

Chapter 3

Description and Comparison of the Alternatives

The ESA requires a description of alternatives to the proposed action; in this case, the proposed MSHCP. Several alternatives were considered during the development of the MSHCP, but rejected as not meeting stated goals or objectives of the Applicants or the USFWS. These are briefly described below. In the following sections, additional alternatives are compared with the proposed MSHCP as to their effects. Following the HCP Handbook guidance, these include (1) alternatives which might reduce take below levels anticipated with the proposed project and (2) a “no action” alternative, in which the permit is not issued and take would be avoided.

3.1 Alternatives Considered But Rejected

The MSHCP was anticipated as a potential extension of the Desert Conservation Plan, which was adopted in August 1995. In developing the MSHCP scope, a number of potential alternatives were considered but are not carried forward as alternatives in this analysis because they did not meet the purposes and needs identified by Clark County or the USFWS in Chapter 1. Three potentially reasonable alternatives to the proposed action which nonetheless do not quite meet the purpose and needs of the applicant are discussed below.

3.1.1 Permit to Include the Entire Mojave Desert Ecosystem

Habitat conservation plans exist or are being considered for desert tortoise and other Mojave desert species in California, Utah, and Arizona. Combining the conservation planning efforts for desert tortoise and other listed species to effect a Mojave desert ecosystem program would provide a more comprehensive approach based upon species range and distribution rather than jurisdictional boundaries. This approach would be preferable from a purely conservation standpoint.

Participation in a Mojave desert ecosystem program was considered and rejected by Clark County. Although a Mojave desert ecosystem planning effort including Federal, state, and local interests in California, Utah, and Arizona would provide a more comprehensive approach, the complexities in dealing with differences in state and local laws, land ownership patterns, and potential levels of conflicts between participants were considered insurmountable at this time. Also, Clark County's participation would require assurances that its efforts and contributions of funding would benefit Clark County directly.

3.1.2 Permit to Mitigate Impacts Only on Non-Federal Lands

This alternative would require the minimization and mitigation of impacts to listed species from non-Federal actions on non-Federal lands in Clark County to be undertaken in whole or in part on non-Federal lands. The estimated take from otherwise lawful activities over the 30-year term of the proposed MSHCP is projected at 145,000 acres of land disturbance on non-Federal lands or property disposed of by Federal agencies. Private and non-Federal lands potentially subject to land disturbance under the proposed permit are primarily located in the Las Vegas Valley with more scattered development in northeast, northwest, and southern Clark County including the Virgin and Muddy Rivers and higher elevation ecosystems due to private inholdings around the Spring Mountains.

This alternative was rejected for several reasons. The development and use of land in Clark County will occur primarily on non-Federal lands located in the Las Vegas Valley. Remaining habitat on non-Federal land is fragmented and already impacted by direct and indirect effects of urban development. Applying conservation measures to lands in the valley would be costly and less likely to be effective in terms of long-term conservation of habitats and species due to ongoing direct and indirect impacts from adjacent development or activities. To be meaningful, the areas of habitat reserved for conservation would need to be so large that the continuation of urban development in the valley would be severely limited. This would increase the per-acre cost of the mitigation measures and not meet the intent of the permit applicant or recovery goals for the species. It should be noted that mitigation on non-Federal lands for impacts to fishes and spring dependent species may ultimately be necessary. Mitigation on non-Federal lands outside of Clark County was not considered feasible for the Applicants because of the lack of control over the disposition and management of these lands and political implications of Clark County expending funds to acquire conservation lands outside the county.

3.1.3 High Elevation Ecosystems MSHCP

This alternative would cover approximately 61 species occupying high elevation ecosystems (alpine, bristlecone pine, mixed conifer, pinyon-juniper, sagebrush, and

blackbrush) and rely upon conservation management within the Desert National Wildlife Range (USFWS), Spring Mountains National Recreation Area (USFS), and Red Rock Canyon National Conservation Area (BLM). Conservation measures proposed under the MSHCP that apply to these areas would be implemented fully. Existing conservation plans, measures, and actions for ecosystems below the blackbrush community would continue to be implemented, but species other than desert tortoise would not be covered under this permit and would require separate consultation and permits for individual take under Section 7 or Section 10 of the ESA.

Incidental take permitted under this alternative primarily would occur on 16,400 acres within the high elevation ecosystems, as compared to 375,000 acres under the MSHCP. The take provisions of this alternative effectively would only cover the Spring Mountains area and not cover future take in the Las Vegas Valley and other non-Federal areas of Clark County. The USFWS would be required to continue to issue individual permits within these areas for species other than the desert tortoise. This alternative would not provide assurances for an orderly process of development and use for the majority of lands under private ownership or local government jurisdiction.

Funding for mitigation of take on private lands and from NDOT activities established under the DCP would continue. The DCP allows these mitigation funds to be extended to other species and to be used to fund the coordination and management of species covered under the permit. The funding and coordination benefits of the MSHCP, as well as the AMP, would focus on Covered Species primarily within the alpine down to the blackbrush ecosystems. This would effectively provide benefit to approximately four percent of lands under private ownership or non-Federal jurisdiction. The USFWS could issue individual permits for listed species within the lower elevation ecosystems. Some conservation of species would occur at lower elevations as a result of the conservation actions for the desert tortoise.

A total of 18 species covered by the proposed MSHCP would not be covered under this alternative, including 7 Covered birds, primarily those dependent on desert riparian/aquatic habitats; 4 Covered reptiles; 7 Covered plants; and 25 High Priority Evaluation Species including mammals and invertebrates. The species most likely to be affected from future growth and use of the lands within Clark County would not be afforded benefits under this alternative.

Adaptive management programs would be focused upon the Covered Species. Funding and coordination would not cover take of species outside of the alpine to blackbrush ecosystems. The participation and support for MSHCP programs on lands under BLM, NPS, NDOT, NDOW, and other state and local jurisdictions would be reduced.

Restoration programs proposed under the MSHCP, including removal of invasive plants for fish and riparian habitats, the Muddy River Regional Environmental Impact

Alleviation Committee, Las Vegas Wash Wetlands Park, reintroduction of leopard frogs, and removal and conversion of tamarisk, would be reduced under this alternative as they do not benefit species covered under the permit.

General measures to ensure adequate monitoring and law enforcement would be funded, but the scope of coverage and cooperation would be reduced and activities directed toward white-margined beardtongue, phainopepla, removal of feral animals, and protection of lower elevation springs, riparian habitat, and mesquite would not likely be funded as they do not address species covered under the permit.

Activity-specific measures relating to mesquite collection, improvement and protection of riparian areas, control of invasive plants and predators, livestock grazing, recreation activities, OHV use, minerals management, roads, and utilities and specific protective measures for low elevation species would be limited relative to the scope proposed under the MSHCP. These actions would focus on management of higher elevation Covered Species and retain only existing programs for lower elevation species.

This alternative would not provide for as much conservation as the proposed MSHCP and does not meet the needs of the Applicant.

3.2 Alternatives Considered for the EIS

From the perspective of the USFWS, the proposed action is the issuance of a Section 10(a) incidental take permit as requested by Clark County and supported by the MSHCP. The alternative to this action would be denial of the permit or to issue the permit with conditions. However, for the purposes of fully disclosing potential alternative means to achieve some of the actions identified as necessary to achieve conservation of biological resources in Clark County, four alternatives to the proposed MSHCP are evaluated. These include the No Action Alternative, a permit limited to threatened or endangered species, a permit limited to low elevation ecosystems, and alternative permit terms of 20 and 50 years. Evaluation of the No Action Alternative includes consideration of the potential redesignation of Wilderness Study Areas to their underlying management status. The No Action Alternative also describes the effects of resource management under the existing BLM Las Vegas RMP, the USFS Spring Mountains National Recreation Area General Management Plan, and other plans that provide the basis for agency management of biological resources, including the species proposed for coverage under the MSHCP.

3.2.1 No Action Alternative

Under the No Action Alternative, a permit under Section 10(a)(1)(B) of the ESA would not be issued for MSHCP Covered or Evaluation Species. Actions that could result in take of listed or candidate species other than the desert tortoise on non-Federal lands would be prohibited under Section 9 of the ESA and, if undertaken by Federal permitting agencies or within Federal lands, would be reviewed individually under Section 7 of the ESA by the USFWS. Other actions that could result in take of species other than the desert tortoise would require preparation of individual Section 10(a)(1)(B) permits.

Existing plans and agreements that deal with conservation of biological resources in Clark County include:

- Clark County Desert Conservation Plan and the associated Section 10(a) incidental take permit for the desert tortoise (summarized in Section 2.2.4.2);
- Virgin River Fishes Recovery Plan, focused on the recovery of the woundfin and the population of the Virgin River chub in the Virgin River;
- Muddy River Rare Aquatic Species Recovery Plan, focused on the recovery of the Moapa dace and including conservation measures benefiting other species in the Muddy River ecosystem;

- Bureau of Land Management conservation actions, plans, and policies within the BLM Las Vegas RMP and Red Rock Canyon NCA GMP;
- U.S. Forest Service conservation actions, plans, and policies within the Spring Mountains GMP, and the Conservation Agreement for the Spring Mountains NRA between the USFS, USFWS, and Nevada Department of Conservation and Natural Resources, which outlines a 10-year conservation plan for approximately 70 endemic and sensitive species in the Spring Mountains ecosystem;
- U.S. Fish and Wildlife Service and U.S. Air Force conservation actions, plans, and policies within the Desert National Wildlife Range;
- National Park Service conservation actions, plans, and policies within the 1988 General Management Plan, the 1999 Resource Management Plan, and the 1995 Burro Management Plan;
- U.S. Forest Service conservation actions, plans, and policies within the Spring Mountains GMP; and
- Conservation actions, plans, and policies of NDOW, NDOT, NDF, and State Parks and local governments.

Under the No Action Alternative, the incidental take provisions of the DCP for desert tortoise would remain in effect. The DCP currently allows, to a limited extent, for mitigation funds to be extended to other species for implementation of conservation actions that benefit species other than the desert tortoise. Incidental take of species other than the desert tortoise on non-Federal lands would require individual Section 10(a)(1)(B) permits for each action. Measures to minimize and mitigate take for individual actions would need to be assured and may require use of non-Federal lands.

The oversight, coordination, and funding mechanisms of the MSHCP would not be made fully available to these various agencies and the USFWS. Many of the existing conservation actions and programs contained in the GMPs and RMPs include unfunded or underfunded programs for which the MSHCP would assist in securing funding. Other sources for this additional funding would have to be identified and secured.

The Adaptive Management Process would not be developed and implemented under the No Action Alternative. Each Federal jurisdiction would continue with its existing set of conservation programs for sensitive species, monitoring, and conservation priorities. The USFWS would continue to coordinate separately with the various Federal and state agencies.

Under the No Action Alternative, as well as all other alternatives, species and habitat conservation activities would be affected by the activities and priorities of the local resource management agencies. During consideration of the proposed MSHCP and other alternatives described in this EIS, it became apparent that full implementation of the various species conservation actions described in, or possible through, the local resource agency management plans is key to long-term conservation and protection of the species considered in the MSHCP analysis.

In particular, actions described in the BLM Las Vegas RMP and the USFS Spring Mountains NRA GMP and CA are critical elements of species conservation efforts in Clark County. The relevant components of these plans are described in the following sections.

3.2.1.1 Agency Resource Management under the No Action Alternative

a. Bureau of Land Management

The Las Vegas Resource Management Plan/Final Environmental Impact Statement was developed by a BLM interdisciplinary planning team. BLM produced a Draft Resource Management Plan in 1992 that evaluated four alternatives (A-D), the agencies' preferred alternative, and the No Project Alternative, which is essentially the existing management policies and actions. In 1994 a supplement to the RMP was released to evaluate a fifth alternative (E). The Final RMP/EIS is based primarily on Alternative E presented in the Supplement to the Draft RMP issued in May of 1994 and public and internal comments received during the planning process. Also, objectives and management directions from the other alternatives were incorporated, where appropriate, into Alternative E. The proposed Final RMP/EIS was released on June 15, 1998. The RMP is used to guide future management of the public lands in the Las Vegas District. The record of decision was issued on October 5, 1998. The following summarizes aspects of the Las Vegas RMP that emphasize and facilitate conservation and management of species and their habitats on BLM managed lands.

(1) Areas of Critical Environmental Concern

BLM designates Areas of Critical Environmental Concern, for areas with special management considerations and use restrictions to protect habitat, sensitive wildlife or plants, cultural resources, paleontology, geologic features, and other features. These use restrictions generally address activities such as limiting motorized vehicle use to designated roads, trails, or areas; restricting open OHV use and speed events; closure to surface mining; closure to grazing; avoidance for new roads or rights-of-way; and limiting the intensity of recreational use. The additional use restrictions are specific to the area and resources being protected and result in individual management prescriptions for each ACEC.

There are 20 ACECs within BLM lands in Clark County (Figure 3-1). Of the twenty, four (Piute/Eldorado, Arrow Canyon/Coyote Springs, Mormon Mesa, and Gold Butte) are focused upon protection of desert tortoise within its critical habitat and encompass 797,938 acres. Goals of the desert tortoise ACECs include the following:

- Establish Areas of Critical Environmental Concern specifically for the management of desert tortoise within the Northeastern Mojave and Eastern Mojave recovery units identified in the Tortoise Recovery Plan (SS3a).
- Manage a sufficient quality and quantity of desert tortoise habitat, which, in combination with tortoise habitat on other Federal, state, and private land, will maintain at least one viable population at a minimum density of 10 adult tortoises per square mile within each recovery unit.
- Maintain functional corridors of habitat between Areas of Critical Environmental Concern to increase the chance of long-term persistence of desert tortoise populations within the recovery unit.

The following activities are prohibited in desert tortoise ACECs: OHV speed events, four-wheel-drive hill climbs, mini-events, publicity rides, and high-speed testing. Non-speed and non-OHV events are limited to designated roads and trails in tortoise ACECs and to existing roads and trails in ACECs designated for other purposes. Other recreational and commercial events are allowed on a case-by-case basis. Seasonal restrictions based on tortoise activity may be imposed.

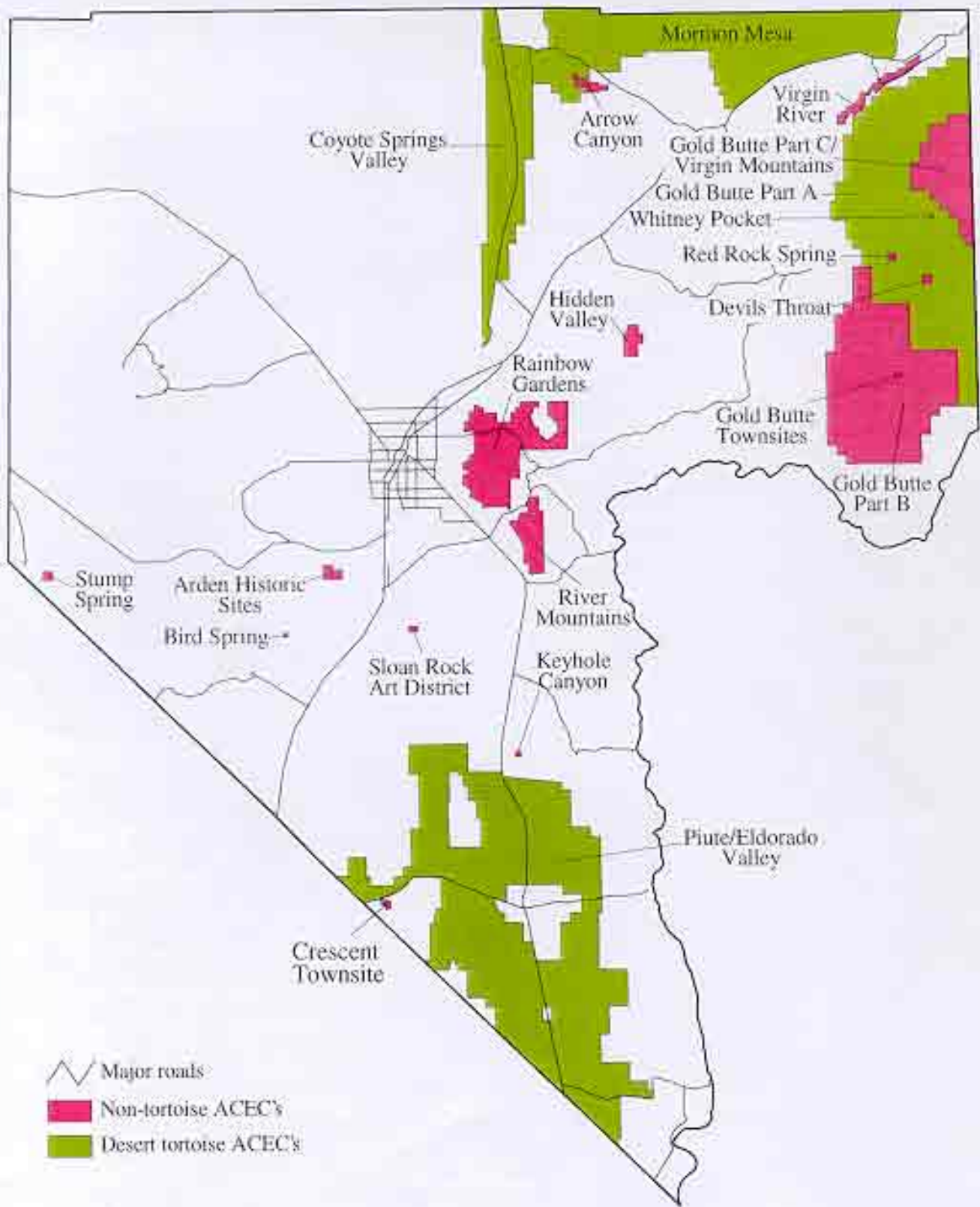
Four of the ACECs (River Mountains, Rainbow Gardens, Virgin River, and Virgin Mountain) are multiple-focus ACECs but include habitat and wildlife values as the focus of management.

(2) RMP Management Policies and Actions

The following RMP management objectives and directions are focused on, or provide benefits to, the species and habitats considered in the MSHCP process:

WATER RESOURCE AND RIPARIAN MANAGEMENT

- Ensure availability of adequate water to meet management objectives including the recovery and reestablishment of special status species.






-  Major roads
-  Non-tortoise ACEC's
-  Desert tortoise ACEC's



FIGURE 3-1
Areas of Critical Environmental
Concern (ACEC's)

- Provide variety of vegetation and habitat for wildlife, fish, and watershed protection; ensure that all riparian areas are in proper functioning condition; complete riparian assessments, improve riparian areas, retain riparian and mesquite woodlands in Federal ownership, control and eradicate tamarisk, and rehabilitate areas with native species.

VEGETATION AND FORESTRY MANAGEMENT

- Maintain or improve the condition of vegetation; manage to achieve desired plant community or potential natural community.
- Restore plant productivity on disturbed areas: rehabilitate, reclaim, or revegetate.
- Maintain woodland and conifer forest where possible for all-aged stands.

FISH, WILDLIFE, AND SPECIAL STATUS SPECIES MANAGEMENT

- Reestablish native fauna to historic habitat and improve population numbers in current use areas.
- Support viable and diverse native wildlife populations; manage mesquite and acacia woodlands for their value as wildlife habitat; protect artificial and natural waters that provide benefit to wildlife; protect key nesting areas, migration routes, important prey base areas, and concentration areas for birds of prey; protect important resting/nesting habitat, such as riparian areas and mesquite/acacia woodlands.
- Manage special status species habitats at the potential natural community or desired plant community, according to the needs of species; improve approximately 400 acres of aquatic and riparian habitat on the Virgin and Muddy Rivers and Meadow Valley Wash by replacing tamarisk with native species.
- Manage habitat to further sustain populations of Federally listed species; manage habitats for non-listed special status species to support viable populations so that future listing would not be necessary; enter into conservation agreements with the USFWS and State of Nevada to reduce the necessity of future listings.
- Manage desert tortoise habitat to achieve recovery criteria as defined in the Desert Tortoise Recovery Plan (USFWS 1994); manage 743,209 acres of the four desert tortoise ACECs specifically for desert tortoise recovery.
- Encourage the obtainment and dissemination of knowledge regarding the Mojave Desert ecosystem including desert tortoise biology; manage the Desert Tortoise

Conservation Center Management Area to support desert tortoise research associated with the Mojave Desert ecosystem.

LIVESTOCK GRAZING MANAGEMENT

- Close all allotments to livestock grazing within the planning unit, with the following exceptions: Hidden Valley, Mount Stirling, Lower Mormon Mesa, Roach Lake, White Basin, Muddy River, Wheeler Wash, Mesa Cliff, Arrow Canyon in Battleship Wash, Flat Top Mesa, Jean Lake (except in the ACEC), and Arizona administered allotments.

WILD HORSE AND BURRO MANAGEMENT

- Do not allow wild horses and burros in desert tortoise ACECs.

LANDS AND ACQUISITIONS MANAGEMENT

- Public lands located outside established disposal areas that would be considered for repositioning will not include ACECs or habitat of threatened, endangered, and special status species or other crucial wildlife habitat; there would be close coordination with USFWS, NDOW, and Clark County.
- Private lands would be acquired to enhance recovery of special status species and protect valuable resources.

RECREATION MANAGEMENT

- Ensure that recreation opportunities are in concert with protecting natural resources on public lands that attract users.
- In ACECs: Prohibit off-road vehicle events, four-wheel-drive hill climbs, mini-events, publicity rides, and high speed testing; limit non-speed and non-off-road vehicle events to designated roads and trails in desert tortoise ACECs and to existing road and trails in ACECs designated for other purposes.
- Other areas: Restrictions and stipulations necessary for protection of desert tortoise may be imposed within desert tortoise habitat.

OFF HIGHWAY/ROAD VEHICLE DESIGNATIONS

- Provide opportunities for off-road vehicle use while protecting wildlife habitat; prohibit speed-based events and impose limitations on non-speed-based recreation in desert tortoise ACECs.

CAVE MANAGEMENT

- Protect significant biological cave resources; implement closures to protect breeding, hibernating, or migrating bats from unnecessary disturbances; gate cave entrances to protect unique and fragile cave resources from damage or overuse.

MINERALS MANAGEMENT

- Solid leasable minerals: Allow only outside riparian and natural spring areas and outside ACECs.
- Fluid leasable minerals: Allow, only subject to no-surface-occupancy stipulations, within areas having important riparian resources, special status species plant and animal habitat, and ACECs.
- Locatable minerals: Do not allow in desert tortoise ACECs, except for highway maintenance use within 0.50 mile of state highway and county roads; mineral material disposal determined detrimental to desert tortoise would not be authorized.
- Material site rights-of-way: Do not allow in desert tortoise ACECs, except for material sites within 0.50 mile of federal aid highways.

FIRE MANAGEMENT

- Fire suppression criteria are based on site-specific resource management needs, including desert tortoise critical habitat.

b. U.S. Forest Service

Public Law 103-63, dated August 4, 1993 (the Spring Mountains NRA Act), established the Spring Mountains National Recreation Area and directed the USFS to develop the General Management Plan as an amendment to the Toiyabe National Forest, Land and Resource Management Plan. The USFS produced a draft GMP and EIS in April, 1996, detailing 12 different approaches to management of the NRA. Alternative M was ultimately selected as the management plan, with modifications based on public comment. The final plan was released in October, 1996.

In April 1998, the USFS, USFWS, and Nevada Department of Conservation and Natural Resources signed the Spring Mountains NRA Conservation Agreement. This agreement was developed to facilitate voluntary cooperation between the signatories in providing long-term protection for the rare and sensitive flora and fauna of the NRA. The GMP and CA emphasize conservation of biological resources, in particular, the rare, endemic, and

sensitive species of the NRA, through management direction and commitments to implement conservation actions in seven categories, which are briefly summarized here:

(1) Project Planning

- Maintain a philosophy of adaptive management and implement the principles of ecosystem management.
- Encourage development of trails and other recreational features outside of biodiversity hotspots.
- Secure funding for conservation actions and additional staff positions to assist in implementing the CA.
- Establish a technical advisory group to make recommendations on conservation actions.
- Integrate the CA with the Clark County MSHCP to ensure that mutual goals to achieve species conservation are accomplished.
- Coordinate with NRA staff, BLM, and others in implementing conservation actions included within the CA.
- Develop and implement ecosystem-level management programs (e.g., prescribed burning, fuelwood plan) with emphasis on ecosystem health and enhancement of habitat for the species of concern.

(2) Inventory

- Evaluate inventory priorities on an annual basis and coordinate with partners in development of inventory strategies.
- Conduct inventory of rare, endemic, and sensitive plants, butterflies, bats, neotropical migratory birds, raptors, and their habitats.

(3) Monitoring

- Evaluate monitoring priorities on an annual basis and coordinate with partners in development of monitoring protocols for species and habitats.

- Conduct annual monitoring of high-priority species and habitats, including rare plants, butterflies, Palmer's chipmunk, bats, springsnails, riparian habitats, and biodiversity hotspots.

(4) Protection

- Focus new recreation developments in the least sensitive areas of the NRA to lessen visitor impacts.
- Identify specific areas of exceptional sensitivity where conservation management will be emphasized over recreation.
- Protect species and habitats from the effects of dispersed recreation, including climbing, caving, equestrians, camping.
- Protect species and habitats in the NRA from the effects of other activities, including wild horses and burros, feral animals (e.g., cats and dogs), county vector control, cowbirds, activities in inholdings, and road maintenance.
- Manage wild horses and burros to avoid damaging the habitats of the species of concern.

(5) Restoration

- Develop native plant material and seed sources for restoration projects.
- Undertake priority restoration activities emphasizing springs, riparian areas, biodiversity hotspots, and other habitats for the species of concern.
- Develop and implement habitat restoration plans for campgrounds and day use areas to enhance resources for the species of concern.

(6) Research

- Secure funding, encourage, and support research in the Spring Mountains NRA.
- Develop an information package identifying and promoting research opportunities in the Spring Mountains NRA.

(7) Education

- Develop education programs highlighting biodiversity, sensitive ecological resources, and endemic species, for presentation to schools, users groups, town boards, and other groups.
- Develop brochures and display materials highlighting the unique resources and biodiversity for distribution at NRA facilities and trailheads.
- Develop and install information and education signs at trailheads and in sensitive habitats, providing information on low impact recreation and ecological resource protection.

c. National Park Service

Lake Mead NRA's enabling legislation, Public Law 88-639, dated October 8, 1964, requires the NPS to manage the area in such a means as to "enhance the recreation potential, and in a manner that will preserve the scenic, historic, scientific and other important features of the area." The NPS enabling legislation of 1916, often referred as the NPS Organic Act, requires that all units of the National Park System be managed so as to "conserve the scenery and the natural and historic objects the wildlife therein and to provide for the enjoyment of the same in such manner as will leave them unimpaired for the enjoyment of future generations." General direction for broad conservation strategies to meet the above mandates are found in the 1988 General Management Plan. Of the recreation area's 1,482,475 total acres, the GMP classified 1,200,180 acres as one of four conservation zones: natural environment subzone, environmental protection subzone, outstanding natural features subzone, and historic/archaeological feature subzone. The primary purposes for land management within these zones is to preserve the natural and historic objects and features while providing for appropriate recreational use. An additional 191,000 acres are the surface areas of the lakes, classified as reservoir subzone. Areas within the natural or historic features subzones are to be broadly managed to fulfill the requirements of the NPS Organic Act and Lake Mead NRA enabling legislation regarding resource conservation. The 1999 Resource Management Plan outlined strategic resource conservation goals for the next five years, as well as specific actions for conservation.

Existing policy and conservation goals would further the purposes of the Clark County MSHCP. These include:

- **Project Planning.** All projects within the recreation area with the potential to impact natural and cultural resources are reviewed by a management committee as to need and appropriateness. Projects tentatively approved then undergo staff analysis of potential impacts and review under the National Environmental Policy Act, National

Historic Preservation Act, and other pertinent laws. These reviews are generally consistent for preservation of values of interest to the MSHCP.

- **Inventory.** The NPS has initiated a program to develop a baseline inventory program over the next three years. Under that program, each park will establish a listing of the status of current inventories for all vertebrate species and vascular plants, along with a gap identification of significant species for which more inventory is necessary.
- **Monitoring.** Under the NPS Strategic Plan required by the Government Performance and Results Act, each park is required to identify its “vital signs” of ecosystem health and work for the establishment of a vital signs monitoring program. This program is consistent with long-term monitoring goals of the MSHCP.
- **Protection.** Lake Mead National Recreation Area, through its Strategic Plan under the Government Performance and Results Act, has identified resource protection as a significant need for the park. This includes increased enforcement presence for resource protection, as well as adoption of new strategies for monitoring resources for enforcement purposes. As an example, the recreation area established in 1999 a cactus poaching monitoring program, as well as established a parkwide inventory of land disturbances. The 1999 Resource Management Plan calls for establishing additional resource protection programs to prevent illegal off-road driving and other land disturbances.
- **Restoration.** The NRA’s Strategic Plan and the 1999 Resource Management Plan call for increasing the park’s capability in environmental restoration. This includes treatment of exotic plant species, riparian and spring habitat restoration (such as tamarisk removal), and the restoration of disturbed lands and soils.
- **Research.** The recreation area currently maintains a cooperative agreement for research with the University of Nevada System. Research needs have been identified in the 1999 Resource Management Plan and include the established of long-term monitoring protocols for indicator species and other ecosystem vital signs, as well as environmental restoration techniques.
- **Education.** The recreation area maintains a cooperative program with the Clark County School District for environmental education.

d. U.S. Fish and Wildlife Service

The Desert National Wildlife Range was established by Executive Order No. 7373 on May 20, 1936, for the protection, enhancement, and maintenance of wildlife, especially the Nelson’s bighorn sheep. Other approved purposes of the range include conservation of biological diversity with special emphasis on endangered, threatened, and candidate

species, including the desert tortoise; protection and maintenance of the integrity of recommended wilderness areas; and protection and maintenance of cultural resources.

The USFWS's current management of the range is mostly limited to custodial activities consistent with its purposes and objectives. Wildlife-related public use and recreation activities are permitted with restrictions to protect biological, wilderness, and cultural resources. Camping, backpacking, hiking, horseback riding, and hunting for desert bighorns are permitted with restrictions. Vehicles are restricted to designated roads that are excluded from wilderness recommendation, camping is not permitted within 0.25 mile or within sight of a wildlife water source, and recreationists are required to provide their own water, including for horses. Beginning in 1940 and continuing to the present, a military withdrawal has been superimposed on the western portion of the range, and the U.S. Air Force is authorized to use portions for aerial bombing and gunnery activities. Approximately 20 percent of the military overlay is designated as impact zones for air-to-ground ordnance delivery where ordnance may actually strike the ground. The balance of the military withdrawal permits control of air space with minimal impact to surface resources. Public access to the military withdrawal is highly restricted.

3.2.1.2 Potential Redesignation of Proposed Wilderness and Wilderness Study Areas

Wilderness Study Areas are areas subject to Congressional consideration for designation as wilderness. Each Federal land management agency has inventoried their lands for suitability for inclusion in the wilderness system and forwarded recommendations to Congress. Congress may at some future time act to designate areas as wilderness or release the areas from further consideration. In the interim, these areas must be managed so as not to reduce their potential values as wilderness. However, a decision regarding wilderness designations may be reached during the 30-year permit period and areas released from wilderness consideration will revert to underlying management policy that could affect their potential value for conservation of habitats and species.

This action to redesignate WSAs would occur independently of actions adopted under the MSHCP. If the WSAs are redesignated, it could affect the underlying conservation management assumed for the MSHCP. Therefore, for the MSHCP, the redesignation is considered a contingent sub-alternative of the proposed action and the differences in conservation management of releasing areas designated as WSA and applying the agency's underlying general management policies and actions to these areas assessed separately.

a. Bureau of Land Management

BLM's WSAs total 473,300 acres, or 40.2 percent of the total IMAs within their jurisdiction and 16.8 percent of their total jurisdiction (Table 3-1; Figure 3-2).

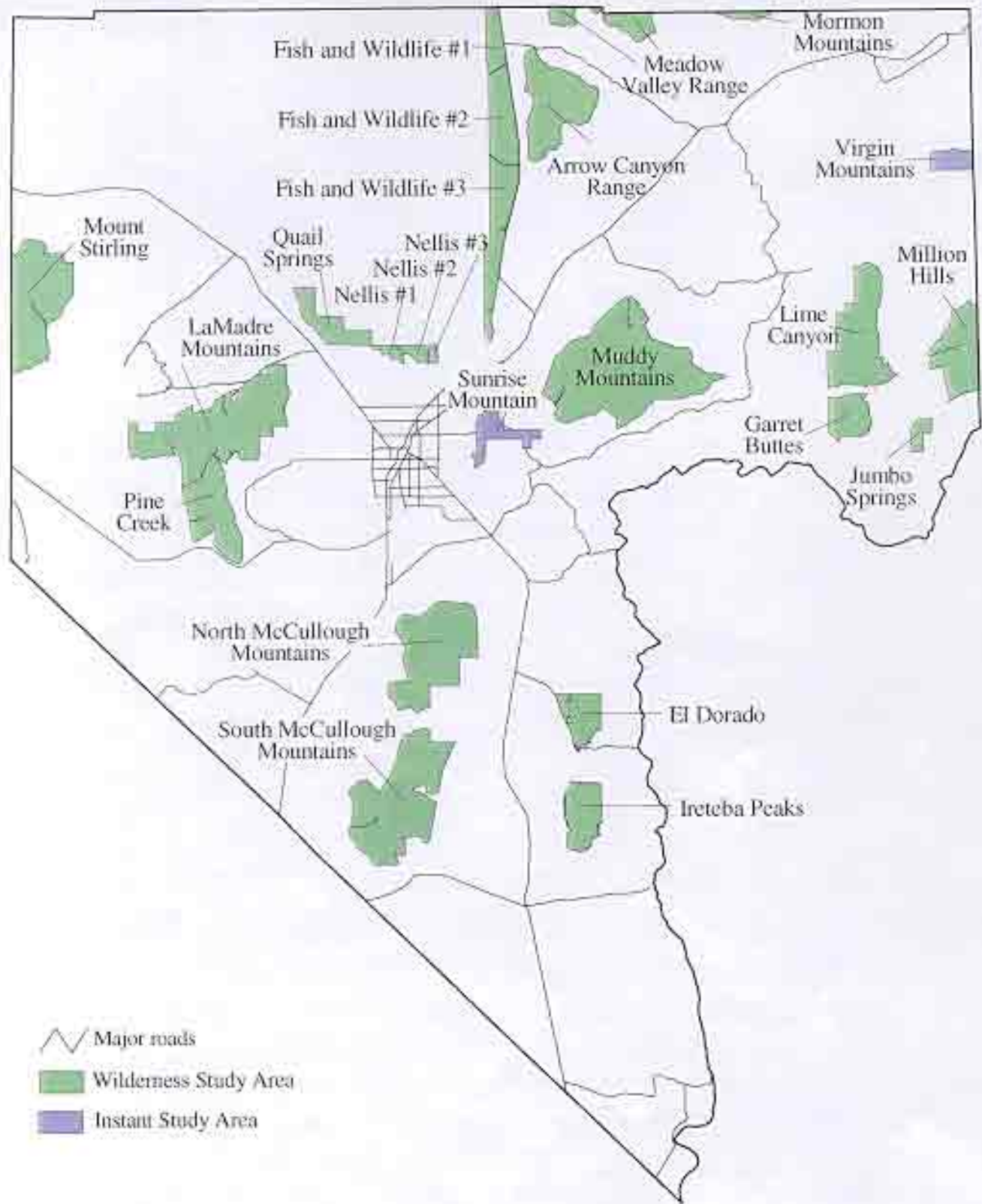


FIGURE 3-2
Wilderness Study Areas (WSA's)

**TABLE 3-1
BLM WILDERNESS STUDY AREAS**

WSA	Acres	Acres Recommended for Wilderness
Arrow Canyon	33,800	None
Eldorado	12,200	None
Fish and Wildlife #1	7,700	None
Fish and Wildlife #2	17,400	None
Fish and Wildlife #3	22,000	None
Garret Buttes	11,900	None
Ireteba Peaks	15,700	None
Jumbo Springs	3,500	None
La Madre Mountain	42,100	23,000
Lime Canyon	35,100	13,900
Million Hills	22,500	None
Mount Stirling	4,200	800
Muddy Mountains	87,200	36,900
Nellis A-B-C	6,000	None
North McCullough Mountain	46,100	None
Quail Springs	12,400	None
South McCullough Mountain	57,500	20,000
Sunrise Mountain	10,100	None
Virgin Mountain	5,800	None
Total	473,300	94,600

Only 94,600 acres (20.4 percent) of the total acreage in WSAs is recommended for designation as wilderness by the BLM, and if Congressional action is taken, it is likely that most of these areas would be returned to multiple use management. Assuming existing BLM management policies and actions, this reversion would have potential effects upon the conservation of habitats and species.

The BLM WSA designation imposes additional use restrictions and management requirements compared to other BLM multiple use managed areas. The BLM WSAs currently include management areas for wild horses and burros, grazing only by existing rights, and mining of valid mineral claims. WSAs are closed to new grazing or mining exploration and are avoidance areas for new roads or rights-of-way. Recreational uses are generally dispersed, with OHV use restricted to designated roads and trails. Fire is managed at the lowest suppression level possible.

Regardless of the ultimate decision on wilderness designation, of the 473,300 acres within the BLM WSAs, 112,600 acres (23.7 percent) would remain as IMAs, primarily as critical or conserved habitat for the desert tortoise; 61,800 acres (13.0 percent) would be managed as LIMAs, within the Red Rock Canyon NCA; and 298,900 acres (63.1 percent) would be managed as MUMAs under existing multiple use BLM management objectives.

b. U.S. Forest Service

The Spring Mountains National Recreation Area includes three WSAs: La Madre Mountain, Mount Stirling, and Pine Creek, which comprise 63,200 acres, or 38.8 percent of the NRA (see Figure 3-2; Table 3-2).

**TABLE 3-2
USFS WILDERNESS STUDY AREAS**

WSA	Acres	Acres Recommended for Wilderness
La Madre Mountain	20,300	19,300
Pine Creek	4,700	4,600
Mount Stirling	38,200	29,700
Total	63,200	53,600

USFS management policies identify three types of management areas: Wilderness, WSAs, and the NRA. Wilderness areas are more intensively managed and restricted in uses, with primitive or semi-primitive, roadless, non-motorized recreation opportunities, lack of developed facilities, and public access restrictions. Management policies are generally more restrictive in WSAs than in the rest of the NRA but are not as restrictive as areas designated Wilderness. For example, existing roads, trails, and recreational use areas are maintained, but new facilities will not be developed unless the WSA designation has been removed. The remainder of the NRA is managed for a broader spectrum of uses and includes intensive public recreational use areas. However, the underlying management policies and actions for WSAs and the NRA are not substantially different, especially with the additional measures provided for in the SMNRA Conservation Agreement. Therefore, reversion from WSA to NRA management should not have a significant effect upon conservation management.

USFS recommendations within the SMNRA for wilderness designations cover 53,600 acres (84.8 percent) of the current WSAs. If adopted, the newly designated wilderness areas would probably have a decrease in public use and access levels, which would enhance their value as conservation lands. Areas not designated as wilderness would not experience any significant decrease in conservation-related management actions, although some additional dispersed recreational use and facilities could result.

c. National Park Service

In 1979 the National Park Service conducted a wilderness suitability inventory for Lake Mead National Recreation Area. That inventory identified 418,655 acres within the recreation area as meeting qualifications for classification as wilderness. It also identified an additional 262,125 acres as meeting standards to be classified as potential wilderness. This includes 208,330 acres meeting the wilderness standards and an additional 85,950 acres of potential wilderness within Clark County. These areas include designated

tortoise habitat north and south of Cottonwood Cove and the Gold Butte area. The existing approved road system was taken into account as potential wilderness blocks were identified. NPS Management Policies, published to guide policy decisions for all units of the National Park System, require that parks manage areas having been classified as suitable for wilderness or potential wilderness in such a manner as not to degrade the wilderness values. The recreation area has been taking these wilderness values into account of overall management since the 1979 wilderness suitability inventory.

d. U.S. Fish and Wildlife Service

Approximately 85 percent of the Desert National Wildlife Range, including most of the refuge area in Clark County, is proposed for wilderness designation. The USFWS's management of this area is guided by the 1997 National Wildlife Refuge System Administration Act and future Comprehensive Conservation Plan for the DNWR. As such, the proposed wilderness does not impose additional use restrictions or management actions within the DNWR. Conservation management within the DNWR would not change even if the potential wilderness designation were removed.

3.2.2 Proposed MSHCP Alternative

Chapter 2 describes the proposed action in detail. The MSHCP proposes a suite of conservation measures to be implemented by the participating agencies that are drawn from existing management policies and actions and additional proposed actions. MSHCP proposed conservation actions that are not currently included in existing conservation policies, plans, and actions by the participating agencies are summarized below. Conservation measures contained in existing management plans are listed in Sections 2.8.4 through 2.8.9 of the MSHCP. Many of these measures are currently being implemented by the management agencies, either through existing agencies budgets, under the terms of the DCP, or through expenditure of Section 7 remuneration fees. Others are currently not being implemented, either because they are currently not DCP priorities or because funding is not available to implement these actions through the existing management budget.

3.2.2.1 Take

The MSHCP will allow incidental take of Covered Species under the Section 10(a) Permit from otherwise lawful activities for the 30-year term of the permit. Although the entire 10(a) Permit area includes an estimated 375,000 acres with potential for development, not all of the land will be developed during the 30-year permit period. Revised population projections described in this MSHCP (Sections 2.3.3 and 2.9) project an increase in the rate of land disturbance to approximately 121,000 acres at the end of the term of the DCP in the year 2023 and 130,000 acres at the end of the proposed 30-

year term of the MSHCP in the year 2028. The applicant is requesting an incidental take permit that would cover 79 species on 145,000 acres of land disturbance on non-Federal lands in Clark County and desert tortoise on NDOT rights-of-way below 5,000 feet, south of the 38th parallel in Nye, Lincoln, Mineral, and Esmeralda Counties.

The MSHCP analysis considered over 225 species for possible coverage under the MSHCP. The 79 species that are currently proposed are those for which sufficient information on status, threats, and conservation needs are available to support issuance of an incidental take permit or prelisting agreement (Section 2.6). The remainder of the species will remain under evaluation, and future phases of the MSHCP may include permit requests for incidental take of additional species as the appropriate level of information becomes available on minimizing and mitigating the effects of take.

3.2.2.2 Funding and Coordination

Mitigation fees of \$550 per acre were established under the DCP for take on private lands and for NDOT activities including road widening, new construction, and material sites outside of the DWMA's. Multiple species inventory and protective measures were included in the DCP. The MSHCP integrates the provisions of the DCP and broadens the scope of the activities to be funded with the mitigation fees. The USFWS reviews, evaluates, and prepares a report concerning each biennial management plan and budget review, and provides a written report. The report evaluates the consistency of the proposed management plans with the ESA, recovery plans, and this plan, after approval of the proposed management plans and budgets by the I & M Committee. In the event that the management plan and budget is not consistent with the ESA, recovery plans, and this plan, the matter shall be referred back to the I & M Committee for further review and approval.

The MSHCP includes the following funding and coordination measures:

- Implementation of an endowment fund from the collection of a \$550-per-acre development fee, as described in Section 2.8.3.1 of the MSHCP.
- Management and administration of the MSHCP by the Plan Administrator and through the I & M Committee, as described in Section 2.8.3.3 of the MSHCP.
- Implementation of the Public Information and Education Program by the PIE subcommittee, appointed by the I & M Committee, as described in Section 2.8.3.4 of the MSHCP.
- Purchase of grazing allotments and interest in real property and water rights, as described in Section 2.8.3.5 of the MSHCP.

- Maintenance and management of grazing allotments, land and water rights, and real property that has been acquired, as described in Section 2.8.3.6 of the MSHCP.
- Construction of barriers along linear features to protect the desert tortoise and other wildlife, as described in Section 2.8.3.7 of the MSHCP.
- Translocation of desert tortoise, as described in Section 2.8.3.8 of the MSHCP.
- Participation in and funding of local rehabilitation and enhancement programs, as described in Section 2.8.3.9 of the MSHCP. These programs include the activities of the Muddy River Regional Environmental Impact Alleviation Committee, development of the Las Vegas Wash Wetlands Park, development of the rural roads adaptive management program, and assistance in implementing the terms of the Las Vegas Bearpoppy Memorandum of Agreement.
- Cooperate and coordinate with the federal land managers, the USFWS, and the AMP contractor to develop consecutive and complementary biennial AMP tasks and projects which qualify for funding from the Southern Nevada Public Lands Management Act pursuant to the MOU included as Appendix K.
- Cooperate and coordinate with the federal land managers, the USFWS, and the AMP contractor to develop consecutive and complementary MSHCP development actions and projects which qualify for funding from PLMA pursuant to the MOU included as Appendix K.

Under the terms of the MSHCP, Federal and State land managers, including the USFS, USFWS, BLM, NPS, USAF, NDOW, NDOT, Nevada Division of State Parks, and NDF, would agree to implement specific conservation measures that would offset the development of non-Federal lands in Clark County.

The conservation actions proposed to be carried out over the life of the permit by the participating agencies are provided in Sections 2.8.4 through 2.8.9 of the MSHCP. Many of these actions are funded through existing resource management agency budgets, which are established on an annual basis. Additional conservation actions are funded through the DCP and Section 7 remuneration fees. The proposed MSHCP would provide additional funding to undertake mitigation and minimization measures necessary to offset the adverse effects of the MSHCP permit. The cooperating agencies would include in their budget requests adequate funding to allow them to fully perform the obligations and tasks assigned to them through the MSHCP. In addition, each agency would coordinate and cooperate with the I & M Committee with respect to the expenditure of remuneration fees paid to any Federal land manager or to any other entity in Clark County designated by the USFWS as a result of authorization of incidental take pursuant to Section 7 in

order to avoid duplication of effort and to ensure the efficient utilization of both MSHCP and Section 7 funds.

The USFWS, the Applicants, Participants, and the I & M Committee recognize that it will neither be necessary nor feasible to carry out all possible conservation actions in the initial years of the permit period. Immediate conservation needs of the covered and high evaluation species would be identified and initially funded through the first biennial budget of the permit. These measures, in conjunction with conservation actions carried out under existing resource management agency budgets and conservation programs, would minimize and mitigate the adverse effects of the proposed action during the first two years of the permit. The appropriateness of these measures in future years, and the need to identify and fund additional conservation actions to replace the initial measures, would be evaluated through the adaptive management process (see below). The following initial conservation measures would be funded through the MSHCP during the first biennium:

a. Public Information and Involvement

- Activities of the PIE subcommittee (media, public contacts)
- Desert tortoise pickup, handling, translocation, and adoption programs
- BLM, USFS, NDOW, MRREIAC brochures and signs

b. Research

- Desert tortoise translocation
- Desert tortoise survivorship
- Desert pocket mouse genetics
- Palmers chipmunk genetics
- Yellow twotone beardtongue genetics
- Chuckwalla ecology and genetics

c. Inventory

- Skink, gecko, and night lizard surveys
- Rare plant inventory on BLM, USFS, and NPS lands

- Yellow twotone beardtongue inventory
- Neotropical breeding bird surveys
- Bat inventory
- Relict frog inventory
- Desert pocket mouse inventory
- Springsnail surveys

d. Monitoring

- Line distance sampling and other desert tortoise monitoring programs
- Springsnail monitoring
- Palmer's chipmunk monitoring
- Monitoring Avian Productivity and Survivorship (MAPS)

e. Protective Measures

- ACEC road maintenance, barrier installation, boundary signs, and fencing
- Bearpoppy fencing
- Desert tortoise highway fencing
- BLM, NPS, USFS, Boulder City Conservation Easement enhanced law enforcement and ranger capabilities
- Predator control program (feral cats, cowbirds, ravens, etc.)
- BLM Mesquite Management Program
- Bat gates on mines and caves

f. Restoration and Enhancement Measures

- MRREIAC restoration program on Muddy River
- NPS/ BLM/USFS riparian restoration team

- NPS/BLM upland habitat restoration and rehabilitation
- Las Vegas Wash Wetlands Park habitat restoration
- BLM Mesquite Management Program
- Springsnail habitat restoration and species reintroduction

g. Land Use Policies and Actions

- NDF development of management plans for state-listed covered plants
- Clark County grazing acquisitions
- Land and habitat acquisition program for the upper Muddy River

3.2.2.3 Adaptive Management

As described above, the MSHCP would entail funding, coordination, and implementation of conservation activities that would minimize and mitigate the adverse effects of permit issuance on the species proposed for coverage. The first biennial budget provides funding for the initial conservation measures believed by the Applicants and the I & M Committee to constitute a comprehensive set of actions to conserve the covered species and their habitats. However, recognizing that conditions with Clark County and the overall status of species will change over time, the MSHCP Alternative includes a scientifically based adaptive management program to gauge the effectiveness of existing conservation measures, and to propose additional or alternative conservation measures, as the need arises, to deal with changed circumstances. The AMP is described in detail in Section 2.8.2 and in the AMP Scope of Work developed by the University of Nevada, Reno, Biological Resource Research Center. The MSHCP is based on the assumption that the appropriate type and level of covered species conservation will occur on non-private lands in IMAs and LIMAs and to a lesser extent in the MUMAs. The AMP is designed to evaluate ecosystem health and management effectiveness in these areas and should provide information that can be used to make changes in management, as needed, to assure adequate conservation of the covered species and their habitats in perpetuity. In the first biennium, the AMP will focus on the following areas:

The **Spatial Analysis/Database/Geographic Information System (SADG)** will facilitate implementation, validation, and effectiveness monitoring of MSHCP activities. One important component of the SADG is the ability to track project implementation and provide quarterly reports on the activities of the agencies and others responsible for carrying out the minimization and mitigation measures described in the MSHCP. The SADG will also be used to conduct analyses of the distribution of species and “hotbeds”

of biological diversity. These analyses will provide the scientific basis for management decisions based on objective criteria. Such decisions might include repositioning, reconsideration, or reconfiguring of IMAs and LIMAs to provide for the maximum level of conservation for individual or suites of species. Other management decisions that may be facilitated by the SADG include opening or closing areas to recreation, mining, utility corridors, land disposals, or other multiple-use activities; emphasizing or deemphasizing law enforcement activities; and prioritizing habitat restoration projects.

The **Indicator Species** component of the AMP will identify “shortcuts” for monitoring many species and ecosystems without monitoring every individual species. This will involve stratifying the covered species into three groups: disturbance dependent (species that require disturbance to thrive and reproduce), disturbance tolerant (species that neither require nor are negatively affected by disturbance of habitat), and disturbance averse (species that require no disturbance to thrive and reproduce). The indicators project will use sampling arrays to sample presence, absence, and abundance of species at numerous sites differing in amount (or absence) of disturbance. The data will be subjected to multivariate analysis to determine the most appropriate indicators of individual species and ecosystem health for gauging management effectiveness in the IMAs, LIMAs, and MUMAs.

Various anthropogenic disturbances are ongoing in the IMAs, LIMAs, and MUMAs, some of which may ultimately have an adverse effect on the covered species. The AMP will assure an appropriate level of monitoring through the use of the SADG and indicator species components of the AMP. Over the life of the permit, monitoring through the AMP will be focused on threats perceived to be having damaging effects on the covered species and their habitats. Initially, use of rural roads in the IMAs and LIMAs is perceived as the single greatest impediment to effective conservation management of the covered species and their habitats. The **Rural Roads Project** will evaluate the effects of rural road use on the covered species. The Rural Roads Project overlaps with indicator species activities in scope and approach.

Finally, management of the MSHCP will entail constant assessment of the effectiveness of management actions. The AMP will, over time, focus on the various management activities being funded through the MSHCP to gauge effectiveness and provide scientifically based information to determine the need for modifying management direction. Initially, this component of the AMP will be focused on evaluating the conservation activities, in particular, tamarisk control, being undertaken on the Muddy River. The **Muddy River Efficacy Monitoring** component of the AMP will initially define the desired future condition of the Muddy River ecosystem. The existing tamarisk removal effort provides the experimental framework for collecting data in areas not yet modified, areas recently modified, and areas modified in recent years. An inventory of species using these areas is clearly needed before initiating monitoring. Results derived

from efforts along the Muddy River will be exportable and should be useful for guiding future efforts on the Virgin River and Las Vegas Wash.

3.2.3 Low Elevation Ecosystems MSHCP Alternative

This alternative would cover approximately 29 species occurring primarily within the lower elevation ecosystems (blackbrush, salt desert scrub, Mojave desert scrub, mesquite/catclaw, and desert riparian). Lands supporting these ecosystems are primarily under the jurisdiction of BLM, NPS, NDOW, State Parks, and NDOT. Conservation measures in existing plans as well as new measures proposed under the MSHCP that apply to these low elevation areas would be implemented, while existing conservation plans, measures, and actions for ecosystems at higher elevations above the blackbrush community, particularly those in the SMNRA GMP and CA, RRCNCA GMP, and DNWR, would continue to be implemented as agency funding permits. Incidental take of high elevation species would not be covered under this permit and would require separate consultation and permits for individual take on private lands under Section 10 of the ESA. Funding for mitigation of take on private lands and from NDOT and local government activities established under the DCP would continue. The DCP allows, to a limited extent, these mitigation funds to be extended to other species, for implementation of conservation actions that benefit species other than the desert tortoise. Funding and coordination under the low elevation MSHCP would be more broadly focused on the conservation needs of multiple species. However, such funding and coordination would not be afforded to species within high elevation ecosystems (blackbrush communities and above). These high elevation lands comprise about four percent of lands under private ownership or local government jurisdiction in Clark County. The USFWS would consider issuance of individual Section 10(a) Permits within these areas as requested. As the low elevation MSHCP alternative encompasses most of the Federal land under BLM jurisdiction in Clark County, the potential future consequences of redesignating WSAs would affect this alternative to much the same degree as for the No Action or MSHCP Alternatives. For those WSA lands that could be redesignated to mixed-use management (approximately 300,000 acres), conservation potential could be diminished.

3.2.4 Permit Only for Threatened, Endangered, or Candidate Species

This alternative would cover the seven Federally or state listed and candidate species. The actions proposed would focus on the following species and their habitats within Clark County.

- Mojave desert tortoise – Mojave desert scrub and blackbrush covered by the DCP. (The provisions of the DCP would be integrated into this alternative.)

- Southwestern willow flycatcher – limited areas of lowland riparian habitat along the Virgin and Muddy Rivers and Las Vegas Wash.
- Yellow-billed cuckoo – limited areas of lowland riparian habitat along the Virgin and Muddy Rivers and Las Vegas Wash.
- Blue Diamond cholla – limited to a small area of Mojave desert scrub in the Blue Diamond Hills, mostly included within the Red Rock Canyon NCA, with a small portion on patented mine lands.
- Las Vegas bearpoppy – in patches of gypsiferous soils within Mojave desert scrub and salt desert scrub in the Las Vegas Valley and eastern Clark County.
- Threecorner milkvetch – in sandy patches within Mojave desert scrub in the Virgin and Muddy River basins.
- Sticky buckwheat – in sandy patches within Mojave desert scrub in the Virgin and Muddy River basins.

Moapa dace, woundfin, and Virgin River chub are also Federally listed species but would not be proposed for coverage in the initial phases of this alternative. These and other species listed in the future may be added as suitable conservation plans are developed.

As this alternative encompasses much of the Federal land under BLM jurisdiction in Clark County, the potential future consequences of redesignating WSAs affect this alternative to much the same degree as the MSHCP. Redesignation of WSAs to MUMAs could diminish the underlying conservation potential of these areas.

3.2.5 Alternative Terms for the MSHCP

These alternatives would shorten the term of the permit to 20 years or lengthen the term of the permit to 50 years, at which time it could be reauthorized, modified, or terminated. Administration, coordination, and general and specific protection measures would be implemented as for the 30-year-term MSHCP. These alternatives would commit the USFWS to incidental take authorizations, prelisting agreements, management coordination, and funding of specific conservation activities through the 20- or 50-year terms.

3.3 Comparison of the Alternatives

3.3.1 No Action Alternative

The No Action Alternative would require the USFWS to individually review and permit any actions with the potential to cause effects to listed or candidate species or their habitats, with the exception of the desert tortoise, which would continue to be covered under the existing DCP. Separate Section 10(a) Permits for each listed species would be required for individual actions on non-Federal lands. Measures to minimize or mitigate take would need to be developed and implemented for each action. In some cases, this could require acquisition and dedication of private lands in Clark County. The No Action Alternative would be disadvantageous to the USFWS and to the individual Applicants, as it would increase labor, costs, and permit processing relative to the proposed MSHCP. Regulatory review under the ESA would be an integral factor in the otherwise orderly growth and development of the region.

This alternative would also be disadvantageous in that species other than the desert tortoise would not derive the benefits of a regionally based conservation approach, such as would be facilitated through the MSHCP program. The MSHCP also coordinates funds and helps implement conservation measures on Federal lands (5,000,000 acres). The coordination and funding mechanisms of the MSHCP would not be made available to these various agencies and the USFWS under the No Action Alternative. While the conservation policies and management directions of the resource management agencies would be in place, many of the existing conservation actions and programs contained in the GMPs and RMPs include unfunded or underfunded programs. In the absence of the MSHCP, other sources for this additional funding would have to be identified and secured in order to guarantee the enhanced conservation approach afforded by the MSHCP.

The Adaptive Management Process for facilitating conservation programs would not be assured under the No Action Alternative. At present, each Federal jurisdiction has its own set of sensitive species, monitoring programs, and conservation priorities. With the exception of the desert tortoise under the DCP, and the Las Vegas bearpoppy, these existing programs are not well coordinated between agencies, targeted to regional species priorities, or integrated into a systematic ecosystem-based program of review and oversight.

The No Action Alternative would provide fewer conservation measures to avoid future listings of species. The MSHCP includes measures to conserve habitat and prevent threats and stressors from further reducing the viability of sensitive but not yet listed species in Clark County.

3.3.1.1 Agency Resource Management under the No Action Alternative

a. Bureau of Land Management

The management policies and actions contained in the BLM RMP potentially enhance conservation on BLM lands, the largest Federal land jurisdiction in Clark County. Under the No Action Alternative, these actions would be undertaken, but absent the benefits of funding and coordination that would be derived from multispecies planning efforts included in the other alternatives.

Since the RMP was adopted, a number of underlying management changes resulted that, regardless of which alternative is ultimately selected, are generally beneficial to the species being considered in this EIS. In general, the RMP increases conservation management of habitats and species relative to existing management actions and increases the conservation potential on BLM lands. BLM is formally designating over 955,000 acres as Areas Of Critical Environmental Concern, for the conservation of Federally listed and special status wildlife and plants including 6,400 acres along the Virgin River and 560,000 acres for desert tortoise.

Other RMP actions that beneficially affect conservation values include reduction in areas open to future grazing, reduction in herd management size for wild horses and burros within desert tortoise ACECs, restrictions on new mining claims in ACECs, more specialized recreation management with intensity of use and OHV activities directed to specific areas avoiding conflicts with sensitive habitats or special status plants and wildlife, and designation of utility and rights-of-way corridors.

b. U.S. Forest Service

Management of the Spring Mountains through the USFS SMNRA and the SMNRA conservation agreement should similarly enhance conservation on USFS lands. Since well before adoption of the SMNRA Conservation Agreement in 1998, the USFS, USFWS, NDOW, and others have cooperated on various conservation activities to benefit endemic and sensitive species and enhance their habitats. To date, most activities have been focused on filling out the inventory data base and developing species and community level monitoring programs. A primary focus in future years will be on protection, restoration, and public education. Under the No Action Alternative, conservation-oriented management of the Spring Mountains would continue but would not be enhanced by the funding and coordination that would be afforded through the various MSHCP Alternatives.

c. National Park Service

Management of Lake Mead National Recreation under the existing GMP, RMP, and laws and policies related to the National Park Service would enhance conservation on NPS

managed lands. The National Park Service has been managing the recreation area since 1964, with identified resource protection and conservation strategies. Capability in resource management has increased over the last 10 years. Many projects have been undertaken already, many in concert with the Clark County DCP, which protect and monitor species and their habitats. A primary focus over the next five years is to develop strategic programs for resource protection, to restore damaged habitats, and through education, to enhance public awareness of the natural resources within the recreation area. Under the No Action Alternative, conservation-oriented management of the recreation area would continue, but not at the level that can be achieved by enhanced funding and coordination that are afforded under various MSHCP Alternatives.

d. U.S. Fish and Wildlife Service

Regardless of which alternative is selected, the USFWS will continue to manage the DNWR for bighorn sheep, other wildlife species, and other biological resources. However, under the No Action Alternative, resource management on the DNWR would not be enhanced by the funding and coordination that would be derived from multispecies planning efforts included in the other alternatives. Further urbanization of the Las Vegas Valley will negatively affect the DNWR, particularly in the southern portions of the range. Under the No Action Alternative, it will become increasingly more difficult, over time, to maintain the undisturbed character of the range.

3.3.1.2 Potential Redesignation of Proposed Wilderness and Wilderness Study Areas

If wilderness and WSAs were not designated, these areas would revert to some level of multiple use management rather than intensive management to maintain wilderness values of the land. This may increase the level of land use intensity and range of uses from current management. Changes in land use on BLM lands could include opening areas to new mining claims, opening areas to new grazing activities, increases in use of motorized and off-highway vehicles, increased recreational uses, and opening of areas to rights-of-way for roads or utilities. There could also be changes in land use on USFS, NPS, and USFWS lands.

Regardless of which alternative is selected, measures to minimize these potential impacts include requirements for permit review of new mining claims or grazing rights, road, and utility crossings. Management of desert tortoise habitat under the provisions of the DCP, as well as conservation provisions of other existing management plans, would remain in effect after redesignation. Thus, no significant deterioration of habitat quality or direct or indirect unmitigated impacts to sensitive species should result. The cumulative area of habitat that would be affected (approximately 450,000 acres) is limited in area and

comprised primarily of blackbrush and Mojave desert scrub, which are the most extensive ecosystems in Clark County.

Under any alternative, newly proposed uses in redesignated WSAs would require consideration of their potential impacts to conservation on a case-by-case basis, however, under the No Action Alternative, protective and adaptive management measures may not always be adequate, given limitations in funding.

3.3.2 Proposed MSHCP Alternative

The MSHCP has been developed from extensive research, coordination, and review of available information about habitats and sensitive species occurring in Clark County. Over 225 species were initially considered for coverage under the plan. Taxonomic specialists reviewed the available information regarding each species and developed priority lists for species based upon known information regarding the species, range, distribution, population, and potential threats and stressors. Information was also compiled on ecosystems and habitat distributions, species occurrences within habitats, and existing and potential land uses. Current Federal, state, and local agency land management policies and actions were compiled and evaluated with respect to conservation needs. These data were used to identify potential threats and stressors to habitats and sensitive species and management gaps and needs. From review of these data and input from taxonomic specialists, agencies, and interested organizations and individuals, a determination of species that could be covered under the permit and a conservation program addressing management needs, funding sources, oversight and coordination, and implementation was developed.

From a conservation perspective, the advantages of the MSHCP Alternative include:

- It is organized by ecosystems rather than geographical or jurisdictional boundaries and evaluates all the lands within the county within each ecosystem.
- It is based upon comprehensive review and analysis of available data on species, habitats, land use, and land management.
- It has been subject to extensive review by technical specialists, agencies, organizations, affected jurisdictions, and interested individuals.
- It is focused not only on protective conservation measures for currently listed species but provides means to monitor and conserve habitats and species that may become eligible for listing in the future, thereby enhancing long-term conservation and reducing the need for future regulatory action.

- Through the \$550/acre development fees and endowment structure, it provides assurances for funding of conservation measures identified in the MSHCP.
- It provides an administrative structure for coordination and implementation of the program with participating agencies and organizations which reports to the USFWS on a regular basis with respect to actions taken, priorities for future action, expenditures, and budget.
- It provides a formalized organizational and review structure for adaptive management, including inventory, monitoring, technical review of data, data management, status review, and prioritization of activities.
- The MSHCP under the WSA redesignation condition would still function to provide assurances of habitat quality and other conservation benefits to Covered Species.

Benefits of the MSHCP Alternative to Clark County and other participating agencies include the following:

- It provides a surety of process for the orderly development of Clark County under existing local land use plans and policies.
- It does not preclude economic or public uses of Federal and non-Federal lands.
- It is organized around and builds upon existing management objectives and conservation programs on Federal and state lands rather than the acquisition and specialized management of large blocks of habitat under non-Federal jurisdiction.
- Applicants covered under the Section 10(a) Permit would receive assurance that incidental take of listed, candidate, or sensitive species from otherwise lawful activities would not result in additional USFWS review or imposition of measures for the conservation of species or habitat under the ESA.

3.3.3 Low Elevation Ecosystems MSHCP Alternative

This alternative would cover future take of species that primarily occur on approximately 96 percent of the habitat subject to impact from otherwise lawful activities in Clark County. It would prioritize coordination, monitoring, and conservation management to MUMAs under Federal and state jurisdictions that receive higher levels of public use. Higher elevation ecosystems and species not covered under the alternative are predominantly within Federal lands that are designated for low-impact public use and have conservation management policies and programs established or adopted but awaiting implementation. These use designations and existing conservation management

actions would not be affected, though additional support from the MSHCP programs would not be added to enhance the effectiveness of existing policies and programs.

This alternative results in a substantial reduction in the number and diversity of types of sensitive species covered under the permit. The 29 species covered under this alternative include 2 mammals, 2 birds, 6 reptiles, 1 amphibian, and 18 plants. Take of species covered under this alternative would primarily occur within 358,600 acres of lands subject to take within the lower elevation ecosystems, as compared to 375,000 acres under the MSHCP. This area would cover most of the private land in Clark County, except portions within the Spring Mountains, Sheep Mountains, DNWR, and Red Rock Canyon NCA. This alternative covers future take in the Las Vegas Valley, and all but 16,400 acres of other non-Federal areas of Clark County.

While this alternative would afford the benefits of the MSHCP on low elevation species and habitats, it leaves the responsibility for conservation of higher elevation species in Clark County to agencies entering into conservation agreements outside the permit process. The Spring Mountains NRA is the subject of a conservation agreement with the USFWS for a number of species and conservation policies and actions. By excluding these areas from the permit, species monitoring, habitat protection, and other conservation management activities agreed to by the agencies would not be supported by MSHCP funding.

3.3.4 Permit Only for Threatened, Endangered, or Candidate Species

Although this alternative would fulfill the mandates of Section 9 of the ESA for listed and candidate species, it would not be ecosystem based, would not provide the broader and more comprehensive conservation actions benefiting other sensitive species which would minimize the need for future listings of sensitive species, and would not provide the surety of process to private landowners and participating agencies for species that could be newly listed in the future.

Since there are no listed species inhabiting the high elevation ecosystems in the county, this alternative would not provide conservation benefits to species within most of the high elevation ecosystems (alpine to blackbrush), which comprise about four percent of lands under private ownership or local government jurisdiction. It would also not directly benefit low elevation habitat areas outside of the DCP and the limited distributions of the listed and candidate species. The USFWS could issue individual permits within these areas.

3.3.5 Alternative Permit Terms for the MSHCP

The alternative permit terms would primarily affect the biennial funding levels for MSHCP programs, the total expenditures for conservation actions under the MSHCP, the length of time available to develop and implement the proposed adaptive management strategy, and the amount of incidental take permitted. The conservation benefits to Clark County and other applicants would be similar to those identified for the proposed 30-year MSHCP.

The fiscal implications of the alternative permit terms are compared in Table 3-3 using the financial model developed for the proposed MSHCP (see Chapter 2.10). The comparison is based on the population projections, rates of land disturbance, fee collection, and economic performance of the endowment that were used for the proposed MSHCP.

**TABLE 3-3
FISCAL IMPLICATIONS OF ALTERNATIVE PERMIT TERMS**

Permit Term (years)	Acres Disturbed (Subject to Fees)	Proposed Incidental Take (acres)	Total Fees Collected	MSHCP Annual Budget (1998 dollars)	Total of Budget Expenditures (1998 dollars)	Endowment Remaining (1998 dollars)
20	110,137	123,000	\$56,184,590	\$1,670,000	\$39,000,000	\$50,700,000
30	129,548	145,000	\$68,241,487	\$1,670,000	\$56,000,000	\$53,500,000
50	149,986	168,000	\$83,106,276	\$1,670,000	\$90,000,000	\$54,900,000

As compared to the proposed MSHCP, the 20-year permit would allow fewer acres of incidental take and a lower level of total expenditures over the permit term (Table 3-4). The 50-year permit would allow more acres of incidental take and result in a higher level of total expenditures over the permit term.

**TABLE 3-4
COMPARISON OF ALTERNATIVE PERMIT TERMS**

Permit Term (years)	Permitted Incidental Take Compared to Proposed MSHCP	Total Expenditures Compared to Proposed MSHCP	Endowment Remaining Compared to Proposed MSHCP
20	85%	86%	95%
30	100%	100%	100%
50	116%	127%	103%

There are two general areas of qualitative difference between the proposed permit terms. These involve (1) the length of time over which the Adaptive Management Process has to be fully developed, implemented, and refined and (2) the limitations of long-term projections to realistically reflect future conditions.

From the perspective of adaptive management, the nature of complex biological systems and our ability to understand them favor a longer term. Adaptive management will be a process of developing management actions, monitoring the effects of the management actions, assessing the effectiveness of the actions, and developing modified actions. The process will be iterative in nature and each cycle may take from three to five or more years to implement. Therefore, a longer period of time in which to develop, implement, monitor, and refine conservation management actions would provide more opportunity to be effective.

From the perspective of land use and fiscal planning, 20 to 30 years is typically the most appropriate planning horizon because of the limitations in the ability to predict future conditions. In particular, the cyclic nature of regional and national economic factors can have dramatic effects on local rates of population change, economic development, and the resulting demand for new construction. Shorter-term projections are more reliable than long-term projections.

An additional consideration is the likely enhanced value and effectiveness of early implementation of conservation actions. Any of the three alternative permit terms can provide for early or “front-loaded” expenditure of funds through the provisions that allow future credit for excess funds expended during any biennium.

3.3.6 Alternatives Comparison Summary

These general conservation features of the alternatives described above are compared and ranked in Table 3-5. The conservation features of each alternative include:

- The proportion of Clark County that would be within IMAs and LIMAs,
- The number of Covered Species proposed for coverage,
- The proposed amount of incidental take permitted,
- The total amount of fees collected during the permit term (in current dollars), and
- The total funding commitment during the permit term (in current dollars).

Each of these features is ranked among the alternatives based on the numerical values in Table 3-5 to provide an unweighted ranking among the alternatives (Table 3-6). This provides a preliminary ranking of the alternatives that combines all of the conservation features with the cost to participants (total fees collected).

**TABLE 3-5
COMPARISON OF ALTERNATIVES: CONSERVATION FEATURES**

Alternative	Proportion of County Conserved (IMA + LIMA)	MSHCP Species Covered	MSHCP Incidental Take (acres)	Total Fees Collected (millions)	Funding Commitment (millions)
Proposed MSHCP with existing WSAs	62%	79	145,000	\$68	\$91
50-year MSHCP with existing WSAs	62%	79	168,000	\$83	\$115
20-year MSHCP with existing WSAs	62%	79	123,000	\$56	\$78
Low Elevation MSHCP with existing WSAs	62%	29	145,000	\$68	< \$91
Listed and candidate species MSHCP with existing WSAs	62%	9	145,000	\$68	< \$91
Proposed MSHCP with WSA redesignation	57%	79	145,000	\$68	\$91
50-year MSHCP with WSA redesignation	57%	79	168,000	\$83	\$115
20-year MSHCP with WSA redesignation	57%	79	123,000	\$56	\$78
Low Elevation MSHCP with WSA redesignation	57%	29	145,000	\$68	< \$91
Listed and candidate species MSHCP with WSA redesignation	57%	9	145,000	\$68	< \$91
No Action with existing WSAs	62%	1	113,000	\$62	\$39
No Action with WSA redesignation	57%	1	113,000	\$62	\$39

**TABLE 3-6
CONSERVATION RANKING OF ALTERNATIVES**

Alternative	Area Conserved (IMA + LIMA)	MSHCP Species Covered	MSHCP Incidental Take (acres)	Total Fees Collected (millions)	Funding Commitment (millions)	Mean Rank	Conservation Rank
Proposed MSHCP with existing WSAs	1	1	5	5	3	3	1
20-year MSHCP with existing WSAs	1	1	3	1	9	3	1
Proposed MSHCP with WSA redesignation	7	1	5	5	3	4.2	2
20-year MSHCP with WSA redesignation	7	1	3	1	9	4.2	2
Low Elevation MSHCP with existing WSAs	1	9	5	5	5	5	4
Listed and candidate species MSHCP with existing WSAs	1	9	5	5	5	4.6	3
50-year MSHCP with existing WSAs	1	1	11	11	1	5	4
No Action with existing WSAs	1	11	1	3	11	5.4	5
Low Elevation MSHCP with WSA redesignation	7	9	5	5	5	6.2	7
Listed and candidate species MSHCP with WSA redesignation	7	9	5	5	5	5.8	6
50-year MSHCP with WSA redesignation	7	1	11	11	1	6.2	7
No Action with WSA redesignation	7	11	1	3	11	6.6	8

The proposed action, the MSHCP, can be summarized as proposing to minimize, monitor, and mitigate proposed incidental take on non-Federal lands by providing a number of conservation benefits to Federal, state, and other land managers through:

- Funding of additional conservation actions,
- Facilitation and coordination of conservation actions undertaken by Federal, state, and local land managers and regulators,
- Development of an Adaptive Management Process to provide scientifically sound assistance to the decision-making process for future conservation priorities,
- Provision of a mechanism to expand the scope of conservation actions to meet future needs and goals and provide coverage of additional species from among the Evaluation and Watch List Species, and
- Educating and informing the public with respect to conservation activities and needs in Clark County.
- The Low Elevation Ecosystems MSHCP Alternative also would provide the same kinds of conservation benefits as the proposed MSHCP, but these actions would be limited to the low elevation ecosystems in the county. Because of the limited scope of this alternative (covering 29 species on 96 percent of the non-Federal lands), it is likely that the applicant would provide a reduction in the level of funding proposed in the MSHCP.
- The listed species alternative would limit the scope of conservation activities to listed species occurring in the low elevation, upland communities (desert tortoise, Las Vegas bearpoppy, threecorner milkvetch, and sticky buckwheat), and riparian habitats (southwestern willow flycatcher, yellow-billed cuckoo). Non-listed species sharing these habitats would incidentally benefit from conservation actions focused on the listed species.

The alternative MSHCP permit terms would provide the same conservation benefits as the proposed 30-year permit, but with differences in the amounts of permitted incidental take, biennial rates of funding, the total amounts of fees collected, and the total amounts of funds committed to conservation.

The No Action Alternative would not provide these benefits and would only provide coverage under Section 10(a) for incidental take of desert tortoise on non-Federal lands.

The Las Vegas RMP, SMNRA, GMP, CA, and other agency management plans with a conservation focus provide a substantial set of actions, including both conservation

actions and land management designations, that provides conservation benefit to species and ecosystems in Clark County. These actions will provide conservation benefits to Clark County in conjunction with any of the alternatives. However, the adoption of one of the MSHCP alternatives will provide for funding of substantial conservation actions that otherwise might not be funded adequately under the budgetary constraints of the RMP, as well as providing the benefits from the coordination of efforts with other Federal and state agencies and the Adaptive Management Process.

The MSHCP would not result in changes in land management status on Federal lands, in particular with respect to the land management categories defined in Chapter 2 (IMA, LIMA, MUMA, and UMA), other than changes in management that are consistent with existing policies and regulations. The MSHCP was developed assuming the existing distribution of these land management categories, with the continuation of existing WSA designations and the then existing framework of agency management plans.

The redesignation of WSAs would potentially affect all of the alternatives. WSA lands that are designated as Wilderness will maintain their status as IMAs. The land use constraints on WSA land that revert back to underlying land management status would be reduced to a greater or lesser extent. Many of the WSAs are identified as ACECs in the Las Vegas RMP, so the redesignation of WSAs became less important with the approval of the RMP. In addition, several of the WSAs are within the Spring Mountains NRA and, as such, are covered by the Conservation Agreement for that area.

Redesignation of WSAs and implementation of the approved RMP would result in changes in the distribution of the land management categories. The potential changes from redesignation of WSAs are summarized in Table 3-7.

**TABLE 3-7
COMPARISON OF EFFECT OF WSA REDESIGNATION**

	Acres in Conservation Categories				Conservation Proportion
	IMA	LIMA	MUMA	UMA	
Existing WSAs	2,823,200	308,100	1,416,800	501,600	62%
WSA redesignation	2,529,100	369,400	1,649,600	501,600	57%