for hikers, bicycles, OHVs, and equestrians would affect recreation opportunities because all types of users could enjoy activities consistently, in more areas, and with fewer user conflicts.

*Alternative B* would significantly reduce the overall availability of public lands for competitive OHV events. Only the Hieroglyphic Mountains, San Domingo Wash, Vulture Mountains, Table Mesa, and Stanton SRMAs would allow such events, and the number of events would be limited to 16 annually. Management actions applied to the entire Bradshaw-Harquahala Planning Area address a variety of recreation concerns, including public access, target shooting, special recreation permits, organized group activities, and firewood collection. These management actions would do the following:

- reduce impacts on recreation users,
- reduce conflicts between users,
- maintain recreation opportunities and settings, and
- attempt to maintain high-quality dispersed recreation opportunities over the long term.

### *Special Recreation Management Areas/Recreation Management Zones*

Managing 82,690 acres of public land in SRMAs for OHV and intensive recreation would focus BLM's management efforts, as well as allocate some intensive recreation uses to the Hieroglyphic Mountain, Table Mesa, Stanton, San Domingo Wash, Yarnell, Wickenburg, and Vulture Mine SRMAs. BLM would manage SRMAs to ensure that specified recreation opportunities are maintained over the long term and to reduce conflicts between users and other resources. Development of staging areas and facilities would enhance the recreational experience for some users by providing a more developed setting.

*Alternative B* would significantly reduce the overall availability of public lands for competitive races in comparison to the current situation. Only the Hieroglyphic Mountains, San Domingo Wash, Vulture Mountains, Table Mesa, and Stanton SRMAs would allow races; however, the number would be limited to 14 per year.

Users interested in intensive motorized and group activities would be directed to the Hieroglyphic Mountains, Table Mesa, Stanton, San Domingo, and Vulture Mine SRMAs. Developing staging areas and facilities would enhance the recreational experience for these permitted uses by providing a compatible area for these activities.

Allocating and managing the Yarnell SRMA would affect the hang gliding community by preserving take-off and landing areas for long-term use. Potential hazards would be prevented whenever possible, thereby enhancing the safety and overall experience of users.

Managing the North Black Canyon Trail SRMA would enhance the non-motorized recreation experience in the northern portion of the planning area by providing the facilities for trail use and assuring long-term access to the trail as well as connections to public land to the south and Forest Service land to the north and east.

### *Off-Highway Vehicle Use*

The overall effect of route management under *Alternative B* would be to maintain the existing recreation settings and opportunities and avoid greatly changing or diminishing motorized recreation experiences and opportunities throughout the Bradshaw-Harquahala Planning Area.

### *Special Recreation Permits*

In Agua Fria National Monument issuing up to 12 SRPs would represent a four-fold increase from the current condition and could affect the ability of more visitors to access the monument under guided circumstances. The increase could also degrade the recreational experience of other users by (1) increasing their interaction with large groups during many activities and (2) diminishing their opportunity to enjoy experiences in desired settings.

In the Bradshaw-Harquahala Planning Area impacts regarding the number of SRPs issued would be the similar to those described in *Alternative A*. However, in *Alternative B* the number of motorized competitive races would be limited to 14 per year. Although this amount is nearly five times the amount of races currently held in the planning area, annual limits would be set for each SRMA which would spread the potential number of races throughout the five SRMAs allocated for such use. This would minimize potential user conflicts in those SRMAs and allow diverse OHV opportunities in these areas.

However, the allowable limits in this *Alternative* could still potentially double the number of competitive races in those management areas where races are currently held. Also, it would keep other areas open and available for races where currently none are held. In these areas, casual users could be affected by a diminished recreational experience in areas near events. The contributing factors include; the noise, the dust, the limitations and closures of routes, the possibility of large numbers of spectators, as well as other factors which could further limit

normal use of area resources which increases during the during weekends. Casual users might also be displaced from popular areas because these areas would be inaccessible or unattractive to them during scheduled events.

On the other hand, the recreation experience of some visitors might be enhanced by the unexpected opportunity to observe competitive events and interact with other visitors.

Limiting competitive, commercial, and organized group events to allocated VRM standards and recreation settings in the planning areas could limit the total area open to existing events and prevent designating locations for some new events.

### *Alternative C*

In Agua Fria National Monument impacts would be similar those described for *Alternative B*. The Front Country RMZ would occupy 42,000 acres, and the Back Country RMZ would occupy 28,200 acres.

Impacts of dispersed camping in Agua Fria National Monument would be similar to those under *Alternative B*, except in the Front Country RMZ camping would be allowed only at designated dispersed sites. Camping on established designated sites offers visitors less flexibility in choosing a location and encourages the repeated use of a limited number of sites. Designating dispersed sites would ensure that campsite location minimizes impacts to soil, visual, and biological resources. Sites for designation could be selected for their characteristics of minimizing disturbance, while offering the visitor a quality camping experience. Dispersed campsites would no longer proliferate in the Front Country RMZ.

Campfires would be allowed at dispersed campsites in the monument with some limitations; for example, only in built fire rings in the developed campground. Collecting dead, down, and detached woody material would be allowed for campfires at dispersed campsites. The impacts are expected to be the same as under *Alternative A*.

The impacts of one campground development would be similar to those described for *Alternative B*, except there would be 20 fewer sites, and visitors would be concentrated in one place instead of two.

The impacts of recreational target shooting in the national monument would be similar to those under *Alternative B*, except that the entire Front Country RMZ would be closed to shooting. Some of the most popular shooting sites are in the Front Country RMZ as delineated by *Alternative C*. Shooters who use these sites (such as the area near the Badger Springs trailhead) would be displaced and would have to move their use to another location. Whether that location might be within the monument is unknown; however, this use is expected to shift off the monument.

Managing the Agua Fria National Monument's 42,000-acre Back Country RMZ and the Bradshaw-Harquahala lands managed for wilderness characteristics together, would offer visitors primitive recreational opportunities by retaining semi-primitive landscapes and experiences. Impact on users would be the same as described under *Alternative B*, with the exception that larger amounts of land are enclosed by these land use allocations.

Developing connecting route networks for hikers, bicycles, OHVs, and equestrians would benefit recreational opportunities by allowing all types of users to enjoy activities consistently, in more areas, and with fewer conflicts.

Management actions applied to the entire Bradshaw-Harquahala Planning Area would address a variety of recreation concerns, including public access, target shooting, SRPs, organized group activities, and firewood collecting. These actions would do the following:

- reduce impacts on natural and cultural resources,
- resolve conflicts among recreation users,

- maintain recreation opportunities and settings,
- increase public safety, and
- attempt to maintain dispersed high-quality recreation opportunities over the long term.

#### *Special Recreation Management Areas/Recreation Management Zones*

The impacts of managing SRMAs would be similar to those under *Alternative B*. Providing staging and trail areas for multiple recreation activities and creating new trails would enhance the recreation experience by increasing opportunities and reducing user conflicts.

*Alternative C* would significantly reduce the overall availability of public lands for motorized competitive races. Only the Hieroglyphic Mountains, San Domingo, Vulture Mountains and Stanton SRMAs would allow races, and the number would be limited to six per year.

#### *Off-Highway Vehicle Use*

The impacts of OHV management are similar to *Alternative B*.

#### *Special Recreation Permits*

Impacts in Agua Fria National Monument would be similar to those under *Alternative B*, except no more than six SRPs would be issued. This figure represents double the number of current permits and could diminish recreational opportunities for some users.

In the Bradshaw-Harquahala Planning Area impacts regarding the number of SRPs issued would be the same as in *Alternative A*, except the number of motorized competitive races would be limited to six per year. The number of races is still twice as many as the number currently held in the planning area which is expected to meet the future demands of users seeking these competitive speed opportunities. As in *Alternative B*, it would keep other areas open and available for races where currently none are held, with the exception of no

races being allowed in the Table Mesa SRMA. However, since there has not been a demand for this activity in this SRMA to date, no current use would be displaced. The annual limits set for the Hieroglyphic and Vulture Mountains SRMAs would not increase over current conditions perhaps not meeting the needs for the future increase in races in these areas. This would require additional future races to be moved to less desirable locations and possibly much further away from the Phoenix area. The remaining allowable races would be available in SRMAs that have been allocated for such use; however, these areas may not meet user preferences. In contrast, these limits in each SRMA would minimize potential user conflicts in those areas and allow for more diverse OHV opportunities.

#### *Alternative D*

In Agua Fria National Monument, impacts would be similar to those described for *Alternative B*, except the Front Country RMZ would occupy 1,530 acres and the Back Country RMZ would occupy 68,380 acres.

Impacts of dispersed camping in Agua Fria National Monument would be similar to those under *Alternative C*, except all dispersed camping would be limited to designated dispersed sites. Camping on established designated sites would (1) give visitors less flexibility in choosing a location and (2) would encourage the repeated use of a limited number of sites. Designating dispersed sites would ensure that campsite location minimized impacts to soil, visual, biological, cultural, and other resources. Sites designated available for dispersed camping could be selected for their characteristics of minimizing disturbance while offering recreation visitors a quality camping experience. Proliferating of dispersed campsites would be halted throughout the monument. Designated campsites would have designated routes leading to them, thus reducing the disturbance of vehicle pull-offs.

Campfires would be allowed at dispersed campsites in the monument. Visitors; however,

could not collect dead, down, and detached woody material for campfires. Wood for campfires would need to be brought in from outside the monument. Denying use of local material for campfires would reduce the disturbance to woody species near the dispersed camping areas. The scarcity of these species and the desire to return the national monument to desert grassland (thereby making woody species even scarcer) makes the impact of this action slight.

*Alternative D* would prohibit target shooting throughout the monument. Shooters who use sites within the monument would be displaced to sites outside the monument.

Most of the Agua Fria National Monument would be managed under Back Country RMZ prescriptions. About 211,840 acres in the Bradshaw-Harquahala Planning Area would be managed to maintain natural and non-motorized recreational settings to assure the continued availability of areas offering mainly outstanding primitive recreation and solitude opportunities. Limiting and reducing current levels of motorized access would impede the ability of motorized recreational users to travel some secondary routes, washes, single-track cattle paths, and little-used tertiary routes in these nine localities.

#### *Special Recreation Management Areas/Recreation Management Zones*

The total area of SRMAs and RMZs in this *Alternative* is 56,240 acres, of which would be managed for motorized activities. *Alternative D* would phase out motorized uses in Hieroglyphic Mountain SRMA over the planning period. Eventually, *Alternative D* would gradually manage public lands in the southern part of the Castle Hot Spring MU to non-motorized uses to be more compatible with the expected urban growth in the unit. Reducing the area open to motorized activities, especially competitive and organized events, would force the activities to move to other areas. Because most visitors are from the two adjacent counties, new locations in the planning area are likely to be established.

Motorized activities at these new locations could increase user conflicts with other recreation and alter the recreation setting for some activities. Moreover, *Alternative D* would only allow two competitive races; both races would be confined to the Vulture Mountains SRMA.

The impacts of managing SRMAs would be similar to those under *Alternative B*. Prohibiting races would slightly lower the number of permits in the SRMAs/RMZs where races are allowed in other alternatives, subsequently requiring less intensive management and monitoring in these SRMAs/RMZs. Providing staging and trail areas for multiple recreational activities and creating new trails would enhance the recreational experience through increased opportunities and reduced user conflicts.

#### *Off-Highway Vehicle Use*

The impacts of OHV management are similar to *Alternative B*.

#### *Special Recreation Permits*

Issuing no SRPs in Agua Fria National Monument would affect the availability of certain recreational experiences for some users and could reduce the ability of disabled visitors to experience the monument's resources and activities. Eliminating SRPs for conducting guided tours would affect visitors who rely on this conveyance to experience the national monument and interact with others. Eliminating commercial activities would affect recreational opportunities of other users by eliminating the potential for interaction with large groups, especially in highly popular areas.

In the Bradshaw-Harquahala Planning Area impacts regarding the number of SRPs issued would be the same as in the *Alternative A*, except limiting the number of allowable races in this Alternative to two, is less than the current situation of three races per year. However, the most critical impact would be that no races would be allowed in the Hieroglyphic Mountains SRMA which has accommodated

this use since the mid 1990's. This would be a severe negative impact to motorized racing enthusiasts by not only moving the only remaining race location much further away from Phoenix, but limiting the racing experience to one SRMA that has less diverse routes available for such use. Racing opportunities and diverse challenges offered these enthusiasts would be lost, and this demand would no longer be met.

#### ***Alternative E (Proposed Alternative)***

Dispersed camping in Agua Fria National Monument under *Alternative E* would be the same as for under *Alternative B*. Impacts from vehicles engaged in dispersed camping are expected to be similar to those under *Alternative D* relative to the size of the Back Country RMZ.

Campfires would be allowed at dispersed campsites in the monument with some limitations. Collecting dead, down, and detached woody material would be allowed for campfires at dispersed campsites. The impacts are expected to be the same as under *Alternative A*.

Under *Alternative E* target shooting not involving hunting would be prohibited throughout the monument. Impacts would be the same as described under *Alternative D*.

Management actions apply to the entire Bradshaw-Harquahala Planning Area

#### *Special Recreation Management Areas/Recreation Management Zones*

Managing 384,510 acres of public land in SRMAs/RMZs would focus BLM's management and also allocate intensive recreation uses to the following SRMA and associated RMZs:

- Black Canyon SRMA,
- Castle Hot Springs SRMA,
- Hassayampa SRMA,
- Hieroglyphic Mountains RMZ,
- Table Mesa RMZ,
- Stanton RMZ,
- San Domingo Wash RMZ,

- Yarnell RMZ,
- Wickenburg Community RMZ, and
- Vulture Mine RMZ.

BLM would manage these areas to ensure that specified recreation opportunities are maintained over the long term and to resolve conflicts between users and other resources. Developing staging areas and facilities would enhance the recreational experience for some users by providing a more developed setting.

Recreationists interested in intensive motorized and group activities would be directed to the Hieroglyphic Mountains, Table Mesa, Stanton, San Domingo, and Vulture Mine RMZs. Motorized events and commercial activities would be entertained at all levels up to potential carrying capacities. These carrying capacities would be determined by Adaptive Management principles through site-specific analysis. Developing staging areas and facilities would enhance the recreational experience for these permitted uses by providing compatible areas for these activities.

The overall availability of public lands for motorized competitive races would be reduced from the current management situation. Only the Hieroglyphic Mountains, San Domingo, Vulture Mountains and Stanton SRMAs would allow motorized races, and the number would be limited to eight per year.

The allocation and management of the Yarnell SRMA would have the same impacts as those described under *Alternative B*.

Managing the North Black Canyon Trail RMZ would have the same impacts as those described under *Alternative B*.

#### *Off-Highway Vehicle Use*

The impacts of OHV management are similar to *Alternative B*.

#### *Special Recreation Permits*

Impacts in the national monument would be the same as described in *Alternative A*. This would allow people/groups to enjoy the monument in a responsible fashion.

Impacts for the Proposed Alternative are nearly the same as those identified in *Alternative C*. It would keep other areas open and available for races where currently none are held. In these areas the only difference is the limit for the Vulture Mountains RMZ would be increased to four per year. This would double the number of races currently held in the RMZ and is expected to meet the future demand for the area. However, the recreational experience for casual users, most notably the casual use miners, could be affected due to the temporary unavailability of routes and the increased crowds during the race events. Users might also be displaced from the main camping areas because these areas would be either inaccessible or unattractive to them during these events. On the other hand, the recreation experience of some visitors and OHV enthusiasts might be enhanced by the unexpected opportunity to observe competitive events and interact with other visitors.

### **4.14.8 From Visual Resource Management**

#### *Alternative A (No Action)*

No impacts are expected.

#### *Alternative B*

In the monument, managing the 12,700 acres of Back Country RMZ and 300 acres of Passage RMZ as VRM Class II is consistent with preserving the primitive recreational opportunities intended for the zones. Managing the Front Country RMZ as Class III would allow recreational activities such as OHV use and improvements such as interpretive facilities and parking areas on 57,900 acres but might create visual impacts that could detract from recreational experiences.

In the Bradshaw-Harquahala Planning Area managing the lands allocated to maintain wilderness characteristics as VRM Class II would affect recreation by retaining the current physical setting of 56,040 acres and enhancing the primitive recreational experience. The improvements at the proposed trailhead in lands allocated to maintain wilderness characteristics at the staging areas in the Harquahala Mountains would be required to meet design criteria to integrate the color, line, form, and texture of the facilities with the surrounding landscape.

#### ***Alternative C***

Impacts in Agua Fria National Monument would be similar to those under *Alternative B* except that the Front Country RMZ managed as VRM Class III would be reduced to 42,000 acres and the Back Country and Passage RMZs managed for VRM Class II would increase to 28,200 acres.

In the Bradshaw-Harquahala Planning Area 107,843 acres of lands allocated to maintain wilderness characteristics would be managed as VRM Class II and would affect recreational opportunities similarly to *Alternative B*.

Managing Sheep Mountain ONA ACEC as VRM Class I would enhance the visual setting by maintaining 4,270 acres with minimal visual impacts from any proposed projects.

#### ***Alternative D***

Impacts in Agua Fria National Monument would be similar to those under *Alternative B*, except that the Front Country RMZ managed for VRM Class III would be reduced to 1,530 acres and the Back Country and Passage RMZs managed for VRM Class II would be increased to 69,370 acres.

In the Bradshaw-Harquahala Planning Area impacts would be similar to those under *Alternative B*, except that 140,235 acres of lands allocated to maintain wilderness characteristics and 98,500 acres in ONA ACECs

would be managed as Class I. Such management would enhance the visual landscape by maintaining the areas with minimal to no visual impacts from any proposed developments.

#### ***Alternative E (Proposed Alternative)***

Impacts in Agua Fria National Monument would be similar to those under *Alternative B*, except that VRM Class III in the Front Country RMZ would be 67,279 acres, 59,000 acres of VRM Class II would be managed in the Back Country and Passage RMZs. These allocations would maintain the natural appearance of the monument landscapes while meeting other resource management objectives.

In the Bradshaw-Harquahala Planning Area impacts would be similar to those under *Alternative B* except that 55,480 acres of lands allocated to maintain wilderness characteristics would be managed as VRM Class II. This management would benefit recreation by maintaining the areas with little visual impact from proposed developments, which would maintain or enhance the landscape's natural appearance and open space value, while meeting other resource management objectives.

### **4.14.9 From Rangeland Management**

#### ***Alternative A (No Action)***

As recreation use increases, conflicts with livestock grazing and operators would likely increase. Impacts to recreation could include lack of access for recreation activities as livestock operators close their private lands to reduce conflicts and vandalism. This lack of access would contribute to (1) a loss of recreation areas on public land due to a lack of access and (2) a reduction in route network connectivity. Some visitors would be bothered by waste, cattle trailing, trampled vegetation, and denuded areas near fences and facilities.

***Alternative B***

Limiting grazing in Agua Fria National Monument riparian areas to the winter season (November 1 to March 1) would degrade the recreational experience, especially in the Back Country RMZ. The primitive recreational experience would be enhanced for the summer season because of reduced interaction with livestock. However, because of high summer temperatures, winter is the season when most people visit the monument. Encounters between visitors and livestock during winter would increase in riparian areas. Fencing and physical control measures required to keep livestock out of the riparian areas could detract from the visual setting of primitive landscapes and diminish the recreational experience.

Fewer potential conflicts with livestock could also occur in the Front Country RMZ during summer, but the fencing and physical control improvements could disrupt the vehicular route network, restrict accessibility for people with disabilities, and diminish the recreation experience for those users. Improved riparian conditions would enhance the recreation setting for hunting, nature study, and wildlife and bird watching.

In the Bradshaw-Harquahala Planning Area riparian impacts would be similar to those in Agua Fria National Monument. Improved vegetation conditions would improve the recreation setting for hunting, nature study, and wildlife and bird watching. Some visitors would be bothered by waste, cattle trailing, denuded areas, livestock facilities, and trampled vegetation in riparian and upland areas. Others visitors would not notice.

***Alternative C***

In Agua Fria National Monument the permanent removal of livestock from the riparian area would eliminate potential conflicts with cattle and enhance the primitive and nonprimitive recreational experience in those areas. Fencing and physical controls of livestock would have impacts similar to those under *Alternative B*.

Impacts in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*.

***Alternative D***

Opportunities for recreation on public lands in both planning areas would benefit from the end of grazing. The potential for conflicts with livestock would be eliminated. Both motorized and primitive recreation experiences could improve as recreation settings become free of livestock facilities, cow waste, denuded areas, trampled vegetation, and the evidence of trailing. Access to some public lands could be lost if ranchers sell their private property. The number of areas where ranchers have traditionally permitted public access across private land could decline, making some public land inaccessible, particularly around Castle Hot Springs and Hieroglyphic Mountain, areas notable for interspersed private ranch and BLM-managed lands.

***Alternative E (Proposed Alternative)***

Impacts are expected to be similar to those described for *Alternative B*.

## **4.14.10 From Minerals Management**

***Alternative A (No Action)***

Expected increases in visitor use in the Bradshaw-Harquahala Planning Area could lead to increased conflicts with mining. Mining in popular, high-use recreational areas would diminish opportunities for recreation and increase recreation in other areas as users seek new locations for activities. Mining in previously undisturbed areas would reduce opportunities for primitive recreation and change the setting to a more developed landscape.

The Lower Gila North MFP (BLM 1983) prevents “segregation” of minerals for withdrawal and keeps the planning area covered by the plan open to all mineral resource

development. Because the potential for leasable and locatable minerals is very low, most impacts would result from developing saleable minerals. Designated wilderness areas and Agua Fria National Monument, an area of 167,720 acres, are closed to mineral material disposal.

### ***Alternative B***

In addition to designated wilderness areas and Agua Fria National Monument, closing lands allocated to maintain wilderness characteristics and ACECs to mineral material disposal would improve recreational opportunities and settings on 56,680 acres. The critical physical setting would be retained, and opportunities for more primitive recreation would be enhanced. Because of very low potential, there would be no impacts from leasable minerals management and few impacts from locatable minerals management. Managing lands open to minerals to VRM Class III or IV could affect recreational experiences in adjacent areas. Mineral development would be more visible in the landscape and could alter the recreational experience of some visitors by introducing human-caused elements to the landscape.

### ***Alternative C***

Impacts would be similar to those under *Alternative B* except that closures to mineral material disposal would include 163,220 acres. Minerals projects would be managed to the VRM class for which they were inventoried. Visual settings would be better maintained because mining projects would be consistent with viewshed management objectives.

### ***Alternative D***

Impacts would be similar to those under *Alternative B* except that 480,864 acres would be closed to mineral material disposal. Closures would ensure the retaining of recreation opportunities in undisturbed natural settings over the largest area under any of the alternatives.

### ***Alternative E (Proposed Alternative)***

Impacts would be similar to those under *Alternative B*, except that mineral material disposal closures are limited to Tule Creek and reconveyed riparian areas.

## **4.14.11 From Fire Management**

### ***Alternative A (No Action)***

Under *Alternative A* current conditions would be maintained. Prescribed burns would affect the availability of recreation activities in Agua Fria National Monument because some areas would be closed during planned burning. The enhanced habitat and general landscape setting gained through the burns would benefit recreational experiences by improving visual settings and possibly increasing wildlife abundance for viewing and hunting.

Visitors generally do not view burned areas--caused either by prescribed or natural ignition--as attractive settings for recreation. These users would be displaced for varying lengths of time from burned landscapes and would probably go to other nearby unburned areas. The burned localities would provide transient opportunities to interpret the role of natural and prescribed fires in the landscape.

### ***Alternatives B, C, D, and E (Proposed Alternative)***

Impacts would be similar to those under *Alternative A*, except that natural fire starts would be allowed to burn in the prescribed burn areas. This practice could increase opportunities for fires to start during each season because only planned, human-set fires are now allowed to burn. More fire starts could increase disruptions to recreation by increasing the instances of area closures.

### 4.14.12 From Wild Horse and Burro Management

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected

### 4.14.13 From Management of Travel Management

#### *Alternative A (No Action)*

OHV and other mechanized users would not be directed to routes or areas suitable or compatible for their use. Heavy OHV uses in sensitive areas, overcrowding, user conflicts, adverse effects on adjacent State and private lands, and resource conflicts could increase in all areas, especially near expanding communities:

Motorized route-based recreation opportunities currently available would be generally unchanged. Most existing routes would remain open within the Agua Fria National Monument, but the monument would remain closed to cross-country motorized travel. No closures would be anticipated unless resources are found to be damaged. Closing OHV routes or activity areas to protect monument resources could limit motorized recreation in some areas.

In the Bradshaw-Harquahala Planning Area 2,240 miles of vehicle routes would remain open, and recreation would not be affected. As a result of increasing motorized and mechanized travel, some users could affect others by disrupting recreational and disturbing recreation settings. Recreation settings would shift over time to more motorized settings and opportunities. Immediately effective upon signing of this plan, restricting travel to currently inventoried routes could impact people using bicycles in a cross country manner. Vehicle use is currently limited to existing roads and trails, so most people would experience no impact to their experience. After the signing and public education through the creation of current

inventory maps, it is likely that an increased number of citations will be issued to drivers not staying on inventoried routes. Designating routes within 5 years of plan completion would limit the number of places the public could use motorized and mechanized vehicles.

Conversely, improvements to the overall network usefulness and ease of use might offset such impacts.

#### *Alternative B*

134 miles, or 76.5 percent, of routes would remain open to vehicular travel in Agua Fria National Monument. The route system would enhance opportunities for motorized recreation by creating loop trails, which would allow connected touring, provide for an increase in access, and offer extended recreational opportunities. About five miles of new routes would be developed to bypass private property and maintain the connectivity of the route system. The route system would close 37 miles of existing routes and could diminish opportunities for motorized recreation in some areas. Users of these routes would be displaced to other areas within and outside the monument.

Limiting all mechanized vehicles to inventoried routes before completing the route designation process (i.e. within 5 years of plan approval) would eliminate cross-country OHV travel throughout the planning area. According to the *AGFD Off-Highway Vehicle Strategic Plan* (AGFD 1998), cross-country travel accounts for five percent of OHV activities. Accordingly, this limitation would not affect most OHV users. Cross-country travel would also be prohibited for game retrieval, potentially diminishing or eliminating hunting opportunities.

Restricting all motorized and non-motorized vehicles to existing routes would not affect current activities but would prevent developing new routes to expand the recreational experience. Allowing cross-country travel only for non-motorized, wheeled game carriers (small two-wheeled carts for transporting game) could affect the recreational experience for some

hunters by limiting their opportunities to hunt in areas where retrieval of game would require travel over long distances.

Connecting route networks would be developed for hikers, bicycles, OHVs, and equestrians enhance recreation experiences and opportunities with fewer user conflicts. Developing connecting route networks for hikers, bicycles, OHVs, and equestrians would affect recreation opportunities because all types of users could enjoy activities consistently, in more areas, and with fewer user conflicts.

Users interested in intensive motorized trail activities would be directed to the Hieroglyphic Mountains, Table Mesa, Stanton, San Domingo, and Vulture Mine SRMAs.

Managing the North Black Canyon Trail SRMA would enhance the non-motorized recreation experience in the northern portion of the planning area.

#### ***Alternative C***

In Agua Fria National Monument 123 miles, or 69.7 percent, of routes would remain open to vehicular travel. The route system developed under *Alternative C* would create loop trails for motorized touring and add new routes to bypass private property. About six miles of new routes would be developed and would affect recreation opportunities by maintaining route connectivity in the event of closures across private land. The route system would close 48 miles of existing routes and could diminish opportunities for motorized recreation in some areas.

Developing connecting route networks would have the same impacts as *Alternative B*.

#### ***Alternative D***

In Agua Fria National Monument 48 miles, or 27.8 percent, of routes would remain open to vehicular travel. The route system under *Alternative D* was developed mainly for resource protection and would not add new routes. Opportunities for motorized recreation

would be limited, and loop trails would not be developed. The route system would close 123 miles of existing routes and could diminish opportunities for motorized recreation and public access in some areas. Opportunities for non-motorized recreation would be enhanced throughout the monument. There would be more opportunity to experience solitude and natural landscape settings.

Impacts from route limitations and development of sites for recreation in the pronghorn corridors in Agua Fria National Monument are similar to those under *Alternative C*.

The impacts of route designations on recreational opportunities in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*.

#### ***Alternative E (Proposed Alternative)***

The route network in the monument under the Proposed Alternative would retain 94 miles of existing route.

About 12 miles of primary roadways exist in Agua Fria National Monument. These include Bloody Basin Road, which leads visitors through the national monument's heart, and the Badger Springs exit of Interstate 17, a road that leads visitors to a trailhead. Beyond the primary road network, 88 miles of secondary and tertiary roads would be designated as open. Closing 52 miles of route in pronghorn corridors and other habitat in the national monument could affect the connectivity of the route network and diminish the motorized recreation experience of some users. The closure would also increase the area in which visitors could have a semi-primitive non-motorized recreation experience. About 41 percent of routes in Agua Fria National Monument would be closed, limiting vehicle-based hunting; camping; and cultural, scenic, and wildlife viewing opportunities.

Limiting all mechanized vehicles to inventoried routes before completion of the route designation process (i.e. within five years of plan approval) would eliminate cross-country

OHV travel throughout the planning area. According to the AGFD *Off-Highway Vehicle Strategic Plan* (AGFD 1998), cross-country travel accounts for five percent of activities. Accordingly, this limitation would not affect most OHV users. Cross-country travel would also be prohibited for game retrieval, potentially diminishing or eliminating hunting opportunities for some hunters.

Developing connecting route networks for hikers, bicycles, OHVs, and equestrians would benefit recreational opportunities because all types of users could enjoy activities consistently, in more areas, and with fewer interruptions.

Once completed, the Black Canyon Trail from the Carefree Highway to north of Highway 69 would become a major trail of regional significance for mountain bikers, equestrians, and hikers. Moreover, the trail would link the communities of the Black Canyon corridor and the north boundary of the Phoenix-Peoria metropolis.

Recreationists interested in intensive motorized and group activities would be directed to the Hieroglyphic Mountains, Table Mesa, Stanton, San Domingo, and Vulture Mine RMZs.

Managing the North Black Canyon Trail RMZ would enhance the non-motorized recreation experience in the northern portion of the planning area by providing the facilities for trail use and assuring long-term access to the trail as well as connections to public land to the south and Forest Service land to the north and east.

#### **4.14.14 From Management of Wilderness Characteristics**

##### *Alternative A (No Action)*

Under *Alternative A* no areas would be managed specifically to maintain wilderness characteristics. Existing primitive recreation opportunities would probably be maintained in Agua Fria National Monument due to the

management guidelines defined by the proclamation (Appendix A).

In some areas of the Bradshaw-Harquahala Planning Area opportunities for primitive and non-motorized types of recreation would likely decline or become more fragmented over the life of the plan due to increasing motorized recreation and land use authorizations. Lands with semi-primitive non-motorized recreation settings and opportunities could decline in number and area. Wilderness characteristics would not greatly change over the life of the plan in the more remote parts of the Bradshaw-Harquahala Planning Area.

##### *Alternative B*

In the Agua Fria National Monument, no impacts are expected.

In the Bradshaw-Harquahala Planning Area 56,040 acres of land would be managed to maintain wilderness characteristics. Designation of these areas would impede the ability of motorized recreational users to access washes, single-track cattle paths, and little-used tertiary routes in these areas. Motorized recreationists would be displaced and forced to travel to nearby areas and routes offering motorized opportunities. Additional camping and off-road driving impacts on soils and vegetation would accrue along these periphery areas and routes, impacting scenery. More crowded motorized routes would make the driving experience less solitary and more interactive with more encounters with other motorized users. The number of social contacts between motorized users would reduce the quality of dispersed recreational experiences for some visitors.

Non-motorized users would benefit from the limitation on vehicles in areas designated to manage wilderness characteristics by being able to recreate in a more natural setting. This would assure the maintenance and availability of areas offering mainly outstanding primitive recreational and solitude opportunities.

**Alternative C**

In Agua Fria National Monument no impacts are expected.

In the Bradshaw-Harquahala Planning impacts would be the same as *Alternative B* except that 107,843 acres of land would be managed to maintain wilderness characteristics. This increased number of acres could create more displacement of motorized recreationists than *Alternative B*. Designation of a larger amount of area to manage for wilderness characteristics would provide non-motorized users more recreational opportunities than *Alternative B*.

**Alternative D**

In Agua Fria National Monument, no impacts are expected, allocation of 53 percent of the area for management of wilderness characteristics would provide non-motorized users with 37,571 acres potentially managed to maintain naturalness and outstanding solitude and primitive recreational opportunities. Motorized users would be displaced by route limitations and closures prescribed by Transportation and Public Access Section 2.5.1.8 and Map 2-60. The impacts of managing lands in the Bradshaw-Harquahala Planning Area allocated to maintain wilderness characteristics would be similar to those under *Alternative B* and *C*, except that the total area of public lands affected would be 102,664 acres. *Alternative D* would designate some of the lands identified to maintain wilderness characteristics described in *Alternatives B* and *C* as ACECs. Impacts for ACECs are described in the *Special Area Designations* Section 4.6.

**Alternative E (Proposed Alternative)**

In Agua Fria National Monument allocation of about 29 percent of the area for management of wilderness characteristics would provide non-motorized users with 20,900 acres potentially managed to maintain naturalness and outstanding solitude and primitive recreational opportunities. Motorized users would be

displaced by route limitations and closures prescribed by Transportation and Public Access Section 2.6.1.9 and Map 2-76.

In the Bradshaw-Harquahala Planning Area impacts would be the same as *Alternative B* except that 67,279 acres of land would be managed to maintain wilderness characteristics. This increased number of acres could create more displacement of vehicle-based recreationists than *Alternative B*, while providing areas more suitable to non-motorized recreationists.

Designation of a larger amount of area to manage for wilderness characteristics would provide non-motorized users more recreational opportunities than *Alternative B*, but fewer opportunities than proposed in *Alternatives C* and *D*.

## 4.15 Impacts on Visual Resource Management

### Analytical Assumptions/Data Summary

BLM evaluates impacts on visual and scenic resources on a case-by-case basis when considering land use authorizations. The RMP would establish VRM classes from the inventory developed during the planning process. The basic descriptions of the class objectives are outlined below; the results of the inventory are shown in Map 3-7.

- VRM Class I Objective: The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes, but it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

- Generally, the impact of implementing VRM Class I is that the scenic character of those lands are preserved as viewed from the key observation points selected when any management activity is proposed. In the long term, the aesthetics of VRM Class I landscapes are maintained as natural views.
- VRM Class II Objective: The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities might be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
  - VRM Class II does not provide quite the level of protection to visual landscapes as Class I. The usual affect of Class II is to maintain visual landscapes in a natural appearance. But, since management activities can be seen in this standard - although they would not be allowed to attract attention - the character of visual landscapes could degrade over time.
- VRM Class III Objective: The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities might attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
  - VRM Class III allows management activities to be visible and they could attract attention of casual observers, though they shouldn't dominate the view from the selected key observation points. This Class allows continuation of existing and development of new needed activities, such as utility lines, mineral material sales, and other activities with visible surface disturbance. The long term affect on the visual landscape is generally a degradation of its natural appearance.
- VRM Class IV Objectives: The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities might dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.
  - VRM Class IV is designed to allow management activities that can result in major modifications of the visual landscape. The effect of VRM Class IV can be a rapid and quite large modification to the visual landscape from as few as one proposal. An example could be development of a major open pit mine. Yet, even within VRM Class IV allocations, BLM would negotiate with project proponents to try to minimize the visual intrusion of any project proposal.

Table 4-6 shows the area of each VRM class in the planning areas as found during the inventory and the area of each class for each alternative. The total area of each class is reported as the acres of that class on BLM. The VRM inventory process assesses the visual character of the entire landscape, but management to meet VRM class objectives would apply only to BLM-managed lands. When VRM classes are in place, visual resource evaluations are addressed in the environmental reports prepared for each proposed project. These evaluations would employ the contrast rating process as described by BLM Manual 8430.

standards. These ACECs have little impact on VRM because the monument management guidance is more restrictive than that of the ACECs.

In the Bradshaw-Harquahala Planning Area, five wilderness areas (totaling 96,820 acres) would be managed by policy to VRM Class I standards. VRM Class I would allow preservation of the scenic landscapes within the wilderness areas consistent with management to preserve naturalness and areas with few human intrusions. The Harquahala Mountain Summit Road Back Country Byway has been allocated to VRM Class III as a result; it could allow an

<b>4-6. VRM Classes by Alternative (BLM acres)</b>					
<b>Class</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>	<b>Alternative E (Proposed)</b>
I	96,820	96,820	100,456	109,570	298,310
II	593,450	437,579	449,022	502,610	340,880
III	162,000	284,720	282,720	260,020	220,790
IV	114,730	98,660	98,660	94,800	107,020

### **4.15.1 From Special Designations**

#### *Alternative A (No Action)*

In the Agua Fria National Monument the nonimpairment standard for suitable Wild and Scenic river segments would be managed to maintain the current visual character. Proposed activities within these corridors would be restricted from degrading the character of the river corridor from the conditions that made it eligible for wild designation. Some management activities may be precluded.

In the Larry Canyon and Perry Mesa ACECs, no VRM standards were set by previous plans and they have been managed to VRM Class III

eventual degradation of the visual character by allowing visual intrusions into the landscape.

#### *Alternative B*

In Agua Fria National Monument, management of WSR corridors generally prohibits or minimizes uses and activities that could affect visual resources. Management to protect the values for WSR would thus preserve visual quality along the river. Designating the Bloody Basin Road as a Back Country Byway would include the possibility of facilities such as vehicle pull outs and information kiosks for visitor enjoyment. These would be designed to conform to the local visual landscape and to be visually pleasing. Impacts from Back Country Byway designation are expected to be very low. The Larry Canyon and Perry Mesa ACEC designations would be dropped. Removing

these designations should not affect visual resources because the national monument's current management provides for a higher level of protection than ACEC designation, thereby preserving the existing scenic quality.

In the Bradshaw-Harquahala Planning Area retaining the Harquahala Mountain Summit Road would not affect the existing scenic quality. Retaining the visual character of the surrounding landscape would be important to maintain the current recreation experience offered by the scenic route. Wilderness areas would remain VRM Class I areas.

Designating Tule Creek ACEC (640 acres) in the Bradshaw-Harquahala Planning Area could also affect visual resources. Withdrawing the ACEC from mineral entry would benefit visual resources by limiting the opportunity for mines and improvements to alter the visual landscape.

#### ***Alternative C***

In Agua Fria National Monument, impacts of managing WSR corridors would be the same as for *Alternative B*.

Four ACECs (totaling 810 acres) would also be designated in Agua Fria National Monument. These designations could result in actions degrading visual resources by altering the landscape with fences to eliminate livestock grazing. Impacts would also result from closing, limiting, or mitigating motorized vehicle routes. Such actions could improve visual quality by minimizing disruptive recreation and restoring the natural landscape in some areas.

In the Bradshaw-Harquahala Planning Area, impacts of retaining the Harquahala Mountain Summit Road would be the same as for *Alternative B*. The five designated wilderness areas would not be affected.

Seven ACECs, totaling 55,710 acres, would be designated in the Bradshaw-Harquahala Planning Area. These designations could result in minor management actions. The actions, in turn, would slightly affect visual resources by

altering the landscape with fences (1) to exclude livestock and motorized vehicles and (2) to protect cultural sites. The following actions would help maintain scenic quality by minimizing opportunities for disturbances to the natural landscape:

- prohibiting mineral development (all forms of mineral entry or mineral material disposal);
- closing, limiting, or mitigating motorized vehicle routes that conflict with maintenance of wildlife habitat and cultural resources;
- not allowing the building of new recreational sites; and
- prohibiting construction of grazing improvements in certain areas.

#### ***Alternative D***

In Agua Fria National Monument, impacts of managing WSR corridors would be the same as for *Alternative B*.

*Alternative D* would designate the Agua Fria River Riparian Corridor ACEC in the monument. The ACEC would encompass 13,070 acres and would represent a large increase in special area designation over *Alternatives B* and *C*. Impacts from the ACEC management could result from closing, limiting, or mitigating motorized vehicle routes that conflict with maintenance of riparian and wildlife values. These actions could improve visual quality by minimizing opportunities for disruption, although general management for protecting the Purpose and Significance of the monument already affords a similar level of protection. Acquiring lands along Indian Creek could enhance scenic quality by enabling BLM to manage newly acquired parcels in accordance with proposed VRM standards. *Alternative D* would designate the Agua Fria River Riparian Corridor ACEC in Agua Fria National Monument. The ACEC would encompass 13,070 acres and would represent a large increase in special area designation over *Alternatives B* and *C*. Impacts from the ACEC management could result from closing, limiting,

or mitigating motorized vehicle routes that conflict with maintenance of riparian and wildlife values. These actions could improve visual quality by minimizing opportunities for disruption. But general management for protecting the Purpose and Significance of the Agua Fria National Monument would afford a similar level of protection for the area and would limit disruptive activities. Acquiring lands along Indian Creek could enhance scenic quality by enabling BLM to manage newly acquired parcels in accordance with proposed VRM standards.

In the Bradshaw-Harquahala Planning Area, impacts of retaining the Harquahala Mountain Summit Road would be the same as for *Alternative B*.

Eight ACECs (totaling 205,870 acres) would be designated. Impacts on visual resources from these ACECs would be similar to those described for *Alternative C*, except that the protected area would represent more than a threefold increase over the area protected under *Alternative C*.

The Wilderness areas would remain under VRM Class I.

#### ***Alternative E (Proposed Alternative)***

In Agua Fria National Monument the WSR eligibility would be retained for the Agua Fria River. Impacts would be the same as described for *Alternative B* except for the exclusion of the Back Country By-way. . In addition, eight tributaries of the Agua Fria River are determined to be eligible for analysis as potential additions to the national Wild and Scenic Rivers System. BLM policy requires protection of the outstandingly remarkable scenic values along Silver, Bishop, Tank, Lousy, and Larry Creeks.

In the Bradshaw-Harquahala Planning Area retaining the Harquahala Mountain Summit Road Back Country Byway would have impacts similar to those described under *Alternative B*.

In the Bradshaw-Harquahala Planning Area four ACECs (totaling 89,970 acres) would be designated. Impacts on visual resources from these ACECs would be similar to impacts described for *Alternative C*.

## **4.15.2 From Lands and Realty Management**

### ***Alternative A (No Action)***

Under the current management of Agua Fria National Monument some potential impacts to visual resources are expected from lands and realty management. Land acquisitions, rights-of-ways and utilities would be evaluated for visual resource management under a project-specific environmental review. Land disposal is prohibited by the National Monument Proclamation (Appendix A). New utility proposals such as power lines or pipelines could affect the visual character of the landscape by the adding facilities and ground-disturbing activities. New towers would be built for power lines, and pipeline construction would disturb the ground along the pipeline route. The impacts would generally be limited to the western area of the monument where there are existing visual impacts from previous utility projects developed before the national monument's designation.

Under the current management of the Bradshaw-Harquahala Planning Area no impacts to visual resources are expected from land acquisition. Acquisitions would be evaluated for visual resource management under a project-specific environmental review. Land disposals of up to 54,370 acres could affect visual resources by eliminating BLM's management control over the parcels. Future utility, mining, or development projects would no longer be required to conform to existing or "default" VRM class standards. Developing disposed parcels for residential, commercial, or recreational uses would diminish the open space setting of the remaining adjacent public lands.

Aesthetically incompatible or obtrusive projects could be introduced onto the public lands by the following:

- land use authorizations,
- easements,
- supporting access to or use of valid existing rights, and
- meeting access and utility needs.

These projects and authorizations could degrade or mar the recreation settings, viewsheds, and open space qualities of public lands.

### ***Alternative B***

In both planning areas visual resources would benefit from land acquisitions because newly acquired parcels would be inventoried and managed according to BLM's VRM system. Land disposal could impair visual resources by eliminating BLM's management control over the disposed parcels.

Adding designated utility corridors could affect visual resources by increasing the potential installation of utility poles and power lines, as well as ground disturbance along pipeline routes. Before construction; however, future corridor projects would undergo an environmental review that would analyze visual resources. Narrowing the existing utility corridor in Agua Fria National Monument could also affect visual resources by confining new utilities to areas already visually affected by existing utilities, thereby retaining undisturbed visual landscapes. A corresponding expansion of the corridor one mile west would potentially extend utility impacts into the Bumble Bee area and to sites visible from the Sunset Point Scenic Overlook but allow flexibility in alignment to reduce visual impacts.

Adding communication infrastructure could impair visual resources by altering the visual landscape. Before construction; however, future telecommunication infrastructure projects would undergo environmental review that would analyze impacts on visual resources. Requiring projects to be designed in keeping with the

VRM class in which they occur would minimize impacts on the visual landscape.

Impacts of land disposal in the Bradshaw-Harquahala Planning Area would be similar to *Alternative A*, except 58,400 acres have been determined to be suitable for disposal.

In response to projected regional transportation demand, all highway system routes (interstates, U.S. routes, and Arizona State routes) and the proposed corridor southwest of Wickenburg are designated as transportation corridors in the Bradshaw-Harquahala Planning Area. The proposed Wickenburg Bypass corridor, which would mainly cross lands managed for VRM Class II level management, would be inconsistent with VRM objectives for the area and would interfere with BLM's ability to manage this area's visual resources.

### ***Alternative C***

Impacts to visual resources from land and realty management would be similar to those discussed for *Alternative B* except as described below.

Eliminating the existing utility corridor in Agua Fria National Monument could affect visual resources by eliminating the possibility of installing new utilities. This constraint would preserve the existing visual landscape and preclude future impacts on the viewshed. Expansion of the corridor two miles west could extend impacts of utility development even further into the Bumble Bee area and into the line of sight from the Sunset Point Scenic Overlook, but may also give enough room within the corridor to site any utility so its impact was either screened from view or minimized.

Impacts of land disposal in the Bradshaw-Harquahala Planning Area would be similar to *Alternative A*, except *Alternative C* would decrease the lands found suitable for disposal to 49,100 acres, 9,300 acres less than proposed under *Alternative B*.

Impacts to visual resources from transportation corridors would be similar to those described for *Alternative B*.

#### ***Alternative D***

Impacts to visual resources from land and realty management actions would be similar to those discussed for *Alternative B* except as described below.

Impacts in Agua Fria National Monument from utility corridors would be similar to those under *Alternative C*.

In the Bradshaw-Harquahala Planning Area no acreage has been found to be suitable for disposal. BLM would retain management of all public lands, and projects would be subject to design review to ensure compliance and consistency with the VRM class objectives allocated in *Alternative D*. BLM would not approve inconsistent land use authorizations or rights-of-way.

#### ***Alternative E (Proposed Alternative)***

Impacts to visual resources from land and realty management actions would be similar to those discussed for *Alternative B* except as described below.

Impacts from utility corridors would be similar to *Alternative B* for the monument and to a combination of *Alternative B* and *C* for lands west of Interstate 17. The boundary of the Black Canyon Utility corridor was purposely kept west of the rim of Black Mesa so as to minimize the potential visibility of future utility developments from both Interstate 17 and the Sunset Point Rest Area, a popular scenic overlook for the area. Though the revised corridor has more acreage visible from either I-17 or sunset Point than the corridor proposals in Alternatives A, B, C, or D, (as calculated using a GIS viewshed analysis) the chance to place above ground facilities above the rim is eliminated, reducing the opportunity to create skylined facilities as viewed from either of these locations. In addition, more of the proposed corridor is of

greater distance from Interstate 17 and Sunset Point, reducing the overall visibility of any utility related facilities from those locations. Specific utility project development would include mitigations for visual resources which could include, but not be limited to: siting to reduce visibility from key observation points; use of project designs that reduce visibility by incorporating colors, textures, lines and other characteristics of the natural landscape; and reclamation to suitable vegetation in a reasonable time.

### **4.15.3 From Management of Soil, Air, and Water Resources**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Under current management preventing or reducing impacts on air quality by developing mitigation measures (e.g. dust control and the use of best management practices) during project planning could benefit visual resources by maintaining the local clarity of the visual landscape. Managing soil and water resources is not expected to affect visual resources.

### **4.15.4 From Biological Resource Management**

#### ***Alternative A (No Action)***

Under current management, wildlife habitat improvements are designed to minimize visual impacts, but outside of Wilderness areas, projects are designed to comply with VRM Class III standards. Though few projects are constructed, compliance with VRM Class III could result in steady degradation of visual landscapes. The contribution to that from biological resources management would be negligible.

**Alternative B**

Impacts on visual resources from the general management of biological resources would be similar to those described for *Alternative A*, except wildlife related projects would be designed to comply with VRM Class I or II standards in many places, which would minimize visual impacts from those projects. Closing routes and prohibiting new fences in the Harquahala Mountains WHAs (64,220 acres) could benefit visual resources by reducing existing visual disruption and minimizing future disturbances to the visual landscape.

**Alternative C**

Impacts on visual resources from biological resources would be similar to those described for *Alternative B* except that in Agua Fria National Monument 39,330 acres of WHAs for pronghorn antelope would be allocated. Potential closure or mitigation of routes in the WHAs could enhance the visual landscape by removing existing disturbances.

In the Bradshaw-Harquahala Planning Area impacts would be similar to those under *Alternative B* except that the total area of WHAs would increase to 156,120 acres.

**Alternative D**

Impacts to VRM from Biological resource management in the monument are the same as described for *Alternative C*.

Impacts on visual resources from biological resources would be similar to those described for *Alternative C* except that the Date Creek Mountains and Upper Agua Fria River Basin WHAs, encompassing 24,290 acres, would also be included. Other management for biological resources is prescribed in ACECs.

**Alternative E (Proposed Alternative)**

Impacts to visual resources from biological resources would be similar to those described for *Alternative C*.

**4.15.5 From Cultural Resource Management****Alternative A (No Action)**

No impacts are expected.

**Alternative B**

Implementing physical and administrative protection measures to stop, limit, or repair damage and vandalism to sites could affect visual resources. Protective actions could reduce vandalism activities, such as destruction of ancient walls, which are detrimental to site settings and visual resources. Building fences or other barriers could impair visual resources.

Additionally, the following potential management actions could affect visual resources by altering the visual landscape:

- building new visitor facilities (including gravel parking areas, restrooms, picnic tables, trash receptacle, or benches), and
- route improvements with the addition of signs.

In Agua Fria National Monument levels of public use determine the level of intensities and interpretive development permitted for archaeological sites. High public use could disturb visual resources by the following:

- adding visitor facilities,
- improving routes including sign additions, and
- developing a motorized and non-motorized loop trail system.

In Agua Fria National Monument, five sites would be allocated to High public use for

cultural resources and could have impacts described under Cultural Resources section of Management Common to Both Planning Areas: Pueblo la Plata complex, Badger Springs Pueblo, the Arrastre site, Badger Springs rock art, and the Rollie site.

In the Bradshaw-Harquahala Planning Area the allocation of eight SCRMAAs as open to public use sites could affect visual resources. Impacts could result from building visitor facilities (parking areas, restrooms, tables, benches, signs) in addition to completing actions to stabilize, repair, and maintain sites in good condition (including fencing and barriers). Impacts on visual resources could also result from concentrating visitors in a specific area. Such concentrations could cause more ground disturbance (e.g. new trails and vehicular routes) and lead to increased litter.

#### *Alternative C*

In Agua Fria National Monument one area would be allocated to High public use, with two sites that could experience impacts similar to those described under the Cultural Resources section of Management Common to Both Planning Areas: Fort Silver and the Pueblo la Plata complex. Compared to *Alternative B*, there would be a reduction in potential impacts associated with the reduced number of areas allocated to the High public use level of development.

In the Bradshaw-Harquahala Planning Area the allocation of four SCRMAAs to public use could result in actions affecting visual resources. Compared to *Alternative B*, there would be a reduction in potential impacts associated with the reduced number of areas available for potential interpretive development and visitor use.

#### *Alternative D*

In Agua Fria National Monument no sites would be allocated to High public use. With limited development to support visitation and site

interpretation, management of cultural resources would have little impact on Visual Resources.

In the Bradshaw-Harquahala Planning Area the allocation of two SCRMAAs as open to public use sites could result in actions affecting visual resources. Only the Black Canyon and Harquahala Management Units could contain sites developed for public visitation. Compared to *Alternatives B and C*, there would be a reduction in potential impacts associated with the reduced number of areas available for interpretive development and visitor use.

#### *Alternative E (Proposed Alternative)*

Impacts in Agua Fria National Monument would be would be similar to those in *Alternative C*.

Impacts in the Bradshaw-Harquahala Planning Area would be most similar to those in *Alternative B*, except that two SCRMAAs would be closed to allocating sites to public use.

### **4.15.6 From Paleontological Resource Management**

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected.

### **4.15.7 From Recreation Management**

#### *Alternative A (No Action)*

Under current management of Agua Fria National Monument visual resources could be impacted by installing signs at national monument boundaries and posting other relevant information, in addition to disturbances and potential damage caused by target shooting.

Under current management of the Bradshaw-Harquahala Planning Area installing more signs could degrade visual resources. Such signage

could lead to localized reductions in visual quality, especially in remote and undeveloped areas.

### *Alternative B*

In Agua Fria National Monument recreational activities would be divided into three resource management zones: Front Country (57,900 acres), Back Country (12,700 acres), and Passage (300 acres). In the Front Country RMZ maintaining or enhancing both non-motorized and motorized visitor travel could affect visual resources by the following actions:

- introducing human facilities into the viewshed,
- developing cultural sites, and
- building visitor amenities such as developed campgrounds.

In the Back Country RMZ current conditions would be maintained, and no impacts are expected.

The Passage RMZ would contain the major vehicle routes that traverse across the Back Country RMZ. VRM objectives would maintain the current visual character while providing limited management activities. Some visitor related development could occur, but it would not impact the surrounding landscapes that would attract attention from observers.

In the Bradshaw-Harquahala Planning Area all lands in MUs would be allocated as Extensive Recreation Management Areas (ERMAs) unless superseded by management actions for SRMAs or RMZs. Visual resources could be affected by management prescriptions for ERMAs. The following actions could impact visual opportunities by altering visual landscape:

- installing recreation management facilities for resource protection, and
- adding visitor facilities such as water, toilets, scenic turnouts, interpretive sites, kiosks, signage, parking areas, staging areas, and trailheads.

Besides the physical changes from the developments themselves, the improvements could promote activities and increase disturbance in concentrated areas. The developments could thus increase visual impacts in those areas while leaving other areas less disturbed and reducing visual impacts.

In the Bradshaw-Harquahala Planning Area, management prescriptions for nine SRMAs (149,760 acres of BLM-managed lands) could affect visual resources. SRMAs managed to develop designated staging/camping areas and visitor facilities (parking areas, horse facilities, and signs), could affect visual opportunities by altering the visual landscape. Commercial and motorized competitive events could alter the visual landscape by doing the following:

- increasing litter,
- disturbing the natural landscape, and
- reducing local visual clarity with concentrated dust and vehicle emissions.

Impacts to visual resources from managing two locations where lands are allocated to maintain wilderness characteristics (56,040 acres of BLM-managed lands) would be minimal. Management would emphasize semi-primitive non-motorized with semi-primitive motorized settings along boundaries and along routes within that allocation.

Motorized commercial and competitive events in the Harquahala Mountains could alter the visual landscape by reducing local visual clarity. Impacts, however, would be minimized by the restrictive timeframe for holding events.

### *Alternative C*

Impacts to visual resources from recreation management would be similar to those discussed for *Alternative B*, except in Agua Fria National Monument, Front Country RMZ would decrease to 42,000 acres, Back Country RMZ would increase to 28,000 acres and Passage RMZ would decrease to 700 acres.

In the Bradshaw-Harquahala Planning Area, impacts would be similar to *Alternative B*, except *Alternative C* would increase the allocation of nine SRMAs to 164,780 acres, and increase areas allocated to maintain wilderness characteristics to seven, totaling 107,843 acres.

#### ***Alternative D***

Impacts to visual resources from recreation management would be similar to those under *Alternative B*, except in Agua Fria National Monument where Front Country RMZ would be further decreased to 1,530 acres, Back Country RMZ would be increased to 68,380 acres, and Passage to 990 acres.

Impacts to visual resources in the Bradshaw-Harquahala Planning Area would be similar to *Alternative B*, except BLM would decrease the allocation of SRMAs to seven, totaling 56,240 acres. Areas allocated to maintain wilderness characteristics would increase to fifteen, totaling 102,664 acres.

#### ***Alternative E (Proposed Alternative)***

Impacts to visual resources in Agua Fria National Monument would be similar to *Alternative B*, except Front Country RMZ would increase to 11,900 acres, Back Country RMZ would decrease to 57,650 acres, and Passage would increase to 1,350 acres.

Impacts in the Bradshaw-Harquahala Planning Area would be similar to *Alternative B*, except BLM would allocate seven SRMAs, increasing the acreage to 384,510, and six areas allocated to maintain wilderness characteristics, increasing the acreage to 67,279.

### **4.15.8 From Visual Resource Management**

#### ***Alternative A (No Action)***

*Alternative A* would maintain current conditions. Wilderness areas are Class I and all remaining areas are managed by designation or default as

Class III. The visual landscape is expected to gradually decline. VRM Class III could allow visual intrusions that are inconsistent with public interests. A lack of clear management direction for current planning has led to visual resource management being inconsistently applied in the analysis of proposed projects, accelerating the potential degrading of the aesthetic landscape.

#### ***Alternative B***

VRM allocations for both areas can be viewed on Map 2-15.

Impacts on visual resources from visual resource management would occur as VRM class standards are implemented and future projects are subject to conformance with design standards to meet class objectives.

In Agua Fria National Monument all Front Country RMZs (57,900 acres) would be managed as VRM Class III. All Back Country and Passage RMZs (13,000 acres) would be managed as VRM Class II.

In the Bradshaw-Harquahala Planning Area VRM Classes would be allocated as described below:

- The area of Class I lands would be 96,820 acres.
- The area of Class II lands would increase to 486,800 acres.
- The area of Class III lands would increase to 284,720 acres.
- The area of Class IV lands would decrease to 98,660 acres.

Establishing VRM management classes described above would allow management consistent with resource objectives described for *Alternative B* while protecting the aesthetic landscape. Proposed projects over the life of the plan are expected to create some visual intrusions in places where they now don't exist. Any change to the visual landscape is expected to be minimized by the following:

- developing VRM management classes,
- applying a consistent approach to analyzing new projects, and
- using visually sensitive design techniques.

### *Alternative C*

VRM allocations for both areas can be viewed on Map 2-36.

In Agua Fria National Monument visual resource impacts would be the same as those discussed for *Alternative B*, except that 42,000 acres of Front Country RMZ would be managed as VRM Class III and 28,900 acres of Back Country and Passage RMZs would be managed as VRM Class II.

In the Bradshaw-Harquahala Planning VRM Classes would be allocated as described below:

- The area of Class I would be 109,570 acres.
- The area of Class II would be 502,610 acres.
- The area of Class III would be 260,020 acres.
- The area of Class IV would be 94,800 acres.

Impacts under *Alternative C* would be similar to those described for *Alternative B*, except that more land would be included in VRM Class II. This increase in Class II land is expected to preserve the existing open, natural landscapes in a larger area for the life of the plan.

### *Alternative D*

VRM allocations for both areas can be viewed on Map 2-59.

In Agua Fria National Monument visual resource impacts would be the same as those described for *Alternative B*, except that 1,530 acres of Front Country RMZ would be managed as VRM Class III and 68,380 acres of Back Country and Passage RMZ would be managed as VRM Class II.

In the Bradshaw-Harquahala Planning Area VRM Classes would be allocated as described below:

- The area of Class I would be 298,310 acres.
- The area of Class II would be 340,880 acres.
- The area of Class III would be 220,790 acres.
- The area of Class IV would be 107,020 acres.

The impacts of *Alternative D* would be similar to those described for *Alternative C*, except that the increase of land in VRM Class I would place a higher standard for managing potential visual intrusions across a larger landscape. Under *Alternative D* preserving broad natural-appearing landscapes is a high priority. The extent of the landscape preserved under *Alternative D* would be greater than under *Alternative C*, and the potential for a gradual decline of the aesthetic landscape would greatly decrease.

### ***Alternative E (Proposed Alternative)***

VRM allocations for both areas can be viewed on Map 2-75.

In Agua Fria National Monument visual resource impacts would be similar to those described under *Alternative B*, except that 12,440 acres of Front Country RMZ would be managed as VRM Class III, and 37,560 acres of Back Country and Passage RMZ would be managed as VRM Class II,

In the Bradshaw-Harquahala Planning Area VRM Classes would be allocated as described below:

- The area of Class I would be 98,820 acres.
- The area of Class II would be 488,250 acres.
- The area of Class III would be 278,540 acres.

- The area of Class IV would be 103,390 acres.

The impacts of *Alternative E* would be similar to those described for *Alternative C*.

### 4.15.9 From Rangeland Management

#### *Alternative A (No Action)*

Installing more fences or livestock improvements (cattle guards, water developments, and roads needed to access improvement sites) on BLM-administered lands or adjacent State and private lands could contribute to the steady decline of visual quality throughout the planning area.

#### *Alternative B*

Impacts to visual resources from rangeland management would be similar to those discussed for *Alternative A*, except:

Additional fencing requirements to meet seasonal riparian area restrictions and fencing modifications to facilitate wildlife movement could increase the total number of proposed livestock control projects. Conformance with VRM Classes established in this plan would result in project designs that are less visually intrusive, reducing the visual impact of new projects. Restricting access to riparian areas could improve the visual setting in those areas by increasing vegetation health and density.

#### *Alternative C*

Impacts to visual resources from rangeland management would be similar to those described under *Alternative B*. Prohibiting grazing in riparian areas could further enhance the visual setting by accelerating increases in the health and density of vegetation.

#### *Alternative D*

Making all livestock allotments unavailable for grazing and canceling livestock authorizations in the planning areas could affect visual resources. Unnecessary livestock facilities could be removed as funds and workforce allow, reducing the visual intrusions of fences, corrals, water tanks, and other livestock related facilities. Prohibiting grazing could also modify the visual landscape through increased vegetation health and density as utilization of forage decreases.

The elimination of grazing on BLM-administered lands could affect the visual landscape through fencing developed on adjacent non-Federal lands to control livestock from trespassing onto BLM-managed lands and through other grazing improvements to meet livestock needs that may have been lost from BLM-managed lands. In addition, since the closure of BLM-managed lands to grazing may force ranchers out of business, they may be forced to convert their adjacent properties to residential or other development, further degrading the visual landscapes in the region.

#### *Alternative E (Proposed Alternative)*

Impacts to visual resources from rangeland management would be the same as those discussed under *Alternative B*.

### 4.15.10 From Minerals Management

#### *Alternative A (No Action)*

Under current management in Agua Fria National Monument only lands encumbered by mining claims are open to mining. No activity beyond casual use as defined in 43 CFR 3809 would be allowed without determinations of valid existing rights. Therefore, mineral development on existing claims would have minimal impacts on visual resources because of the typical scale of these operations.

In the Bradshaw-Harquahala Planning Area BLM administers mining on a case-by-case basis, but most of the planning area would remain open to mineral location and development. Mining would alter the existing visual landscape by adding surface disturbance, facilities for operations, and routes. Localized degradation of air quality and visual clarity could result from mine emissions and increased dust emissions.

The five designated Wilderness areas (96,820 acres) would continue to be closed to any mineral development. In *Alternative A*, visual impacts from the different types of mining would be eliminated on the following lands (including Wilderness acres):

- 172,510 acres would be closed to development of saleable minerals
- 171,680 acres would be closed to development of locatable minerals
- 171,680 acres would be closed to development of leasable minerals

#### ***Alternative B***

In Agua Fria National Monument impacts to visual resources from minerals management would be the same as those discussed for *Alternative A*. In the Bradshaw-Harquahala Planning Area minerals management could affect visual resources over most of the planning area. BLM would attempt to make the mining or eventual reclamation requirements consistent with the affected VRM class. *Alternative B* would protect the visual landscape more than would *Alternative A*.

In the Bradshaw foothills, the area surrounding Wickenburg, and south of White Tank Mountain Regional Park, a conflict could result from areas being managed at a VRM Class II level but being largely open to mineral development. Visual resources could be affected by developing new mines and by such improvements as roads.

In *Alternative B*, visual impacts from the different types of mining would be eliminated on

the following lands (including Wilderness acres):

- 224,400 acres would be closed to development of saleable minerals
- 101,100 acres would be closed to development of locatable minerals
- 101,100 acres would be closed to development of leasable minerals

#### ***Alternative C***

Impacts on visual resource management from minerals management would be similar to those under *Alternative B*, except visual impacts from the different types of mining would be eliminated on the following lands (including Wilderness acres):

- 330,940 acres would be closed to development of saleable minerals
- 188,450 acres would be closed to development of locatable minerals
- 188,190 acres would be closed to development of leasable minerals

#### ***Alternative D***

Impacts to visual resource management from minerals management would be similar to those under *Alternative B*, except visual impacts from the different types of mining would be eliminated on the following lands (including Wilderness acres):

- 452,000 acres would be closed to development of saleable minerals
- 457,664 acres would be closed to development of locatable minerals
- 464,734 acres would be closed to development of leasable minerals

#### ***Alternative E (Proposed Alternative)***

Impacts to VRM from minerals management would be similar to those under *Alternative B*, except visual impacts from the different types of mining would be eliminated on the following lands (including Wilderness acres):

- 167,720 acres would be closed to development of saleable minerals
- 171,940 acres would be closed to development of locatable minerals
- 171,680 acres would be closed to development of leasable minerals

#### **4.15.11 From Fire Management**

##### *Alternative A (No Action)*

Prescribed burning would remove existing vegetation and leave blackened woody material that would degrade the visual landscape in the short term. In addition, any mechanical treatment to establish fuel breaks or pretreat fuels would also create short term disturbances that could degrade visual quality. Plant communities in areas where prescribed fire is used are fire-adapted. Periodic fires enhance habitat health and can slow or prevent the invasion of undesired vegetation. Any scars from mechanical treatments are reclaimed as well as possible to minimize their visual impact. Long-term improvement of visual resources would result from healthier vegetation communities.

Wildfires have similar affects to the visual landscape as prescribed fires, except the area affected is less predictable. In some years fires occur in non fire adapted plant communities. In those places, the visual disturbance from fires lasts longer, potentially affecting the character of plant communities for decades.

##### *Alternatives B, C, D, and E (Proposed Alternative)*

Impacts to visual resources from fire management would be similar to those described for *Alternative A* except that in the monument some natural start fires may be allowed to burn where they are currently suppressed. In this case, the size and frequency of fire related impacts may increase for awhile. It would be the goal to reestablish natural fire cycles as much as possible, resulting in long term fire

frequency approximately the same as current prescribed burn frequency.

#### **4.15.12 From Wild Horse and Burro Management**

##### *Alternatives A (No Action) and B*

No impacts are expected.

##### *Alternatives C, D and E (Preferred Alternative)*

Although there are do direct or indirect impacts to wild burros from visual resource management removing all burros from the Harquahala HA has a potential to minimally affect visual resources. A small increase in vegetation cover could occur as a result of decreased utilization from burros. Given the relatively small impacts to the area within the Harquahala Management Unit from the existing transient burro herd this increase in vegetation could essentially be discounted.

#### **4.15.13 From Management of Travel Management**

##### *Alternative A (No Action)*

New roads and routes authorized or pioneered in the Bradshaw-Harquahala Planning Area could eventually create varying levels of visual disturbances in the planning area. Roads cause long-term soil and vegetation damage which would impact visual resources over both the short and long-term. Impacts would be most significant on lands proposed for consideration as major highway corridors, especially in the Vulture Mine area, Hassayampa Plains, and the Hieroglyphic Mountains.

There would be no impacts within the Agua Fria National Monument since the lands are under special protection provided by the proclamation (Appendix A).

***Alternative B***

A wide range of impacts from none to adverse are anticipated from management of travel, travel management. Small transportation projects would be mitigated and consistent to the appropriate VRM classes. Impacts would be most substantial on lands proposed for consideration as major highway corridors, especially in the Vulture Mine area, Hassayampa Plains, and the Hieroglyphic Mountains.

There would be no impacts within the Agua Fria National Monument. Visual impacts to the public lands, overall, would be less than presented under *Alternative A*.

There would be visual impacts from proposed developments, but overall the alternative would mostly maintain or enhance the appearance of the public land landscapes and its open space values. Visual resources would degrade over time in some areas from reasonably projected levels of road, highway and utility development. The most substantial visual impacts projected would accrue from county, State and Federal highway projects, including the Wickenburg Bypass, the NAFTA Highway, Highway 74, and other realignments of county and State roads.

***Alternative C***

The impacts are similar to those in *Alternative B*.

***Alternative D***

Far less adverse impacts are anticipated from management of travel management under *Alternative D* due to the lands allocated as VRM Class I and Class II areas. All visual impacts would be mitigated and consistent to the appropriate VRM classes. VRM allocations would maintain the natural appearance of the monument landscapes while meeting other resource management objectives. In the Bradshaw-Harquahala Planning Area impacts would be greatly reduced than those considered under *Alternatives B* and *C*. There would be little to no visual impacts from small scale transportation and travel developments. As

described in *Alternative B*, there could be visual impacts from major county, State and Federal highway projects. Overall, Allocated VRM classes would maintain or enhance the appearance of the public land landscapes and open space value, while meeting other resource management objectives.

***Alternative E (Proposed Alternative)***

In the Bradshaw-Harquahala Planning Area, impacts would be similar to those under *Alternative B* and projects would be installed mostly consistent with VRM objectives.

#### **4.15.14 From Management of Wilderness Characteristics**

***Alternative A (No Action)***

No areas are under consideration for management of wilderness characteristics. Therefore, there are no impacts on visual resources.

***Alternatives B, C, D and E (Proposed Alternative)***

Visual and scenic resource conditions would be maintained, enhanced, and additionally protected within landscapes allocated to maintain wilderness characteristics. Light pollution could be less, and dark skies would be effectively maintained.

## 4.16 Impacts on Rangeland Management

### 4.16.1 From Special Designations

#### *Alternative A (No Action)*

Grazing is prohibited in Larry Canyon ACEC, which is located entirely in a steep canyon that is inaccessible to cattle. Livestock exclusion on the small acreage of the ACEC has a negligible effect on the total amount of Animal Unit Months (AUMs) of forage available for livestock grazing in Agua Fria National Monument.

If suitable WSR segments of the Agua Fria River are designated, management actions would include seasonally restricting livestock grazing to winter use only (November 1 to March 1). On riparian segments, where grazing would be seasonally restricted, riparian vegetation and vegetation cover would increase from present levels, but a decreased amount of forage would be available to livestock. This decrease could adversely affect upland livestock distribution and increase the utilization of forage surrounding livestock waters. Range improvements, such as pumping stations to fill storage tanks, would continue and would be crucial to provide water to upland areas while livestock are excluded from the riparian areas. Without these water sources, forage utilization by livestock could increase around improvements such as dirt tanks or springs.

There is a minor risk of livestock-vehicle collisions increasing along the Harquahala Mountain Summit Scenic Road.

#### *Alternative B*

In Agua Fria National Monument designating Bloody Basin Road as a back country byway

would likely increase traffic and recreation uses of the area. Potential for animal-vehicle collisions would increase with increased use.

In the Bradshaw-Harquahala Planning Area, the 640-acre Tule Creek ACEC would exclude livestock grazing from fenced areas. This exclusion would increase riparian vegetation and vegetation cover. The small size of the enclosure would negligibly decrease AUMs for the grazing allotment, and permitted numbers of livestock would be unaffected.

Impacts of designating Constellation Mine Road as a back country byway would be similar to the impacts described for the Harquahala Summit Scenic Road in *Alternative A*.

#### *Alternative C*

In Agua Fria National Monument, designating four new ACECs would prohibit grazing on 810 acres of riparian habitat. This area represents one percent of the 72,305 acres allotted to grazing in the monument. Though the AUMs lost have not been calculated, riparian areas generally produce more forage per acre than uplands; therefore, forage lost to grazing would likely exceed one percent of total available AUMs. Riparian areas are also critical livestock water sources. Riparian vegetation and vegetation cover would increase with the exclusion of livestock grazing in these areas.

In the Bradshaw-Harquahala Planning Area seven ACECs are proposed for designation. These designations would protect 55,710 acres from surface disturbance due to mining or materials extraction, which would reduce damage to range vegetation and lessen mining traffic on the access roads. The possibility of livestock injury and mortality from vehicle collisions would be lowered.

Impacts on designating the Constellation Mine Road as a back country byway would be the same as *Alternative B*, which refers to Alt. A and risks of vehicle collisions.

***Alternative D***

In Agua Fria National Monument, designation of the 13,070-acre Agua Fria River Riparian Corridor ACEC would reduce traffic volume, damage to range vegetation, and penetration of recreational users into more remote areas. These actions would reduce stress to wildlife and potential vectoring of noxious weeds.

In the Bradshaw-Harquahala Planning Area, eight ACECs comprising 192,800 acres are proposed for designation. Vehicle restrictions would reduce damage to range vegetation, stress to wildlife, and vectoring of noxious weeds. Restrictions on mining and mineral material extraction would result in less damage to of range vegetation and reduced volumes of mining traffic.

***Alternative E (Proposed Alternative)***

In the national monument, there are no ACEC proposals under this Alternative.

In the Bradshaw-Harquahala, impacts from ACECs would be similar to *Alternative C*, the ACEC acreage in the Bradshaw-Harquahala would then be 89,970 acres.

## **4.16.2 From Lands and Realty Management**

***Alternative A (No Action)***

Any future land acquisition in Agua Fria National Monument could increase the forage available for livestock grazing. Private land amounting to 1,444 acres makes up less than two percent of the land in the monument. Any increase in AUMs would be negligible, and grazing authorizations would not be increased to reflect the change in ownership. Therefore, no impacts are expected from management of lands and realty.

New utility construction and maintenance of existing utilities might have short-term vegetation impacts, although maintenance and

construction projects have not typically impacted the amount of forage for livestock use.

Acquiring privately owned and State-held lands would create large blocks of federally managed lands in the following areas:

- Black Canyon and Lake Pleasant RCAs,
- Cordes Junction, Bumble Bee, and Williams Mesa MRMAs, and
- the 4-mile reach of State land along the Hassayampa River.

These blocks would consolidate management and help develop healthy native plant communities in upland and riparian communities. These additions to the BLM's land base might increase the total AUMs that can be offered through grazing authorizations. The acreage of the area that might be added is unknown since acquisition is generally on a willing seller or willing buyer basis and it is impossible to predict future opportunities.

Lands available for disposal (54,370 acres) through sale, conveyance, or R&PP actions might have range improvements of various types. These actions typically have a slight effect on the total AUMs available for livestock grazing. Any land tenure reduction could decrease the amount of forage or range improvements for livestock. Depending on the size of the area disposed of, or number of range improvements involved, authorized AUMs might need to be adjusted. In this Alternative six custodial allotments with public land grazing authorizations would be closed; A Bar V, Foraker, Rancho Santa Ynez, Kirkland, Thompson Lease, Cross Mountain..

***Alternative B***

In Agua Fria National Monument narrowing the utility corridor to existing rights-of-way would restrict impacts to vegetation from new utility construction. Other lands and realty related impacts would be the same as under *Alternative A*.

Construction and maintenance of facilities in planned transportation and utility corridors and communication sites would have similar impacts to those described for Alternative A.

Impacts of land acquisitions would be the same as under *Alternative A*.

The proposed disposal through sale, conveyance, or R&PP actions of as much as 58,400 acres would reduce the acreage contributing to AUMs for allocation under BLM's grazing permits. Depending on the size of the action in a grazing allotment, authorized AUMs might need to be adjusted. The total acreage from these actions would represent a potential loss of less than six percent of the lands available for livestock grazing in the Bradshaw-Harquahala Planning Area. In this alternative 16 custodial allotments with public land grazing authorizations would be closed; Texas Gulch, Dewey, Osborne Spring Wash, U Cross, Poland Junction, Galena Gulch, Chapparal Gulch, Rancho Santa Ynez, Whitehead, Oso Ranch, Kirkland, Square M, Auza, Cross Mountain., Hackberry Mine, and Hackberry Gulch.

### ***Alternative C***

Eliminating the Black Canyon utility corridor would remove the following potential impacts from new utility development:

- short-term vegetation disturbance,
- stress to livestock and wildlife,
- animal-vehicle collisions, and
- vectoring of invasive weeds.

In the Bradshaw-Harquahala Planning Area, the impacts on grazing use from acquiring non-Federal lands would be similar to those described under *Alternative A*. Impacts of the land tenure adjustment of 49,100 acres of BLM-managed Federal lands would be similar to those described under *Alternative B*, except that the total acreage from these actions would represent a potential loss of five percent of the lands available for livestock grazing in the Bradshaw-Harquahala Planning Area. In this alternative 11 custodial allotments with public land grazing

authorizations would be closed; Rancho Santa Ynez, Foraker, Kirkland, Square M, Whitehead, Oso Ranch, Thompson Lease, Grantham Brothers Lease, Auza, Cross Mountain, and Wellik.

### ***Alternative D***

In Agua Fria National Monument eliminating the Black Canyon utility corridor would have impacts similar to those described for *Alternative C*, except that impacts to grazing and livestock would end with cessation of grazing.

In the Bradshaw-Harquahala Planning Area, impacts to grazing and livestock would end with the cessation of grazing.

### ***Alternative E (Proposed Alternative)***

In Agua Fria National Monument, narrowing of the utility corridor would have impacts similar to *Alternative B*.

Future land acquisition in Agua Fria National Monument would have impacts similar to *Alternative A*.

Impacts of proposed land tenure adjustment through sale, conveyance, or R&PP actions of as much as 38,755 acres of land outside the MUs, would be similar to *Alternative A*. The total acreage from these actions would represent a potential loss of four percent of the lands available for livestock grazing in the Bradshaw-Harquahala Planning Area. In this Alternative nine custodial allotments with public land grazing authorizations would be closed; A Bar V, Quarter Circle J, W Diamond, Foraker, Rancho Santa Ynez, Kirkland, Thompson Lease, Cross Moutain, and Wellik

New utility construction and maintenance of existing utilities would have similar impacts to *Alternative A*.

### 4.16.3 From Management of Soil, Air, and Water Resources

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

Implementing activity plans to address soil and water issues might require mitigation that would affect livestock grazing authorizations. If reducing or eliminating livestock grazing is a management action used to reach desired conditions, the rate of improvement to vegetation would be accelerated. These actions could result in reduced authorized livestock numbers for grazing permits. Promoting increased vegetation cover and reduced soil erosion should decrease localized emissions of naturally occurring windblown fugitive dust.

### 4.16.4 From Biological Resource Management

#### *Alternative A (No Action)*

In Agua Fria National Monument the use of fire as a treatment to improve vegetation composition would have short-term impacts to vegetation from burning. Fire use would affect grazing authorizations by requiring a pasture to be rested before and after treatment. Grazing use could increase on other nontreated pastures, or authorized grazing use could be reduced. The fire treatment could result in improved vegetation quality, quantity, and increased vegetation cover. Limits on the use of mechanical vegetation treatments methods; such as soft tire tractor mounted chainsaws, could increase the potential for invasive species, like junipers, to encroach as a result of smaller treated areas with hand methods. Water sources accessible to livestock and wildlife would improve animal distribution and localized vegetation impacts from grazing. Modifying fencing to allow for wildlife movement could improve across pastures and allotments. These livestock movements would increase the

time and work for grazing permittees/lessees to control livestock.

In the Bradshaw-Harquahala Planning Area, changes to livestock season of use for cattle during bighorn lambing season, could result in increased livestock use in other portions of the grazing allotments. Restrictions to construction of range improvements including fences or water facilities could preclude livestock distribution improvement. Reliance on herding or other methods for restriction of livestock movement may not be as effective in achieving vegetative objectives. Restrictions to sheep grazing within bighorn sheep habitat could adversely affect sheep operators by excluding them from grazing allotments. Full enclosure of livestock to waters could lead to increased livestock use in other portions of grazing allotments, negatively impact livestock distribution, and may restrict the length of time a grazing allotment is authorized for livestock use. Construction of small exclosures to monitor vegetative changes in various ecological sites is not anticipated to impact any grazing authorization

#### *Alternatives B, C, D, and E (Proposed Alternative)*

In the national monument, impacts would be similar to those described under *Alternative A*.

In the Bradshaw-Harquahala Planning Area, prohibiting the building of rangeland improvements in Browns Canyon and the Inner Basin would limit the potential to improve current livestock distribution on the Aguila allotment. Upland vegetation could improve with the lack of livestock grazing in the area. Closing, limiting, or mitigating motorized vehicle routes in the 64,220-acre Harquahala Mountain WHA could reduce access to range improvements, which would increase costs for maintenance. Reduced vehicle access could limit the risk of animal collisions, and vegetation damage.

Prohibiting domestic sheep and goat grazing within 9 miles of occupied desert bighorn sheep

habitat would affect a portion of the Garcia Grazing Allotment (3905), where sheep are currently authorized as a class of livestock. In order to implement the above decision, the class of livestock on the grazing permit would be changed to reflect cattle only, for the affected portion of the allotment. The Garcia allotment consists of two discrete parcels that are separated by approximately 8 miles. The southern portion of the Garcia allotment, approximately 25,600 acres, would continue to be authorized to stock cattle year-long. The northern parcel could stock cattle year-long and/or sheep by ephemeral permit. Implementing the change in class of livestock may adversely affect the livestock operation on the Garcia allotment as sheep have been stock ephemeral in recent years. The economic affect of the change would depend on market prices, operating costs, and availability of alternate replacement pastures.

#### **4.16.5 From Cultural Resource Management**

##### *Alternative A (No Action)*

Implementing protective measures and excluding livestock grazing would reduce AUMs of forage, which is directly proportional to the protected surface area. If the protected area contains existing livestock water sources, locations, or facilities, they would need to be developed outside of these areas to maintain a proper distribution of livestock. Impacts are expected to be negligible.

##### *Alternatives B, C, D, and E (Proposed Alternative)*

For both planning areas, High public use development would damage vegetation in the immediate area of the site construction. Depending on the level of public use, surrounding vegetation could also be damaged by increased vehicular use and visitor trampling. In addition, High public use development might require excluding livestock from large areas in the vicinity of

developed sites. Though some AUMs might be removed from the available forage, the size of the areas would be negligible, and livestock numbers should not need to be adjusted. If the protected areas contain existing livestock water sources, more watering locations or facilities would need to be developed outside of these areas.

Moderate public use impacts to vegetation would be minimal, and Low public use impacts would even be smaller. Impacts to grazing use would be similar to those under *Alternative A*.

#### **4.16.6 From Paleontological Resource Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected.

#### **4.16.7 From Recreation Management**

##### *Alternative A (No Action)*

Confining vehicles to designated routes in the Multiple Use Resource Areas would reduce the potential for vegetation damage by unauthorized cross-country OHV travel. Within the boundaries of the Phoenix RMP, limiting vehicles to existing roads and trails has lead to a proliferation of vehicle routes being created by users. Use on these routes increases as recreational users increase, disturbing more vegetation, increasing vandalism of private property and range improvements, and increasing vehicle-animal encounters. Within the boundaries of the Lower Gila North Management Framework Plan, open use for vehicles would lead to faster proliferation of routes as OHV users are pushed further into the few remaining remote areas. As routes proliferate and use increases, vegetation disturbance and animal-vehicle encounters would increase, as would vandalism of range improvements.

Activities authorized through Special Recreation Permits (SRPs) are expected to have impacts similar to those from use by the general public. Growth in the number of special use permits issued for motorized events and races could increase the risk of potential mortality to public land users and livestock from collisions with vehicles both traveling to and from these events and during the event. The permit process allows BLM to control where the permittees go and places stipulations on how they conduct their events or businesses. These factors help to reduce the potential effects on disturbance of livestock and range resources.

### ***Alternative B***

In Agua Fria National Monument, 57,900 acres would be allocated as Front Country RMZ, and 12,700 acres would be allocated as the Back Country RMZ. Increased visitation within the Front Country could bring increased vehicle numbers, which would increase the potential for animal-vehicle collisions.

Increased OHV use could increase the vectoring of invasive weeds, which could displace native vegetation.

For both planning areas; limiting vehicle use to designated routes would allow route location and network design to address impacts to range resources. This could help reduce the effects of increasing recreation use on vegetation, livestock, and range improvements, reducing the potential for upland vegetation damage by cross-country OHV travel. The OHV travel restriction would decrease the potential for animal-vehicle collisions. Other recreation impacts in the Bradshaw-Harquahala Planning Area would include:

- Recreational target shooting would be prohibited on and other high public use areas, resulting in a decreased risk of animal stress and mortality.
- Depending on the size of the campground/staging areas to be developed in support of motorized use,

authorized livestock grazing might need to be adjusted.

- New trails established for pedestrian, non-motorized, and motorized use could increase the risk of animal stress and potential mortality from collisions with vehicles.

Activities authorized through Special Recreation Permits (SRPs) are expected to have impacts similar to those in *Alternative A*.

### ***Alternative C***

Impacts in Agua Fria National Monument would be similar to those described for *Alternative B*. The area of Front Country would decrease and Back Country would increase, reducing the potential for encounters between people and livestock. Reductions in route miles may make some areas difficult to access, increasing operating costs of grazing permittees.

In the Bradshaw-Harquahala Planning Area recreation impacts would be similar to those described for the monument and described for *Alternative B* with these additions:

- Restricting target shooting near high-use areas would decrease the risk of animal stress and mortality.
- Reduced special use permits issued motorized race events could reduce the risk of disturbance to livestock and mortality from collisions with vehicles.

Activities authorized through Special Recreation Permits (SRPs) are expected to have impacts similar to those in *Alternative B*.

### ***Alternative D***

Impacts to rangeland resources, including developments that remain and range land vegetation would be similar to those described under *Alternative C*.

Impacts to livestock operations would not be applicable because grazing ceases in this Alternative.

Activities authorized through Special Recreation Permits (SRPs) are expected to have impacts similar to those in *Alternative B*.

#### ***Alternative E (Proposed Alternative)***

Impacts in Agua Fria National Monument would be the same as *Alternative B*, except that the Front Country RMZ would decrease to 11,900 acres, the Back Country RMZ would increase to 57,650 acres, and the Passage RMZ would increase to 1,350 acres.

For both planning areas, impacts of confining vehicles to designated routes are expected to be similar to *Alternative C*.

Activities authorized through Special Recreation Permits (SRPs) are expected to have impacts similar to those in *Alternative B*.

### **4.16.8 From Visual Resource Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

*Alternative D* eliminates grazing from the planning area, so no impacts are expected from VRM management.

Under *Alternatives A, B, C, and E*, impacts to rangeland resources, particularly grazing management, resulting from VRM management classes, could include the following:

- increased cost of range project development to conform to VRM class objectives,
- location of some projects in less desirable places, or
- possible denial of some projects that cannot conform to VRM class objectives.

These impacts are expected to be small.

### **4.16.9 From Rangeland Management**

#### ***Alternative A (No Action)***

In both planning areas, allowing winter-only grazing in riparian areas would increase riparian vegetation. Areas where livestock are preventing attainment of Proper Functioning Condition (PFC) are expected to recover. With the seasonal restriction of use, upland vegetation utilization could increase, and authorized livestock use could be reduced. The need for livestock number adjustments would involve a number of factors, including the number and size of pastures affected, period of use, and current livestock numbers.

Implementation of Land Health Standards and Guidelines for Grazing Administration would impose an allotment evaluation process as a step to continue grazing permit or lease renewal. These evaluations would determine where the Land Health standards are not being met and livestock management actions that may be needed to achieve them. It is possible stocking rates could be adjusted, pastures may be rested, or some pastures or allotments may be converted to ephemeral use only based on the Special Ephemeral Rule. (See Chapter 2, Section 2.7.3.10 for a discussion of the Special Ephemeral Rule.)

#### ***Alternative B***

Impacts would be similar to those described in *Alternative A*.

#### ***Alternative C***

Impacts would be similar to those described in *Alternative A*, except:

Prohibiting grazing in riparian areas in Agua Fria National Monument would close 25,989 acres to livestock grazing. This acreage would represent a loss of 36 percent of the lands available for livestock grazing in the national monument. Prohibiting grazing in riparian areas

in the Bradshaw-Harquahala Planning Area would potentially close 249,400 acres to livestock grazing. This acreage would represent a loss of 26 percent of the lands available for livestock grazing in this planning area, mainly in the Black Canyon, Castle Hot Springs, and Hassayampa MUs.

For both planning areas a reduction in authorized livestock use could be proportional to the land removed from livestock grazing in allotments. Riparian areas are also critical livestock water sources, and the potential loss in availability to livestock grazing from riparian closure would be greater than for closing upland areas. The loss of water sources in some instances could preclude any grazing on upland pastures, effectively resulting in no grazing on public lands. Riparian vegetation and vegetation cover would increase with the excluding of livestock grazing in these areas more rapidly than under *Alternative A*.

#### ***Alternative D***

Making all grazing allotments unavailable for livestock use and canceling all permits/leases would result in the loss of forage to livestock grazing of 13,492 AUMs from Agua Fria National Monument and 69,568 AUMs, along with any authorized ephemeral livestock use, from the Bradshaw-Harquahala Planning Area. Should alternative forage locations not be found on State, private, or other lands; grazing operators on 11 allotments on the national monument and 93 allotments in the Bradshaw-Harquahala Planning Area would be out of business. Removing unnecessary range improvements would increase BLM's administrative costs until the improvements are removed. BLM would bear the cost for long-term maintenance of the remaining improvements.

With the cessation of livestock grazing, both upland and riparian vegetation would increase in amount and quality until it reaches stability with environmental factors.

#### ***Alternative E (Proposed Alternative)***

Impacts would be similar to those in *Alternative A*.

### **4.16.10 From Minerals Management**

#### ***Alternative A (No Action)***

Agua Fria National Monument is closed to new mineral entry.

Impacts to rangeland resources from mining include the potential disruption of livestock movement and distribution of use from hauling material, from fencing mines, and in the case of very large mines, closure of large portions of grazing allotments. Mining has been of small consequence in the planning area in the last 10 to 20 years and is expected to continue to have negligible impacts to rangeland resources.

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

There are no impacts in Agua Fria National Monument from minerals management.

In the Bradshaw-Harquahala Planning Area closure to different types of mining would vary by Alternative. Even though the area over which the mining could occur is large, the actual area of impact is expected to be relatively small and that impact to rangeland management even smaller. Only negligible impacts are expected.

### **4.16.11 From Fire Management**

#### ***Alternative A (No Action)***

In both planning areas the use of fire as a treatment to improve vegetation composition and cover would have short-term impacts to vegetation from burning. Prescribed fire would also affect grazing authorizations by the

requiring pastures to be rested before and after the treatment. Grazing use could reduce or increase on other nontreated pastures. The fire treatment could improve vegetation quality and quantity and increased vegetation cover.

Fire suppression activities typically impact rangeland management by the use of water from range improvements. In the event the water is not replaced in these developments, livestock grazing could potentially be restricted and management options may include the removal of grazing. Depending on the size of the wildfire and the acreage involved that is burned livestock grazing may be restricted or precluded for a sufficient period of time to allow for regrowth of forage species.

***Alternatives B, C, D, and E (Proposed Alternative)***

In the Agua Fria National Monument some naturally ignited fires would be allowed to burn if defined prescriptive conditions are being met. Impacts from fire management would be similar to those described for *Alternative A*.

### **4.16.12 From Wild Horse and Burro Management**

***Alternative A (No Action)***

There are no impacts expected in Agua Fria National Monument as burros do not inhabit the area.

Current conditions for burros would be maintained in the 80,800-acre Lake Pleasant HMA. Burros, wildlife, and livestock would continue to compete for forage and water at an expected constant level due to environmental constraints and management control of burro numbers (e.g. herd gathers).

If all animals in the Harquahala herd are gathered and permanently removed, upland vegetation would slightly increase, and the riparian area would slightly improve in Browns Canyon. Competition with livestock and

wildlife for water would also decline. Because burros use this area only seasonally, impacts from their use would vary on a yearly basis. A corresponding small decrease in soil erosion could be anticipated with the decline in trailing of the animals between their forage areas.

***Alternatives B, C, D, and E (Proposed Alternative)***

Continued management actions in the Lake Pleasant HMA and the Harquahala HA over a combined area of 237,055 acres would not significantly change present use patterns or affect rangeland resources or livestock use.

### **4.16.13 From Management of Travel Management**

***Alternative A (No Action)***

Vehicle limitations in Perry Mesa ACEC have reduced the potential for upland vegetation damage by unauthorized cross-country OHV travel.

Damage to roadside vegetation has increased due to unauthorized OHV travel around poorly maintained segments of roadway. Decreased OHV travel would reduce the potential for animal stress. The OHV travel restriction has also decreased the potential for animal-vehicle collisions.

***Alternatives B, C, D and E (Proposed Alternative)***

For *Alternatives B, C and E* in both planning areas, limiting vehicular travel in these same areas would reduce damage to upland and riparian vegetation, stress to animals, risk of animal-vehicle collisions, and potential vectoring of noxious weeds.

No impacts under *Alternative D*, since grazing is terminated from the planning areas.

### 4.16.14 From Management of Wilderness Characteristics

#### *Alternative A (No Action)*

There are no impacts, there are no areas are under consideration for management of wilderness characteristics.

#### *Alternatives B, C, D and E (Proposed Alternative)*

For *Alternatives B, C and E* in both planning areas, discretionary surface disturbing activities not compatible with achieving the DFC for each management unit could result in varying degrees of impacts to rangeland management. If range improvements that would improve livestock distribution are prevented from being constructed there could be increased soil erosion and decreased forage vegetation associated with concentrated livestock use. No impacts under *Alternative D*, since grazing is terminated from the planning areas.

## 4.17 Impacts on Minerals and Energy Resources

This analysis discusses the impacts of the Alternatives on developing valuable minerals on public lands. In addition to the land surface in Federal ownership, this plan addresses lands where BLM retains subsurface (mineral) rights—an area of 346,300 acres within the planning area's boundaries and 181,200 acres to the north and east of the planning areas.

BLM manages three categories of minerals:

- leasable minerals: which include oil, natural gas, coal, sodium, and geothermal resources;

- saleable minerals: also known as mineral materials, which include sand and gravel, decorative rock, and other common minerals; and
- locatable minerals: which include precious metals such as gold, silver, copper, and some industrial minerals such as gypsum and clay.

Several approaches to mineral leasing are available under 43 CFR 3100 to 3500, the regulations for issuing mineral leases. The options include opening areas to leasing, subject to the following:

- the terms and conditions of a standard lease,
- minor constraints such as seasonal restrictions, or
- major constraints such as denying surface occupancy.

For locatable minerals, governed by the regulations in 43 CFR 3802, 3715, and 3809, and for saleable minerals, according to the regulations in 43 CFR 3600, the Alternatives determine which areas are to be open to the operation of the mineral leasing laws, mining laws, and mineral material disposal. In open areas, the Alternatives define any area-wide terms, conditions, or other special considerations needed to protect resources.

### LEASABLE MINERALS

#### *Oil and Gas*

#### Background Information and Assumptions

Although the potential for oil and gas leasing is low to medium throughout the minerals planning area, the potential for leasing is low. The potential is somewhat higher in the areas north of 35 degrees north latitude.

Oil and gas exploration was active in the Bradshaw-Harquahala Planning Area from 1913 to the 1980s. No oil and gas development has occurred on public lands, and no proven reserves have been documented. There is now no leasing

interest. However, areas of moderate oil and gas potential do exist (Map 3-14).

The price of crude oil was a significant driving force for increased oil and gas exploration in the 1970s. The 1980s saw active exploration in the Basin and Range Physiographic Province of Arizona to test the Laramide Overthrust Trend. There has been no drilling since the 1980s. A trend toward increasing exploration is occurring throughout the United States as the active rig count increases with rising crude oil prices. Thus, there is potential for domestic crude demand to stimulate oil and gas exploration in the mineral planning area.

The following assumptions were considered when evaluating the Reasonable Foreseeable Development (RFD) for oil and gas in the decision area:

- Oil and gas drilling would increase in the next 20 years in response to increasing crude oil and gas prices, domestic demand, and decreasing domestic production.
- Advances in three-dimensional seismic acquisition and processing technology would improve the resolution of subsurface structural and/or stratigraphic traps and delineate potential reservoir targets.

#### Reasonable Foreseeable Development

The RFD for oil and gas in the Bradshaw-Harquahala Planning Area estimates that ten exploratory wells would be drilled on BLM-administered land in the decision area.

#### Disturbance to the Bradshaw-Harquahala Planning Area

The extent of land disturbance from exploration drilling is estimated from the mean generalized impact values presented by the Rocky Mountain Federal Leadership Forum (RMFLF 2002).

Those assumptions are as follows:

- The exploration well site would occupy 10 acres, and each development or production well site would occupy 5 acres, including roads.
- Pad reclamation would reclaim 50 percent of the exploration well drill pads for the long term.

#### *Coal Potential*

No coal deposits have been reported in the minerals planning area.

#### *Geothermal Resources*

#### Background Information and Assumptions

Five low-temperature geothermal resource regions are recognized in the Bradshaw-Harquahala Planning Area. These regions are shown as moderate potential areas on Map 3-14. There has been no significant development of geothermal resources. These low-temperature resources might be used for small-scale space heating and for resort spas.

The Bradshaw-Harquahala Planning Area has no geothermal energy leases and no indications for future leasing. The absence of geothermal leasing probably results from the limited uses for low-temperature resources and the great expense to explore and develop them.

The following assumptions were considered when evaluating the RFD for geothermal energy in the Bradshaw-Harquahala Planning Area:

- There would be no leasing interest in the next 20 years.
- Drilling costs to explore and develop subsurface geothermal energy would be comparable to costs for oil and gas exploration and would probably be too high for the limited revenue that a low-temperature geothermal energy would generate.

#### Reasonable Foreseeable Development

The RFD for geothermal energy in the decision area expects that no leasing, exploration, or development would occur in the next 20 years. Costs to develop low-temperature geothermal energy are prohibitive compared to the potential revenue generation and limited uses of those resources.

#### Disturbance to the Bradshaw-Harquahala Planning Area

No disturbance to public lands from geothermal development is foreseeable in the decision area during the next 20 years.

#### *Sodium*

Five areas of potential sodium exist in the planning area's subsurface. There has been no significant development of those resources and no indications for future leasing and development. The absence of sodium leasing in the planning area (except in the Luke Basin) is probably due to the limited demand for sodium and the great expense of exploring and developing it. Morton Salt is solution mining salt for industrial purposes from the Luke salt deposit. BLM has one lease with Morton for solution mining on the Luke deposit.

#### Reasonable Foreseeable Development

The RFD for sodium expects that no more leasing, exploration, or development would occur in the planning area in the next 20 years. Costs to explore and extract by drilling are considerable compared to the local demand and limited uses of sodium in Arizona.

#### Disturbance to the Bradshaw-Harquahala Planning Area

No disturbance to public lands is foreseeable from sodium development in the decision area in the next 20 years.

### **LOCATABLE MINERALS**

#### Background Information and Assumptions

Mineral districts in the Bradshaw-Harquahala Planning Area are regions of known occurrences of and high potential for locatable metallic and non-metallic minerals (Map 3-15). Most of the mines have been inactive for many years because the cost to mine the commodity exceeds the commodity's market value. Several small-scale locatable mines now operate in the planning area. These mines generally operate on a sporadic base, depending on market conditions and financial support. These operations focus on placer gold, lode gold, and some industrial minerals.

The following assumptions were considered when evaluating the RFD for locatable minerals in the Bradshaw-Harquahala Planning Area:

- There would be three to five new small mines per year for the next 20 years and one to two large operations over the next 20 years. There would be 10 or fewer exploration-level operations per year.
- Each new small locatable mineral discovery would occupy less than 20 surface acres, including access. Exploration would disturb an average of 1 to 3 acres. The large mines are expected to be gold heap leach, which might disturb between 200 and 300 acres.
- Most mining would be on the surface, from recent trends in new mine permit applications to BLM.
- The commodity ore would be transported by surface road.
- Most of the surface would not be reclaimed during the life of the mine.

#### Reasonable Foreseeable Development

There would be three to five new small mines per year for the next 20 years and one to three large mines over the next 20 years. There would be 10 or fewer exploration-level operations per year.

#### Disturbance to the Decision Area

Each new small locatable mineral discovery would occupy less than 20 surface acres, including access. Exploration on an average would disturb 1 to 3 acres. The large mines are expected to be gold heap leach, which might disturb between 200 and 300 acres.

## **SALEABLE MINERALS**

### Background Information and Assumptions

The Bradshaw-Harquahala Planning Area has many locations for saleable mineral resources. Known occurrences (quarries and pits), prospects, and potential locations for saleable material on BLM-administered lands are shown on Map 3-16. Those locations have high potential for saleable mineral resources because they are known to occur. Most of the locations are actively used for dimension stone, decorative rock, or local construction.

The following assumptions were considered when evaluating the RFD for saleable minerals in the decision area:

- The demand for saleable minerals would increase during the next 20 years as population increases stimulate the building of new roads, structures, and infrastructure.
- An estimated 20 new saleable mineral pits would be permitted in the next 20 years.
- New quarry or pit access would require new road building because those locations are usually sited some distance from existing paved roads.

### Reasonable Foreseeable Development

An estimated 20 new saleable mineral pits or quarries would be permitted or reactivated in the next 20 years. The type and volume of saleable minerals disposed are uncertain and would depend on the increase in community development and construction. The Bradshaw-Harquahala Planning Area now has seven decorative rock operations, three sand and gravel operations, and three free use permits. The

average disposal tonnages for three types of saleable mineral pits are as follows:

- Decorative rock – an average of 33,000 cubic yards/year/pit for seven active pits that average 40 acres per contract/permit.
- Sand and gravel – 50,000 cubic yards/year/pit from three active pits that average 40 acres per contract/permit.
- The free use permits operate sporadically, producing borrow sand and gravel, averaging less than 10,000 cubic yards/year.

The average annual current sales volume from those active BLM's saleable mineral pits in the Bradshaw-Harquahala Planning Area is 380,000 cubic yards. From the estimated average disposal of 38,000 cubic yards/year/pit from each of 20 new pits during the next 20 years, the disposal of 8 to 10 million cubic yards of saleable mineral materials is projected.

### Disturbance to the Decision Area

Each saleable mineral pit would occupy 40 acres, which is the average area for the 10 saleable mineral pits that have active sales records. About 400 total acres would be disturbed by 20 new pits. Disturbance of the land surface would require reclamation at the end of the life of the pits.

## **4.17.1 From Special Designations**

### *Alternative A (No Action)*

Under current management in Agua Fria National Monument, in designated Wilderness Areas, and in other areas closed to mineral entry, any potential mineral or energy resource that might have been opened to development would not be developed. Impacts would be long term, but minor. The affected areas are closed to mineral development; therefore, no exploration would occur, and any undiscovered mineral resources would remain undiscovered. In these

areas, the potential is low for leasable minerals, moderate for saleable minerals, and varied for locatable minerals. No withdrawn areas have a high potential for locatable minerals and demand for saleable minerals could be met from other sources.

Maintaining the acres now withdrawn from locatable mineral entry and closed to leasable and saleable mineral development would continue to preclude mineral development. Current needs and future demands of public users would be affected. Table 4-4 shows how many acres are closed to the various mining types in each Alternative and Table 4-7 shows the mineral potential closed by mineral type for each alternative.

### ***Alternative B***

For Agua Fria National Monument, impacts would be similar to those described for *Alternative A*.

Because Tule Creek ACEC in the Bradshaw-Harquahala Planning Area would be closed to mineral leasing, mineral material disposal, and recommended for closure under the mining laws, any potential minerals or energy resources that might have been available for development would not be developed. Impacts would be long term but are expected to be negligible because of the ACEC's small size. Valid existing rights would be maintained.

If minerals were to be discovered here, they would not be developed, resulting in a loss of economic contribution to local communities, missed opportunity for jobs, missed opportunity for adding revenue to the national fund from the sale of mineral materials, and missed opportunity for extraction of energy resources. Based on current mineral production and demand in the area, the magnitude of impacts would be small.

Withdrawals and closures of this area from mineral activities would prohibit future mineral development and could inhibit the expansion of adjacent mining. Management decisions could

lead to effects on developing mineral and energy resources. These effects would affect the local economy. The current needs and expected future demands of public users and county, State, and Federal agencies could be adversely affected under this Alternative, although impacts are expected to be small.

### ***Alternative C***

Impacts in Agua Fria National Monument would be the same as those described for *Alternative A* despite potential additions to the existing Wild and Scenic River designation or proposed ACECs.

Impacts would be similar to those described in *Alternative B*, except more area would be closed to mining. Any potential mineral or energy resources would not be developed in the following places in the Bradshaw-Harquahala Planning Area because of (1) their withdrawal from location under the mining laws and (2) closure to leasing and mineral material disposal:

- Tule Creek ACEC and
- Sheep Mountain RNA ACEC.

The prohibition against mineral materials disposal would prevent sale of sand, gravel and decorative rock in:

- Vulture Mountains Raptor Area ACEC, and
- Black Butte ONA ACEC.

### ***Alternative D***

Impacts under *Alternative D* would be similar to those described for *Alternative C* in Agua Fria National Monument.

In addition to impacts similar to those described for *Alternative C* in the Bradshaw-Harquahala Planning Area, except that this Alternative has the largest acreage of Special Area Designations. Any potential mineral or energy resources that might have been open to development would not be developed in the following areas:

- Black Butte ONA ACEC,
- Harquahala Mountains ONA ACEC,
- Vulture Mountains ACEC, and
- Sheep Mountain RNA ACEC.

Also, any potential mineral leasing and mineral material sales that might have occurred would not occur in the Belmont-Big Horn Mountains ACEC.

#### ***Alternative E (Proposed Alternative)***

In the Agua Fria National Monument, impacts under *Alternative E* would be similar to those described under *Alternative A*.

In the Bradshaw-Harquahala Planning Area, acreages closed to various mineral activities is similar to those for *Alternative A*. However, DFCs for the four ACECs would make many types of mining difficult or cost prohibitive to do. Impacts from this alternative are more similar to *Alternative C*.

### **4.17.2 From Lands and Realty Management**

#### ***Alternative A (No Action)***

Because the Agua Fria National Monument is closed to mineral entry, no impact is expected.

Under the current management of the Bradshaw-Harquahala Planning Area acquiring non-Federal mineral estate underlying Federal surface holdings in the two RCAs would constitute a net gain of potentially developable mineral resources.

Reconveyed lands in the Black Canyon Corridor are closed to leasing, location, and mineral material disposal. These areas have moderate to high potential for production of small quantities of precious minerals, sand, and gravel. Keeping them closed precludes opportunities for mineral development and a potential stimulus to the economies of Black Canyon City and Cordes Lakes.

Small tract lands are also closed to location. Most are of low potential, but some opportunities to develop locatable minerals may be forgone. Small tract lands are private surface/Federal mineral; therefore, any development could cause conflicts with the surface owner.

Development of specific utilities can potentially interfere with removal of mineral resources. Limitations of access to minerals along with the physical facilities associated with the utility can affect potential mineral extraction. These potential conflicts cannot be addressed until specific utility projects and/or specific mining plans-of-operation are proposed. Methods to minimize such conflicts include, but are not limited to: avoiding known mining activities when locating utility projects; accounting for utility facilities in development of mining plans-of-operation; and keeping communications open between mining and utility companies throughout the life of any mining operation.

#### ***Alternative B***

Impacts in the national monument are the same as under *Alternative A*.

Under management of the Bradshaw-Harquahala Planning Area, issuance of rights-of-ways, leases, and patents would establish superior rights to later mineral development. These rights-of-way, leases, and patents could also cause temporal or spatial access restrictions. Segregations and withdraws for leases/patents could inhibit mineral development. Authorization of rights-of-way for facilities such as roads, highways, and power lines would benefit locatable mineral operations by providing access and infrastructure.

Land ownership adjustments could result in BLM acquiring or disposing of lands with mineral value and could either increase or decrease opportunities for development. Acquiring more legal access across private or other lands would increase opportunities to explore and develop areas that might not be accessible by other routes.

The opening of reconveyed lands to leasing, location, and mineral material disposal could provide opportunities for mineral development.

The opening of small tract lands to location could provide opportunities to develop locatable minerals. Because small tract lands are private surface/Federal mineral, any development could cause conflicts with the surface owner.

#### ***Alternative C***

Impacts would be similar to those described under *Alternative B*, except:

Within the Bradshaw-Harquahala Planning Area, the opening to leasing, location, and mineral material disposal of only those reconveyed lands with high potential for minerals could provide fewer opportunities for developing mineral resources than under *Alternative B*.

The opening to location of only those small tract lands with high locatable mineral potential would provide fewer opportunities for developing locatable minerals than would *Alternative B*. There would also be less conflict with surface owners.

#### ***Alternative D***

Impacts would be similar to those described in *Alternative B*, except impacts of keeping all reconveyed lands and small tract lands closed to minerals development would be the same as *Alternative A*.

#### ***Alternative E (Proposed Alternative)***

Impacts would be similar to *Alternative B*, except small tract lands would remain closed to mineral entry, denying opportunities for locatable mineral development on those parcels, like in *Alternative A*.

In addition, reconveyed lands would be opened to mineral development as in *Alternative B*,

except riparian areas would be closed to mineral material sales. No impacts are expected from this closure.

### **4.17.3 From Management of Soil, Air, and Water Resources**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

No impacts are expected in the Agua Fria National Monument, since the monument is closed to mineral entry.

In the Bradshaw-Harquahala Planning Area, managing soil resources requires mitigating impacts to topsoil by removing, stockpiling, and replacing soil and/or reclamation requirements to develop suitable substitutes. This mitigation would increase the cost of mining and in some cases might make mining uneconomical. Management objectives seeking to enhance soil stability would limit mining in areas with highly erodible soils and steep slopes.

Other requirements can be placed on mineral operations to protect ground and surface waters and to limit impacts on riparian areas. These requirements would increase exploration and mining costs, potentially making some locations uneconomical.

Managing air quality imposes limits on the impacts of mining by requiring reduced particulates, dust, and emission of hazardous air pollutants. As with soil and water requirements, air quality requirements would increase the cost of mineral exploration and development and might make some locations uneconomical.

### **4.17.4 From Biological Resource Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected in the Agua Fria National Monument, since the monument is closed to mineral entry.

In the Bradshaw-Harquahala Planning Area, tortoise habitat restrictions decrease opportunities for developing mineral material resources, especially boulder sales. Required mitigation to eliminate or reduce impacts from mining could result in more expenses and longer permitting times for developers.

Wildlife stipulations and mitigation would increase operating costs and permitting timeframes and; to a lesser extent, might require relocation of discretionary mineral actions. Development locations near important wildlife habitat might be constrained by the following:

- seasonal use restrictions,
- buffer zones, and
- noise controls.

Mineral development is restricted in areas known to contain Threatened and Endangered (T&E) species. The discovery of T&E species on a site might interrupt operations.

#### **4.17.5 From Cultural Resource Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected in the Agua Fria National Monument, since the monument is closed to mineral entry.

In the Bradshaw-Harquahala Planning Area, increased costs of mineral development and delays in the evaluation and approval of proposed activities could result from the following requirements:

- surveying for cultural resources before any surface disturbance and

- mitigating impacts on cultural resources found before or during surface disturbance.

#### **4.17.6 From Paleontological Resource Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

Paleontological resource management is not expected to affect minerals and energy resources. The discovery of paleontological resources during development could increase the costs of mineral extraction.

#### **4.17.7 From Recreation Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected in the Agua Fria National Monument, since the monument is closed to mineral entry.

Protecting important recreational areas through recreation resource allocations such as SRMAs might limit potential surface disturbances from mineral development. They also limit the area where development can occur. Though most of these allocations do not close areas to mining, compliance with management prescriptions would increase development costs, making some locations uneconomical to develop.

#### **4.17.8 From Visual Resource Management**

##### *Alternative A (No Action)*

Under *Alternative A* no VRM classes have been established. For the most part, visual resources have been managed to Class III. Visual resource management is not expected to affect minerals and energy resources.

### ***Alternatives B, C, D, and E (Proposed Alternative)***

While the impacts of VRM Class III and Class IV to mining would be similar and comparable to what is already required in current reclamation standards, Class IV management provides added flexibility. VRM Class I or II objectives and mandatory compliance with them would increase the costs of any potential mineral development. In many cases, discretionary mineral development and related infrastructure would not be compatible with VRM objectives, which would result in excluding those forms of mineral development. Table 4-6 shows the VRM Classes that would be allocated in each Alternative.

### **4.17.9 From Rangeland Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Rangeland management is not expected to affect mineral and energy's resources.

### **4.17.10 From Minerals Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Impacts to mineral exploration and development result from prescriptions intended to manage and protect other resources; therefore, no impacts are expected.

### **4.17.11 From Fire Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Current conditions would be maintained. Fire management would be a benefit for mining by

providing more protection against devastating wildfires. Such impacts would generally be short-term and would not affect the long-term development potential for minerals and energy.

### **4.17.12 From Wild Horse and Burro Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Wild horse and burro management under any Alternative is not expected to affect minerals and energy resources.

### **4.17.13 From Land Health Standards**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Compliance with Land Health Standards would require more stringent reclamation standards, resulting in higher reclamation and bonding costs and a greater delay in bond release.

### **4.17.14 From Management of Travel Management**

#### ***Alternative A (No Action)***

No impacts are expected.

#### ***Alternatives B, C, D and E (Proposed Alternative)***

Transportation management requirements impose more limits on the number and location of roads and require mitigation to reduce impacts. Travel management provisions under all Alternatives would require authorization to drive off-road to access mining claims or conduct exploration. Fewer access roads would inhibit access for prospecting. Improved road conditions leading to improved access would facilitate operating existing and potential mines.

### **4.17.15 From Management of Wilderness Characteristics**

#### *Alternative A (No Action)*

There are no expected impacts.

#### *Alternatives B and C*

Lands allocated to maintain wilderness characteristics would be closed to mineral material disposal. This would help preserve the natural and primitive characteristics of these areas.

#### *Alternative D*

Impacts would be the same as *Alternative B* except that in addition to closing mineral material disposal, lands allocated for management of wilderness characteristics would also be closed to mineral and geothermal leasing. Under this Alternative lands allocated to manage wilderness characteristics would be withdrawn from mining laws. Closing these areas to mining activities would prevent the exploitation of potential resources, but would ensure preservation of natural and primitive characteristics more than other Alternatives.

#### *Alternative E (Proposed Alternative)*

All public lands within the planning area would be open to mining activities except for legislatively withdrawn areas and other withdrawn and segregated areas. As a result areas allocated to manage wilderness characteristics would have no impact.

## **4.18 Impacts on Fire and Fuel Resources**

### **4.18.1 From Special Designations**

#### *Alternative A (No Action)*

Two ACECs under current management limit motorized vehicles. This management is not expected to affect wildfire response, suppression, or fuel management, because traffic restrictions would not apply to either emergency or administrative needs.

The one RCA and two MRMAs, within Agua Fria National Monument, would be replaced by Agua Fria National Monument management. The area of limited development and access would increase. These limitations would affect fire by decreasing opportunities for accidental human-caused ignition. Also, fewer improvements and structures would affect suppression.

Wilderness designations could restrict the amount and type of fire suppression. A total of 11 percent (96,820 acres) of the Bradshaw-Harquahala Planning Area is wilderness. Motorized equipment may be used in wilderness in emergency circumstances, guided by MIST and minimum tool concepts, making use of the least damaging equipment and methods consistent with the safety of the public and firefighters.

#### *Alternative B*

In Agua Fria National Monument designating the Bloody Basin Road Back Country Byway would likely increase recreation use of the area and would proportionally increase opportunities for human-caused ignitions.

In the Bradshaw-Harquahala Planning Area designating the Constellation Mine Road Back Country Byway could increase recreation use of

the area and would proportionally increase opportunities for human-caused ignitions.

### *Alternative C*

In Agua Fria National Monument designating four new ACECs would limit vehicular travel and vehicular access to all or portions of the ACECs. *Alternative C* is not expected to have any short-term impacts on wildfire response suppression or fuel management because the traffic restrictions would not apply either to emergency or administrative needs.

The Harquahala Mountains ACEC prohibits grazing and prohibiting grazing could increase fine fuels on the surface. This buildup could result in easier ignition and create a more continuous fuel bed that could increase the spread of fire.

The Vulture Mountains, Black Butte, and Sheep Mountain RNA ACECs would increase the area of limited development and access. These limitations could affect fire by decreasing opportunities for accidental human-caused ignition. They would also decrease improvements and structures that would affect suppression.

### *Alternative D*

Impacts to fire under *Alternative D* would be similar to those described under *Alternative C*.

### *Alternative E (Proposed Alternative)*

The impacts to fire management from Special Area Designations would be similar to those described for *Alternative C*.

## **4.18.2 From Lands and Realty Management**

### *Alternative A (No Action)*

Continued use of the existing utility rights-of-way is expected to temporarily affect fuels and

fire because of ground disturbance and increased opportunities for ignition during operation and maintenance.

Building more utilities, transportation corridors, and communications sites would affect fire by increasing opportunities for accidental human-caused ignition. More improvements and structures would do the following:

- affect suppression and costs by placing on the ground more features that could require protection from a wildfire,
- present more hazards, such as flight hazards from overhead power lines or explosion hazards of buried gas pipelines, and
- create restrictions to prescribed burning or fire suppression operations.

Historically, maintaining and building new utility projects have had minor impacts to the Fire Management Program. Impacts to vegetation and increases in fine fuels due to ground disturbance would be minimal and short term. Increased opportunities for ignition during operation and maintenance are expected to have negligible effects. Development of utilities within a corridor has the potential to increase fire occurrence and have both short and long term effects to fuels. In the short term, construction activities may create fuel breaks that could help suppression actions during a wildfire. In the long term, construction activities can provide disturbed areas and vectors that encourage establishment of invasive plant species that can increase fire occurrence, even to the point of changing fire regimes. Mitigation actions could include, but not be limited to: restrictions on vehicle parking to minimize likelihood of vehicle related fire starts; stipulations for metal welding and cutting operations that separate the activities from possible flammable fuels; construction and reclamation planning that minimizes the invasion of highly flammable non-native plants.

Impacts from disposal of as much as 54,370 acres of Federal land outside the MUs could include redistributing the overall Federal

land ownership and consolidating Federal lands into more contiguous management blocks. This disposal could reduce fire suppression and management responsibilities and increase their effectiveness. Suppression costs could decrease. Management would be more contiguous across the landscape (not broken by parcels of non-BLM ownership) with a resultant increase in the efficiency of operations. Depending on post-disposal land use, land disposal could affect both fire suppression and fuels conditions. Continued wildland uses and management would probably have negligible impacts. However, conversion to development uses would increase human populations and change ignition potential, fire behavior, and risk decisions. Additionally, visitor use on adjacent public lands could increase which could increase the potential for accidental human-caused fire starts. Developing these parcels would also do the following:

- expand the WUI,
- potentially increase fire suppression complexity, and
- costs increase the risk of public loss of life or property in the event of a wildfire.

#### ***Alternative B***

Impacts would be similar to *Alternative A*, except potential disposal acres would be 58,400.

#### ***Alternative C***

Impacts would be similar to *Alternative A*, except potential disposal acres would be 49,100.

#### ***Alternative D***

Impacts would be similar to *Alternative A*, except no acres would be selected for disposal, so there would be no impacts related to land disposal.

#### ***Alternative E (Proposed Alternative)***

Impacts would be similar to *Alternative A*, except potential disposal acres would be 38,755.

### **4.18.3 From Management of Soil, Air, and Water Resources**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Management objectives include meeting air quality standards. Meeting air quality standards limits the amount of prescribed burning in both planning areas. Every prescribed fire requires an approved prescribed burn plan that lists predetermined prescription criteria for weather and fuel conditions. The plan also includes smoke management criteria, which are important to determining the complexity of the prescribed fire. These criteria define measures that would be taken to reduce smoke impacts on sensitive receptors from prescribed fire. All prescribed fires must be approved by the ADEQ before being implemented. State air quality regulations enforced by ADEQ meet or exceed Federal standards.

Implementing prescribed fire in fire-adapted environments and fuel treatments in other high-risk locations would improve watershed conditions, increase soil cover, and promote proper water flows.

### **4.18.4 From Biological Resource Management**

#### ***Alternative A (No Action)***

In Agua Fria National Monument, fire management is affected by the area where endangered fish exist. The size of prescribed fires is limited by a restriction in the biological opinion that not more than half of a watershed can be burned during prescribed fires. Also, canyon areas cannot be burned. These restrictions affect fire by limiting the areas where prescribed fires can occur. After a burn, fish habitat must be monitored for erosion and soil movement into streams, which might affect water quality.

The impacts of biological resource management on fire suppression would consist of restrictions imposed on suppression strategies to protect priority habitat and species from disturbance from heavy equipment. Examples of these restrictions would be (1) prohibiting heavy equipment such as dozers in building firelines and (2) restricting fire vehicles to existing roads.

In both planning areas, sensitive and T&E species might limit actions on fuel treatments (such as what vegetation types can be treated in specific areas or at specific times), surface disturbances, and fuel treatment methods allowed. Seasonal restrictions to protect sensitive and T&E species affect fire management by not allowing for prescribed burning and fire suppression during certain times of the year or in some areas such as in fawning habitat during pronghorn fawning season.

The allocation of WHAs also affects Fire Management. They would do the following:

- limit or mitigate vehicular access;
- prohibit development of new recreational facilities, improvements, and structures; and
- reduce public visitation in these managed areas.

These actions are expected to affect fire by decreasing the occurrence of human-caused fire ignitions and overall suppression costs

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

Impacts under *Alternative B* would be the same as under *Alternative A*, except that some closures of vehicle routes that conflict with biological resource management might affect fire management by (1) reducing visitor use to the area and (2) decreasing the opportunity for human-caused fire ignitions.

## **4.18.5 From Cultural Resource Management**

### ***Alternative A (No Action)***

Minimum Impact Suppression Tactics (MIST) are used to protect cultural resources during suppression. When implementing MIST, fire managers use the fewest fire suppression resources, and least-impacting tools and equipment to effectively manage and suppress fire, while (1) meeting fire management protection and resource objectives and (2) minimizing the impact to cultural resources and the landscape. Examples of MIST used by fire managers include the following:

- limiting fire vehicles to established road rights-of-way;
- burning out from existing roads, trails, and natural breaks; and
- placing firelines and retardant lines away from known cultural sites.

MIST applies indirect attack strategies more often than direct attack strategies. Where areas are not surveyed, cultural sites could be unintentionally damaged, especially flammable structures. Mitigation measures taken by fire managers to protect cultural sites in suppression and prescribed fire would reduce the known and unknown impacts to cultural resources. The expected results include more area burned by wildfires and increased suppression costs.

In prescribed fires, protecting cultural resources results in the following measures:

- relocating planned firelines,
- adjusting the size of burnblocks,
- mitigating adverse effects by removing vegetation around cultural sites to protect them, and
- determining where prescribed fires might or might not be planned from known cultural resources.

Such measures would have the following results:

- increasing project costs to protect cultural sites;
- spending more time and cost in planning, and
- excluding some areas from burning because of the presence of cultural resources.

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

In Agua Fria National Monument developing High and Moderate public use cultural site interpretation would affect fire and fuel management because of increased recreation use of the area and the developing of visitor services, including structures. This outcome would affect fire management by increasing the risk of accidental human-caused ignition. This increased risk would be minimal during the peak fire season (summer) because most visitor use would occur during the late fall, winter, and early spring. Increased visitor use is expected to only slightly affect opportunities for fire use or prescribed fire.

The number of improvements and structures could also increase, which could lead to changes in suppression decisions and commitments of suppression resources. *Alternative B* would have the most sites and facilities open to visitation and public use. *Alternative B* is also expected to have the most public visitation of all Alternatives.

In the Bradshaw-Harquahala Planning Area, allocating SCRMA and developing sites for interpretation would increase the risk of accidental human-caused ignition. These measures would also increase the number of improvements and structures, which could change suppression decisions and commitments of suppression resources. The relative size of impacts would be as follows:

- greatest under *Alternative B* (316,103 acres of SCRMA, representing 35 percent of the planning area)

- intermediate under *Alternative C* (276,527 acres of SCRMA, representing 31 percent of the planning area)
- least under *Alternative D* (125,292 acres of SCRMA, representing 14 percent of the planning area)

See Tables 2-3, 2-4, and 2-5 to view the different areas allocated to different use levels under each Alternative.

### **4.18.6 From Paleontological Resource Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected from paleontological resource management.

### **4.18.7 From Recreation Management**

#### ***Alternative A (No Action)***

Current recreation access poses a risk of human-caused fire ignitions. As recreation use increases, fire frequency would increase..

In addition, target shooting anywhere would increase the potential for accidental human-caused ignitions. Shooting is a common cause of wildfire in some areas.

#### ***Alternative B***

Increases in recreation visitation would result in increased occurrences of human-caused ignition. Allowing dispersed camping with few limitations could also increase the risk of human-caused ignitions.

In both planning areas allocations of Front Country RMZs, Back Country RMZs, and SRMAs would result in allocating roads and trails for commercial and motorized competitive events as well as motorized recreation. In

addition, staging and camping areas would be developed to meet the high demand for recreation. These measures would affect fire by increasing the risk of accidental human-caused ignition. The potential for human-caused fire starts would increase as a result of increases in the following:

- visitor use,
- target and recreational shooting,
- motorized recreation use confined to designated routes, and
- unauthorized off-road use.

The potential for accidental human-caused fire starts would increase as a result of dispersed non-motorized non-commercial individuals, group activities, and public camping not under SRPs. The presence of improvements and increased visitor use could change suppression decisions, prioritization of resources, and resulting costs.

#### ***Alternative C***

Impacts in planning areas, Front/Back Country RMZs and SRMAs, would be similar to those described for *Alternative B*. In SRMAs where vehicles use is restricted potential human-caused ignitions would decline.

#### ***Alternative D***

Impacts in planning areas, Front/Back Country RMZs and SRMAs would be similar to those described for *Alternatives B*, except there would be more restrictions on vehicle use and risk of human-caused ignitions would decline.

#### ***Alternative E (Proposed Alternative)***

Impacts for *Alternative E* are the same as those described for *Alternative B*.

### **4.18.8 From Visual Resource Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected.

### **4.18.9 From Rangeland Management**

#### ***Alternative A (No Action)***

Current grazing practices affect fire management in many ways. Improvements designed for managing livestock, such as water facilities, fences, corrals, and other structures, present a risk of property loss in the event of a wildfire, as well as potential hazards to fire fighters and fire operations. On the other hand, many wildfire suppression actions depend on water from range improvements.

Livestock removing forage, especially light fuels in the form of grasses and forbs, can reduce the potential of a site to carry fire and result in fewer fires of lower intensity or lower rates of spread. A history of grazing, especially improper grazing, can convert ecological types. Conversion of grasslands or ecological types with naturally high grass components to types with higher woody species can result in lower fire frequencies but higher fire intensities when these converted types do burn. In these cases, wildfires might not burn as often, but the likelihood of a catastrophic fire increases.

Livestock grazing in the Sonoran and other western desert ecosystems has led to rapid invasion of Mediterranean annual grasses and forbs, most notably red brome (*bromus rubens*) and downy brome (*bromus tectorum*), which have increased the fire frequency in ecosystems where the natural vegetation is not fire adapted. The potential outcome of this invasion is the possibility of creating a fire-dependent plant community consisting mainly of non-native

invasive annual plants, and the eventual loss of native desert vegetation in those places.

Woody species have encroached on the natural desert grasslands, reducing natural fire frequency and reducing light fuels to carry natural fires. As a consequence, a prescribed burning program has been developed to reduce woody species and encourage recovery of natural grasses. Many factors affect the success of the prescribed fire program, not the least of which is the assurance of adequate amounts of fuel to carry a fire. Livestock grazing in areas planned for burning can remove enough fuel to reduce or eliminate the opportunity to successfully burn. Rest from livestock of a season or more in those same pastures can also increase the opportunity for natural fire starts from lightning or from unplanned human ignition.

In Sonoran desert vegetation communities, prescribed burning is confined to the fire adapted Arizona Interior Chaparral vegetation communities, mainly in the foothills of the Bradshaw Mountains. Livestock grazing in those areas would have little effect on prescribed or wildland fire operations. In desert scrub and other desert communities, wildfires depend on large volumes of ephemeral annual grass and forb production, generally after winters with above-average precipitation. Livestock operators commonly apply for increased livestock numbers to take advantage of abundant forage. In years where the amount of ephemeral production is marginal, high livestock numbers can reduce the potential of large fires. In years with extraordinary ephemeral production, perhaps 1 year in 10, livestock would not affect fire potential.

Riparian areas are not typically in a prescribed burn treatment area, but specific vegetation objectives might allow for prescribed fire use.

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

In Agua Fria National Monument *Alternative B* would allow some naturally ignited fires to burn

if defined prescriptive conditions are being met. This could reduce the cost of prescribed burning, but may increase the risk of escaped wildfires. Nevertheless, impacts would be similar to those under *Alternative A*.

### **4.18.10 From Minerals Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

The Bradshaw-Harquahala Planning Area allows new mineral entry as well as development of existing mineral rights. The result is an increase in human activity and in the probability of human-caused fire ignitions. Development associated with mining also increases the risk and complexity of wildland fire suppression operations. Since the Agua Fria National Monument is closed to new mineral entry, there are no fire impacts related to mineral development.

### **4.18.11 From Fire Management**

#### ***Alternative A (No Action)***

In both planning areas current fire management practices require full suppression using suitable management response on all wildfire starts (both human and natural ignition caused). Fire suppression on small-fire starts can prevent fires from becoming large and harming resources but does not allow for wildland fire use under a predetermined fire prescription. However, current management practices allow only for implementing management-ignited prescribed fire.

In the Bradshaw-Harquahala Planning Area, 14,000 acres have been selected for prescribed fire treatments in the Weaver Mountains. Prescribed fire objectives are to conduct multiple prescribed fire treatments over 5 to 10 years to treat hazardous fuel accumulations in interior chaparral vegetation. The treatments

would create a diverse mixed-aged stand of interior chaparral. Creating a mosaic pattern of burned and unburned areas in the treatment area would reduce the threat of large catastrophic wildfires and maximize benefits to wildlife and livestock grazing.

Existing roads and disturbed areas would be used in fire suppression and prescribed fire to avoid impacts to other resources, especially cultural resources.

The encroachment of urban development on adjacent private lands could affect wildland fire suppression strategies and tactics, depending on the time of year and intensity of wildfires. Wildland Urban Interface areas (WUI) would not allow the option of using wildland fire. WUI would also affect the following aspects of prescribed fire operations on public lands:

- limiting the location of burnblocks,
- altering firing operations,
- increasing the sensitivity to smoke and smoke management,
- impairing visibility and public health, and
- increasing prescribed fire cost because of the added work to protect WUI areas, such as building new firelines and adding fire resources (engines, firefighters, helicopters).

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

In both planning units some wildland fire would be allowed if defined prescriptive conditions are being met. Wildland fire use would allow for fire to play its natural role, especially in the Agua Fria National Monument tobosa grasslands. Wildland fire use would do the following:

- help to maintain and enhance this grassland ecosystem,
- encourage perennial grass species, and
- reduce the encroachment of woody species.

Wildland fire use would be beneficial in both planning areas except in the Sonoran Desert vegetation communities, which constitute the majority of vegetation communities in the Bradshaw-Harquahala Planning Area.

Suppression impacts would be similar to those described for *Alternative A*.

### **4.18.12 From Wild Horse and Burro Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

Wild horse and burro management would not affect fire management under any of the Alternatives.

### **4.18.13 From Management of Travel Management**

#### ***Alternative A (No Action)***

Restricting vehicles to existing roads and trails in the Phoenix Resource Management Plan (BLM 1988a), would reduce the potential for accidental human-caused ignitions. The limits on motorized vehicles could reduce the potential for human-caused wildfire ignitions. This restriction affects fire suppression strategies as well as options for fuel treatment. Limits on vehicle access also affect the number and type (OHV versus pedestrian) of visitors to these areas, thus reducing the probability of human-caused ignitions.

The probability of human-caused fire continues to increase as a result of an expanding human population. Initially, no major impacts to the Fire Management Program are expected, but as increases in vehicle travel on designated routes continue, the potential for human-caused fire would also increase.

**Alternative B**

Impacts to fire under *Alternative B* would be similar to those described for *Alternative A*.

In both planning areas confining vehicles to designated routes would reduce the potential for accidental human-caused ignitions. This restriction is especially important in grassland fuel types. In SRMAs where vehicle use is restricted potential human-caused ignitions would be reduced.

**Alternative C, D and E (Proposed Alternative)**

The impacts would be the same as under *Alternative B*.

### **4.18.14 From Management of Wilderness Characteristics**

**Alternative A (No Action)**

There are no areas under consideration for management of wilderness characteristics; therefore, there are no impacts on fire management.

**Alternatives B, C, D, and E (Proposed Alternative)**

For both planning areas, management of wilderness characteristics may impact fire suppression by constraining the construction of new firelines using heavy equipment. Implementation of appropriate management response for values at risk would offset the impacts from the potential loss of heavy equipment. Management of wilderness characteristics is not anticipated to have a negative impact on either fire suppression or fuels treatment within the designated areas.

## **4.19 Impacts on Wild Horses and Burros**

### **4.19.1 From Special Designations**

**Alternative A (No Action)**

No impacts are expected to the animals present or their habitat elements as a result of continuing to implement current management of the Hells Canyon or Hummingbird Springs Wilderness Areas. In the event of a gather in these areas, a site-specific analysis would be completed for the use of motorized equipment. The Harquahala burro herd is small. According to the manageability analysis in Appendix G, the herd is probably too small to contain enough genetic diversity to be a viable population. Removing any burros would reduce the herd's genetic diversity even further.

**Alternative B**

Tule Creek ACEC would be fenced to deny livestock access. Burros would continue to use the area.

No other Special Designations would be created under *Alternative B* in the Harquahala HA.

**Alternative C**

Under *Alternative C*, Tule Creek and Sheep Mountain RNA ACECs would be designated in or near the Lake Pleasant HMA but would not affect the burro herd.

Designating the Harquahala Mountains ONA ACEC would not affect the burro herd.

**Alternative D**

Impacts to the Lake Pleasant HMA would be the same as described for *Alternative C*.

*Alternative D* would designate two ACECs in the Harquahala HA: the Harquahala Mountains ONA ACEC and the Belmont-Big Horn Mountains ACEC. Despite the larger area in ACEC designations, impacts to burros would be the same as described for *Alternative C*.

#### ***Alternative E (Proposed Alternative)***

Impacts to the Lake Pleasant HMA would be the same as described for *Alternative C*.

Designating the Harquahala Mountains ACEC would not affect the burro herd.

### **4.19.2 From Lands and Realty Management**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected.

### **4.19.3 From Management of Soil, Air, and Water Resources**

#### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

No impacts to burros are expected from the management of soil, water, or air resources.

### **4.19.4 From Biological Resource Management**

#### ***Alternative A (No Action)***

Under No Action wild burros would continue to compete with native wildlife for forage and water. Developing water resources such as springs and seeps, which are designed to protect ecological functions, could affect wild burros by improving the habitat in the Lake Pleasant HMA and Harquahala HA. Projects that encourage developing a more reliable water source could

increase the forage production in the vicinity. Improvements, however, could include the installing of fences to prohibit cattle and wild burros from using the water sources, leading to a decrease in available water supply and less available habitat.

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

In the Lake Pleasant HMA impacts would be the same as described for *Alternative A*.

In the Harquahala HA allocation of the Harquahala Mountain WHA would not affect burros.

### **4.19.5 From Cultural Resource Management**

#### ***Alternative A (No Action)***

Reducing or eliminating impacts of land uses on cultural resources as identified through study plots could require installing fences, which could affect the wild burros by limiting their available range. The potential fenced areas would be small, only negligibly affecting available burro forage or habitat.

#### ***Alternatives B, C, D, and E (Proposed Alternative)***

Wild burros could be affected by allocating the following:

- Lake Pleasant/Agua Fria SCRMA in the Castle Hot Springs MU, which includes 21,342 acres of the Lake Pleasant HMA, and
- Harquahala Mountains SCRMA in the Harquahala Mountains MU, which includes 24,299 acres of the Harquahala HA.

Any installing of fences to protect areas could limit the available range of wild burros. Any fence is expected to be small and to negligibly affect burros. Increasing visitor facilities could

pressure wild burros to migrate to less developed areas, possibly increasing human–burro interactions. Wild burros that become accustomed to human interactions are more likely to congregate around public areas, increasing the likelihood of injury to both wild burros and people. Additionally, with the increase in travel routes, recreational trails, and above-ground features (restrooms, picnic tables, benches, trash receptacles, interpretive signs), wild burros would be affected by the quality and quantity of diminishing wild burro habitat.

#### **4.19.6 From Paleontological Resource Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected.

#### **4.19.7 From Recreation Management**

##### *Alternative A (No Action)*

Increasing OHV use could affect wild burros by increasing the possibility of vehicle-burro conflicts. Also, increases in recreation use could slightly reduce the amount of available forage from disturbance caused by camping, cross-country vehicular travel, and other recreation activities. The incidence of burro-human encounters could also increase, increasing the risk of injury to both people and burros.

##### *Alternatives B, C, D, and E (Proposed Alternative)*

Recreational use on designated motorized vehicle routes, in organized competitive events, and in developed staging/camping areas could decrease the amount of available habitat for wild burros and increase the risk of bodily injury to the wild burros during these events.

Areas allocated to non-motorized settings could help minimize impacts to vegetation from

motorized recreation, increasing available forage.

#### **4.19.8 From Visual Resource Management**

##### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

There are no impacts expected.

#### **4.19.9 From Rangeland Management**

##### *Alternative A (No Action)*

*Implementing Rangeland Health Standards (Land Health Standards) and Guidelines for Grazing Management (Rangeland Management)* could improve overall vegetation, soil, and water conditions in Lake Pleasant HMA and Harquahala HA.

Maintaining existing authorized grazing allotments could give burros more water sources. Grazing practices, however, increase competition for available forage and water.

##### *Alternative B*

Impacts are expected to be the same as *Alternative A*, except building fences or implementing other barrier restrictions to riparian grazing during winter (November 1 to March 1) could affect wild burros. Areas excluded from livestock use would restrict wild burro access as well. These restrictions could affect the availability of forage and water for wild burros by increasing competition and decreasing available range size.

##### *Alternative C*

Expected impacts would be similar to those under *Alternative B*.

**Alternative D**

Eliminating all livestock grazing in the Bradshaw-Harquahala Planning Area would eliminate burro-cattle competition for forage and water. Unneeded grazing improvements would also be eliminated, which could lead to a decrease in available water sources for wild burros. Fences and cattleguards would likely be removed, which could expand the wild burros' available range.

**Alternative E (Proposed Alternative)**

Impacts would be similar to those under *Alternative B*.

### **4.19.10 From Minerals Management**

**Alternatives A (No Action), B, C, D, and E (Proposed Alternative)**

There are no impacts expected.

### **4.19.11 From Fire Management**

**Alternatives A (No Action), B, C, D, and E (Proposed Alternative)**

There are no impacts expected.

### **4.19.12 From Wild Horse and Burro Management**

**Alternative A (No Action)**

Retaining the current Lake Pleasant HMA and managing the wild burros on BLM-administered public lands consistent with the Wild Horse and Burro Act of 1971 (WHBA) would potentially enhance the genetic viability of this herd by maintaining a thriving ecological balance. The social structures of the herd could be disrupted by removing nuisance animals when they are

reported and by gathering excess burros from the Lake Pleasant HMA to achieve the AML. Current plans prescribe removing all burros from the Harquahala HA.

**Alternatives B, C, D, and E (Proposed Alternative)**

Impacts to wild burros in the Lake Pleasant HMA would be similar to those described under *Alternative A*.

According to the herd manageability analysis in Appendix G, the Harquahala HA is not manageable. The herd area would not become a HMA. Nuisance burros and burros damaging sensitive habitats can be removed as funds are available. The impact of this action could be eventual removal of all burros in this HA.

### **4.19.13 From Management of Travel Management**

**Alternative A (No Action)**

Increasing OHV use on existing and undesignated route networks, and increasing levels of OHV use in the western part of the Bradshaw-Harquahala Planning Area, could affect wild burros by increasing the possibility of vehicle-burro conflicts and cause a loss of habitat. Also, increases in motorized recreation use could slightly reduce the amount of available forage from disturbance caused by cross-country vehicular travel. Moreover, the incidence of burro-human encounters could also increase, elevating the risk of injury to both people and burros.

**Alternatives B, C, D, and E (Proposed Alternative)**

Wild burros and their movement and behavior are influenced by the presence of motorized and non-motorized trail users. Recreational use on designated motorized vehicle routes and route systems could decrease the amount of available habitat for wild burros and increase the risk of bodily injury to the wild burros during these

events. Increasing levels of use by visitors on designated non-motorized trails would further fragment burro habitat and cause burro to move to other areas. Burros would also be harassed by both motorized and non-motorized visitors.

Areas allocated to non-motorized settings could help minimize impacts to vegetation from motorized recreation, increasing available forage.

#### 4.19.14 From Management of Wilderness Characteristics

##### *Alternative A (No Action)*

There are no impacts to wild burros, because no lands are allocated to the management of wilderness characteristics.

##### *Alternatives B, C, D and E (Proposed Alternative)*

The maintenance and enhancement of lands with wilderness characteristics could reduce the number of motorized vehicle routes, end cross-country vehicle travel, and maintain ecological conditions. Overall, this allocation would have minimal impacts on the number or location of wild burros. Areas allocated to non-motorized settings could help minimize impacts to vegetation from motorized recreation, which would increase the available forage. The level of

harassment of wild burros would be less in areas managed for wilderness characteristics since most of the areas have few trails and overall lower levels of visitation than motorized settings. Increased levels of primitive recreation into burro use areas could lead to the harassment of burros and their movements away from hikers, equestrians, and campers. This would be significant only if the visitors occupy critical burro watering areas during periods of heat stress.

#### 4.20 Impacts on Travel Management

A route network for access and recreation would be designated for Agua Fria National Monument as part of the RMP. For the Bradshaw-Harquahala Planning Area, designating routes is to be completed in 5 years after the plan is approved. To understand the impacts of routes and access in the Bradshaw-Harquahala Planning Area for the RMP Alternatives, a model route system was developed. The model system is partially based on the inventory and the evaluation process that was performed to develop the alternative route networks for Agua Fria National Monument. The preliminary route model and general approach to the route designation process are in Appendix N. The general assumptions for developing the model route system are outlined below

- The routes total 2,240 miles, excluding highways.
- The route total is based on the new route inventory where it has been completed and on Arizona Land Resource Information System (ALRIS) and county data where the inventory is not complete.

The approximate miles of routes in management zones are shown in the route distribution on Table 4-8.

**Table 4-8. Route Distribution (in miles)**

Management Area	Alt A	Alt B	Alt C	Alt D	Alt E
ACECs	0	0.2	19	0	143
Areas alloc to maintain wilderness characteristics	0	47	9	0	35
ERMA and SRMA	2,240	2,086	1,889	1,645	2,028

## 4.20.1 From Special Designations

### *Alternative A (No Action)*

Two ACECs are within the monument. The Larry Canyon ACEC (80 acres) would remain closed to motorized vehicles and the Perry Mesa ACEC (9,580 acres) would limit motorized vehicles to designated roads and trails.

The five designated wilderness areas encompassing 96,820 acres within the Bradshaw-Harquahala Planning Area would remain closed to motorized vehicle use.

Motorized uses associated with the Harquahala Mountain Summit Backcountry Byway would continue to be positively impacted due to the interpretation, staging areas, amenities, route markings and periodic maintenance.

Continued management of proposed Wild and Scenic River segments for non-impairment may restrict use of some route segments.

### *Alternative B*

Most motorized routes would remain open to vehicular travel in Agua Fria National Monument (see Section 2.3.1.8), but monument lands would remain closed to cross-country motorized travel to protect the monument's objects. All travel by motorized and mechanized vehicles would be restricted to designated routes as in *Alternative A*.

Impacts from suitable Wild and Scenic Rivers segments would be similar to *Alternative A*.

Bloody Basin Rd would be studied to decide whether to not to pursue designation of a Backcountry Byway in a plan amendment. If Bloody Basin Rd was designated, this would focus more attention on maintenance and interpretation.

Designated wilderness areas in the Bradshaw-Harquahala Planning Area and the Harquahala

Mountain Summit Backcountry Byway would have similar impacts as *Alternative A*.

The Constellation Mine Road Backcountry Byway would have a positive effect on the travel and transportation network. Increased management would result in more positive visitor experiences. Use would likely increase on the road area which may negatively impact local residents since additional litter, trespass and dust are likely. Improved management by signing, mapping and volunteers could lessen the impacts to local residents. Most use would be confined to areas adjacent to the byway, so effects are expected to be minimal beyond the road. BLM maintenance on Constellation Road would be continued at the current standard.

Special Area Designations would likely cause the alteration of the route network. Closing washes, vehicle pullouts and routes to campsites are likely actions in some areas as a result of the route evaluation/designation process. In the Tule Creek ACEC, all routes within the fenced area would be closed to vehicles as they are currently.

### *Alternative C*

In AFNM, the designation of four ACECs for Gila Chub protection, would close approximately ½ mile of route at Silver Creek. The ACECs generally include streams located in incised canyons that contain no routes or motorized access.

Impacts on the suitability of the Agua Fria River and additional tributaries for Wild and Scenic River eligibility are similar to those in *Alternatives A*.

The Tule Creek ACEC would have impacts similar to *Alternative B*.

Impacts from designation of additional ACECs would be determined through the route evaluation/designation process described in Appendix D. Some ACEC prescriptions limit construction or establishment of new routes which limit the ability of BLM and user groups

from planning and installing a vehicle-based long distance route network. Specifically, the Harquahala ONA ACEC (41,670 acres), Black Butte ACEC (800 acres) and Vulture Mountain ACEC (2790 acres) all specify no new route building.

The five designated wilderness areas within the Bradshaw-Harquahala Planning Area and the Harquahala Mountain Summit Backcountry Byway would have impacts similar to those described under *Alternative A and B*.

#### ***Alternative D***

The Bloody Basin Road Backcountry Byway would not be established and current conditions would be maintained.

Designation of the Agua Fria River Riparian Corridor ACEC within the monument would have impacts similar to the Wild and Scenic River eligibility study and suitability determination as described in *Alternative A*.

The model route system for *Alternative D* would close 412 miles of routes in ACECs within the Bradshaw-Harquahala Planning Area. The quality and quantity of motorized recreational experiences and opportunities could diminish by imposing restrictions in ACECs. These ACEC route closures could significantly diminish opportunities for visitors using motorized vehicles and lead to the disconnection of multiple routes in the travel network. These impacts are described in detail below.

The Tule Creek ACEC would have similar effects as described in *Alternative B*.

Impacts from designation of additional ACECs would be determined through the route evaluation/designation process described in Appendix D. Some ACEC prescriptions limit construction or establishment of new routes which limit the ability of BLM and user groups from planning and installing a vehicle-based long distance route network.

The five designated wilderness areas within the Bradshaw-Harquahala Planning Area and the Harquahala Mountain Backcountry Byway would have impacts similar to *Alternative A*.

Nominating the Black Canyon Trail as National Recreation Trail would have a positive impact to non-motorized trail users. Motorized and non-motorized users would be separated along many parts of the trail. This separation would improve the experience of both motorized and non-motorized trail users in the Black Canyon Trail area.

#### ***Alternative E (Proposed Alternative)***

Under the model route system for the Bradshaw-Harquahala Planning Area 114 miles of vehicle routes within ACECs would be closed. Impacts of route closures in ACECs would be similar to those described in *Alternative D*.

Nominating the Black Canyon Trail as National Recreation Trail would have similar impacts as those described in *Alternative D*.

The five designated wilderness areas within the Bradshaw-Harquahala Planning Area and the Harquahala Mountain Backcountry Byway would have similar impacts as those described in *Alternative A*.

## **4.20.2 From Lands and Realty Management**

#### ***Alternatives A (No Action), B, C, D and E (Proposed Alternative)***

Additional lands and realty authorizations would gradually expand the route and travel network. This would happen over the life of the plan as new rights of ways for private and State land access, land disposals and installation of new utilities, continues. These lands and realty actions and associated route construction would increase the motorized route network less than 1 percent annually over the life of the plan. These actions would directly and indirectly increase route connectivity and links with other route

networks for motorized recreation. On the other hand, subsequent development of these state and private lands could lead to the disruption or loss of public access. Historically, much of the public access to BLM-lands has been through private and State lands available for motorized and non-motorized user access to public lands. Development of State and private lands usually results in the loss or restriction of this traditional access.

During construction and during the operation and maintenance of equipment and facilities, existing access points may be closed or restricted and some new routes may be created. Actions could include, but not be limited to: closures of some areas to protect public safety and/or facilities or equipment associated with the utility; maintaining important route connections across or along utility rights-of-way where compatible with the utility facility and suitable for the type of access use (equestrian, hiking, bicycling, motorcycle, ATV, or full size vehicles); and stabilization of routes to optimize use.

Compliance with the Monument Proclamation would add requirements of such routes to minimize resource damage and would likely increase costs associated with new routes.

### **4.20.3 From Management of Soil, Air, and Water Resources**

#### ***Alternative A (No Action)***

Impacts from complying with land health standards, EPA water quality standards and other air quality standards such as PM<sub>10</sub> non-attainment may include site-specific route closures or mitigation to offset undesired effects of routes and their use to soil, air and water.

In the Bradshaw/Harquahala areas, vehicle route and OHV ‘play’ area closures on BLM-administered lands, required for protecting and mitigating resource damage; or to address adverse effects to soil, water and air resources,

could diminish the motorized route network over the life of the plan, especially near private property, residential and commercial land developments, city and community boundaries and State lands. Moreover, these actions would occur on a case-by-case basis as problems arise. Appendix T, Off-highway Vehicle Mitigation Examples, shows the typical type of mitigation that would be taken for common resource conflicts.

County, State and private owners would apply existing law or legal measures to curtail damage to their property from the effects of BLM-administered resources. Examples of potential resources issues affecting private and State lands include fugitive dust and PM<sub>10</sub> emissions from public roads and OHV travel, soil erosion from hill climbs and cross country OHV travel; and changes in water courses or water quality due to OHV travel and the public use of poorly engineered travel routes. Route and area closures enacted under 43CFR8342.1 and 43CFR8364 would impact the amount of motorized recreation activity and could diminish the overall route network’s linkage and connectivity to other travel route systems.

#### ***Alternatives B, C, D and E (Proposed Alternative)***

Impacts on Transportation and Access management from localized case-by-case responses to soil, air and water damage or complaints would be similar to *Alternative A*.

Since route designation has not been completed, further analysis would be required on routes in the Bradshaw/Harquahala planning area.

On most public lands under all action Alternatives, BLM would take direct action during and upon designation of the Travel and Access network to reduce, eliminate or avoid impacts on both public and private soil, water and air resources. The designation of travel and access networks, the application of dust suppression technology, the rerouting and specific closure of problem routes, the application of buffer zones, the application of

SRMA prescriptions, and improving the engineering of the existing and new routes would reduce impacts to soil, water and air resources. Potentially, the existing route networks would be slightly reduced over time in order to protect air, water and soil resources; however, this reduction would not be significant.

## 4.20.4 From Biological Resource Management

### *Alternative A (No Action)*

Resource conflicts are evaluated on a case by case basis

### *Alternative B*

In the Bradshaw-Harquahala Planning Area 64,220 acres would be managed as Wildlife Habitat Areas (WHA) emphasizing wildlife habitat conservation. Managing WHAs could limit transportation access and vehicle routes that interfere with the conservation of the wildlife habitat. This limitation on access could shift transportation to other areas and concentrate vehicle usage on routes that remain open. New route construction for recreation purposes could be prohibited, while routes for resource management, such as wildlife waters, could be allowed on a case by case basis. Route connectivity in WHAs would be secondary to the wildlife management

Route closure or mitigation may be required to resolve conflicts between biological resources and public access management during the route evaluation/designation process.

Desert tortoise habitat management prescriptions may restrict construction of new routes and designation of existing routes.

### *Alternative C*

In AFNM, impacts of managing biological resources, specifically Pronghorn Antelope, would cause the limitation of some routes to only administrative use. In the monument,

39,330 acres would be managed as WHA, reducing access more than previous Alternatives. Due to the current low use of areas away from Bloody Basin Rd, Pronghorn issues would not be an immediate cause for area closure, although use level changes may prompt further review.

Protection of riparian resources is the largest impact to the route network causing closure of 1.34miles in Badger Springs Wash, and 2.2 miles along Sycamore Creek.

This Alternative would also provide more active management of biological resources than *Alternatives A or B*. As a result, management of biological resources under *Alternative C* would have slightly more impact than *Alternative B*

In the Bradshaw/Harquahala area, impacts of WHA would be the same as *Alternative B except* that *Alternative C* would provide management of more WHA than *Alternative B*. 156,120 acres in the Bradshaw Harquahala Planning Area would be managed as WHAs.

### *Alternative D*

In AFNM, impacts due to riparian area and wildlife management would be similar to Alt C.

Impacts of managing WHAs would be the same as *Alternative C* except that in the Bradshaw Harquahala Planning Area 18,020 acres would be managed as WHAs.

### *Alternative E (Proposed Alternative)*

In AFNM, management of Pronghorn Antelope fawning and movement habitat could have the effect of possibly causing restrictions to the route network in the future if negative impacts are documented between human use of routes and Pronghorn behavior and or habitat fragmentation. There are 34.9 miles of designated open routes inside Pronghorn movement corridors and 23.7 miles inside fawning areas.

In Bradshaw/Harquahala area, impacts of managing WHAs would be similar to *Alternative C* except that in the Bradshaw Harquahala Planning Area 140,310 acres would be managed as WHAs. New route construction for recreation purposes could be prohibited, while routes for resource management, such as wildlife waters, could be allowed on a case by case basis. Route connectivity in WHAs would be secondary to the wildlife management purpose during route designation. Some routes, if determined to be incompatible with wildlife management, may be closed.

Management of biological resources under this Alternative would restrict less motorized access than *Alternative D*, but more than *Alternative C*.

#### **4.20.5 From Cultural Resource Management**

##### ***Alternative A (No Action)***

Cultural resource management would have little impact on the existing Transportation and Access network. A few specific vehicle travel routes could be closed in the Agua Fria National Monument to protect cultural sites or mitigate existing resource damage, but the extent of such closures would have little overall impact on motorized opportunities and the current state of route connectivity.

##### ***Alternative B, C and D***

Vehicle travel networks could be adversely influenced in some areas of the Agua Fria National Monument as some routes would be closed for cultural site protection. Route connectivity could be diminished and the quality of vehicle-based recreation pursuits would decline in the involved areas as the closures are implemented. Routes on Perry Mesa, Sycamore Mesa, and Black Mesa would be closed or partially closed to maximize protection of cultural resources. Specifically, a route north of Joe's Hill will be closed to public use to protect cultural resources. The route to Pueblo La Plata would be shortened to create more distance

between vehicle parking and known archeological sites.

In Bradshaw/Harquahala area, routes may be closed through the route evaluation/designation process if determined at that time to impact cultural resources.

##### ***Alternative E (Proposed Alternative)***

Impacts on the Transportation network and public access for AFNM would be similar to those described under *Alternative B*. The potential closing of routes in the planning areas as protective measures for cultural sites would diminish or displace users in affected areas and possibly reduce the connectivity of the involved route networks. Opportunities for access to some cultural sites would be reduced or eliminated for motorized users, especially in parts of the Agua Fria National Monument. In the Bradshaw-Harquahala Planning area, the Black Mesa/Bumble Bee Cultural Resource Priority Area, and the Black Canyon Corridor, the Lake Pleasant/Agua Fria, Wickenburg/Vulture, Weaver/Octave, Harquahala and Galena Gulch SCRMA's could have reduced motorized access as a result of route designation after the plan.

#### **4.20.6 From Paleontological Resource Management**

##### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected because no paleontological sites are known to exist in the planning areas.

#### **4.20.7 From Recreation Resource Management**

##### ***Alternative A (No Action)***

The Agua Fria National Monument is closed to cross-country motorized travel to protect monument resources; however, most existing

routes would remain open. In areas where vehicles are used, opportunities would remain unchanged since existing routes would be designated as open.

Most use of routes for vehicle based special recreation permits (SRPs) would be displaced to the Bumble Bee Area. Conversely, approved SRPs on AFNM would only use approved routes, regardless of transportation method, and would likely have a negligible effect on travel and transportation volumes.

In the Bradshaw-Harquahala Planning Area, nearly 100 percent of the 2,240 miles of vehicle routes would remain open. Existing types of motorized and vehicle-based recreation opportunities would continue unchanged.

Intensive vehicle based recreation, such as OHV driving, would be marketed to Special Recreation Management Areas established for such use. The Hieroglyphic Mountains, Table Mesa, Stanton, San Domingo and Vulture Mountains SRMAs are destinations for OHV recreation. The effect on Travel/Transportation would be an expected use increase proportionate to regional population increase over the life of the plan. Maricopa and Yavapai county populations are expected to grow by approximately 50 percent by 2025.

### ***Alternative B***

As in *Alternative A*, most routes would remain open to vehicular travel in Agua Fria National Monument. Recreational shooting restrictions could displace this use to other areas where it would be allowed. Most recreational shooting areas occur along roads, so the mix of route users could change in a given area. This is a key component in managing conflict among different public land uses.

The proposed route system, developed through an interdisciplinary evaluation process would enhance recreational opportunities for motorized users by creating loop trails, which would allow connected touring, provide for greater access, and offer more extended and dispersed

recreational opportunities. General access for motorized users would be improved by the development of about 5 miles of new routes needed to bypass private property and maintain route system connectivity. The proposed route system would retain 134 miles, close 37 miles of existing routes and could diminish opportunities for motorized recreation in some areas. Users of the routes that would be closed could be displaced to other areas within and outside the monument.

Under the model route system (Appendix N) for the Bradshaw-Harquahala Planning Area, about 93 percent of existing routes would remain open. A total of 169 miles of routes within the planning area could be closed to (1) protect resources, (2) reduce redundancy, and (3) limit routes for administrative use. The closures represent 6.9 percent of the routes in the planning area. Current motorized users would be displaced to other State and public lands. Up to 14 miles of new routes would be established to mitigate losses from the closures and to achieve better route connectivity. The total distance of open routes would eventually reach 2,086 miles. The overall effect of route management under *Alternative B* would be to maintain the existing recreation settings and opportunities and avoid greatly changing or diminishing motorized recreation opportunities and public access throughout the Bradshaw-Harquahala Planning Area.

### ***Alternative C***

In Agua Fria National Monument, 123 miles of routes would remain open to vehicular travel. The route system developed under *Alternative C* would create loop trails for motorized touring and add new routes to bypass private property. About 6 miles of new routes would be developed and would affect motorized recreation opportunities and public access by maintaining route connectivity in the event of private land closures.

The impacts on opportunities for motorized recreation in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative*

*B*, but the model route system for *Alternative C* could close 382 miles of routes in the planning area, 1,889 miles of routes would remain open, and 382 miles of potential closures would be mitigated by up to 26 miles of new routes. The total distance of open routes would be 1,915 miles or 15 percent less than the existing routes and 9 percent less than in *Alternative B*.

The impacts on opportunities for motorized recreation in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*, but the total distance of open routes would be 1,915 miles or 15 percent less than the existing routes under *Alternative A* and 9 less than in *Alternative B*.

#### ***Alternative D***

In Agua Fria National Monument, 48 miles, of routes would remain open to vehicular travel. The route system under *Alternative D* was developed mainly for resource protection and would not add new routes. Opportunities for motorized recreation would be limited or foregone, as loop trails would not be developed. The route system would close 123 miles of existing routes and this action would displace or eliminate opportunities for motorized recreation and public access to some areas.

The impacts on opportunities for motorized recreation in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative C*, but the model route system for *Alternative D* could close 723 miles of routes in the planning area, 1,645 miles of routes would remain open, and 723 miles of potential closures would be mitigated by up to 62 miles of new routes.

Route closures would diminish or displace opportunities for traditional users, and route and area closures could result in the disconnection of multiple routes in the network. Some motorized use and public access would be foregone all together.

As a result of changing recreational settings in the Bradshaw/Harquahala area, the Hieroglyphic Mountains area could be gradually changed to

low dust generating recreation. This could make motorized recreation use routes further from the area to prevent dust in the PM<sub>10</sub> non-attainment area.

#### ***Alternative E (Proposed Alternative)***

The route network within the Agua Fria National Monument under the proposed *Alternative* would retain 94 miles of existing route. About 52 miles of route would be closed and another 25 miles would be limited to administrative access (closed to the public). Impacts to the travel network from the proposed recreation management would be similar to *Alternative*

Restriction to existing campsites would have a minimal effect on the use of designated route network since most campsites that would be allowed for use are within 100 feet of a designated route. Most of the regularly used campsites occur along main routes such as Bloody Basin Rd and Forest Road 14. The free permit requirement for dispersed tent camping would have no effect on the route network.

The restriction of motorized campers/ RV units in Backcountry areas would have little effect on access since camping would be restricted to existing sites already used by these type of vehicle. Backcountry areas that have passage zones would still allow camping within the passage zone. The zone is 200ft wide, 100ft either side of the route. Many routes in the passage zones are rough and would not appeal to those driving campers or RVs.

The impacts on opportunities for motorized recreation in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*, but the model route system for *Alternative E* could close 211 miles of routes in the planning area, 2,028 miles of routes would remain open, and 211 miles of potential closures would be mitigated by up to 39 miles of new routes. The total distance of open routes would be 2,067 miles

Developing connecting route networks and public access for hikers, bicycles, OHVs, and

equestrians would benefit recreational opportunities because all types of users could enjoy activities consistently, in more areas, and with fewer interruptions. Once completed, the Black Canyon Trail from the Carefree Highway to north of Highway 69 would become a major trail of regional significance for mountain bikers, equestrians, and hikers. Moreover, the trail would link the communities of the Black Canyon corridor and the north boundary of the Phoenix-Peoria metropolis.

Managing the North Black Canyon Trail RMZ would enhance the non-motorized recreation access by assuring long-term access to the trail as well as connections to public land to the south and Forest Service land to the north and east. If a parallel motorized route was implemented as described in the alternatives, the RMZ would not impact the motorized route network.

## 4.20.8 From Visual Resource Management

### *Alternative A (No Action)*

Visual resource management would have no effect on the current Travel Management network. New motorized and non-motorized routes would be developed on a case-by-case basis and could probably be developed across most of the Bradshaw-Harquahala planning area. VRM would have little effect on the AFNM, as the proclamation already significantly restricts development of new travel routes incompatible with monument objects.

### *Alternatives B, C, D and E (Proposed Alternative)*

Designation of VRM I and II classes across assorted landscape allocations and areas within the Bradshaw-Harquahala Planning Area could restrict or modify the construction of new travel routes or the realignment of existing travel routes if such routes were inconsistent with VRM management objectives. Management would be strict in designated wilderness with Class I VRM designation and with no motorized

travel routes authorized. Non-motorized trails would be easier to install than new roads due to their smaller scope and effect. Singletrack trails for motorized use would be similar to non-motorized trails due with comparative width and location on the landscape.

Some travel routes could be developed in ACECs with Class I and II VRM designations, but could be considerably restricted with recognized scenic values and landscapes. Installation of new travel routes within Class III and IV VRM class areas would usually be consistent with visual management objectives for these areas, and enable the development of reasonable levels of Travel Management to and through such areas.

## 4.20.9 From Rangeland Management

### *Alternatives A (No Action)*

In both AFNM and Bradshaw/Harquahala areas, travel management would be largely unaffected by rangeland management since routes open for grazing would be open for public use. The use of routes for historical sightseeing, such as viewing stock pens, stock tanks and other improvements, is likely to increase proportionate to regional population.

Installation of new rangeland developments might slightly increase motorized public access if the routes are made available for public use. On the other hand, the closure or abandonment of rangeland developments could eventually contribute to the loss of public access, as livestock facilities are removed and access routes reclaimed. Vandalism to livestock facilities from public land visitors could potentially lead to the closure of public access routes. Over the long term, closure of travel routes in order to avoid conflicts or protect facilities from vandalism could have the greatest influence on reducing public access. Only in specific cases where range facilities are at exceptional risk from vandalism will routes to them be closed to the public.

In AFNM, 54% of the routes (by mileage) serve range management purposes. In the Bradshaw-Harquahala planning area, the number is likely to be smaller due to a larger route network and more of the routes created for historic mining access.

In AFNM, Map 2-11 shows the routes that were inventoried and that would be open under Alt A.

### ***Alternative B***

Impacts in both areas would be similar to Alternative A. In AFNM, the transportation network is impacted by rangeland management since it is the main commercial use of the monument and 54% of the routes (by mileage) serve range management purposes. Regular use by the range permittees helps to keep the routes passable.

### ***Alternative C***

Impacts in both areas would be similar to Alternative A. Exclusion of grazing from riparian pastures would have little impact on the route system since the route system already avoids or has routes closed in riparian areas and riparian pastures generally have few range improvements.

### ***Alternative D***

In both the AFNM and Bradshaw/Harquahala areas, public access could be negatively affected by the decision to eliminate grazing since many routes that access range improvements may no longer be needed. Livestock grazing permittees use maintain many routes. Without grazing, this route maintenance would depend on agency funding and may be delayed or not occur. Accessibility would be reduced over time in many areas due to route deterioration.

### ***Alternative E (Proposed Alternative)***

In AFNM, routes to range facilities are restricted to administrative access in several areas. Some administrative routes may be used by range permittees although the limitation is for another

reason. Routes limited to administrative access are:

Bob's Tank (26B), Joe's Tank(26C), pipeline to well(31S), routes to well and water tank along the Agua Fria River(30, 35), gas pipeline segment(31Y,31Z), 31T(water pipeline) unnamed dirt tank(15B, 15C), unnamed steel tanks(8C), unnamed dirt tank(1H), inter-ranch access(1Z). Map 2-76 displays the administrative routes.

In AFNM, regular use of routes for range management keeps the routes passable. As in the other alternatives, about 54% of the routes serve ranching purposes.

In the Bradshaw-Harquahala planning area impacts would be similar to Alternative A.

## **4.20.10 From Minerals Management**

### ***Alternatives A (No Action) , B, C, D, and E (Proposed Alternative)***

Mineral management would have no impact on transportation or access on the AFNM because it is closed to mineral entry and existing claims are unlikely to be substantially developed.

In the Bradshaw/Harquahala area, new mineral sales, leases, NOIs or plans of operations may increase public access if routes are made available for public use. New mining routes could displace traditional trail users. Closure of mining could eventually contribute to the loss of public access when routes are reclaimed. Areas closed to various forms of mineral entry would preclude the need to develop mining related roads and access which would reduce potential access to new areas in the future.

Existing routes may be closed to public use if active mining operations pose a threat to public health or safety.

### 4.20.11 From Fire Management

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

Impacts from fire management and suppression operations to transportation and access on public lands within the Agua Fria National Monument and the Bradshaw-Harquahala Planning area would likely be minimal.

Fire management activities are conducted using designated routes whenever possible. Temporary closures may limit access during wildfire suppression and prescribed burning. Emergency vehicles are exempt from route designation restrictions by definition in 43 CFR8340.0-5. Some rehabilitation work may be necessary in burned areas to stop continued use of cross-country tracks created by firefighting activities. Some routes may be upgraded for emergency use during fire suppression and may require some level of reclamation to be returned to the desired level of access.

### 4.20.12 From Wild Horse and Burro Management

#### *Alternatives A (No Action), B, C, D and E (Proposed Alternative)*

Travel management would not be affected by management of wild burro populations or herd areas within the Bradshaw-Harquahala Planning area. There are no wild burro populations within the Agua Fria National Monument, consequently there are no effects.

### 4.20.13 From Management of Travel Management

#### *Alternative A (No Action)*

The Agua Fria National Monument is closed to cross-country motorized travel to protect monument resources; however, most existing routes would remain open. In areas where vehicles are used, opportunities would remain unchanged since existing routes would be designated as open.

In the Bradshaw-Harquahala Planning Area, nearly 100 percent of the 2,240 miles of vehicle routes would remain open. Existing types of motorized and vehicle-based travel opportunities would continue unchanged.

#### *Alternative B*

As in *Alternative A*, most routes would remain open to vehicular travel in Agua Fria National Monument.

The proposed route system, developed through an interdisciplinary evaluation process, would enhance opportunities for motorized users by creating loop trails, which provide for greater access. General access for motorized users would be improved by the development of about 5 miles of new routes needed to bypass private property and maintain route system connectivity. The proposed route system would close 37 miles of existing routes and could diminish access to some areas. Appendix V details the criteria, analysis and justifications used in the route evaluation and designation process for the monument.

Under the model route system (Appendix N) for the Bradshaw-Harquahala Planning Area, about 93 percent of existing routes would remain open. A total of 169 miles of routes within the planning area could be closed to (1) protect resources, (2) reduce redundancy, and (3) limit routes for administrative use. The closures represent 6.9 percent of the routes in the planning area. Current motorized users would

be displaced to other State and public lands. Up to 14 miles of new routes would be established to mitigate losses from the closures and to achieve better route connectivity. The total distance of open routes would eventually reach 2,086 miles.

### ***Alternative C***

In Agua Fria National Monument, 123 miles, or 69.7 percent, of routes would remain open to vehicular travel. The route system developed under *Alternative C* would create loop trails for motorized touring and add new routes to bypass private property. About 6 miles of new routes would be developed and would affect public access by maintaining route connectivity in the event of private land closures. Appendix V details the criteria, analysis and justifications used in the route evaluation and designation process for the monument.

The impacts on opportunities for motorized access in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*, but the model route system for *Alternative C* could close 382 miles of routes in the planning area, 1,889 miles of routes would remain open, and 382 miles of potential closures would be mitigated by up to 26 miles of new routes. The total distance of open routes would be 1,915 miles or 15 percent less than the existing routes and 9 percent less than in *Alternative B*.

### ***Alternative D***

In Agua Fria National Monument, 52 miles, or 41 percent, of routes would remain open to vehicular travel. The route system under *Alternative D* was developed mainly for resource protection and would not add new routes. The route system would close 94 miles of existing routes and this action would displace or eliminate opportunities for motorized public access to some areas. Appendix V details the criteria, analysis and justifications used in the route evaluation and designation process for the monument.

The impacts on access in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative C*, but the model route system for *Alternative D* could close 723 miles of routes in the planning area, 1,645 miles of routes would remain open, and 723 miles of potential closures would be mitigated by up to 62 miles of new routes.

Route closures would diminish or displace opportunities for traditional users, and route and area closures could result in the disconnection of multiple routes in the network. Some motorized use and public access would be foregone all together.

### ***Alternative E (Proposed Alternative)***

The route network within the Agua Fria National Monument under the proposed *Alternative E* would retain 94 miles of existing route. About 52 miles of route would be closed and another 25 miles limited to administrative access only (closed to the public). Appendix V details the criteria, analysis and justifications used in the route evaluation and designation process for the monument. Impacts to transportation and access from the proposed route network would be similar to *Alternative B*.

The impacts on opportunities for motorized access in the Bradshaw-Harquahala Planning Area would be similar to those under *Alternative B*. The model route system for *Alternative E* could close 211 miles of routes in the planning area, 2,028 miles of routes would remain open, and 211 miles of potential closures would be mitigated by up to 39 miles of new routes. The total distance of open routes would be 2,067 miles.

Developing connecting route networks and public access for hikers, bicycles, OHVs, and equestrians would improve access in more areas, and with fewer interruptions. Once completed, the Black Canyon Trail from the Carefree Highway to north of Highway 69 would become a major trail for mountain bikers, equestrians, and hikers. Moreover, the trail would link the communities of the Black Canyon corridor and

the north boundary of the Phoenix-Peoria metropolis. Conflict between motorized and non-motorized trail users could arise as the new Black Canyon Trail links are created. This would be avoided by the creation of a generally parallel route to the Black Canyon Trail for motorized vehicles. By providing a long distance route specifically for motorized and non-motorized use, the uses would generally be separated. There would no impact to either group if the motorized and non-motorized routes were separated.

## **4.20.14 From Management of Wilderness Characteristics**

### *Alternative A (No Action)*

In the AFNM and Bradshaw/Harquahala areas, there would be no impact from this resource since no areas are allocated for wilderness characteristics.

### *Alternative B*

In the AFNM, there are no areas to be managed for wilderness characteristics in *Alternative B*, therefore there is no impact.

In the Bradshaw/Harquahala area, the main impact would be potential long-term restrictions or limitations on building or authorizing new motorized OHV and public access routes within 87,070 acres of the Harquahala Management Unit.

Maintenance of wilderness character would be a consideration in the route evaluation and designation process.

As described in Appendix N, Motorized Route Model for the Bradshaw-Harquahala Planning Area, managing areas for Wilderness Characteristics would likely cause the alteration of the route network. Closing washes, pullouts and campsite routes is a likely action. Connecting routes in washes would likely be

closed, resulting in a loss of existing vehicle route network connectivity. Implementation level route designation would identify such routes after the completion of this plan.

### *Alternative C*

In the AFNM, there are no areas allocated for management of wilderness characteristics. There is no impact from this resource in AFNM.

In Bradshaw/Harquahala, about 107,843 acres are allocated under Alt C. The impacts would be similar to Alternative B, except that more areas would be affected throughout the planning area.

### *Alternative D*

In the AFNM, there are no areas proposed to be managed to maintain wilderness characteristics, therefore there is no impact to travel management.

In the AFNM, the route network would be indirectly impacted by allocation of 53 percent of the Monument (37,571 acres) for the management of wilderness characteristics. The 123 miles of vehicle route proposed for closure in Alternative D are closed for the protection of Monument Objects. New route construction for motorized use would be prohibited. Non-motorized routes are not prohibited, but construction would be avoided except when necessary to prevent resource damage. Routes in passage zones would be available for vehicle use along with vehicle based camping in the 200 ft wide passage zone. These travel routes are described in Chapter 2, Section 2.5.1.8 and depicted on Map 2-60.

In the Bradshaw/Harquahala area, 102,664 acres are allocated for management of wilderness characteristics. Cumulatively, this allocation along with the ACEC designations and WHA designations and existing designated wilderness areas, connectivity of the route system could be the most highly impacted under this alternative.

In the Black Canyon Corridor, the possibility of connecting north-south routes together, specifically the old alignment of Black Canyon Trail, for an OHV route system could be curtailed. Non-motorized routes would likely be expanded.

### ***Alternative E (Proposed Alternative)***

In the AFNM, 20,900 acres in the Perry Mesa area would be allocated. Route construction for motorized use would be prohibited. Non-motorized routes are not prohibited, but construction would be avoided except when necessary to prevent resource damage. Routes in passage zones would be available for vehicle use along with vehicle based camping in the 200 ft wide passage zone.

In the AFNM, the route network would be indirectly impacted by allocation of 29 percent of the Monument for management of wilderness characteristics. The 52 miles of vehicle route proposed for closure in *Alternative E* are closed for the protection of Monument Objects. Open and closed travel routes are described in Chapter 2, Section 2.6.1.9 and depicted on Map 2-76. In the Bradshaw/Harquahala area, 67,279 acres would be managed to maintain wilderness characteristics. The effects would be similar to those described in *Alternative B*.

## **4.21 Impacts on Wilderness Characteristics**

### **4.21.1 From Special Designations**

#### ***Alternative A (No Action)***

There would be minimal impacts on wilderness characteristics under this *Alternative* in the Agua Fria National Monument. Wilderness characteristics would probably be maintained over the long term for lands in the Agua Fria

River segments that are recommended suitable for WSR designation. The wilderness characteristics on 9,660 acres within the Larry Canyon and Perry Mesa ACECs would remain unchanged. In the remainder of the monument, few adverse impacts to wilderness character are anticipated. No identified short and long-term management actions are anticipated that would directly impact wilderness characteristics. Special Designations would have no effect on wilderness characteristics within the Bradshaw-Harquahala Planning Area.

#### ***Alternative B***

The absence of the Larry Canyon and Perry Mesa ACECs would little affect wilderness characteristics as both areas are protected within the Agua Fria National Monument. No identified short and long-term monument management actions that directly or indirectly impact wilderness characteristics are anticipated. Special Designations would have no effect on wilderness characteristics within the Bradshaw-Harquahala Planning Area.

#### ***Alternative C***

No areas would be specifically managed to maintain wilderness characteristics in the Agua Fria National Monument. Wilderness characteristics would probably be maintained over the long term for lands allocated as proposed Agua Fria River WSR suitable segments. Wilderness characteristics on 460 acres encompassed by the Larry Canyon, Indian Creek, and Lousy Canyon ACECs would be conserved. Elsewhere, no short and long-term monument management actions are anticipated that would directly or indirectly impact wilderness characteristics. Wilderness characteristics extant within the Black Butte Raptor and the Harquahala Mountain ACECs/ONAs would remain relatively unchanged from current circumstances. Other Special Management Designations would not affect identified wilderness characteristics.

*Alternative D*

No areas would be specifically managed to maintain wilderness characteristics in the Agua Fria National Monument. Wilderness characteristics would probably be maintained over the long term for lands allocated as proposed Agua Fria River WSR suitable segments. Wilderness characteristics within the 13,070 acre Agua Fria Riparian Corridor ACEC, an ACEC overlapping the proposed Agua Fria River suitable segments, would also be maintained over the long-term. Elsewhere, no short and long-term monument management actions are anticipated that would directly or indirectly impact wilderness characteristics. Wilderness characteristics within the Baldy Mountain ONA, the Belmont-Big Horn Mountains ACEC, the Black Butte Raptor ACEC, and the Harquahala Mountains ONA would remain relatively unchanged from current conditions and in all probability would be conserved over the long-term. Other Special Designations would not affect identified wilderness characteristics.

*Alternative E (Proposed Alternative)*

Wilderness characteristics would almost certainly be maintained over the long term for lands allocated as proposed suitable segments of the Agua Fria River WSR proposal. In other parts of the monument with identified wilderness character, no short and long-term management actions are anticipated that would directly or indirectly impact or impair wilderness characteristics. Within the Bradshaw-Harquahala Planning Area, wilderness characteristics within the 83,210 acres comprising the Black Butte Raptor and the Harquahala Mountains ACECs would remain relatively unchanged from current conditions and be conserved over the long-term. Other Special Designations would not affect identified wilderness characteristics.

## 4.21.2 From Lands and Realty Management

*Alternative A (No Action)*

Lands and Realty management actions would have no effect on wilderness characteristics under *Alternative A*. No areas are identified to specifically manage, maintain, wilderness characteristics.

*Alternative B*

Lands and Realty management actions could have a minor effect on wilderness characteristics within the Harquahala Mountain range under *Alternative B*. Under this Alternative 56,040 acres would be allocated to managing wilderness characteristics. Providing rights-of-way for access to State lands, utility lines, or communication sites might impact the natural conditions and solitude opportunities within the area. Overall, such impacts would be considered minor since new lands and realty actions must be consistent with VRM objectives and Desired Future Conditions. It is likely that some discretionary lands and realty actions, deemed incompatible with maintaining wilderness characteristics, would not be allowed. In view of that, disallowed lands and realty actions would have no effect on wilderness characteristics.

Development of utilities in areas that contain wilderness characteristics could potentially degrade the quality of those characteristics. In the short term, construction activities will create sights and sounds that are incompatible with remoteness, naturalness, and could limit primitive recreation opportunities associated with wilderness characteristics. In the long term, any residual motorized access would be in conflict with the same wilderness characteristics. In addition, surface disturbance that leaves long term visible evidence along with any visible above ground facilities would especially degrade the naturalness characteristic. Mitigation measures to minimize impacts to wilderness characteristics could include, but not be limited

to: avoidance of areas allocated to maintain wilderness characteristics; design construction so no, or a minimum of; motorized access would be needed for maintenance of equipment or facilities; use design techniques to eliminate, or at least minimize, visibility of equipment or facilities.

#### *Alternative C*

Impacts are the same as described under *Alternative B*, with the exception that seven areas totaling 107,843 acres are under consideration for managing wilderness characteristics.

#### *Alternative D*

Impacts are the same as described under *Alternative B*, with the exception that 18 landscape areas totaling 140,235 acres are to be allocated for managing wilderness characteristics.

#### *Alternative E (Proposed Alternative)*

Impacts on Wilderness Characteristics from Lands and Realty Actions are similar to those described under *Alternative B*, with the exception that 88,179 acres in the Bradshaw-Harquahala Planning Area and the Agua Fria National Monument are allocated for managing wilderness characteristics.

### **4.21.3 From Management of Soil, Air, and Water Resources**

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

Management actions undertaken to protect or conserve water and soil resources, or satisfy air quality standards, would, in turn, indirectly maintain wilderness characteristics and providing healthy open space areas near communities, offer a more natural-appearing landscape, and improve primitive recreation

experiences for visitors by reducing human intrusions.

### **4.21.4 From Biological Resource Management**

#### *Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

Habitat improvement actions could have a minor effect on areas encompassing wilderness characteristics. Installation of habitat improvements might impact naturalness and impair existing opportunities for solitude and primitive and unconfined recreation. Such outcomes, however, would be considered minor since new biological resource management actions would be consistent with VRM objectives and Desired Future Conditions for lands with wilderness characteristics.

### **4.21.5 From Cultural Resource Management**

#### *Alternative A (No Action)*

There are no impacts expected from current cultural resource management or related management actions.

#### *Alternatives B, C, D, and E (Proposed Alternative)*

Lands with wilderness characteristics could benefit from potential route closures prescribed to protect cultural sites, primarily sites located in or next to lands allocated to maintain wilderness characteristics. The lands with wilderness characteristics could benefit from reductions in motorized public access, by affording increased opportunities for solitude, and offering expanded non-motorized recreation settings, all direct consequences of route closures. Limiting group size to 25 visitors at some cultural sites could reduce overcrowding and maintain a more natural experience. Development of sites for public use would allow concentrations of users in certain areas, in most cases drawing visitors

away from zones with wilderness characteristics, which would be largely excluded from interpretive development. Limiting development in other areas would preserve the natural setting of places with wilderness characteristics.

#### **4.21.6 From Paleontological Resource Management**

##### ***Alternatives A (No Action), B, C, D, and E (Proposed Alternative)***

There are no impacts expected because no paleontological sites are known to exist in the planning areas.

#### **4.21.7 From Recreation Resource Management**

##### ***Alternative A (No Action)***

Increasing use and intensity of recreation next to lands allocated to maintain wilderness characteristics could result in a loss of some of those characteristics. This effect would be most pronounced on the fringes of areas with wilderness characteristics. The solitude and quality of primitive recreation experiences could decline for some users.

Additionally, potentially growing numbers of non-motorized users could impair solitude opportunities and contribute to trailing and campsite use impacts along the edge, as well as the interior, of these wilderness characteristics areas. No SRMAs or RMZs would be allocated. As a result, intensive recreation uses would not be directed to areas suitable or compatible for such use. Visitor use would be primarily self-directed and not allocated to appropriate use areas. Both intensive and disperse recreation uses could cause the impairment or loss of wilderness characteristics along the periphery of the wilderness character areas. It is likely that recreation settings would gradually shift over time to more motorized settings and opportunities.

Current management would result in SRPs being issued upon request in both planning areas. Permit requests are expected to grow as the population grows, which could lead to increased numbers of users and conflicts between them; further deteriorating opportunities to experience solitude and wilderness characteristics.

##### ***Alternative B***

Designating Front Country and Back Country RMZs within the Agua Fria National Monument could benefit wilderness characteristics through management of more intensive recreation uses. Opportunities for solitude would be maintained in the Back Country RMZ because visitor use numbers would in all probability be constrained.

The restriction of motorized access on lands allocated to maintain wilderness characteristics in the Bradshaw-Harquahala Planning Area could benefit non-motorized users by allowing them to recreate in a more natural setting. This would assure the availability of these areas for offering outstanding primitive recreational and solitude opportunities.

The reduction in lands available for competitive OHV events and competitive races could maintain high-quality opportunities to experience more natural settings over the long-term. Establishing criteria to manage larger group activities would help protect wilderness values, enhancing opportunities for solitude. Therefore, permits for commercial and vending operations would be prohibited. The number of SRPs would be limited, though this limitation would still allow for a significant increase over current conditions.

##### ***Alternative C***

Impacts would be similar to *Alternative B*, except that *Alternative C* proposes a larger Back Country RMZ within the Agua Fria National Monument, and fewer SRPs overall. These management actions would offer more solitude opportunities and maintain more wilderness characteristics for visitors seeking primitive and unconfined recreation.

***Alternative D***

Impacts would be similar to *Alternatives B* and *C*, except that *Alternative D* proposes more Back Country RMZ acreage within the Agua Fria National Monument, and fewer SRPs overall.

***Alternative E (Proposed Alternative)***

Impacts would be similar to *Alternative B*, although restrictions on SRPs would more closely resemble *Alternative C*.

## **4.21.8 From Visual Resource Management**

***Alternative A (No Action)***

*Alternative A* would maintain current conditions. Wilderness areas are Class I and all remaining areas are managed by designation or default as Class III. VRM Class III could allow visual intrusions that are inconsistent with public interests and eventually lead to some intrusions in to the visual landscape in or around lands allocated to maintain wilderness characteristics.

***Alternative B***

Management of lands allocated to maintain wilderness characteristics to VRM Class II would retain the current physical setting of 56,040 acres and enhance primitive recreational experiences. Improvements or developments in these areas would be required to meet design criteria to integrate the color, line, form, and texture of the facilities with the surrounding landscape. This would maintain the area with little to no visual impacts from proposed developments and maintain or enhance the landscape's natural appearance and open space values, while meeting other resource management objectives.

***Alternative C***

Impacts would be similar to *Alternative B*, except 107,843 acres of lands allocated to

maintain wilderness characteristics would be managed to VRM Class II.

***Alternative D***

Impacts would be similar to *Alternative B*, except 140,235 acres of lands allocated to maintain wilderness characteristics would be managed to VRM Class I, which would require more stringent design criteria.

***Alternative E (Proposed Alternative)***

Impacts would be similar to *Alternative B*, except that 88,179 acres of lands allocated to maintain wilderness characteristics would be managed to VRM Class II.

## **4.21.9 From Rangeland Management**

***Alternative A (No Action)***

Wilderness characteristics would not be greatly influenced by rangeland management operations practiced within the Bradshaw-Harquahala Planning area or the Agua Fria National Monument. Site specific water projects, fencing, or vegetation projects may impact small areas and associated local recreational users. Any proposed rangeland projects would, however, be developed and installed consistent with the Desired Future Conditions for the project area's biological conditions, recreation settings, and visual resources. Accordingly, potential visual resource impacts would be mitigated and consistent with the management of wilderness characteristics.

***Alternative B***

Impacts on Wilderness Characteristics from Rangeland Management actions would be similar to those presented under *Alternative A*.

*Alternative C*

Impacts on Wilderness Characteristics from Rangeland Management actions would be similar to those presented under *Alternative A*.

*Alternative D*

There would be no cattle grazing on public lands under *Alternative D*. Thus, there would be no potential impacts on wilderness characteristics accruing from rangeland management practices.

*Alternative E (Proposed Alternative)*

Impacts would be similar as those for *Alternative A*.

## 4.21.10 From Minerals Management

*Alternative A (No Action)*

Mining operations would have no impact on wilderness characteristics within the Agua Fria National Monument as mining is not allowed and the area is closed to mineral entry, mineral sales, and leasing. Wilderness characteristics could be impaired, decline, or be foregone within the Bradshaw-Harquahala Planning Area in areas not afforded protection of their wilderness characteristics. Over a period of 10 to 20 years, reasonable levels of mining, leasing and sale of mineral materials could adversely affect the wilderness characteristics of naturalness and opportunities for solitude and primitive and unconfined recreation experiences. Without specific management actions in place to maintain areas with wilderness characteristics, degradation of those characteristics could occur from mineral management actions. In more remote and non-mineralized areas, wilderness characteristics would probably remain unchanged over the life of the plan.

*Alternatives B and C*

Closing the allocation to maintain wilderness characteristics to mineral material disposal would reduce the potential area for ground disturbance and maintain primitive open space. Long-term impacts on scenery and landscapes would be kept away from areas with wilderness characteristic.

*Alternative D*

Lands allocated to maintain wilderness characteristics would be closed to mineral sales, geothermal leasing and mineral entry. There would be little to no impact on wilderness characteristics from future mineral exploration and development as such actions would probably not occur. Natural and primitive conditions would be maintained over the long-term.

*Alternative E (Proposed Alternative)*

Impacts are expected to be similar to *Alternative A*.

## 4.21.11 From Fire Management

*Alternatives A (No Action), B, C, D, and E (Proposed Alternative)*

No impacts on wilderness characteristics are likely from fire management and suppression operations on public lands within the Agua Fria National Monument and the Bradshaw-Harquahala Planning area.

## 4.21.12 From Wild Horse and Burro Management

*Alternatives A (No Action), B, C, D and E (Proposed Alternative)*

Wilderness characteristics would not be affected by management of wild burro

populations or herd areas within the Bradshaw-Harquahala Planning area. There are no wild burro populations within the Agua Fria National Monument, consequently there are no effects.

### **4.21.13 From Management of Travel Management**

#### *Alternative A (No Action)*

No areas are allocated for maintaining wilderness characteristics under this Alternative. No impacts on wilderness characteristics would be anticipated within the Agua Fria National Monument. Wilderness characteristics could be impaired, decline, or be foregone on up to 186,037 acres within the Bradshaw-Harquahala Planning Area. Over a period of 20 years, reasonable levels of road and route development, access rights-of-way and other developments requiring roads, along with a general expansion of motorized route systems, could adversely affect the wilderness characteristics of naturalness and opportunities for solitude and primitive and unconfined recreation experiences. In more remote areas, wilderness characteristics might remain unchanged over the life of the plan due to an absence or travel and transportation activities.

#### *Alternative B*

The impacts of existing or new travel and transportation activities on lands allocated to maintain wilderness characteristics would be minimal. Travel and transportation plans and affiliated roads, routes and trails would be compatible to the wilderness character allocation. Development of new non-motorized trails and routes could enhance primitive recreation activities. Wilderness characteristics could be impaired, decline or be foregone due to travel and transportation activities on lands not allocated to maintain wilderness characteristics, as described under *Alternative A*. These potentially adverse impacts on wilderness characteristics would be of a lesser scale than described under *Alternative A*.

#### *Alternative C*

Impacts are similar to those described under *Alternative B* for lands allocated and not allocated to maintain wilderness characteristics. Potentially adverse impacts on wilderness characteristics; however, would be of a lesser degree than described under *Alternatives A* or *B*.

#### *Alternative D*

Impacts are similar to those described under *Alternative B* for lands allocated and not allocated to maintain wilderness characteristics. Potentially adverse impacts on wilderness characteristics would be considerably less than described under *Alternatives A, B* or *C*.

#### *Alternative E (Proposed Alternative)*

Impacts are similar to those described under *Alternative C* for lands allocated and not allocated to maintain wilderness characteristics. The magnitude of impacts on wilderness characteristics would be comparable to the environmental effects described under *Alternative C*.

### **4.21.14 From Management of Wilderness Characteristics**

#### *Alternative A (No Action)*

No areas are specifically managed to maintain wilderness characteristics in the Agua Fria National Monument. However, primitive or semi-primitive non-motorized settings would likely be maintained due to the management guidelines set forth in the Monument Proclamation (Appendix A), by limiting development of new vehicle routes and roads, and by employing interim protective management prescriptions for suitable WSR segments along the Agua Fria River. For that reason, few adverse impacts to wilderness characteristics are anticipated. There are no short and long-term management actions in the

Agua Fria National Monument that would directly or indirectly impair wilderness characteristics on the 37,571 acres of the area possessing such values.

Wilderness characteristics could be unprotected, impaired, decline, or be foregone on up to 186,037 acres within the Bradshaw-Harquahala Planning Area. Over a period of 10 to 20 years, reasonable levels of resource use and development, and expansion of motorized route systems, could adversely affect the wilderness characteristics of naturalness and opportunities for solitude and primitive and unconfined recreation experiences. Without specific management actions in place to maintain areas with wilderness characteristics, degradation of those characteristics could occur from motorized vehicle activities, grazing developments, lands and realty actions, utility development and mining. In more remote areas, wilderness characteristics might remain unchanged over the life of the plan due to a lack of motorized access.

### ***Alternative B***

Impacts in the Agua Fria National Monument would be the same as under *Alternative A*. Wilderness characteristics would by and large be maintained and remain unimpaired in the monument's backcountry management zones.

In the Bradshaw-Harquahala Planning Area, wilderness characteristics would be maintained on 56,040 acres. Non-motorized and natural conditions free of human influences would be conserved. Existing opportunities for solitude and primitive and unconfined recreation experiences would be maintained. Overall, the allocation of wilderness characteristics would reduce the access of motorized users. On the other hand, non-motorized visitor uses would increase in these areas as hikers, campers, hunters and sightseers are attracted to protected and non-motorized locales. These non-motorized individuals would be able to recreate in a more natural and remote setting.

Wilderness characteristics would probably be maintained over the long-term for lands

allocated as proposed WSR suitable segments, ACECs and ONA ACECs. Wilderness characteristics would probably decline, be impaired or be foregone over the long term on lands allocated to less protective resource management. Wilderness characteristics could be unprotected, impaired, decline or be foregone on over 129,997 acres within the Bradshaw-Harquahala Planning Area in areas not afforded protection of their wilderness characteristics. Over a period of 10 to 20 years, reasonable levels of resource use and development, and expansion of motorized route systems, could adversely affect the wilderness characteristics of naturalness and opportunities for solitude and primitive and unconfined recreation experiences. Without specific management actions in place to maintain areas with wilderness characteristics, degradation of those characteristics could occur from motorized vehicle activities, grazing developments, lands and realty actions and mining. In more remote areas, wilderness characteristics would probably remain unchanged over the life of the plan due to a lack of access coupled with effective OHV route designations, increased OHV education and signing, and strict OHV law enforcement practices.

### ***Alternative C***

Impacts would be similar to *Alternative B*, except 107,843 acres of land would be managed to maintain wilderness characteristics. Non-motorized users would benefit more than under *Alternative B* as additional lands are allocated to maintaining wilderness characteristics. The loss of wilderness characteristics could be potentially less under *Alternative C* than other alternatives, but could still range up to 78,194 acres over the long term. Impacts on the lands not allocated for wilderness character management are fully described under *Alternatives A and B*.

### ***Alternative D***

Impacts would be similar to *Alternative C*, except 140,235 acres would be managed to maintain wilderness characteristics. This includes 102,664 acres in the Bradshaw-

Harquahala planning area and 37,571 acres in the Agua Fria National Monument. This Alternative would designate some of the areas described under *Alternatives B* and *C* as ONA ACECs. Wilderness characteristics would also be afforded long-term protection in those ONA ACECs through the application of protective prescriptions. Impacts on Special Area Designations are described in Section 4.21.1. Wilderness values could be unprotected, degraded or lost on 83,373 acres, as described under *Alternatives A* and *B*.

#### ***Alternative E (Proposed Alternative)***

Impacts would be similar to *Alternative B*, except 88,179 acres would be managed to maintain wilderness characteristics, including 20,900 acres in the Agua Fria National Monument. Non-motorized users would benefit more than under *Alternative B*, but less than under *Alternatives C* and *D*. Wilderness values could be unprotected, degraded or lost on about 118,758 acres as comprehensively described under *Alternatives A* and *B*.

## **4.22 Impacts on Social and Economic Conditions**

The management actions for the resources that are described for each of the Alternatives would result in both social and economic impacts to people and businesses in and next to the planning areas. In many instances social and economic effects considerably overlap. In general, the greatest effect would be economic, since in most cases the actions described for the Alternatives would not have major social effects in the planning area. The economic base profile completed for this analysis considers socio-economic impacts to be most critical in recreation, livestock grazing, minerals, and lands and corridors.

BLM has collaborated with the public and local communities in developing Alternatives and a

number of management actions have been incorporated into the Alternatives to address public concerns. For this reason, substantial adverse social or economic impacts are not expected.

### **4.22.1 Planning Area Growth and Development**

The analysis of social and economic impacts is partially based on land use modeling completed for BLM for the planning areas (Blueline Consulting Group 2004). The model uses one set of assumptions to determine which land would likely have residential growth between the years 2000 and 2025. While limited to one set of assumptions, four modeling analyses varied the vacant land base available to receive the growth according to the BLM's land disposition Alternatives. The detailed methodology, including assumptions, appears in Appendix M.

Growth in and next to the planning areas would continue to affect the resources on BLM's land. Much of the development is likely to occur on lands that the Arizona State Land Department (ASLD) might sell for private development. However, this analysis assumed (for purposes of this RMP) that no ASLD land in the planning areas would be developed. This assumption was made because the future legislative framework governing State land transactions is uncertain (including the potential for the exchange of land between the ASLD and the Federal Government).

According to Blueline Consulting Group GIS models, future development in 2005–2025 would occur on lands that are closer to BLM's lands, compared to the time period 1985–2005, when residential land was developed around and to the east of the Interstate 17 corridor. Both Maricopa and Yavapai Counties would experience continued rapid growth. A small portion of eastern La Paz County is included in the Bradshaw-Harquahala Planning Area, but that part of the county is relatively undeveloped

and is expected to experience limited growth through 2025.

In Maricopa County a large proportion of development in the Bradshaw-Harquahala Planning Area would occur on both sides of U.S. Route 60, north and east of the White Tank Mountains, extending to State Route 74 on the north. In Yavapai County, a large proportion of development would be along State Route 69.

Yavapai County would grow at a more rapid rate (70 percent) than Maricopa County (54 percent) during the planning period but would add fewer persons (140,000) than Maricopa County (1,954,000) through 2025. Although Yavapai County has a large amount of land available for development, development on BLM's land to be disposed of under the Alternatives would occur on the lands that are nearer to Yavapai County's current population centers (as described for the growth projection model prepared for this analysis).

Under *Alternatives A, B, and C*, BLM would dispose of large tracts of land, which would be available for development. Each of these tracts of BLM's land is next to large tracts of State land, which this analysis assumed would not be developed. Analysis of land disposal also assumed the following:

- the land would be disposed of within the life of the plan,
- the land would be developed mainly for residential use, and
- other uses such as commercial and light industrial development could also occur.

Population changes could result from increased or decreased economic activity and from changes in amenity values, including mining, ranching, and recreational opportunities, which might increase employment in the managed areas. The changes in population, if any, would have the most impact on the smaller unincorporated places in the planning area, such as Salome-Wenden, Dewey-Humboldt-Mayer, and Black Canyon City.

Potential effects from growth and development might be seen in the loss of ranching and the related western lifestyle.

Potential effects might occur in:

- the change in social leadership structure resulting from increases in urban values and
- reduced ranching resulting from changes in allowable grazing.

This effect could be viewed as both social and economic.

The most likely economic effects from management would result from the following:

- changes in recreation visitation levels in both planning areas,
- mining in the Bradshaw-Harquahala Planning Area, and
- ranching activities near communities.

### ***Alternative A (No Action)***

#### *Recreation-Related Impacts*

Recreation visitation levels are expected to increase from any action that enhances the quality of recreation experiences or creates more facilities or improved access. Increased visitation would be reflected in greater expenditures for goods and services in the local and regional economies. Greater expenditures, in turn, would tend to encourage added business activity and population growth. Growth in business would, in turn, stimulate construction.

The designation of the Agua Fria National Monument would most likely result in some increased visitor use to the monument and to surrounding areas, particularly given the monument's closeness to the Phoenix metropolitan area. This effect might also increase demand for use of BLM's land next to and near the monument as activities that might be less available in the monument place greater demands on surrounding BLM's lands.

In general, use of BLM's land in the planning areas for a variety of purposes would continue to increase as the population of Maricopa and Yavapai Counties, and Arizona as a whole, continues to increase. This analysis assumes that 70 percent of visitors to the planning areas would come from these counties and that this percentage would remain constant throughout the life of the plan. Additionally, visitation to the planning areas is expected to increase by the rate of the population growth in these counties, which is 55 percent by 2025 (Andreck and others 2002).

In addition to a continued overall increased interest in recreation, growth would also economically affect local communities. A continuation of current access and availability of trails for a variety of recreational purposes would yield continued economic benefit to the communities that provide services compatible with recreation. These services include eating and drinking places, OHV sales and repair businesses, horse boarding and tack businesses, campgrounds, and RV parks. These businesses are part of the services and trade industries, which in earnings and employment continue to be two of the dominant industries in the planning areas. Continued support of growth trends for these sectors of the economy would benefit communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and Cordes Junction.

OHV use is a significant form of recreation on BLM's lands, as discussed in Section 3.15.5. Access for these users would continue to impact the OHV industry, especially in Yavapai and Maricopa Counties. OHV recreation currently accounts for more than \$2 billion per year in economic impact in these counties. The Gross Metropolitan Product (GMP) of greater Phoenix ranked 15th in the country with GMP equal to \$140.8 billion, and growing about 9% annually (<http://www.gpec.org/infocenter>). A two billion dollar contribution by the total OHV industry represents 1.4% of this figure. Not all of this, of course, can be attributed to actual OHV use on public lands. The overall economic importance of OHV, which includes driving on back roads, sightseeing, hiking/walking, picnicking, and

camping indicated in a 2002 study, "The Economic Importance of Off-Highway Vehicle Recreation" by Jonathan Silberman, PhD, Arizona State University West;" that there was a total of 12,224,707 OHV user days in Arizona. In Maricopa County, there were over 2 million OHV days resulting in over 13,000 full and part-time jobs, OHV expenditures of \$1,358.1 million, salaries and wages of \$428.9 million and state tax revenues of \$78.5 million. In Yavapai County there were almost 1,200,000 OHV days resulting in over 2,000 full and part-time jobs, OHV expenditures of \$183.0 million, salaries and wages of \$43.9 million, and state tax revenues of \$9.2 million. In La Paz County there were 344,550 OHV days resulting in 459 full and part-time jobs, OHV expenditures of \$44.1 million, salaries and wages of \$8.3 million, and state tax revenues of \$1.9 million. BLM in conjunction with other land jurisdictions contributes greatly to these statistics, but there have not been any studies on economic impacts resulting from single OHV type events, in particular race event that include from 75 to 200 participants, where most participants travel from distant locations, camp on site, and bring most of their supplies (food, vehicle parts, etc.) with them.

OHV use has a substantial economic impact in Arizona due to the large numbers of users and OHVs. On the other hand, sanctioned motorized competitive events on public lands can not be construed to be a large part of this equation due to the small number of citizens involved with these activities, relative to the large number of casual users. Assuredly, there are beneficial economic impacts from the purchase of supplies, fuel, food, and lodging in nearby communities by event participants, but this can not be quantified to any measurable degree with current information. One figure used recently is \$125 spending per participant or spectator per day, for an average of 200 to 500 participants per event. This benefit, however, is smaller in the field or the communities as many participants are self-contained and there are no towns or communities near by where events are conducted. The economic benefits would probably be greater and be more noticeable in smaller communities like Black Canyon City,

Tonopah or Wickenburg as opposed to large cities within the Phoenix metropolitan area.

Continued use of BLM's lands by equestrian users would also benefit local economies that cater to this group, as discussed in Section 3.15.5. For example, the impact from the horse industry on the broader Wickenburg area economy is about \$14 million (Beattie and others 2001).

In the long term, as recreation continues to increase through a variety of uses in the planning areas, resource conditions could deteriorate to some extent. As a result, the need for management of the area to monitor and protect the resources would increase.

#### *Ranching, Agriculture, and Livestock Production-Related Impacts*

Farming and ranching have historically been significant contributors to the Arizona economy. In recent years, extensive increases in population and urbanization in and near the planning areas have resulted in loss of agricultural land and increased conflicts with farm and ranch operations.

Livestock production resulting from grazing leases on BLM's land is an economic contributor to the local economy in the planning areas. The planning areas have 106 allotments with 932,950 acres of BLM's land that would continue to be open to grazing under current management. About 8,100 cattle, 2,470 sheep, 75 goats, and 87 horses are now grazing on BLM's allotments.

Changes in allowable grazing could affect ranchers in the planning areas. The magnitude of this effect is related to the economic viability and scale of existing ranches. An in-depth study of local ranching economics was not a part of the planning process. Because census data aggregates employment data for ranching with that for all agriculture, forestry, and fisheries, effects to this sector cannot be analyzed using employment data.

However, factors such as livestock production on BLM's land can be evaluated. The following impacts were based on this evaluation.

Prohibiting grazing in the Larry Canyon ACEC (which is currently inaccessible to cattle) in Agua Fria National Monument has minimal impact on livestock production. The number of livestock in the remainder of the planning areas would remain unchanged. Therefore, under current management the economic impacts of livestock production would not change.

#### *Minerals-Related Impacts*

A "RFD scenario," as required by BLM's Instruction Memorandum 2004-089, has been prepared to describe potential mineral resource development. This scenario forecasts the type of mineral development that might reasonably occur under No Action. It also provides a means of evaluating the impacts of management actions under the other Alternatives.

Actions that increase mining would tend to stimulate the local and regional economies through (1) increased employment and (2) increased demand for goods and services for the mine itself. The duration of this effect would depend upon the size of the mineral deposits and market demand for the products. Conversely, actions that either eliminate or discourage mining; or preclude new mining would tend to decrease, or at least not increase local and regional activity.

Agua Fria National Monument is closed to all forms of mineral entry. Minerals development in the Bradshaw-Harquahala Planning Area involves mainly saleable materials.

#### Locatable Minerals

In this Alternative, the Bradshaw-Harquahala Planning Area would generally be left open to mineral location and development. BLM would continue to administer mining of locatable minerals on a case-by-case basis. Unless otherwise allocated, scattered lands and other Federal minerals outside the planning area are open to mineral location and development.

Should prices of locatable minerals reach a level that makes it feasible to begin exploration or reopen mines in this area, there would be a positive economic impact in mining employment and earnings. The extent of that impact would not be known until the scope of the activity is determined in the future.

A social element has emerged in the last few years associated with the recreational aspects of prospecting for gold. Numerous prospecting clubs have formed with thousands of members dedicated to weekend casual exploration for gold. These clubs hold many mining claims within the planning area and have regular club events dedicated to finding nuggets of gold and having fun. Though the contribution to local economies from these clubs and events are relatively small, businesses have begun to cater to their needs and support their social structures. Continuation of motorized access in this Alternative would allow continued use by these groups, and the possibility of expansion to new areas.

#### Saleable Minerals

Continued public sales of mineral materials in the Bradshaw-Harquahala Planning Area on a case-by-case basis would have some economic impact. Unless otherwise allocated, scattered lands and other Federal minerals outside the planning area are open to mineral material disposal on a case-by-case basis, with determinations based on consistency with BLM's management policies and objectives.

Generally, BLM sells saleable minerals at market prices. BLM would continue to issue free use permits to the State and to local communities as the need arises. The result would be the continued availability of materials that are in demand for construction throughout Arizona, and particularly in the Phoenix metropolitan area.

Private sales for landscape or decorative rock are expected from within the Bradshaw-Harquahala Planning Area. Sources of comparable sand and gravel are also available on private land

throughout the planning area. Many of the private land sources are closer to markets than the BLM's sources. Therefore, the impact of mineral material sales is expected to be slight. The No-Action Alternative would not affect saleable mineral extraction and the use of these commodities.

#### Leasable Minerals

There are no known viable sources of leasable minerals in the Bradshaw-Harquahala Planning Area; however, all land in the area is now open to mineral leasing, except surface occupancy for oil/gas development is prohibited under current management in riparian areas of the Bumble Bee and Williams Mesa MRMA's, and the Hassayampa River RMA. This analysis assumes that over the 20-year term of the RMP up to two holes would be drilled for producing commercial amounts of gas and oil. Since the planning area has limited identified opportunities for mineral leasing, no measurable economic impacts are expected to result from exploration or development of leasable minerals except for potential areas that might be explored north of the planning area but within the Phoenix District's boundary.

Should exploration or development of leasable resources be pursued, the economic impact of the production of new wells for oil and gas would be determined once the scale of the operation could be more specifically established. Special stipulations would be incorporated into the lease agreement after the results of site-specific environmental assessments for each action are known. Economic benefits would be seen from the production of new wells, which could potentially result in jobs and revenue for the area in which the wells are drilled.

#### *Lands and Corridors-Related Impacts*

Under current management nearly 54,370 acres would be available for disposal.

Until a disposal or exchange occurs, social or economic impacts of the action cannot be easily

determined. Generally, increased development on the lands proposed for development would affect the rural lifestyle that many in the area moved there to enjoy. Increased traffic, the need for more public services such as roads and additional utilities, and a loss of rural lifestyle would likely result. Areas that typically have large lots and open spaces would likely be developed at higher densities. Potential increased development would provide added economic opportunities, including an increased tax base for the community and employment from new businesses. However, the disposition of BLM's land would not be a significant growth-inducing action since much of the planning area is growing rapidly and would continue to grow, independent of any BLM's land disposal actions in the future.

Based on the modeling conducted by Blueline Consulting Group, any land proposed for disposal along the Interstate 17 corridor in both Maricopa and Yavapai Counties would likely be developed into residential neighborhoods during the life of the plan. The residential development would lie next to or within 10 miles of Agua Fria National Monument and/or the management units along the interstate corridor. The areas that would be most affected by the land disposal and potential growth are the Dewey-Humboldt-Mayer area and the area south of Agua Fria National Monument near Black Canyon City.

Residents of these two areas are likely to intensively and frequently use nearby BLM's lands. For example, the demand for resources such as decorative rock would come from such areas and resources available near the Interstate 17 corridor are more likely to be used. However, until a known parcel is proposed for disposal or exchange, it is difficult to determine the specific social or economic impact of the action and possible subsequent development.

Continued growth and development, along with opportunities for locating future infrastructure needed for this development, would be supported by retaining the multi-use utility and transportation corridor that includes the

Interstate 17 right-of-way and other utility lines. The corridor also includes the eight multiple-use corridors along existing rights-of-way designated in the *Lower Gila North Management Framework Plan* (BLM 1983).

Opportunities to provide ample corridors would support the region's increased growth. The availability of corridors would present the opportunity for construction jobs should transmission lines, pipelines, or other facilities be built in the corridors. These jobs might benefit smaller communities close to the proposed corridors. Utility projects that would be developed within a utility corridor could have a profound effect on the economic sustainability of a region. Large energy transmission projects are extremely important in maintaining regional residential and commercial growth and development.

Development of utility projects are often controversial in nearby communities for reasons of visibility of the utility facilities and potential safety issues both during construction and long term operations. Mitigations for these impacts are developed as a consequence of site specific project analysis and could include, but not be limited to; siting to minimize visibility from communities; siting to minimize access to facilities from communities; design features to minimize visibility of the facilities similar to those described under impacts to visual resources.

### ***Alternative B***

#### *Recreation-Related Impacts*

*Alternative B* would offer and encourage developed and primitive recreation in both planning areas. Protecting biological and cultural resources would enhance the quality of the recreation experience and increase visitation. Increased access to cultural resource areas and developing of interpretive media would also increase public interest and visitation. More active management of visitation is intended to enhance the quality of the recreation experience and; therefore, is

expected to increase visitation. Trail building and developing facilities for horses and pack animals are expected to increase demand. *Alternative B* would meet the needs of both motorized and non-motorized recreation and would tend to increase overall recreation demand more than the other Alternatives.

Route modeling for *Alternative B* found that this Alternative would designate 2,086 miles of routes. As under *Alternative A*, a continuation of current access and availability of trails for a variety of recreational purposes would economically benefit businesses that provide services compatible with recreation and support the services and trade industries of the economy.

*Alternative B* proposes eight SCRMA and nine SRMA which would increase visitor use in the planning area where they are allocated and developed for public use. This would further benefit businesses that serve visitors.

*Alternative B* proposes one area where lands are allocated to maintain wilderness characteristics and one WHA. These areas are designed to protect the area's primitive nature and allow for more non-motorized types of recreation on a more limited basis, than more active types of uses allowed under SRMA. Nonetheless, these areas are open to recreation use and would attract visitors to the area, again benefiting economic sectors that support recreation.

Communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and Cordes Junction provide local services to recreationists and would continue to benefit under *Alternative B*.

*Alternative B* proposes Bloody Basin Road, in Agua Fria National Monument and Constellation Mine Road near Wickenburg as Back Country byways. These designations would have an effect on recreation and visitor uses similar to the designation of Agua Fria National Monument; identifying them as "special" and attracting a certain population for that reason.

Long term impacts of recreation use would be the same as those listed under *Alternative A*. The social and economic impacts of OHV would remain as described under *Alternative A*.

#### *Ranching, Agriculture, and Livestock Production-Related Impacts*

The number of allotments and livestock grazing on BLM's land under *Alternative B* would be the same as under *Alternative A*. Since grazing in riparian areas would be limited to winter (November 1 to March 1), grazing would likely decline but socio-economic impacts would not measurably differ from current management. Impacts from allocating eight SCRMA cannot be determined until the areas are defined and specific actions are selected. Should areas be restricted from grazing or fenced for protection, livestock production may decrease.

#### *Minerals-Related Impacts*

Management actions under *Alternative B* would be more encouraging to mineral exploration and mining than *Alternatives C, D, or E* for the Bradshaw-Harquahala Planning Area. Thus, *Alternative B* would tend to generate more mining and greater stimulate local and regional economies than would the other action Alternatives, assuming that mining does not conflict with recreational opportunities or visitation demand.

In the Bradshaw-Harquahala Planning Area, VRM standards would be established, with potential ramifications to mining. The increased cost of compliance with VRM standards might move the impacts from public lands to nearby State or private lands. Overall, the impact to local economies would be low and mining would be expected to remain at current levels.

The evaluation of proposed mining would consider mining's effect on biological and cultural resources. This Alternative is not expected to degrade the quality of the visitor's experience, to impact casual use miners, or prospecting club activities.

### Locatable Minerals

Impacts would be similar to *Alternative A*, except the 640 acre Tule Creek ACEC would be closed to mineral location and development. As under *Alternative A*, an increase in prices of locatable minerals would possibly make it feasible to begin exploration or to reopen mines in the planning area, economically benefiting mining employment and earnings. The extent of that impact would not be known until the scope of the activity is determined. These activities would most likely occur in the northern part of the planning area, affecting communities such as Wickenburg, Yarnell, and Black Canyon City.

The greatest impact to mining would potentially come from VRM. For locatable minerals, allowing mining is a nondiscretionary action outside of areas closed to mining. However, compliance with VRM standards would be imposed through rehabilitation standards. Higher costs of mine closure might be borne by mining companies, and in some cases the portion of bonds returned might be lower. Labor and material cost of increased rehabilitation could extend the economic benefits of mining to local communities if the labor and materials are purchased there.

### Saleable Minerals

Impacts would be similar to *Alternative A*, except *Alternative B* would close to mineral material disposal Tule Creek ACEC and one area allocated to maintain wilderness characteristics in the Bradshaw-Harquahala Planning Area. This would somewhat limit the potential sites for mining saleable minerals. However, since locations for this mining are unknown, the potential economic impact is also unknown but it is expected to be negligible.

### Leasable Minerals

Impacts would be similar to *Alternative A*, except Tule Creek ACEC would be closed to mineral leasing. This would have a negligible impact since the planning area has limited identified opportunities for mineral leasing.

### *Lands and Corridors-Related Impacts*

Impacts and assumptions of analysis would be similar to *Alternative A*, except that 58,400 acres would open to disposal. The 58,400 acres are scattered throughout the planning area and would mainly affect the communities of Dewey, Humboldt, Mayer, and Goodyear for future potential development.

Impacts of utility and transportation corridors would also be similar to *Alternative A*.

### *Alternative C*

#### *Recreation-Related Impacts*

*Alternative C* would favor primitive over developed recreation in Agua Fria National Monument, where visitor access would be more limited than under *Alternatives A* or *B*. The number of commercial and guide/outfitter permits in the monument would possibly be half of those issued under *Alternative B*. Public access to cultural resources would also be more limited than under *Alternatives A* or *B*.

Public access in the Bradshaw-Harquahala Planning Area would be more restrictive than would the *Alternatives A* or *B*, and so would tend to reduce visitation and visitor spending. Biological and cultural resources would be better protected than under *Alternatives A* and *B*, thus somewhat raising the quality of the recreation experience. However, limiting visitor access would reduce the number of people able to enjoy the experience.

The number of SRMAs--which allow more active recreation--would increase visitor use and would benefit businesses that serve visitors. The planning area would be better protected for non-motorized uses by the following actions:

- reducing SCRMAAs to four,
- increasing lands allocated to maintain wilderness characteristics, and
- applying restrictions that would result from designating 11 ACECs.

Overall the restrictions would reduce visitor use in the planning areas and economic benefits of recreation and visitation would be lower than under *Alternatives A* or *B*, but greater than under *Alternative D*.

*Alternative C* would designate 1,915 miles of routes. Access and availability of trails for a variety of recreational purposes would result in continued economic benefits to the communities that provide services compatible with recreation. Communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and Cordes Junction provide local services to recreationists and would continue to benefit.

Impacts of proposing Bloody Basin Road in Agua Fria National Monument and Constellation Mine Road near Wickenburg as Back Country byways would be similar to those described for *Alternative B*.

Long term impacts of recreation use would be the same as *Alternative A*. Even though recreation use, especially motorized, would be more restricted in some of the planning area under *Alternative C*, the popularity and growth curve of this recreation activity, and its associated local and regional economic impacts from the purchase, sale, servicing and fueling of off-highway equipment, would remain essentially as described under *Alternative A*. Users would have slightly fewer routes and areas in which to ride and reduced opportunities for different landscape-based experiences. Additionally, motorized recreation activities would be more concentrated and intense as users shift to available locales.

#### *Ranching, Agriculture, and Livestock Production-Related Impacts*

*Alternative C* would prohibit grazing in riparian areas, reducing the number of allotments to 43, and allowing for more than 4,300 cattle to continue grazing on BLM's land. This would affect local areas and ranchers whose grazing allotments would be eliminated or reduced to the point that their businesses would no longer be

viable. The difference between the impacts of *Alternatives A* and *C* on the regional economy would be minimal.

#### *Minerals-Related Impacts*

Mining would still be open in most areas but with substantial restrictions in lands allocated to maintain wilderness characteristics and ACECs. Impacts from this management action would be similar to *Alternative A*. Impacts would be less than *Alternative B* and greater than *Alternative D*.

#### Locatable Minerals

Impacts would be similar to *Alternative A* except for the closure to mineral location and development in three ACECs and riparian areas. As a result, there could be some economic limitations should suitable areas for mining be found where mining is prohibited.

Casual use miners and prospecting clubs could continue conducting their activities; however, route closures or limitations could make it more difficult, or potentially more expensive, if clubs are required to be responsible for maintaining access to their claims. Road work and reclamation bonds may be required.

Impacts from VRM would increase compared to those under *Alternative B*, but be less than impacts under *Alternative D*.

#### Saleable Minerals

Impacts would be similar to *Alternative A*, except ACECs and lands allocated to maintain wilderness characteristics in the Bradshaw-Harquahala Planning Area would be closed to mineral material disposal. As in *Alternative B*, this would somewhat limit the availability of potential sites for mining saleable minerals. Since locations for this mining are unknown, the potential economic impact is also unknown but expected to be negligible.

#### Leasable Minerals

Impacts would be similar to *Alternative A*, except mineral leasing would be prohibited in four ACECs in the Bradshaw-Harquahala Planning Area and on scattered lands outside the planning area. Since the planning area has a low potential for leasable mineral production, no measurable economic impacts are expected.

#### *Lands and Corridors-Related Impacts*

*Alternative C* considers two options for land disposal:

Under Option One, a total of 600 acres of land would be available for disposal. This analysis assumed that these acres would be developed for residential use within the life of the plan. Since there is limited disposal or exchange under Option One, the impacts would be similar to those under *Alternative D* for land disposal.

Under Option Two, a total of 49,100 acres would be disposed of or exchanged. The lands are scattered throughout the planning area, mainly in the unincorporated areas of Yavapai and Maricopa Counties. A number of acres are located in the Yarnell area, which would provide a potential opportunity for low-density residential use if the lands were acquired for private purposes. Impacts would be similar to *Alternative A*.

Impacts of retaining the multi-use utility and transportation corridor that includes the Interstate 17 right-of-way would be similar to *Alternative A*, except that the corridor would be narrowed to move it out of Agua Fria National Monument. The opportunities provided by the corridors would continue to support increased growth in the region.

#### *Alternative D*

##### *Recreation-Related Impacts*

*Alternative D* is intended to put more emphasis on non-motorized recreation than the other Alternatives, by devoting the greatest area to non-motorized recreation and closing the most area to vehicular access. This

*Alternative D* would place stricter limitations on public access to cultural resources than any other. No motorized competitive races would be authorized. Visitation and OHV uses would decline in the planning area, resulting in somewhat lower visitor spending in the local and regional economies.

To the degree that this loss is not offset by an increase in non-motorized use, visitation for recreation would be lower than under the other Alternatives. The economic stimulus to the local and regional economies would also be lower. To the degree that the decline is offset by increased non-motorized recreation, the difference between the impacts of *Alternative D* and the other Alternatives would not be so great.

*Alternative D* would designate 1,707 miles of routes in the planning areas, the fewest miles under any of the Alternatives. Access to BLM's lands would continue to exist, and trails could be used for a variety of recreational purposes. However, trails would be more limited than under the other Alternatives. *Alternative D* could result in fewer economic benefits to the communities which provide services compatible with recreation.

The reduced number of SRMAs, which allow more active recreation, would affect visitor use and have a smaller impact on businesses that serve recreationists. *Alternative D* would create more protection for other non-motorized recreation uses in the planning area through the following actions:

- reducing the number of SCRMA's to two,
- increasing the number of areas allocated to maintain wilderness characteristics to six, and
- restricting access by designating eight ACECs.

Overall, these measures would reduce visitor use in the planning area.

Communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and

Cordes Junction provide local services to recreationists and would continue to benefit. However, benefits could possibly be less than under *Alternative C*.

Overall, economic impacts from recreation would be slightly lower than *Alternative C*, with moderate reductions in economic contributions from motorized recreation, in the form of reduced services, equipment sales and fuel needs. Like the OHV dealers say: “no trails, no sales”. Recreation use, especially motorized, would be more restricted or eliminated in much of the planning area under *Alternative D*. The lack of areas and trails could diminish the popularity and, until now, the endless growth curve of motorized recreation activities, along with its associated local and regional economic effects. Users would have far fewer routes and areas in which to ride and reduced opportunities for different landscape-based experiences. Motorized recreation activity areas would be more concentrated and intense as users shift to available locales

#### *Ranching, Agriculture, and Livestock Production-Related Impacts*

*Alternative D* would make BLM-managed lands unavailable for livestock grazing. This prohibition would significantly affect holders of grazing leases and local economies, reducing livestock production in the State. In 2002 a total of 36,000 head of cattle were raised in Maricopa and Yavapai Counties. A reduction of 8,000 head would reduce livestock production in the two counties by 20 percent.

#### *Minerals-Related Impacts*

*Alternative D*, with its emphasis on natural landscapes and primitive recreation opportunities, would be the most restrictive to mining. Both exploration and development would be strictly limited. This Alternative would tend to more or less eliminate mining via attrition over the duration of the plan. It would also reduce mining-related additions to the local and regional economies. No one knows whether this effect on local and regional economies

would be offset by additions caused by visitation.

#### Locatable Minerals

Impacts would be similar to *Alternative C*, except that the areas closed to mineral location and development would be the greatest under this Alternative. As a result, economic opportunity would be limited to a greater extent than under other Alternatives, especially if suitable sites were identified for areas where no mining would be allowed.

Impacts from VRM would increase under this Alternative as compared with *Alternative B* because more acreage would be classified as VRM I and II.

#### Saleable Minerals

Impacts would be similar to *Alternative C*, except the closure to mineral material disposal of a number of ACECs and lands allocated to maintain wilderness characteristics would limit the availability of potential sites for mining saleable minerals more than any of the other Alternatives. However, locations for this mining are unknown, so the potential economic impact is also unknown. It is estimated that short term demand would continue to be met with production on both Federal and non-Federal lands. As the population continues to grow and demand increases, future demand may not be met and increased costs of importing building material would result in increased building costs in all parts of the economy.

#### Leasable Minerals

Impacts would be similar to *Alternative A*, except mineral leasing would be prohibited in a number of ACECs and lands allocated to maintain wilderness characteristics. Since the planning area has a low potential for leasable mineral production, measurable economic impacts are not expected.

#### *Lands and Corridors-Related Impacts*

Under *Alternative D*, no BLM land would be available for disposal. As stated previously, the disposition of BLM's land would not be a significant growth-inducing action, and so *Alternative D* would have no measurable impacts.

The unavailability of land as a result of no disposal does present a potentially positive social impact on the planning area, in that it would contribute to preserving the current rural lifestyle throughout much of the planning area.

The proposed reduction in the level of corridors under *Alternative D* would support continued economic development and growth in the region. *Alternative D* would somewhat constrain the citing of potential utilities in the corridors in the future, but their allocated corridors should be sufficient to meet local demand.

### ***Alternative E (Proposed Alternative)***

#### *Recreation-Related Impacts*

*Alternative E* would favor primitive recreation opportunities over developed opportunities in the Agua Fria National Monument. Visitor access would be more limited than under *Alternatives A, B, or C*. However, visitor services and opportunities for structured or developed recreation would be greater than under *Alternative D*. The RMP would not set the number of commercial permits and guide/outfitter permits in the monument. This number would be determined by monitoring resource conditions. Users could thus determine the limits for SRPs because resource conditions depend on social behaviors. If visitors use existing disturbances and take care not to expand them or degrade the quality of the surroundings, the capacity to support SRPs of many kinds would be higher than if visitors are inconsiderate of the land.

Public access to cultural resources in the Agua Fria National Monument area would also be more limited than under *Alternatives A, B, and C* because more routes would be

closed; nevertheless, more routes would be designated as open than under *Alternative D*. Visitation is expected to shift from people desiring a motorized experience to people desiring a non-motorized experience. This shift is expected to reduce total visitation to the monument and result in somewhat lower visitation-related spending in the local and regional economies.

Public access would be restricted in the Bradshaw-Harquahala Planning Area more than *Alternative B*, but less than *Alternatives C and D*. Visitation and visitor spending are likely to be lower for this *Alternative* than for *Alternatives A and B*, but higher than for *Alternatives C and D*. The effect of this restriction would be most pronounced in the Harquahala MU, where most ACECs and lands allocated to maintain wilderness characteristics are located, although this MU now receives relatively low visitation.

Vehicle routes that would be designated as open are expected to accommodate use at current levels. Increased opportunities for non-motorized experiences in natural primitive landscapes might increase overall visitation, but the types of new users attracted to the area are not expected to greatly increase visitor spending in the local and regional economies.

In the Bradshaw-Harquahala Planning Area outside of the Harquahala MU, *Alternative E* would be similar to *Alternative C*. Allocating SRMAs to develop facilities and manage more intensive recreation, especially for motorized uses, would somewhat concentrate those activities. The improved facilities could attract more users to areas managed for more intensive recreation but might also cause people looking for a less-structured location to move to new areas. Overall, use is expected to increase where motorized users are managed and access is maintained. User satisfaction would also improve, along with opportunities for citizen stewardship. The Black Canyon, Castle Hot Springs, and Hassayampa MUs would experience most of the change resulting from these management actions. Overall, the

economic benefits of recreation under *Alternative E* are expected to be lower than under *Alternatives A, B, and C*, but greater than under *Alternative D*.

Route modeling for the Proposed Alternative indicates 2,067 miles of route might be designated. The route network is expected to be similar to that modeled under *Alternative B*. A continuation of current access and availability of trails for a variety of recreational purposes would result in continued economic benefits to the communities that provide services compatible with recreation.

Under *Alternative E* six SCRMA's would contain sites allocated to public use, which would have impacts similar to *Alternative B*. The increase in areas allocated to maintain wilderness characteristics and the restrictions that would result from designating four ACECs would better protect the planning area for other non-motorized uses. These restrictions might reduce, or at least cap at current levels, visitor use in the vicinity of the allocations and designations.

Communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and Cordes Junction provide local services to recreationists and would continue to benefit from recreation under *Alternative E*.

The Bloody Basin Road in Agua Fria National Monument and Constellation Mine Road near Wickenburg would not be considered for allocation as back Country byways thus impacts would be similar to those under *Alternative A*.

OHV would continue to be a significant form of recreation on BLM's lands, as discussed in Section 3.15.5, with similar impacts to those described in *Alternatives A and B*. Access for these users would continue to impact the OHV industry, especially in Yavapai and Maricopa Counties. OHV recreation currently accounts for more than \$2 billion per year in economic impact in these counties

In the long term, as recreation continues to increase through a variety of uses in the planning area, resource conditions would deteriorate somewhat. Through the mix of (1) allocations to protect primitive landscapes and (2) development to manage and support motorized and other more intensive recreation, resource conditions are expected to be maintained at current levels and to be sustainable throughout the life of the plans.

#### *Ranching, Agriculture, and Livestock Production-Related Impacts*

Impacts would be similar to *Alternative B*, except six SCRMA's would be allocated, which might result in areas being fenced for protection. The number of allotments and livestock grazing on BLM's land would be the same as under *Alternative A*. Since grazing in riparian areas would be limited to winter (November 1 to March 1), livestock production would likely decline but would not measurably differ from current management. Effects are expected to be negligible.

#### *Minerals-Related Impacts*

Management actions under *Alternative E* would be similar to those described for *Alternative A*, except that in the Bradshaw-Harquahala Planning Area the establishment of VRM standards would have impacts similar to those described for *Alternative B*. Overall, the impact to local economies would be low.

Impacts to casual miners and prospecting clubs are expected to be similar to *Alternative B*.

#### Locatable Minerals

Impacts would be similar to *Alternative B*, except that riparian areas in reconveyed lands, mainly in the Black Canyon area between Black Canyon City and Bumblebee, would be closed to mineral location and development along with Tule Creek ACEC.

Impacts to mining from VRM would be similar to *Alternative B*, except that more acres (1,450)

would be allocated to VRM Class II and Class IV (4,730), and less acres (6,180) would be allocated to VRM Class III.

Impacts to casual miners and prospecting clubs are expected to be the same as for *Alternative B*.

#### Saleable Minerals

Impacts would be similar to *Alternative A*, except Tule Creek ACEC and riparian areas in the planning area would be closed to mineral material disposal, limiting slightly the potential sites for mining of saleable minerals. Data on the potential for this material show that this material is generally not in the areas that would be closed, so impacts are expected to be minimal.

As with locatable mining, VRM standards might affect mineral material and decorative rock mining. Permitting of saleable minerals is a discretionary action and the inability of a proposal to comply with VRM standards could be a reason to deny it. If VRM standards prove to be an unacceptable economic burden on the industry, demand is expected to be met from State or private sources. The environmental impacts (and revenues) would then shift off of public lands, but there would be no net change to the economies of local communities.

#### Leasable Minerals

Impacts would be the same as for *Alternative B*.

#### *Lands and Corridors-Related Impacts*

Impacts would be similar to *Alternative A*, except a total of 38,755 acres would be available for disposal by sale or exchange. The lands are scattered throughout the planning area and would mainly affect the future potential development of the communities of Buckeye, Goodyear, Wickenburg, and the greater Phoenix area.

Impacts of utility and transportation corridors would be similar to *Alternative A*. The Black Canyon Utility Corridor location in the Proposed

*Alternative* potentially improves long term economic conditions in central Arizona by providing a more suitable location for future utility development than the corridors analyzed in *Alternatives A, B, C or D*. Limitations or constraints to energy transmission to the Greater Phoenix Metropolitan Area could have broad economic impacts. By relocating the corridor to be suitable for more types of utility development, those potential impacts could be avoided.

## 4.23 Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority and Low-Income Populations,” was issued in 1994. The objective of this order was to preclude Federal actions from creating disproportionate adverse impacts to minority and low-income populations.

The relevant data needed to evaluate possible environmental justice effects (i.e. total and changes in minority populations and income levels) were presented in Section 3.16. Table 4-9 shows HRUs and CRUs whose percentage of Hispanic populations and percentage of populations living below the federally mandated poverty level exceed those of their counties.

Analysis of the data presented in Chapter 3 did not find that implementing any of the proposed *Alternatives* would result in disproportionate adverse plan-related effects on minority or low-income groups. Nothing inherent in the proposed *Alternatives* would cause any statistically significant changes to ethnic composition of the resident populations. There is no indication that any of the *Alternatives* would have substantial adverse economic effects on any particular ethnic group or any particular income group as compared to others.

## 4.24 Cumulative Impacts

Cumulative impacts are the combination of the effects of past, present, and future foreseeable actions; in combination with the effects of each Alternative. With a large-scale regional plan such as this, many of the impacts discussed under each topical resource area are, in essence, cumulative impacts. Nevertheless, NEPA requires that the impacts occurring in the entire planning area be separately and specifically addressed.

The future foreseeable actions would include the following:

- population growth in and next to the planning area that would increase residential and commercial development on private lands in both Yavapai and Maricopa Counties,
- continued grazing,
- potential minerals development,
- increased recreational uses on BLM's lands,
- activities on lands under the jurisdiction of other Federal and State agencies
- reconstruction and widening of Interstate Highway 17.

The Alternatives could affect several resources and resource uses, including soils, air quality, water resources, and social and economic conditions.

Urbanization, mineral development, and increased outdoor recreational use of private and State lands in central Arizona are likely to continue throughout the life of the RMP. Cumulative impacts on wildlife might include the loss of wildlife habitat, including Sonoran desert tortoise and pronghorn antelope habitat; and migration corridors in the planning areas and on adjacent Federal, State, and private lands.

This section provides information relevant to the cumulative impacts for each Alternative,

including a discussion about cumulative impacts as they relate to Population Growth and Development, Recreation/Visitation, Air Quality, Soils, Water Resources, and Wild Horse and Burro Management.

### *Alternative A (No Action)*

#### *Population Growth and Development*

As stated in Section 4.22.1, potential cumulative effects of growth and development may include (1) the loss of ranching and the related western lifestyle and (2) change in social leadership structure resulting from increases in urban values and reduced ranching. In general, the greatest effects would be related to economics, since the actions proposed in the Alternatives would not, in most cases, have major social impacts in the planning areas.

Under current management 54,370 acres of BLM's land would be available for disposal by sale or exchange. The disposition of BLM's land is not expected to be a significant growth-inducing action, since much of the planning area is growing rapidly and would continue to grow independent of any BLM's land disposal in the future.

Therefore, *Alternative A* would have no measurable cumulative impact on growth and development in the State, growth in and next to the planning areas would continue to cumulatively impact resources on BLM's land.

The reconstruction of I-17 would facilitate growth of the local communities as well as the State as a whole.

#### *Recreation/Visitation*

The most likely cumulative effects would be related to changes in visitation levels in both planning areas. Cumulative impacts would include intensified use in certain areas, especially for motorized activities, as recreation increases and growth and development occur near recreation areas.

General plans for the counties and area communities include provisions for open space, which is usually for parks or non-motorized recreation, further concentrating motorized activities on BLM's land.

Increased visitation is expected to result in increased spending for recreational goods and services. Communities such as Black Canyon City, the Salome/Wenden area, Prescott, Wickenburg, and Cordes Junction provide local services to recreationists and would continue to benefit from recreation under the current management.

Reconstruction of Interstate 17 could enhance or restrict access to adjacent areas. A wider highway would create negative visual impacts as seen from the national monument and other areas.

#### *Air Quality*

The main air quality issue affecting the planning area is also related to forecast population growth in the planning area, especially the rapid growth in the Phoenix nonattainment areas. A secondary air quality issue is increased emissions from additional OHV use in the planning areas. A third cumulative impact issue is population increase in rural areas.

Cumulative air quality impacts in the planning areas have been adequately addressed by the air quality nonattainment plans and air quality maintenance plans that MAG and ADEQ have been required to prepare for approval by the EPA as described in Section 3.4.2 Air Resources. These plans are required because the Phoenix area is already a nonattainment area for several air pollutants and these plans are, in reality, quantitative cumulative air quality impact assessments.

Emissions from OHVs would likely begin to decrease in 2006 and might offset the expected future increase in OHV numbers (EPA 2003). In that case, increased OHV use would cause increased fugitive dust impacts immediately near the roads and trails on which they are driven

and future cumulative OHV tailpipe emissions would probably contribute a proportionately smaller fraction of future regional air pollutant emissions.

#### *Soils*

The cumulative effects for soils would be generally limited to a particular site. Management practices in the planning areas and activities on private lands have led to some detrimental soil conditions, some of which persist. Additionally, as private lands continue to be rapidly developed, especially near the Phoenix metropolitan area, soil becomes compact and displaced. As a result, loss of vegetation and impacts to watershed conditions may occur. Soil productivity in these areas is lost for all practical purposes.

#### *Water Resources*

The cumulative effects for water resources would be similar under all Alternatives. Watersheds integrate the effects of all activities within their boundaries. Therefore, activities on private *and* public lands affect water resources. The impacts of development on soil cumulatively affect watershed conditions. As a result, many watercourses in central Arizona have been degraded by increased sediment load due to urbanization, livestock grazing, and recreation. Furthermore, leachate from mining has historically degraded water quality in the region. Under *Alternative A*, these activities would continue and so affect water resources.

#### *Wild Horse and Burro Management*

The Lake Pleasant HMA, containing 80,800 acres, and the Harquahala HA, containing 156,255 acres, are both entirely within the Bradshaw-Harquahala Planning Area.

The only source of cumulative effects would be the ability of horses and burros to move from one location to another in response to management actions or natural conditions.

In accordance with policy found in 43 CFR 4700.0-6, wild horses and burros shall be considered comparably with other resource values in the formulation of land use plans.

The Arizona Standards for Rangeland Health and Guidelines for Grazing Administration establish cumulative effects considerations for the threshold of significance. The total utilization of a rangeland must create conditions that meet these standards. If combined wild horse, burrow and livestock grazing reduce rangeland condition below the standard levels, then cumulative effects have occurred. By definition, cumulative effects cannot occur where AUM allocations are proportional. Cumulative effects might occur on private, State, or other Federal lands where AUM allocations are not proportional, i.e., where horses and burros have not been part of the allocation formula. If horses and burros move onto these lands and add their grazing pressure to the existing levels, then the cumulative effect might result in a rangeland condition that is below standard.

Animal numbers are carefully managed in the Lake Pleasant HMA and the small herd sizes in the Harquahala HA make that herd unsustainable. In addition, gathered animals are generally moved out of the area. Therefore, burro management is not expected to result in noticeable cumulative impacts.

### ***Alternative B***

#### *Population Growth and Development*

Growth and development in and next to the planning areas would continue to have a cumulative impact on the resources. BLM's resources would also be impacted in the same manner as under *Alternative A*, except that 58,400 acres of land would be available for disposal by sale or exchange.

#### *Recreation/Visitation*

Cumulative impacts from recreation and visitation would increase over those in

*Alternative A*. *Alternative B* is expected to increase visitation more than under the other Alternatives because:

- Developed and primitive recreation opportunities would be available and encouraged in both planning areas.
- Increased access to cultural resources and developing interpretive media would increase public interest and visitation.
- More active visitor management would enhance the recreation experience.

Visitor use in the planning areas would also increase in response to:

- allocating more SRMAs,
- designating the Bloody Basin and Constellation Mine Roads as back country byways, and
- allocating more SCRMA's.

The trend toward non-motorized recreation in areas of urban development would be similar to that under *Alternative A*.

#### *Air Quality*

The cumulative impacts to air quality under *Alternative B* are expected to be similar to those under *Alternative A*. The impacts to air quality from construction and mineral exploration or development would continue at essentially the same magnitude as described for *Alternative A*, and would be similarly addressed by MAG in their air quality maintenance plans.

Recreation that would create OHV emissions and particulates generated in the rural areas would not vary significantly from those under *Alternative A*. *Alternative B* would reduce the miles of trails open to recreation by three percent from that under *Alternative A*. Areas open to OHV use and potential mining would be greater than under the other Alternatives, but the air quality impacts on the region would be minimal.

#### *Soils*

The cumulative effects to soils under *Alternative B* are expected to be similar those under *Alternative A*.

#### *Water Resources*

The cumulative effects to water resources under *Alternative B* are expected to be similar as those under *Alternative A*.

#### *Wild Horse and Burro Management*

Cumulative impacts would be similar to those described for *Alternative A*, except that burros in the Harquahala HA would not be a managed herd, and nuisance animals and burros harming sensitive habitats would be removed.

#### *Alternative C*

##### *Population Growth and Development*

Growth and development in and next to the planning areas would continue to have a cumulative impact on the resources on BLM resources in the same manner as under *Alternative A*, except that under *Alternative C* 49,100 acres of land would be available for disposal by sale or exchange instead of 54,370 acres.

##### *Recreation/Visitation*

Cumulative impacts of recreation and visitation would decrease under *Alternative C* as compared to *Alternatives A* and *B*. This Alternative would favor primitive recreation opportunities over developed opportunities, and visitor access for motorized activities would be more limited. Such restricted use is expected to reduce visitation because motorized use accounts for three of the five most popular activities in the planning area. This reduction; therefore, would somewhat lower visitation spending in the local and regional economies. Overall, the beneficial economic effects of recreation and visitation would be lower than under *Alternatives A* and *B*, but greater than under *Alternative D*.

*Alternative C* would better protect the planning areas for non-motorized used by:

- reducing the number of SCRMA's,
- increasing areas allocated to maintain wilderness characteristics , and
- imposing motorized access restrictions by designating 11 ACECs.

#### *Air Quality*

The cumulative impacts to air quality are expected to be similar to those under *Alternative A*.

Recreation that would generate OHV emissions and particulates in rural areas would not vary significantly from that under *Alternative A* and air quality impacts in the region would be minimal. *Alternative C* would reduce the miles of trails open to recreation as compared to *Alternatives A* and *B*. The area opened to potential mining would be less than *Alternative B*, but greater than under *Alternative D*.

#### *Soils*

The cumulative effects to soils are expected to be similar to those under *Alternative A*.

#### *Water Resources*

The cumulative effects to water resources are expected to be similar to those under *Alternative A*.

#### *Wild Horse and Burro Management*

Cumulative impacts would be the same as those for *Alternative B*.

#### *Alternative D*

##### *Population Growth and Development*

Under *Alternative D*, BLM would not dispose of any land. Because the disposition of BLM's land would not be a significant growth-inducing

action, cumulative impacts would be the same as under *Alternative A*.

#### *Recreation/Visitation*

Impacts from recreation would be reduced the most under this *Alternative*. *Alternative D* would devote more area to non-motorized recreation and close more areas to vehicular access than would the other alternatives. The gradual phase-out of motorized uses in the Hieroglyphic Mountain and Bradshaw Foothills areas would change the general recreation setting to more non-motorized uses. Overall, the number of visitors to the planning area would be reduced, along with visitor spending.

The planning area would be better protected for non-motorized uses by the following actions:

- reducing the number of SRMAs and SCRMAAs,
- increasing areas allocated to maintain wilderness characteristics, and
- restricting motorized access by designating eight ACECs.

#### *Air Quality*

The cumulative impacts to air quality are expected to be similar to those under *Alternative A*.

Recreation generating OHV emissions and particulates in rural areas would possibly be less than under *Alternative A*, given more restrictions on areas open to OHV use and competitive events. *Alternative D* would reduce the miles of trails open to recreation use from that under *Alternative A*, but the air quality impact on the region would be minimal.

#### *Soils*

The cumulative effects to soil are expected to be less than those under any other *Alternative*, given that recreation and mining would be more restricted and grazing would be prohibited.

#### *Water Resources*

The cumulative effects on water resources are expected to be less than those under any other *Alternative*, given that recreation and mining would be more restricted and grazing would be prohibited.

#### *Wild Horse and Burro Management*

Cumulative impacts would be the same as under *Alternative B*.

#### ***Alternative E (Proposed Alternative)***

##### *Population Growth and Development*

Growth and development in and next to the planning areas would continue to have a cumulative impact on BLM's resources in the same manner as under *Alternative A*, except that 38,755 acres would be available for disposal by sale or exchange.

##### *Recreation/Visitation*

*Alternative E* would favor primitive over developed recreation in the Agua Fria National Monument area. Visitor access would be more limited than under *Alternatives A, B, and C*, but visitor services and opportunities for structured or developed recreation would be greater than under *Alternative D*.

*Alternative E* would also restrict public access in the Bradshaw-Harquahala Planning Area more than *Alternative B*, but less than *Alternative C*; and would tend to reduce visitation. *Alternative E* would result in somewhat less visitor spending in the local and regional economies than *Alternatives A and B*, but more than *C and D*. The effect of the management actions might be offset over time by the sheer growth in recreation demand from population growth in the region.

The planning area would be better protected for non-motorized uses by the following actions:

- reducing the number of SCRMAAs,

- increasing areas allocated to maintain wilderness characteristics, and
- restricting motorized access by designating four ACECs.

### *Air Quality*

The cumulative impacts to air quality under *Alternative E* are expected to be similar to those under *Alternative A*.

Recreation that would generate OHV emissions and particulates in rural areas would not vary significantly from that under *Alternative A*. The miles of trails open to recreation would decline from those under *Alternative A* and areas with routes open to OHV use would be similar to those under *Alternative B*. Areas open to mining would be similar to those under *Alternative A*. The air quality impact on the region would be minimal.

### *Soils*

The cumulative effects to soils under are expected to be less than those under *Alternatives A and B* because motorized recreation would be more restricted and fewer acres would be available for disposal and eventual development. Impacts would be more than those under *Alternatives C and D*.

### *Water Resources*

The cumulative effects to water resources are expected to be less than those under *Alternatives A and B* because motorized recreation would be more restricted and fewer acres would be available for disposal and eventual development. Impacts would be more than those under *Alternatives C and D*.

### *Wild Horse and Burro Management*

Cumulative impacts would be the same as under *Alternative B*.

## 4.25 Mitigation

### 4.25.1 Mitigation for Effects of Routes

Mitigation measures to reduce or eliminate the effects that travel routes may have on natural resources and social environments are discussed in the following text. The range of alternatives in Chapter 2 provides a spectrum of resource allocations and Special Designations to provide for broad management of resources and social environments. Discussion of possible mitigation measures employed for foreseeable resource or social conflicts is intended to describe the range of measures available to alleviate pressures on resources and social environments from routes and their use by humans. Monitoring, in some manner, provides the basis for determining the need and the eventual effectiveness of mitigation actions.

Some of the likely resource and social conflicts with routes and the use of routes are outlined in Appendix T, Off-Highway vehicle Mitigation Examples. The Table provides examples of known or likely to develop conflicts that may arise in the foreseeable future and explores a possible progression of mitigating actions that could be taken. These actions are listed from least expensive and/or easiest to implement to most expensive and/or most difficult to implement. Not all mitigation measures listed in Appendix T may be needed. Additionally, it may be determined that actions not listed in the table are required in unique situations or when new technology becomes available. The intention is to communicate the methodology that might be used when attempting to find a suitable mitigation to an identified conflict with routes and their use as required by 43 CFR 8342.1. It should be recognized this table does not constitute a recommendation of mitigation or a comprehensive or exhaustive list of possible mitigation actions that could be applied in any site specific situation.

For the purpose of the following discussion, conflicts with routes and their use is discussed in two categories, natural and cultural resources and the social environment.

The resource conflict discussion would focus on BLM Land Health Standards and specific habitats for identified sensitive plant or animal species, and cumulative effects. The discussion of Land Health Standards addresses soil, water, desired plant communities and riparian condition.

Loss of soil and degradation of water quality usually require modification of the driving surface and placing adequate water control. Each instance of soil loss or water quality degradation requires its own solution which must be addressed on site. Engineering staff involvement is likely to be required. Physical route conditions can contribute to degrading conditions under heavy use that can result in runoff erosion. Appendix T lists a range of typical actions that could be applied in these situations.