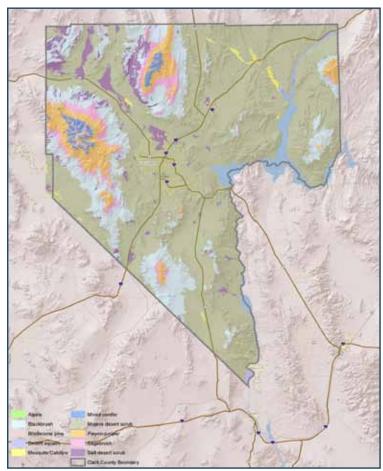
Mitigation under the Current MSHCP

Mitigation under the Current MSHCP

The conservation and mitigation strategy outlined in the Clark County Multiple Species Habitat Conservation Plan (MSHCP) is focused on landscape-scale mitigation that conserves healthy, functioning ecosystems and the species that are supported by them. The MSHCP plan area is organized by elevation and range into 12 ecological zones and vegetation types:



• Alpine

- Bristlecone Pine
- Mixed Conifer (White Fir, Ponderosa Pine, Ponderosa Pine/Mountain Shrub)
- Pinyon-Juniper (Mountain Shrub, Pinyon Pine, Pinyon Juniper, Juniper)
- Sagebrush (Sagebrush and Sagebrush/Perennial Grasslands)
- Blackbrush (Blackbrush and Hopsage)
- Salt Desert Scrub
- Mojave Desert Scrub (Creosote-Bursage and Mojave Mixed Scrub)
- Mesquite/Catclaw
- Desert Riparian/Aquatic (Lowland Riparian, including Muddy and Virgin River systems and Las Vegas Wash)
- Springs
- Other (sand dune, gypsiferous soil, rock outcrop, dry lake bed and playa, barren, agriculture, non-native grassland, urban)

Ecosystems Defined in the MSHCP

The MSHCP segregates covered species into groups that use each ecosystem type. Specific and general threats to these ecosystems were identified and then compared with existing laws, and regulations to determine what additional conservation measures were needed to ensure adequate conservation of the ecosystems for each covered species.

Ecosystems used by Co	wered Species										ıcia	quatic	
COMMON	SCIENTIFIC		Alpine	Bristlecone Pine	Mixed Conifer	Pinyon Juniper	Sagebrush	Blackbrush	Salt Desert Scrub	Mojave Desert Scrub	Mesquite Catclaw Acacia	Desert Riparian and Aquatic	Spring
Silver-haired bat	Lasionycteris noctivagans	Mammal			Y	Y			Y		Y	Y	Y
Long-eared myotis	Myotis evotis	Mammal			Y	Y	Y		Y		Y	Y	Y
Long-legged myotis	Myotis volans	Mammal			Y	Y	Y						Y
Palmer's chipmunk	Neotamias palmeri	Mammal		Y	Y	Y							
Yellow-billed Cuckoo	Coccyzus americanus	Bird										Y	
Southwestern Willow Flycatcher	Empidonax traillii extimus	Bird										Y	
American Peregrine Falcon	Falco peregrinus anatum	Bird			Y	Y	Y					Y	
Blue Grosbeak	Guiraca caerulea	Bird										Y	
Phainopepla	Phainopepla nitens	Bird									Y	Y	
Summer Tanager	Piranga rubra	Bird										Y	
Vermilion Flycatcher	Pyrocephalus rubinus	Bird									Y	Y	
Arizona Bell's Vireo	Vireo bellii arizonae	Bird				1						Y	
Glossy snake	Arizona elegans	Reptile		İ	1	Y			Y	Y	Ì	İ	
Banded gecko	Coleonyx variegatus	Reptile				Y	Y	Y		Y	Y	Y	
Sidewinder	Crotalus cerastes	Reptile							Y	Y	Y		
Speckled rattlesnake	Crotalus mitchellii	Reptile		İ	1	Y	Y	Y	Y	Y	Ì	İ	
Mojave green rattlesnake	Crotalus scutulatus scutulatus	Reptile						Y		Y			
Great Basin collared lizard	Crotaphytus insularis bicinctores	Reptile				Y	Y	Y	Y	Y	Y	Y	
Desert iguana	Dipsosaurus dorsalis	Reptile		İ	1	Ì			Y	Y	Y	İ	
Western red-tailed skink	Eumeces gilberti rubricaudatus	Reptile			Y	Y	Y	Y			Y	Y	
Large-spotted leopard lizard	Gambelia wislizenii wislizenii	Reptile				Y	Y	Y	Y	Y			
Desert tortoise	Gopherus agassizii	Reptile					Y	Y	Y	Y			
California (common) king snake	Lampropeltis getula californiae	Reptile							Y	Y			
Western leaf-nosed snake	Phyllorhynchus decurtatus	Reptile							Y	Y			
Western long-nosed snake	Rhinocheilus lecontei lecontei	Reptile							Y	Y			
Sonoran lyre snake	Trimorphodon biscutatus lambda	Reptile			Y	Y				Y			
Relict leopard frog	Rana onca	Amphibian										Y	Y
Spring Mountains acastus checkerspot	Chlosyne acastus robusta	Invertebrate			Y	Y	Y						
Dark blue butterfly	Euphilotes ancilla purpura	Invertebrate	1		Y	Y	Y						Y
Morand's checkerspot butterfly	Euphydryas anicia morandi	Invertebrate		Y	Y	Y							
Spring Mountains comma skipper	Hesperia comma mojavensis	Invertebrate		Y	Y	Y	Y						Y
Spring Mountains icarioides blue	lcaricia icarioides austinorum	Invertebrate		Y	Y	Y	Y						Y
Mt Charleston blue butterfly	Icaricia shasta charlestonensis	Invertebrate		Y	Y								
Nevada admiral	Limenitus weidemeyerii nevadae	Invertebrate		Y	Y	Y							Y
Spring Mountains springsnail	Pyrgulopsis deaconi	Invertebrate							1				Y
Southern Nevada springsnail	Pyrgulopsis turbatrix	Invertebrate											Y
Carole's silverspot butterfly	Speyeria zerene carolae	Invertebrate		Y	Y	Y	Y		1				

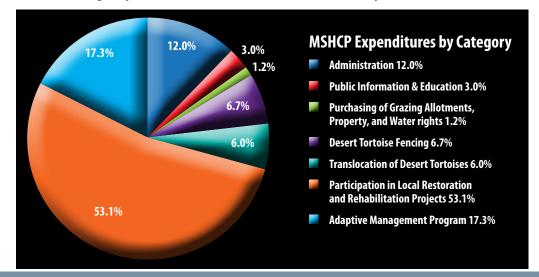
Ecosystems used by Co	wered Species										acia	Aquatic	
COMMON	SCIENTIFIC		Alpine	Bristlecone Pine	Mixed Conifer	Pinyon Juniper	Sagebrush	Blackbrush	Salt Desert Scrub	Mojave DesertScrub	Mesquite CatclawAcacia	Desert Riparian and Aquatic	Spring
Rough angelica	Angelica scabrida	Vascular plant			Y		01		01	-	~		Y
Charleston pussytoes	Antennaria soliceps	Vascular plant	γ	Y									-
Sticky ringstem	Anulocaulis leiosolenus	Vascular plant							Y	Y			
Las Vegas bearpoppy	Arctomecon californica	Vascular plant						<u> </u>	· Y	Ŷ			
White bearpoppy	Arctomecon merriamii	Vascular plant						Y	· Y	Ŷ			
Rosy king sandwort	Arenaria kingii ssp. rosea	Vascular plant		Y	Y			<u> </u>					
Clokey milkvetch	Astragalus aequalis	Vascular plant		<u> </u>	Ŷ	Y	Y						
Threecorner milkvetch	Astragalus geyeri var. triquetrus	Vascular plant					·			Y			
Clokey eggvetch	Astragalus oophorus var. clokeyanus	Vascular plant			Y	Y							
Spring Mountain milkvetch	Astragalus remotus	Vascular plant				Y	Y	Y		Y			
Alkali mariposa lily	Calochortus striatus	Vascular plant					l ·	<u> </u>		Ŷ			Y
Clokey paintbrush	Castilleja martinii var. clokeyi	Vascular plant		Y	Y								
Clokey thistle	Cirsium clokeyi	Vascular plant	Y	Ŷ	Ŷ								Y
Jaeger whitlowgrass	Draba jaegeri	Vascular plant	Y	Y									-
Charleston draba	Draba paucifructa	Vascular plant	Y	Y									
Inch high fleabane	Erigeron uncialis ssp. conjugans	Vascular plant		Y	Y	Y	Y						
Forked (Pahrump Valley) buckwheat	Eriogonum bifurcatum	Vascular plant							Y		Y		
Sticky buckwheat	Eriogonum viscidulum	Vascular plant								Y			
Clokey greasebush	Glossopetalon clokeyi	Vascular plant			Y		İ	i					
Smooth pungent greasebush	Glossopetalon pungens var. glabra	Vascular plant				Y	Y						
Pungent dwarf greasebush	Glossopetalon pungens var. pungens	Vascular plant				Y	Y						
Red Rock Canyon aster	lonactis caelestis	Vascular plant			Y								
Hidden ivesia	lvesia cryptocaulis	Vascular plant	Y										
Jaeger ivesia	lvesia jaegeri	Vascular plant		Y	Y								
Hitchcock bladderpod	Lesquerella hitchcockii	Vascular plant	Y	Y	Y								
Blue Diamond cholla	Cylindropuntia multigeniculata	Vascular plant								Y			
Charleston pinewood lousewort	Pedicularis semibarbata var. charlestonensis	Vascular plant		Y	Y								
White-margined beardtongue	Penstemon albomarginatus	Vascular plant						Y		Y			
Charleston beardtongue	Penstemon leiophyllus var. keckii	Vascular plant	Y	Y	Y								
Jaeger beardtongue	Penstemon thompsoniae var. jaegeri	Vascular plant			Y	Y							
Parish's phacelia	Phacelia parishii	Vascular plant							Y				
Clokey mountain sage	Salvia dorrii var. clokeyi	Vascular plant		Y	Y	Y							
Clokey catchfly	Silene clokeyi	Vascular plant	Y	Y									
Charleston tansy	Sphaeromeria compacta	Vascular plant	Y	Y									
Charleston kittentails	Synthyris ranunculina	Vascular plant	Y	Y	Y								Y
Charleston grounddaisy	Townsendia jonesii var. tumulosa	Vascular plant	Y	Y	Y	Y							
Limestone violet	Viola purpurea var. charlestonensis	Vascular plant		Y	Y	Y							

Ecosystems used by Covered Species											acia	and Aquatic	
COMMON	SCIENTIFIC		Alpine	Bristlecone Pine	Mixed Conifer	Pinyon Juniper	Sagebrush	Blackbrush	Salt Desert Scrub	Mojave DesertScrub	Mesquite CatclawAcacia	Desert Riparian and	Spring
Limestone violet	Viola purpurea var. charlestonensis	Vascular plant		Y	Y	Y							
No common name	Anacolia menziesii	Non-vascular plant				Y	Y						
No common name	Claopodium whippleanum	Non-vascular plant				Y							
No common name	Dicranoweisia crispula	Non-vascular plant			Y	Y							
No common name	Syntrichia princeps	Non-vascular plant				Y							

Measures to Minimize and Mitigate the Impacts of Take

The specific mitigation measures that were developed through the MSHCP are:

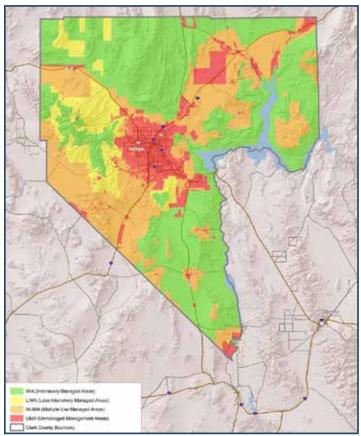
- Impose a \$550 per-acre development fee on all non-federal properties throughout Clark County which involve a
 permit issued by one or more of the Permittees
- Expend \$4.1 million during each biennial period to fund conservation measures, minimize and mitigate the impacts of take of covered species, to develop the Adaptive Management Program (AMP), and to administer the MSHCP
- Implement a public information and education program (i.e. Mojave Max)
- Purchase and retire grazing allotments and associated water rights from interested sellers
- Make funds available to acquire conservation easements or other interests in real property or water
- Construct, monitor, and maintain wildlife barriers along roadways
- Implement large-scale translocation pilot program for displaced desert tortoises
- Participate in and fund local rehabilitation and enhancement programs (i.e. Muddy River and Las Vegas Wash)
- Manage and minimize off-highway vehicle use on federal lands in the County



In addition to the agreement to participate in the AMP, federal and state land managers will implement a total of approximately 650 specific conservation measures. The conservation measures include:

- Public information and education
- Research
- Inventory
- Monitoring
- Protective measures
- Restoration and enhancement measures
- Land use policies and actions

These incorporate agreements such as the Spring Mountains National Recreation Area Conservation Agreement, the Blue Diamond Cholla Conservation Agreement, the U.S. Bureau of Land Management (BLM) Las Vegas Resource Management Plan, and other existing general management plans.



Conservation Management Areas

Mitigation under the current MSHCP relies on a reserve system of public lands that are defined by their levels of management. These conservation management areas are defined in the MSHCP as Intensively Managed Areas (IMAs), Less Intensively Managed Areas (LIMAs), Multiple Use Managed Areas (MUMAs) and Unmanaged Areas (UMAs). The IMAs and LIMAs represent the "reserve system" in Clark County, with MUMAs providing conservation value as corridors, connections, and buffers for the IMAs and LIMAs where management preserves the quality of habitat sufficiently to allow for unimpeded use and migration of the resident species in the IMAs and LIMAs. In summary, the goal for each covered species is no net unmitigated loss or fragmentation of habitat, primarily within IMAs and LIMAs, or MUMAs where a substantial proportion of the species habitat occurs within MUMAs.

Conservation Management Areas

Adaptive Management Program

The AMP was established for the MSHCP to provide an objective evaluation of the effectiveness of the management actions in attaining MSHCP biological goals and objectives goals, and to inventory, monitor, and research the results of mitigation actions. Based upon analyses of implementation and effectiveness, the AMP makes recommendations for changes to implementation through their biennial reporting process. The specific goals of the AMP are:

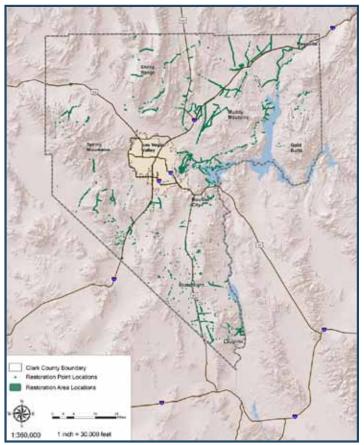
- Analyze land use trends in Clark County to make sure that take and habitat disturbance is balanced with solid conservation;
- Monitor population trends and ecosystem health; and
- Evaluate effectiveness of management actions at meeting the MSHCP biological goals and objectives goals for covered species for the entire 30-year term of the permit.

Major Program Accomplishments

Since 1999, the Desert Conservation Program (DCP) has approved 285 conservation projects totaling more than \$77 million. As a result of additional funding made available through the Southern Nevada Public Lands Management Act, the permittees spent more on conservation projects in the first eight years of plan implementation than what was originally anticipated.

Specific accomplishments include:

- Initiated or completed all 22 of the permit conditions
- Implemented 459 of the 604 conservation actions in the MSHCP
- Constructed 308 miles of fencing along major roadways to protect the desert tortoise
- Transferred more than 17,500 desert tortoises to the Desert Tortoise Conservation Center
- Retired more than 1.9 million acres of grazing allotments and associated water rights on federal lands in Clark County
- Educated more than 10,000 Clark County School District students each year through the Mojave Max program and received more than 40,000 entries to the Mojave Max emergence contest since 2000
- Funded numerous restoration/rehabilitation projects including:
 - o \$6 million for law enforcement and resource protection
 - o \$5.5 million for habitat restoration projects
 - o \$2.9 million to survey, close, and/or restore illegal off-highway vehicle roads



Restoration Funded by the MSHCP