

## CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

The following sections describe the consequences and impacts, both positive and negative, of implementing the actions, decisions and management direction described in Chapter 2.

### Biodiversity

#### Biodiversity Preservation

An ongoing program of population monitoring for Special Status Species will provide the data necessary to evaluate biodiversity and to better define the status of individual species and their associations. Mitigating the impacts of recreational use and facilities on populations and discrete habitat niches would provide positive momentum towards ensuring that the diverse and fragile biodiversity of the NCA is preserved.

Managing recreation use through seasonal restrictions to protect active raptor nests, limiting access to caves used by bat maternity colonies, restoring Willow and Red Springs, re-routing trails out of riparian areas, defining a specific trail to Bridge Mountain, closing and rehabilitating trails in the Pine Creek WSA, and directing foot traffic away from the Natural Area in the North Fork of Pine Creek are all actions that reduce human impacts on specific identified species that can be inadvertently impacted. Species which will directly benefit from the above are the Peregrine falcon, Townsend's Big-eared bat, springsnail, Red Rock Canyon aster, and an assemblage of plants, ferns and amphibians in the North Fork of Pine Creek Canyon.

By restoring Willow and Red Springs and reducing human use of the spring brook, the deterioration of springsnail habitat can be halted. Steps can then be taken to improve the habitat and revitalize the springsnail population. Continued inventories will confirm whether the springsnail has disappeared and if reintroduction at Willow Spring will be necessary. This would provide an improved gene pool, double the number of habitat areas and reduce the risk of species elimination due to a catastrophic event. Inventory of additional springs may discover new populations of this rare species.

Implementation of the Blue Diamond Cholla Conservation Agreement by BLM, the U.S. Fish and Wildlife Service and the James Hardie Gypsum Corp. will ensure the protection of this species and its only known habitat. Completion of the proposed exchange between BLM and James Hardie will place approximately 98% of the cholla's known habitat within the NCA.

## Ecosystem Management

Removing burros from the Calico Basin area will eliminate further damage to the riparian areas at Red, Calico and Ash Springs while increasing water available to native wildlife.

Utilization of Bighorn sheep as an umbrella indicator species will provide a method of evaluating recreational impacts and habitat pressures, as well as unite BLM's efforts with years of data collection and management by the Nevada Division of Wildlife. This historical data will enable trends to be apparent much more readily and enhance inter-agency cooperative efforts.

Aggressive suppression of fires in low elevation communities, in particular Blackbrush, will reduce the trend toward conversion of native desert to annual grassland caused by fires supported by the invasion of highly flammable fine (grass) fuels. This will protect a key component of the Mojave Desert ecosystem in the NCA.

By implementing a prescribed natural fire program in the montane chaparral communities of the escarpment's canyons, the fire ecology of this habitat type will be enhanced. Successful implementation of this program will benefit fire-dependent species like the Ponderosa pine while reducing fuel loading. When debris is allowed to accumulate to unnatural volumes through aggressive fire suppression, the level of damage increases when a fire does occur.

The use of fire to re-establish a mosaic pattern and provide openings within the pinyon-juniper uplands, which dominate the higher elevations in the NCA, will provide greater habitat diversity and forage values. Aggressive fire suppression in the past has created a homogeneous monotypic forest canopy where past natural disturbance through fire once created pockets of uneven aged forest.

The closure of 92.9 miles of dirt roads would reduce habitat fragmentation throughout the NCA.

## Wild Horses and Burros

The HMA boundary will remain intact with the exception of two minor changes south of SR 160, thus the final impact to wild horses and burros from this controversial issue will be minimal. The effect of the boundary change to the southeast will be the addition of prime forage land to the HMA, which will benefit the horses.

Water has been a continual concern in the HMA. The spring developments north of SR 160 are often in need of repair or redevelopment. The scarce water sources south of SR 160 are not reliable and water hauls are necessary to maintain the herds when the water sources are not producing sufficient amounts. The Proposed Plan calls for the repair or redevelopment of nonfunctional or poorly

functioning facilities that presently exist. It also calls for the exploration of new opportunities south of SR 160. The water improvements or new developments south of SR 160 will allow horses and burros improved dispersal throughout the area and put an end to the situation of horses dying at water sources gone dry.

Fencing along SR 159 is left as an option to be implemented as needed. Completion of the fence on both sides of the road will contribute to HMA fragmentation, mostly affecting the wild burros that utilize both sides of the road. This impact would be lessened with the construction of an underpass to allow access back and forth. The fencing would prevent the burro fatalities that occur from being hit by motor vehicles.

Lowering the AML in the area north of SR 160 to Spring Mountain Ranch State Park and west of SR 159 from 15-17 horses to 6-10 horses may improve the health of the remaining horses if the available forage improves. With the presence of burros and the remaining horses, the recovery potential of the vegetation is unsure at this time.

The foaling period for the wild horses runs from the beginning of March to the end of May. This is also a prime time for trail enthusiasts utilizing the mountain bike/equestrian trails network in Cottonwood Valley. Many of the competitive events are requested during this time frame. Competitive events will no longer be permitted south of SR 160 from the beginning of March to the end of May unless the potential disturbance to the horses can be mitigated. This will reduce stress on the herds and allow a healthier situation for foaling.

#### Riparian and Water Resources

Restoration of riparian areas associated with 41 springs, as well as Pine Creek, Oak Creek, Lost Creek and First Creek, to no less than proper functioning condition will improve both water quality and quantity. The improved water availability will enhance the riparian vegetation that would exist under nonimpaired conditions. The continued presence of wild horses and burros will hinder the process of restoration. The impacts can be mitigated by fencing of spring riparian habitat, but fencing is not practical for creeks. Where water is piped to troughs outside of fenced springs, care must be taken to avoid overdrafting the water necessary to maintain riparian health.

Fencing spring sources where needed will provide riparian habitats protection from wild horse and burro, equestrian and human impacts. Providing piped water to troughs outside the protective fences will allow a dependable drinking source for wild horse and burro herds and a stopover site for equestrian users.

Returning Willow Spring and Red Spring back to normal channels and

flow will help in restoring springsnail habitat. The successful restoration of these springs may eliminate the potential listing of the spring snails as Threatened or Endangered. The return of the Red Spring area to a more natural setting will improve riparian restoration efforts. The removal of burros from Calico Basin, which is not in the Red Rock HMA, will also reduce impacts in Red Spring.

Although new trails are located away from riparian habitat, riparian areas associated with Willow Spring, Lost Creek and Pine Creek will continue to be influenced by heavy recreation use. Closing and restoring all unwanted spurs and trail braiding will help reduce impacts.

The elimination of tamarisk from 15 springs, Pine Creek and Oak Creek will contribute to a reduction in salt loading to surface water. It will also enhance the habitat for native riparian species that are out-competed by tamarisk.

### Vegetation

Closure of 91.8 miles of dirt roads will result in revegetation of 174.5 acres as native plants colonize these routes. Development or expansion of three parking area/trailheads along the Scenic Drive will account for a loss of 2.6 acres of vegetation loss. If the optional return road from Sandstone Quarry is eventually constructed, the result would be an additional loss of 5.78 acres of vegetation.

Trail proposals include 3 new trails that will require initial construction and removal of vegetation. The trails include First Creek to Oak Creek (.5 acres), Kraft Rocks and Gateway Canyon (.8 acres) and the Red Valley equestrian route (.6 acres) for a total of 1.9 acres of vegetation loss.

Based on the limited data available to date, it is doubtful the objectives for desired plant community, particularly the goal of 5% basal cover for native grasses, can be achieved over large areas in the vicinity of water sources north of SR 160 that are used by wild horses and burros. More comprehensive analysis is under way at present. Trend studies will be conducted annually and monitoring will be more intensive. As more reliable trend data is collected, AMLs will be adjusted accordingly to allow for improvement of range conditions.

The goals set for fire suppression activities coupled with prescribed burning will allow for healthier plant communities within the NCA. Development of a prescribed fire program in the montane chaparral communities of the escarpment canyons will restore the health of these habitats and reintroduce a natural element of the landscape. Fire use will reduce the accumulation of fuels resulting from previous aggressive suppression of all fires, which has been shown to lead to devastating fires that damage or eliminate even those species

which normally would thrive on periodic disturbance caused by fire.

## **Recreational Opportunities**

### Camping

Resource damage associated with overflow and illegal off-site camping due to a lack of current capacity will be reduced, if not eliminated. Completion of the 13 Mile Campground will finalize the process of consolidating designated camping use in the NCA.

The new campground, 2.5 miles southeast of Calico Basin, offers campers improved facilities including 5 group sites and 59 individual/family sites (a 56% increase) with a final design capacity of 10 group and 100 individual sites. Restroom facilities will be vault toilets (as opposed to porta-potties) and each site will have a tent pad, picnic table and barbecue grill.

The location of the new campground will allow visitors convenient access to other recreational pursuits in Red Rock Canyon. At the same time, the location will not impair the scenic quality Red Rock Canyon offers. Closing Oak Creek Campground has removed a negative impact on the aesthetic quality of Red Rock Canyon's primary scenic vicinity.

There will be no impact on the maximum camping stay limit which will remain 14 days. There will be an impact on dispersed camping. Where camping presently is not restricted in the NCA north of La Madre and south and east of the Bird Spring Range (the lands added to the NCA in the 1994 NCA expansion), certain restrictions will be imposed. Dispersed camping north of La Madre will be limited to existing disturbed sites. If monitoring shows an increase in disturbance, camping will be limited to designated disturbed sites. In the area south and east of the Bird Spring Range, camping will be limited to existing disturbed sites within 200 feet of designated roads.

### Rock Climbing

Coordination between BLM and the climbing community is enhanced through the Climbers' Liaison Council. This partnership between climbers, climbing businesses, guides and the BLM provides for improved communications and understanding of both climbers' needs and BLM's management responsibilities, rules and regulations.

Climbing management remains close to the current policy included in the Interim GMP. Bolting will continue to be allowed except for restricted areas: Sandstone Quarry (no bolting within 1/4 mile of parking area); and the Wilderness Study Areas.

The maximum number of multi-year full time commercial guiding permits issued will be reduced from 6 to 5 at any one time and limited-visit

"guest" permits will be issued annually. This allows one less commercial opportunity, but there does not appear to be more business than the current permit holders can accommodate.

Limits on commercial group size and areas of use will provide for dispersal of use and reduce congestion at popular climbing locations.

The proposal to complete a climbing plan, tiering from the GMP, will allow a more in-depth analysis and improved management policy for climbing at Red Rock Canyon.

### Target Shooting

No shooting, other than hunting with a valid hunting license and permit, is allowed in the National Conservation Area. There will be no impact since RRCNCA is currently closed to target shooting.

### Trail Opportunities

Trail opportunities for hikers, horse riders and mountain bikers will all be enhanced with the addition of 43.3 miles of trail designated and added to the existing trails network. 38.9 miles are existing routes which have not been formally designated, and 4.4 miles do not exist at this time and will require new construction.

Mountain bike use in the Scenic Drive vicinity will be limited to designated roads. The Oak Creek trails and the trail between Willow Spring and the Visitor Center will no longer be designated for mountain bike use. The Oak Creek trails will no longer be designated for mountain bike use. This will be a reduction of 6.7 miles of trail for mountain bike enthusiasts. It will have a positive effect on other trail users by eliminating potential user conflicts where hiking use is very heavy.

Mountain bike use is enhanced in other locations with the designation of trails north of Kyle Canyon Road and southeast of the Bird Spring Range.

Equestrian opportunities within the core of the NCA (Calico Hills south to First Creek) are reduced by limiting use to designated trails. No dispersed (off trail) use would be allowed.

### Touring Opportunities

#### Dirt Roads

There will be a reduction of dirt roads available for public use throughout the NCA. While the most commonly used routes will remain open, of the 159.0 miles of dirt roads inventoried in the NCA, 67.2 miles will be designated for public access and 91.8 miles will be closed (some have already been closed under direction of the IGMP).

The above closures will result in a 58% reduction of access for the off-highway vehicle (OHV) community.

#### Paved Roads

Overlooks and picnic areas in the Scenic Drive vicinity, and access to these sites, will eventually be paved.

New sites to be constructed include 1 new overlook and the expansion of 2 existing sites. This will result in 2.06 acres of new paving.

One new road was proposed as a primary action, but is now considered only as a possible option. It would allow visitors the option of driving the entire 13 mile Scenic Drive or taking a short loop when activities focus on the Calico Hills area. The optional route would be 5.65 miles, with the new construction occurring between Sandstone Quarry and the Visitor Center. This would include 2.65 miles of pavement, although it would not be all new disturbance.

The proposed paving projects will benefit the recreating public by providing approximately 75 additional parking spaces around the Scenic Drive, reducing particulate matter in the air, providing smoother surfaces for highway design vehicles, and offering a shorter loop drive opportunity (if constructed). The short loop would not only benefit those who do not wish to drive, bicycle or jog the entire 13 mile Scenic Drive, but also sightseers who prefer the longer drive and do not want the enjoyment of their experience lessened by being constantly passed and tailgated by others impatient to quit the Scenic Drive.

For hikers and climbers, the view from higher elevations will include an additional 6.2 acres (without the return road) or 12 acres (with the return road) of paved surfaces dispersed throughout the Scenic Drive vicinity.

#### **Visual Resources**

The most significant, and positive, impact to visual resources will be the closure of the Oak Creek Campground and Spanish Trail overflow camping area. Both of these areas are visually evident to the casual observer. Oak Creek interrupts the view of the escarpment and lower valley floor with tents, vehicles, motor homes and a large silver water trailer. The new camping area cannot be seen from any of the regularly used roads or trails in the NCA.

Although visitors enjoy viewing the wild horses and burros within the Red Rock HMA, the fences needed along the State highways to prevent vehicle/animal collisions and the protective fences constructed around springs and riparian habitat are visual intrusions. In addition, the troughs, pipelines, well structures and other facilities needed to assure survival are inconsistent with the nature

of the National Conservation Area and do not blend with the viewscape.

Closure of 91.8 miles of dirt roads will result in revegetation and the eventual visual disappearance of dirt tracks on 174.5 acres as native plants colonize these routes. Development or expansion of three parking area/trailheads along the Scenic Drive will result in visual impacts characteristic of paved surfaces on 2.6 acres. If the optional return road from Sandstone Quarry is eventually constructed, the result would be additional pavement of 5.78 acres. The impact of this paving is mitigated by the fact that 3.87 acres involves paving of existing dirt roads and parking areas.

### **Wilderness Characteristics**

Both the La Madre Mountains Wilderness Study Area (WSA) and the Pine Creek WSA will continue to be managed in compliance with the *Interim Management Policy for Lands Under Wilderness Review* (H-8550-1).

Naturalness of both the La Madre Mountains and Pine Creek WSAs will see improvement through the restoration of riparian areas associated with 41 springs, as well as Pine Creek, Oak Creek, Lost Creek, and First Creek to proper functioning condition. The elimination of non-native vegetative species (i.e., tamarisk) along with improvement of vegetative diversity will ensure natural, self-maintaining riparian areas.

Wild horses and burros will continue to utilize 2 springs in the Pine Creek WSA. This will necessitate the continued use of protective fencing around the riparian areas associated with these springs. The presentation of unnatural manmade features into the landscape will continue.

Rock climbing restrictions (including no new bolts in WSAs, no alterations of the rock surfaces, no establishment of permanent fixed ropes or cables, and the encouragement of the use of equipment that better blends with the rock face) will contribute to minimizing impacts to naturalness and the WSAs. Although rock climbing activity will be noticeable while climbers are present on the rock faces, during inactive periods evidence of this activity will be substantially unnoticeable.

The closure and eventual rehabilitation of 19.3 miles (46.4 acres) of roads within the La Madre Mountains WSA north of La Madre Mountain and in Little Red Rock would halt deterioration of wilderness characteristics caused by expansion of these roads through casual use. Roads which were inventoried in 1979 as short intrusions into lands with wilderness characteristics now form an interconnected system of routes, none of which have been officially approved, and which has caused significant physical and visual impacts to naturalness.



Protection of inventoried wilderness will be ensured by allowing no new developments in WSAs, by limiting facilities in WSAs to existing hiking trails, and by re-routing sections of trails to avoid sensitive riparian areas and plant populations.

### CUMULATIVE EFFECTS

Cumulative impacts are the total effects of collective actions over a period of time. The individual actions may be of minor import while the accumulation of those actions could produce significant impacts, either positive or negative. For the purpose of this document, the time frame corresponding to cumulative impacts will be the life of the plan, which should be about 15 years.

#### Biodiversity

The Proposed Plan calls for a number of actions which will benefit biodiversity including protective seasonal restrictions, mitigation of potential and existing impacts related to visitor use, protective measures for Special Status Species and improved methods to deal with fire (wildfire suppression and controlled burns). The collective effect of these actions will be a healthier natural ecosystem for the Spring Mountains.

Even with the actions proposed in the previous paragraph, the reality is that the population of the Las Vegas community is going to continue to increase at a rapid pace. With the growth of the community comes increased interest in RRCNCA and visitation will continue to increase. Past records show that visitation at Red Rock Canyon has increased an average of 15% per year. The sheer number of people visiting the NCA will impact biodiversity, even with mitigating measures being taken.

Habitat fragmentation will be a primary concern. The number of dirt roads proposed for closure and restoration will work favorably in this respect. The Plan is designed to allow future proposals for trails and other improvements if they fall within the appropriate Management Emphasis Area (MEA). When analyzing these future proposed actions, it will be important to continually look at cumulative impacts and not just the effects of each individual proposal.

#### Wild Horses and Burros

A more thorough analysis involving vegetation and water resources is currently under way. The results of this study will be the establishment of Appropriate Management Levels (AMLs) for wild horses and burros. Setting AMLs for horses and burros will allow management of herds more in balance with the available resources, which will allow for healthier animals.

Fencing areas throughout the HMA protects sensitive resources and in many situations creates a safer environment for the horses and burros (along roads). The cumulative effect of fencing is the fragmentation of the Red Rock HMA, preventing the free roaming aspect the HMA is intended to provide. Whenever possible, other methods of mitigation should be pursued before fencing.

### Riparian and Water Resources

Water sources and riparian habitat are expected to see vast improvement. Several measures are taken to direct use away from these areas and protective fences will prevent trampling riparian habitat and polluting water sources. The goal of bringing riparian habitats back to Proper Functioning Condition (PFC) will ensure continued management in this direction. The setting of AMLs for wild horse and burro herds will allow the appropriate share of water to be maintained at the source and assure the health of the riparian habitat.

### Vegetation

There will be some impacts (reductions) in vegetation due to actions proposed in the Plan, however the number of proposals is limited and the cumulative effect will not be great. The number of roads proposed for closure and restoration (91.8 miles) will be of more significance than the proposals reducing vegetation.

The new strategy for fire suppression and prescribed burning is expected to reduce the severity of damage to vegetative communities and the opportunity for invasive non-native species to take hold.

The initial effect of wild horse and burro management will prevent the attainment of the desired range improvement objectives set in the Plan, but the continual monitoring of vegetation through trend studies and the use of new exclosures will allow for the eventual adjusted AMLs that will allow for a balance of healthy herds and vegetation in the long term.

### Air Resource

The primary concern involving RRCNCA is the portion within the Las Vegas Valley Non-attainment Area, which includes most of the NCA. The major contributors to non-attainment are particulate matter or dust (referred to as PM 10) and automotive emissions. The amount of emissions and PM 10 contributed from RRCNCA are expected to decline. Closure and restoration of 91.8 miles of dirt roads are proposed and overlook/trailhead parking sites and access roads to these sites are proposed for paving.

A feasibility study for mass-transit will be conducted for the Scenic Drive, which will undoubtedly result in some manner of shuttle

system. The result will be a huge reduction in the number of motor vehicles on the Scenic Drive and a reduction in automotive emissions.

### Soils

It is expected that plan implementation will have a positive overall effect on soils. The major concern involving soils will be the susceptibility to erosion due to the removal of vegetation. Wherever soils are exposed to wind and precipitation, erosion can occur.

There are proposals that will require the removal of vegetation, however the number is limited and the cumulative effect will not be great. The number of roads proposed for closure and restoration will be of more significance than the proposals reducing vegetation. Overlook/trailhead parking sites and access roads to these sites are proposed for paving, which will further reduce soil exposure.

#### Soil Exposure

<b>Additions in Soils Exposure:</b>	
New trail construction	1.9 acres
Overlook/trailhead	<u>2.1 acres</u>
<b>Total</b>	<b>4.0 acres</b>
<b>Reductions in Soils Exposure:</b>	
<u>Dirt road closure and restoration</u>	
Existing trail routes not designated	2.1 acres
Existing dirt roads to be closed	<u>174.5 acres</u>
<b>Total</b>	<b>176.6 acres</b>
<u>Paving overlooks and access</u>	
Access roads	2.0 acres
Overlook/trailhead	<u>4.2 acres</u>
<b>Total</b>	<b>6.2 acres</b>

### Recreation

Trails enthusiasts will see a slight increase in opportunities with the addition of trails accommodating hiking, equestrian and mountain bike use. Mountain biking will have reduced opportunity in the Scenic Drive vicinity with trails being closed to mountain bikes. Use will be limited to roads. Equestrian use in the core NCA (between Cottonwood Pass and La Madre Mountain) will no longer allow cross country travel; riding will be limited to trails designated for equestrian use.

Rock climbing will not change significantly as current policy remains basically unchanged. However, there is still opportunity for change to take place when a separate climbing plan, tiering from this plan, is completed.

Hunting and target shooting are not affected. The NCA has been closed to target shooting and will remain so. Hunting has been allowed in the NCA and the Plan does not significantly alter the hunting policy.

Organized camping is enhanced with the opening of the 13 Mile Campground. There is more camping available and the campground accommodates a greater diversity of camping opportunities. The Plan does not significantly affect dispersed camping in other parts of the NCA where it has traditionally been allowed, although it does allow the option to become more restrictive if the cumulative impacts due to dispersed camping become a concern.

Scenic touring will not significantly change in the short term. If the short return loop from Sandstone Quarry to the Visitor Center is proposed in the future, it would provide a variation of the Scenic Drive and help alleviate congestion due to heavy visitation. Depending on the outcome of the proposed mass-transit feasibility analysis, scenic touring will experience some level of transition from individual motor vehicles toward organized mass-transit.

OHV enthusiasts will experience a reduction in opportunities with the closure of 91.8 miles of dirt roads. Many of the roads slated for closure are rarely used, lead to mines or other sites that are no longer active, or access the same locations as other roads. The large reduction in miles of dirt roads does not account for a significant reduction in quality experiences. The Plan does allow for reconsideration of proposed road closures if suitable justification arises for designation.

The opportunity to drive the ways (dirt roads or routes that have never been officially designated) within the wilderness study areas (WSAs) will be lost for the short term. The eventual decision involving access to these ways will depend on the future determination of wilderness suitability of the WSAs and the exact location of wilderness boundaries if judged suitable.

#### Cultural Resources

No foreseeable impacts on cultural resources are expected due to actions proposed in the Plan. Cultural resource survey and analysis will continue to be prerequisite to implementation of project plans. If necessary mitigation can not be accomplished, the corresponding proposal will not take place.