



desert conservation
PROGRAM

2021-2023
BIENNIUM REPORT



togetherforbetter



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SECTION

1

report
introduction

INTRODUCTION

As required in Section 2.12.2.7 of the Clark County Multiple Species Habitat Conservation Plan (MSHCP), this document represents a composite final biennium progress report for the period July 1, 2021 through June 30, 2023. The biennial progress report is compiled every two years to document projects, activities, accomplishments, and revenues and expenditures implemented or incurred during each two-year time frame pursuant to implementation of the MSHCP. The report provides a summary of progress by program staff, agencies, and contractors implementing approved conservation projects, reports land disturbance activities and revenues generated as a result of those activities, and provides an accounting of funds spent.

DESERT CONSERVATION PROGRAM HISTORY

The Clark County Desert Conservation Program was initiated in 1989 following the listing of the desert tortoise as threatened under the Endangered Species Act. The listing occurred as a result of illegal collection, vandalism, disease, urban growth, road construction and irresponsible off-road vehicle use throughout desert tortoise habitat. The Endangered Species Act prohibits the “take” of any threatened or endangered species listed pursuant to the Endangered Species Act. Take is broadly defined by the Endangered Species Act as equivalent to “harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect.”

The Desert Conservation Program is responsible for ensuring compliance with the MSHCP and associated Section 10(a)(1)(B) incidental take permit (Permit) issued to Clark County and the Permittees (the cities of Boulder City, Henderson, Las Vegas, Mesquite and North Las Vegas; and the Nevada Department of Transportation) in 2001. The Permit exempts the Permittees from the prohibited take provisions of the Endangered Species Act (Section 9). More specifically, the Permit allows private property owners to develop land in Clark County without individual project consultations with the U.S. Fish and Wildlife Service.

The MSHCP and Permit allow for the disturbance (development) of up to 145,000 acres¹ of non-federal (private) lands in Clark County and provide coverage for the incidental take of covered species listed in the Permit. As a condition of the Permit and as defined in the MSHCP, the Permittees have agreed to mitigate future potential impacts on, and assist in the recovery of, a broad range of other species residing in all of the habitats located within Clark County in order to reduce the likelihood that additional covered species will need to be listed as threatened or endangered in the foreseeable future.

There are 78 species covered by the MSHCP, including the federally threatened desert tortoise (*Gopherus agassizii*) and yellow-billed cuckoo (*Coccyzus americanus*) and the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and Mount Charleston blue butterfly (*Icaricia shasta charlestonensis*). Clark County serves as Plan Administrator on behalf of the Permittees. The Permit is valid for 30 years from the date of approval by the U.S. Fish and Wildlife Service.

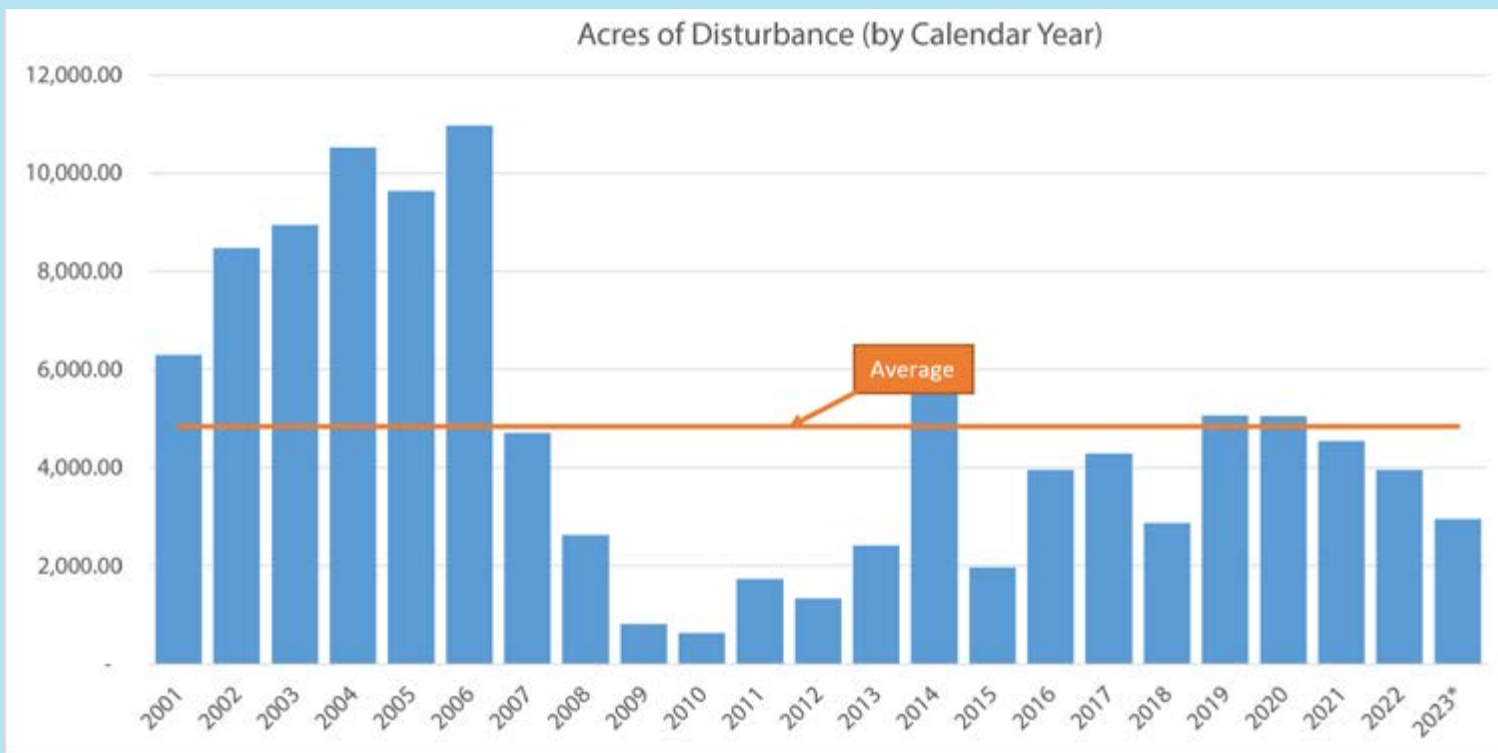
LAND DISTURBANCE AND REVENUES GENERATED

Clark County is required to collect and expend mitigation funds to implement conservation actions in accordance with terms outlined in the MSHCP and associated Permit. The MSHCP provides funding for conservation projects to various federal, state, and local agencies, nonprofit organizations and private contractors from mitigation fees collected pursuant to Section 10 of the Endangered Species Act and proceeds from the disposal of federal land in Clark County authorized by the Southern Nevada Public Land Management Act.

The Permittees maintain monthly Disturbance and Fee Reports per Section 2.12.2.2 of the MSHCP, documenting land disturbance through the permitting processes within each entity's jurisdiction. Those reports are submitted to Clark County for tracking.

¹On December 2, 2014 Congress passed the Carl Levin and Howard P. ‘Buck’ McKeon National Defense Authorization Act for Fiscal Year 2015 bill, which designated the Tule Springs Fossil Beds National Monument and provided an acre-for-acre credit toward the development of additional land under the MSHCP. This increased total Take authorized by the Permit to 167,650 acres.

In summary, 8,590.13 acres of disturbance was reported during the 2021-2023 biennium. The Desert Conservation Program collected \$4,719,104.50 in Section 10 fees during this period and \$339,858.97 was collected from other sources (grant revenues, interest, or miscellaneous fees). A detailed summary of revenues earned for the 2021-2023 biennium is provided in the financial reports section of this report.



*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.

PROJECTS AND EXPENDITURES

During the 2021-2023 biennium Clark County:

- Managed 62 internal program budgets (i.e., “master projects”);
- Administered a total of 89 agreements or contracts with 45 different agencies and contractors to implement “master projects”; and
- Administered 33 purchase orders with 24 different vendors in support of “master projects”.

See the Project Reports section of this document to review project activities during the biennium. The project reports include a brief summary of each project, including the name of the agency or contractor, project description, project status, partners, funding awarded, and contract term. Note that many projects span more than one biennium. Projects from previous biennia that overlapped the 2021-2023 biennium are included, if work was conducted or funds expended within the 2021-2023 biennium timeframe.

Project Reporting Process

Agencies and contractors receiving funding for the 2021-2023 biennium were required to submit quarterly reports and one final project report to the Desert Conservation Program's Program Administrator. These reports are collected and posted on the Clark County Desert Conservation Program website (<https://www.clarkcountynv.gov/government/departments/environment-and-sustainability/desert-conservation-program/active-projects.php>).

USES FOR THIS REPORT

This report will be used to comply with the requirements of the MSHCP as outlined in Section 2.12.1 “Progress Report Implementation Plan and Budget”, and to reaffirm Clark County's commitment as a steward of the plan and the Desert Conservation Program. In addition, the report will be used to clearly benchmark accomplishments, recommendations, and fiscal activities of the program. Finally, it will aid in planning future program activities as the Desert Conservation Program matures and will provide a benchmark from which to measure future progress. The final draft of this biennium report will be presented to the Clark County Board of Commissioners and formally submitted to the U.S. Fish and Wildlife Service.

To obtain further information about the Clark County Desert Conservation Program, please write to Clark County Department of Air Quality, Desert Conservation Program, 4701 W. Russell Road, Suite 200, Las Vegas NV 89118, call (702) 455-3536 or visit the website at:

<https://www.clarkcountynv.gov/government/departments/environment-and-sustainability/desert-conservation-program/about-us.php>.

ORGANIZATION OF THIS REPORT

Several key changes have been made to the format of this report over the biennia to help improve readability of the document and to provide more focus on accomplishments of contract projects. Provided below is a brief summary of what each section of the report contains.

SECTION 1 - Introduction.

Provides regulatory context and background information to inform the reader of the purpose and uses of this report.

Section 2 - Master List of Projects.

Provides a comprehensive list of all projects that have had some financial activity during the reporting period (July 1, 2021 through June 30, 2023). In this list, highlighted projects represent internal budgets, or “master projects”. Master projects are those projects that were identified in Implementation Plan and Budget reports. Master project budgets are not confined to a single biennium and can roll over to the next biennium if all funds have not been expended. The biennium in which each master project was funded is indicated in the column “Funding Source”. Each master project may consist of several contract projects that help achieve the goals and objectives of the master project.

It should be noted that the funding for some contract projects comes from more than one master project budget. In these cases, additional sources of funding for a contract project are indicated in the column “Split Funding”. Thus, a single contract project may be represented across multiple lines in the master list to indicate that funding was split across

multiple master project budgets.

The column “Report Reference” within the Master List of Projects provides a quick reference to indicate where the discussion of contract accomplishments is located within the context of the major programmatic areas of focus for the Desert Conservation Program (a complete list of programmatic areas and projects is provided in the following section).

Section 3 - Project Reports.

Project reports have been organized by major programmatic area. A complete list of the seven programmatic areas and the projects contained within them is provided for reference below:

1. Program Administration and Permit Compliance (Prog Admin)
 - Prog Admin Project 1: MSHCP Administration
 - Prog Admin Project 2: Permit Amendment – Application
 - Prog Admin Project 3: Permit Amendment – Species Modelling
 - Prog Admin Project 4: Permit Amendment – Vegetation Mapping
2. Boulder City Conservation Easement (BCCE)
 - BCCE Project 1: BCCE Management
 - BCCE Project 2: Restoration
3. Riparian Reserves (Riparian)
 - Riparian Project 1: Management of the Riparian Reserve Units
 - Riparian Project 2: Property Acquisition
 - Riparian Project 3: Muddy River Restoration
 - Riparian Project 4: Riparian Reserves Studies
 - Riparian Project 5: Management of Water Rights
4. Public Information, Education, and Outreach (PIE)
 - PIE Project 1: Mojave Max Education Program
 - PIE Project 2: General Outreach
5. Wild Desert Tortoise Assistance (Wild DT)
 - Wild DT Project 1: Wild Desert Tortoise Assistance Hotline
 - Wild DT Project 2: Translocation
 - Wild DT Project 3: Road Warriors
 - Wild DT Project 4: Evaluating Desert Tortoise Habitat Restoration Methods
 - Wild DT Project 5: Tule Springs Fossil Beds National Monument Boundary Fence
6. Conservation Projects (Cons)
 - Cons Project 1: Gila Monster Ecology and Threats Assessment
 - Cons Project 2: Rare Plant and Pollinator Surveys
 - Cons Project 3: Rare Plant Propagation Studies
 - Cons Project 4: Niles Herbarium Data
7. Adaptive Management Program (AMP)
 - AMP Project 1: Adaptive Management Program
 - AMP Project 2: Species and Habitat Monitoring
 - AMP Project 3: Desert Tortoise Connectivity Studies
 - AMP Project 4: Desert Tortoise Predation Studies
 - AMP Project 5: Desert Tortoise Nesting Study

Section 4 – Tortoise Disposition Summary.

This section provides a brief discussion of tortoises collected through the Wild Desert Tortoise Assistance Hotline during the biennium and details the ultimate disposition of those tortoises.

Section 5 – Financial Report.

This section of the report presents graphs and data on the various sources and amount of revenue collected during the 2021-2023 biennium. Data and graphs are also provided to indicate the breakdown of funding by programmatic area.

Section 6 – Land Disturbance Reports.

Here data is presented on the number of disturbed acres reported by the Permittees during the 2021-2023 biennium. A cumulative look at all disturbance reported since permit issuance in 2001 is also provided.

Section 7 – Project Index Tables.

This section of the report presents information previously provided in the Master List of Projects (Section 2) in two different formats; first sorted by funding source, then sorted by lead agency/contractor. These tables are meant to serve as quick reference guides to all projects.





SECTION **2**

master list
of projects

Project ID	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Amount	Funding Source	Project Title	Report Reference
803	DT Hotline and Pick-Up Service	Master Budget			\$ 595,000.00	S10 09-11		
803F	DT Health Assess and Pickup Svc Support	Ecocentric, LLC	01/02/2019	12/31/2023	\$ 99,390.00	S10 09-11	Wild DT Assist Hotline	Wild DT Proj 1
804	Desert Tortoise Fencing S10	Master Budget			\$ 425,000.00	S10 09-11		
804N	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	JNJ Engineering Construction Inc	04/20/2021	06/30/2023	\$ 57,016.05	S10 09-11	TUSK Boundary Fence	Wild DT Proj 5
809	Restoration of DT & Gypsum Habitat	Master Budget			\$ 300,000.00	S10 09-11		
809P	Restorations on the BCCE (w/1421 & 1745)	Gothic Landscape, Inc	10/22/2020	06/20/2025	\$ 174,553.13	S10 09-11	BCCE Restoration	BCCE Proj 2
917	Riparian Property Acquisition 11-13	Master Budget			\$ 3,200,000.00	S10 11-13		
917B	Cedar Development Ct Land Acquisition (35.92 Acres)	Acquisition	07/01/2014	06/30/2024	\$ -	S10 11-13	Property Acquisition	Riparian Proj 2
917Q	Costa Land Acquisition	Acquisition	06/23/2020	06/30/2025	\$ -	S10 11-13	Property Acquisition	Riparian Proj 2
917R	Cavada Land Acquisition	Acquisition	06/23/2021	06/30/2025	\$ -	S10 11-13	Property Acquisition	Riparian Proj 2
1014	Permit Amendment Administration	Master Budget			\$ 1,010,299.07	S10 07-09		
1014K	HCP Consultant for the MSHCP Amendment	WRA Environmental Consultants	08/02/2021	12/31/2024	\$ 99,830.12	S10 07-09	Permit Amendment - Application	Prog Admin Proj 2
1421	BCCE Restoration	Master Budget			\$ 250,000.00	S10 13-15		
1421C	Restorations on the BCCE (w/809 & 1745)	Gothic Landscape, Inc	10/22/2020	06/20/2025	\$ 11,358.41	S10 13-15	BCCE Restoration	BCCE Proj 2
1440	Other Property Management	Master Budget			\$ 10,000.00	S10 13-15		
1440D	Water Rights Consulting (w/1520Q & 1720E)	Farr West Engineering	08/16/2019	12/31/2024	\$ 8,600.00	S10 13-15	Water Rights Management	Riparian Proj 5
1455	Wild Desert Tortoise Assistance	Master Budget			\$ 78,100.00	S10 13-15		
1455D	BCCE DT Telemetry and Health Assessments	Great Basin Institute	04/26/2018	12/28/2023	\$ 45,440.00	S10 13-15	Translocation	Wild DT Proj 2
1460	Permit Amendment	Master Budget			\$ 836,000.00	S10 13-15		
1460A	HCP Consultant for the MSHCP Amend w/901	WRA Environmental Consultants	03/21/2017	01/31/2022	\$ 600,000.00	S10 13-15	Permit Amendment - Application	Prog Admin Proj 2
1460H	HCP Consultant for the MSHCP Amendment	WRA Environmental Consultants	08/02/2021	12/31/2024	\$ 100,761.74	S10 13-15	Permit Amendment - Application	Prog Admin Proj 2
1460J	Funding Analysis of the MSHCP Amend (w/2095)	Economic & Planning Systems, Inc.	09/19/2022	10/15/2023	\$ 5,000.00	S10 13-15	Permit Amendment - Application	Prog Admin Proj 2
1510	BCCE MGMT & LAW ENFORCEMENT	Master Budget			\$ 220,960.00	S10 15-17		
1510F	BCCE Maintenance (w/1710D & 1905C)	Gothic Landscape, Inc	01/02/2020	12/31/2021	\$ 21,500.37	S10 15-17	BCCE Management	BCCE Proj 1
1520	RIPARIAN PROPERTY MANAGEMENT	Master Budget			\$ 203,376.00	S10 15-17		
1520Q	Water Rights Consulting (w/1440D & 1720E)	Farr West Engineering	08/16/2019	12/31/2024	\$ 926.98	S10 15-17	Water Rights Management	Riparian Proj 5
1525	WILDLIFE FENCING	Master Budget			\$ 426,197.00	S10 15-17		
1525C	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	JNJ Engineering Construction Inc	04/20/2021	06/30/2023	\$ 175,887.40	S10 15-17	TUSK Boundary Fence	Wild DT Proj 5
1541	DESERT TORTOISE MONITORING-SNPLMA	Master Budget			\$ 1,077,373.00	SNPLMA R15		
1541B	Desert Tortoise Range-Wide Monitoring	Great Basin Institute	12/05/2016	12/04/2021	\$ 1,022,850.16	SNPLMA R15	Species and Habitat Monitoring	AMP Proj 2
1570	Restoration on the Clark County Muddy River Riparian Reserve Unit	Master Budget			\$ 2,770,000.00	SNPLMA R16		
1570C	Muddy River Habitat Restoration	Natural Channel Design, Inc	09/03/2019	06/28/2023	\$ 590,207.00	SNPLMA R16	Muddy River Restoration, Parcels A-E	Riparian Proj 3
1570D	MR Habitat Restoration Implementation	American Conservation Experience	12/09/2021	06/28/2023	\$ 117,804.03	SNPLMA R16	Muddy River Restoration, Parcels A-E	Riparian Proj 3
1580	Tortoise Connectivity	Master Budget			\$ 2,448,000.00	SNPLMA R16		
1580B	DT Connectivity Across Roadways (w/1920)	Ecocentric, LLC	12/01/2019	09/15/2021	\$ 429,986.67	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580C	DT Connectivity Solutions Modeling	University of Nevada Reno (UNR) - BRRC	05/10/2020	03/31/2022	\$ 348,455.90	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580E	DT Telemetry around Culverts	Ecocentric, LLC	11/01/2020	06/15/2022	\$ 170,770.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580F	Culvert Inspection for Tortoise Usage	Newfields	11/01/2020	08/31/2021	\$ 62,990.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580G	Connectivity Management Plan	Recon Environmental, Inc	12/15/2020	06/01/2022	\$ 81,549.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580H	Culvert Image Inspection	SWCA Environmental Consultants	05/01/2021	04/30/2022	\$ 50,000.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580J	Connectivity Data Analysis	Heron Ecological, LLC	06/10/2021	04/30/2022	\$ 93,940.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3
1580K	Connectivity Movement Simulation	Alta Sciences & Engineering, Inc.	11/01/2021	06/30/2022	\$ 84,100.00	SNPLMA R16	Desert Tortoise Connectivity Study	AMP Proj 3

Project ID	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Amount	Funding Source	Project Title	Report Reference
1710	BCCE Management and Law Enforcement	Master Budget			\$ 420,400.00	S10 17-19		
1710B	BCCE Weed Survey	National Park Service (NPS)	12/19/2017	11/22/2021	\$ 127,000.00	S10 17-19	BCCE Management	BCCE Proj 1
1710D	BCCE Maintenance (w/1510F & 1905C)	Gothic Landscape, Inc	01/02/2020	12/31/2021	\$ 22,756.81	S10 17-19	BCCE Management	BCCE Proj 1
1710G	BCCE Maintenance Project	Gothic Landscape, Inc	01/16/2023	06/30/2023	\$ 19,284.25	S10 17-19	BCCE Management	BCCE Proj 1
1715	Public Information, Education, and Outreach	Master Budget			\$ 401,406.00	S10 17-19		
1715AK	MSHCP Education Video	WE MARKET FOR HUMANS	05/01/2021	11/30/2021	\$ 49,500.00	S10 17-19	General Outreach	PIE Proj 2
1715AL	Mojave Max Education Prg Eval (w/1915)	Inform Evaluation & Research	8/2/2021	12/31/2022	\$ 27,878.39	S10 17-19	Mojave Max Education Program	PIE Proj 1
1715AM	Mojave Max Education Program (w/1915)	Get Outdoors Nevada	09/01/2022	08/31/2023	\$ 9,850.00	S10 17-19	Mojave Max Education Program	PIE Proj 1
1720	Riparian Properties Baseline Mgmt	Master Budget			\$ 275,600.00	S10 17-19		
1720E	Water Rights Consulting (w/1440D & 1520Q)	Farr West Engineering	09/03/2019	12/31/2024	\$ 15,423.02	S10 17-19	Water Rights Management	Riparian Proj 5
1720F	Riparian Reserves Maintenance	Eagle View Contractors, Inc.	09/01/2019	07/31/2022	\$ 100,000.00	S10 17-19	Riparian Management	Riparian Proj 1
1720H	Riparian Reserves Veg Mgmt (w/1910 & 2010)	National Park Service (NPS)	07/16/2023	07/15/2025	\$ 11,635.91	S10 17-19	Riparian Management	Riparian Proj 1
1725	Fencing Installation and Maintenance	Master Budget			\$ 45,000.00	S10 17-19		
1725A	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	JNJ Engineering Construction Inc	04/01/2021	06/30/2023	\$ 45,000.00	S10 17-19	TUSK Boundary Fence	Wild DT Proj 5
1730	Adaptive Management Program	Master Budget			\$ 986,000.00	S10 17-19		
1730P	Avian Surveys (w/1920)	SWCA Environmental Consultants	12/29/2020	12/28/2021	\$ 87,399.76	S10 17-19	Species and Habitat Monitoring	AMP Proj 2
1740	Desert Tortoise Translocation - S10	Master Budget			\$ 200,000.00	S10 17-19		
1740C	BCCE DT Telemetry & Health Assess (w/1930B & 2030A)	Great Basin Institute	11/15/2021	12/28/2023	\$ 44,394.62	S10 17-19	Translocation	Wild DT Proj 2
1741	Desert Tortoise Translocation - SNPLMA	Master Budget			\$ 442,071.00	SNPLMA R17		
1741A	Eldorado Valley Post Translocation Surveys	Great Basin Institute	11/01/2022	11/30/2024	\$ 405,565.00	SNPLMA R17	Translocation	Wild DT Proj 2
1745	BCCE Restorations	Master Budget			\$ 151,031.00	S10 17-19		
1745A	Restoration at the BCCE (W/809 & 1421)	Gothic Landscape, Inc	10/22/2020	06/30/2025	\$ 151,031.00	S10 17-19	BCCE Restoration	BCCE Proj 2
1750	Riparian Reserve Units Restoration	Master Budget			\$ 378,156.00	S10 17-19		
1750D	Archeological Resource Evals on Rip Rsv Parcels	SWCA Environmental Consultants	09/15/2020	08/31/2025	\$ 50,000.00	S10 17-19	Riparian Reserves Studies	Riparian Proj 4
1750F	Avian Nest Monitoring on Riparian Properties	SWCA Environmental Consultants	05/01/2021	12/31/2021	\$ 52,271.00	S10 17-19	Riparian Reserves Studies	Riparian Proj 4
1750J	Riparian Reserves Plant Propagation	National Park Service (NPS)	04/19/2022	06/30/2023	\$ 27,409.50	S10 17-19	Muddy River Restoration, Parcels A-E	Riparian Proj 3
1750K	Avian Nest Monitoring on Riparian Properties	SWCA Environmental Consultants	05/08/2022	12/31/2023	\$ 99,908.00	S10 17-19	Riparian Reserves Studies	Riparian Proj 4
1750L	Muddy River Easements Review	NV Energy	07/25/2022	12/31/2022	\$ 10,000.00	S10 17-19	Muddy River Restoration, Parcels A-E	Riparian Proj 3
1750N	Parasitism Control and Eval (w/1935 & 2060)	SWCA Environmental Consultants	04/17/2023	12/31/2026	\$ 88,595.58	S10 17-19	Riparian Reserves Studies	Riparian Proj 4
1755	Rare Plant Surveys	Master Budget			\$ 268,000.00	S10 17-19		
1755A	Rare Plant Surveys	Ironwood Consulting, Inc.	01/08/2020	12/31/2022	\$ 268,000.00	S10 17-19	Rare Plant & Pollinator Surveys	Cons Proj 2
1760	Evaluating Desert Tortoise Habitat Restoration - SNPLMA	Master Budget			\$ 350,000.00	SNPLMA R17		
1760A	Academic Consultant for DT Rest Workshop	Natural Resource Conservation LLC	11/01/2020	05/05/2022	\$ 60,000.00	SNPLMA R17	Evaluating DT Habitat Restoration	Wild DT Proj 4
1760B	Restoration Workshop Facilitation	Southwest Decisions Resources, Inc	05/27/2021	04/28/2022	\$ 50,000.00	SNPLMA R17	Evaluating DT Habitat Restoration	Wild DT Proj 4
1760C	Reevaluating Desert Upland Habitat Restoration	University of Nevada LV (UNLV) - School of Life Sci	12/15/2022	06/18/2025	\$ 273,000.00	SNPLMA R17	Evaluating DT Habitat Restoration	Wild DT Proj 4
1780	Tule Springs Fossil Beds National Monument Boundary Fencing	Master Budget			\$ 500,000.00	S10 17-19		
1780A	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	JNJ Engineering Construction Inc	04/20/2021	06/30/2023	\$ 796,066.55	S10 17-19	TUSK Boundary Fence	Wild DT Proj 5

Project ID	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Amount	Funding Source	Project Title	Report Reference
1782	PAmend Covered Species Surveys & Dist Model Refine - SNPLMA	Master Budget			\$ 400,000.00	SNPLMA R17		
1782A	Desert Pocket Mouse Surveys	BEC Environmental, Inc.	02/08/2021	12/31/2021	\$ 106,310.00	SNPLMA R17	Permit Amendment - Species Modelling	Prog Admin Proj 3
1782B	Avian Surveys	SWCA Environmental Consultants	02/08/2021	12/31/2022	\$ 216,087.00	SNPLMA R17	Permit Amendment - Species Modelling	Prog Admin Proj 3
1782C	Model Updates 2023	University of Nevada Reno (UNR)	02/08/2023	12/30/2023	\$ 79,128.00	SNPLMA R17	Permit Amendment - Species Modelling	Prog Admin Proj 3
1795	Desert Tortoise Predator-Prey Dynamics	Master Budget			\$ 576,505.00	S10 17-19		
1795A	Desert Tortoise Predator-Prey Dynamics	US Geological Survey (USGS) - Western Eco Rsrch Ctr	12/01/2017	12/31/2021	\$ 576,503.35	S10 17-19	Predation Studies	AMP Proj 4
1905	BCCE Management and Law Enforcement	Master Budget			\$ 327,000.00	S10 19-21		
1905B	Law Enforcement for the BCCE	City of Boulder City	08/20/2019	08/17/2021	\$ 216,477.99	S10 19-21	BCCE Management	BCCE Proj 1
1905C	BCCE Maintenance (w/1710D & 1510F)	Gothic Landscape, Inc	1/2/2020	12/31/2021	\$ 1,742.82	S10 19-21	BCCE Management	BCCE Proj 1
1905G	BCCE Law Enforcement	Boulder City Conservation Easement Law Enforcement	8/18/2021	10/18/2022	\$ 98,177.51	S10 19-21	BCCE Management	BCCE Proj 1
1910	Riparian Properties Baseline Management	Master Budget			\$ 453,920.00	S10 19-21		
1910B	Avian Nest Monitoring on Riparian Properties	SWCA Environmental Consultants	05/01/2020	12/31/2024	\$ 68,040.00	S10 19-21	Riparian Reserves Studies	Riparian Proj 4
1910C	Riparian Reserves Vegetation Management	National Park Service (NPS)	03/17/2021	07/15/2025	\$ 216,652.59	S10 19-21	Riparian Management	Riparian Proj 1
1910D	MR Tree Removal	First Choice Tree Service Inc	02/23/2022	02/15/2023	\$ 52,095.00	S10 19-21	Muddy River Restoration, Parcels A-E	Riparian Proj 3
1910E	Riparian Reserves Maintenance	Eagle View Contractors, Inc.	09/01/2022	08/31/2023	\$ 100,000.00	S10 19-21	Riparian Management	Riparian Proj 1
1910F	Water Rights Consulting	Facque Consulting LLC	02/15/2023	09/30/2025	\$ 25,212.00	S10 19-21	Water Rights Management	Riparian Proj 5
1915	Public Information, Education and Outreach	Master Budget			\$ 375,165.00	S10 19-21		
1915A	Mojave Max Education Program	Outside Las Vegas Foundation	08/01/2019	07/31/2022	\$ 93,360.00	S10 19-21	Mojave Max Education Program	PIE Proj 1
1915F	Mojave Max Education Prg Eval (w/1715)	Inform Evaluation & Research	08/02/2021	12/31/2022	\$ 18,264.61	S10 19-21	Mojave Max Education Program	PIE Proj 1
1915H	Mojave Max Education Program (w/1715)	Get Outdoors Nevada	09/01/2022	08/31/2023	\$ 89,650.00	S10 19-21	Mojave Max Education Program	PIE Proj 1
1915L	Mojave Max Mascot Appearances	Las Vegas Character Parties	12/15/2022	12/14/2023	\$ 20,000.00	S10 19-21	Mojave Max Education Program	PIE Proj 1
1920	Adaptive Management Program	Master Budget			\$ 1,070,000.00	S10 19-21		
1920A	Science Advisor Panel	Alta Sciences & Engineering, Inc.	02/01/2020	02/20/2024	\$ 550,000.00	S10 19-21	AMP	AMP Proj 1
1920B	DT Occupancy on the BCCE	Bio Logical, LLC	02/01/2020	02/20/2024	\$ 191,693.00	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1920C	DT Monitoring Data Mgmt Year 2-5 Las Vegas	US Fish & Wildlife Service (USFWS) - Las Vegas	10/07/2016	03/15/2022	\$ 76,714.00	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1920D	Avian Surveys	SWCA Environmental Consultants	12/29/2019	12/29/2021	\$ 96,658.00	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1920E	Avian Surveys (w/1730)	SWCA Environmental Consultants	12/29/2020	12/28/2021	\$ 1,172.24	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1920F	DT Connectivity Across Roadways (w/1580)	Ecocentric, LLC	12/1/2019	9/15/2021	\$ 73,630.33	S10 19-21	Desert Tortoise Connectivity Study	AMP Proj 3
1920G	DT Range Wide Monitoring (w/1925, 2020, 2025)	Great Basin Institute	1/5/2022	9/15/2022	\$ 74,872.03	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1925	Range-Wide Desert Tortoise Monitoring Support - S10	Master Budget			\$ 252,632.00	S10 19-21		
1925B	DT Range Wide Monitoring (w/1920, 2020, 2025)	Great Basin Institute	1/5/2022	9/15/2022	\$ 23,276.35	S10 19-21	Species and Habitat Monitoring	AMP Proj 2
1930	Desert Tortoise Translocation	Master Budget			\$ 298,201.00	S10 19-21		
1930A	BCCE DT Telemetry and Health Assessments	Great Basin Institute	11/13/2019	11/14/2021	\$ 252,400.46	S10 19-21	Translocation	Wild DT Proj 2
1930B	BCCE DT Telemetry & Health Assess (w/1740C & 2030A)	Great Basin Institute	11/15/2021	12/28/2023	\$ 45,800.54	S10 19-21	Translocation	Wild DT Proj 2
1935	Riparian Reserve Units Restoration	Master Budget			\$ 336,000.00	S10 19-21		
1935A	Parasitism Control and Eval (w/1750&1935)	SWCA Environmental Consultants	04/17/2023	12/31/2026	\$ 281,065.42	S10 19-21	Riparian Reserves Studies	Riparian Proj 4
1942	Rare Plant Survey	Master Budget			\$ 250,000.00	S10 19-21		
1942A	Rare Plant and Milkweed Surveys	Ironwood Consulting, Inc.	03/10/2023	12/31/2023	\$ 250,000.00	S10 19-21	Rare Plant Surveys	Cons Proj 2
1965	Baseline Vegetation Map	Master Budget			\$ 400,000.00	S10 19-21		
1965A	Vegetation Map for Clark County (w/1460G)	Cogan Technology Inc	07/01/2020	05/31/2024	\$ 400,000.00	S10 19-21	Permit Amendment - Vegetation Mapping	Prog Admin Proj 4

Project ID	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Amount	Funding Source	Project Title	Report Reference
1970	Permit Amendment Support	Master Budget			\$ 313,575.00	S10 19-21		
1970B	HCP Consultant for the MSHCP Amendment	WRA Environmental Consultants	08/02/2021	12/31/2024	\$ 199,408.14	S10 19-21	Permit Amendment - Application	Prog Admin Proj 2
1970C	Legal Services for DCP	Ebbin Moser & Skaggs, LLP	03/07/2022	12/31/2026	\$ 47,631.56	S10 19-21	Permit Amendment - Application	Prog Admin Proj 2
1975	Tule Springs Fossil Beds National Monument Boundary Fence Phase III	Master Budget			\$ 306,020.00	S10 19-21		
1975A	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	JNJ Engineering Construction Inc	04/01/2021	07/23/2023	\$ 306,020.00	S10 19-21	TUSK Boundary Fence	Wild DT Proj 5
1985	Demography/Population Viability of Tortoises in Translocation Sites	Master Budget			\$ 250,000.00	S10 19-21		
1985A	Desert Tortoise Nesting Study on the BCCE	University of Nevada Reno (UNR) - BRRC	03/20/2020	01/31/2022	\$ 92,729.74	S10 19-21	Desert Tortoise Nesting Study	AMP Proj 5
1987	Desert Tortoise Predator-Prey Dynamics, Phase II	Master Budget			\$ 491,153.00	S10 19-21		
1987A	DT Predator-Prey Dynamics (w/1795)	US Geological Survey (USGS) - Western Eco Rsrch Ctr	01/01/2020	12/31/2022	\$ 491,152.20	S10 19-21	Predation Studies	AMP Proj 4
1990	Protected Plant Species Propagation Research	Master Budget			\$ 137,943.00	S10 19-21		
1990A	Rare Plant Propagation Research (w/809)	US Geological Survey (USGS) - Western Eco Rsrch Ctr	03/01/2020	12/16/2023	\$ 137,943.00	S10 19-21	Rare Plant Propagation Studies	Cons Proj 3
1997	Understanding Threats to the Persistence of NV Gila Monsters	Master Budget			\$ 354,000.00	S10 19-21		
1997A	Assess Genetic Diversity of Gila Monster	US Geological Survey (USGS) - Western Eco Rsrch Ctr	12/20/2019	03/31/2022	\$ 123,000.00	S10 19-21	Gila Monster Threats	Cons Proj 1
1997B	Gila Monsters Spatial Ecology and Habitat	Austin Peay State University	11/22/2019	12/31/2021	\$ 193,900.00	S10 19-21	Gila Monster Threats	Cons Proj 1
1997C	Gila Monster Habitat Modeling	University of Nevada Reno (UNR) - BRRC	07/01/2020	10/30/2022	\$ 56,698.62	S10 19-21	Gila Monster Threats	Cons Proj 1
2000	MSHCP Administration 2021-23	Master Budget			\$ 4,596,656.00	S10 21-23		
2005	MANAGEMENT OF THE BCCE	Master Budget			\$ 327,000.00	S10 21-23		
2005B	BCCE Law Enforcement	City of Boulder City	07/20/2021	06/30/2022	\$ 23,794.25	S10 21-23	BCCE Management	BCCE Proj 1
2005C	BCCE Law Enforcement	Boulder City Conservation Easement Law Enforcement	08/18/2021	06/30/2023	\$ 118,528.52	S10 21-23	BCCE Management	BCCE Proj 1
2005D	BCCE Weed Survey	National Park Service (NPS)	12/01/2021	12/20/2023	\$ 132,000.00	S10 21-23	BCCE Management	BCCE Proj 1
2005E	BCCE Maintenance	Gothic Landscape, Inc	02/01/2022	08/31/2023	\$ 50,000.00	S10 21-23	BCCE Management	BCCE Proj 1
2010	MANAGEMENT OF RIPARIAN RESERVES AND WATER RIGHTS	Master Budget			\$ 453,920.00	S10 21-23		
2010A	Riparian Reserves Veg Mgmt (w/1720 & 1910)	National Park Service (NPS)	03/17/2021	07/15/2025	\$ 11,635.91	S10 21-23	Riparian Management	Riparian Proj 1
2020	ADAPTIVE MANAGEMENT PROGRAM	Master Budget			\$ 1,150,025.00	S10 21-23		
2020B	East Moj Cnsrv Collaborative Facilitation II	Southwest Decisions Resources, Inc	02/01/2022	09/30/2022	\$ 5,000.00	S10 21-23	AMP	AMP Proj 1
2020C	Science Advisor Panel	Alta Sciences & Engineering, Inc.	02/01/2022	02/20/2024	\$ 551,236.00	S10 21-23	AMP	AMP Proj 1
2020D	Desert Tortoise Occupancy	Bio Logical, LLC	02/01/2022	01/31/2024	\$ 192,840.50	S10 21-23	Species and Habitat Monitoring	AMP Proj 2
2020E	Avian Surveys	SWCA Environmental Consultants	12/19/2021	12/28/2023	\$ 211,242.00	S10 21-23	Species and Habitat Monitoring	AMP Proj 2
2020H	Assess, Inv, and Mon of Habitat on the BCCE	Great Basin Institute	03/01/2023	07/05/2023	\$ 12,560.00	S10 21-23	Species and Habitat Monitoring	AMP Proj 2
2025	RANGE-WIDE DESERT TORTOISE MONITORING SUPPORT	Master Budget			\$ 388,136.00	S10 21-23		
2025A	DT Range Wide Monitoring (w/1920, 1925, 2020)	Great Basin Institute	01/05/2022	09/15/2022	\$ 388,136.00	S10 21-23	Species and Habitat Monitoring	AMP Proj 2
2030	TRANSLOCATION SUPPORT	Master Budget			\$ 277,647.00	S10 21-23		
2030A	BCCE DT Telemetry & Health Assess (w/1740C & 1930B)	Great Basin Institute	11/15/2021	12/28/2023	\$ 251,561.66	S10 21-23	Translocation	
2040	REPTILE MONITORING SUPPORT	Master Budget			\$ 72,000.00	S10 21-23		
2040B	Reptile Monitoring and Surveys	Great Basin Institute	08/23/2021	12/06/2022	\$ 48,800.00	S10 21-23	Species and Habitat Monitoring	AMP Proj 2
2040C	Gila Monster Seasonal Support	Great Basin Institute	08/23/2021	12/31/2021	\$ 23,200.00	S10 21-23	Gila Monster Threats	Cons Proj 1
2042	ROAD WARRIORS - LICENSE PLATE	Master Budget			\$ 70,000.00	S10 21-23		
2042A	Road Warriors DT Mortality & Fence Survey	Tortoise Group	02/14/2022	01/12/2024	\$ 70,000.00	S10 21-23	Road Warriors	Wild DT Proj 3
2045	PREDATOR-PREY DYNAMICS, PHASE III	Master Budget			\$ 769,842.00	S10 21-23		
2045A	Predator - Prey Dynamics Phase 2	US Geological Survey (USGS) - Western Eco Rsrch Ctr	06/15/2022	06/14/2027	\$ 769,842.00	S10 21-23	Predation Studies	AMP Proj 4

Project ID	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Amount	Funding Source	Project Title	Report Reference
2060	RIPARIAN THERMAL REFUGIA STUDY	Master Budget			\$ 30,000.00	S10 21-23		
2060B	Parasitism Control and Eval (w/1750&1935)	SWCA Environmental Consultants	04/17/2023	06/30/2024	\$ 10,458.00	S10 21-23	Riparian Reserves Studies	Riparian Proj 4
2065	RIPARIAN PLANT POLLINATOR ECOLOGY, PHASE II	Master Budget			\$ 72,105.00	S10 21-23		
2065A	Riparian Plant-Pollinator Ecology Phase 2	University of Nevada (UNLV) - Board of Regents	02/16/2022	06/21/2023	\$ 72,105.00	S10 21-23	Riparian Reserves Studies	Riparian Proj 4
2070	INVESTIGATE SCREWBEAN MESQUITE DIE-OFF	Master Budget			\$ 125,000.00	S10 21-23		
2070A	Evaluation of Screwbean Mesquite Ecosystem	EcoCulture	05/10/2023	12/31/2024	\$ 100,000.00	S10 21-23	Riparian Reserves Studies	Riparian Proj 4
2075	RARE PLANT PROPAGATION, PHASE II	Master Budget			\$ 628,573.00	S10 21-23		
2075A	Rare Plant Propagation Research Phase II	US Geological Survey (USGS) - Western Eco Rsrch Ctr	01/17/2023	12/31/2026	\$ 628,573.00	S10 21-23	Rare Plant Propagation Studies	Cons Proj 3
2080	BLUE DIAMOND CHOLLA SURVEYS	Master Budget			\$ 360,000.00	S10 21-23		
2080A	Blue Diamond Cholla Surveys	Ironwood Consulting, Inc.	08/01/2022	04/30/2024	\$ 360,000.00	S10 21-23	Rare Plant & Pollinator Surveys	Cons Proj 2
2085	SURVEYS FOR GYPSUM ENDEMICIS	Master Budget			\$ 100,000.00	S10 21-23		
2085A	Mojave Poppy Bee Surveys	US Dept of Agriculture (USDA) -Agri Rsrch Service	02/01/2022	01/31/2024	\$ 100,000.00	S10 21-23	Rare Plant & Pollinator Surveys	Cons Proj 2
2090	NILES HERBARIUM DATA	Master Budget			\$ 60,000.00	S10 21-23		
2090A	Niles Herbarium Data	Nevada Division of Natural Heritage	09/30/2022	12/31/2023	\$ 60,000.00	S10 21-23	Niles Herbarium Data	Cons Proj 4
2092	VEGETATION MAP UPDATE, PHASE II	Master Budget			\$ 606,304.00	S10 21-23		
2092A	Vegetation Map for CC (w/1965A)	Cogan Technology Inc	08/01/2020	05/31/2024	\$ 393,983.96	S10 21-23	Permit Amendment - Vegetation Mapping	Prog Admin Proj 4
2095	PERMIT AMENDMENT SUPPORT	Master Budget			\$ 300,000.00	S10 21-23		
2095A	MSHCP Amendment Reserve System Research	VENTAJAS LLC	07/19/2021	09/30/2022	\$ 42,900.00	S10 21-23	Permit Amendment - Application	Prog Admin Proj 2
2095B	Workzone 6 Imagery	SkyWatch Space Applications Inc	07/20/2021	06/30/2022	\$ 1,350.00	S10 21-23	Permit Amendment - Vegetation Mapping	Prog Admin Proj 4
2095C	Bat Surveys	SWCA Environmental Consultants	04/07/2022	07/13/2023	\$ 91,162.00	S10 21-23	Permit Amendment - Species Modelling	Prog Admin Proj 3
2095D	Pocket Mouse Landscape Genomics	BEC Environmental, Inc.	07/18/2022	10/20/2023	\$ 22,670.00	S10 21-23	Permit Amendment - Species Modelling	Prog Admin Proj 3
2095E	Funding Analysis of the MSHCP Amend (w1460)	Economic & Planning Systems, Inc.	09/19/2022	10/15/2023	\$ 139,000.00	S10 21-23	Permit Amendment - Application	Prog Admin Proj 2



A landscape photograph showing a dry, sandy riverbed with scattered green trees and shrubs. In the background, there are flat-topped hills under a clear blue sky. A large white circular overlay is positioned on the right side of the image, containing the text 'SECTION 3 project reports'.

SECTION **3**

project
reports

ADMINISTRATION

Administration of the Desert Conservation Program encompasses all aspects of implementing the MSHCP and complying with the incidental take permit issued by the U.S. Fish and Wildlife Service. Administration of the MSHCP provides a regional and streamlined environmental permitting process that results in a reliable, certain, and predictable process for land development and other economic development activities in Clark County. Effective administration of the program also spares individual private-property owners from the complicated and time-consuming task of consulting with the U.S. Fish and Wildlife Service on a project-by-project basis.

This segment of the program focuses on providing adequate resources and staffing necessary to properly implement the MSHCP, oversee the assessment and collection of disturbance fees and the reporting of land disturbance, oversee the budgeting and accounting areas of operation, ensure compliance with state and federal permits associated with the program, prepare compliance reports as outlined in the MSHCP, and support efforts to obtain an amendment to the MSHCP to continue providing a streamlined permitting process for economic development activities into the future.

PROGRAM AREA: Program Administration

PROJECT: MSHCP Administration

DCP PROJECT CONTACT: Kimberley Jenkins, Principal Environmental Specialist
702.455.5529
Kimberley.Jenkins@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

This project provides for the day-to-day administration and operation of the Desert Conservation Program, including staffing to implement mitigation actions, management and implementation of SNPLMA projects, and internal service charges and operational expenses. Administration of the Desert Conservation Program encompasses all aspects of implementing the MSHCP and complying with the incidental take permit issued by the U.S. Fish and Wildlife Service. Administration of the MSHCP is conducted on behalf of the cities of Las Vegas, North Las Vegas, Henderson, Mesquite, Boulder City, and the Nevada Department of Transportation.

In-house work; no contract

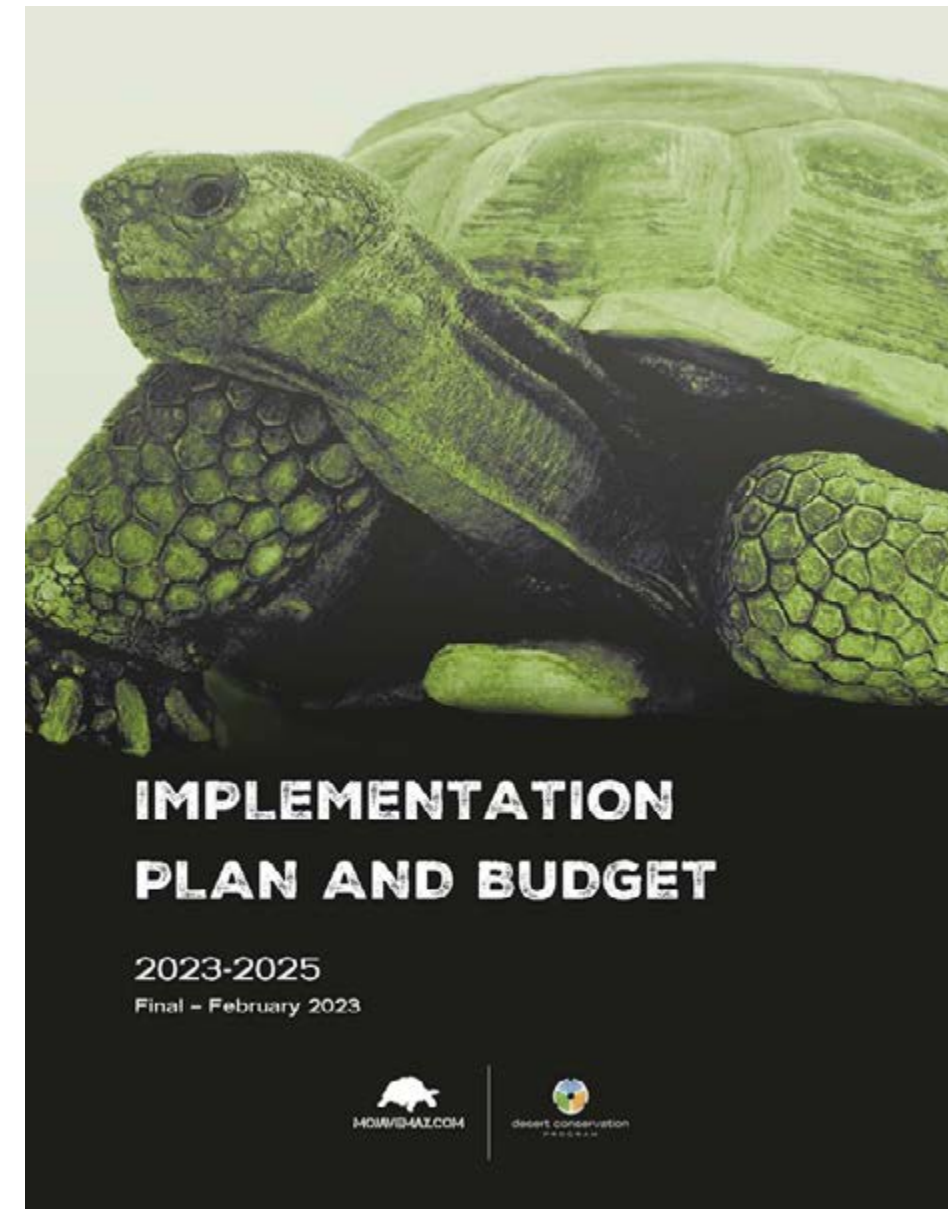
ACCOMPLISHMENTS:

- Processed and managed \$4,929,919.50 in mitigation fees for 8,973.43 acres of land disturbance in the 2021-2023 biennium.
- Completed the 2019-2021 Biennium Progress Report.
- Completed the 2023-2025 Implementation Plan and Budget.
- Completed 8 Quarterly Plan Administrator Updates.
- Prepared and submitted fiscal year budgets to the Clark County Budget Office.
- Continued to administer the Desert Tortoise specialty license plate; production is ongoing and plates are being distributed at Department of Motor Vehicle offices across the state.
- Reviewed federal, state, local, or industry documents for impacts to Clark County mitigation areas.
- Reviewed and provided comments on land use plans and proposed federal policies, rules, and handbooks for potential impacts to Clark County and local municipalities.
- Reviewed draft bills introduced in the 2023 state legislative session for potential impacts to the program.
- Provided data, maps, and documents to interested parties and regulatory agencies as requested.
- Participated on environmental advisory committees for the revision of the Clark County Comprehensive Plan.
- Served on the Technical Advisory Committee for the Nellis Joint Land Use Study.
- Coordinated with renewable energy interests across the County.

SUMMARY OF PROJECT MANAGEMENT STATISTICS:

- Provided administration, project/contract management, and implementation for 71 Section 10-funded contracts and 18 Southern Nevada Public Lands Management Act (SNPLMA) -funded contracts.
- Administered 33 purchase orders for goods and services.
- Provided administration, project/contract management, and implementation for 6 SNPLMA grants; 1 Round 15 grant, 2 Round 16 grants, and 3 Round 17 grants.
- Received 533 invoices, processed 511 invoices, and rejected 22 invoices for corrective action.
- Received and reviewed 656 deliverables from contract projects, tracked 41 delinquent deliverables, accepted 584 deliverables, and rejected 9 deliverables for corrective action.
- Confirmed 369 contract milestones.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
2000B	Inspire By Design	CLOSED Uniform Apparel FY22	\$ 376.99	S10 21-23
2000A	Cintas First Aid & Safety	CLOSED First Aid & Safety Supplies for DCP FY22	\$ 200.00	S10 21-23
2000C	Opportunity Village	CLOSED Document Shredding and Container FY22	\$ 300.00	S10 21-23
2000E	Staples	CLOSED Office Supplies FY22	\$ 983.55	S10 21-23
2000F	Graphic Imaging Services, Inc.	CLOSED Fujitsu Scanner Maintenance	\$ 2,022.00	S10 21-23
2005A	American Express	CLOSED Reserves Maintenance Materials & Tools FY22	\$ 2,400.00	S10 21-23
2000G	DIGICERT	CLOSED Acquisition of EV SSL License	\$ 344.00	S10 21-23
2000H	MYS Project and Brand Management	CLOSED 2019-2021 BPR Graphic Design and Editing	\$ 3,700.00	S10 21-23
2000J	Dell Marketing LP	CLOSED Acquisition of Laptops	\$ 6,595.89	S10 21-23
2000K	CDW Government, Inc	CLOSED Acquisition of External Hard Drive	\$ -	S10 21-23
2000L	CDW Government, Inc	CLOSED Acquisition of Headsets	\$ 100.40	S10 21-23
2000M	CDW Government, Inc	CLOSED Acquisition of Cellphone Accessories	\$ 75.46	S10 21-23
2000N	Uline	CLOSED Acquisition of Battery Recycling Kit	\$ 171.08	S10 21-23
2000P	Clarivate	CLOSED Acquisition of EndNote License	\$ 200.00	S10 21-23
2005F	American Express	CLOSED Reserves Maint. Materials & Tools FY23	\$ 2,382.10	S10 21-23
2000Q	Inspire By Design	CLOSED Uniform Apparel FY23	\$ 478.35	S10 21-23
2000R	Opportunity Village	CLOSED Document Shredding and Container FY23	\$ 300.00	S10 21-23
2000T	Staples	CLOSED Office Supplies FY23	\$ 1,266.05	S10 21-23
2000U	Dell Marketing LP	CLOSED Acquisition of Laptop Bags	\$ 390.00	S10 21-23
2000V	Precision Business Technologies, Inc.	Case360 Upgrade	\$ 21,600.00	S10 21-23



2023-2025 Implementation Plan and Budget Report.

PROGRAM AREA: Program Administration

PROJECT: Permit Amendment - Application

DCP PROJECT CONTACT: Kimberley Jenkins, Principal Environmental Specialist
702.455.5529
Kimberley.Jenkins@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The purpose of these projects is to provide for various technical studies, outreach, facilitation, and administration to support a proposed amendment to the Clark County MSHCP. The Desert Conservation Program has been working to revise the list of species covered under the MSHCP; develop a new conservation strategy; develop new and/or updated avoidance, minimization, and mitigation measures; and develop a new implementation structure. This project also provides for the services of outside legal counsel to assist with development of the revised MSHCP and with negotiating permit terms with regulatory agencies.

In-house work; no contract

ACCOMPLISHMENTS:

- Continued to provide staff support for the development of a proposed federal lands bill that would achieve a variety of economic diversification and conservation goals for the County.

CONTRACT 1

Contract Title:

HCP Consultant for the MSHCP Amendment

Contract Number:

1460A (901H)

Vendor:

WRA Environmental Consultants

Contract Status:

Completed

Contract Term:

03/31/2017 – 01/31/2022

Contract Amount:

\$600,000.00

Unspent Funds:

\$5,000.00

Funding Source:

S10 11-13; S10 13-15;
S10 19-21

ACCOMPLISHMENTS:

- Revised the proposed Covered Species list; completed the Covered Species Analysis Report and the Covered Species Account Appendix.
- Completed Climate Change Summary Worksheets for Covered Species and habitats.
- Completed initial revisions to Chapter 1 – Introduction, Chapter 2 – Project Description and Covered Activities, and Chapter 4 – Environmental Setting and Biological Resources.
- Developed of a Habitat Quality Assessment Methodology to assess MSHCP impacts and determine the appropriate mitigation based on an ecosystem approach that accounts for both habitat quality and quantity.
- Completed Draft Chapter 5, Direct and Indirect Impacts and Draft Chapter 6, the Conservation Strategy.
- Completed significant revisions to Chapter 7, Changed and Unforeseen Circumstances.
- Facilitated collaboration between the County and the USFWS and BLM through regular monthly and quarterly meetings.
- Completed Draft Cooperative Management Agreement and Implementing Agreement.

CONTRACT 2

Contract Title:

HCP Consultant for the MSHCP Amendment

Contract Number:

1970B (1014K, 1460H)

Vendor:

WRA Environmental Consultants

Contract Status:

In progress

Contract Term:

08/02/2021 – 12/31/2024

Contract Amount:

\$400,000.00

Funding Source:

S10 07-09; S1013-15;
S1019-21

ACCOMPLISHMENTS:

- Completed all draft chapters excluding the funding and financial analysis chapter.
- Completed draft appendices for covered species accounts, desert tortoise and burrowing owl clearance protocols, seed collection protocols, and climate change worksheets.
- Completed a draft habitat quantification methodology for landscape scale analysis of take and mitigation of covered activities.
- Completed revisions to Biological Goals and Objectives, Avoidance and Minimization Measures, Monitoring and Adaptive Management Plan, and the Cooperative Management Agreement.
- Initiated development of methodology to credit riparian restoration work at the sitespecific scale to provide documentation of habitat improvements for mitigation purposes.
- Reviewed and incorporated new coarse level land cover data for use in the environmental setting chapter and revisions to the habitat quantification models.
- Continued compilation of the Administrative Record database.
- Facilitated collaboration between the County and the USFWS and BLM through regular monthly and quarterly meetings.

CONTRACT 3

Contract Title:

MSHCP Amendment Reserve System Research

Contract Number:

2095A

Vendor:

Ventajas, LLC

Contract Status:

Completed

Contract Term:

07/19/2021 – 09/30/2022

Contract Amount:

\$42,900.00

Unspent Funds:

\$0.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Conducted research on existing and planned encumbrances within nine (9) proposed Special Management Areas.
- Reviewed electronic and published documents and BLM case files to identify existing encumbrances, designations, and land management practices within each Special Management Area.

CONTRACT 4

Contract Title:

Legal Services for DCP

Contract Number:

1970C

Vendor:

Ebbin, Moser + Skaggs, LLP

Contract Status:

In progress

Contract Term:

03/07/2022 – 12/31/2026

Contract Amount:

\$47,631.56

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Provided advice and legal counsel to support the development of an amended MSHCP.
- Assisted with legislative efforts that would support the program goals and the amended MSHCP.
- Reviewed various documents and analyses related to the amended MSHCP.

CONTRACT 5

Contract Title:

Funding Analysis of the MSHCP Amend

Contract Number:

2095E (1460J)

Vendor:

Economic & Planning Systems, Inc.

Contract Status:

In progress

Contract Term:

09/19/2022 – 10/15/2023

Contract Amount:

\$144,000.00

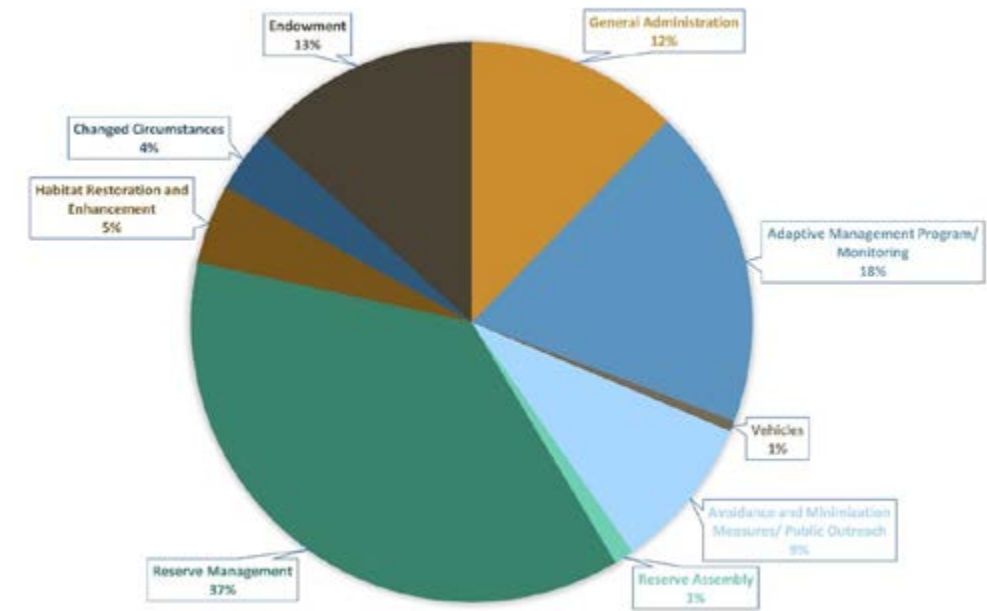
Funding Source:

S10 13-15; S10 21-23

ACCOMPLISHMENTS:

- Produced a Funding Strategies Review report using six habitat conservation plans as case studies to compare funding approaches.
- Conducted a thorough review of the draft chapters of the MSHCP Amendment, identifying conservation actions which would generate costs to the Permittees.
- Assembled and categorized these conservation actions according to cost category.
- Established cost estimates for each conservation action in coordination with DCP staff, to promote accuracy.
- Calculated required post-permit endowment necessary to fund ongoing costs in perpetuity.
- Conducted an analysis of development potential for Clark County to calculate a fee and estimate annual revenue.
- Produced an aggregate cash flow model, estimating the revenue fluctuations over the permit term.
- Produced a Draft Funding Analysis Report for DCP review.

MSHCP AMENDMENT IMPLEMENTATION COSTS



Breakdown of expenses for the proposed MSHCP Amendment.



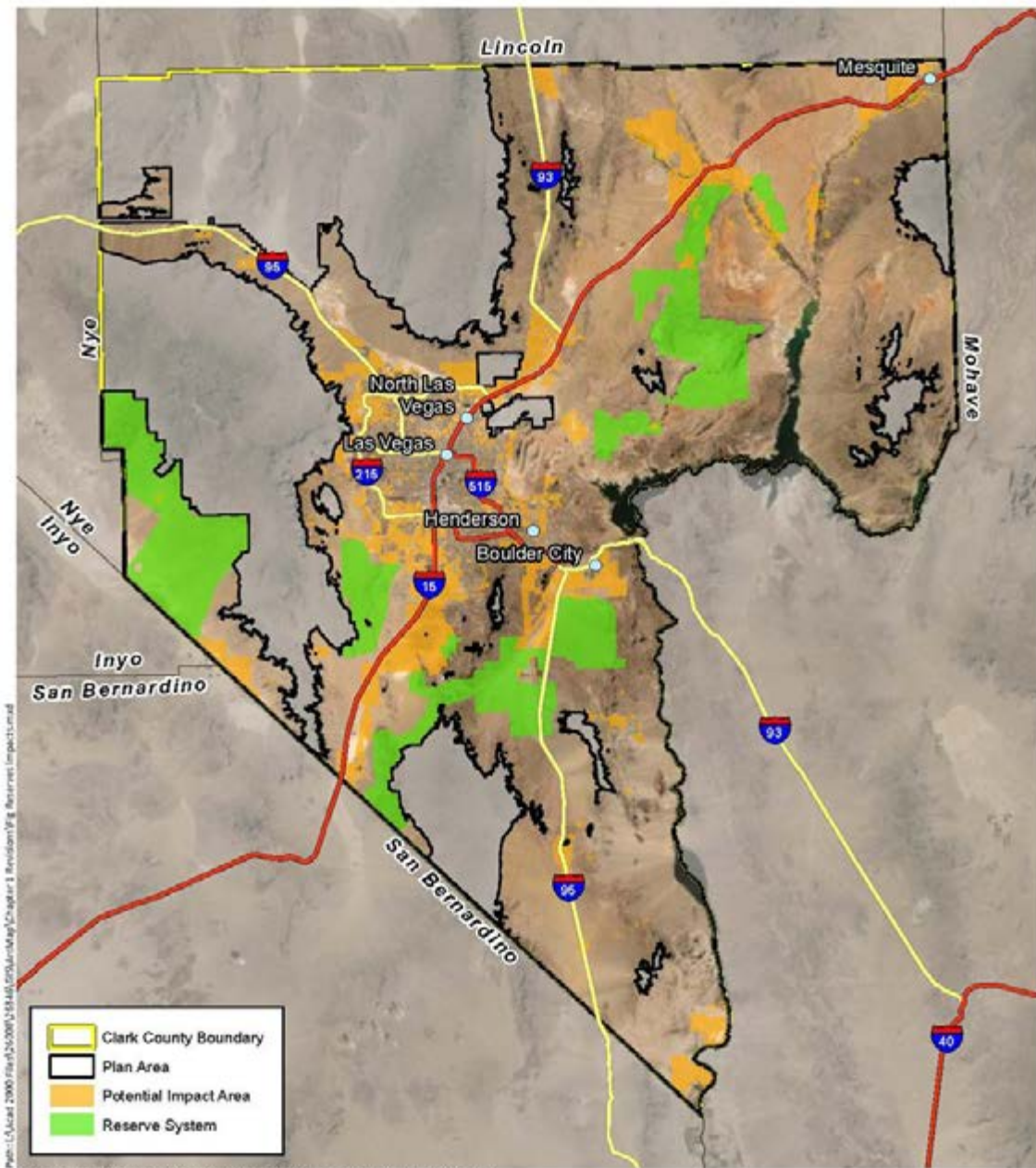


Figure 1-3. Potential Impact Area and Reserve System

Clark County MSHCP Amendment
Clark County, Nevada

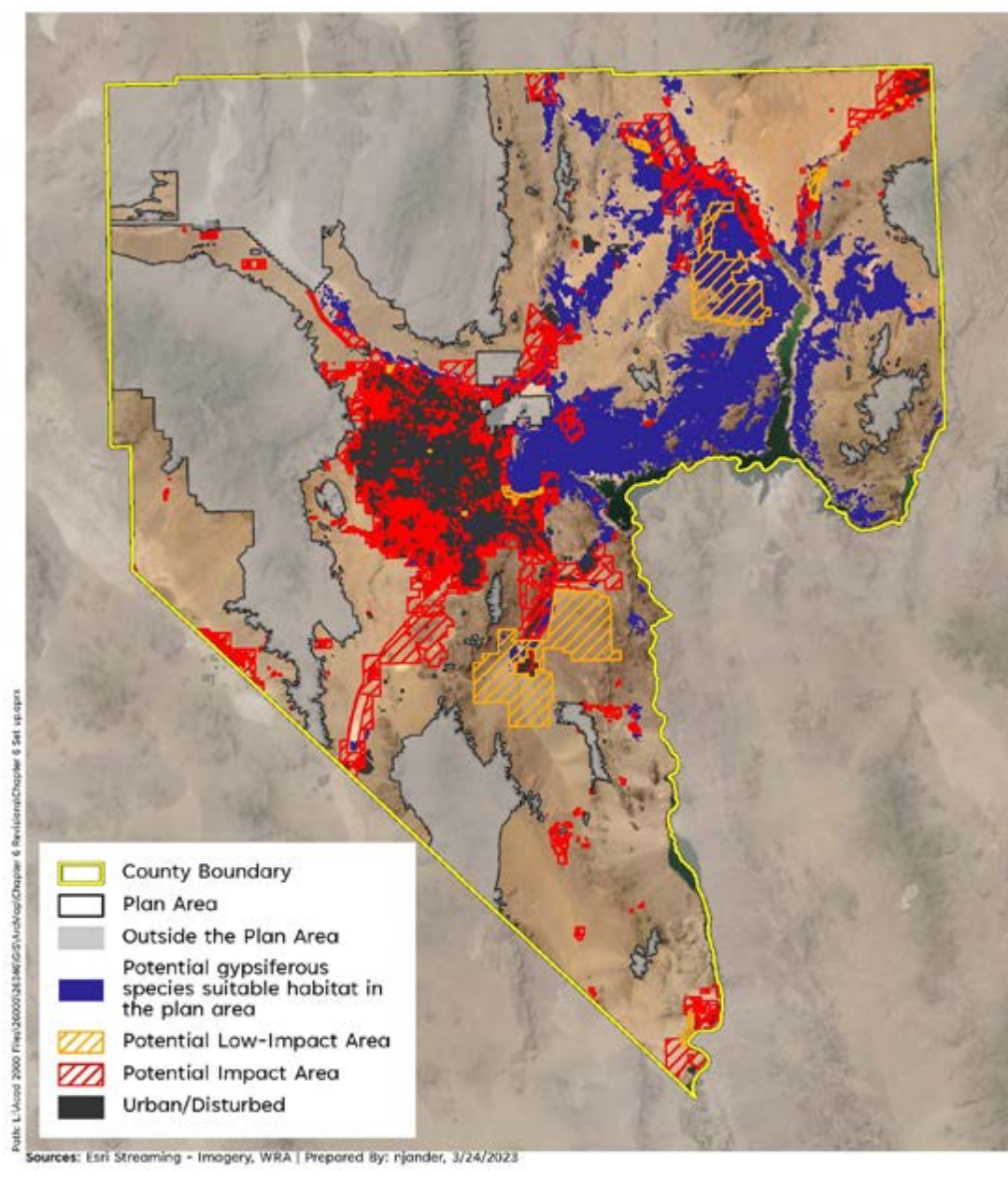
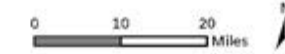


Figure 6-1. Gypsiferous Species Habitat Baseline within the Plan Area

Clark County MSHCP Amendment
Clark County, Nevada



PROGRAM AREA: Program Administration

PROJECT: Permit Amendment – Species Modelling

DCP PROJECT CONTACT: Kimberley Jenkins, Principal Environmental Specialist
702.455.5529
Kimberley.Jenkins@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Desert Conservation Program is currently pursuing a major amendment to the MSHCP. One required component of the application package is an evaluation of potential impacts to proposed covered species. This project provides for the collection of species distribution data and the development of predictive species habitat distribution models that can be used for the evaluation of potential impacts, and to aid in development of a conservation strategy and in identifying areas of high conservation value.

CONTRACT 1

Contract Title:

Desert Pocket Mouse Surveys

Contract Number:

1782A

Vendor:

BEC Environmental, Inc.

Contract Status:

Completed

Contract Term:

2/8/2021 – 12/31/2021

Contract Amount:

\$106,310.00

Unspent Funds:

\$1,525.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- Completed and submitted Work and Data Management Plan.
- Acquired updated Scientific Collection Permit from the State of Nevada Department of Wildlife (NDOW) to include areas potentially targeted for this project, and a Research Permit from the Bureau of Land Management (BLM) to perform trapping activities on BLM-managed lands potentially targeted for this project.
- Identified and successfully surveyed 35 sites in 16 areas across Clark County.
- Captured and confirmed identification of 87 *Chaetodipus penicillatus* individuals within 14 sites in four of the areas.
- Collected and processed data for 104 transects with 4,160 traps, resulting in 729 small mammal captures.
- Final Project Data and Final Project Report were submitted and accepted.
- Awaiting guidance on potential participation on the Annual Project Review Presentation and associated modification to contract.
- The project will be complete December 2021; contract has a renewal option if funding is available and additional data are needed.

CONTRACT 2

Contract Title:

Avian Surveys

Contract Number:

1782B

Vendor:

SWCA Environmental Consultants

Contract Status:

Completed

Contract Term:

2/8/2021 – 12/31/2022

Contract Amount:

\$216,087.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- Attended the Project Kick-off Meeting (M08) and then produced a Work Plan and a Data Management Plan (D06).
- Acquired the necessary permits (M09) prior to beginning the survey season (M10) on March 23, 2022.
- The 30 sites were surveyed three times each, and surveys were completed on June 5, 2022 (M11).
- Presented preliminary findings at the 2022 MSHCP Annual Project Progress Report Symposium on August 15, 2022 (M12).
- Submitted Final Project Data (D07) and the Final Project Report (D08).
- During surveys, SWCA collected detection locations for all seven avian species targeted by this project, along with incidental detections of other avian species within each site and incidental detections of target species outside the 30 survey sites.
- Across two project years, biologists recorded 333 target species detections. The loggerhead shrike was the most frequently detected target species (n=124), and burrowing owl was the least frequently detected target species (n=6).

CONTRACT 3

Contract Title:

Bat Surveys

Contract Number:

2095C

Vendor:

SWCA Environmental Consultants

Contract Status:

Completed

Contract Term:

4/7/2022 – 7/13/2023

Contract Amount:

\$91,162.00

Unspent Funds:

\$1,320.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Attended the Project Kick-off Meeting (M02) and then produced a Work Plan and a Data Management Plan (D01).
- SWCA acquired the necessary permits (M03) prior to beginning acoustic surveys on June 3, 2022 (M04).
- Acoustic surveys were completed on September 29, 2022 (M06).
- Began roost surveys on August 10, 2022 (M07) and completed these surveys on February 11, 2023 (M08).
- Submitted the Final Project Report deliverable (D03) on March 31, 2023, and the Final Project Data deliverable (D02) on April 3, 2023.
- The Final Project Review Summary Form and Claim Release (D05) was submitted on April 14, 2023.
- Acoustic surveys resulted in detections of both target species. Each species was recorded acoustically within both the proposed MSHCP Amendment Reserve System and proposed MSHCP Amendment Impact Areas. Acoustic survey results supported the habitat suitability model for spotted bat, which was only detected within warm desert riparian habitat along the Muddy River channel in north-central Clark County. All the spotted bat detections were within areas modeled as predicted foraging habitat.
- Townsend's big-eared bat was detected acoustically within areas rated by the habitat suitability model as either unsuitable, marginal, or suitable.
- Townsend's big-eared bat was detected at 26 roost survey locations; 25 (96%) of these detection locations were within areas modeled as unsuitable habitat. The documentation of occupied roosting sites

cont. to the next page

CONTRACT 3 (CONT.)

outside predicted habitat should aid in the improvement of habitat suitability models for this species. Ten Townsend's big-eared bats were encountered within five abandoned mines during winter roost surveys. Roost surveys also resulted in three detections of Townsend's big-eared bat within a proposed MSHCP Amendment federal impact area. Evidence of Townsend's big-eared bat day, night, maternity, brood-rearing, late-season, and hibernation use was documented within various abandoned mine features distributed throughout the County in Year 1.

CONTRACT 4

Contract Title:

Pocket Mouse Landscape Genomics

Contract Number:

2095D

Vendor:

BEC Environmental, Inc.

Contract Status:

In progress

Contract Term:

7/18/2022 – 10/20/2023

Contract Amount:

\$22,670.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Completed and submitted Final Project Data and Final Project Report.
- Processed and analyzed 114 datasets of DNA of *C. penicillatus*.
- Identified three genetically distinct, isolated clusters of *C. penicillatus* in Clark County.
- Provided comments on the taxonomic classification of the subspecies.
- Identified a series of threats to the long-term viability of the species for further evaluation.
- The project report has been completed. Remaining task includes a presentation at 2023 Project Progress Symposium August 23, 2023.

CONTRACT 5

Contract Title:

Model Updates 2023

Contract Number:

1782C

Vendor:

University of Nevada Reno (UNR)

Contract Status:

In progress

Contract Term:

2/8/2023 – 12/30/2023

Contract Amount:

\$79,128.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

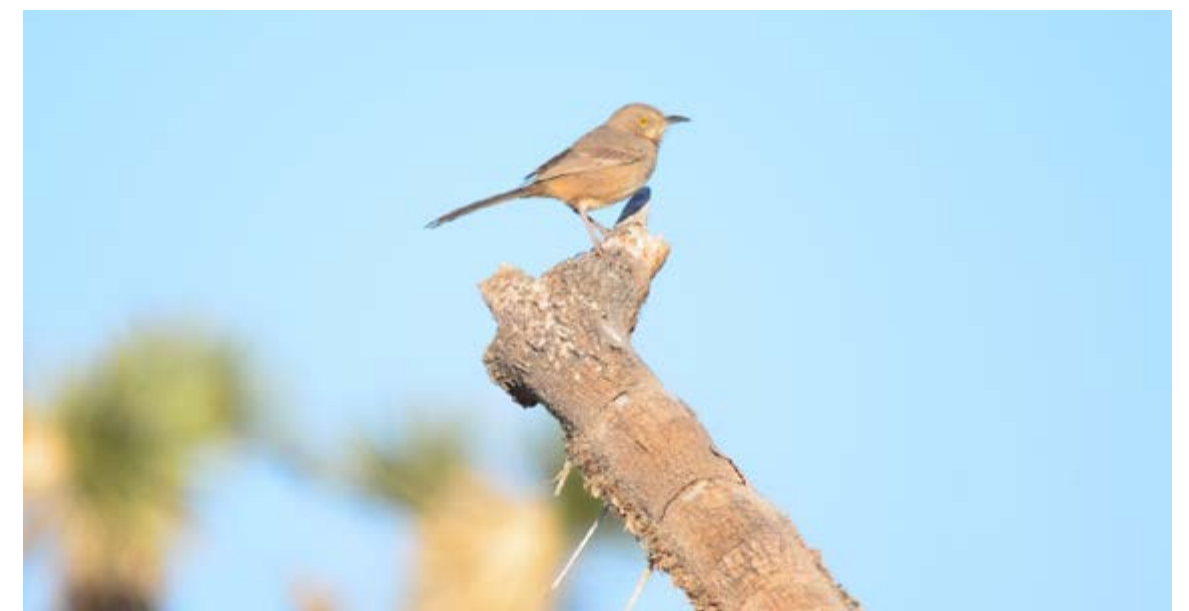
- Began hiring and training of staff to assist in modelling efforts.
- Submitted Work Plan and Data Management Plan.
- Completed searches for available species locality data for modelling and combination of spatial data for species localities.



Desert pocket mouse captured during surveys.



Typical desert pocket mouse habitat.



A Bendire's thrasher seen in southern Clark County.



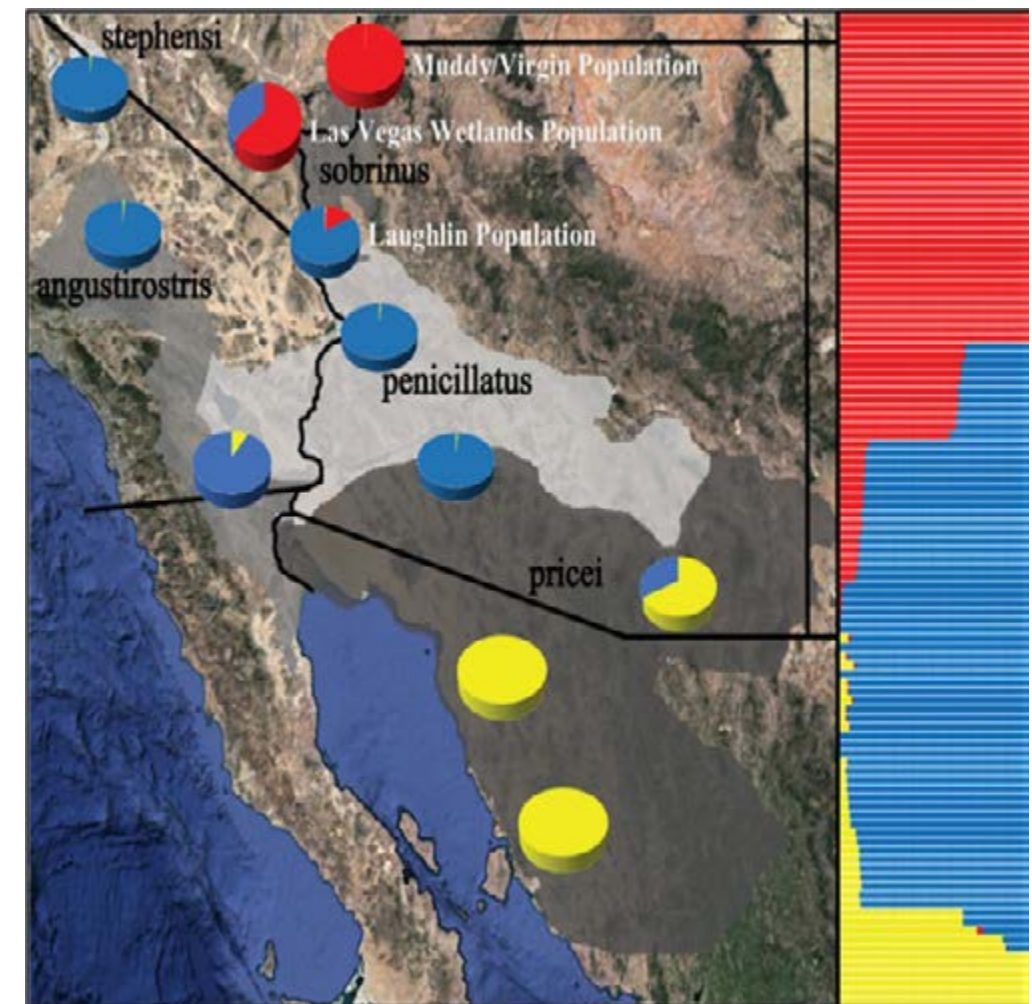
A LeConte's thrasher nest found in the southern Las Vegas valley in 2022.



Field biologist hikes to an abandoned mine site to survey for bat species.



Bats observed during surveys.



Genomics map of pocket mouse subspecies range.

PROGRAM AREA: Program Administration

PROJECT: Permit Amendment – Vegetation Mapping

DCP PROJECT CONTACT: John Ellis, Environmental Specialist
702.455.3964
John.Ellis@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

As administrator of the Multiple Species Habitat Conservation Plan, the Clark County Desert Conservation Program is required to monitor habitat loss and conduct a wide range of analyses to support this effort. An updated map of the different vegetation classes covering the county is needed to further this effort. The mapping area covers a total of 4,185,089 acres within Clark County, NV except for Department of Defense managed lands and the Lake Mead National Recreation Area. The vegetation classes will be mapped using United States National Vegetation Classification System (USNVCS), mapped at the alliance level.

In-house work; no contract

ACCOMPLISHMENTS:

- Produced a data release product and posted to the county website.

CONTRACT 1

Contract Title:

Vegetation Map for Clark County

Contract Number:

2013-COGAN-1460G, 2019-COGAN-1965A, 2021-COGAN-2092A

Vendor:

Cogan Technology Inc

Contract Amount:

\$893,222.22

Funding Source:

S10 13-15, S10 19-21, S10 21-23

Contract Term:

7/1/2020 - 5/31/2024

Contract Status:

Ongoing

ACCOMPLISHMENTS:

- Conducted and collected field verification data.
- Conducted the accuracy assessment preparation and submitted targets and plan.
- Began accuracy assessment field trips, completing 675 accuracy assessment site visits.
- Completed the geodatabase creation and image acquisition
- Produced the coarse level mapping for all 22 workzones. USNVCS Group level or better mapping.

CONTRACT 2

Contract Title:

Workzone 6 Imagery

Contract Number:

2021-SKYWATCH-2095B

Vendor:

SkyWatch Space Applications Inc

Contract Amount:

\$1,350.00

Funding Source:

S10 21-23

Contract Term:

7/20/2021 - 6/30/2022

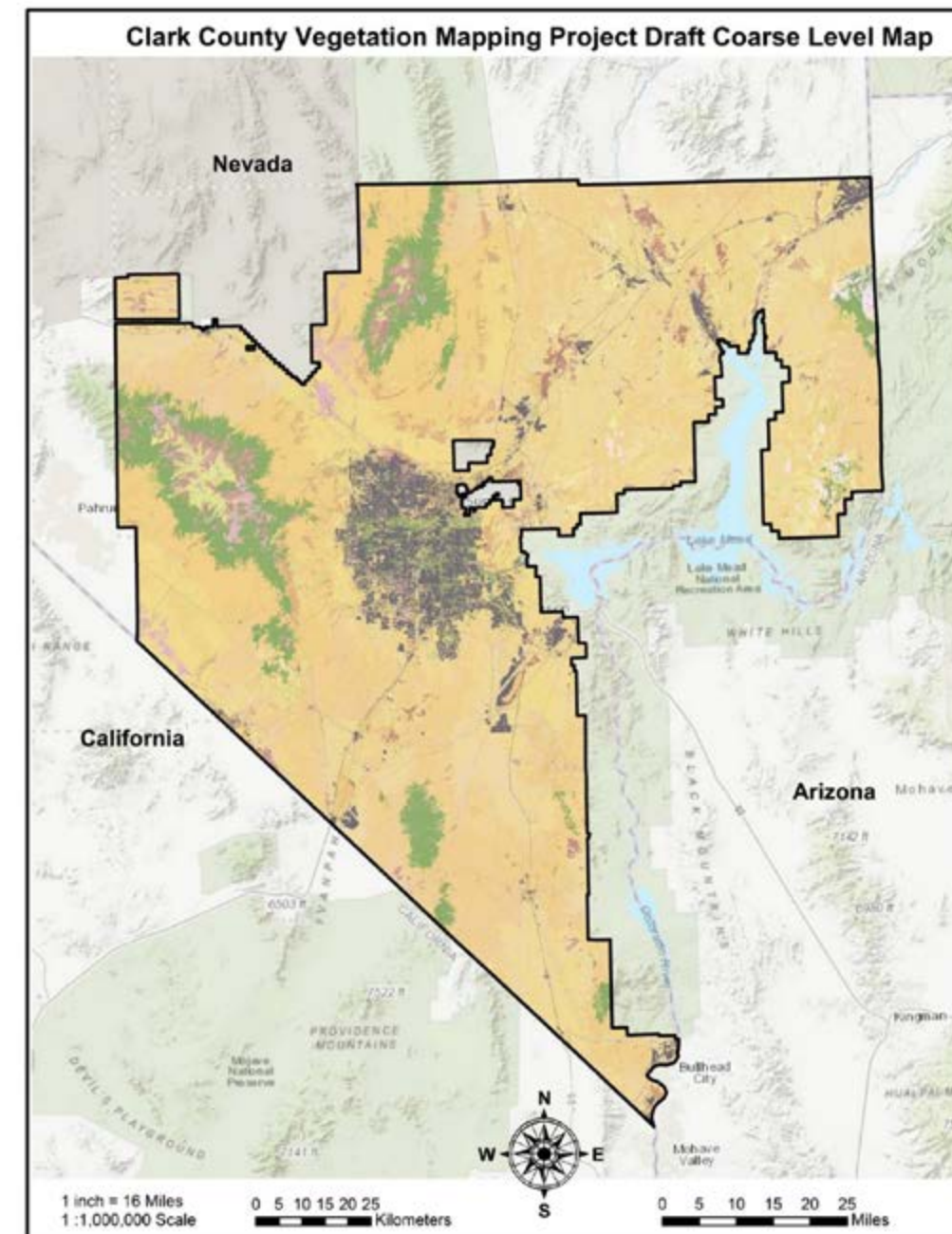
Contract Status:

Completed

Unspent Funds: \$0

ACCOMPLISHMENTS:

- Acquired satellite imagery covering workzone 6 of the project area.



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 87,268 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. 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, restoration of habitat damaged by recreation activities and construction, 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.

PROGRAM AREA: Boulder City Conservation Easement (BCCE)

PROJECT: BCCE Management

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859
Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

The purpose of this project is to ensure that the BCCE 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.

CONTRACT 1

Contract Title:

BCCE Maintenance

Contract Number:

1905C (1510F, 1710D)

Vendor:

Gothic Landscape, Inc

Contract Status:

Completed

Contract Term:

1/2/20-12/31/21

Contract Amount:

\$46,000.00

Unspent Funds: \$0.00

Funding Source:

S10 15-17; S10 17-19;
S10 19-21

ACCOMPLISHMENTS:

- Inspected and repaired energy zone fencing.
- Cleaned up trash on the easement as requested.
- Installed and updated kiosk signs.

CONTRACT 2

Contract Title:

BCCE Maintenance

Contract Number:

2005E

Vendor:

Gothic Landscape, Inc

Contract Status:

Completed

Contract Term:

2/1/22-8/31/23

Contract Amount:

\$50,000.00

Unspent Funds: \$7,008.00

Funding Source: S10 21-23

ACCOMPLISHMENTS:

- Inspected energy zone fencing three times.
- Cleaned up 31 sites across the BCCE.
- Performed repair/maintenance at 87 locations.



CONTRACT 3

Contract Title:

Law Enforcement for the BCCE

Contract Number:

1905B

Vendor:

City of Boulder City

Contract Status:

Completed

Contract Term:

8/20/19-8/17/21

Contract Amount:

\$216,477.99

Unspent Funds:

\$0.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Submitted two patrol reports monthly, totaling 17 patrol reports.
- Patrol statistics over the course of this project are:
 - Contacts: 4
 - Warnings: 2
 - Citations: 0

CONTRACT 4

Contract Title:

BCCE Law Enforcement

Contract Number:

2005B

Vendor:

City of Boulder City

Contract Status:

Completed

Contract Term:

7/20/21-6/30/22

Contract Amount:

\$23,794.25

Unspent Funds:

\$682.75

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Conducted 35 Patrols from September 2021 through October 2021.
- Patrol stats over the course of this project are:
 - Contacts: 25
 - Warnings: 3
 - Citations: 0

CONTRACT 5

Contract Title:

BCCE Law Enforcement

Contract Number:

1905G (2005C)

Vendor:

Boulder City Conservation Easement Law Enforcement

Contract Status:

Completed

Contract Term:

8/18/21-6/30/23

Contract Amount:

\$262,180.80

Unspent Funds:

\$0.00

Funding Source:

S10 19-20; S10 21-23

ACCOMPLISHMENTS:

- Patrol stats over the course of this project are:
 - Miles Driven: 9,310
 - Public Contact: 178
 - Materials Given: 74
 - Warnings: 14
 - Citations: 0
 - Trash sites reported: 19
- Officers collected Mylar balloons at an average of 5-6 balloons per patrol.

CONTRACT 6

Contract Title:

BCCE Weed Survey

Contract Number:

1710B

Vendor:

NPS

Contract Status:

Complete

Contract Term:

12/19/2021 – 11/22/2021

Contract Amount:

\$127,000.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Completed Annual Work Plans.
- Completed Data Management Plans.
- Completed dust prevention and mitigation guidance.
- Completed personnel orientation and training.
- Completed winter and spring weed surveys using ocular surveys by vehicle and on foot by field crews.
- Treated weeds using low impact methods such as selective herbicide application and hand pulling/hoeing.
- Documented location of noxious weeds and treatments with mapping-grade GPS equipment.
- Input and organized field data into electronic format and database.
- Completed annual report and submitted project data.

CONTRACT 7

Contract Title:

BCCE Weed Survey

Contract Number:

2005D

Vendor:

NPS

Contract Amount:

\$132,000.00

Funding Source:

S10 21-23

Contract Term:

12/1/2021 – 12/20/2023

Contract Status:

In Progress

ACCOMPLISHMENTS:

- Completed Annual Work Plans.
- Completed Data Management Plans.
- Completed dust prevention and mitigation guidance.
- Completed personnel orientation and training.
- Completed winter and spring weed surveys using ocular surveys by vehicle and on foot by field crews.
- Treated weeds using low impact methods such as selective herbicide application and hand pulling/hoeing.
- Documented location of noxious weeds and treatments with mapping-grade GPS equipment.
- Input and organized field data into electronic format and database.
- Completed annual report and submitted project data.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
1710F	KVO Industries	BCCE Kiosk Signage	\$ 12,915.00	S10 17-19
2005G	Trafx Research, LTD	Acquisition of Traffic Monitors	\$ 500.00	S10 21-23



A common growth form of a large puncture vine flowering . Photo taken in southern BCCE Unit adjacent to road L north of Eldorado Valley Road. (Curt Deuser, NPS).



NPS IPMT member Tony Garcia spot spraying puncture vine with herbicide adjacent to road L in the southern unit of BCCE. (Curt Deuser/NPS/2022).

PROGRAM AREA: Boulder City Conservation Easement (BCCE)

PROJECT: BCCE Restoration

DCP PROJECT CONTACT: Stefanie Ferrazzano, Biologist
702.455.6386
Stefanie.Ferrazzano@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The BCCE was established in 1995 to be managed and protected for the benefit of the desert tortoise and its associated native flora and fauna. The Desert Conservation Program seeks to implement effective and appropriate treatments to restore habitat that has been degraded, damaged, or destroyed within the BCCE.

In-house work; no contract

ACCOMPLISHMENTS:

- Completed annual spring vegetation monitoring and quarterly effectiveness monitoring at permanent transects established at restoration sites.
- Completed minor site repairs at one site that incurred low-level damages on three separate occasions.

CONTRACT 1

Contract Title:

Restorations on the BCCE

Contract Number:

1745A (809P, 1421C)

Vendor:

Gothic Landscape, Inc

Contract Status:

In Progress

Contract Term:

10/22/2020 – 6/30/2025

Contract Amount:

\$336,942.54

Funding Source:

S10 17-19; S10 9-11,
S10 13-15

ACCOMPLISHMENTS:

- Planted approximately 530 salvaged native perennial plants across five different sites to camouflage access points to decommissioned roads, deter future vehicle entry, and restore habitat functionality to the areas.
- Provided water to the salvaged native plants for six months to encourage establishment and maximize plant survival.
- Repaired and expanded a high-priority restoration site by recontouring the ground to reduce line of site and minimize erosion before planting approximately 900 salvaged native perennial plants.



Site L-2s before restoration.



Site L-2S after restoration.

RIPARIAN RESERVES

Condition K of the Incidental Take Permit requires the Desert Conservation program 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. In 2012, the Desert Conservation Program established the Clark County Riparian Reserve Units to meet this condition of the permit and 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.

The 118-acre Muddy River Reserve Unit is 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.

Clark County is actively expanding its land holdings along the Virgin River. At the time of this writing, the Virgin River Reserve Unit consisted of approximately 665 acres spread across five geographic areas along the Virgin River: Mormon Mesa, Riverside, Bunkerville East, Bunkerville West, and Mesquite West.

PROGRAM AREA: Riparian Reserves

PROJECT: Riparian Reserves Management

DCP PROJECT CONTACT: Caryn Wright, Environmental Specialist
702.455.2972
Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

These projects provide for ongoing monitoring, maintenance, and management of the Riparian Reserves to ensure the properties' value for species covered by the MSHCP and to facilitate successful restoration activities.

In-house work; no contract

ACCOMPLISHMENTS:

- Desert Conservation Program staff conducted site inspections on a regular basis to document property issues, inspect contract work, and coordinate with contractors and neighboring landowners.

CONTRACT 1

Contract Title:

Riparian Reserves
Maintenance

Contract Number:

1720F

Vendor:

Eagle View
Contractors, Inc.

Contract Status:

Completed

Contract Term:

09/01/2019- 07/31/2022

Contract Amount:

\$100,000.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Conducted as needed inspections of properties.
- Cleared overgrown vegetation from Muddy River Reserve Unit fence.
- Installed 150 feet of fencing to exclude cattle at Riverside Subunit.
- Repaired gate at Hillside Drive that was vandalized.
- Removed 16 palm trees from Muddy River parcel that were becoming a safety hazard. Disposed of palm material in an approved waste facility.
- Installed 1,500 feet of fencing to exclude cattle at Mormon Mesa Subunit.



Virgin River Tamarisk Basal Spray Treatment. (photo courtesy of Curt Deuser)

CONTRACT 2

Contract Title:

Riparian Reserves Maintenance

Contract Number:

1910E

Vendor:

Eagle View Contractors, Inc.

Contract Status:

In progress

Contract Term:

09/01/2022-03/31/2024

Contract Amount:

\$100,000

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Maintained fencing, signage, and gates on Muddy River parcels.
- Cleared dirt/debris from Muddy River (Warm Springs) access gate after storm event.
- Cleared access roads from overgrown vegetation within Muddy River Reserve Unit, parcels A, B, D, and E.
- Cleared vegetation from access to and around Muddy River Reserve Unit monitoring wells.
- Cut lock off gate (Hillside Drive at private residence) someone installed without permission at Muddy River parcel.
- Clear vegetation to route access road around washed-out area.

CONTRACT 3

Contract Title:

Riparian Reserves Vegetation Management

Contract Number:

1910C (1720H, 2010A)

Vendor:

National Park Service (NPS)

Contract Status:

In progress

Contract Term:

03/17/2021-07/15/2025

Contract Amount:

\$216,652.59

Funding Source:

S10 17-19; S10 19-21

ACCOMPLISHMENTS:

- Completed Annual Work Plans.
- Completed Data Management Plans.
- Completed dust prevention and mitigation guidance.
- Completed personnel orientation and training.
- Completed weed surveys using ocular surveys by field crews.
- Treated weeds using low impact methods such as selective herbicide application and hand pulling/hoeing.
- Documented location of noxious weeds and treatments with mapping-grade GPS equipment.
- Input and organized field data into electronic format and database.
- Completed annual report and submitted project data.

CONTRACT 4

Contract Title:

MR Tree Removal

Contract Number:

1910D

Vendor:

First Choice Tree Service Inc

Contract Status:

Completed

Contract Term:

2/23/2022- 2/15/2023

Contract Amount:

\$52,095.00

Unspent Funds:

\$0.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Removed 20 palm trees from Muddy River parcel that were becoming a safety hazard.
- Hauled material off site for disposal.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
1750M	Signarama	Acquisition of Trespassing Signs	\$ 1,650.00	S10 17-19
1935B	CDW Government, Inc	Acquisition of Camera Supplies	\$ 338.40	S10 19-21
1935C	B & H Photo	Acquisition of Camera	\$ 2,914.20	S10 19-21



Virgin River Tamarisk Basal Spray Treatment. (photo courtesy of Curt Deuser)



Virgin River Tamarisk Basal Spray Treatment. (photo courtesy of Curt Deuser)



Palm trees before removal.



Abandoned car on Riverside Subunit.



Palm Trees after removal.

PROGRAM AREA: Riparian Reserves

PROJECT: Riparian Reserves Property Acquisition

DCP PROJECT CONTACT: Caryn Wright, Environmental Specialist
702.455.2972
Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Condition (K)(1) of the incidental take permit requires the County to acquire private lands with desert riparian habitat from willing sellers to support the six covered riparian bird species.

In-house work; no contract Desert Conservation Program staff evaluated and prioritized properties based on habitat and conservation potential for the bird(s), and ease and cost of management. DCP staff coordinated with Real Property Management (RPM) on items related to the acquisition process, i.e., title reports, appraisals, offers, negotiations, etc. DCP staff coordinates with RPM and Survey Map Team for boundary issues associated with parcel 002-26-501-009.

ACCOMPLISHMENTS:

- An offer was accepted for the following properties in Bunkerville on a willing seller-willing buyer basis (039-30-201-013) (40 acres) and (039-30-301-009) (80 acres).

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
917RA	Valbridge Property Advisors	Appraisal Rpt 039-30-201-013 & 039-30-301-009	\$3,500.00	S10 11-13



More trash removed from Riverside Subunit.



Storm damaged access road, Muddy River Reserve.



Overview of Mormon Mesa South. (photo credit: Justin Streit, SWCA)



Backwater slough along the eastern boundary of the Mormon Mesa South Subunit.
(photo credit: Justin Streit, SWCA)



Adjacent narrowleaf willows and cattail along the eastern boundary of the Mormon Mesa South Subunit. (Photo credit: Sarah Nichols)

PROGRAM AREA: Riparian Reserves

PROJECT: Muddy River Reserve Unit Restoration

DCP PROJECT CONTACT: Caryn Wright, Environmental Specialist
702.455.2972
Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

To assist with land management goals for the Riparian Reserve Units, the Desert Conservation Program is undertaking habitat restoration efforts on the Muddy River to enhance and expand existing habitat for the southwestern willow flycatcher and other covered species. Restoration efforts are ongoing and habitat has been enhanced through fuels reduction, removal of non-native species, and planting of native species. This project expands on the work begun in previous biennia by conducting additional restoration efforts.

In-house work; no contract

ACCOMPLISHMENTS:

- Coordinated with Clark County Real Property Management (RPM), and multiple adjacent landowners, to develop easements related to the Muddy River Restoration project.
- Collected groundwater levels from monitoring wells.
- Conducted site visits to monitor for noxious and invasive weeds.

CONTRACT 1

Contract Title:

Muddy River Habitat Restoration

Contract Number:

1570C

Vendor:

Natural Channel Design, Inc.

Contract Status:

Completed

Contract Term:

9/3/2019- 6/28/2023

Contract Amount:

\$590,207.00

Unspent Funds:

\$183,000.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Continued planning efforts for the Southern Nevada Public Land Management Act (SNPLMA) Round 16 project to conduct habitat restoration on the Muddy River Reserve Unit.
- Prepared a grading design and engineering plans for restoration on approximately 25 acres in Parcels A-E, which is intended to restore the hydraulic connection of the Muddy River floodplain to the existing river channel.
- Submitted drainage study to Clark County Public Works Development Review.
- Submitted Conditional Letter of Map Revision (CLOMR) to the Federal Emergency Management Agency (FEMA) for approval.

CONTRACT 2

Contract Title:

Muddy River
Habitat Restoration
Implementation

Contract Number:

1570D

Vendor:

American Conservation
Experience

Contract Status:

Completed

Contract Term:

12/9/2021- 6/28/2023

Contract Amount:

\$117,804.03

Unspent Funds: \$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Submitted project work plan.
- Applied cut-stump treatment to 16.96 acres of tamarisk on parcels G and H.
- Submitted associated data.

CONTRACT 3

Contract Title:

Riparian Reserves Plant
Propagation

Contract Number:

1750J

Vendor:

National Park Service (NPS)

Contract Status:

Completed

Contract Term:

4/19/2022- 6/30/2023

Contract Amount:

\$27,409.50

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Collected cuttings/rootings to propagate.
- Propagated native plants.
- Maintained plants until planting

CONTRACT 4

Contract Title:

Muddy River Easements
Review

Contract Number:

1750L

Vendor:

NV Energy

Contract Status:

Complete

Contract Term:

7/25/2022- 12/31/2022

Contract Amount:

\$10,000.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- NV Energy staff reviewed legal descriptions and easements necessary for Muddy River Restoration Project.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
1750H	Granite Seed and Erosion Control	Seed Acquisition	\$ 43.75	S10 17-19



Mature stand of tamarisk removed on Muddy River parcels G and H. (Photo credit: Aaron Wilson, ACE)



Mature stand of tamarisk removed on Muddy River parcels G and H.
(Photo credit: Aaron Wilson, ACE)



Before tamarisk removal.



After tamarisk removal.

PROGRAM AREA: Riparian Reserves

PROJECT: Riparian Reserves Studies

DCP PROJECT CONTACT: Caryn Wright, Environmental Specialist
702.455.2972
Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Desert Conservation Program engages in a variety of projects that study emerging issues to support and inform management and restoration activities on riparian properties.

In-house work; no contract

ACCOMPLISHMENTS:

- Coordinated with members of the Screwbean Mesquite Working Group.
- Collected insect samples at established screwbean mesquite tree monitoring locations.

CONTRACT 1

Contract Title:

Archeological Resource Evals on Rip Rsv Parcels

Contract Number:

1750D

Vendor:

SWCA Environmental Consultants

Contract Status:

In progress

Contract Term:

9/15/2020-8/31/2025

Contract Amount:

\$50,000.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Completed Class III cultural survey of the Muddy River Reserve Unit.
- Coordinated with BLM archeologist(s) to complete a review of the Draft Report.
- Completed the final cultural resources inventory report and submitted the report to BLM.



Variety of pollinators on recently planted *Baccharis salicifolia*, Mormon Mesa Subunit.

CONTRACT 2

Contract Title:

Avian Nest Monitoring on Riparian Properties

Contract Number:

1750F

Vendor:

SWCA Environmental Consultants

Contract Status:

Completed

Contract Term:

5/1/2021-12/31/2021

Contract Amount:

\$52,271.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Completed initial territory surveys (in prior biennium 2021-2023).
- Determined residency status, observed resident flycatchers.
- Monitored nests, banded adults, and conducted cowbird control.
- Netted an additional 3 female cowbirds (14 total since project start in prior biennium 2021-2023) and added one cowbird egg (total of three since project start in prior biennium 2021-2023).
- Flycatcher territories and nests were monitored until the last nest failed, and/or the last chick fledged.
- Two successful nests produced 3 fledglings.
- Produced final data and annual project report and presented survey results at the Desert Conservation Program’s annual project symposium.

CONTRACT 3

Contract Title:

Avian Nest Monitoring on Riparian Properties

Contract Number:

1750K

Vendor:

SWCA Environmental Consultants

Contract Status:

Completed

Contract Term:

5/8/2022- 12/31/2023

Contract Amount:

\$99,908.00

Unspent Funds:

\$27,748.99

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Completed initial territory surveys.
- Determined residency status, observed resident flycatchers.
- Monitored nests, banded adults and nestlings, and conducted cowbird control.
- Netted 11 female cowbirds and one cowbird egg was replaced with a fake egg.
- Seven successful nests produced 13 fledglings.
- Produced final data and annual project report and presented survey results at the Desert Conservation Program’s annual project symposium.

CONTRACT 4

Contract Title:

Parasitism Control and Evaluation

Contract Number:

1935A (1750N, 2060B)

Vendor:

SWCA Environmental Consultants

Contract Status:

In progress

Contract Term:

4/17/2023- 12/31/2026

Contract Amount:

\$281,065.42

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Completed 7 weeks flycatcher monitoring and cowbird control.
- Thirteen territories were detected at Mesquite West, consisting of eight pairs and five unpaired males. The pairs have had seven nesting attempts, two of which have failed and five of which are currently active.
- There is one pair with an active nest at Mormon Mesa Parcel 5-A.
- Netted three female cowbirds and one cowbird egg has been replaced with a fake egg.
- Banded three males and one female at Mesquite West, and one female at Mormon Mesa Parcel 5-A. Three nestlings from one nest have also been banded at Mesquite West.
- 40 iButton data loggers have been deployed: eight at flycatcher nests, 10 within unoccupied potential flycatcher habitat, and 22 at locations where other MSHCP-listed avian species have been detected.
- Flycatcher territories and nests will continue to be monitored until around mid-August. iButton data loggers will remain in place until the last flycatcher nest is vacated, or August 15, whichever comes first.

CONTRACT 5

Contract Title:

Riparian Plant-Pollinator Ecology Phase 2

Contract Number:

2065A

Vendor:

University of Nevada (UNLV)

Contract Status:

Completed

Contract Term:

2/16/2022- 6/21/2023

Contract Amount:

\$72,105.00

Unspent Funds:

\$0.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Completed three vegetation surveys and analyzed data from restoration activities conducted in 2014 and 2021 by Clark County within the Mormon Mesa Subunit.
- Determined that restoration treatments reduced the invasive tamarisk, although further control treatments will likely be necessary.
- Conducted three sweep net surveys and analyzed data from invertebrate utilization surveys within the two restorations at the Mormon Mesa Subunit, and detected a diversity of invertebrates utilizing restoration patches, although more limitedly within the 2021 compared to the 2014 restoration.
- Collected soil samples from three soil depths, and analyzed moisture variation, soil texture, particle distribution, pH, and electrical conductivity.
- Compiled vegetation, soil, and invertebrate datasets, including a list of identified invertebrates from the 2014 and 2021 restoration efforts conducted by Clark County within the Mormon Mesa Subunit.

CONTRACT 6

Contract Title:

Evaluation of Screwbean Mesquite Ecosystem

Contract Number:

2070A

Vendor:

EcoCulture

Contract Status:

In progress

Contract Term:

5/10/2023- 12/31/2024

Contract Amount:

\$100,000.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Completed project planning, including identification of potential survey sites within region.
- Produced the project Work Plan that outlines the methodologies for surveying and collecting data, and the project Data Management plan.
- Coordinated the upcoming survey mobilizations.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
2060A	IButtonLink LLC	Thermal Refugia Datalogger Acquisition	\$ 5,673.26	S10 21-23
1750G	Helena Chemical Company	Deterrent Supply Acquisition	\$ 760.00	S10 17-19



Newly banded flycatcher nestling at Mesquite West.



First cowbird captured at Mesquite West in 2023.



Issue affecting screwbean mesquite trees.



IssuEcoculture staff and U.S. Fish and Wildlife staff conducting beetle monitoring on screwbean mesquite trees.

PROGRAM AREA: Riparian Reserves

PROJECT: Water Rights Management

DCP PROJECT CONTACT: Caryn Wright, Environmental Specialist
702.455.2972
Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Clark County has acquired surface and ground water right permits as a result of property acquisition and purchasing grazing permits and grazing allotments. To maintain the good standing of these County-owned water right permits, proofs of completion of work, proofs of beneficial use, extensions of time for submittal of documents, and applications to change point of diversion and manner of use needed to be filed with the Nevada Division of Water Resources (NDWR).

In-house work; no contract

ACCOMPLISHMENTS:

- Prepared bill language (concept and need) supporting funding to provide Nevada Division of Water Resources staff to adjudicate petitions for basins 222, 223, 224.
- Evaluated water right inventory to determine which should be conveyed to Nevada Department of Wildlife (NDWR).
- Coordinated with Nevada Division of State Lands (NDSL) to draft agreements to convey water rights identified to be conveyed to Nevada Department of Wildlife (NDOW).
- Coordinated with Real Property Management to finalize agreements to convey water rights to Nevada Department of Wildlife. Agreements approved by Board of County Commissioners and Nevada Interim Finance Committee.
- Evaluated water rights from willing sellers and water rights appurtenant to real property.

CONTRACT 1

Contract Title:

Water Rights Consulting

Contract Number:

1720E (1440D, 1520Q)

Vendor:

Farr West Engineering

Contract Amount:

\$15,423.02

Funding Source:

S10 17-19

Contract Term:

9/3/2019-12/31/2024

Contract Status:

Completed

Unspent Funds:

\$11,635.91

ACCOMPLISHMENTS:

- Conducted analysis of current and potential new project acquisitions and water right holdings, and provided information related to property and water right ownership.
- Consulted with Desert Conservation program and NDWR regarding Request for Determination submitted to NDWR.
- Submitted change applications to change the POU and net irrigation reduction for Application Nos. 50851 and 64841.

CONTRACT 2

Contract Title:

Water Rights Consulting

Contract Number:

1910F

Vendor:

Facque Consulting LLC

Contract Amount:

\$25,212.00

Funding Source:

S10 19-21

Contract Term:

2/15/2023-9/30/2025

Contract Status:

In progress

ACCOMPLISHMENTS:

- Provided expert opinions on issues potentially affecting Desert Conservation Program during the 2023 legislative sessions, including consultations for submission of comments on proposed bills.
- Assisted transfer of the identified water rights approved by Board of County Commissioners in October 2021.
- Drafted (70) Reports of Conveyance to update ownership to Nevada Division of State Lands (on behalf of NDOW).
- Finalized Application Nos. (50851 and 64841) 91759 and 91760.
- Drafting Proof of Completion of Work for submittal to NDWR.
- Completed Project Work Plan.



PUBLIC INFORMATION, EDUCATION, AND OUTREACH

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

1. Informing people of the purpose of the Clark County MSHCP and the roles and functions of the Desert Conservation Program;
2. Encouraging people to respect, protect, and enjoy the desert; and
3. Increasing public understanding of the value of Clark County's natural ecosystems.

Desert Conservation Program staff accomplish these goals by implementing a variety of outreach projects. Some examples of the work conducted in this program include the Mojave Max education program, Mojave Max mascot appearances at public events, and social media outreach on Facebook, Twitter, and Instagram. The program also distributes information through its websites and a variety of education materials, videos, and outreach campaigns that spread messages on environmental topics throughout the year.

PROGRAM AREA: Public Information, Education, and Outreach

PROJECT: Mojave Max Education Program

DCP PROJECT CONTACT: Audrie Locke, Public Outreach Coordinator
702-455-2705
Audrie.Locke@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Clark County Desert Conservation Program is required to provide public information and education under the terms of the existing MSHCP. One component of the public information and education program is the Mojave Max Education Program, which takes assemblies into various Clark County Schools each year to inform and educate elementary-aged students to increase public understanding of the value of Clark County's natural ecosystems. Mojave Max the mascot also spreads the message to a wide segment of the general population by participating in various outreach events throughout the Las Vegas valley.

In-house work; no contract

ACCOMPLISHMENTS:

In addition to continuing the established Mojave Max education program in the elementary schools, DCP staff made it a priority to identify and increase outreach and education to different members of our community and proactively create targeted education messaging and materials specific to each group.

- Expanded the reach of the education program to new groups, including:
 - Homeschool students
 - Visually impaired students
 - Senior Citizens
 - After School (SafeKey) programs
 - Boy / Girl Scouts
 - OHV events in outlying areas
- Participated in over 50 individual outreach/education events (April 2022 – June 2023)

CONTRACT 1

Contract Title:

Mojave Max Education Program

Contract Number:

1915A

Vendor:

OLVF (dba Get Outdoors Nevada)

Contract Status:

Completed

Contract Term:

08/01/2019 – 07/31/2022

Contract Amount:

\$93,360.00

Unspent Funds:

\$6,107.50

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Conducted-Tortoise Talk Classroom Programs. In the first three years of the contract, 395 programs were conducted for elementary school youth in Southern Nevada.
- Conducted-Assemblies. In first three years of the program, 40 school assemblies were conducted for elementary school youth in Southern Nevada.
- Conducted-Outreach Events. Conducting outreach events with the Mojave Max mascot and interpretive table are important parts of public education, in three years of the project we conducted 91 outreach events that reached 120,283 individuals.
- Conducted-Emergence Contest. Throughout the first three years of the Program, we have conducted three emergence contests. 17415 Southern Nevada Elementary students entered the contest, and we conducted emergence announcements and field trips at Doral Academy, Pat Diskin Elementary School, and Somerset Academy.
- Conducted-Increased Social Media Efforts. In mid-March 2020, the emerging pandemic caused a stop to all in person programs and events. This caused the cancelation of numerous classroom programs and

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CONTRACT 1 (CONT.)

outreach events. Fortunately Get Outdoors Nevada was able to meet all the terms of the contract and pivoted quickly to producing social media and virtual content in order to continuing providing quality products to the public. In these efforts, we updated the classroom programs to Zoom events, which we are now able to offer virtually. We also updated the Tortoise Talk program to social media videos and worksheets, which went out from March through the end of May (roughly the period Tortoise Talks are offered). We also created 5 Mojave Max Public Service Announcements, which tied Max messages to current Clark County health initiatives.

CONTRACT 2

Contract Title:

Mojave Max Education Program

Contract Number:

1915H (1712AM)

Vendor:

OLVF (dba Get Outdoors Nevada)

Contract Status:

Completed

Contract Term:

9/1/22 – 8/31/23

Contract Amount:

\$97,650.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19; S10 19-21

ACCOMPLISHMENTS:

- Conducted-Tortoise Talk Classroom Programs. In Year 6 of the program, we have conducted 94 in-person programs for elementary school youth for 1,929 students throughout Southern Nevada.
- Conducted-Assemblies. In Year 6 of the program, we have conducted 20 school assemblies for 2,515 elementary school youth in Southern Nevada. GON updated the Mojave Max Assembly materials this program year.
- Assisted-Outreach Events. Assisting outreach events with the Mojave Max mascot and interpretive table are important parts of public education, and in Year 6 of the project we assisted with eight outreach events that reached 3,080 individuals.
- Conducted-Emergence Contest. During Year 6 of the Program, 4,583 Southern Nevada Elementary students entered the Emergence Contest, and we completed an emergence announcement and field trip at Richard Rundle Elementary. This is more than double the interest seen during the 2021-2022 school year!
- Updated Tortoise Talk Materials. This year, two updated versions of the Tortoise Talk presentation were developed by GON and piloted in classrooms. The variation was developed to address differences in learning needs for K-2 and 3rd-5th grade bands. There was also an increased effort to incorporate hands-on time for students with several tortoise specimens and also to include a question-and-answer session throughout the presentation.
- Created Pre and Post Materials. Finally, the tortoise talk program has piloted pre and post lesson worksheets for grades K-2nd and 3-5th. These have been used by the teachers and reviewed as being very helpful to prepare the students for their Mojave Max experience.

CONTRACT 3

Contract Title:

Mojave Max Mascot Appearances

Contract Number:

2019-LVCV-1915L

Vendor:

Las Vegas Character Visits

Contract Status:

In Progress

Contract Term:

12/15/22 – 12/14/23

Contract Amount:

\$20,000

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- In 2022 a new mascot company was contracted to participate in school assemblies, Tortoise Talks, and a variety of outreach events.
- In this biennium, the mascot made over 50 appearances at school assemblies and various community outreach events.

CONTRACT 4

Contract Title:

Mojave Max Program Evaluation

Contract Number:

1915F (1715AL)

Vendor:

Inform Evaluation & Research

Contract Status:

Closed

Contract Term:

8/2/21 – 12/31/22

Contract Amount:

\$41,105.00

Unspent Funds:

\$7,402.00

Funding Source:

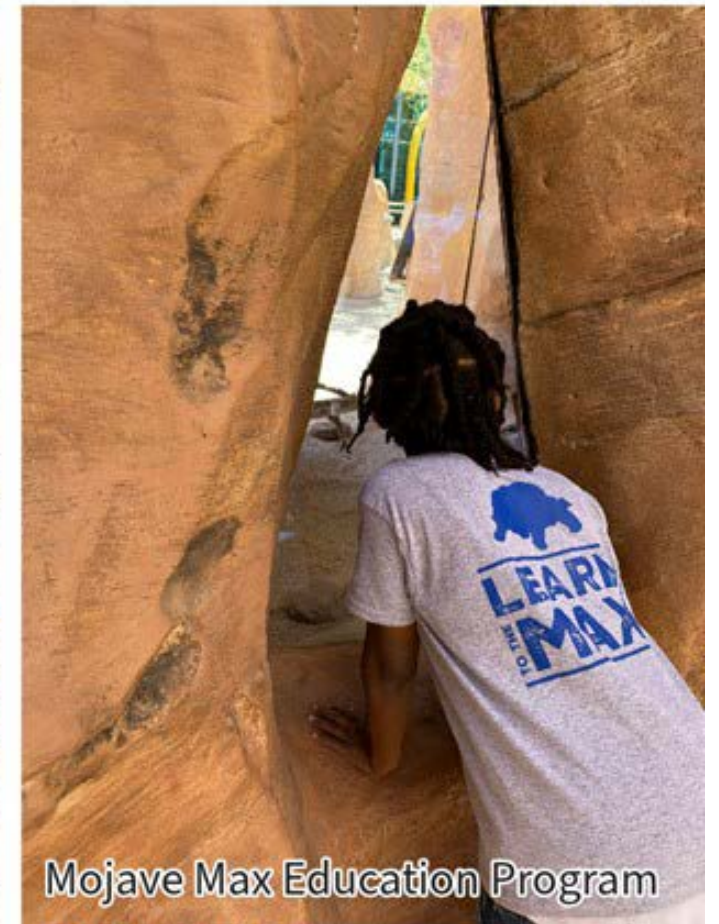
S10 17-19; S10 19-21

ACCOMPLISHMENTS:

A qualitative and quantitative analysis of data collected resulted in the following findings:

- Many students learned at least one action they could take to protect the desert tortoise, though a more comprehensive understanding of conservation was less clear.
- Assemblies and Tortoise Talks led to similar student learning outcomes.
- Students primarily learned introductory science content about habitats and adaptations; there was less evidence of advanced standards-based learning.
- Teachers felt students benefited from Mojave Max by learning about the local environment and animals, as well as actions they could take to protect the environment.
- Teachers rated the Mojave Max program experience highly and applauded the facilitators' ability to engage students.
- Teachers identified the Mojave Max program as a valuable educational presentation, though there is room for some improvement.
 - Teachers valued the post-program materials and referenced using them in the classroom.
 - Teachers' use of the Mojave Max website was minimal and mostly centered on researching the emergence contest. However, there was interest in using the website more for student engagement.
 - While the free giveaways for students were appreciated, only about half of teachers said they were very important.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
2011947	BlueTrack	Acquisition of Tortoise Stress Balls	\$ 6,850.00	S10 19-21





Community Outreach events



PROGRAM AREA: Public Information, Education, and Outreach

PROJECT: General Outreach

DCP PROJECT CONTACT: Audrie Locke, Public Outreach Coordinator
702-455-2705
Audrie.Locke@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

One of the requirements of the MSHCP is that the Desert Conservation Program provide public information, education, and outreach. To support the MSHCP message and mission, the Desert Conservation Program develops brochures, and other written collateral that contain conservation messages and further explain the Desert Conservation Program's purpose and mission. Written collateral is handed out at a wide variety of outreach events. Additionally, the Desert Conservation Program developed a license plate that would help to spread awareness about desert tortoise with a portion of the money from the sale of the license plates being used to further fund projects for conservation initiatives.

In-house work; no contract

ACCOMPLISHMENTS:

- Participated in multiple OHV-specific events, providing brochures encouraging on-trail only recreation and engaging with the OHV community in events dedicated to their activity.
- Created an awareness campaign discouraging the ceremonial release of mylar balloons that ultimately end up littering the desert and disturbing natural habitats. Encouraging those recreating outdoors to pick up any mylar balloons (or other trash) they see. Social media campaign #BagTheBalloons.

CONTRACT 1

Contract Title:
MSHCP Education Video

Contract Number:
1715AK

Vendor:
We Market For Humans

Contract Status:
Complete

Contract Term:
5/2/21 – 11/30/21

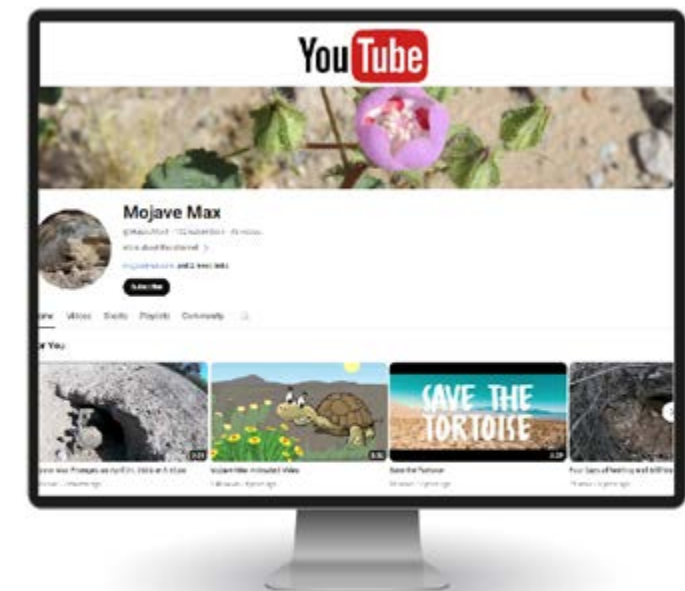
Contract Amount:
\$49,500.00

Unspent Funds:
\$0.00

Funding Source:
S10 17-19

ACCOMPLISHMENTS:

- Created 7:24 minute video explaining the Clark County MSHCP.
- This video is available on the Mojave Max YouTube channel and has been used in multiple in-person presentations since its creation.



Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
1915K	Inspire By Design	Acquisition of Neck Gaitors	\$ 775.00	S10 19-21



Multiple Species Habitat Conservation Plan



MSHCP

It allows private land owners to develop their properties without the need to negotiate their own Endangered Species Act Permit.











www.clarkcountynv.gov

Screen shots from MSHCP Video



Screen shots from MSHCP Video

WILD DESERT TORTOISE ASSISTANCE

The desert tortoise remains the key species driving the need for the MSHCP and Incidental Take Permit. As such, the Desert Conservation Program implements numerous conservation actions to benefit the desert tortoise and to assist with recovery efforts.

Two of the key projects implemented to reduce the impacts of development on wild desert tortoises include operation of the Wild Desert Tortoise Assistance Line and the implementation of a translocation program, conducted in cooperation with the U.S. Fish and Wildlife Service Desert Tortoise Recovery Office. Additional projects that benefit wild desert tortoise populations include the construction and maintenance of over 400 miles of desert tortoise exclusionary fencing (refer to the report section on Conservation Actions), and a wide variety of desert tortoise monitoring and research projects (refer to report section on the Adaptive Management Program).

PROGRAM AREA: Wild Desert Tortoise Assistance

PROJECT: Wild Desert Tortoise Hotline

DCP PROJECT CONTACT: John Ellis, Environmental Specialist
702.455.3964
John.Ellis@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The 1995 Desert Conservation Plan and the 2001 MSHCP and associated Section 10 Permit require Clark County to provide a hotline and pickup service to deal with wild desert tortoises which are displaced by development or appear to be in harm's way due to construction activity. The Desert Conservation Program operates the Wild Desert Tortoise Assistance Line to meet this requirement.

In-house work; no contract

ACCOMPLISHMENTS:

- 24 monthly records have been produced.
- 8 quarterly reports have been produced.
- 14 calls have been received on the hotline.
- 11 desert tortoise pickups been conducted, all 11 of which were adults, and 0 juveniles.
- No tortoises were immediately relocated within the Boulder City Conservation Easement; all tortoises were taken to the temporary holding facility for health assessments and quarantine prior to release.
- 8 tortoises collected from the Hotline were translocated, 26 tortoises provided by U.S. Geological Survey were translocated, and 3 tortoises are currently in holding.

CONTRACT 1

Contract Title:

DT Health Assess and Pickup Svc Support

Contract Number:

2009-ECOCENT-803F

Vendor:

Ecocentric, LLC

Contract Status:

In progress

Contract Term:

1/2/2019 - 12/31/2023

Contract Amount:

\$99,390.00

Funding Source:

S10 09-11

ACCOMPLISHMENTS:

- A total of 18 health assessments were completed.
- 17 Disposition Plans were complete.



Photo of CC0817 carapace taken during health assessment on September 28, 2022.



Photo of CC0818 carapace taken during health assessment on September 28, 2022.

PROGRAM AREA: Wild Desert Tortoise Assistance

PROJECT: Translocation

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859
Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

Augmenting depleted populations is one of the seven strategic elements outlined in the 2011 Recovery Plan for the Mojave Desert Tortoise. These projects support this element of the Revised Recovery Plan through on-the-ground work to monitor release sites in Clark County that are connected to wild populations. The goal of this project is to assess the success of translocation at two sites in Clark County (e.g., survivorship and distribution of translocated versus resident tortoises).

Increasing tortoise populations through augmentation in these areas may help to facilitate recovery over time and improve habitat connectivity across the landscape. The results from these projects will provide valuable data to the U.S. Fish and Wildlife Service to aid with developing population augmentation as a tool in the recovery of the desert tortoise across its range.

CONTRACT 1

Contract Title:

BCCE DT Telemetry & Health Assess

Contract Number:

2021-GBI-2030A

Vendor:

Great Basin Institute

Contract Status:

In progress

Contract Term:

11/15/23-12/28/23

Contract Amount:

\$ 251,561.66

Funding Source:

S10 21-23 / S10 19-21 / S10 17-19

ACCOMPLISHMENTS:

- Conducted 2 years of desert tortoise monitoring at the BCCE.
- Submitted 24 monthly data uploads to Desert Conservation Program.
- Submitted 9 quarterly reports to Desert Conservation Program.
- Monitored telemetered animals monthly from November through February.
- Monitored telemetered animals on a weekly basis from March through June
- Changed transmitters as needed.
- Affixed additional Mojave desert tortoises with transmitters.

CONTRACT 2

Contract Title:

Eldorado Valley Post Translocation Surveys

Contract Number:

2017-GBI-1741A

Vendor:

Great Basin Institute

Contract Status:

In progress

Contract Term:

11/1/22-11/30/24

Contract Amount:

\$405,565.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- They completed 400 transects, located 103 desert tortoises and, 117 tortoise carcasses.
- Telemetry teams located focal telemetry tortoises 894 times over the course of the project.
- Submitted five digital data uploads and two quarterly reports.

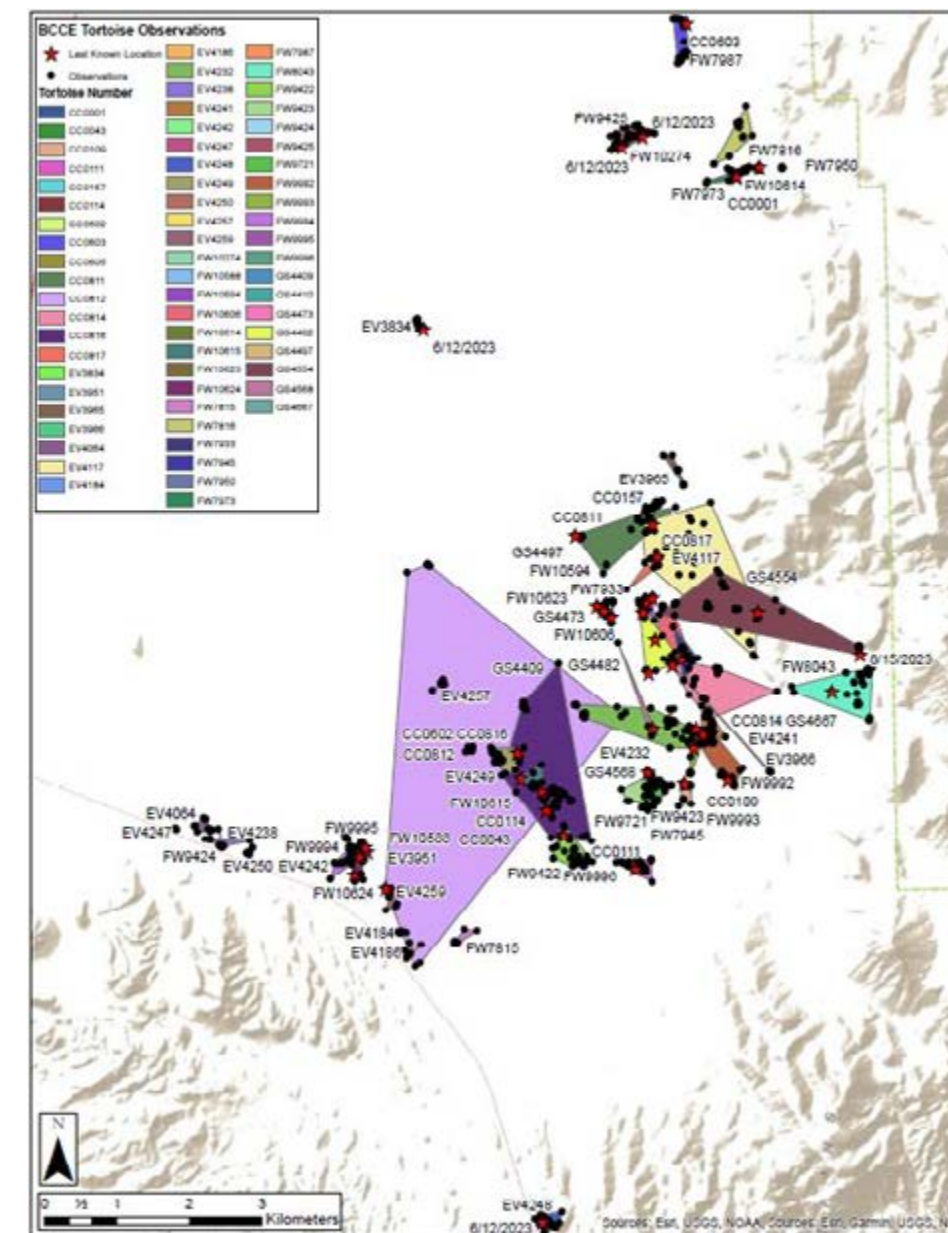


Fig 1. Map of full extent of BCCE tortoise observations since 2022 with last known locations from 5/2/2023 – 6/15/2023 and Minimum Convex Polygons.



Fig 2. Desert tortoise observation found during a transect.



PROGRAM AREA: Wild Desert Tortoise Assistance

PROJECT: Road Warriors

DCP PROJECT CONTACT: Kimberley Jenkins, Principal Environmental Specialist
702.455.5529
Kimberley.Jenkins@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Desert tortoise mortality and illegal capture along roads and highways has been identified as a significant issue relative to recovery of this species. The construction of roads and highways over the past century has permanently fragmented previously contiguous desert tortoise habitat and reduced connectivity among populations. The U.S. Fish and Wildlife Service recently developed a GIS-based mapping model to identify priority areas for installation of permanent desert tortoise exclusion fencing, identify roads in need of systematic surveys, and scheduling of maintenance inspections for existing fencing. Systematically collected road mortality data is necessary to confirm the prioritization of roads by the GIS model and evaluate effects of road mortality to desert tortoise populations. This project provided funding for a pilot project to evaluate the potential use of citizen scientist volunteers to conduct systematic surveys under the guidance of qualified biologists.

CONTRACT 1

Contract Title:

Road Warriors DT Mortality & Fence Survey

Contract Number:

2042A

Vendor:

Tortoise Group

Contract Amount:

\$70,000.00

Funding Source:

S10 21-23 (license plate revenues)

Contract Term:

2/14/2022 – 1/12/2024

Contract Status:

In progress

ACCOMPLISHMENTS:

- Tortoise Group completed 99.84 miles of roadway for desert tortoise fence surveys and 60.5 miles of roadway for road mortality surveys. Tortoise Group has 20 miles of road mortality surveys in progress.
- 292 Fence incident reports were submitted to NDOT for maintenance.
- 1 desert tortoise carcass was observed during fence surveys.
- 2 live tortoise observations, 1 tortoise carcass observation, and 9 tortoise sign observations were collected during road mortality surveys.
- 141 other wildlife observations were collected.



Live tortoise encountered during fence maintenance surveys.



Tortoise roadway mortality observed during mortality surveys.

PROGRAM AREA: Wild Desert Tortoise Assistance

PROJECT: Evaluating Desert Tortoise Habitat Restoration

DCP PROJECT CONTACT: Stefanie Ferrazzano, Biologist

702.455.6386

Stefanie.Ferrazzano@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The largest threats to desert tortoise populations are habitat alteration and habitat loss. Recovery for this species requires habitat conservation, enhancement, and restoration. Many habitat improvement techniques are untested for their effectiveness as recovery actions for the desert tortoise. This project funds a thorough investigation of the existing science behind restoration for desert tortoise recovery and will help identify areas where more research is needed.

CONTRACT 1

Contract Title:

Academic Consultant for Desert Tortoise Restoration Workshop

Contract Number:

1760A

Vendor:

Natural Resource conservation LLC

Contract Status:

Completed

Contract Term:

11/1/2020 – 5/5/2022

Contract Amount:

\$60,000.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- Completed 70-page literature review integrating over 350 published papers on desert tortoise habitat requirements and over 50 papers on habitat restoration practices in the Mojave and western Sonoran deserts. The review synthesizes the current status of knowledge of desert tortoise habitats and reliability and costs of restoration practices.
- Helped plan, participated in, and led sections of the habitat restoration workshop held January 24-26, 2022. The contractor delivered two presentations, a summary of the literature review prior to the workshop, and a keynote presentation summarizing findings at the workshop. There were 79 participants at the workshop and consensus from participants was that the participants were actively engaged and found the content and discussions useful for synthesizing the status of knowledge of habitat restoration and future research needs.
- Completed a synthesis document integrating the literature review and workshop content into best-management principles for restoring and conserving desert tortoise habitats and identifying future research priorities.
- A value-added fact sheet was prepared to summarize the literature review findings.
- A value-added synthesis paper was published in Desert Plants, a peer-reviewed journal.

CONTRACT 2

Contract Title:

Restoration Workshop Facilitation

Contract Number:

1760B

Vendor:

Southwest Decision Resources

Contract Status:

Completed

Contract Term:

5/27/2021 – 4/28/2022

Contract Amount:

\$50,000.00

Unspent Funds:

\$33,074

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- Coordinated periodic meetings of the restoration workshop planning team and produced meeting minutes and associated documents. Five meetings were held before the workshop, and one meeting was held after the workshop.
- Provided meeting summaries to the planning team members via email within two weeks of the date each planning meeting was conducted, and submitted a finalized copy for County records.
- Facilitated the restoration workshop by providing agenda design, outreach support, materials preparation, coordination of presenters and participants, training of breakout group facilitators, general workshop facilitation, and documentation of the two-day restoration workshop.
- Provided a compilation of meeting minutes and other documents to planning team members via email within two weeks of the conclusion of the workshop. The compilation included documents referenced during the restoration workshop, breakout session notes, and recommendations for topics for additional research.

CONTRACT 3

Contract Title:

Reevaluating Desert Upland Habitat Restoration Sites

Contract Number:

1760C

Vendor:

UNLV

Contract Status:

In Progress

Contract Term:

12/15/2022 – 6/18/2025

Contract Amount:

\$273,000.00

Funding Source:

SNPLMA R17

ACCOMPLISHMENTS:

- Completed project work plan.
- Worked with public land managers to identify potential restoration sites for inclusion in the study.
- Conducted reconnaissance for half of the locations that fit inclusion criteria.
- Assembled databases from established projects.
- Compiled geospatial information of project point locations



Photo contest collage from Mojave Desert Tortoise Habitat Restoration Workshop. Photos were submitted by various workshop participants.



Outplanting conducted along a closed road in the Boulder City Conservation Easement in 2020. Photograph taken by Kathleen Kline (UNLV) in May 2023 during site reconnaissance.



Image 18 years after the Bonnie Springs fire (2005) at Red Rock Conservation Area. Photograph taken by Kathleen Kline (UNLV) in May 2023 during site reconnaissance.

PROGRAM AREA: Wild Desert Tortoise Assistance

PROJECT: Boundary Fence for the Tule Springs Fossil Beds National Monument

DCP PROJECT CONTACT: John Ellis, Environmental Specialist
702-455-3964
John.Ellis@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Clark County Desert Conservation Program is providing financial and project management assistance to the National Park Service’s Tule Springs Fossil Beds National Monument to construct combination post-and-cable fencing with desert tortoise exclusion fencing along the western boundary of the monument. Access gates and tortoise guards will be installed at key locations. This project provides for protection of sensitive environmental resources within the Monument and will also protect desert tortoises from crossing U.S. Highway 95.

CONTRACT 1

Contract Title:

Tule Springs Monument Fence

Contract Number:

2019-JNJ-1975A, (804N, 1525C, 1725A, 1780A)

Vendor:

JNJ Engineering Construction Inc

Contract Status:

In progress

Contract Term:

4/1/2021 – 10/30/2023

Contract Amount:

\$1,394,480.00

Funding Source:

S10 09-11; S10 15-17; S10 17-19; S10 19-21

ACCOMPLISHMENTS:

- Secured all construction materials.
- Surveyed and marked fence alignment.
- Installed all posts and desert tortoise exclusion fencing.
- Approved two design changes in the field.



Fence alignment near Corn Creek Road.



Twisted smooth wire at the top of the tortoise fence that was a design change from the original concept.

CONSERVATION PROJECTS

While the Desert Conservation Program consists of specific program areas that are the result of explicit conditions of the incidental take permit, some flexibility is also allowed in identification and funding of conservation actions to provide for conservation and recovery of the 78 covered species.

These projects may address a myriad of program goals and/or needs and can run the gamut from species inventory projects, research, habitat protective measures, and projects that address changed and unforeseen circumstances.

PROGRAM AREA: Conservation Projects

PROJECT: Gila Monster Threats Assessment

DCP PROJECT CONTACT: John Ellis, Environmental Specialist
702.455.3964
John.Ellis@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Gila monsters (*Heloderma suspectum*) have been recommended to be included on the list of covered species under a proposed amendment to the MSHCP and the associated incidental take permit. However, basic information on demography and threats to this species is currently lacking, which will impact our ability to develop an effective conservation strategy for the species. Gila monsters are among the rarest and most secretive animals in Nevada. As a result, we currently lack basic information to assess species status and how the species will be affected by changes in habitat (i.e., development, degradation, fragmentation) and climate. This project will focus on determining the multi-scale habitat requirements for Gila monsters across southern Nevada (Clark County) and assess how connectivity among populations may influence potential for species persistence. Information from field surveys will be combined with estimates of habitat connectivity and genetic diversity to provide spatially explicit models of population persistence and identification of areas with the greatest management need.

CONTRACT 1

Contract Title:

Assess Genetic Diversity of Gila Monster

Contract Number:

1997A

Vendor:

U.S. Geological Survey

Contract Status:

Completed

Contract Term:

12/20/2019 – 12/31/2021

Contract Amount:

\$ 123,000

Unspent Funds:

\$0

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Acquired a total of 102 tissues from our collaborating agencies.
- Completed next-generation sequencing (NGS) library preparations on 96 of the DNA samples.
- Conducted preliminary population structure analyses on the 74 samples that passed missing data and read depth thresholds.
- Found evidence supporting 3 genetic groups of Gila Monsters across Nevada and Utah. These three genetic groups all occur within the state of Nevada



CONTRACT 2

Contract Title:

Gila Monsters Spatial Ecology and Habitat

Contract Number:
1997B

Vendor: Austin Peay State University

Contract Status:
Completed

Contract Term:
11/22/2019 – 12/31/2021

Contract Amount:
\$193,900.00

Unspent Funds:
\$42,500.00

ACCOMPLISHMENTS:

- Collected data during proposed field work activities; radio telemetry, movement patterns, and home range estimates.
- Implanted transmitters in 14 Gila Monsters in Calico Basin
- Collected blood samples from Gila monsters at focal study site in Calico Basin.
- Completed investigation of thermally-mediated refuge site selection in Gila monsters

CONTRACT 3

Contract Title:

Gila Monster Habitat Modeling

Contract Number:
1997C

Vendor: University of Nevada Reno (UNR) – BRRRC

Contract Status:
Completed

Contract Term:
7/1/2020- 12/31/2021

Contract Amount:
\$36,698.62

Unspent Funds:
\$0.00

Funding Source:
S10 19-21

ACCOMPLISHMENTS:

- Identified key environmental layers likely to be useful in habitat modeling by using a conceptual model of habitat needs.
- Established study area encompassing Clark County, and developed all layers for the area at the desired resolution.
- Expanded Gila Monster locality data set, adding additional localities from field studies, and online collections for use in habitat modeling.
- Completed a habitat model of current and future Gila Monster habitat.



Field assistant using radio telemetry.



Gila monster resting found during fieldwork.

PROGRAM AREA: Conservation Projects

PROJECT: Rare Plant and Pollinator Surveys

DCP PROJECT CONTACT: Stefanie Ferrazzano, Biologist
702.455.6386
Stefanie.Ferrazzano@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

This project focuses on conducting surveys for rare plants, including those that are listed as critically endangered by the State of Nevada, and pollinators of interest in under-surveyed areas of Clark County. High priority is given to areas that may be impacted by development or areas identified through the Covered Species Analysis Support project. Surveys conducted for this project will provide MSHCP permittees and land managers with current data concerning the distribution and abundance of rare plant species and pollinators within the county. Existing habitat models for target species will also be strengthened with additional data. As a result, the permittees will be better equipped to manage rare plant and pollinator habitat.

CONTRACT 1

Contract Title:

Blue Diamond Cholla Surveys

Contract Number:

2080A

Vendor:

Ironwood Consulting, Inc.

Contract Status:

In Progress

Contract Term:

8/1/2022 – 4/30/2024

Contract Amount:

\$360,000.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Completed project planning, including identification of potential survey sites within modelled habitat.
- Produced the project Work Plan that outlines the methodologies for surveying and collecting data, and the project Data Management Plan which outlines the methodologies for collecting data and meeting the DCP and cooperating agencies’ data deliverable standards, including the Nevada Division of Natural Heritage (NDNH) and Nevada Department of Forestry (NDF).
- Coordinated the 2022 fall survey and 2023 spring survey mobilizations with DCP, Bureau of Land Management (BLM), National Park Service (NPS), and NDF.
- Designed and implemented a data collection interface using ESRI Field Maps and Survey123 to meet the NDNH data collection and deliverable standards.
- Completed the 2022 Survey Report and Data Deliverable that summarized results of the 2022 Spring Survey and provided clean and accurate data for the DCP, NDNH, NPS, BLM, and NDF.

CONTRACT 2

Contract Title:

Mojave Poppy Bee Surveys

Contract Number:

2085A

Vendor:

U.S. Department of Agriculture (USDA – ARS)

Contract Status:

In Progress

Contract Term:

2/1/2022 – 1/31/2024

Contract Amount:

\$100,000.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Conducted bee surveys at 34 sites in Clark County.
- Produced presence/absence data for Mojave poppy bee in Clark County.
- Conducted identifications for all captured visitors to Las Vegas bearpoppy.
- Conducted a statistical comparison of reproductive output at nine Las Vegas bearpoppy populations, and correlational analyses with bee visitations.

CONTRACT 3

Contract Title:

Rare Plant Surveys

Contract Number:

1755A

Vendor:

Ironwood Consulting, Inc.

Contract Status:

Complete

Contract Term:

1/8/2020 – 12/31/2022

Contract Amount:

\$268,000.00

Unspent Funds:

\$0.00

Funding Source:

S10 17-19

ACCOMPLISHMENTS:

- Coordinated 2021 spring and fall mobilizations with DCP, BLM, NPS, and NDF.
- Updated and implemented a data collection interface using ESRI Field Maps and Survey123 to meet NDNH data collection and deliverable standards.
- Documented 81 rare plant occurrence records occupying 1,703 of the 10,168 acres surveyed. Of the 16 locations surveyed, target species were observed at 10 locations.
- Completed the Final Survey Report and Final Data Deliverable that summarized results of the 2021 surveys and provided clean and accurate data for the DCP, NDNH, NPS, BLM, and NDF.

CONTRACT 4

Contract Title:

Rare Plant and Milkweed Surveys

Contract Number:

1942A

Vendor:

Ironwood Consulting, Inc.

Contract Status:

In Progress

Contract Term:

3/10/2023 – 12/31/2023

Contract Amount:

\$250,000.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Completed project planning, including identification of potential survey sites within modelled habitat.
- Produced the project Work Plan that outlines the methodologies for surveying and collecting data, and the project Data Management plan which outlines the methodologies for collecting data and meeting the DCP and cooperating agencies' data deliverable standards, including NDNH and NDF.
- Coordinated the 2023 spring survey mobilizations with DCP, BLM, NPS, and NDF.
- Designed and implemented a data collection interface using ESRI Field Maps and Survey123 to meet the NDNH data collection and deliverable standards.
- Surveyed approximately 12,386 acres of upland habitat and 90 acres of wetland/riparian habitat.



Las Vegas bearpoppy flower with many bee visitors.



Blue Diamond cholla encountered during rare plant survey.



Sandy habitat with threecorner milkvetch population present.

PROGRAM AREA: Conservation Projects

PROJECT: Rare Plant Propagation Studies

DCP PROJECT CONTACT: Stefanie Ferrazzano, Biologist
702.455.6386
Stefanie.Ferrazzano@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Clark County MSHCP covers four plant species that are listed as critically endangered by the State of Nevada. These are the Las Vegas bearpoppy (*Arctomecon californica*), threecorner milkvetch (*Astragalus geyeri* var. *triquestrus*), Blue Diamond cholla (*Cylindropuntia multigeniculata*), and sticky buckwheat (*Eriogonum viscidulum*). Additionally, white-margined penstemon (*Penstemon albomarginatus*) and Las Vegas bearpoppy are currently under consideration for protections under the federal Endangered Species Act, further highlighting the need to establish well-informed conservation strategies for these species.

This project will increase our knowledge of reproduction mechanisms and possible propagation techniques for these species while generating conservation seed collections for future use. The ability to propagate protected plant species in a controlled setting would provide land managers with a wider array of options when mitigating for anthropogenic disturbances, managing protected areas, and in the event of unforeseen population declines.

CONTRACT 1

Contract Title:

Rare Plant Propagation Research

Contract Number:

1990A

Vendor:

USGS

Contract Status:

In Progress

Contract Term:

3/1/2020 – 12/16/2023

Contract Amount:

\$137,943.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Collected soil seedbank samples from two threecorner milkvetch and two sticky buckwheat populations for seedbank emergence trials.
- Completed a soil seedbank emergence trial with samples from four populations of white-margined penstemon, two populations of sticky buckwheat, and two populations of threecorner milkvetch from 2020 collections.
- Extracted buried white-margined penstemon seed for germination viability test, completing a full year buried-seed trial.
- Completed viability tests and analyses on seed longevity for buried white-margined penstemon seeds from all exhumation intervals.
- Watered soil samples from two additional threecorner milkvetch and two additional sticky buckwheat populations for seed bank emergence study.
- Successfully propagated sticky buckwheat plants from seed produced by plants that emerged from seed bank samples in wither and spring of 2020-2021.
- Completed seedbank emergence trials on threecorner milkvetch and sticky buckwheat.
- Bagged inflorescences on ten white-margined penstemon plants at the Ivanpah population for pollinations study.
- Visited Blue Diamond cholla population site to assess seed production. Examined 200 plants and 100 fruits.
- Completed seed increase on sticky buckwheat plants. Over 27,000 seeds were collected from 29 plants.
- Prepared sticky buckwheat seeds for burial and seed germination trials, and buried seed bags at 5 sites.
- Bagged 6 flowers in the shade house from Blue Diamond cholla that bloomed unexpectedly. Another 6 were left unbagged to determine if this plant requires outcrossing to produce viable seeds.
- Continued maintaining Blue Diamond cholla and white-margined penstemon plants in the shade house for future study.

CONTRACT 2

Contract Title:

Rare Plant Propagation Research Phase II

Contract Number:

2075A

Vendor:

USGS

Contract Status:

In Progress

Contract Term:

1/17/2023 – 12/31/2026

Contract Amount:

\$628,573.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Held the Project Kick-off Meeting, produced the Work Plan and Data Management Plan, and acquired permits for work from all relevant agencies (BLM, NPS, and NDF).
- Collected joint cuttings from Blue Diamond cholla and potted them using the soil mixture developed and tested during Phase I of the project (1990A) in preparation for outplanting in spring 2024.
- Collected seed from adult sticky buckwheat plants for viability testing and conservation storage.



Blue Diamond cholla (*Cylindropuntia multigeniculata*) in habitat at Gold Butte. (Photo: L DeFalco, USGS)



A bagged sticky buckwheat (*Eriogonum viscidulum*) inflorescence at Upper Muddy River. Mesh bags containing the minute plant seeds are collected once plants senesce. (Photo: S Scoles-Sciulla, USGS)

PROGRAM AREA: Conservation Projects

PROJECT: Niles Herbarium Data

DCP PROJECT CONTACT: John Ellis, Environmental Specialist
702.455.3964
John.Ellis@ClarkCountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Nevada Division of Natural Heritage (NDNH) is one of the main sources for agencies and consultants when checking risks of conflict and evaluating impacts of projects to protected species. The NDNH data repository saves agencies time and money when evaluating projects by not having to locate and gain access to each agencies' source of information separately as well as not having to spend time formatting all the collected data into a consistent format. Data from NDNH has proven very valuable in several projects within the Desert Conservation Program including recent projects like the development of species habitat distribution models. Recently, The Wesley E. Niles Herbarium at the University of Nevada, Las Vegas (UNLV) School of Life Sciences, digitized their entire herbarium consisting of 65,000 specimens of vascular plants and more than 1,600 species. This collection contains plants from all over Nevada which could be very beneficial to agencies and consultants working with these species. Therefore, the incorporation of the herbarium data of all MSHCP covered species would be of benefit to the Desert Conservation Program and the conservation community.

CONTRACT 1

Contract Title:

Niles Herbarium Data

Contract Number:

2021-NDNH-2090A

Vendor: Nevada Division of Natural Heritage

Contract Status:

In progress

Contract Term:

9/30/2022-12/31/2023

Contract Amount:

\$60,000.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- A list of relevant UNLV Niles Herbarium records for species of interest was compiled. This list, which represents all records from the Niles herbarium to be entered into the NDNH database, includes roughly 260 taxa and 1,800 specimens.
- Georeferencing of relevant Niles Herbarium records was completed through an agreement with the University of Nevada, Reno to ensure record localities are as accurate as possible.
- A data-entry technician was hired, trained, and is currently entering data into the NDNH database.
- The data-entry process is approximately 30% complete.

ADAPTIVE MANAGEMENT PROGRAM

Adaptive management is a systematic approach for improving resource management by learning from management outcomes, including exploring alternative ways to meet management objectives. The Desert Conservation Program 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.

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.

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.

PROGRAM AREA: Adaptive Management Program (AMP)

PROJECT: AMP Implementation

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859
Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

An Adaptive Management Program is a required element of the MSHCP. The program reviews past, current, and ongoing MSHCP activities; makes recommendations for potential projects that would meet MSHCP needs; identifies projects that do not meet MSHCP needs; provides designs for scientifically-sound monitoring protocols that are tailored to MSHCP questions; and helps to adjust currently funded projects to incorporate the best available science as it becomes available. To meet the requirements of this program, Clark County must seek out well qualified scientists and experts who can provide independent technical review of all MSHCP activities.

CONTRACT 1

Contract Title:

Science Advisor Panel

Contract Number:

2020C (1920A)

Vendor:

Alta Sciences & Engineering, Inc.

Contract Status:

In progress

Contract Term:

2/1/20 – 2/20/24

Contract Amount:

\$551,236.00

Funding Source:

S10 19-21; S10 21-23

ACCOMPLISHMENTS:

- Prepared a revised Adaptive Management and Monitoring Plan (AMMP) with Biological Goals and Objectives (BGOs)
- Prepared project concepts for consideration by DCP in the Implementation Planning and Budget (IPB) process.
- Completed a review of literature and study design for applying an herbivore deterrent to riparian plantings. The study is currently being implemented by DCP staff.
- Conducted analysis and prepared outline for upcoming peer-reviewed journal article submittal that will examine remote sensing methods on riparian habitats.
- Published the following peer-reviewed journal article— Harju, S.M., S.M. Cambrin. 2023. Designing a long-term occupancy monitoring plan for a cryptic reptile. *Journal of Herpetology*, 57:20-26.
- Published the following peer-reviewed journal article— Harju, S.M., S.M. Cambrin, K. Jenkins. 2023. Mapping low-elevation species richness and biodiversity in the eastern Mojave Desert. *Natural Areas Journal* 43:53-61.
- In the process of developing three more manuscripts to be sent out for peer review on various projects and data collected by the county.

CONTRACT 2

Contract Title:

East Moj Cnsrv Collaborative Facilitation II

Contract Number: 2020B

Vendor: Southwest

Decisions Resources, Inc

Contract Status:

Completed

Contract Term:

2/1/22 – 9/30/22

Contract Amount:

\$5,000.00

Unspent Funds: \$0.00

Funding Source: S10 21-23

ACCOMPLISHMENTS:

- Facilitated a meeting and produce meeting notes for a coordinating team meeting of the Eastern Mojave Conservation Coordinating Team.



PROGRAM AREA: Adaptive Management Program (AMP)

PROJECT: Species and Habitat Monitoring

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859

Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

The Desert Conservation Program engages in a variety of monitoring projects for both species and habitat. Baseline monitoring is needed when determining pre-management conditions. Additional monitoring is needed to assess changes in species or habitats over time or to assess how management actions are affecting these resources. Since the Desert Conservation Program utilizes an adaptive management approach, a robust monitoring program is essential.

In-house work; no contract

ACCOMPLISHMENTS:

- Collected six weeks of passive acoustic bat recordings at five DCP riparian sites.
- Collected four weeks of passive acoustic bat recordings at five BCCE sites.
- Stored bat digital bat recordings for professional analysis next biennium.

CONTRACT 1

Contract Title:

Desert Tortoise Range-Wide Monitoring

Contract Number:

1541B

Vendor:

Great Basin Institute

Contract Status:

Completed

Contract Term:

12/5/16-12/4/21

Contract Amount:

\$1,022,850.16

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R15

ACCOMPLISHMENTS:

- Completed the final report for the project.
- Completed one quarterly report.
- Completed the final project review summary form and project claims release.

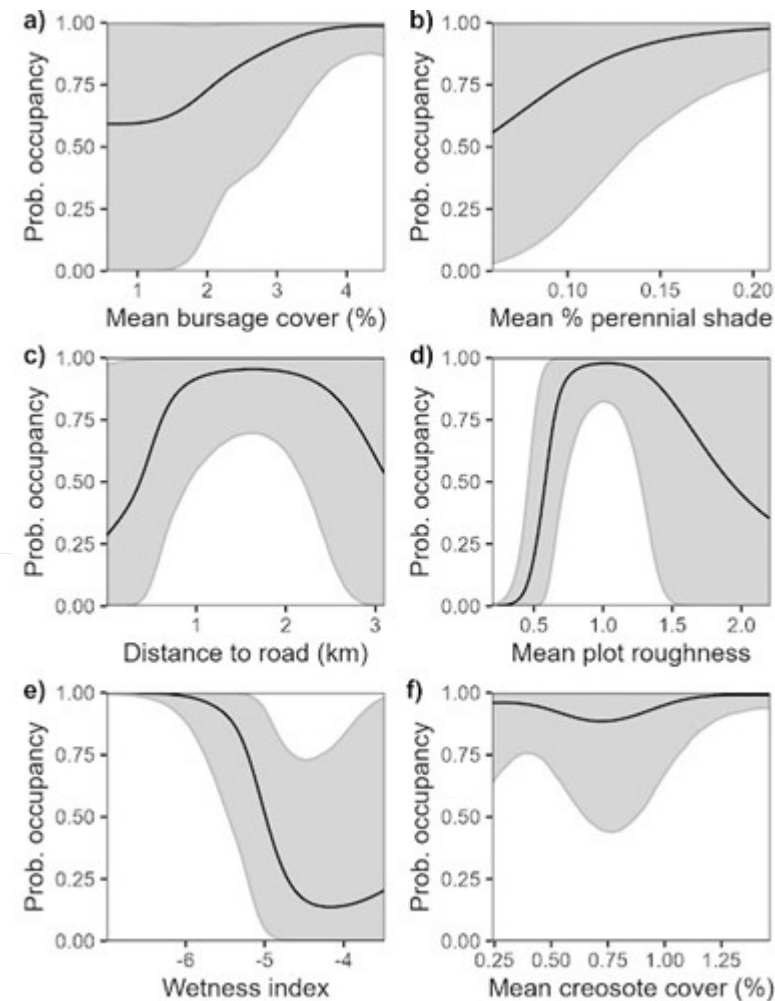


Photo 1: Landscape variables associated with the probability of Mojave desert tortoise occurrence on the Boulder City Conservation Easement, NV, USA, 2014-2016.

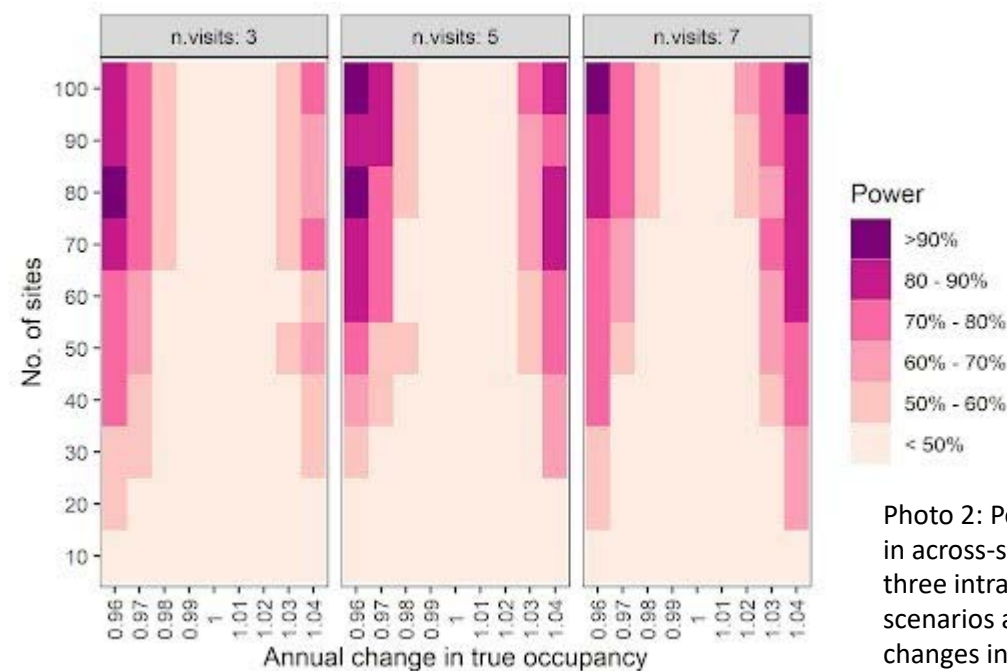


Photo 2: Power to detect trends in across-site occupancy rates for three intra-season occupancy survey scenarios and 1-4 percent modeled changes in true occupancy of Mojave Desert tortoises.

CONTRACT 2

Contract Title:

DT Range Wide Monitoring

Contract Number:

2025A (1920G, 1925B, 2020A)

Vendor:

Great Basin Institute

Contract Status:

Completed

Contract Term:

1/5/22-9/15/22

Contract Amount:

\$489,850.00

Unspent Funds:

\$0.00

Funding Source:

S10 19-21; S10 21-23

ACCOMPLISHMENTS:

- All transect and G₀ telemetry monitoring was completed.
- 424 transects surveyed.
- 83 tortoises observed.
- 165 carcasses observed.
- 1,092 G₀ telemetry observations made.
- Nine digital data uploads submitted.
- Two quarterly reports submitted.
- One annual report submitted.

CONTRACT 3

Contract Title:

DT Monitoring Data
Mgmt Year 2-5

Contract Number:

1920C

Vendor:

U.S. Fish and Wildlife Service

Contract Status:

Completed

Contract Term:

10/7/16-3/15/22

Contract Amount:

\$ 76,714.00

Unspent Funds:

\$0.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Submitted QA/QC of annual project data.
- Submitted final report.
- Submitted two quarterly reports and a final project review and summary form.

CONTRACT 4

Contract Title:

Desert Tortoise Occupancy

Contract Number:

1920B (2020D)

Vendor:

Bio Logical, LLC

Contract Status:

In progress

Contract Term:

2/1/20-1/31/24

Contract Amount:

\$192,840.50

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Surveyed 70 plots 6 times each.
- Found 32 tortoises on plots and 36 incidental tortoise observations.
- Located 31 active burrows.
- Attended two trainings.
- Completed two work plans, two final data deliverables, two final reports, and 8 data deliverables for the project.

CONTRACT 5

Contract Title:

Assess, Inv, and Mon of
Habitat on the BCCE

Contract Number:

2020H

Vendor:

Great Basin Institute

Contract Status:

Completed

Contract Term:

3/1/23-7/5/23

Contract Amount:

\$12,560.00

Unspent Funds:

\$0.00

Funding Source:

S10-21-23

ACCOMPLISHMENTS:

- Surveyed 7 plots and collected habitat, plant, and soil data using the core methods of the AIM strategy.
- Surveyed 7 plots of forb diversity for each plot.
- The Great Basin Institute was contracted for these 7 points worth of data collection.
- Conducted rigorous data quality control checks after data collection.
- Produced all required project deliverables.
- Produced an end of season Implementation Summary.

CONTRACT 6

Contract Title:

Reptile Monitoring and Surveys

Contract Number:

2040B

Vendor:

Great Basin Institute

Contract Status:

Completed

Contract Term:

8/23/21-12/6/22

Contract Amount:

\$48,800.00

Unspent Funds:

\$0.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Completed surveys for covered reptile species.
- Surveyed for previously telemetered Gila monsters.
- Surveyed for additional Gila monsters.
- Conduct surveys and collect data at night along roads in Clark County.
- Completed and submitted all milestones and deliverables.

CONTRACT 7

Contract Title:

DT Data Management

Contract Number:

2020G

Vendor:

Great Basin Institute

Contract Status:

Completed

Contract Term:

5/5/22-3/31/23

Contract Amount:

\$20,289.44

Unspent Funds:

\$0.00

Funding Source:

S10 21-23

ACCOMPLISHMENTS:

- Data Management Plan revised and submitted.
- Three Quarterly Progress Reports submitted.
- Final field season QAQC data submitted in July, TopoWorks submitted final QAQC data in September.
- Final Project Report submitted.

CONTRACT 8

Contract Title:

Avian Surveys

Contract Number:

1730P (1920E)

Vendor: SWCA

Environmental Consultants

Contract Amount:

\$88,572.00

Funding Source:

S10 17-19, 19-21

Contract Term:

12/29/2020 – 12/28/2021

Contract Status:

Completed

Unspent Funds:

\$0.00

ACCOMPLISHMENTS:

- Conducted the fourth and fifth rounds of southwester willow flycatcher (*Empidonax traillii extimus*, SWFL) surveys at DCP riparian reserve parcels. The previous three rounds were conducted in the previous biennium.
- Conducted second, third, and fourth rounds of yellow billed cuckoo (*Coccyzus americanus*, YBCU) surveys at DCP riparian reserve parcels. The first round was conducted in the previous biennium.
- Produced finalized data as an Access database and ESRI geodatabase.
- Produced a final report for the 2021 survey season.

CONTRACT 9

Contract Title:

Avian Surveys

Contract Number:

2020E

Vendor: SWCA

Environmental Consultants

Contract Amount:

\$211,242.00

Funding Source: S10 21-23

Contract Term:

12/19/2021 – 12/28/2023

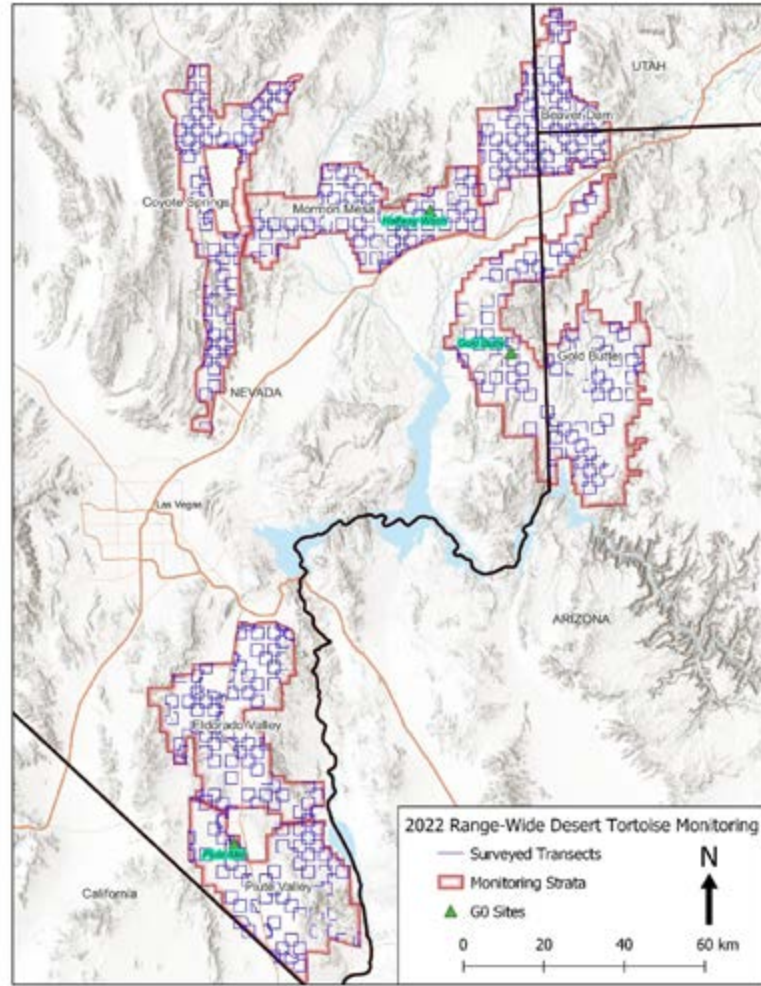
Contract Status:

In Progress

ACCOMPLISHMENTS:

- Produced a Work Plan and Data Management Plan
- Produced monthly data deliverables throughout the 2022 and 2023 field seasons.
- Completed seasonal surveys for SWFL and YBCU at DCP riparian reserve parcels in 2022.
- Completed point count surveys for all avian species at DCP riparian reserve parcels and the BCCE during 2022 and 2023 survey seasons.
- Produced finalized data as an Access database and ESRI geodatabase for the 2022 survey season.
- Produced a final report for the 2022 survey season.
- Completed the first three rounds of SWFL surveys and the first round of YBCU surveys for 2023. The final two rounds will be completed next biennium.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
2020F	Titley Scientific, LLC	Acquisition of Bat Detector	\$ 675.00	S10 21-23



Map of transects walked during range wide monitoring in the 2022 field season.



A flycatcher fledgling at Mesquite Parcel 1-A in 2022.



Tortoise found in a cactus during field surveys.



An Arizona Bell's vireo building a nest at Mormon Mesa Parcel 5-A in 2023.

PROGRAM AREA: Adaptive Management Program (AMP)

PROJECT: Desert Tortoise Connectivity Study

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859
Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

One of the recovery actions listed in the 2011 Revised Recovery Plan for the Mojave Population of the Desert Tortoise is to determine the importance of corridors and physical barriers to desert tortoise distribution and gene flow (Recovery Action 5.5). In areas subject to anthropogenic pressures, connectivity corridors improve opportunities for individual contact and gene flow. While many projects have been undertaken in the years since the Revised Recovery Plan was published, most have focused on determining where connectivity should occur as well as necessary gene flow rates. However, very little work has been done to determine proper corridor size in the presence of disturbance, or to examine how linear disturbances may impede otherwise connected habitat. Appropriate connectivity corridor design is needed to allow movement between habitat patches, prevent genetic isolation, and ensure species persistence. Understanding the mechanisms that influence desert tortoise movement across linear disturbance crossings will help us design better corridors and ensure connectivity of tortoise populations and the sustainability of the species into the future. Further, determining areas where functional connectivity is lost across the landscape would allow those areas to be targeted for rehabilitation in order to restore connectivity. This would benefit the entire biological community in these areas and help ensure the continued persistence of many species that rely on a connected landscape.

This project was initiated with the goal of developing a management plan that addresses desert tortoise habitat connectivity within Clark County, Nevada. In support of developing a robust, effective management plan, several smaller projects were also initiated that focus on data collection activities related to on-the-ground aspects of connectivity, including determining proper corridor designs and examining how tortoises overcome anthropomorphic impediments (e.g., roads) to habitat connectivity.

In-house work; no contract

ACCOMPLISHMENTS:

- Co-authored a peer-reviewed journal article relating to tortoise movement that is currently in review.



Photo of project resident tortoise CC0375 carapace with transmitter attachment.

CONTRACT 1

Contract Title:
DT Connectivity Across Roadways

Contract Number:
1580B (1920F)

Vendor:
Ecocentric, LLC

Contract Status:
Completed

Contract Term:
12/1/19–9/15/21

Contract Amount:
\$ 429,986.67

Unspent Funds:
\$0.00

Funding Source:
SNPLMA R 16 / S10 19-21

ACCOMPLISHMENTS:

- Completed final report indicating where all tortoises were found during the surveys and turned in Final QA/QC project data.

CONTRACT 2

Contract Title:
DT Connectivity Solutions Modeling

Contract Number:
1580C

Vendor:
University of Nevada Reno (UNR) – BRRC

Contract Status:
Completed

Contract Term:
5/10/20-3/31/22

Contract Amount:
\$348,455.90

Unspent Funds:
0.00

Funding Source:
SNPLMA R16

ACCOMPLISHMENTS:

- Produced an individually based forward-in-time population genetic simulation model suitable for landscape scale analyses.
- Improved simulation realism by incorporating overlapping generations, multiple paternity, dispersal movements based on home range shifts, and mortality risk based on age, habitat, and population density.
- Developed a quadtree data structure to improve landscape detail and computational time.

CONTRACT 3

Contract Title:

DT Telemetry around Culverts

Contract Number:

1580E

Vendor:

Ecocentric, LLC

Contract Status:

Completed

Contract Term:

11/1/20-6/15/22

Contract Amount:

\$170,770.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Completed and submitted (12) Monthly Data Deliverables consisting of Tortoise Encounter and GPS Logger Data.
- Produced (5) Quarterly Progress Reports.
- Completed a Final Report.
- Collected and processed data on (311) tortoise encounters and (67) GPS logger deployments for (15) resident tortoises.

CONTRACT 4

Contract Title:

Culvert Inspection for Tortoise Usage

Contract Number:

1580F

Vendor:

Newfields

Contract Status:

Completed

Contract Term:

11/1/20-8/31/21

Contract Amount:

\$62,990.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Completed final report.
- Completed project review form and summary claims release.

CONTRACT 5

Contract Title:

Connectivity Management Plan

Contract Number:

2015-RECON-1580G

Vendor:

Recon Environmental, Inc

Contract Amount:

\$81,549.00

Funding Source:

SNPLMA R16

Contract Term:

12/15/20-6/1/22

Contract Status:

Completed

Unspent Funds:

\$0.00

ACCOMPLISHMENTS:

- Completed a draft literature review on connectivity.
- Completed an outline of the connectivity management plan.
- Completed the final literature review and connectivity management plan.
- Created three quarterly reports and attended three quarterly meetings.

CONTRACT 6

Contract Title:

Culvert Image Inspection

Contract Number:

1580H

Vendor:

SWCA Environmental Consultants

Contract Status:

Completed

Contract Term:

5/1/21-4/30/22

Contract Amount:

\$50,000.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Developed machine learning program to identify tortoises as they pass underneath culvert cameras.
- Analyzed 984,000 photos taken for this project and detected 564 tortoise images which accounted for 93.5% of tortoise images known to occur in the dataset.

CONTRACT 7

Contract Title:

Connectivity Data Analysis

Contract Number:

1580J

Vendor:

Heron Ecological, LLC

Contract Status:

Completed

Contract Term:

6/10/21-4/30/22

Contract Amount:

\$93,940.00

Unspent Funds:

\$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Analyzed mark-recapture data to derive tortoise abundance estimates on either side of existing culverts along U.S. Highways 93 and 95.
- Analyzed GPS location data to delineate distinct movement states of tortoises in relation to their proximity to U.S. Highway 95.
- Analyzed remote camera results to evaluate crossing frequencies in relation to disparities in tortoise densities across culverts.
- Produced written reports and provided spatial product outputs (e.g., movement state assignments, plot-level tortoise density estimates, etc.) to the Desert Conservation Program.

CONTRACT 8

Contract Title:

Connectivity Movement Simulation

Contract Number:

1580K

Vendor:

Alta Sciences & Engineering, Inc.

Contract Status:

Completed

Contract Term:

11/1/21-6/30/22

Contract Amount:

\$ 84,100.00

Unspent Funds:

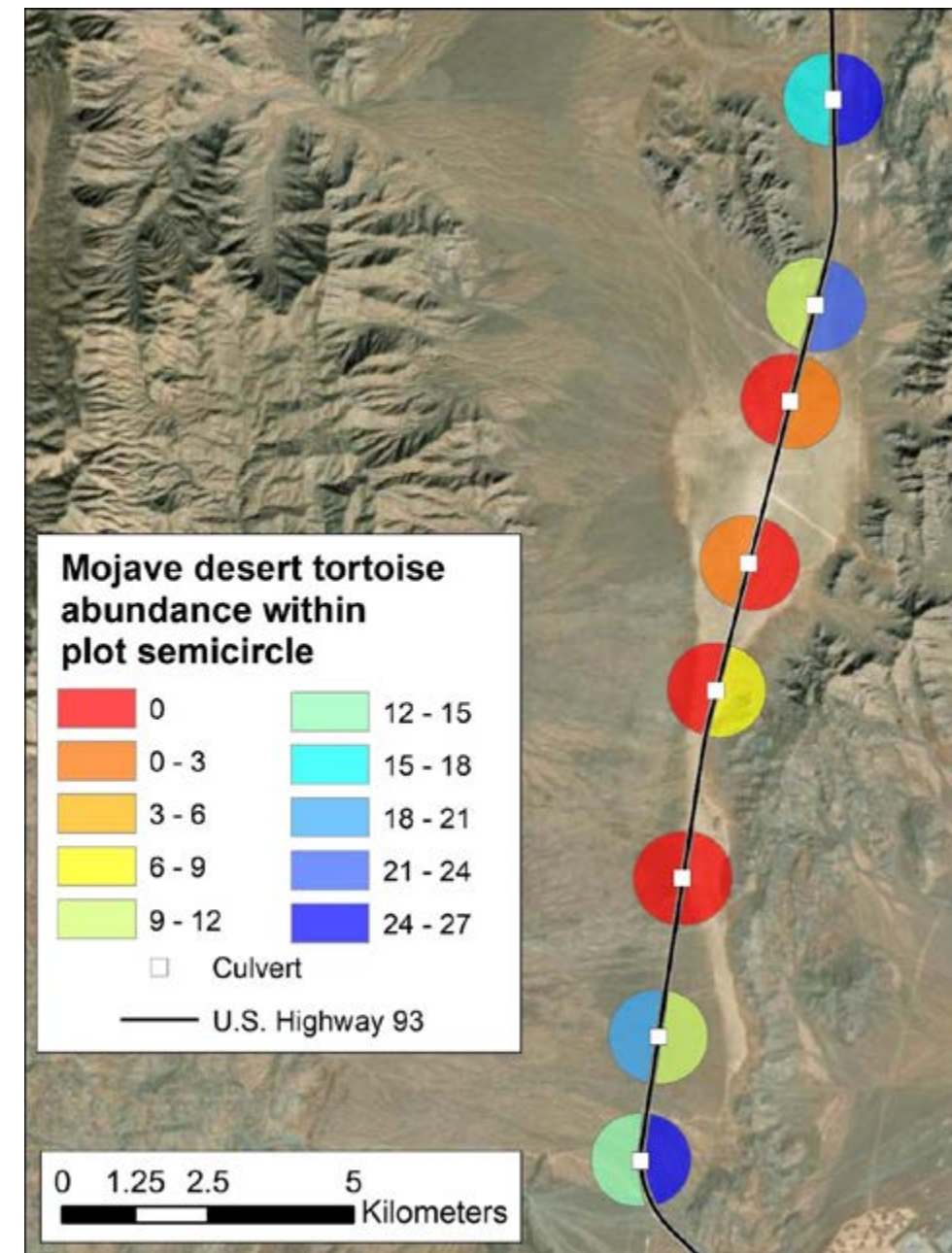
\$0.00

Funding Source:

SNPLMA R16

ACCOMPLISHMENTS:

- Used GPS movement data to populate a multistate random walk model to approximate tortoise movement.
- Allowed simulated tortoises to move around the landscape and monitor the rates they cross highways.
- Varied size and spacing to see how that affected connectivity.



Plot-level abundance of Mojave desert tortoises on either side of existing culverts along U.S. Highway 93, Clark County, Nevada.

PROGRAM AREA: Adaptive Management Program (AMP)

PROJECT: Desert Tortoise Predation Studies

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist
702-455-3859
Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

Recently, concern has increased regarding the rates and causes of presumed coyote (*Canis latrans*) predation on a translocated population of the federally-listed Mojave desert tortoise (*Gopherus agassizii*) in the BCCE. Interest has been expressed in the development of management options which may ameliorate or limit predation pressures. Currently, an investigation into the distribution and abundance of predators, most notably coyote, is ongoing in the BCCE and the results of that important work are forthcoming. In 2018 we began a study to look at the abundance, distribution, movement patterns, habitat use, and ecology of coyotes in concert with their primary prey species, the black-tailed jackrabbit (*Lepus californicus*) in the BCCE. This will be used to interpret and expand the results and conclusions derived from wider predator population investigations of the BCCE and surrounding area.

Monitoring of predator and prey populations will result in an increased ability to make informed management decisions regarding desert tortoise translocations in the ecological context of larger predator-prey interactions in the BCCE and southern Nevada. The goal of this project is to provide information about predator and prey population dynamics and habitat use and health that is relevant to management of the BCCE as a sustainable habitat reserve and improving success of desert tortoise translocation programs. A better understanding of the predator/prey community will allow us to make better decisions on translocation sites and timing which will lead to more sustainable translocated populations of desert tortoise.

CONTRACT 1

Contract Title:

DT Predator-Prey Dynamics

Contract Number:

2019-USGS-1987A

Vendor:

US Geological Survey (USGS)

Contract Status:

Completed

Contract Term:

1/1/2020 – 12/31/2022

Contract Amount:

\$491,152.20

Unspent Funds:

\$0.00

Funding Source:

S10 19-21

ACCOMPLISHMENTS:

- Collected data through camera traps and GPS collars for coyotes and jackrabbits.
- Four years of data was analyzed to reveal the following:
 - Probability of coyote use decreased with distance to water source.
 - Annual coyote survival was between 81 and 95% and Jackrabbit between 34% and 45%.
 - 66 species or groups of species were detected on the camera traps.
 - Black rabbit populations declined with drought while coyote populations stayed relatively constant.
 - Coyote movement followed normal social structure patterns of resident and transient individuals, but they were able to recognize similar structure in the jackrabbit populations which was previously unrecorded.

CONTRACT 2

Contract Title:

Predator - Prey Dynamics
Phase 2

Contract Number:

2045A

Vendor:

US Geological Survey
(USGS)

Contract Status:

In progress

Contract Term:

6/15/2022 – 6/14/2027

Contract Amount:

\$769,842.00

Funding Source:

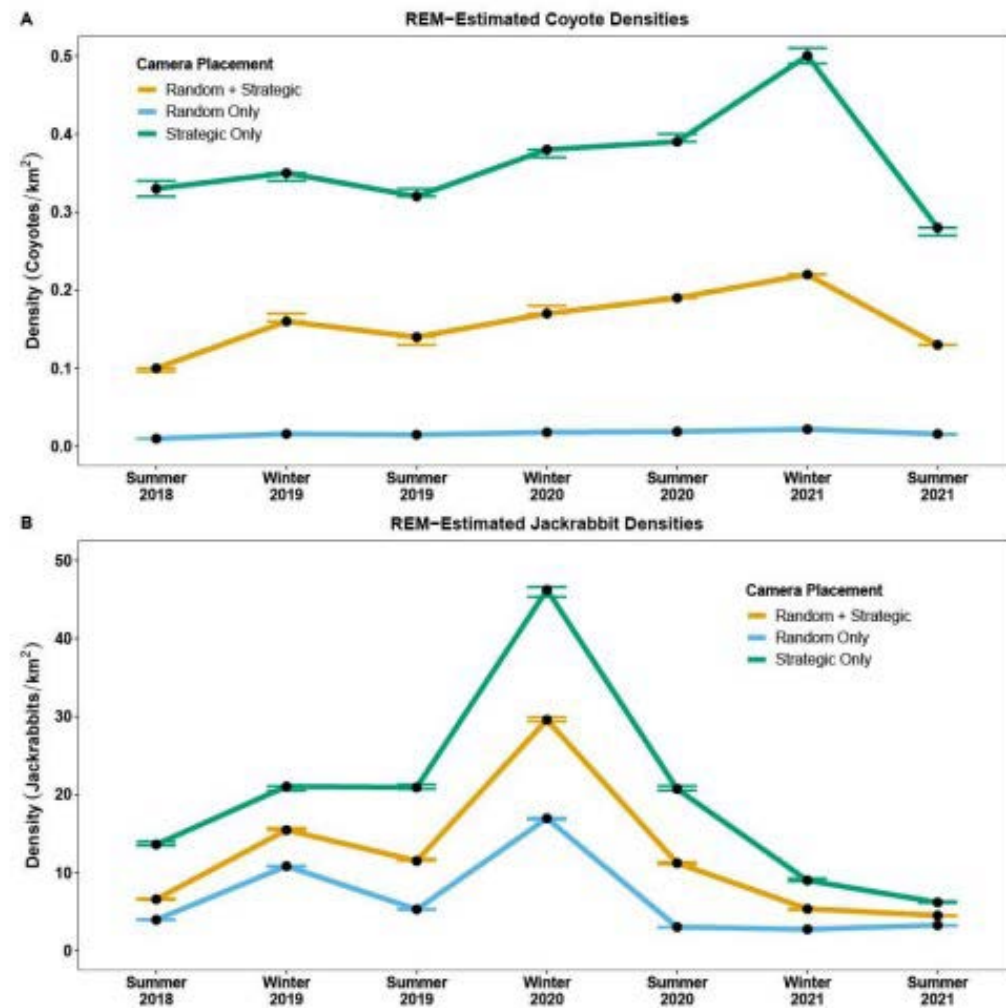
S10 21-23

ACCOMPLISHMENTS:

- Completed the Work plan and management plan.
- Installed the new special capture recapture arrays which totals 86 cameras.
- Continued to trap and collar jackrabbits and coyotes.
- Continue to monitor GPS data collected by the GPS collars.



Photo taken from a wildlife camera of a radio-collared coyote walking down a wash.



Seasonal density estimates of A) coyotes and B) black-tailed jackrabbits during 2018–2021 from unmarked random encounter models that analyzed detection data from randomly and strategically placed camera-traps in the study area.

PROGRAM AREA: Adaptive Management Program (AMP)

PROJECT: Desert Tortoise Nesting Study

DCP PROJECT CONTACT: Scott Cambrin, Senior Biologist

702-455-3859

Scott.cambrin@clarkcountynv.gov

BACKGROUND AND NEED FOR PROJECT

Population augmentation has been an integral component of the desert tortoise recovery plan since the original version was released by the U.S. Fish and Wildlife Service in 1994. This view was carried forward in the *2011 Revised Recovery Plan for the Mojave Population of the Desert Tortoise* with renewed emphasis on effectiveness monitoring to gain a better understanding of the long-term impacts of population augmentation on both translocated and resident populations of tortoise and to better understand the role that population augmentation plays in contributing to recovery of the species. However, most effectiveness monitoring work completed to date consists of short-term (generally 5 years or less) studies of survival of translocated individuals. The long-term effects of population augmentation on desert tortoise populations are still largely unknown and there is little published research describing whether and/or how translocated animals actually help augment populations over time.

The Desert Conservation Program has been monitoring a cohort of translocated tortoises on the BCCE since 2014. This project provides for continued monitoring of translocated and resident tortoises on the BCCE, specifically examining reproductive output of translocated and resident tortoises. If translocated tortoises do not reproduce at a rate similar to resident tortoises, then they may only be causing short-term increases in the population and thus would not effectively augment populations. This will not aid in the recovery of the species over the long term which should be the goal of any augmentation program. This project will give us the first indication as to whether the augmentation efforts are having the desired result.

CONTRACT 1

Contract Title:

Desert Tortoise Nesting Study on the BCCE

Contract Number:

1985A

Vendor:

University of Nevada Reno (UNR) – BRRC

Contract Status:

Completed

Contract Term:

3/20/2020 – 1/31/2022

Contract Amount:

\$92,729.74

Unspent Funds:

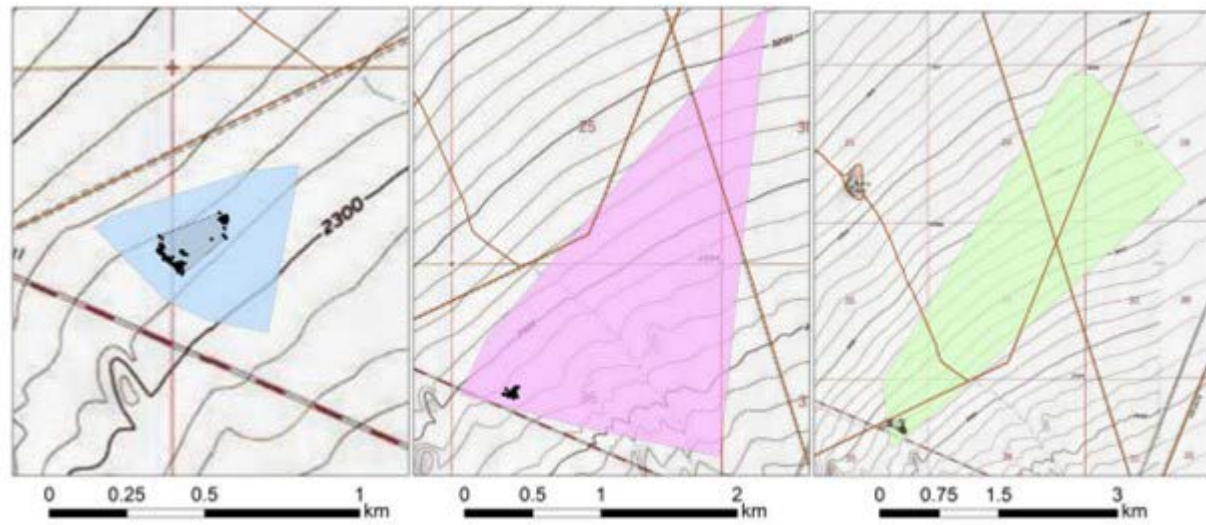
\$0.00

Funding Source:

S10 19-2

ACCOMPLISHMENTS:

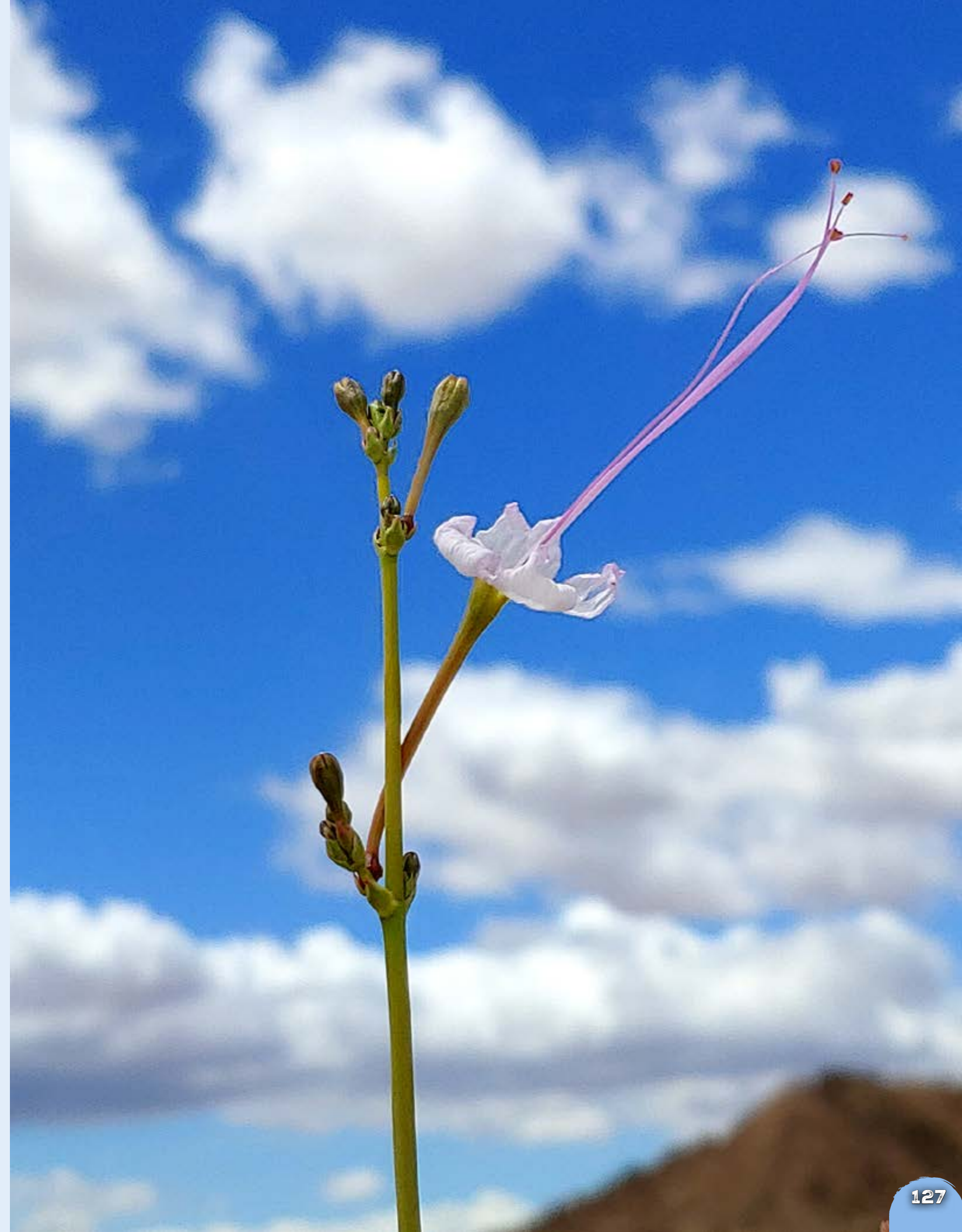
- There was no difference between translocated and resident follicle production and that produced shelled eggs.
- Located nests from the two translocated individuals that possessed shelled eggs with one nest containing one egg that ceased production in late stages and a second that contained 6 eggs with 4 hatching one of which had deformities.
- Collected blood samples from 51 individuals and collected 8 juvenile carcasses for later genetic samples.
- “These results show that when extreme drought occurs during vitellogenesis followed by exceptional drought extending during spring emergence and through the nesting season, individual *G. agassizii* may abandon the bet hedging strategy and instead forgo nesting entirely.”



Minimum Convex Polygons (MCP) of historical home ranges for three tortoises on the easement. Locations recorded by GPS loggers and resulting MCP shown as black dots and hatched polygons.



Photo of a desert tortoise showing the housing for the GPS logger.





SECTION

4

tortoise
disposition

TORTOISE DISPOSITION SUMMARY

Clark County's responsibilities regarding desert tortoise collection were established in the 1995 Desert Conservation Program and the 2001 MSHCP and associated Section 10 Permit (#TE034927-0). The Desert Conservation Program outlines the requirement to provide a pickup service to handle desert tortoises which are displaced by development or appear to be in harm's way within urban areas under section C.3.a.

The Desert Conservation Program collects wild desert tortoises found on construction sites. The service is currently free of charge and is provided to developers and individual workers who come across a wild tortoise while on the job site. All tortoises collected through the pickup service are relocated to appropriate sites in accordance with approved translocation plans and following coordination with the U.S. Fish and Wildlife Service. Ultimate disposition of these tortoises is at the discretion of the U.S. Fish and Wildlife Service.

During the 2021-2023 biennium, the program received 14 calls on the Wild Desert Tortoise Assistance Line and a total of 11 desert tortoises were collected (all adults). Eight desert tortoises have been released to the BCCE and 3 tortoises are currently being held in quarantine while they undergo health assessments and suitability for translocation will be determined in the fall. For further information on wild desert tortoise assistance, refer to the project reports section of this report, program area: Wild Desert Tortoise Assistance.

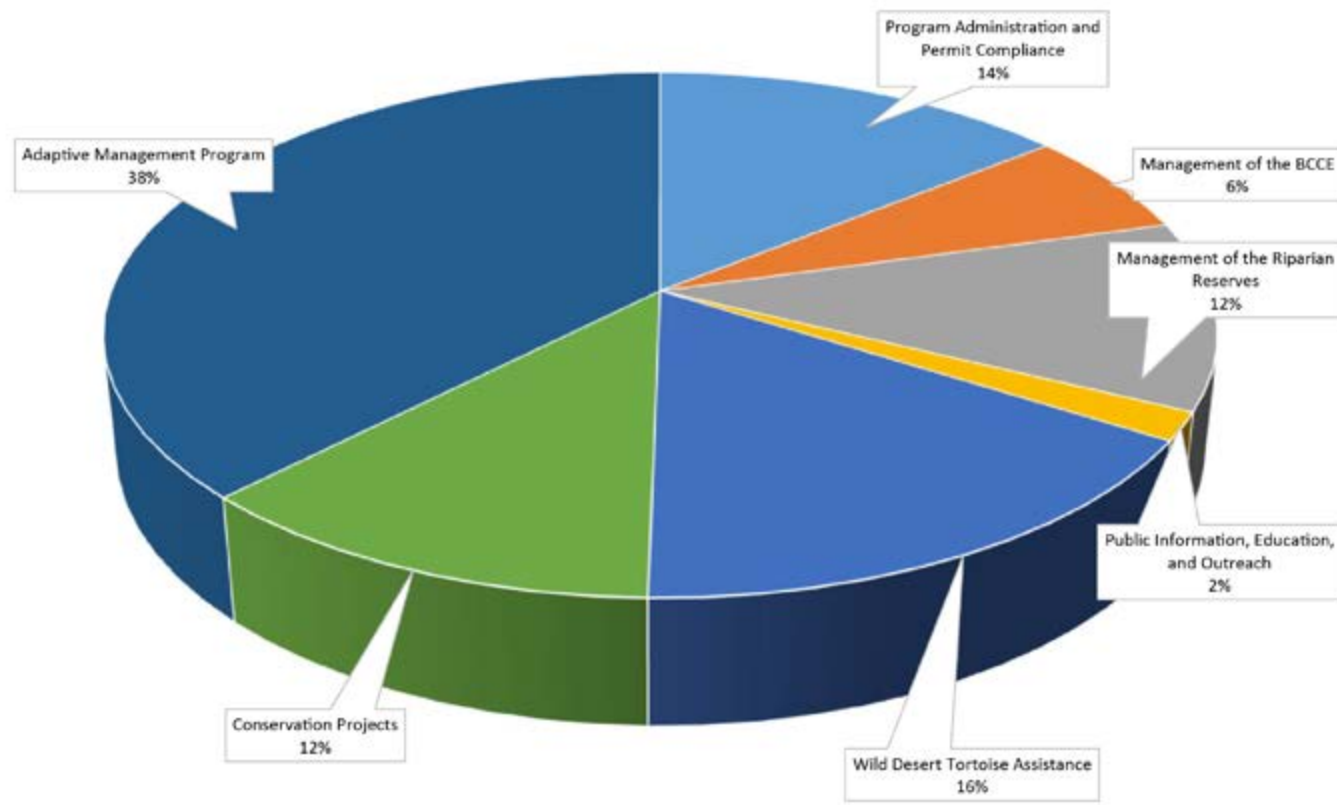




SECTION **5**

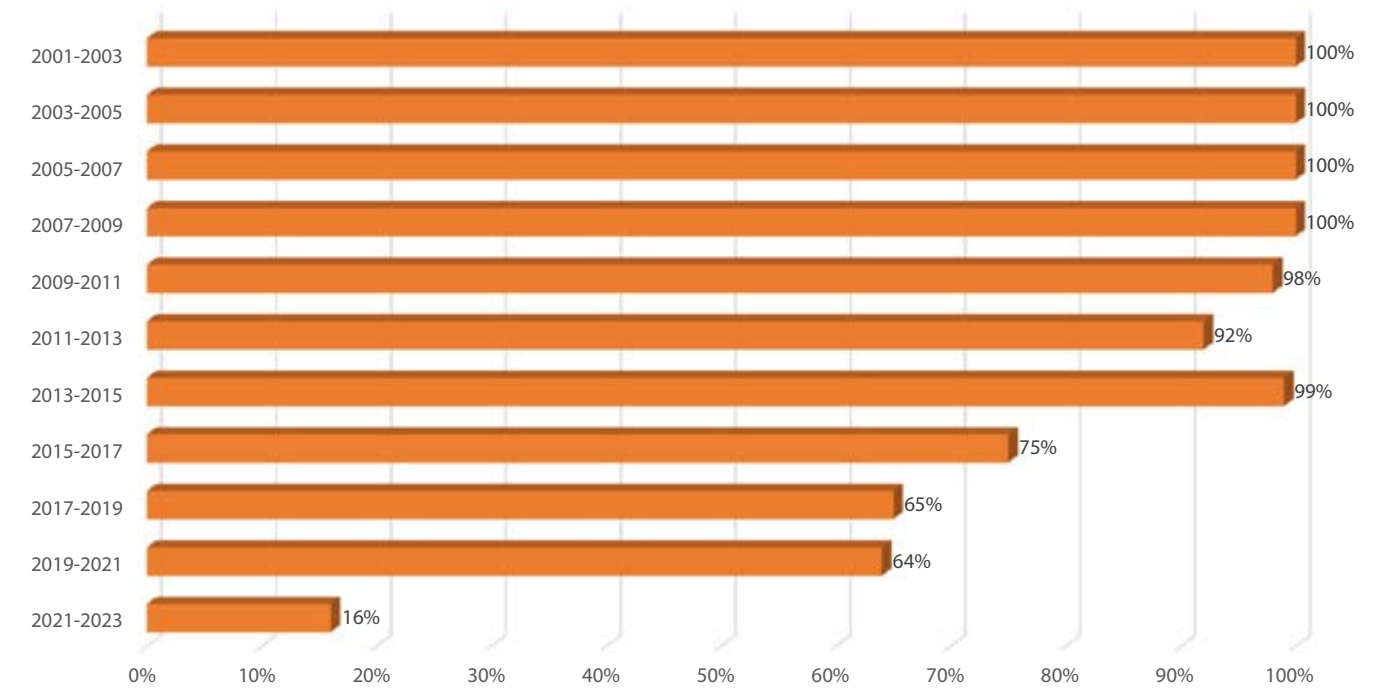
financial
report

CONTRACT FUNDING BY PROGRAM AREA

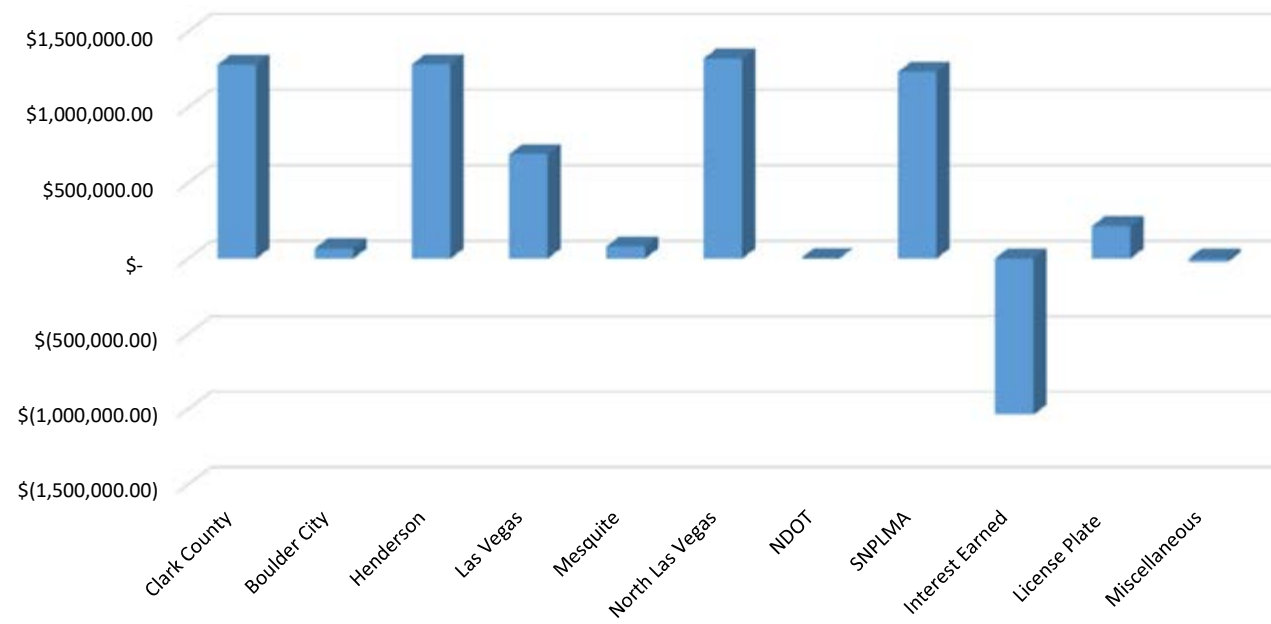


PERCENT COMPLETE BY BIENNIUM

Percent Complete



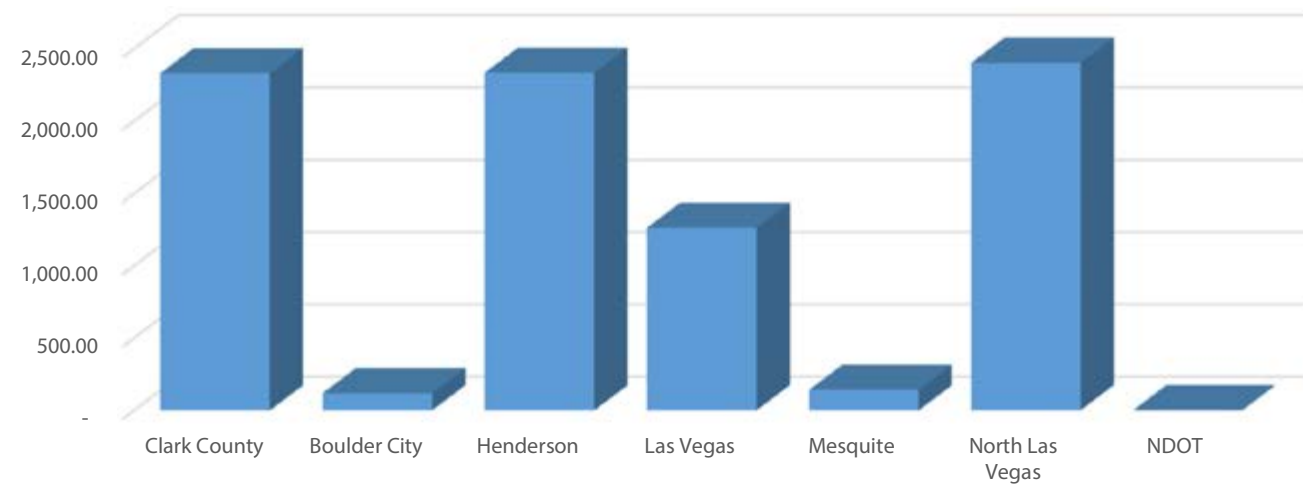
REVENUE BY SOURCE 2021-2023 Biennium



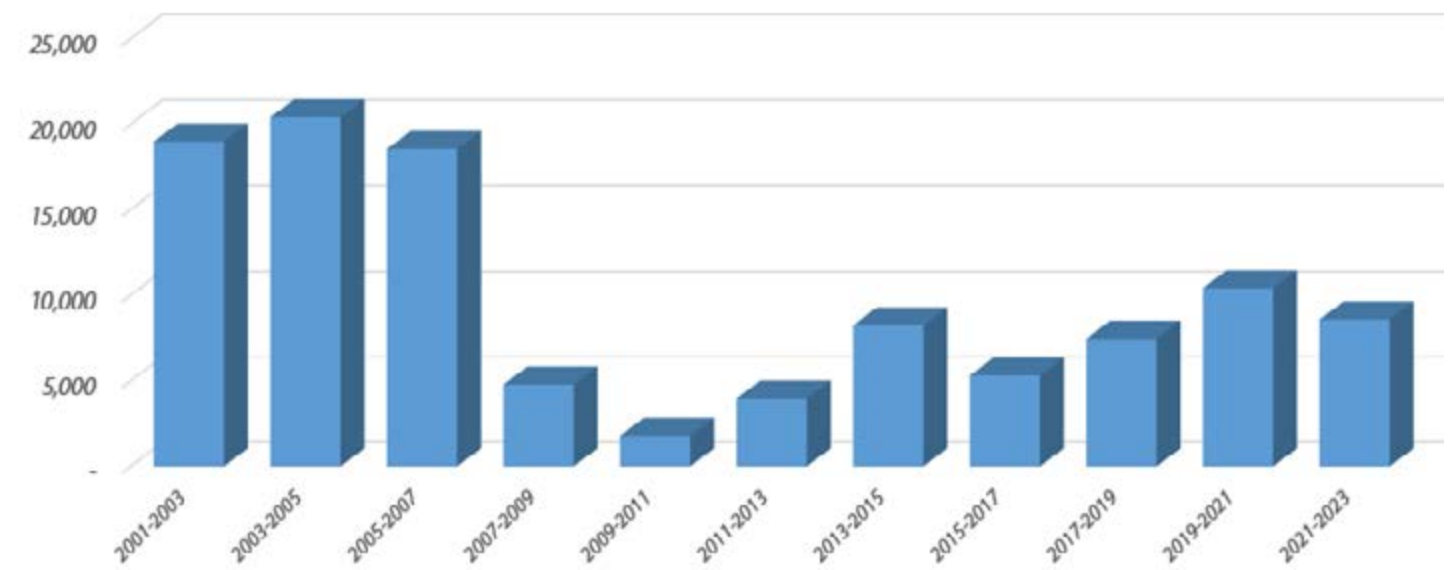
SECTION **6**

land
disturbance
report

ACRES OF DISTURBANCE 2021-2023 Biennium*

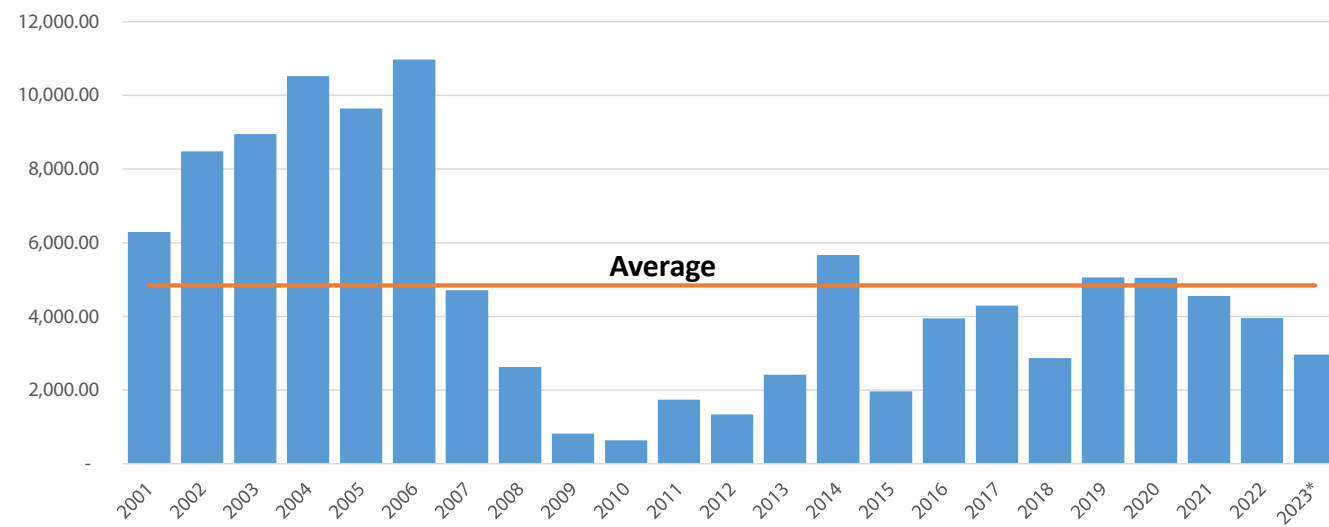


ACRES OF DISTURBANCE By Biennium



*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 exempt from mitigation fee payment is 15,000 acres.

ACRES OF DISTURBANCE by 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.





SECTION **7**

project
index
tables

SORTED BY CONTRACTOR

Contractor	Contract Title	Project Number	Amount	Funding Source
N/A - Acquisition	Cedar Development Ct Land Acquisition (35.92 Acres)	917B	\$ -	S10 11-13
N/A - Acquisition	Costa Land Acquisition	917Q	\$ -	S10 11-13
N/A - Acquisition	Cavada Land Aquisition	917R	\$ -	S10 11-13
Alta Sciences & Engineering, Inc.	Connectivity Movement Simulation	1580K	\$ 84,100.00	SNPLMA R16
Alta Sciences & Engineering, Inc.	Science Advisor Panel	1920A	\$ 550,000.00	S10 19-21
Alta Sciences & Engineering, Inc.	Science Advisor Panel	2020C	\$ 551,236.00	S10 21-23
American Conservation Experience	MR Habitat Restoration Implementation	1570D	\$ 117,804.03	SNPLMA R16
American Express	Reserves Maintenance Materials & Tools FY22	2005A	\$ 2,400.00	S10 21-23
American Express	Reserves Maint. Materials & Tools FY23	2005F	\$ 2,382.10	S10 21-23
Austin Peay State University	Gila Monsters Spatial Ecology and Habitat	1997B	\$ 193,900.00	S10 19-21
B & H Photo	Acquisition of Camera	1935C	\$ 2,914.20	S10 19-21
BEC Environmental, Inc.	Pocket Mouse Landscape Genomics	2095D	\$ 22,670.00	S10 21-23
BEC Environmental, Inc.	Desert Pocket Mouse Surveys	1782A	\$ 106,310.00	SNPLMA R17
Bio Logical, LLC	Desert Tortoise Occupancy	2020D	\$ 192,840.50	S10 21-23
Bio Logical, LLC	DT Occupancy on the BCCE	1920B	\$ 191,693.00	S10 19-21
Bluetrack, Inc	Acquisition of Tortoise Stress Balls	1915J	\$ 6,850.00	S10 19-21
Boulder City Conservation Easement Law Enforcement	BCCE Law Enforcement	1905G	\$ 98,177.51	S10 19-21
Boulder City Conservation Easement Law Enforcement	BCCE Law Enforcement	2005C	\$ 118,528.52	S10 21-23
CDW Government, Inc	Acquisition of External Hard Drive	2000K	\$ -	S10 21-23
CDW Government, Inc	Acquisition of Headsets	2000L	\$ 100.40	S10 21-23
CDW Government, Inc	Acquisition of Cellphone Accessories	2000M	\$ 75.46	S10 21-23
CDW Government, Inc	Acquisition of Camera Supplies	1935B	\$ 338.40	S10 19-21
Cintas First Aid & Safety	First Aid & Safety Supplies for DCP FY22	2000A	\$ 200.00	S10 21-23
City of Boulder City	Law Enforcement for the BCCE	1905B	\$ 216,477.99	S10 19-21
City of Boulder City	BCCE Law Enforcement	2005B	\$ 23,794.25	S10 21-23
Clarivate	Acquisition of EndNote License	2000P	\$ 200.00	S10 21-23
Cogan Technology Inc	Vegetation Map for CC (w/1965A)	2092A	\$ 393,983.96	S10 21-23
Cogan Technology Inc	Vegetation Map for Clark County (w/1460G)	1965A	\$ 400,000.00	S10 19-21
Dell Marketing LP	Acquisition of Laptops	2000J	\$ 6,595.89	S10 21-23
Dell Marketing LP	Acquisition of Laptop Bags	2000U	\$ 390.00	S10 21-23
DIGICERT	Acquisition of EV SSL License	2000G	\$ 344.00	S10 21-23
Eagle View Contractors, Inc.	Riparian Reserves Maintenance	1720F	\$ 100,000.00	S10 17-19
Eagle View Contractors, Inc.	Riparian Reserves Maintenance	1910E	\$ 100,000.00	S10 19-21
Ebbin Moser & Skaggs, LLP	Legal Services for DCP	1970C	\$ 47,631.56	S10 19-21
Ecocentric, LLC	DT Health Assess and Pickup Svc Support	803F	\$ 99,390.00	S10 09-11
Ecocentric, LLC	DT Telemetry around Culverts	1580E	\$ 170,770.00	SNPLMA R16
Ecocentric, LLC	DT Connectivity Across Roadways (w/1920)	1580B	\$ 429,986.67	SNPLMA R16
Ecocentric, LLC	DT Connectivity Across Roadways (w/1580)	1920F	\$ 73,630.33	S10 19-21
EcoCulture	Evaluation of Screwbean Mesquite Ecosystem	2070A	\$ 100,000.00	S10 21-23
Economic & Planning Systems, Inc.	Funding Analysis of the MSHCP Amend (w/2095)	1460J	\$ 5,000.00	S10 13-15
Economic & Planning Systems, Inc.	Funding Analysis of the MSHCP Amend (w1460)	2095E	\$ 139,000.00	S10 21-23
Facque Consulting LLC	Water Rights Consulting	1910F	\$ 25,212.00	S10 19-21
Farr West Engineering	Water Rights Consulting (w/1440D & 1520Q)	1720E	\$ 15,423.02	S10 17-19
Farr West Engineering	Water Rights Consulting (w/1440D & 1720E)	1520Q	\$ 926.98	S10 15-17
Farr West Engineering	Water Rights Consulting (w/1520Q & 1720E)	1440D	\$ 8,600.00	S10 13-15
First Choice Tree Service Inc	MR Tree Removal	1910D	\$ 52,095.00	S10 19-21
Get Outdoors Nevada	Mojave Max Education Program (w/1915)	1715AM	\$ 9,850.00	S10 17-19
Get Outdoors Nevada	Mojave Max Education Program (w1715)	1915H	\$ 89,650.00	S10 19-21
Gothic Landscape, Inc	BCCE Maintenance Project	1710G	\$ 19,284.25	S10 17-19
Gothic Landscape, Inc	BCCE Maintenance	2005E	\$ 50,000.00	S10 21-23
Gothic Landscape, Inc	BCCE Maintenance (w/1510F & 1905C)	1710D	\$ 22,756.81	S10 17-19
Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1510F)	1905C	\$ 1,742.82	S10 19-21

SORTED BY CONTRACTOR

Contractor	Contract Title	Project Number	Amount	Funding Source
Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1905C)	1510F	\$ 21,500.37	S10 15-17
Gothic Landscape, Inc	Restorations on the BCCE (w/1421 & 1745)	809P	\$ 174,553.13	S10 09-11
Gothic Landscape, Inc	Restorations on the BCCE (w/809 & 1745)	1421C	\$ 11,358.41	S10 13-15
Gothic Landscape, Inc	Restoration at the BCCE (W/809 & 1421)	1745A	\$ 151,031.00	S10 17-19
Granite Seed and Erosion Control	Seed Acquisition	1750H	\$ 43.75	S10 17-19
Graphic Imaging Services, Inc.	Fujitsu Scanner Maintenance	2000F	\$ 2,022.00	S10 21-23
Great Basin Institute	BCCE DT Telemetry and Health Assessments	1455D	\$ 45,440.00	S10 13-15
Great Basin Institute	BCCE DT Telemetry and Health Assessments	1930A	\$ 252,400.46	S10 19-21
Great Basin Institute	Assess, Inv, and Mon of Habitat on the BCCE	2020H	\$ 12,560.00	S10 21-23
Great Basin Institute	Reptile Monitoring and Surveys	2040B	\$ 48,800.00	S10 21-23
Great Basin Institute	Gila Monster Seasonal Support	2040C	\$ 23,200.00	S10 21-23
Great Basin Institute	DT Data Management	2020G	\$ 20,289.44	S10 21-23
Great Basin Institute	Desert Tortoise Range-Wide Monitoring	1541B	\$ 1,022,850.16	SNPLMA R15
Great Basin Institute	Eldorado Valley Post Translocation Surveys	1741A	\$ 405,565.00	SNPLMA R17
Great Basin Institute	BCCE DT Telemetry & Health Assess (w/1740C & 1930B)	2030A	\$ 251,561.66	S10 21-23
Great Basin Institute	BCCE DT Telemetry & Health Assess (w/1740C & 2030A)	1930B	\$ 45,800.54	S10 19-21
Great Basin Institute	BCCE DT Telemetry & Health Assess (w/1930B & 2030A)	1740C	\$ 44,394.62	S10 17-19
Great Basin Institute	DT Range Wide Monitoring (w/1920, 1925, 2020)	2025A	\$ 388,136.00	S10 21-23
Great Basin Institute	DT Range Wide Monitoring (w/1925, 2020, 2025)	1920G	\$ 74,872.03	S10 19-21
Great Basin Institute	DT Range Wide Monitoring (w/1920, 2020, 2025)	1925B	\$ 23,276.35	S10 19-21
Helena Chemical Company	Deterrent Supply Acquisition	1750G	\$ 760.00	S10 17-19
Heron Ecological, LLC	Connectivity Data Analysis	1580J	\$ 93,940.00	SNPLMA R16
iButtonLink LLC	Thermal Refugia Datalogger Acquisition	2060A	\$ 5,673.26	S10 21-23
Inform Evaluation & Research	Mojave Max Education Prg Eval (w/1715)	1915F	\$ 18,264.61	S10 19-21
Inform Evaluation & Research	Mojave Max Education Prg Eval (w/1915)	1715AL	\$ 27,878.39	S10 17-19
Inspire By Design	Acquisition of Neck Gaitors	1915K	\$ 775.00	S10 19-21
Inspire By Design	Uniform Apparel FY22	2000B	\$ 376.99	S10 21-23
Inspire By Design	Uniform Apparel FY23	2000Q	\$ 478.35	S10 21-23
Ironwood Consulting, Inc.	Rare Plant Surveys	1755A	\$ 268,000.00	S10 17-19
Ironwood Consulting, Inc.	Rare Plant and Milkweed Surveys	1942A	\$ 250,000.00	S10 19-21
Ironwood Consulting, Inc.	Blue Diamond Cholla Surveys	2080A	\$ 360,000.00	S10 21-23
JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	804N	\$ 57,016.05	S10 09-11
JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	1975A	\$ 306,020.00	S10 19-21
JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	1780A	\$ 796,066.55	S10 17-19
JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	1725A	\$ 45,000.00	S10 17-19
JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	1525C	\$ 175,887.40	S10 15-17
KVO Industries	BCCE Kiosk Signage	1710F	\$ 12,915.00	S10 17-19
Las Vegas Character Parties	Mojave Max Mascot Appearances	1915L	\$ 20,000.00	S10 19-21
MYS Project and Brand Management	2019-2021 BPR Graphic Design and Editing	2000H	\$ 3,700.00	S10 21-23
National Park Service (NPS)	BCCE Weed Survey	1710B	\$ 127,000.00	S10 17-19
National Park Service (NPS)	Riparian Reserves Plant Propagation	1750J	\$ 27,409.50	S10 17-19
National Park Service (NPS)	BCCE Weed Survey	2005D	\$ 132,000.00	S10 21-23
National Park Service (NPS)	Riparian Reserves Veg Mgmt (w/1720 & 1910)	2010A	\$ 11,635.91	S10 21-23
National Park Service (NPS)	Riparian Reserves Vegetation Management	1910C	\$ 216,652.59	S10 19-21
National Park Service (NPS)	Riparian Reserves Veg Mgmt (w/1910 & 2010)	1720H	\$ 11,635.91	S10 17-19
Natural Channel Design, Inc	Muddy River Habitat Restoration	1570C	\$ 590,207.00	SNPLMA R16
Natural Resource Conservation LLC	Academic Consultant for DT Rest Workshop	1760A	\$ 60,000.00	SNPLMA R17
Nevada Division of Natural Heritage	Niles Herbarium Data	2090A	\$ 60,000.00	S10 21-23
Newfields	Culvert Inspection for Tortoise Usage	1580F	\$ 62,990.00	SNPLMA R16
NV Energy	Muddy River Easements Review	1750L	\$ 10,000.00	S10 17-19
Opportunity Village	Document Shredding and Container FY22	2000C	\$ 300.00	S10 21-23
Opportunity Village	Document Shredding and Container FY23	2000R	\$ 300.00	S10 21-23
Outside Las Vegas Foundation	Mojave Max Education Program	1915A	\$ 93,360.00	S10 19-21
Paper Zombies	Mojave Max Program Materials	1915G	\$ 1,760.50	S10 19-21

SORTED BY CONTRACTOR

Contractor	Contract Title	Project Number	Amount	Funding Source
Precision Business Technologies, Inc.	Case360 Upgrade	2000V	\$ 21,600.00	S10 21-23
Recon Environmental, Inc	Connectivity Management Plan	1580G	\$ 81,549.00	SNPLMA R16
Signarama	Acquisition of Trespassing Signs	1750M	\$ 1,650.00	S10 17-19
SkyWatch Space Applications Inc	Workzone 6 Imagery	2095B	\$ 1,350.00	S10 21-23
Southwest Decisions Resources, Inc	East Moj Cnsrv Collaborative Facilitation II	2020B	\$ 5,000.00	S10 21-23
Southwest Decisions Resources, Inc	Restoration Workshop Facilitation	1760B	\$ 50,000.00	SNPLMA R17
Staples	Office Supplies FY22	2000E	\$ 983.55	S10 21-23
Staples	Office Supplies FY23	2000T	\$ 1,266.05	S10 21-23
SWCA Environmental Consultants	Archeological Resource Evals on Rip Rsv Parcels	1750D	\$ 50,000.00	S10 17-19
SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1750F	\$ 52,271.00	S10 17-19
SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1750K	\$ 99,908.00	S10 17-19
SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1910B	\$ 68,040.00	S10 19-21
SWCA Environmental Consultants	Bat Surveys	2095C	\$ 91,162.00	S10 21-23
SWCA Environmental Consultants	Culvert Image Inspection	1580H	\$ 50,000.00	SNPLMA R16
SWCA Environmental Consultants	Avian Surveys	1782B	\$ 216,087.00	SNPLMA R17
SWCA Environmental Consultants	Parasitism Control and Eval (w/1750&1935)	1935A	\$ 281,065.42	S10 19-21
SWCA Environmental Consultants	Parasitism Control and Eval (w/1750&1935)	2060B	\$ 10,458.00	S10 21-23
SWCA Environmental Consultants	Parasitism Control and Eval (w/1935 & 2060)	1750N	\$ 88,595.58	S10 17-19
SWCA Environmental Consultants	Avian Surveys (w/1730)	1920E	\$ 1,172.24	S10 19-21
SWCA Environmental Consultants	Avian Surveys (w/1920)	1730P	\$ 87,399.76	S10 17-19
SWCA Environmental Consultants	Avian Surveys	1920D	\$ 96,658.00	S10 19-21
SWCA Environmental Consultants	Avian Surveys	2020E	\$ 211,242.00	S10 21-23
Titely Scientific, LLC	Acquisition of Bat Detector	2020F	\$ 675.00	S10 21-23
Tortoise Group	Road Warriors DT Mortality & Fence Survey	2042A	\$ 70,000.00	S10 21-23
Trafx Research, LTD	Acquisition of Traffic Monitors	2005G	\$ 500.00	S10 21-23
Uline	Acquisition of Battery Recycling Kit	2000N	\$ 171.08	S10 21-23
University of Nevada (UNLV) - Board of Regents	Riparian Plant-Pollinator Ecology Phase 2	2065A	\$ 72,105.00	S10 21-23
University of Nevada LV (UNLV) - School of Life Sci	Reevaluating Desert Upland Habitat Restoration	1760C	\$ 273,000.00	SNPLMA R17
University of Nevada Reno (UNR)	Model Updates 2023	1782C	\$ 79,128.00	SNPLMA R17
University of Nevada Reno (UNR) - BRRC	Desert Tortoise Nesting Study on the BCCE	1985A	\$ 92,729.74	S10 19-21
University of Nevada Reno (UNR) - BRRC	Gila Monster Habitat Modeling	1997C	\$ 56,698.62	S10 19-21
University of Nevada Reno (UNR) - BRRC	DT Connectivity Solutions Modeling	1580C	\$ 348,455.90	SNPLMA R16
US Dept of Agriculture (USDA) -Agri Rsrch Service	Mojave Poppy Bee Surveys	2085A	\$ 100,000.00	S10 21-23
US Fish & Wildlife Service (USFWS) - Las Vegas	DT Monitoring Data Mgmt Year 2-5	1920C	\$ 76,714.00	S10 19-21
US Geological Survey (USGS) -Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/809)	1990A	\$ 137,943.00	S10 19-21
US Geological Survey (USGS) -Western Eco Rsrch Ctr	Assess Genetic Diversity of Gila Monster	1997A	\$ 123,000.00	S10 19-21
US Geological Survey (USGS) -Western Eco Rsrch Ctr	Predator - Prey Dynamics Phase 2	2045A	\$ 769,842.00	S10 21-23
US Geological Survey (USGS) -Western Eco Rsrch Ctr	Rare Plant Propagation Research Phase II	2075A	\$ 628,573.00	S10 21-23
US Geological Survey (USGS) -Western Eco Rsrch Ctr	Desert Tortoise Predator-Prey Dynamics	1795A	\$ 576,503.35	S10 17-19
US Geological Survey (USGS) -Western Eco Rsrch Ctr	DT Predator-Prey Dynamics (w/1795)	1987A	\$ 491,152.20	S10 19-21
Valbridge Property Advisors	Appraisal Rpt 039-30-201-013 & 039-30-301-009	917RA	\$ 3,500.00	S10 11-13

SORTED BY CONTRACTOR

Contractor	Contract Title	Project Number	Amount	Funding Source
VENTAJAS LLC	MSHCP Amendment Reserve System Research	2095A	\$ 42,900.00	S10 21-23
WE MARKET FOR HUMANS	MSHCP Education Video	1715AK	\$ 49,500.00	S10 17-19
WRA Environmental Consultants	HCP Consultant for the MSHCP Amend w/901	1460A	\$ 600,000.00	S10 13-15
WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1014K	\$ 99,830.12	S10 07-09
WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1460H	\$ 100,761.74	S10 13-15
WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1970B	\$ 199,408.14	S10 19-21

SORTED BY FUNDING SOURCE

Funding Source	Contractor	Contract Title	Project Number	Amount
S10 07-09	WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1014K	\$ 99,830.12
S10 09-11	Ecocentric, LLC	DT Health Assess and Pickup Svc Support	803F	\$ 99,390.00
S10 09-11	Gothic Landscape, Inc	Restorations on the BCCE (w/1421 & 1745)	809P	\$ 174,553.13
S10 09-11	JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	804N	\$ 57,016.05
S10 11-13	N/A - Acquisition	Cedar Development Ct Land Acquisition (35.92 Acres)	917B	\$ -
S10 11-13	N/A - Acquisition	Costa Land Acquisition	917Q	\$ -
S10 11-13	N/A - Acquisition	Cavada Land Aquisition	917R	\$ -
S10 11-13	Valbridge Property Advisors	Appraisal Rpt 039-30-201-013 & 039-30-301-009	917RA	\$ 3,500.00
S10 13-15	Economic & Planning Systems, Inc.	Funding Analysis of the MSHCP Amend (w/2095)	1460J	\$ 5,000.00
S10 13-15	Farr West Engineering	Water Rights Consulting (w/1520Q & 1720E)	1440D	\$ 8,600.00
S10 13-15	Gothic Landscape, Inc	Restorations on the BCCE (w/809 & 1745)	1421C	\$ 11,358.41
S10 13-15	Great Basin Institute	BCCE DT Telemetry and Health Assessments	1455D	\$ 45,440.00
S10 13-15	WRA Environmental Consultants	HCP Consultant for the MSHCP Amend w/901	1460A	\$ 600,000.00
S10 13-15	WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1460H	\$ 100,761.74
S10 15-17	Farr West Engineering	Water Rights Consulting (w/1440D & 1720E)	1520Q	\$ 926.98
S10 15-17	Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1905C	1510F	\$ 21,500.37
S10 15-17	JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	1525C	\$ 175,887.40
S10 17-19	Eagle View Contractors, Inc.	Riparian Reserves Maintenance	1720F	\$ 100,000.00
S10 17-19	Farr West Engineering	Water Rights Consulting (w/1440D & 1520Q)	1720E	\$ 15,423.02
S10 17-19	Get Outdoors Nevada	Mojave Max Education Program (w/1915)	1715AM	\$ 9,850.00
S10 17-19	Gothic Landscape, Inc	BCCE Maintenance Project	1710G	\$ 19,284.25
S10 17-19	Gothic Landscape, Inc	BCCE Maintenance (w/1510F & 1905C)	1710D	\$ 22,756.81
S10 17-19	Gothic Landscape, Inc	Restoration at the BCCE (W/809 & 1421)	1745A	\$ 151,031.00
S10 17-19	Granite Seed and Erosion Control	Seed Acquisition	1750H	\$ 43.75
S10 17-19	Great Basin Institute	BCCE DT Telemetry & Health Assess (w/1930B & 2030A)	1740C	\$ 44,394.62
S10 17-19	Helena Chemical Company	Deterrent Supply Acquisition	1750G	\$ 760.00
S10 17-19	Inform Evaluation & Research	Mojave Max Education Prg Eval (w/1915)	1715AL	\$ 27,878.39
S10 17-19	Ironwood Consulting, Inc.	Rare Plant Surveys	1755A	\$ 268,000.00
S10 17-19	JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	1780A	\$ 796,066.55
S10 17-19	JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	1725A	\$ 45,000.00
S10 17-19	KVO Industries	BCCE Kiosk Signage	1710F	\$ 12,915.00
S10 17-19	National Park Service (NPS)	BCCE Weed Survey	1710B	\$ 127,000.00
S10 17-19	National Park Service (NPS)	Riparian Reserves Plant Propagation	1750J	\$ 27,409.50
S10 17-19	National Park Service (NPS)	Riparian Reserves Veg Mgmt (w/1910 & 2010)	1720H	\$ 11,635.91
S10 17-19	NV Energy	Muddy River Easements Review	1750L	\$ 10,000.00
S10 17-19	Signarama	Acquisition of Trespassing Signs	1750M	\$ 1,650.00
S10 17-19	SWCA Environmental Consultants	Archeological Resource Evals on Rip Rsv Parcels	1750D	\$ 50,000.00
S10 17-19	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1750F	\$ 52,271.00
S10 17-19	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1750K	\$ 99,908.00
S10 17-19	SWCA Environmental Consultants	Parasitism Control and Eval (w/1935 & 2060)	1750N	\$ 88,595.58
S10 17-19	SWCA Environmental Consultants	Avian Surveys (w/1920)	1730P	\$ 87,399.76
S10 17-19	US Geological Survey (USGS) -Western Eco Rsrch Ctr	Desert Tortoise Predator-Prey Dynamics	1795A	\$ 576,503.35
S10 17-19	WE MARKET FOR HUMANS	MSHCP Education Video	1715AK	\$ 49,500.00
S10 19-21	Alta Sciences & Engineering, Inc.	Science Advisor Panel	1920A	\$ 550,000.00
S10 19-21	Austin Peay State University	Gila Monsters Spatial Ecology and Habitat	1997B	\$ 193,900.00
S10 19-21	B & H Photo	Acquisition of Camera	1935C	\$ 2,914.20
S10 19-21	Bio Logical, LLC	DT Occupancy on the BCCE	1920B	\$ 191,693.00
S10 19-21	Bluetrack, Inc	Acquisition of Tortoise Stress Balls	1915J	\$ 6,850.00
S10 19-21	Boulder City Conservation Easement Law Enforcement	BCCE Law Enforcement	1905G	\$ 98,177.51
S10 19-21	CDW Government, Inc	Acquisition of Camera Supplies	1935B	\$ 338.40
S10 19-21	City of Boulder City	Law Enforcement for the BCCE	1905B	\$ 216,477.99
S10 19-21	Cogan Technology Inc	Vegetation Map for Clark County (w/1460G)	1965A	\$ 400,000.00
S10 19-21	Eagle View Contractors, Inc.	Riparian Reserves Maintenance	1910E	\$ 100,000.00
S10 19-21	Ebbin Moser & Skaggs, LLP	Legal Services for DCP	1970C	\$ 47,631.56
S10 19-21	Ecocentric, LLC	DT Connectivity Across Roadways (w/1580)	1920F	\$ 73,630.33
S10 19-21	Facque Consulting LLC	Water Rights Consulting	1910F	\$ 25,212.00
S10 19-21	First Choice Tree Service Inc	MR Tree Removal	1910D	\$ 52,095.00

SORTED BY FUNDING SOURCE

Funding Source	Contractor	Contract Title	Project Number	Amount
S10 19-21	Ironwood Consulting, Inc.	Rare Plant and Milkweed Surveys	1942A	\$ 250,000.00
S10 19-21	JNJ Engineering Construction Inc	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	1975A	\$ 306,020.00
S10 19-21	Las Vegas Character Parties	Mojave Max Mascot Appearances	1915L	\$ 20,000.00
S10 19-21	National Park Service (NPS)	Riparian Reserves Vegetation Management	1910C	\$ 216,652.59
S10 19-21	Outside Las Vegas Foundation	Mojave Max Education Program	1915A	\$ 93,360.00
S10 19-21	Paper Zombies	Mojave Max Program Materials	1915G	\$ 1,760.50
S10 19-21	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	1910B	\$ 68,040.00
S10 19-21	SWCA Environmental Consultants	Parasitism Control and Eval (w/1750&1935)	1935A	\$ 281,065.42
S10 19-21	SWCA Environmental Consultants	Avian Surveys (w/1730)	1920E	\$ 1,172.24
S10 19-21	SWCA Environmental Consultants	Avian Surveys	1920D	\$ 96,658.00
S10 19-21	University of Nevada Reno (UNR) - BRRC	Desert Tortoise Nesting Study on the BCCE	1985A	\$ 92,729.74
S10 19-21	University of Nevada Reno (UNR) - BRRC	Gila Monster Habitat Modeling	1997C	\$ 56,698.62
S10 19-21	US Fish & Wildlife Service (USFWS) -Las Vegas	DT Monitoring Data Mgmt Year 2-5	1920C	\$ 76,714.00
S10 19-21	US Geological Survey (USGS) -Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/809)	1990A	\$ 137,943.00
S10 19-21	US Geological Survey (USGS) -Western Eco Rsrch Ctr	Assess Genetic Diversity of Gila Monster	1997A	\$ 123,000.00
S10 19-21	US Geological Survey (USGS) -Western Eco Rsrch Ctr	DT Predator-Prey Dynamics (w/1795)	1987A	\$ 491,152.20
S10 19-21	WRA Environmental Consultants	HCP Consultant for the MSHCP Amendment	1970B	\$ 199,408.14
S10 21-23	Alta Sciences & Engineering, Inc.	Science Advisor Panel	2020C	\$ 551,236.00
S10 21-23	American Express	Reserves Maintenance Materials & Tools FY22	2005A	\$ 2,400.00
S10 21-23	American Express	Reserves Maint. Materials & Tools FY23	2005F	\$ 2,382.10
S10 21-23	BEC Environmental, Inc.	Pocket Mouse Landscape Genomics	2095D	\$ 22,670.00
S10 21-23	Bio Logical, LLC	Desert Tortoise Occupancy	2020D	\$ 192,840.50
S10 21-23	Boulder City Conservation Easement Law Enforcement	BCCE Law Enforcement	2005C	\$ 118,528.52
S10 21-23	CDW Government, Inc	Acquisition of External Hard Drive	2000K	\$ -
S10 21-23	CDW Government, Inc	Acquisition of Headsets	2000L	\$ 100.40
S10 21-23	CDW Government, Inc	Acquisition of Cellphone Accessories	2000M	\$ 75.46
S10 21-23	Cintas First Aid & Safety	First Aid & Safety Supplies for DCP FY22	2000A	\$ 200.00
S10 21-23	City of Boulder City	BCCE Law Enforcement	2005B	\$ 23,794.25
S10 21-23	Clarivate	Acquisition of EndNote License	2000P	\$ 200.00
S10 21-23	Cogan Technology Inc	Vegetation Map for CC (w/1965A)	2092A	\$ 393,983.96
S10 21-23	Dell Marketing LP	Acquisition of Laptops	2000J	\$ 6,595.89
S10 21-23	Dell Marketing LP	Acquisition of Laptop Bags	2000U	\$ 390.00
S10 21-23	DIGICERT	Acquisition of EV SSL License	2000G	\$ 344.00
S10 21-23	EcoCulture	Evaluation of Screwbean Mesquite Ecosystem	2070A	\$ 100,000.00
S10 21-23	Economic & Planning Systems, Inc.	Funding Analysis of the MSHCP Amend (w1460)	2095E	\$ 139,000.00
S10 21-23	Gothic Landscape, Inc	BCCE Maintenance	2005E	\$ 50,000.00
S10 21-23	Graphic Imaging Services, Inc.	Fujitsu Scanner Maintenance	2000F	\$ 2,022.00
S10 21-23	Great Basin Institute	Assess, Inv, and Mon of Habitat on the BCCE	2020H	\$ 12,560.00
S10 21-23	Great Basin Institute	Reptile Monitoring and Surveys	2040B	\$ 48,800.00
S10 21-23	Great Basin Institute	Gila Monster Seasonal Support	2040C	\$ 23,200.00
S10 21-23	Great Basin Institute	DT Data Management	2020G	\$ 20,289.44
S10 21-23	Great Basin Institute	BCCE DT Telemetry & Health Assess (w/1740C & 1930B)	2030A	\$ 251,561.66
S10 21-23	Great Basin Institute	DT Range Wide Monitoring (w/1920, 1925, 2020)	2025A	\$ 388,136.00
S10 21-23	IButtonLink LLC	Thermal Refugia Datalogger Acquisition	2060A	\$ 5,673.26
S10 21-23	Inspire By Design	Uniform Apparel FY22	2000B	\$ 376.99
S10 21-23	Inspire By Design	Uniform Apparel FY23	2000Q	\$ 478.35
S10 21-23	Ironwood Consulting, Inc.	Blue Diamond Cholla Surveys	2080A	\$ 360,000.00
S10 21-23	MYS Project and Brand Management	2019-2021 BPR Graphic Design and Editing	2000H	\$ 3,700.00
S10 21-23	National Park Service (NPS)	BCCE Weed Survey	2005D	\$ 132,000.00
S10 21-23	National Park Service (NPS)	Riparian Reserves Veg Mgmt (w/1720 & 1910)	2010A	\$ 11,635.91
S10 21-23	Nevada Division of Natural Heritage	Niles Herbarium Data	2090A	\$ 60,000.00
S10 21-23	Opportunity Village	Document Shredding and Container FY22	2000C	\$ 300.00

SORTED BY FUNDING SOURCE

Funding Source	Contractor	Contract Title	Project Number	Amount
S10 21-23	SWCA Environmental Consultants	Avian Surveys	2020E	\$ 211,242.00
S10 21-23	Titley Scientific, LLC	Acquisition of Bat Detector	2020F	\$ 675.00
S10 21-23	Tortoise Group	Road Warriors DT Mortality & Fence Survey	2042A	\$ 70,000.00
S10 21-23	Trafx Research, LTD	Acquisition of Traffic Monitors	2005G	\$ 500.00
S10 21-23	Uline	Acquisition of Battery Recycling Kit	2000N	\$ 171.08
S10 21-23	University of Nevada (UNLV) - Board of Regents	Riparian Plant-Pollinator Ecology Phase 2	2065A	\$ 72,105.00
S10 21-23	US Dept of Agriculture (USDA) -Agri Rsrch Service	Mojave Poppy Bee Surveys	2085A	\$ 100,000.00
S10 21-23	US Geological Survey (USGS) -Western Eco Rsrch Ctr	Predator - Prey Dynamics Phase 2	2045A	\$ 769,842.00
S10 21-23	US Geological Survey (USGS) -Western Eco Rsrch Ctr	Rare Plant Propagation Research Phase II	2075A	\$ 628,573.00
S10 21-23	VENTAJAS LLC	MSHCP Amendment Reserve System Research	2095A	\$ 42,900.00
SNPLMA R15	Great Basin Institute	Desert Tortoise Range-Wide Monitoring	1541B	\$ 1,022,850.16
SNPLMA R16	Alta Sciences & Engineering, Inc.	Connectivity Movement Simulation	1580K	\$ 84,100.00
SNPLMA R16	American Conservation Experience	MR Habitat Restoration Implementation	1570D	\$ 117,804.03
SNPLMA R16	Ecocentric, LLC	DT Telemetry around Culverts	1580E	\$ 170,770.00
SNPLMA R16	Ecocentric, LLC	DT Connectivity Across Roadways (w/1920)	1580B	\$ 429,986.67
SNPLMA R16	Heron Ecological, LLC	Connectivity Data Analysis	1580J	\$ 93,940.00
SNPLMA R16	Natural Channel Design, Inc	Muddy River Habitat Restoration	1570C	\$ 590,207.00
SNPLMA R16	Newfields	Culvert Inspection for Tortoise Usage	1580F	\$ 62,990.00
SNPLMA R16	Recon Environmental, Inc	Connectivity Management Plan	1580G	\$ 81,549.00
SNPLMA R16	SWCA Environmental Consultants	Culvert Image Inspection	1580H	\$ 50,000.00
SNPLMA R16	University of Nevada Reno (UNR) - BRRC	DT Connectivity Solutions Modeling	1580C	\$ 348,455.90
SNPLMA R17	BEC Environmental, Inc.	Desert Pocket Mouse Surveys	1782A	\$ 106,310.00
SNPLMA R17	Great Basin Institute	Eldorado Valley Post Translocation Surveys	1741A	\$ 405,565.00
SNPLMA R17	Natural Resource Conservation LLC	Academic Consultant for DT Rest Workshop	1760A	\$ 60,000.00
SNPLMA R17	Southwest Decisions Resources, Inc	Restoration Workshop Facilitation	1760B	\$ 50,000.00
SNPLMA R17	SWCA Environmental Consultants	Avian Surveys	1782B	\$ 216,087.00
SNPLMA R17	University of Nevada LV (UNLV) -School of Life Sci	Reevaluating Desert Upland Habitat Restoration	1760C	\$ 273,000.00
SNPLMA R17	University of Nevada Reno (UNR)	Model Updates 2023	1782C	\$ 79,128.00





desert conservation
PROGRAM



togetherforbetter

2021-2023