



15-YEAR CELEBRATION OF THE MULTIPLE SPECIES HABITAT CONSERVATION PLAN

*February 2016
Clark County, Nevada*



desert conservation
PROGRAM



**“Conservation is a state
of harmony between
people and land.”**

-Aldo Leopold. American author
and conservation advocate.



*This booklet is dedicated to the people from the past, present,
and future who support the Clark County Multiple Species
Habitat Conservation Plan (MSHCP).*

*These enthusiasts researched, compromised, sacrificed, and
ultimately provided a safe haven for the development and growth
of both the desert tortoise and urbanization.*

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**Great Basin
Collared Lizard**

*Crotaphytus
bicinctores* eats
primarily arthropods,
but will also use its
powerful jaws to eat
small vertebrates
including lizards,
snakes, and rodents

FORWARD



Vermillion Flycatcher is an insectivorous bird, darting out from a perch to snap up flying insects and bees, often near a water source.

United States Senate

WASHINGTON, DC 20510-7012

January 12, 2016

Dear Friends,

Today's celebration of the 15 year anniversary of the Multiple Species Habitat Conservation Plan (MSHCP) is truly a momentous occasion. I am pleased to honor the good work and accomplishments of so many here today.

During my time in Congress, I have worked hard to protect Nevada's unique landscapes and endemic wildlife. That is why I was glad to take part in the original signing ceremony for the MSHCP fifteen years ago. The Clark County MSHCP was an important step in the history of Southern Nevada and continues to be a model of successful partnership between conservation and economic development efforts. In 1989, when the desert tortoise was first listed as threatened by the Fish and Wildlife Service, development efforts in the Las Vegas Valley were halted. Instead of pursuing costly and lengthy litigation, Clark County decided to pursue a more collaborative course.

To protect the tortoise – and eventually 77 other sensitive plant and animal species– the MSHCP allowed construction to continue by charging a development fee that funds conservation efforts in habitat throughout the county. The MSHCP also streamlined the Endangered Species Act's (ESA) permitting process for development. This long-term, proactive approach to conservation is exactly what Congress had in mind when it passed the ESA.

Clark County's innovative policy-making has helped the Southern Nevada community prosper economically. Just as significantly, the MSHCP has protected dozens of wildlife species that might not otherwise exist. Thanks to the work of many of you here today, future generations of Nevadans will continue to enjoy the desert scenery and abundant wildlife all around us.

The MSHCP helps protect so much of what makes Nevada beautiful and unique, all while striking a balance that has enabled the Las Vegas Valley to develop into the thriving economic hub and cultural center it is today. I commend Clark County and the Desert Conservation Program for fifteen years of great work.



Sincerely,

A large, stylized handwritten signature in black ink that reads "Harry Reid".

HARRY REID
United States Senator

INTRODUCTION

WHAT IS THE DESERT CONSERVATION PROGRAM?

The Desert Conservation Program (DCP) is a division within the Clark County Department of Air Quality that was established in 1990 in response to the emergency listing of the desert tortoise under the Endangered Species Act (the Act). The DCP was formed through a collaborative forum of local government representatives, public land managers, private landowners, interest groups, and individuals – all of whom were significantly impacted by the emergency listing of the desert tortoise.

The DCP is responsible for managing regional compliance with the Act on behalf of local municipalities (i.e., the Permittees). Compliance with the Act is achieved by implementing the Clark County Multiple Species Habitat Conservation Plan (MSHCP).

Balancing species conservation with a streamlined Endangered Species Act permitting process for development, the MSHCP is a plan that describes the types of species conservation actions that the DCP will carry out to offset the impacts of development within Clark County.



Spring Mountain Checkerspot

The subspecies is only known to occur in the Spring Mountains in Clark and Nye counties, Nevada at elevations from approximately 5,900 to 8,900 feet above sea level.

ENDANGERED SPECIES ACT OVERVIEW

The purpose of the Endangered Species Act is to protect and recover imperiled species and the ecosystems upon which they depend. Under the Act, a species may be listed as either threatened or endangered. The Act stipulates that it is illegal to “take” any threatened or endangered animal species.

Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction).

The U.S. Fish and Wildlife Service is one of the regulatory agencies responsible for enforcement and overseeing compliance with the Endangered Species Act.

Under **Section 10** of the Act, the U.S. Fish and Wildlife Service may authorize the take of a listed species, so long as the take is incidental to an otherwise

lawful activity. This permit is known as a Section 10 **Incidental Take Permit**. An Incidental Take Permit is required for any activity that may result in the take of threatened or endangered species or their habitat. In return for an Incidental Take Permit, the U.S. Fish and Wildlife Service requires that the property owner or developer submit a Habitat Conservation Plan (HCP).

An **HCP** is a planning document required as part of an application for a Section 10 Incidental Take Permit. HCPs describe the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded. HCPs also have the added benefit of providing a framework for creative partnerships with the goal of reducing conflicts between listed species and economic development.

By creating HCPs, Congress recognized that economic development can occur alongside endangered species conservation. The challenge is to make the process work to ensure that development activities do not appreciably reduce the likelihood of the survival and recovery of listed species.



Banded Gecko

The western banded gecko, like other geckos, is nocturnal. It avoids the heat of the day by hiding under logs, debris and within moist rock crevices.

ENDANGERED SPECIES ACT COMPLIANCE

The DCP manages Endangered Species Act compliance in Clark County by administering the MSHCP and implementing a suite of conservation actions as outlined in the MSHCP. This plan identifies 604 possible conservation actions that can be carried out to minimize and mitigate the impacts of private-land development. Examples of conservation actions described in the plan include:

- Public information, education, and outreach
- Research
- Species monitoring
- Habitat restoration and enhancement
- Wildlife fencing
- Desert tortoise translocation
- Sensitive lands management

The Permittees

The Permittees consist of Clark County; the cities of Las Vegas, North Las Vegas, Henderson, Mesquite, and Boulder City; and the Nevada Department of Transportation (NDOT).

The DCP is the division within Clark County responsible for administering the MSHCP and Permit on behalf of the Permittees.

The Plan Area

The MSHCP and associated Section 10 Incidental Take Permit cover all non-federal (private, municipal, state) lands within Clark County and NDOT activities in areas within Clark, Nye, Lincoln and Esmeralda counties south of the 38th parallel and below 5,000 feet in elevation.

The Permit allows for the disturbance (i.e., take) of up to 145,000 acres of non-federal land within the Plan Area.

Covered Species

The Clark County MSHCP addresses the conservation needs of 78 species, including 4 mammals, 8 birds, 14 reptiles, 1 amphibian, 10 invertebrates, and 41 plants. Of these species, the following four are currently listed as threatened or endangered:

- Desert tortoise (*Gopherus agassizii*), threatened
- Yellow-billed cuckoo (*Coccyzus americanus*), threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*), endangered
- Mount Charleston blue butterfly (*Icaricia shasta* ssp. *charlestonensis*), endangered

Funding

Developers and property owners obtain coverage under the County-wide permit by paying a disturbance fee of \$550 per-acre when conditions apply. These fees are collectively administered in an endowment fund which is used to pay for conservation actions described in the MSHCP. External sources are also available for funding conservation actions. These sources currently include Southern Nevada Public Land Management Act funds designated for the development of the MSHCP.



Phainopepla

The Phainopepla nests in the spring. The eggs are gray or pink and speckled, and the incubation, done by both the male and female, takes fifteen days.

MSHCP HISTORY

HOW IT ALL BEGAN

In 1989, a lawsuit against the U.S. Fish and Wildlife Service was filed by local environmental groups alleging that the desert tortoise (*Gopherus agassizii*) was not being adequately protected. This led to the U.S. Fish and Wildlife Service emergency listing the species as endangered on August 4, 1989.

Following the emergency ruling, the U.S. Fish and Wildlife Service determined the Mojave population of the desert tortoise to be a threatened species in a final ruling published on April 2, 1990.

The Clark County community was taken aback by the immediate listing of the desert tortoise. This emergency listing resulted in an immediate and total moratorium on all new construction. In the months following the emergency listing rule, the State of Nevada, the City of Las Vegas, Southern Nevada Home Builders Association, and local developers filed an injunction and lost, then filed an appeal, which they also lost.

The Short-term Habitat Conservation Plan

Unable to successfully overturn the listing of the desert tortoise, the Clark County community began to explore options for obtaining an incidental take permit under the Act that would allow take of this newly listed species and thus lift the moratorium on all new construction. From December 1989 to August 1991, Clark County led the effort to obtain a short-term incidental take permit in exchange for the implementation of an HCP. Clark County and the cities of Las Vegas, North Las Vegas, Henderson, Boulder City, and Mesquite (collectively, the cities) entered into an Interlocal Agreement wherein the County and the cities agreed to fund the preparation of an HCP to provide conservation measures for the desert tortoise. That plan was designated the Short-Term HCP for the Desert Tortoise.

The Short-Term HCP was approved and an incidental take permit was issued on August 24, 1991 for an initial term of three years, during which

time the County and the cities agreed to work on developing a long-term HCP.

The Clark County Desert Conservation Plan

Over the next several years, the County, the cities, and other stakeholders continued to work on the long-term HCP for the desert tortoise. This plan, designated the Clark County Desert Conservation Plan, was approved in August 1995 and a new incidental take permit was issued for a term of 30 years. However, this permit only covered incidental take of desert tortoises and the Clark County community was concerned that a new listing could potentially result in another building moratorium.

The Clark County Multiple Species Habitat Conservation Plan (MSHCP)

In May 1996, the County and cities began discussing the possibility of preparing another HCP which would provide adequate conservation to support an incidental take permit for the desert tortoise as well as a broad range of species and all habitats located within Clark County. In August of 1996, the County and the cities authorized the preparation of the Clark

County MSHCP. In November 1999, the County, the cities, and Nevada Department of Transportation submitted the MSHCP along with their application for an incidental take permit.

The MSHCP was approved and the new permit was issued for 78 species in early 2001.

Wednesday, August 9, 1989 b

Tortoises win round

By Caryn Shetterly
Review-Journal

A federal judge in Washington D.C. ruled Tuesday against the city of Las Vegas and several local developers trying to delay placing the Mohave Desert tortoise on the endangered species list.

Attorneys for the city and developers were unsuccessful in getting a temporary restraining order on the decision by the U.S. Fish and Wildlife Service, but have not sur-

rendered to the slow moving reptiles.

The Washington law firm of Latham and Watkins filed Tuesday for a preliminary injunction, day for a preliminary injunction, and the Fish and Wildlife Service has until Thursday to respond. A hearing on the latest request is expected later this month.

Interior Secretary Manuel Lujan placed the tortoise on the endangered species list Friday under emergency order after three na-

tional environmental groups presented petitions indicating many of the reptiles in Southern California, Nevada and Utah were dying from a respiratory illness.

The disease — found in adopted tortoises for 20 years — is thought to have been spread when captive reptiles were released into the wild.

An attorney for one of the environmental organizations praised U.S. District Judge Stanley Harris' decision.

Page 1B

vs. Vegas Tortoises

"We're very pleased, and obviously think it is the right result," said Michael Bean, attorney for the Environmental Defense Fund. "We're going to continue to fight to protect the tortoise."

Spokesmen for the Southern Nevada Homebuilders Association and Howard Hughes Properties, the two groups leading the legal battle, were unavailable for comment Tuesday.

Developers and the city are pro-

ried that millions of dollars could be lost if projects are slowed or halted in efforts to protect the tortoise habitat, much of which is prime building property in the Laughlin area and in west Las Vegas.

The Nevada Department of Wildlife has taken the position that the disease does not pose a threat to the state's tortoise population, and Gov. Bob Miller said

From 1B

earlier this week that he, too, doubts the reptiles in Southern Nevada are severely affected by the respiratory disease. He said he has asked the attorney general's office to examine whether the state should join the federal lawsuit.

Meanwhile, Fish and Wildlife officials Tuesday urged owners of tortoises to keep them. Possession of adopted tortoises is permitted under the emergency designation



**“TORTOISE
PACT ENDS
CONSTRUCTION
DELAY”**

HISTORY OF THE MSHCP

The Mojave Desert is home to hundreds of species. In 1989 one particular species, the desert tortoise, was listed as an endangered species. The Las

Vegas Valley became a hotbed for conservation concerns. Las Vegas and surrounding communities soon learned that the threat of shutting down urban development to save

1989

August 4, 1989
Mojave desert tortoise (*Gopherus agassizii*) is emergency listed

1990

Desert Tortoise is formally listed as threatened on April 2, 1990

Desert Conservation Program is established to oversee the HCP/MSHCP

1991

January 1991
Short-term Habitat Conservation Plan is approved



Steve Wynn opens the Mirage (the first new casino in 16 years) which ignites a resort building boom that revolutionizes Vegas into the 1990s and 2000s

UNLV Basketball team wins national title with a 103-73 victory over Duke in Denver, Colorado

the desert tortoise was a real possibility. So what did Clark County do to fix the situation? They developed one of the most innovative plans of its kind.

1995

Long-term Habitat Conservation Plan is approved

1996

August 1996 Permittees initiate development of an MSHCP

2000

September 2000 MSHCP is completed; Implementing Agreement approved

November 2000 MSHCP is approved by permittees and state/federal land management agencies

2001

USFWS issues incidental take permit for MSHCP



The \$70 million Fremont Street Experience opens



The Bellagio opens as the most expensive hotel in the world, built for \$1.7 billion



Las Vegas became the world's most visited place with 37 million tourists a year

Green Valley Ranch opens

HISTORY OF THE MSHCP (Continued)

2004

Clark County commissions a Program Management Analysis (PMA) to assess MSHCP implementation

2006

June 2006 Clark County convenes Short-term Advisory Committee in response to PMA

December 2006 Short-term Advisory Committee recommends Permittees amend MSHCP and Permit

2007

Board of County Commissioners directs staff to initiate permit amendment



Nevada State College opens



Wynn Las Vegas opens with 2,698 rooms

Las Vegas Celebrates its Centennial

Clark County's Population reaches 2 million

2009

USFWS publishes the Notice of Intent to prepare an Environmental Impact Statement to analyze the potential impacts from the issuance of an amended Incidental Take Permit



The Cleveland Clinic Lou Ruvo Center for Brain Health opens



The Smith Center for Performing Arts opens

The new Las Vegas City Hall opens

2016

MSHCP celebrates 15-Year Anniversary



The High Roller, a 550-foot tall Ferris wheel, opens on the Strip

CURRENT STATUS OF THE MSHCP

CURRENT STATUS OF THE MSHCP

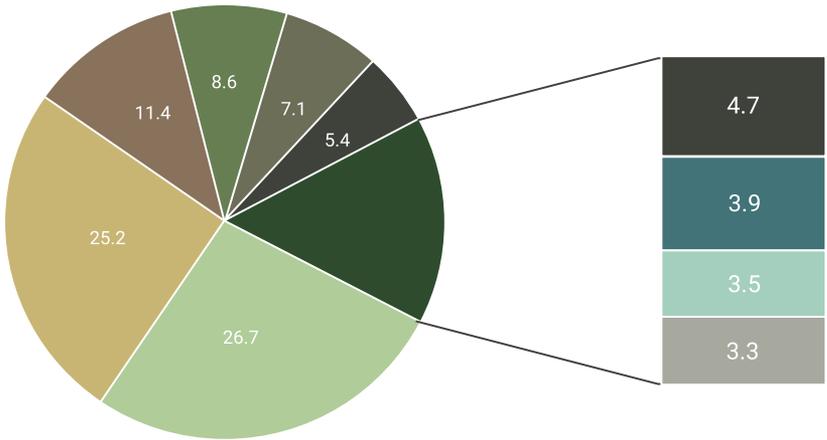
Since the MSHCP was approved in 2001, the Permittees have developed nearly 90,000 acres of the 145,000 acres authorized by the Permit.

To offset this take, the Permittees have committed to funding conservation actions in Clark County that benefit covered species. The MSHCP established broad goals that focused on preventing loss and fragmentation of habitat on lands that are managed for resource protection for the benefit of stabilizing or increasing species population numbers. These goals are achieved by implementing any of the 604 conservation actions described in the MSHCP. To date, the program has implemented 459 of the 604

conservation actions identified, and initiated or completed all of the 22 conditions specifically identified in the Permit. The DCP provides funding for conservation projects to various federal, state, and local agencies, academia, nonprofit organizations, and private contractors, in addition to projects implemented by DCP staff.

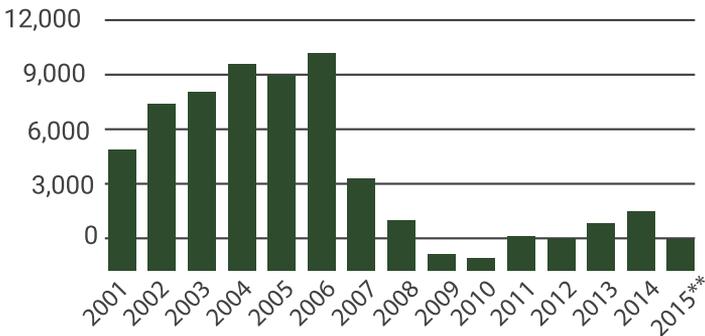
While the MSHCP was not formally approved until 2001, Clark County has been engaged in ecosystem-based habitat conservation planning and implementation for nearly two decades. Since the listing of the desert tortoise in 1989, Clark County and the Permittees have worked to implement a balanced approach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

MSHCP FUNDING ANALYSIS



- Administration, Permit Amendment, and Legal Representation
- Research/Inventory/Monitoring
- Adaptive Management Program
- Purchase and Management of Property
- Restoration of Roads and Habitat
- Law enforcement
- Desert Tortoise Fencing
- Translocation of Desert Tortoises
- Conservation Planning Efforts
- Public Information and Education Program

ACRES OF DISTURBANCE (Per calendar year)



**Total acres reported in this chart do not include acres of municipal development, which were exempt from the payment of mitigation fees through January 2010. Total number of acres of municipal development that were exempted from mitigation fee payment is 15,000 acres.*

***Partial year data.*

MSHCP MAJOR ACCOMPLISHMENTS



Desert Tortoise

In some areas, the number of desert tortoises has decreased by 90% due primarily to human activity.



**DESERT TORTOISE
RESEARCH &
MONITORING**



Desert Tortoise

The Mojave desert tortoise occurs in the Mojave desert, in southwestern Utah, southern Nevada, southeastern California, and northwestern Arizona in the United States.

The desert tortoise remains the key species driving the need for an HCP and Incidental Take Permit. As such, the DCP has implemented numerous conservation actions to benefit the desert tortoise and to assist with recovery efforts.

Wild Desert Tortoise Assistance Line

The DCP has operated the Wild Desert Tortoise Assistance Line (formerly the Desert Tortoise Hotline) for pickup of desert tortoises since 1993.

This County-wide service currently provides for the collection of desert tortoises that are displaced by development or those that appear to be in harm's way due to construction activity.

During the early years of its operation, this service was responsible for the collection of all pet and wild desert tortoises that were reported on the hotline. Collected tortoises were made available for adoption and research efforts, translocated to new sites, or euthanized due to the presence of an upper respiratory tract disease responsible for population declines. However, analyses conducted in 2009 revealed

that as many as 95 percent of the tortoises collected through this service were unwanted pet desert tortoises. At the time of this analysis, nearly 10,000 pet desert tortoises had been collected and transferred to the Desert Tortoise Conservation Center. Given the escalating costs of housing and relocating this many pet tortoises, in 2010 the DCP shifted the focus of this hotline to collect only wild desert tortoises that have been displaced by construction activities. This freed up much needed funding that could be directed towards other wild desert tortoise conservation actions.

Today, construction workers and developers within Clark County are directed to call the Wild Desert Tortoise Assistance Line (702-593-9027) when a desert tortoise is found on a construction site. Desert tortoises are collected free of charge, tested for disease, and relocated according to U.S. Fish and Wildlife Service translocation protocols. To date, this service has been responsible for collecting approximately 700 wild desert tortoises displaced by development.

Translocation

During the development of the 1995 Desert Conservation Plan, the DCP realized the high costs associated with holding and caring for desert tortoises indefinitely and began to explore other placement options, including translocation. In 1996 the Large Scale Translocation Site (LSTS) was established near Jean, Nevada on lands administered by the Bureau of Land Management. This site was the primary translocation site for unwanted pet tortoises collected through the operation of the Desert Tortoise Hotline, with the most recent translocations occurring in fall of 2015. To date, the DCP has assisted in placing more than 10,000 tortoises at the LSTS.

Desert tortoise translocation also remains one of the most valuable tools for augmenting wild desert tortoise populations and the DCP continues to work closely with the U.S. Fish and Wildlife Service to translocate wild desert tortoises displaced by construction activities. In 2013, the U.S. Fish and Wildlife Service began the process of establishing three new translocation sites in southern Nevada: Stump

Springs, Eldorado Valley, and the Boulder City Conservation Easement (BCCE). And in 2014, the DCP initiated pre-translocation monitoring at these sites to support long-term monitoring of translocated and resident tortoises. Information from pre- and post-translocation monitoring projects will help inform future translocation projects. To date, more than 300 desert tortoises have been translocated to the Eldorado Valley and the BCCE; translocation to Stump Springs is expected to begin in spring of 2016.

Disease Research

Upper respiratory tract disease (URTD) and other ailments have long been implicated as one of the leading factors causing wide-scale population declines of desert tortoise. To better understand this disease, the DCP has sponsored several research projects investigating the prevalence of URTD among wild populations, transmission rates and mechanisms, and effects of URTD. Information gathered during these projects has led to some significant changes in the management of tortoise populations. One of the most significant management changes to come about as a result of research sponsored

by the DCP is a change in the disposition protocol, where previously, many of the tortoises that tested positive for URTD were determined ineligible for translocation or adoption. Historically, determination of URTD status of a tortoise was based on the results of a single blood test, commonly referred to as an ELISA test (enzyme-linked immunosorbent assay). This test, however, only provided information about whether a tortoise had been exposed to URTD in the past, and did not conclusively indicate whether a tortoise currently had the disease. Today, eligibility for translocation or adoption is determined after a comprehensive health assessment is conducted. This revised protocol ensures that only healthy tortoises are released into wild populations.

Fencing

The construction and maintenance of desert tortoise exclusionary fencing has been a requirement of the program since 1995, when the Permittees funded a pilot program to test the effectiveness of road barriers in preventing roadway mortality of desert tortoises. To date, the program has been

responsible for the installation and retrofitting of more than 400 miles of desert tortoise exclusionary fencing along roadways in southern Nevada. The DCP continues to provide for regular monitoring and maintenance activities, and most recently, following the severe rain events that occurred in September 2014, the DCP initiated and completed a project to inspect and repair all 400 miles of desert tortoise exclusionary fencing in Clark County.

Line Distance Sampling

The recovery program for desert tortoises requires range-wide, long-term monitoring to determine whether recovery goals are met; specifically, population trends within recovery units need to increase for a period of 25 years to warrant delisting. Line distance sampling has been the established protocol for monitoring range-wide population trends in desert tortoise since 1999. The DCP assists the U.S. Fish and Wildlife Service in conducting line distance sampling of recovery units by providing for field crews that can implement these monitoring protocols in southern Nevada.



An aerial photograph of a vast, arid desert landscape. A paved road runs diagonally across the lower half of the frame. The terrain is covered in sparse, low-lying desert vegetation. In the distance, a range of rugged mountains is visible under a clear blue sky with light, wispy clouds. The overall scene is bright and open.

THE BOULDER CITY CONSERVATION EASEMENT (BCCE)

Boulder City Conservation Easement

In 1995 Clark County purchased an easement near Boulder City known today as the Boulder City Conservation Easement (BCCE). The purpose of the BCCE is to:

...ensure that the property is retained in a natural condition, and to prevent any uses that will impair the conservation, protection, restoration and enhancement of the natural resource values, especially those values associated with habitat for the desert tortoise and other indigenous flora and fauna.

The BCCE covers 86,423 acres and is located south of the populated area of Boulder City. The area is highly accessible, with over 95 miles of open roads numerous energy developments, and BLM rights-of-way – all of which combine to make management of the BCCE for the protection of desert tortoise a challenge. Despite these challenges, significant improvement in the quality of habitat has been seen over the last several years through increased law enforcement presence, education and outreach, and active restoration of areas damaged by unauthorized use.

The recently updated BCCE Management Plan guides the overall management of the Easement and outlines specific objectives to achieve the goals of the MSHCP. Part of the plan calls for law enforcement

officials to regularly patrol the BCCE. Officers have made 4,472 contacts with members of the public, distributed 2,629 brochures to educate and inform citizens of the purpose of the Easement, and handed out 282 warnings and 34 citations to individuals violating the rules of the Easement. Other activities guided by the Management Plan include regular repair and maintenance of over 180 signs, installation of interpretive kiosks at key access entry points, weed inventory and control, and installation of desert tortoise fencing and guards.

The BCCE has also provided a valuable space to conduct a number of research projects that benefit covered species. Currently, the desert tortoise occupancy sampling project, desert tortoise habitat covariates project, and desert tortoise predation studies are ongoing within the Easement.

Boulder City Conservation Easement







RIPARIAN RESERVES

Riparian Reserve Units

In 2012, the DCP established the Clark County Riparian Reserve Units to restore and preserve desert riparian habitat within the Muddy and Virgin River watersheds. The Muddy River Reserve Unit and the Virgin River Reserve Unit (collectively, the Riparian Reserve Units) were established for the protection of six sensitive bird species covered under the MSHCP. These species include the endangered southwestern willow flycatcher, the threatened yellow-billed cuckoo, Arizona Bell's vireo, blue grosbeak, summer tanager, and vermilion flycatcher.

Property Acquisition

The Incidental Take Permit requires the DCP to acquire private lands in desert riparian habitats on the Virgin River, Muddy River, and Meadow Valley Wash watersheds to conserve habitat for riparian birds covered by the MSHCP. The early properties were purchased by The Nature Conservancy on behalf of the DCP, with the first purchase occurring in 2002. In 2010 and 2012 the properties were formally transferred to the DCP and the Riparian Reserve Units were created. Additional transfers have since added

to the Reserves. Although no properties have been pursued on the Meadow Valley Wash, due to lack of willing sellers, the DCP plans to continue to expand the Riparian Reserve Units on the Virgin and Muddy Rivers as partial mitigation for private land development.

Muddy River Reserve Unit

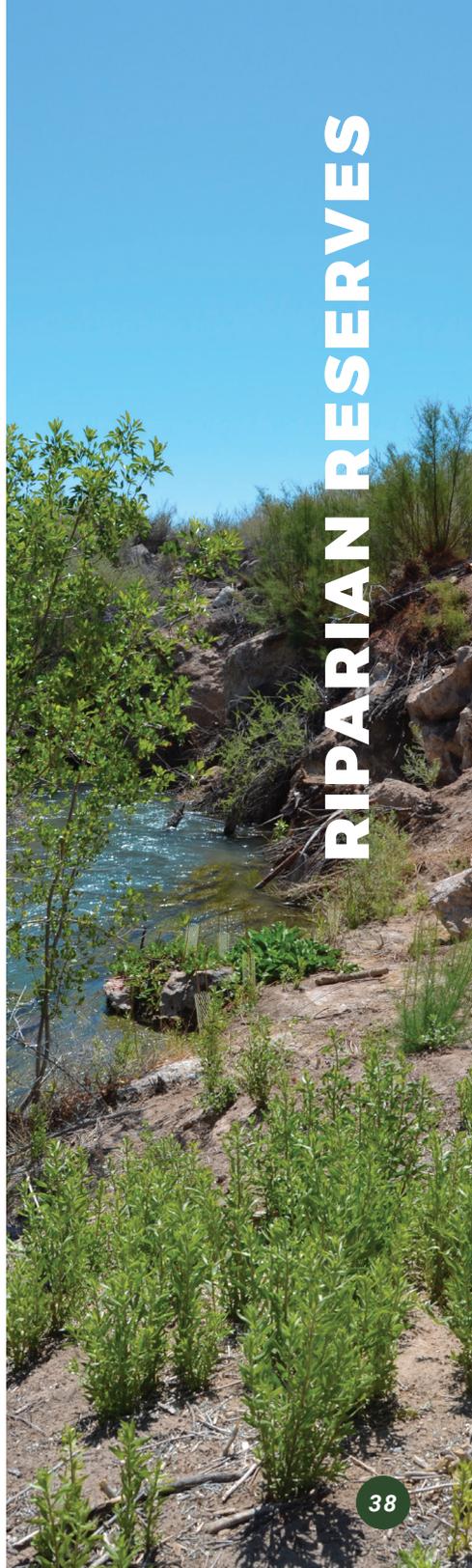
The 118-acre Muddy River Reserve Unit is located in the Upper Muddy River watershed, downstream from both the Moapa Valley National Wildlife Refuge and the Warm Springs Natural Area, and upstream of the Overton Wildlife Management Area. Home to eight endemic fish and invertebrate species, the Muddy River flows along the Reserve Unit and down through Overton. The Reserve Unit is ideally located along the river to provide opportunities to enhance and increase habitat for covered riparian birds and other sensitive species in the riparian corridor. It provides valuable breeding habitat for 76 detected bird species including potential habitat for the endangered southwestern willow flycatcher and other riparian birds covered by the MSHCP. The Reserve Unit includes groundwater rights, an operational well, a holding

reservoir, and a municipal water feature.

Virgin River Reserve Unit

To protect habitat for riparian birds, Clark County has acquired land in two locations along the Virgin River. The Clark County Virgin River Reserve Unit is approximately 168 acres in size and spread out into two locations. Subunit 1 is located on the lower Virgin River near its confluence with the Colorado River and Subunit 2 is located in the city of Mesquite. An effort is underway to slowly replace the tamarisk in the reserve unit with native trees and shrubs to help combat the effects of tamarisk leaf beetle defoliation and to increase habitat value for birds and other wildlife. Beginning in 2012, five planting areas were cleared of tamarisk and planted with native trees, shrubs and forbs. The area was enclosed with a fence and gates to help prevent trespass cattle from grazing on the newly planted vegetation. Tamarisk clearing and replanting will continue as funding allows.

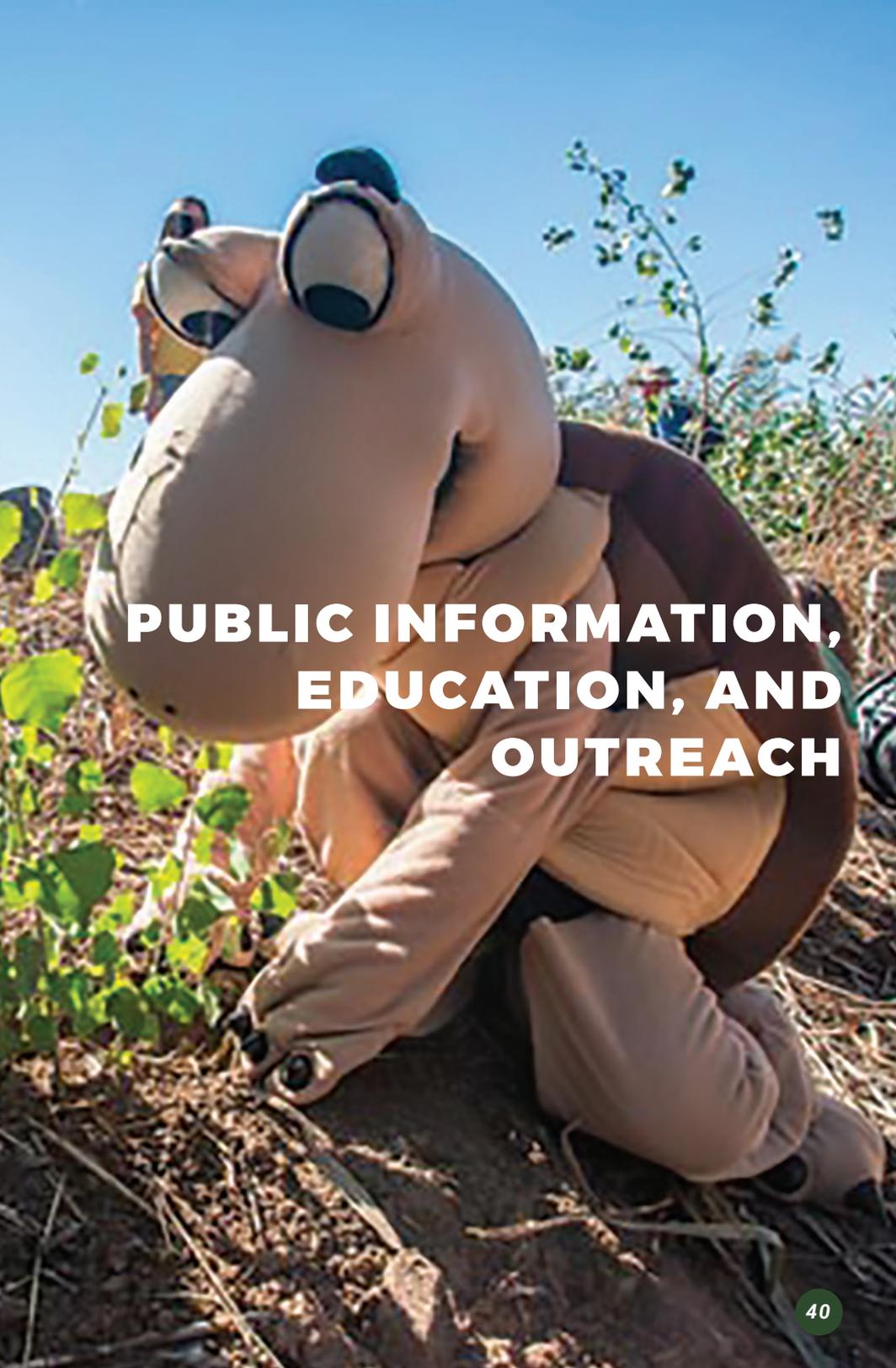
RIPARIAN RESERVES



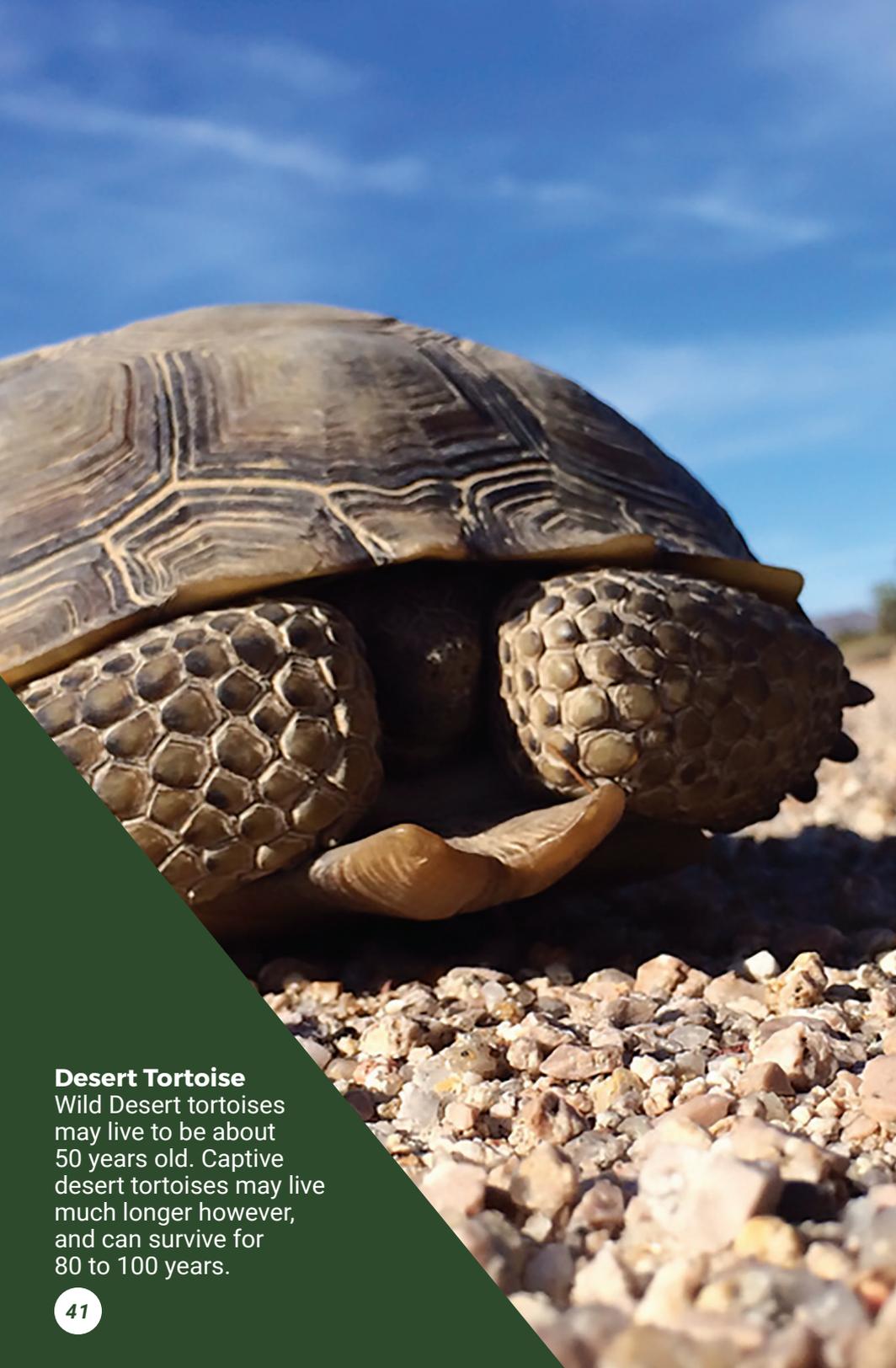


Mojave Max

Mojave Max helps a volunteer plant a cottonwood tree at the Clark County Wetlands Park.



**PUBLIC INFORMATION,
EDUCATION, AND
OUTREACH**



Desert Tortoise

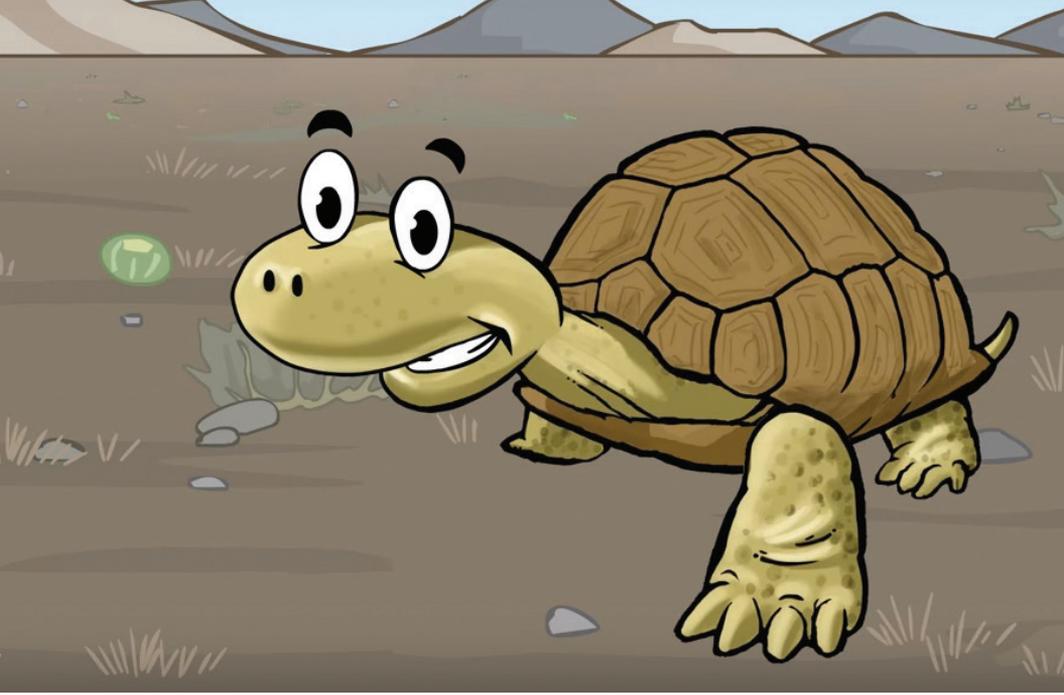
Wild Desert tortoises may live to be about 50 years old. Captive desert tortoises may live much longer however, and can survive for 80 to 100 years.

PUBLIC INFORMATION, EDUCATION, AND OUTREACH

An essential component of the DCP is a Public Information, Education, and Outreach program. Public information, education, and outreach efforts of the DCP focus on three themes:

- Informing people of the purpose of the Clark County MSHCP and the roles and functions of the DCP
- Encouraging people to respect, protect, and enjoy the desert
- Increasing public understanding of the value of Clark County's natural ecosystems

DCP staff accomplish these goals by implementing a wide variety of programs.



Mojave Max Education Program and Emergence Contest

The DCP developed a recognizable character by creating Mojave Max. Mojave Max is a mascot, but he is also a live desert tortoise that resides at Red Rock Canyon National Conservation Area. One of the ways that the DCP spreads the message of conservation to children is through the Mojave Max assemblies and classroom presentations. Each year in January and February, the Mojave Max Education Team conducts a minimum of 12 Mojave Max assemblies at various schools throughout Clark County reaching

thousands Clark County students. The assemblies include appearances by a Tortoise Educator who discusses desert tortoise biology, life cycle of the desert tortoise, and general facts about desert tortoises; a Weather Educator who discusses Mojave Desert weather, which plays an important part in Mojave Max's emergence; and the costumed Mojave Max mascot. Each year the Mojave Max Education Team also conducts approximately 80 individual classroom programs which are 'smaller' versions of the Mojave Max assemblies. These assemblies and classroom presentations, which began in 2000, aim to educate

children about the desert in a fun and friendly environment. To date, more than 150,000 students have been reached through these programs.

To encourage children to learn more about desert tortoises and their habitat, the DCP has also created the Mojave Max Emergence Contest. Clark County students are eligible to enter a contest to guess when the real Mojave Max will emerge from brumation. Mojave Max's emergence every year indicates the beginning of spring-like weather in southern Nevada. Students who enter the contest are eligible to win prizes, including a field trip to visit the real Mojave Max.

Mojave Max is also very active online. He has his own website (www.mojavemax.com), Facebook page, Twitter and Instagram accounts, and his own YouTube channel. This year marked a significant milestone for Mojave Max on social media when he achieved more than 1,000 "likes" on Facebook. Through the efforts of the Public Information, Education, and Outreach program, Mojave Max has become a popular Southern Nevada icon.

Off-Highway Vehicle (OHV) Education and Outreach

The DCP has been engaged in promoting responsible OHV recreation for several years. This has been accomplished through the production and distribution of educational public service announcements, distribution of educational materials, and attendance at a variety of community events.

The DCP was also instrumental in the establishment of the Nevada Commission on OHVs and was the driving force behind creating an OHV registration program in Nevada. Funds generated through the Commission's OHV registration program are used to provide for additional law enforcement and to administer a grant program that provides for trail construction, signage, education, safety training, and restoration.

Stay on the Trails Campaign

The DCP has developed a "Stay on the Trails" campaign to promote responsible recreation in southern Nevada's deserts. This campaign has been promoted through public service announcements, billboards, radio advertisements, and print media.



LAS VEGAS SPRINGS PRESERVE DESERT TORTOISE HABITAT

The DCP has provided funding for the creation of a new exhibit at the Las Vegas Springs Preserve. This approximately 15-acre habitat serves as a refugium for a small population of desert tortoises and was constructed according to U.S. Fish and Wildlife Service specifications. Visitors are able to view the tortoises,

which are equipped with radio transmitters that are used to track the tortoises' movements.

Associated with this project is the development of interpretive panels and implementation of educational programming to expand public knowledge and support for the recovery of threatened and endangered species.



The species lived through major climatic changes that killed off the dinosaurs. But coexisting with humans is proving more of a challenge. Population declines across its range led to the addition of the desert tortoise to the federal list of threatened species in 1990.

Desert Tortoise

Gopherus agassizii

- SIZE** 8–15".
- HABITAT** Arid, sandy or gravelly areas.
- DIET** Most vegetation, but prefers flowering succulents and the desert dandelion.

MARKS Domed shell and stumpy hind legs. Front legs flattened for digging. Webless toes.



SURVIVAL STRATEGY

Saving Up

Digs holes to catch rainwater and spends the spring feeding on moisture-rich plants. Stores enough water in its bladder to last through the dry season.



Lying Low

During the day, while out foraging, it stops to rest in shady spots to keep from overheating.



Timing Is Everything

It spends the winter hibernating in its den, sometimes in a group. In the spring months, it ventures out to look for plants to munch on and to mate.







HABITAT RESTORATION & RESEARCH

Desert Iguana

Desert iguanas come out of hibernation in mid-March and breeding occurs in April/May. Adults have a pink hue on the side of their belly during the breeding season.

HABITAT RESTORATION & RESEARCH

Habitat loss and degradation is the leading factor in most species declines worldwide. It is, therefore, key to the success of the DCP to be actively engaged in efforts to restore or enhance degraded habitats for the benefit of covered species. The DCP has conducted restoration and funded an assortment of research projects aimed at providing land managers and restoration specialists with information that will improve the success of restoration projects.

Restoration at the Boulder City Conservation Easement

In 2012, DCP began the first phase of restoration within the BCCE with a second phase following in 2013. These projects addressed disturbances at 19 different locations within the Easement and ultimately resulted in the closure of unauthorized OHV trails and the restoration of desert tortoise habitat.

Restoration at the Riparian Reserve Units

In 2013, the DCP began restoration efforts at the Virgin River Reserve Unit. This project included the removal and treatment of tamarisk and replanting with native species. This restoration work will continue in phases, ultimately resulting in increasing the available habitat for covered riparian bird species. Additional restoration work has been conducted at the Muddy River Reserve Unit and has included the treatment and clearing of non-native weed species and replanting with native riparian species. In 2016, the DCP will begin planning efforts for a 3-acre pilot restoration project at the Muddy River Reserve Unit that will aim to reconnect the floodplain with the river channel and reintroduce habitat suitable for covered riparian bird species.

Tamarisk Control Research

Research funded by the DCP investigated various tamarisk control methods (chemical and mechanical treatments, fire, biological control) to determine which methods would be most successful in controlling tamarisk while also resulting in minimal re-invasion of the area by other non-native plant species. This research found that many traditional tamarisk control methods can have the unintended consequence of increasing the presence of other undesirable non-native species.

project also evaluated several rehabilitation approaches for revegetating burned desert tortoise habitat, which included seeding (native seed broadcast by aircraft or by hand), herbicide application (pre- and post-emergent), and outplanting greenhouse-raised seedlings of native species in areas burned by wildfires.

Post-fire Recovery Research

Wildfire has been identified as a major threat to the survival and recovery of desert tortoises. In response to widespread fires that occurred within desert tortoise recovery units DCP funded a monitoring and assessment project. Under this project, scientists developed a spatial model of the abundance and variability of annual plants in desert tortoise habitat for prioritizing the reduction of fine fuels within Clark County. This



Yellow-billed Cuckoo

Yellow-billed cuckoos usually sit stock still, even hunching their shoulders to conceal their crisp white underparts, as they hunt for large caterpillars.

A close-up photograph of a tree branch with green leaves in the background. The branch is the central focus, showing its texture and color. The leaves are out of focus, creating a soft, natural background.

OTHER COVERED SPECIES MONITORING

OTHER COVERED SPECIES MONITORING

Monitoring species population status and trends is an important component of the DCP. Below are a few examples of the types of species monitoring projects conducted by the DCP over the first 15 years of MSHCP implementation.

Species Habitat Modeling

Species distribution models provide land managers with information that helps determine the extent of potential impacts to species, aid in the identification of habitats with high conservation potential, and guide land management decisions. During the past 15 years, the DCP has funded the development of numerous species distribution models. These models are used not only by DCP staff, but have also been widely adopted for use by a variety of land management agencies in Clark County. The science of species distribution modeling has been rapidly evolving over the last few years, and taking full advantage of these latest

advances, DCP will initiate a new species distribution modeling project in 2016, developing up to 30 new models.

Rare Plant Inventories

The DCP conducted rare plant inventories for ten rare plant species found in Clark County. The inventories were conducted to obtain comprehensive knowledge of the species to further inform species distribution models, including soil-landform relationships. These surveys were completed on a total of 511 10-acre plots within 13 separate geographic units within the County.

Population Status of the Western Burrowing Owl

The purpose of this project was to conduct surveys to assess the current distribution and relative abundance of the western burrowing owl in Clark County. This project also evaluated reproductive success of burrowing owls, assessed their relationship to habitat and environmental variables, and related owl occurrence to habitat and environmental

variables. This project provided valuable information for the development of western burrowing owl conservation actions.

Relict Leopard Frog Conservation

The relict leopard frog has been a candidate for listing under the federal Endangered Species Act since 1982. To aid in recovery of this species, and to reduce the likelihood of a future listing, the DCP has funded actions described in a Conservation Agreement and Strategy developed for the species. These actions have included monitoring populations, establishing new populations, enhancing or creating habitat, managing habitat to promote sustainability, and conducting research on species biology and disease.

Peregrine Falcon and Bald Eagle Monitoring

The peregrine falcon, an MSHCP covered species, and the bald eagle, an MSHCP watch list species, were federally listed under the Endangered Species Act until 1999 and 2007, respectively when they were delisted. Delisted species must be monitored for a minimum of five years to assess the species

ability to sustain themselves without the protective measures of the Endangered Species Act. The DCP has provided funding that supports the long-term monitoring of peregrine falcons and bald eagles using Lake Mohave and Lake Mead. The purpose of these projects has been to document trends in the number of peregrine falcons and bald eagles; identify important bald eagle wintering areas; conduct habitat improvements; and establish new populations of peregrine falcons. These monitoring projects have been an important component of monitoring the total populations across their range.

Mount Charleston Blue Butterfly Monitoring

The Mount Charleston blue butterfly, recently listed as endangered, is a narrow endemic species limited to three core colonies on Mount Charleston. Monitoring for this species has included documenting existing habitat conditions, identifying patterns of distribution, and documenting key habitat characteristics. The DCP will be initiating a new project in 2016 to restore habitat damaged during recent fire events.



Peregrine Falcon

Peregrine falcons are the largest falcon over most of the continent, with long, pointed wings and a long tail.

A close-up, artistic photograph of a horse's neck and mane. The horse's head is partially visible on the left, with its eye and ear in focus. The mane is dark and thick, cascading down the neck. The background is a soft, out-of-focus brownish-gold color. The text "MSHCP ADAPTIVE MANAGEMENT" is overlaid in white, bold, sans-serif font in the center-right area.

MSHCP ADAPTIVE MANAGEMENT

MSHCP ADAPTIVE MANAGEMENT

Adaptive management is a systematic approach for improving resource management by learning from management outcomes and typically involves exploring alternative ways to meet management objectives.

The DCP has implemented an Adaptive Management Program, as required by the Incidental Take Permit, since 1999. Components of this program include: contracting an independent Science Advisor who provides an assessment of MSHCP implementation and makes recommendations for future implementation actions; development of a structured decision-making process; and design and implementation of a variety of research projects aimed to better guide management decisions.

What Exactly is the Function of the Adaptive Management Program?

This program is the “governing body or protocol” for the MSHCP. It provides an objective, science-based approach to the implementation of the MSHCP. In addition, the program helps direct expenditures, leads projects

that further the MSHCP agenda, maintains a database on all covered species, and ensures an adaptive management approach to all recurrent actions with some level of uncertainty.

Monitoring and Learning

Staff and other key personnel who work within the Adaptive Management Program have developed a method for analyzing decisions by breaking them into different stages. These stages have proven to aid the overall MSHCP effort. Key elements within the method include: problem framing, eliciting objectives (goals), developing alternatives, evaluating consequences, identifying preferred alternatives, and implementing actions.

Outcomes

Several key decisions on management actions have been made as a result of the Adaptive Management Program. Some of these actions include: desert tortoise translocation on the BCCE; administering comprehensive health assessments on tortoises received through the Wild Desert Tortoise Assistance

Line; implementation of actions like the Pet Desert Tortoise Registration program and Sterilization

Clinics to address the growing pet desert tortoise issue; and implementation of an occupancy sampling protocol to assess distribution of desert tortoises and population response to management actions.



Summer Tanager

All year long they specialize in catching bees and wasps on the wing, somehow avoiding being stung by their catches.

FUTURE STEPS

Las Vegas Bearpoppy

The plant flowers in mid spring with deep yellow petals from large buds on tall 1-3 feet branching inflorescences. Fruiting occurs in early summer.



FUTURE STEPS

The MSHCP is currently taking steps to continue conservation efforts in Clark County. In order to maintain and operate an efficient and economically responsible program the MSHCP is preparing to obtain an Amendment to the original documented plan.

Objectives of the amendment include:

- Increasing the take authorization
- Reducing the number of covered species
- Revising the conservation strategy
- Revising Biological Goals and Objectives
- Restructuring plan implementation
- Changing the permit term to 50 years

The benefits of pursuing an amendment to the Clark County MSHCP include:

1. Providing a streamlined approach to Endangered Species Act permitting for all private-land development activities.
2. Offering long-term assurances for continued economic growth in Clark County.
3. Securing a large-scale regional approach to species conservation in Clark County.

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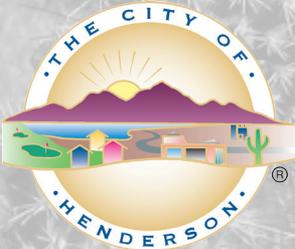
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A Place To Call Home



On behalf of the Permittees, we'd like
to thank you.

Your support has made our first 15 years
a success, and we look forward to more
successes in the future.



desert conservation
PROGRAM