















accomplishments report

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Letter from the Program Manager...

August 2010

Dear Friends and Colleagues:

Two decades ago, the U.S. Fish and Wildlife Service took emergency action to add the desert tortoise to the federal endangered species list. Clark County, local municipalities and a small group of dedicated stakeholders joined together to embark on the development of a habitat conservation plan for the desert tortoise that would balance the rapid growth occurring in southern Nevada with the protection and conservation of the desert tortoise and comply with the federal Endangered Species Act. In 1995, these same organizations and stakeholders initiated a multi-species approach to habitat conservation planning. Completed in 2000, the revised plan is known as the Clark County Multiple Species Habitat Conservation Plan (MSHCP).

Since 1999, the Program has reported its progress implementing the MSHCP every two years in biennial progress reports. This accomplishments report is unique in that it summarizes our work to help protect and conserve species and habitats in Clark County since the inception of the MSHCP. We are proud to report that the Desert Conservation Program has conducted over 300 conservation projects totaling nearly \$77 million to implement the MSHCP.

As we look to our future, we look forward to applying what we've learned from our two decades of habitat conservation planning in southern Nevada. To this end, the Desert Conservation Program has initiated an amendment to the MSHCP that focuses on improving the efficiency and effectiveness of the MSHCP, reevaluates the species addressed in the MSHCP to better focus on the species and habitats most impacted by growth, improves the conservation strategy to allow more implementation of on-the-ground conservation actions.

All these years later, while some faces have changed, the group of dedicated municipalities and stakeholders that began this process remains engaged in the Program and its success. We are grateful for the interest and support of our stakeholders and we should all be proud of what we have accomplished together.

With my regards,

Marci D. Henson

Desert Conservation Program Manager

Marci D. Heuson



For more than 20 years, the Desert Conservation Program (DCP) has provided a framework to balance the protection of endangered species and natural resources in Clark County with the impacts of development. This includes improving and streamlining the environmental permitting process for projects that have the potential to effect threatened, endangered and sensitive species. Clark County is responsible for coordinating the compliance of multiple jurisdictions with an incidental take permit (Permit) issued pursuant to the federal Endangered Species Act (ESA). Compliance with the permit requires the implementation of the Clark County Multiple Species Habitat Conservation Plan (MSHCP).

The MSHCP is a planning document that outlines minimization and mitigation measures to be implemented to offset the impacts of development on sensitive plant and animal species as a result of incidental take. Examples of minimization and mitigation measures include the installation of protective fencing to prevent tortoise mortality along major roadways, restoration of degraded habitat, and public information and education.

What is "take"?

The U.S. Fish and Wildlife Service (USFWS) defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a threatened or endangered species, or attempt to engage in any such conduct."

What is "incidental take"?

Take of a federally listed species which occurs incidental to, and is not the purpose of, otherwise legal activities.

















Two Decades of Conservation



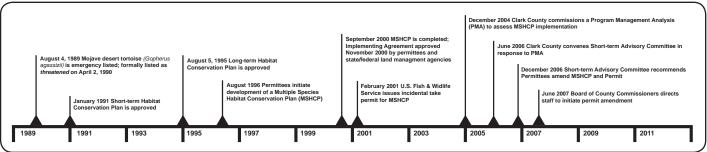


Clark County has been engaged in ecosystem-based habitat conservation planning and implementation for more than two decades. Since the emergency listing of the desert tortoise in 1989, Clark County and the cities of Boulder City, Henderson, Las Vegas, Mesquite, North Las Vegas and the Nevada Department of Transportation (Permittees) have worked diligently to develop and implement a balanced approach to development and conservation. Figure 1 displays a time-line of the major conservation planning milestones in Clark County since 1989.

Clark County serves as implementing entity for the MSHCP on behalf of the Permittees; the DCP is a division within the Department of Air Quality and Environmental Management charged with overseeing implementation of the MSHCP and compliance with the Permit. Finalized in 2000, the MSHCP is the most recent iteration of the habitat conservation planning process in Southern Nevada. The Permit associated with the MSHCP was issued in February 2001 and is valid for 30 years. The MSHCP covers 78 species, including the federally listed desert tortoise and Southwestern willow flycatcher, and the Nevada state listed Las Vegas bearpoppy. The MSHCP and Permit allow for the disturbance (development) of up to 145,000 acres of non-federal land in Clark County and provide coverage for the incidental take of covered species listed in the Permit. As of June 30, 2009, the Permittees had disturbed approximately 78,000 acres under the permit (67,000 acres remaining).

An incidental take permit exempts a permittee from the prohibited "take" provisions of the ESA (Section 9). The Permit allows private property owners to take covered species as a result of conducting lawful activities in Clark County without requiring individual project permitting with the USFWS. The MSHCP avoids project-by-project permitting that is costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation. Instead, private property owners pay a \$550 per acre mitigation fee and subsequently are allowed to use the MSHCP and permit. The mitigation fees are collected by the individual Permittees and transferred to Clark County, which uses these funds to implement the MSHCP.

Figure 1. Program History





MSHCP Conservation Strategy

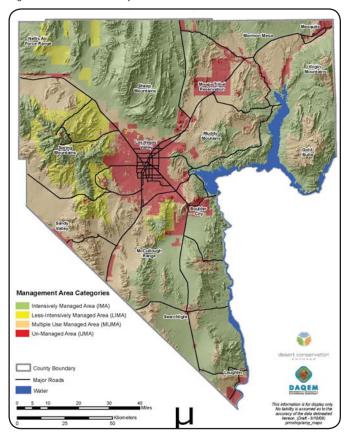
The MSHCP is based on a mitigation reserve system where MSHCP minimization and mitigation actions are to take place. This mitigation reserve system is comprised of federal, state and local lands in Clark County that are managed for the purposes of habitat and species conservation. The mitigation reserve system outlined in the MSHCP relies primarily on public lands for mitigation activities, although Clark County manages a roughly 85,000 acre conservation easement (Boulder City Conservation Easement) as well. These areas (Figure 2, p. 8) are defined in section 2.4.2.7 of 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" and MUMAs provide conservation value as corridors, connections, and buffers for the IMAs and LIMAs where the management preserves the quality of habitat sufficient to allow for unimpeded use and migration of the resident species in the IMAs and LIMAs. Areas defined as UMAs are those areas where habitat loss under the permit will primarily occur.

Seven federal and state agencies have either land management responsibilities or regulatory jurisdiction over the areas that comprise the MSHCP's mitigation reserve system. These seven agencies (Nevada Department of Wildlife, Nevada Divisions of Forestry and State Parks, USFWS, Bureau of Land Management (BLM), National Park Service and U.S. Forest Service) and the Permittees signed an Implementing Agreement in 2001 that documents how data, funding and decision making will be shared among these agencies and the public.

Federal lands within disposal boundaries are classified as MUMA in the MSHCP's conservation reserve system. These lands may be transferred via sale, exchange for other acres, or Recreational and Public Purpose lease to municipalities. Upon transfer to non-federal ownership, these lands become eligible to be permitted for habitat loss under the MSHCP's Permit. The MSHCP anticipated that some or all of these acres might be

transferred to non-federal ownership at some point during the term of the Permit. In addition, possible designation or release of Wilderness Study Areas by Congress and other

Figure 2. MSHCP Reserve System



changes in the mitigation reserve system were anticipated in the MSHCP. Recently, the BLM conducted a review of all land management designation changes that might affect the MSHCP mitigation reserve system, and the present configuration of the MSHCP mitigation reserve system is shown in Figure 2.

The MSHCP anticipated that habitat loss would occur primarily in UMAs and MUMAs. A recent review of disturbance under the Permit was completed to assess whether the MSHCP goal of no-net loss of habitat was being met. The extent of urban acres in each of the 2001 and 2007 GIS land use geodatabases was spatially compared with the original MSHCP Management Area boundaries, and the number of acres of habitat loss in each category was calculated. Of the 56,512 acres (22,870 ha) of actual habitat loss at the time of the report, 523 (220 ha, or 0.9%) were in IMAs, 79 (32 ha, or 0.1%) were in LIMAs, 19,848 (8,032 ha, or 35.1%) were in MUMAs, and the majority (36,062 acres (14,593 ha or 63.8%)) were in UMAs. This analysis shows that 55,910 acres (22,626 ha, or 99%) of the disturbance has taken place within UMAs and MUMAs as originally projected.

Implementing the MSHCP

In order to approve the MSHCP, the USFWS was required to determine that the impacts of the proposed take will be minimized and mitigated to the maximum extent practicable by the conservation measures outlined in the MSHCP, that

the proposed take will not appreciably reduce the likelihood of the survival and recovery of covered species in the wild, and that the MSHCP will be adequately funded. By its approval of the MSHCP and issuance of the Permit, the USFWS concluded that the proposed take outlined in the MSHCP would not appreciably reduce the likelihood of the survival and recovery of covered species provided the MSHCP was properly implemented.



To fund the MSHCP, the Permittees collect a \$550 per acre disturbance fee on all but 15,000 of the 145,000 acres covered by the Permit to minimize and mitigate the impacts of take of Covered Species and to assist in the implementation of conservation policies and activities on federal land. Table 1 displays the total number of acres disturbed and the total amount of fees collected by the Permittees since 2001 (does not include the 15,000 fee exempt acres, which are assumed disturbed).

Table 1. Land Disturbance by Permittees

Permittee	Acres	Fees	Percent
Boulder City	1,111.91	\$ 611,551	1.8
Clark County	26,712.38	14,691,809	42.2
Henderson	13,123.92	7,218,156	20.7
Las Vegas	9,337.58	5,135,669	14.7
Mesquite	3,360.23	1,848,127	5.3
Nevada Department of Transportation	112.87	62,079	0.2
North Las Vegas	9,578.25	5,268,038	15.1
Total	63,337.14	\$ 34,835,427	

The MSHCP and Permit require that the Permittees, in cooperation with the signatories to the implementing agreement, fund and implement a variety of conservation actions in Clark County to enhance and protect covered species. These actions include a series of specific conditions outlined in the Permit (Permit Conditions) that must be implemented by the Permittees, such as management of the Boulder City Conservation Easement. The MSHCP also outlines a menu of 604 conservation actions that the Permittees and federal agencies use to prioritize where conservation funding is allocated on a biennial basis. To guide the overall implementation of the MSHCP, the Permittees are also required to develop and implement an Adaptive Management Program (AMP) to provide guidance, informed by scientific research and information, to this process.

The Permittees are required to expend a minimum of \$4,100,000 per biennium (Adjusted Required Expenditure) to fund implementation of the minimization, mitigation and monitoring measures as prioritized through the biennial budget process. Funding to implement the Permit Conditions and conservation actions in the MSHCP is derived from

Figure 3. Program Funding by Source

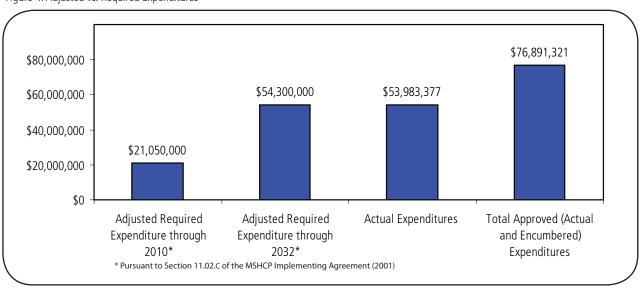
the \$550 per acre mitigation fee (also referred to as Section 10 funding) collected by the Permittees. In addition, additional funding is available from the sale of federal land in Clark County as authorized by the Southern Nevada Public Lands Management Act (SNPLMA). Figure 3 displays the percentage of funding from each source that has been budgeted to date.

With the funding described above, the DCP has approved more than 300 conservation projects totaling more than

38%
62%
■ Section 10 ■ SNPLMA

\$76 million. As noted above, the MSHCP defines a minimum "Adjusted Required Expenditures" that must be directed to fund selected conservation actions. Figure 4 compares the Adjusted Required Expenditures defined in the MSHCP with the Actual Expenditures (budgeted) of the program since 2001.

Figure 4. Adjusted vs. Required Expenditures



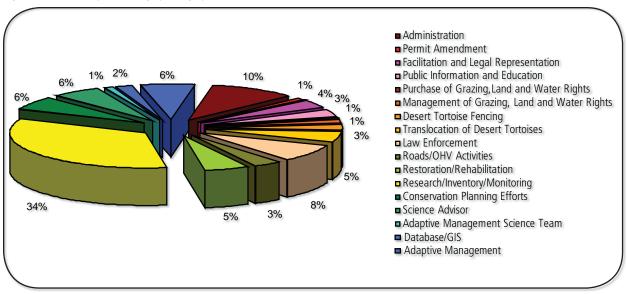


Based on the mitigation categories defined in the MSHCP, Table 2 displays total program funding by mitigation category since 1999. From a per acre perspective, roughly \$1,180 per acre disturbed have been committed to conservation to offset the impacts of development on Covered Species in Clark County. To date, Clark County and the Permittees have implemented 459 of the 604 conservation actions identified in the MSHCP and initiated or completed all of the 22 conditions specifically identified in the Permit.

Table 2. MSHCP Project Funding by Category

Category	Amount	Percent
Administration	\$8,001,000	10.4
Permit Amendment	747,455	1.0
Facilitation and Legal Representation	2,754,400	3.6
Public Information and Education	2,610,821	3.4
Purchase of Grazing, Land and Water Rights	653,725	0.9
Management of Grazing, Land and Water Rights	1,053,922	1.4
Desert Tortoise Fencing	2,132,000	2.8
Translocation of Desert Tortoises	3,539,167	4.6
Law Enforcement	6,180,373	8.0
Roads/OHV Activities	2,635,555	3.4
Restoration/Rehabilitation	4,004,873	5.2
Research/Inventory/Monitoring	26,057,503	33.9
Conservation Planning Efforts	4,723,152	6.1
Science Advisor	4,435,369	5.8
Adaptive Management Science Team	970,355	1.3
Database/GIS	1,447,509	1.9
Adaptive Management	4,944,143	6.4
Total Expenditures	\$76,891,321	

Figure 5. MSHCP Project Funding by Category



Activities to Protect and Conserve the Desert Tortoise

Desert tortoise conservation activities remain a core component of the MSHCP and DCP. The DCP oversees the implementation of three key programs designed to protect and enhance the long-term survival of desert tortoise populations in Clark County: 1) the Wild Desert Tortoise Hotline, Pick-up and Translocation Program, 2) a Road Barrier Construction Program (desert tortoise

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fencing), and 3) research and monitoring to better understand desert tortoise in the Mojave Desert.

Initiated in 1996, the Hotline, Pick-up and Translocation Program is currently operated by Clark County. Desert tortoises that are collected by the DCP are first transferred to the Desert Tortoise Conservation Center (DTCC) for assessment. Those desert tortoises that are assessed and deemed suitable for release were translocated to the Large-Scale Translocation Site (LSTS) until the translocation program was suspended in 2008. The DCP has transferred more than 10,000 desert tortoises to the DTCC and translocated more than 4,000 desert tortoises to the LSTS at a cost of more than \$3.5 million. Table 3 displays the number of desert tortoises transferred to the DTCC and the LSTS located in the Ivanpah Valley south of Las Vegas since 1999.

Table 3. Number of Desert Tortoises Transferred to DTCC and LSTS

Biennium transferred	Desert Tortoise Conservation Center	Large-Scale Translocation Site
1999-2001	2,681	1,725
2001-2003	2,381	496
2003-2005	2,782	1,045
2005-2007	2,377	1,576
Total	10,221	4,842

The DCP also oversees a desert tortoise fencing construction program that has constructed more than 300 miles of desert tortoise fencing (roughly 1.6 million linear feet) at a cost of more than \$2.1 million. The presence of roads and highways in desert tortoise habitat significantly increases desert tortoise mortality and renders up to 4.6 km perpendicular to highways and roads devoid of desert tortoises. It is estimated that the installation of desert tortoise fencing results in 93 percent fewer desert tortoise road fatalities and recovers more than 150 square miles, or nearly 1,300 acres, of desert tortoise habitat. To date, the highest priority fencing projects in Clark County have been completed.

The DCP has also contributed to numerous scientific research projects designed to help managers better conserve and protect desert tortoise populations, including research exploring the dynamics of disease, genetics, nutrition and translocation. The DCP has also dedicated more than \$6 million supporting range-wide desert tortoise monitoring and more than \$1.5 million to restore desert tortoise habitat.

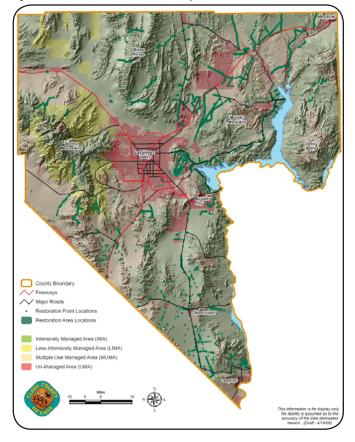


Analysis presented in the MSHCP estimates that there are more than 3.5 million acres of desert tortoise habitat within Clark County, and concludes that "even if all 130,000 acres [subject to collection of mitigation fees] were actually tortoise habitat, its development would result in less than a four percent loss" (MSHCP, 2-8). Considering the mitigation accomplishments discussed above specifically devoted to desert tortoise conservation, the DCP has made significant contributions to the long-term conservation of desert tortoises in Clark County.



Conservation and Restoration

Figure 6. MSHCP Funded Restoration Projects



The conservation strategy defined in the MSHCP is based on the premise that augmenting conservation on high priority federal land will offset the impacts of development in the urbanized areas of Clark County. Figure 6 shows the location of various restoration and conservation projects funded by the MSHCP. Most of these actions have been implemented on land managed by the federal agencies.

The most effective conservation strategy is to protect resources before they are degraded or destroyed. To this end, the Clark County DCP has allocated more than \$6 million for law enforcement and resource protection primarily on federal lands. This funding amounts to roughly 30 full-time positions (assuming \$200,000/year for each position). In conjunction with these law enforcement efforts, the DCP has also dedicated roughly \$2.6 million to survey, close and/or restore illegal off-highway vehicle roads on federal land in an effort to protect important habitat and resources.

The Clark County DCP has approved numerous projects designed to identify, assess, restore and monitor sensitive species and habitat on federal and non-federal land throughout the county. Examples of these activities include invasive plant monitoring and treatment in the Lake Mead National Recreation Area, habitat restoration along the Las Vegas Wash and management of knapweed and tamarisk on the Muddy River. During the past eight years, the DCP has approved restoration and rehabilitation projects in Clark County totalling more than \$4 million.

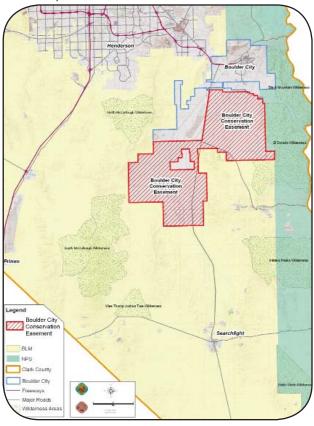
As described below, a key premise of the MSHCP is a science-based adaptive management program that uses research and information gathering to guide conservation and management activities. To further this effort, the DCP has approved nearly 100 research and monitoring projects totalling more than \$26 million.



Managing Land for Conservation

Unlike many other habitat conservation planning efforts, the amount of private land in Clark County that is available for acquisition for conservation purposes is limited. Nonetheless, the DCP has actively worked to acquire title to, or conservation easements on, private land that has been determined to be of high value for conservation.

Boulder City Conservation Easement

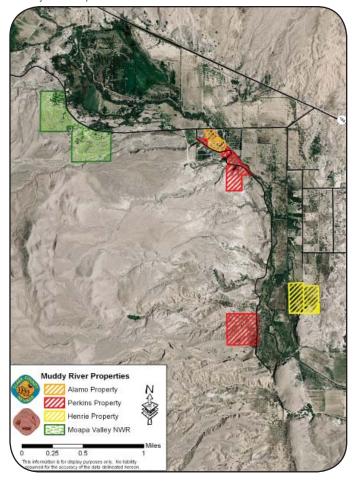


On April 15, 2008, the Clark County Board of Commissioners approved an agreement with TNC for the management of these properties. Under the agreement, TNC has committed to manage invasive weeds, monitor and maintain roads, erect and maintain fencing to control access to the properties, inspect and inventory resources and conservation needs associated with the properties and provide for overall maintenance and monitoring.

For more than a decade, the DCP has effectively managed an approximately 85,000-acre conservation easement in Eldorado Valley. Acquired from Boulder City in 1995, the Boulder City Conservation Easement (BCCE) was purchased as partial mitigation for the incidental take of desert tortoises and disturbance of its habitat in other areas of Clark County. The issuance of the Permit is conditional upon the permittees protection and management of the easement.

More recently, the DCP provided nearly \$1.5 million to The Nature Conservancy (TNC) for the acquisition of properties on or near the Muddy River (known as the Alamo, Perkins and Henrie properties). The properties consist of approximately 120 acres of riparian habitat along the Muddy River and were acquired to conserve habitat for various riparian bird species, including the Southwestern willow flycatcher, Yuma clapper rail and phainopepla.

Muddy River Properties



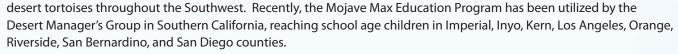
Public Information and Education

The MSHCP requires that the Permittees develop and implement a public information and education program. The goals of this program are to:

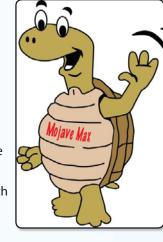
- Inform the public of the terms of the Permit
- Encourage Clark County residents to respect, protect and enjoy the natural ecosystems of the Mojave Desert
- Increase awareness and understanding of the value of Clark County's natural ecosystems

The foundation of the DCP's public information and education program is the Mojave Max Education Program, originally initiated under the Long-term HCP. The Mojave Max Emergence Contest encourages students to study the conditions of the Mojave Desert and then estimate when Mojave Max, a live tortoise that resides in Red Rock Canyon, will emerge from brumation (hibernation) each year.

The program presents to more than 10,000 Clark County School District (CCSD) students each year via Mojave Max assemblies and has received more than 40,000 entries to the contest from CCSD since its inception in 2000. The Mojave Max Education Program has generated media coverage and interest nationwide and has made Mojave Max an "Ambassador" for



In addition to the Mojave Max program, the DCP oversees a variety of other outreach programs including media products and public service announcements to educate the broader community about the purpose and value of the program. The DCP also participates in numerous regional community outreach, education programs and events bringing its message of "respect, protect and enjoy the desert" to more than 150,000 Clark County residents each year.





Adaptive Management

As described above, the MSHCP and Permit require that the Permittees implement a science-based Adaptive Management Process (AMP) to ensure that any management or conservation action that may potentially affect Covered Species are reviewed for their effectiveness. The AMP is the primary method for assessing overall program effectiveness; providing independent, science-based peer review of technical products and/or reports; proposing additional or alternative conservation actions and making recommendations for changes in the implementation of the program.

The MSHCP outlines four principle tasks to be conducted through the AMP:

- Provide an analysis of all land-use trends in Clark County to ensure that take and habitat disturbance is balanced with solid conservation;
- · Monitor population trends and ecosystem health;
- Evaluate the conservation effectiveness of management actions; and
- Track habitat loss by ecosystem.

In addition, the AMP makes recommendations for future implementation of MSHCP Permit requirements and conservation actions, and recommendations for further development of the AMP through a Biennial Adaptive Management Report (BAMR).

The DCP has contracted with a group of independent scientists (Science Advisor) from Enduring Conservation Outcomes (ECO), the Desert Research Institute, and the University of Nevada, Reno to provide objective, science-based review and advice on the implementation of the MSHCP and compliance with the Permit. To increase technical peer review of the DCP and the AMP, and reduce real and/or perceived conflicts of interest, the DCP has contracted with the U.S. Geological Survey (USGS) to provide independent peer review of science advisor products and recommendations. In addition, information gathering and other technical projects implemented by the DCP are peer reviewed by experts selected by the USGS. Many of the projects selected for funding have been subject to technical conditions identified through the peer review process, and AMP staff review all projects to ensure that applicable technical conditions are adequately met, including solicitation of external technical review when necessary. Beginning in 2006, projects selected for funding are also presented in a public forum during symposia held in August of each year.







Since the MSHCP and the Permit were approved in February 2001, the Permittees have developed more than 78,000 acres of the 145,000 acres available. To offset this take, the permittees have committed more than \$76 million towards conservation projects in Clark County for the long-term conservation of Covered Species. This funding has resulted in the following mitigation accomplishments:

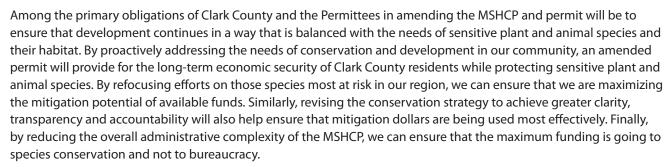
- Implemented 459 of the 604 conservation actions identified in the MSHCP and initiated or completed all of the 22 conditions specifically identified in the permit;
- Constructed 308 miles (1.6 million linear feet) of roadside fencing to help protect the desert tortoise;
- Transferred more than 10,000 desert tortoises to the Desert Tortoise Conservation Center;
- Translocated more than 4,000 desert tortoises to the Large-Scale Translocation Site in Ivanpah Valley;
- · Retired more than 1.9 million acres of grazing allotments and associated water rights in Clark County;
- Completed or initiated all of the required Conservation Management Strategies;
- Developed and implemented an AMP and instituted scientific peer review;
- Presented to more than 10,000 CCSD students each year through Mojave Max assemblies;
- Received more than 40,000 entries to the Mojave Max Emergence Contest since 2000;
- Participated in outreach events reaching more than 150,000 residents and visitors each year; and
- Funded numerous research, restoration and rehabilitation projects including:
 - -\$6 million for law enforcement and resource protection,
 - -\$4 million for restoration and enhancement projects,
 - -\$2.6 million to survey, close and/or restore off-highway vehicle roads, and
 - -\$26 million for various research and monitoring projects.

While the MSHCP was not formally approved until 2001, Clark County has been engaged in ecosystem-based habitat conservation planning and implementation for nearly two decades. Since the emergency listing of the desert tortoise in 1989, Clark County and the Permittees have worked to develop and implement a balanced approach to development and conservation.

Permit Amendment

The purpose of the amendment process will be to evaluate alternatives and develop recommendations for revising the MSHCP, incidental take permit and implementing agreement to more effectively balance the needs of sustainable growth and conservation in Clark County. More specifically, there are four primary goals for permit amendment:

- Obtain coverage for acres not currently permitted for take. There
 are 215,000 acres of land available for development in Clark
 County that are not covered by the existing Permit.
- 2. Re-evaluate covered species list to focus on those species most at risk. Those species most at risk are short-changed as a result of the large number of species currently covered in the MSHCP.
- 3. Revise the conservation strategy to improve mitigation effectiveness. The existing conservation and mitigation strategy is administratively unwieldy, lines of authority are blurred and accountability is difficult to demonstrate.
- 4. Restructure the MSHCP to improve efficiency and reduce bureaucracy. The size and complexity of the current MSHCP makes efficient implementation of minimization and mitigation actions difficult.



Encouraging participation early on will reduce the potential for miscommunication and increase the likelihood that stakeholder concerns are effectively addressed. The goal is to cultivate an open, collaborative environment that affords stakeholders an opportunity to provide input and influence outcomes. Given the scope and complexity of the permit amendment process and its potential to affect numerous agencies and stakeholder groups, developing a diverse base

of participants is critical. The Permittees have developed a unique process whereby input from all affected stakeholders and decision-makers can be considered and incorporated into the amendment process. More information on permit amendment can be obtained by visiting:

http://www.clarkcountynv.gov/Depts/dcp/Pages/PermitAmendment.aspx





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