



desert conservation
PROGRAM

2019-2021
**BIENNIUM
PROGRESS
REPORT**

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desert conservation PROGRAM







**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, 2019 through June 30, 2021. 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 (USFWS). 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 (USFWS).

¹ On 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.

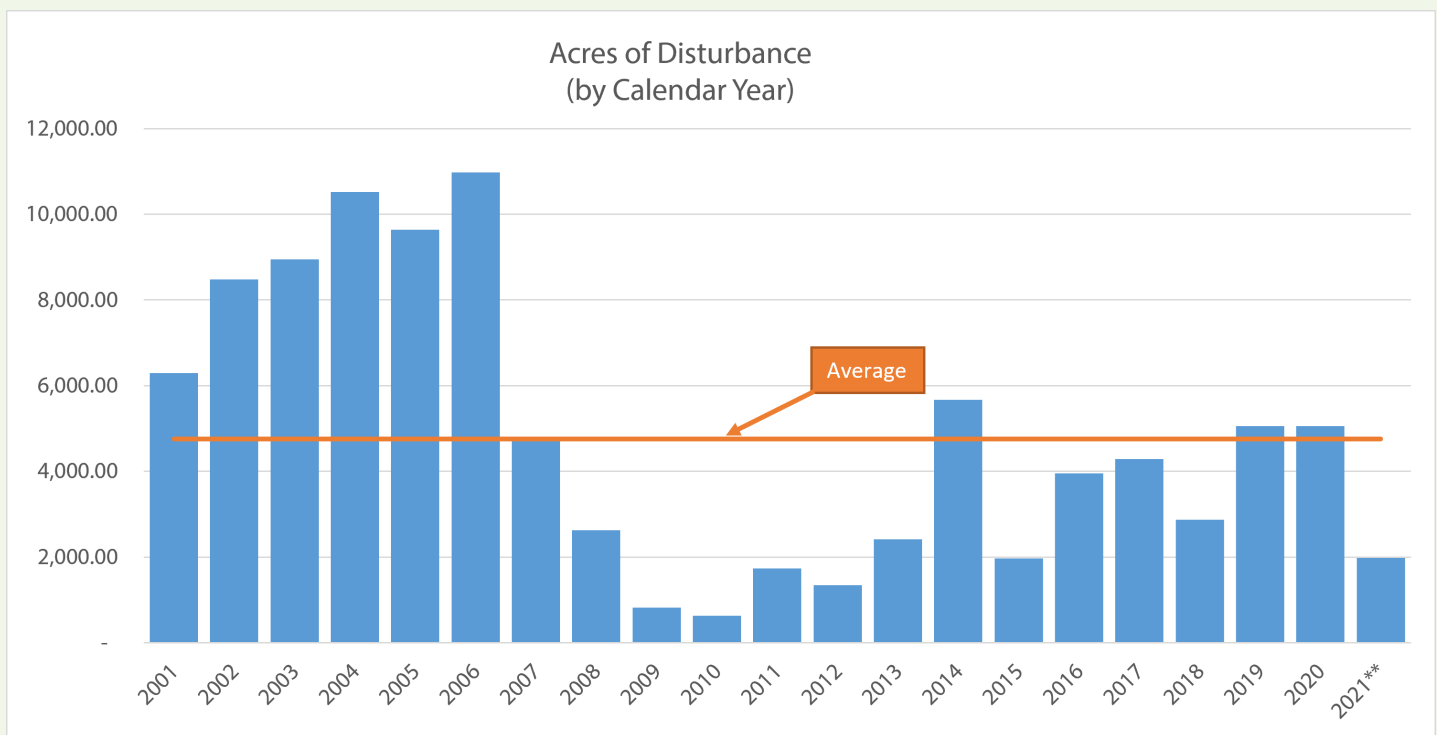


LAND DISTURBANCE AND REVENUES GENERATED

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.

In summary, 10,420.21 acres of disturbance was reported during the 2019-2021 biennium. The Desert Conservation Program collected \$5,730,894.50 in Section 10 fees during this period and \$3,712,173.52 was collected from other sources (SNPLMA, interest, or miscellaneous fees). A detailed summary of revenues earned for the 2019-2021 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 exempt from mitigation fee payment is 15,000 acres.

**Partial year data.



PROJECTS AND EXPENDITURES

During the 2019-2021 biennium Clark County:

- Managed 57 internal program budgets (i.e., “master projects”);
- Administered a total of 88 agreements or contracts with 49 different agencies and contractors to implement “master projects”; and
- Administered 55 purchase orders with 31 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 2019-2021 biennium are included, if work was conducted or funds expended within the 2019-2021 biennium timeframe.

PROJECT REPORTING PROCESS

Agencies and contractors receiving funding for the 2019-2021 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:

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 USFWS.

To obtain further information about the Clark County Desert Conservation Program, please write to Clark County Department of Environment and Sustainability, 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/index.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, 2019 through June 30, 2021). 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
2. **Boulder City Conservation Easement (BCCE)**
 - BCCE Project 1: BCCE Management
 - BCCE Project 2: BCCE Law Enforcement
 - BCCE Project 3: 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: Virgin River Restoration
 - Riparian Project 5: Avian Nest Monitoring
 - Riparian Project 6: Virgin River Integrated Watershed Plan
 - Riparian Project 7: Management of Water Rights



4. **Public Information, Education, and Outreach (PIE)**
 - PIE Project 1: Mojave Max Education Program
 - PIE Project 2: General Outreach
 - PIE Project 3: Off-highway Vehicle (OHV) Education
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: Evaluating Desert Tortoise Habitat Restoration Methods
 - Wild DT Project 4: Road Warriors
 - Wild DT Project 5: Transportation Ecology Workshop
6. **Conservation Projects (Cons)**
 - Cons Project 1: Boundary Fence for the Tule Springs Fossil Beds National Monument
 - Cons Project 2: Relict Leopard Frog Conservation
 - Cons Project 3: Installation of Bat Gates
 - Cons Project 4: Gila Monster Ecology and Threats Assessment
 - Cons Project 5: Rare Plant Surveys
7. **Adaptive Management Program (AMP)**
 - AMP Project 1: Independent Science Advisor
 - AMP Project 2: Species Monitoring – Desert Tortoise
 - AMP Project 3: Species Monitoring and Habitat Monitoring Studies
 - AMP Project 6: Desert Tortoise Habitat Connectivity Study
 - AMP Project 7: Desert Tortoise Forage Study
 - AMP Project 8: Brome Reduction and Native Plant Establishment at Trout Canyon
 - AMP Project 9: Rare Plant Propagation Techniques
 - AMP Project 10: Riparian Plant Pollinator Ecology
 - AMP Project 11: Eastern Mojave Conservation Collaborative

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 2019-2021 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 2019-2021 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.



The background of the page is a photograph of a natural landscape. In the foreground, a stream flows through a field of vibrant pink flowers. The middle ground shows a mix of green and brown vegetation, with some fallen logs scattered along the stream's edge. In the distance, a range of mountains is visible under a clear blue sky with light, wispy clouds. A large, semi-transparent blue shape with a white border is positioned in the upper right corner, containing the text 'SECTION 2'. A horizontal green bar with a white border spans across the middle of the page, containing the text 'MASTER LIST OF PROJECTS'.

SECTION 2

MASTER LIST OF PROJECTS

Project Identifier	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Budget Amount (Master Projects)	Contract Award Amount	Funding Source	Split Funding	Project Title	Report Reference
803	DT Hotline and Pick-Up Service	Desert Conservation Program (DCP) - Budget Account			\$ 595,000.00		S10 09-11			
803G	CLOSED Zoo Med Natural Grassland Tortoise Food	RodentPro.COM, LLC	09/26/2019	06/30/2020		\$ 138.61	S10 09-11		Wild DT Assist Hotline	Wild DT Project 1
803H	CLOSED EA for Pesticide Use	Wood Environment & Infrastructure Solution	01/01/2020	04/15/2021		\$ 46,564.00	S10 09-11		Brome Reduction	AMP Project 8
804	Desert Tortoise Fencing	Desert Conservation Program (DCP) - Budget Account			\$ 425,000.00		S10 09-11			
804K	CLOSED TUSK Trail Head Design	The WLB Group, Inc	04/20/2020	11/02/2020		\$ 8,700.00	S10 09-11		TUSK Boundary Fence	Cons Project 1
804L	CLOSED Transportation Ecology Documentary	University of Nevada LV (UNLV) - School of Life Sci	01/07/2021	06/30/2021		\$ 11,370.00	S10 09-11		Transportation Ecology Workshop	Wild DT Project 5
804M	CLOSED DT Transportation Capstone Workshop	Center for Large Landscape Conservation	03/10/2021	06/30/2021		\$ 5,500.00	S10 09-11		Transportation Ecology Workshop	Wild DT Project 5
804N	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	RFP/in progress	04/20/2021	06/01/2022		\$ 57,016.05	S10 09-11	1525, 1725, 1780, 1975	TUSK Boundary Fence	Cons Project 1
807	OHV Education	Desert Conservation Program (DCP) - Budget Account			\$ 350,000.00		S10 09-11			
807H	CLOSED DT Aware & Invasive Spec Ed for OHV Comm	MXT Media	10/22/2018	01/31/2020		\$ 50,000.00	S10 09-11		OHV Outreach	PIE Project 3
807J	CLOSED Acquisition of Side Walls for E-Z Up Tent	International E-Z Up, Inc	02/05/2020	06/30/2020		\$ 568.29	S10 09-11		OHV Outreach	PIE Project 3
809	Restoration of DT & Gypsum Habitat	Desert Conservation Program (DCP) - Budget Account			\$ 300,000.00		S10 09-11			
809M	CLOSED BCCE Cultural Resource Survey	SWCA Environmental Consultants	02/04/2019	01/30/2020		\$ 34,096.00	S10 09-11		BCCE Restoration	BCCE Project 3
809N	Rare Plant Propagation Research (w/1990)	US Geological Survey (USGS) -Western Eco Rsrch Ctr	03/01/2020	04/30/2022		\$ 3,735.00	S10 09-11	1990A	Rare Plant Propagation	AMP Project 9
809P	Restorations on the BCCE (w/1421 & 1745)	Gothic Landscape, Inc	10/22/2020	06/20/2025		\$ 174,553.13	S10 09-11	1421C, 1745A	BCCE Restoration	BCCE Project 3
917	Riparian Property Acquisition	Desert Conservation Program (DCP) - Budget Account			\$ 3,200,000.00		S10 11-13			
917A	Title Rpt 030-23-101-004 & 030-22-501-011	Fidelity National Title Group	06/23/2020	06/30/2020		\$ 200.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917BD	CLOSED Parceling for APN 002-26-501-009	Stanley Consultants, Inc.	07/31/2017	08/31/2020		\$ 8,760.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917C	CLOSED Appraisal Report 030-23-101-001	Tio S Difederico Real Estate Appraisal, Inc.	09/30/2019	09/30/2020		\$ 3,500.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917D	CLOSED Appraisal Report 030-23-101-001	Anderson Valuation Group	05/05/2020	12/31/2020		\$ 3,500.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917K	COMPLETE DRB Holdings, LLC Land Acquisition		12/05/2016	12/31/2020		\$ 710,000.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917L	COMPLETE Happy Good Fortune, LLC Land Acquisition		12/05/2016	12/31/2020		\$ -	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917M	COMPLETE Bunkerville Compound, LLC Land Acquisition		12/05/2016	12/31/2020		\$ 430,000.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917MB	CLOSED Parceling for Bunkerville Property	Stanley Consultants, Inc.	05/12/2017	07/31/2019		\$ 23,970.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917OA	CLOSED Appraisal Report 002-26-301-007	Lubaway & Associates, Inc	10/30/2019	06/30/2020		\$ 2,750.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917P	CLOSED Appraisal for Property Acquisition	Anderson Valuation Group	01/31/2020	06/30/2020		\$ 12,000.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917Q	Costa Land Acquisition		06/23/2020	06/30/2025		\$ -	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917QA	CLOSED Appraisal Rpt 030-23-101-004 & 030-22-501-011	Anderson Valuation Group	08/03/2020	05/31/2021		\$ 3,500.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
917R	Canada Land Acquisition		06/23/2021	06/30/2025		\$ 414,000.00	S10 11-13		Riparian Property Acquisition	Riparian Project 2
1014	Permit Amendment Transition	Desert Conservation Program (DCP) - Budget Account			\$ 280,470.00		S10 07-09			
1014J	CLOSED Legal Services for DCP	Ebbin Moser & Skaggs, LLP	07/01/2016	04/30/2021		\$ 193,564.13	S10 07-09		Permit Amendment	Prog Admin Project 2
1410	Adaptive Management Program-Baseline	Desert Conservation Program (DCP) - Budget Account			\$ 374,800.00		S10 13-15			
1410C	CLOSED Science Advisor Panel for the DCP	Alta Sciences & Engineering, Inc.	01/26/2016	01/31/2020		\$ 374,642.00	S10 13-15	901F, 1411A	Science Advisor	AMP Project 1
1410D	CLOSED Eastern Mojave Consv Collaborative	Southwest Decisions Resources, Inc	05/01/2020	10/31/2020		\$ 5,959.88	S10 13-15		Eastern Mojave Conservation Collaborative	AMP Project 11
1411	Adaptive Management Program-DT Modeling	Desert Conservation Program (DCP) - Budget Account			\$ 20,000.00		S10 13-15			
1411A	CLOSED Science Advisor (W/1410 & 901)	Terragraphics	01/26/2016	01/31/2020		\$ 20,000.00	S10 13-15	901F, 1410C	Science Advisor	AMP Project 1
1412	Adaptive Management Program-DT Monitoring	Desert Conservation Program (DCP) - Budget Account			\$ 83,350.00		S10 13-15			
1412D	CLOSED BCCE DT Telemetry and Health Assessments	Great Basin Institute	11/13/2018	11/14/2020		\$ 56,435.34	S10 13-15		Translocation	Wild DT Project 2
1420	BCCE Management	Desert Conservation Program (DCP) - Budget Account			\$ 282,876.00		S10 13-15			
1420U	CLOSED BCCE Culvert Wildlife Cameras	Forestry Suppliers	07/01/2019	06/30/2020		\$ 317.78	S10 13-15		BCCE Management	BCCE Project 1
1420V	CLOSED Acquisition of GPS Receiver (w/1510B)	Frontier Precision	07/23/2019	06/30/2020		\$ 1,830.88	S10 13-15	1510B	Program Administration	Prog Admin Project 1
1421	BCCE Restoration	Desert Conservation Program (DCP) - Budget Account			\$ 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	809P, 1745A	BCCE Restoration	BCCE Project 3
1440	Other Property Management	Desert Conservation Program (DCP) - Budget Account			\$ 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	1520Q, 1720E	Water Rights Management	Riparian Project 7
1445	Riparian Property Management	Desert Conservation Program (DCP) - Budget Account			\$ 103,000.00		S10 13-15			

Project Identifier	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Budget Amount (Master Projects)	Contract Award Amount	Funding Source	Split Funding	Project Title	Report Reference
1445C	CLOSED Muddy River Grading Plan (w/722&805)	Louis Berger Engineering	07/01/2016	06/30/2020		\$ 19,142.55	S10 13-15	722K, 805AD	Muddy River Restoration	Riparian Project 3
1445E	CLOSED Water Rights Consulting (w/805)	Farr West Engineering	12/01/2016	08/15/2019		\$ 11,943.30	S10 13-15	805AE	Water Rights Management	Riparian Project 7
1445J	CLOSED Riparian Small Mammal Survey (w 1910A/1720G)	BEC Environmental, Inc.	02/14/2020	09/16/2020		\$ 153.21	S10 13-15	1720G, 1910A	Species and Habitat Monitoring	AMP Project 3
1446	Riparian Prop Restoration - Phase II				\$ 88,650.00		SNPLMA R14			
1446D	CLOSED Muddy River Habitat Restoration	National Park Service (NPS)	03/23/2018	12/31/2019		\$ 65,836.00	SNPLMA R14		Muddy River Restoration	Riparian Project 3
1460	Permit Amendment	Desert Conservation Program (DCP) - Budget Account			\$ 836,000.00		S10 13-15			
1460A	HCP Consultant for the MSHCP Amend	WRA Environmental Consultants	03/21/2017	01/31/2022		\$441,238.04	S10 13-15		Permit Amendment	Prog Admin Project 2
1460E	CLOSED Species Distribution Modeling, Phase II	University of Nevada Reno (UNR) - BRRC	04/01/2019	03/13/2020		\$ 115,720.00	S10 13-15		Permit Amendment	Prog Admin Project 2
1460F	CLOSED COMPLETE Golden Eagle Habitat Model	University of Nevada Reno (UNR) - BRRC	08/19/2019	12/31/2019		\$ 10,615.96	S10 13-15		Permit Amendment	Prog Admin Project 2
1460G	Vegetation Map for Clark County (w/1965)	Cogan Technology Inc	07/01/2020	06/30/2022		\$ 99,238.26	S10 13-15	1965A	Permit Amendment	Prog Admin Project 2
1510	BCCE MGMT & LAW ENFORCEMENT	Desert Conservation Program (DCP) - Budget Account			\$ 220,960.00		S10 15-17			
1510B	CLOSED Acquisition of GPS Receiver (w/1420V)	Frontier Precision	07/23/2019	06/30/2020		\$ 29.12	S10 15-17	1420V	Program Administration	Prog Admin Project 1
1510C	BCCE Boulder City Police Dept Drone Project	City of Boulder City	11/08/2019	08/10/2021		\$ 2,200.00	S10 15-17		BCCE Law Enforcement	BCCE Project 2
1510D	CLOSED Replacement Kiosk Signage FY20	KVO Industries	08/29/2019	06/30/2020		\$ 5,725.00	S10 15-17		BCCE Management	BCCE Project 1
1510E	CLOSED Acquisition of Gate Locks	IML Security Supply	10/17/2019	06/30/2020		\$ 91.56	S10 15-17		BCCE Management	BCCE Project 1
1510F	BCCE Maintenance (w/1710D & 1905C)	Gothic Landscape, Inc	01/02/2020	12/31/2021		\$ 21,500.37	S10 15-17	1710D, 1905C	BCCE Management	BCCE Project 1
1515	INFORMATION, EDUCATION & OUTREACH	Desert Conservation Program (DCP) - Budget Account			\$ 306,753.00		S10 15-17			
1515AC	CLOSED Mojave Max Education Program (w/1715)	Outside Las Vegas Foundation	08/23/2018	07/31/2019		\$ 28,297.23	S10 15-17	1715A	Mojave Max Education Program	PIE Project 1
1520	RIPARIAN PROPERTY MANAGEMENT	Desert Conservation Program (DCP) - Budget Account			\$ 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	1140D, 1720E	Water Rights Management	Riparian Project 7
1521	RIPARIAN RESTORATION RSV UNITS & WATER RIGHTS	Desert Conservation Program (DCP) - Budget Account			\$ 214,150.00		SNPLMA R15			
1521E	CLOSED Virgin River Riparian Restoration	Nevada Division of Forestry (NDF) - Carson City	11/12/2018	04/30/2020		\$ 80,000.00	SNPLMA R15		Virgin River Restoration	Riparian Project 4
1521H	CLOSED Virgin River Restoration Treatment	Summitt Forests, Inc.	12/13/2019	12/31/2020		\$ 99,504.00	SNPLMA R15		Virgin River Restoration	Riparian Project 4
1521J	CLOSED Mormon Mesa Plant Propagation	National Park Service (NPS)	03/03/2020	06/30/2021		\$ 24,114.00	SNPLMA R15		Virgin River Restoration	Riparian Project 4
1521K	CLOSED Mormon Mesa Rest Svs -Phase II (w/1750C)	American Conservation Experience	09/04/2020	06/30/2021		\$ 34,358.78	SNPLMA R15	1750C	Virgin River Restoration	Riparian Project 4
1525	WILDLIFE FENCING	Desert Conservation Program (DCP) - Budget Account			\$ 426,197.00		S10 15-17			
1525C	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	RFP/in progress	04/20/2021	06/01/2022		\$ 175,887.40	S10 15-17	804, 1725, 1780, 1975	TUSK Boundary Fence	Cons Project 1
1541	DESERT TORTOISE MONITORING-SNPLMA	Desert Conservation Program (DCP) - Budget Account			\$ 1,077,373.00		SNPLMA R15			
1541A	CLOSED DT Monitoring Data Management Year 2-5	US Fish & Wildlife Service (USFWS) -Las Vegas	10/07/2016	10/30/2019		\$ 153,361.00	SNPLMA R15		Species Monitoring - Desert Tortoise	AMP Project 2
1541B	Desert Tortoise Range-Wide Monitoring	Great Basin Institute	12/05/2016	12/04/2021		\$ 1,022,850.16	SNPLMA R15	1925A	DT Rangewide Monitoring	AMP Project 2
1550	RELICT LEOPARD FROG CNSV PLAN & IMP	Desert Conservation Program (DCP) - Budget Account			\$ 184,050.00		S10 15-17			
1550A	CLOSED Relict Leopard Frog Consv Plan and Impl	University of Nevada (UNLV) - Board of Regents	06/01/2016	04/30/2020		\$ 184,050.00	S10 15-17		Relict Leopard Frog Conservation	Cons Project 2
1570	Restoration on the Clark County Muddy River Riparian Reserve Unit	Desert Conservation Program (DCP) - Budget Account			\$ 2,770,000.00		SNPLMA R16			
1570A	Muddy River Grading Plan	Louis Berger Engineering	08/29/2017	12/31/2019		\$ 150,000.00	SNPLMA R16		Muddy River Restoration	Riparian Project 3
1570C	Muddy River Habitat Restoration	Natural Channel Design, Inc	09/03/2019	06/28/2022		\$ 590,207.00	SNPLMA R16		Muddy River Restoration	Riparian Project 3
1580	Tortoise Connectivity	Desert Conservation Program (DCP) - Budget Account			\$ 2,448,000.00		SNPLMA R16			
1580A	CLOSED Desert Tortoise Connectivity Modeling	University of Nevada Reno (UNR) - BRRC	02/22/2018	10/15/2019		\$ 94,799.99	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580B	DT Connectivity Across Roadways (w/1920)	Ecocentric, LLC	12/01/2019	09/15/2021		\$ 429,986.67	SNPLMA R16	1920F	Desert Tortoise Connectivity Study	AMP Project 6
1580C	DT Connectivity Solutions Modeling	University of Nevada Reno (UNR) - BRRC	05/10/2020	12/31/2021		\$ 348,455.90	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580D	CLOSED Mapping Potential DT Hab Conn in CC	Conservation Science Partners, Inc.	08/01/2020	06/30/2021		\$ 42,000.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580E	DT Telemetry around Culverts	Ecocentric, LLC	11/01/2020	06/15/2022		\$ 170,770.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580F	Culvert Inspection for Tortoise Usage	Newfields	11/01/2020	08/31/2021		\$ 62,990.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580G	Connectivity Management Plan	Recon Environmental, Inc	12/15/2020	06/01/2022		\$ 81,549.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580H	Culvert Image Inspection	SWCA Environmental Consultants	05/01/2021	04/30/2022		\$ 50,000.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1580J	Connectivity Data Analysis	Heron Ecological, LLC	06/10/2021	04/30/2022		\$ 93,940.00	SNPLMA R16		Desert Tortoise Connectivity Study	AMP Project 6
1710	BCCE Management and Law Enforcement	Desert Conservation Program (DCP) - Budget Account			\$ 420,400.00		S10 17-19			


Project Identifier	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Budget Amount (Master Projects)	Contract Award Amount	Funding Source	Split Funding	Project Title	Report Reference
1710A	CLOSED Law Enforcement for the BCCE	Boulder City Conservation Easement Law Enforcement	08/01/2017	08/30/2019		\$ 250,016.29	S10 17-19		BCCE Management	BCCE Project 2
1710C	CLOSED BCCE Maintenance	Turf Tech, Inc.	01/03/2018	12/31/2019		\$ 45,000.00	S10 17-19		BCCE Management	BCCE Project 1
1710D	BCCE Maintenance (w/1510F & 1905C)	Gothic Landscape, Inc	01/02/2020	12/31/2021		\$ 22,756.81	S10 17-19	1510F, 1905C	BCCE Management	BCCE Project 1
1710E	CLOSED Culvert Cameras for BCCE	Forestry Suppliers	03/15/2021	06/30/2021		\$ 375.52	S10 17-19		BCCE Management	BCCE Project 1
1710F	CLOSED BCCE Kiosk Signage	KVO Industries	04/08/2021	06/30/2021		\$ 12,915.00	S10 17-19		BCCE Management	BCCE Project 1
1715	Public Information, Education, and Outreach	Desert Conservation Program (DCP) - Budget Account			\$ 401,406.00		S10 17-19			
1715AA	CLOSED Acquisition of DCP Pencils	My Promos&Apparel	09/18/2019	06/30/2020		\$ 1,364.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AB	CLOSED Acquisition of Table Throw	Logo Fusion USA, Inc.	09/18/2019	06/30/2020		\$ 120.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AC	CLOSED Acquisition of Stainless Steel Water Bottles	My Promos&Apparel	10/01/2019	06/30/2020		\$ 962.12	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AE	CLOSED Acquisition of Playing Cards	Skyhigh Marketing	10/01/2019	06/30/2020		\$ 3,480.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AF	CLOSED Acquisition of DCP Gift Bags	My Promos&Apparel	10/07/2019	06/30/2020		\$ 242.98	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AG	CLOSED Acquisition of Slim Sports Bottles	Morgan Specialties, Inc.	10/07/2019	06/30/2020		\$ 1,614.04	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AH	CLOSED Acquisition of Shade Shelter	International E-Z Up, Inc	11/01/2019	06/30/2020		\$ 858.97	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AJ	CLOSED Content Prod for MoMax Assemblies/Emergence	MXT Media	08/25/2020	01/28/2021		\$ 61,000.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715AK	MSHCP Education Video	WE MARKET FOR HUMANS	05/01/2021	11/30/2021		\$ 49,500.00	S10 17-19		General Outreach	PIE Project 2
1715V	CLOSED Acquisition of Mojave Max Lapel Pins	The Pincenter	08/29/2019	06/30/2020		\$ 2,765.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715W	CLOSED Acquisition of Lip Balm Balls	My Promos&Apparel	09/18/2019	06/30/2020		\$ 2,986.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715X	CLOSED Acquisition of Safety Sunglasses	Giftco	09/18/2019	06/30/2020		\$ 1,852.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715Y	CLOSED Acquisition of MoMax Iron on Patches	Giftco	09/18/2019	06/30/2020		\$ 3,175.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1715Z	CLOSED Acquisition of Rubber Wrist Bands	My Promos&Apparel	09/18/2019	06/30/2020		\$ 850.00	S10 17-19		Mojave Max Education Program	PIE Project 1
1720	Riparian Properties Baseline Mgmt	Desert Conservation Program (DCP) - Budget Account			\$ 275,600.00		S10 17-19			
1720A	CLOSED Virgin River Weed Management	National Park Service (NPS)	02/21/2018	03/15/2021		\$ 143,000.00	S10 17-19		Riparian Property Management	Riparian Project 1
1720E	Water Rights Consulting (w/1440D & 1520Q)	Farr West Engineering	09/03/2019	12/31/2024		\$ 15,423.02	S10 17-19	1440D, 1520Q	Water Rights Management	Riparian Project 7
1720F	Riparian Reserves Maintenance	Eagle View Contractors, Inc.	09/01/2019	12/31/2021		\$ 100,000.00	S10 17-19		Riparian Property Management	Riparian Project 1
1720G	CLOSED Riparian Small Mammal Survey (w 1445J/1910A)	BEC Environmental, Inc.	02/14/2020	09/16/2020		\$ 15,471.49	S10 17-19	1445J, 1910A	Species and Habitat Monitoring	AMP Project 3
1725	Fencing Installation and Maintenance	Desert Conservation Program (DCP) - Budget Account			\$ 45,000.00		S10 17-19			
1725A	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	RFP/in progress	04/01/2021	06/01/2022		\$ 45,000.00	S10 17-19	804, 1525, 1780, 1975	TUSK Boundary Fence	Cons Project 1
1730	Adaptive Management Program	Desert Conservation Program (DCP) - Budget Account			\$ 986,000.00		S10 17-19			
1730A	CLOSED Science Advisor Panel for the DCP	Alta Sciences & Engineering, Inc.	01/21/2018	04/20/2020		\$ 486,074.90	S10 17-19		Science Advisor	AMP Project 1
1730H	CLOSED Acquisition of Acoustic Analysis Software	Wildlife Acoustics, Inc.	07/01/2018	06/30/2020		\$ 798.00	S10 17-19		Species and Habitat Monitoring	AMP Project 3
1730J	CLOSED Effects of Exotic Forage on Mojave DT	US Geological Survey (USGS) - Western Eco Rsrch Ctr	01/29/2019	01/30/2021		\$ 49,881.49	S10 17-19		Effects of Exotoc Forage on Mojave Desert Tortoises	AMP Project 7
1730K	CLOSED Avian Species Surveys	SWCA Environmental Consultants	04/10/2019	12/28/2019		\$ 100,084.00	S10 17-19		Species and Habitat Monitoring	AMP Project 3
1730M	CLOSED Desert Upland Small Mammal Surveys II	BEC Environmental, Inc.	02/20/2019	08/30/2019		\$ 49,910.00	S10 17-19		Species and Habitat Monitoring	AMP Project 3
1730N	CLOSED Bat Recording Analysis	SWCA Environmental Consultants	01/07/2020	04/30/2020		\$ 17,773.00	S10 17-19		Species and Habitat Monitoring	AMP Project 3
1730P	Avian Surveys (w/1920)	SWCA Environmental Consultants	12/29/2020	12/28/2021		\$ 87,399.76	S10 17-19	1920E	Species and Habitat Monitoring	AMP Project 3
1745	BCCE Restorations	Desert Conservation Program (DCP) - Budget Account			\$ 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	809P, 1421C	BCCE Restoration	BCCE Project 3
1750	Riparian Reserve Units Restoration	Desert Conservation Program (DCP) - Budget Account			\$ 378,156.00		S10 17-19			
1750B	VR Coalition Project Planning	The Nature Conservancy (TNC) of Nevada	09/01/2019	12/31/2020		\$ 10,000.00	S10 17-19		VR Coalition	Riparian Project 5
1750C	CLOSED Mormon Mesa Rest Svs -Phase II (w/1521K)	American Conservation Experience	09/04/2020	06/30/2021		\$ 65,641.22	S10 17-19	1521K	VR Restoration	Riparian Project 6
1750D	Archeological Resource Evals on Rip Rsv Parcels	SWCA Environmental Consultants	09/15/2020	08/31/2025		\$ 40,000.00	S10 17-19		VR Restoration	Riparian Project 6
1750E	CLOSED Repellent Acquisition	Helena Chemical Company	02/02/2021	06/30/2021		\$ 498.00	S10 17-19		VR Restoration	Riparian Project 6
1750F	Avian Nest Monitoring on Riparian Properties	SWCA Environmental Consultants	05/01/2021	12/31/2021		\$ 52,271.00	S10 17-19		Avian Nest Monitoring	Riparian Project 4
1755	Rare Plant Surveys	Desert Conservation Program (DCP) - Budget Account			\$ 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 Surveys	Cons Project 5
1760	Evaluating Desert Tortoise Habitat Restoration - SNPLMA	Desert Conservation Program (DCP) - Budget Account			\$ 350,000.00		S10 17-19			
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 Project 3

Project Identifier	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Budget Amount (Master Projects)	Contract Award Amount	Funding Source	Split Funding	Project Title	Report Reference
1760B	Restoration Workshop Facilitation	Southwest Decisions Resources, Inc	05/27/2021	04/28/2022		\$ 50,000.00	SNPLMA R17		Evaluating Restoration Habitat Restoration	Wild DT Project 3
1780	Tule Springs Fossil Beds National Monument Boundary Fencing	Desert Conservation Program (DCP) - Budget Account			\$ 500,000.00		S10 17-19			
1780A	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	RFP/in progress	04/20/2021	06/01/2022		\$ 500,000.00	S10 17-19	804, 1525, 1725, 1975	TUSK Boundary Fence	Cons Project 1
1782	PAmend Covered Species Surveys & Dist	Desert Conservation Program (DCP) - Budget Account			\$ 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	Prog Admin Project 2
1782B	Avian Surveys	SWCA Environmental Consultants	02/08/2021	12/31/2021		\$ 108,645.00	SNPLMA R17		Permit Amendment	Prog Admin Project 2
1792	Arden Mine Complex Restoration and Bat Gate Installation	Desert Conservation Program (DCP) - Budget Account			\$ 200,000.00		S10 17-19			
1792C	CLOSED Gold Butte AML Closures	Nevada Department of Minerals	07/10/2018	12/19/2019		\$ 193,824.79	S10 17-19		Gold Butte AML Closures	Cons Project 2
1795	Desert Tortoise Predator-Prey Dynamics	Desert Conservation Program (DCP) - Budget Account			\$ 576,505.00		S10 17-19			
1795A	Desert Tortoise Predator-Prey Dynamics	US Geological Survey	12/01/2017	12/31/2021		\$ 576,503.35	S10 17-19		Predation Studies	AMP Project 5
1900	Administration	Desert Conservation Program (DCP) - Budget Account			\$ 5,032,543.00		S10 19-21			
1900A	CLOSED Office Supplies - Admin FY20	Staples	07/01/2019	06/30/2020		\$ 5,000.00	S10 19-21		Program Administration	Pro Admin Project 1
1900B	CLOSED First Aid & Safety Supplies FY20	Cintas First Aid & Safety	07/01/2019	06/30/2020		\$ 200.00	S10 19-21		Program Administration	Pro Admin Project 1
1900C	CLOSED Uniform Apparel - FY20	Inspire By Design	07/01/2019	06/30/2020		\$ 600.00	S10 19-21		Program Administration	Pro Admin Project 1
1900D	CLOSED Document Shredding and Container FY20	Opportunity Village	07/01/2019	06/30/2020		\$ 150.00	S10 19-21		Program Administration	Pro Admin Project 1
1900E	CLOSED Lot 4 -Safety Shoes for Staff FY20	Red Wing Shoes of America	07/01/2019	06/30/2020		\$ 220.00	S10 19-21		Program Administration	Pro Admin Project 1
1900F	CLOSED Acquisition of 2019 Jeep Rubicon	Jim Marsh Chrysler Jeep	07/01/2019	06/30/2020		\$ 44,250.00	S10 19-21		Program Administration	Pro Admin Project 1
1900G	CLOSED 2017-2019 BPR Graphic Design and Editing	MYS Project and Brand Management	07/23/2019	06/30/2020		\$ 3,550.00	S10 19-21		Program Administration	Pro Admin Project 1
1900H	Case360 Upgrade	OpenText	02/28/2020	06/30/2020		\$ 55,809.00	S10 19-21		Program Administration	Pro Admin Project 1
1900I	CLOSED Case360 Upgrade	Precision Business Technologies, Inc.	03/17/2020	06/30/2020		\$ 23,200.00	S10 19-21		Program Administration	Pro Admin Project 1
1900K	CLOSED GIS Printer Preventative Maintenance	Monsen Engineering	04/08/2020	06/30/2020		\$ 400.00	S10 19-21		Program Administration	Pro Admin Project 1
1900L	Office Supplies - Admin FY21	Staples	07/01/2020	06/30/2021		\$ 5,000.00	S10 19-21		Program Administration	Pro Admin Project 1
1900M	Lot 4 - Safety Shoes for Staff FY21	Red Wing Shoes of America	07/01/2020	06/30/2021		\$ 550.00	S10 19-21		Program Administration	Pro Admin Project 1
1900N	Document Shredding and Container FY21	Opportunity Village	07/01/2020	06/30/2021		\$ 180.00	S10 19-21		Program Administration	Pro Admin Project 1
1900P	Uniform Apparel FY21	Inspire By Design	07/01/2020	06/30/2021		\$ 600.00	S10 19-21		Program Administration	Pro Admin Project 1
1900Q	First Aid & Safety Supplies FY21	Cintas First Aid & Safety	07/01/2020	06/30/2021		\$ 200.00	S10 19-21		Program Administration	Pro Admin Project 1
1900R	CLOSED Acquisition of Technology Refresh Equipment	Dell Marketing LP	10/12/2020	06/30/2021		\$ 29,042.00	S10 19-21		Program Administration	Pro Admin Project 1
1900S	CLOSED Shed Key Duplication	ABC Locksmiths	02/16/2021	06/30/2021		\$ 10.50	S10 19-21		Program Administration	Pro Admin Project 1
1905	BCCE Management and Law Enforcement	Desert Conservation Program (DCP) - Budget Account			\$ 327,000.00		S10 19-21			
1905A	CLOSED Reserves Maintenance Materials & Tools FY20	American Express	07/01/2019	06/30/2020		\$ 2,400.00	S10 19-21		BCCE Management	BCCE Project 1
1905B	Law Enforcement for the BCCE	City of Boulder City	08/20/2019	08/17/2021		\$ 216,477.99	S10 19-21		BCCE Law Enforcement	BCCE Project 2
1905C	BCCE Maintenance (w/1710D & 1510F)	Gothic Landscape, Inc	01/02/2020	12/31/2021		\$ 1,742.82	S10 19-21	1510F, 1710D	BCCE Management	BCCE Project 1
1905D	Reserves Maintenance Materials & Tools FY21	American Express	07/01/2020	06/30/2021		\$ 1,800.00	S10 19-21		BCCE Management	BCCE Project 1
1905E	CLOSED Gabion Kiosks Build and Install	Maile Concrete	02/01/2021	06/30/2021		\$ 28,681.38	S10 19-21		BCCE Management	BCCE Project 1
1910	Riparian Properties Baseline Management	Desert Conservation Program (DCP) - Budget Account			\$ 453,920.00		S10 19-21			
1910A	CLOSED Riparian Small Mammal Survey (w 1445J/1720G)	BEC Environmental, Inc.	02/14/2020	09/16/2020		\$ 57,025.30	S10 19-21	1445J, 1720G	Species and Habitat Monitoring	AMP Project 3
1910B	CLOSED Avian Nest Monitoring on Riparian Properties	SWCA Environmental Consultants	05/01/2020	12/31/2024		\$ 68,040.00	S10 19-21		Avian Nest Monitoring	Riparian Project 4
1910C	Riparian Reserves Vegetation Management	National Park Service (NPS)	03/17/2021	07/15/2023		\$ 160,000.00	S10 19-21		Riparian Property Management	Riparian Project 1
1915	Public Information, Education and Outreach	Desert Conservation Program (DCP) - Budget Account			\$ 375,165.00		S10 19-21			
1915A	Mojave Max Education Program	Outside Las Vegas Foundation	08/01/2019	07/31/2021		\$ 203,500.00	S10 19-21		Mojave Max Education Program	PIE Project 1
1915B	CLOSED Acquisition of Arlo Go Camera	Verizon Wireless	08/01/2019	06/30/2020		\$ 349.99	S10 19-21		Mojave Max Education Program	PIE Project 1
1915C	CLOSED Acquisition of Solar Panel & SD Cards	CDW Government, Inc	08/20/2019	06/30/2020		\$ 105.50	S10 19-21		Mojave Max Education Program	PIE Project 1
1915E	CLOSED Graphics Design Changes to Emergence Contest	Paper Zombies	02/12/2020	06/30/2020		\$ 225.00	S10 19-21		Mojave Max Education Program	PIE Project 1
1920	Adaptive Management Program	Desert Conservation Program (DCP) - Budget Account			\$ 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 Project 1
1920B	DT Occupancy on the BCCE	Bio Logical, LLC	02/01/2020	02/20/2024		\$ 191,693.00	S10 19-21		DT Occupancy Sampling	AMP Project 4

Project Identifier	Master Project/Contract Title	Lead Agency/Contractor	Contract Start Date	Contract End Date	Budget Amount (Master Projects)	Contract Award Amount	Funding Source	Split Funding	Project Title	Report Reference
1920D	Avian Surveys	SWCA Environmental Consultants	12/29/2019	12/29/2021		\$ 96,658.00	S10 19-21		Species and Habitat Monitoring	AMP Project 3
1920E	Avian Surveys (w/1730)	SWCA Environmental Consultants	12/29/2020	12/28/2021		\$ 1,172.24	S10 19-21	1730P	Species and Habitat Monitoring	AMP Project 3
1920F	DT Connectivity Across Roadways (w/1580)	Ecoentric, LLC	12/01/2019	09/15/2021		\$ 73,630.33	S10 19-21	1580B	Desert Tortoise Connectivity Study	AMP Project 6
1925	Range-Wide Desert Tortoise Monitoring Support - S10	Desert Conservation Program (DCP) - Budget Account			\$ 252,632.00		S10 19-21			
1925A	DT Range-Wide Monitoring (w/1541)	Great Basin Institute	12/05/2019	12/04/2021		\$ 229,355.65	S10 19-21	1541B	DT Rangewide Monitoring	AMP Project 2
1930	Desert Tortoise Translocation	Desert Conservation Program (DCP) - Budget Account			\$ 298,201.00		S10 19-21			
1930A	BCCE DT Telemetry and Health Assessments	Great Basin Institute	11/13/2019	11/14/2021		\$ 146,189.03	S10 19-21		Translocation	Wild DT Project 2
1950	Baseline Support for Volunteer Maintenance of Existing Tort Exclusion Fencing	Desert Conservation Program (DCP) - Budget Account			\$ 10,000.00		S10 19-21			
1950A	Fence Maintenance Survey	Tortoise Group	09/05/2019	08/31/2020		\$ 10,000.00	S10 19-21		Road Warriors	Wild DT Project 4
1955	RoadWarriors: Citizen Scientist Monitoring for Mojave Rd Mortality	Desert Conservation Program (DCP) - Budget Account			\$ 20,300.00		S10 19-21			
1955A	CLOSED COMPLETE Road Warrior DT Mortality Survey	Tortoise Group	09/05/2019	01/29/2021		\$ 20,300.00	S10 19-21		Road Warriors	Wild DT Project 4
1965	Baseline Vegetation Map	Desert Conservation Program (DCP) - Budget Account			\$ 400,000.00		S10 19-21			
1965A	Vegetation Map for Clark County (w/1460G)	Cogan Technology Inc	07/01/2020	06/30/2022		\$ 400,000.00	S10 19-21	1460G	Permit Amendment	Prog Admin Proj 2
1970	Permit Amendment Support	Desert Conservation Program (DCP) - Budget Account			\$ 313,575.00		S10 19-21			
1970A	HCP Consultant for the MSHCP Amend w/1460	WRA Environmental Consultants	01/03/2020	01/31/2022		\$ 66,535.30	S10 19-21	1460A	Permit Amendment	Prog Admin Proj 2
1975	Tule Springs Fossil Beds National Monument Boundary Fence Phase III	Desert Conservation Program (DCP) - Budget Account			\$ 306,020.00		S10 19-21			
1975A	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	RFP/in progress	04/01/2021	06/01/2022		\$ 306,020.00	S10 19-21	804, 1525, 1725, 1780	TUSK Boundary Fence	Cons Project 1
1985	Demography/Population Viability of Tortoises in Translocation Sites	Desert Conservation Program (DCP) - Budget Account			\$ 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		Translocation	Wild DT Project 2
1985B	CLOSED DT Mating Opportunities on the BCCE	University of Nevada Reno (UNR) - BRRC	08/01/2020	05/15/2021		\$ 15,798.20	S10 19-21		Translocation	Wild DT Project 2
1987	Desert Tortoise Predator-Prey Dynamics, Phase II	Desert Conservation Program (DCP) - Budget Account			\$ 491,153.00		S10 19-21			
1987A	DT Predator-Prey Dynamics (w/1795)	US Geological Survey (USGS) - Western Eco Rsrch Ctr	01/01/2020	12/31/2021		\$ 491,152.20	S10 19-21	1795A	Predation Studies	AMP Project 5
1990	Protected Plant Species Propagation Research	Desert Conservation Program (DCP) - Budget Account			\$ 137,943.00		S10 19-21			
1990A	Rare Plant Propagation Research (w/809)	US Geological Survey (USGS) - Western Eco Rsrch Ctr	03/01/2020	04/30/2022		\$ 137,943.00	S10 19-21	809N	Rare Plant Propagation	AMP Project 9
1992	Inventory and Ecology of Plant-Pollinator Systems within Riparian Areas	Desert Conservation Program (DCP) - Budget Account			\$ 50,000.00		S10 19-21			
1992A	CLOSED Riparian Plant-Pollinator Ecology Phase 1	University of Nevada (UNLV) - Board of Regents	03/09/2020	02/15/2021		\$ 50,000.00	S10 19-21		Riparian Plant Pollinator Ecology	AMP Project 10
1995	Brome Reduction & Native Plant Establishment at Trout Canyon & Stump Springs	Desert Conservation Program (DCP) - Budget Account			\$ 22,300.00		S10 19-21			
1997	Understanding Threats to the Persistence of NV Gila Monsters	Desert Conservation Program (DCP) - Budget Account			\$ 354,000.00		S10 19-21			
1997A	Assess Genetic Diversity of Gila Monster	US Geological Survey (USGS) - Western Eco Rsrch Ctr	12/20/2019	12/31/2021		\$ 123,000.00	S10 19-21		Gila Monster Threats Assessment	Cons Project 3
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 Assessment	Cons Project 3
1997C	Gila Monster Habitat Modeling	University of Nevada Reno (UNR) - BRRC	07/01/2020	12/31/2021		\$ 36,698.62	S10 19-21		Gila Monster Threats Assessment	Cons Project 3







SECTION 3

PROJECT REPORTS

1

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 and Permit Compliance

PROJECT 1

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.

Master Budget: \$5,032,543.00

Unspent Funds: \$2,263,701.00

ACCOMPLISHMENTS

- Processed and managed \$5,730,894.50 in mitigation fees for 10,419.57 acres of land disturbance in the 2019-2021 biennium.
- Completed the 2017-2019 Biennium Progress Report.
- Completed the 2021-2023 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.
- Completed recruitment process to hire a new Project Coordinator, a Management Analyst, and an Administrative Specialist.
- Continued to provide staff support for the development of a proposed lands bill that would achieve a variety of economic diversification and conservation goals for the County.
- Continued process development for centralized fee collection of disturbance fees.
- 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 2021 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 61 Section 10-funded contracts and 22 SNPLMA-funded contracts.
- Administered 57 purchase orders for goods and services.
- Provided administration, project/contract management, and implementation for 8 SNPLMA grants; 1 Round 14 grant, 2 Round 15 grants, and 2 Round 16 grants, and 3 Round 17 grants.
- Received 424 invoices, processed 395 invoices, and rejected 29 invoices for corrective action.
- Received and reviewed 598 deliverables from contract projects, tracked 39 delinquent deliverables, accepted 497 deliverables, and rejected 15 deliverables for corrective action.
- Confirmed 384 contract milestones.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
1420V	Frontier Precision	Acquisition of GPS Receiver (w/1510B)	\$ 1,830.88	S10 13-15
1510B	Frontier Precision	Acquisition of GPS Receiver (w/1420V)	\$ 29.12	S10 15-17
1900A	Staples	Office Supplies - Admin FY20	\$ 5,000.00	S10 19-21
1900B	Cintas First Aid & Safety	First Aid & Safety Supplies FY20	\$ 200.00	S10 19-21
1900C	Inspire By Design	Uniform Apparel - FY20	\$ 600.00	S10 19-21
1900D	Opportunity Village	Document Shredding and Container FY20	\$ 150.00	S10 19-21
1900E	Red Wing Shoes of America	Lot 4 -Safety Shoes for Staff FY20	\$ 220.00	S10 19-21
1900F	Jim Marsh Chrysler Jeep	Acquisition of 2019 Jeep Rubicon	\$ 44,250.00	S10 19-21
1900G	MYS Project and Brand Management	2017-2019 BPR Graphic Design and Editing	\$ 3,550.00	S10 19-21
1900H	OpenText	Case360 Upgrade	\$ 55,809.00	S10 19-21
1900J	Precision Business Technologies, Inc.	Case360 Upgrade	\$ 23,200.00	S10 19-21
1900K	Monsen Engineering	GIS Printer Preventative Maintenance	\$ 400.00	S10 19-21
1900L	Staples	Office Supplies - Admin FY21	\$ 5,000.00	S10 19-21
1900M	Red Wing Shoes of America	Lot 4 - Safety Shoes for Staff FY21	\$ 550.00	S10 19-21
1900N	Opportunity Village	Document Shredding and Container FY21	\$ 180.00	S10 19-21
1900P	Inspire By Design	Uniform Apparel FY21	\$ 600.00	S10 19-21
1900Q	Cintas First Aid & Safety	First Aid & Safety Supplies FY21	\$ 200.00	S10 19-21
1900R	Dell Marketing LP	Acquisition of Technology Refresh Equipment	\$ 29,042.00	S10 19-21
1900S	ABC Locksmiths	Shed Key Duplication	\$ 10.50	S10 19-21

PROGRAM AREA

Program Administration and Permit Compliance

PROJECT 2

Permit Amendment

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.

Contract 1

Contract Title: Legal Services for DCP

Contract Number: 1014J

Vendor: Ebbin Moser & Skaggs, LLP

Contract Amount: \$200,000.00

Funding Source: S10 07-09

Contract Term: 7/1/2016 – 4/30/2021

Contract Status: Complete

Unspent Funds: \$99,830.12

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.



Example photo from the Vegetation Map field surveys to aid in aerial photo interpretation.

Contract 2

Contract Title: Species Distribution Modeling, Phase II

Contract Number: 1460E

Vendor: University of Nevada, Reno

Contract Amount: \$115,720.00

Funding Source: S10 13-15

Contract Term: 4/1/2019 – 3/13/2020

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Hired and trained staff to assist in modeling efforts.
- Re-wrote modeling code to produce more cohesive modeling results for individual variable influences, and model response curves among modeling algorithms.
- Designated a modeling area that encapsulates a geographic buffer of the county boundary, and creation and downscaling of environmental layers used for species modeling to a standard 250m grid within the area.
- Searched for available species locality data for modeling, followed by spatial thinning of data to reduce duplication, and modeling bias imparted by clustered locality data.
- Modeling of all species included in the contract.
- Completed background research and species account write-up for Parish's phacelia (*Phaecilia parishii*) as per contract.
- Responded to comments provided by NDOW on the models for some species of birds (responses transmitted with Final Report).
- Addressed comments by NDOW and removed any potentially ambiguous records for one species of bird.
- Reanalyzed and created a new SDM for one species of bird, and Desert Tortoises, based upon comments by NDOW.
- Habitat disturbance, direct impacts, and associate classifications created and summarized.
- Prepared, indexed, reviewed, and submitted Final Project Report.

Contract 3

Contract Title: Golden Eagle Habitat Model

Contract Number: 1460F

Vendor: University of Nevada, Reno

Contract Amount: \$10,615.96

Funding Source: S10 13-15

Contract Term: 8/19/2019 – 12/31/2019

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Searched for available species locality data for modeling, followed by spatial thinning of data to reduce duplication, and modeling bias imparted by clustered locality data.
- Completed background research and species account write-up for golden eagle (*Aquila chrysaetos*).
- Modeled species habitat.
- Prepared, indexed, reviewed, and submitted Final Project Report.

Contract 4

Contract Title: Desert Pocket Mouse Surveys

Contract Number: 1782A

Vendor: BEC Environmental, Inc.

Contract Amount: \$106,310.00

Funding Source: SNPLMA R17

Contract Term: 2/8/2021 – 12/31/2021

Contract Status: In progress

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.

Contract 5

Contract Title: Avian Surveys

Contract Number: 1782B

Vendor: SWCA Environmental Consultants

Contract Amount: \$108,645.00

Funding Source: SNPLMA R17

Contract Term: 2/8/2021 – 12/31/2021

Contract Status: In progress

Accomplishments:

- Produced a Work Plan and a Data Management Plan.
- Acquired the necessary permits for conducting surveys prior to their initiation and completed surveys as described in the Work Plan.
- 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.
- During surveys, the loggerhead shrike was the most frequently detected target species (n=31), and Bell's vireo was the least frequently detected target species (n=1).

Contract 6

Contract Title: HCP Consultant for the MSHCP Amend
Contract Number: 1460A (901H, 1970A)
Vendor: WRA Environmental Consultants
Contract Amount: \$600,000.00
Funding Source: S10 13-15
Contract Term: 3/21/2017 – 1/31/2022
Contract Status: In progress

Accomplishments:

- Monthly project progress calls with Clark County and USFWS to provide status updates, and discuss deliverables and overall MSHCP strategy.
- Compiled and organized the Administrative Record for all tasks completed through August 31, 2020 for preliminary Chapters 1-4, using EndNote.
- Completed draft Chapter 3, the Climate Change Worksheets 1b, 1c, 2, 3, and 4, and the Draft Covered Species Account Appendix.
- Completed the draft habitat quantification methodology and Draft Chapter 5 on Direct and Indirect Impacts and Anticipated Take of and Impacts to Covered Species.
- Completed draft Chapter 6 Biological Goals and Objectives, Avoidance and Minimization Measures, Monitoring and Adaptive Management Plan, Measures to Mitigate Unavoidable Take, including an analysis of qualified acres of habitat in the Reserve System, and Reporting.
- Initiated a draft of Chapter 7 Changed and Unforeseen Circumstances.
- Participated in three meetings with BLM, USFWS and Clark County on the Cooperative Management Agreement (CMA) and other areas of coordination for the MSHCP Amendment. WRA prepared agendas and meetings summaries for each meeting. WRA also prepared a revised draft of the CMA document for review by the agencies.

Contract 7

Contract Title: Vegetation Map for Clark County
Contract Number: 1965A
Vendor: Cogan Technology Inc.
Contract Amount: \$ 400,000.00
Funding Source: S10 19-21
Contract Term: 7/1/2020 - 6/30/2022
Contract Status: In progress

Accomplishments:

- Completed the geodatabase creation and image acquisition
- Produced the coarse-level mapping for 6 work zones. Course-level mapping has been completed to the USNVCS Group Level or better.
- Created the initial vegetation taxonomic classification for Clark County.



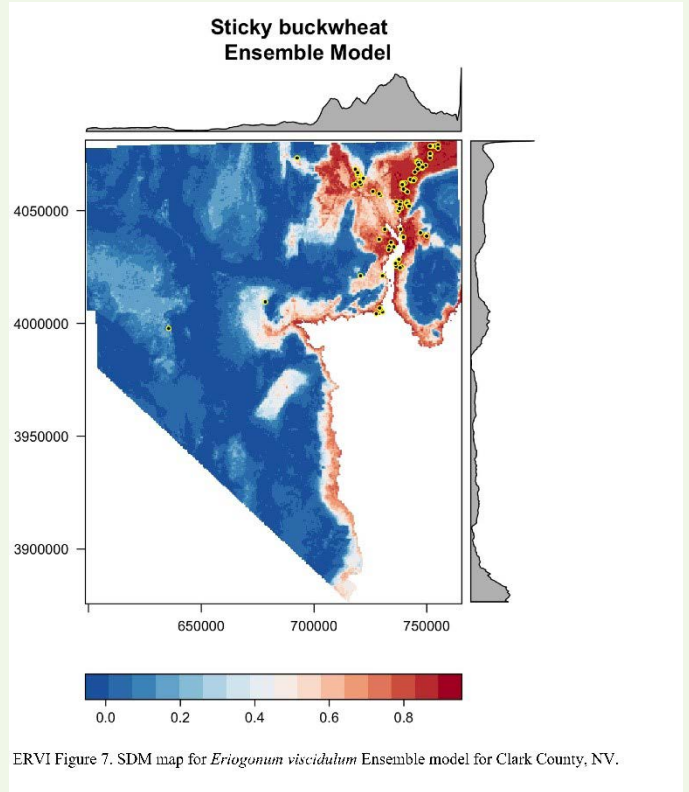
Desert pocket mouse captured during surveys.



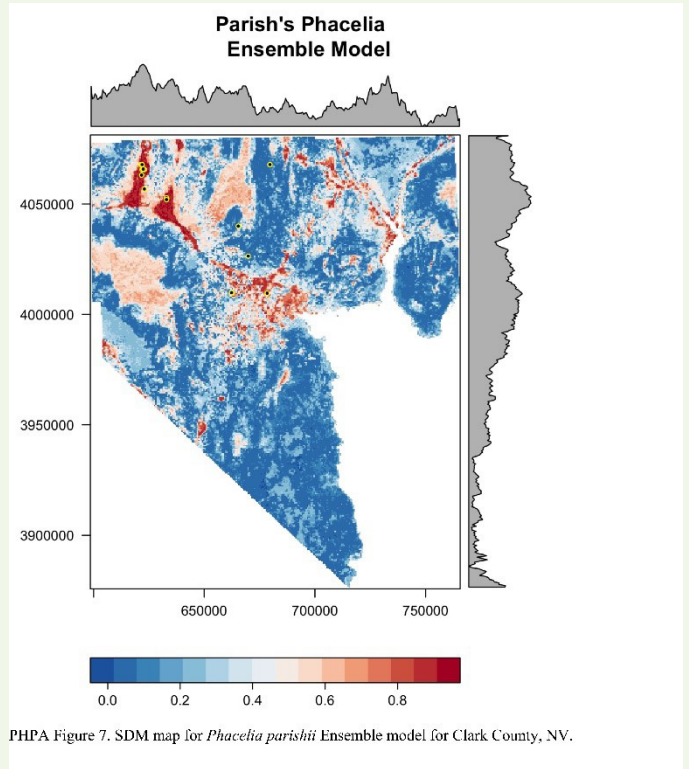
Avian survey site located in pinyon-juniper habitat in the Spring Mountains.



Avian survey site located in a saltbush flat near the McCullough Range.

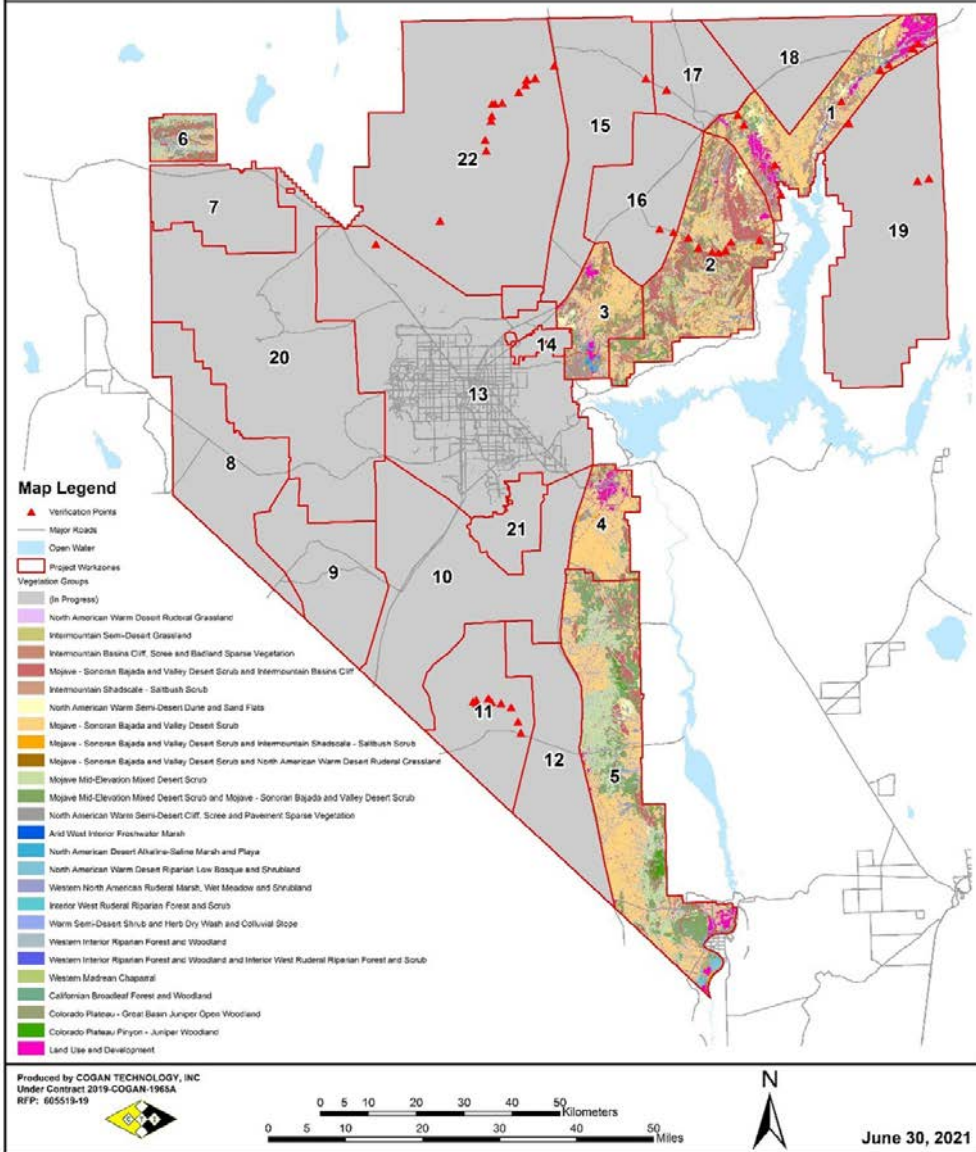


Species distribution model for sticky buckwheat (*Eriogonum viscidulum*)



Species distribution model for Parish's phacelia (*Phacelia parishii*).

Vegetation Mapping Project - Coarse Level Progress Status Map



Current status of the coarse level mapping.



Representative desert pocket mouse habitat.



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, translocation research, and desert tortoise predation studies are ongoing within the Easement.

PROGRAM AREA

BCCE

PROJECT 1

BCCE Management

DCP PROJECT CONTACT

Sara Carrizal

Project Coordinator

702.455.2722

Sara.Carrizal@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
(w/1510F & 1905C)

Contract Number: 1710D

Vendor: Gothic

Contract Amount: \$22,756.81

Funding Source: S10 2017-2019

Contract Term: 01/02/2020-
12/31/2021

Contract Status: In progress

Accomplishments:

- Replaced 6 signs at 4 kiosk locations.
- Completed 2 fence inspections.
- Repaired 9 locations to maintain the integrity of the tortoise fence around the solar energy zone in the BCCE.
- Performed 20 hours of cleanup of dense area of dead weeds within the Pet Cemetery.
- Performed 10 hours of clean up at the cable dump location near Route G.
- Removed 3 jet skis and debris around Route S.

Contract 2

Contract Title: BCCE Maintenance

Contract Number: 1710C

Vendor: Gothic

Contract Amount: \$45,000.00

Funding Source: S10 2017-2019

Contract Term: 01/03/2018-
12/31/2019

Contract Status: Completed

Accomplishments:

- Completed 2 fence inspections.
- Conducted trash clean up on Route C.
- Repaired 32 locations where desert tortoise fencing around the Energy Zone that was eroded due to rain.
- Created a turnaround at the southern end of Route G to allow vehicles to turn around and not enter BLM wilderness.
- Installed less than 10 feet of desert tortoise fencing at Route G to protect desert tortoise after the new desert tortoise guard was installed.
- Cleaned out 2 cattle guards.
- Installed 6 signs at the 4 kiosk locations.

Contract 3

Contract Title: Gabion Kiosks Build and Install

Contract Number: 1905E

Vendor: Gothic

Contract Amount: \$28,681.37

Funding Source: S10 2019-2021

Contract Term: 02/01/2021-06/30/2021

Contract Status: Completed

Accomplishments:

- Installed three new gabion kiosks, located on Route D, Route E, and Route I.

Associated Purchase Orders

PO Number	Vendor	PO Title	PO Amount	Funding Source
1420U	Forestry Suppliers	BCCE Culvert Wildlife Cameras	\$ 317.78	S10 13-15
1510D	KVO Industries	Replacement Kiosk Signage FY20	\$ 5,725.00	S10 15-17
1510E	IML Security Supply	Acquisition of Gate Locks	\$ 91.56	S10 15-17
1710E	Forestry Suppliers	Culvert Cameras for BCCE	\$ 375.52	S10 17-19
1710F	KVO Industries	BCCE Kiosk Signage	\$ 12,915.00	S10 17-19
1905A	American Express	Reserves Maintenance Materials & Tools FY20	\$ 2,400.00	S10 19-21
1905D	American Express	Reserves Maintenance Materials & Tools FY21	\$ 1,800.00	S10 19-21



Kiosk on SR165



Route G Kiosk

PROGRAM AREA

BCCE

PROJECT 2

BCCE Law Enforcement

DCP PROJECT CONTACT

Sara Carrizal

Project Coordinator

702.455.2722

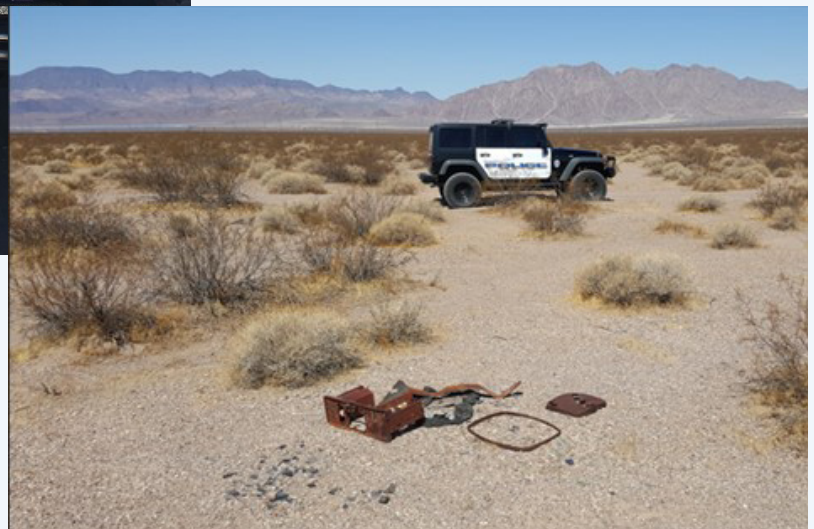
Sara.Carrizal@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Clark County purchased the BCCE in July 1995 from the City of Boulder City as partial mitigation for activities conducted under the MSHCP. The conservation easement agreement requires that Clark County provide peace officer patrols of the property on a regular basis to enforce applicable ordinances, resolutions, orders, regulations, and prohibited uses.



BCCE Patrol Officer Daniel



Debris Site Route G

Contract 1

Contract Title: Boulder City Police Dept Drone Project

Contract Number: 1510C

Vendor: Boulder City Police Department

Contract Amount: \$2,200.00

Funding Source: S10 2015-2017

Contract Term: 11/08/2019-08/10/2021

Contract Status: Completed

The purpose of this project is to enhance the effectiveness of vehicle patrols on the Boulder City Conservation Easement with the occasional use of a drone in special situations. Wildlife cameras used for predator studies have detected off-road travel and hunting in washes. Using a drone will help the Desert Conservation Program to deploy resources to these areas when these situations have been detected. This data will be used to plan days and times to use a drone in the areas that off-road activities have occurred. When violators are detected, appropriate enforcement action will be taken. These actions will further the protection of the BCCE.

Accomplishments:

- Using data obtained from wildlife cameras, the Desert Conservation Program has determined patterns of off-road activities in washes. This information is used to direct additional law enforcement presence during dates and times when unauthorized activities are most likely to occur.

Contract 2

Contract Title: Law Enforcement for the BCCE

Contract Number: 1710A

Vendor: Boulder City Police Department

Contract Amount: \$250,016.29

Funding Source: S10 2017-2019

Contract Term: 08/01/2017-08/30/2019

Contract Status: Completed

The Boulder City Police Department is tasked to provide law enforcement services within the Boulder City Conservation Easement to ensure the viability of the BCCE as desert tortoise (*Gopherus agassizii*) habitat. The Boulder City Police Department is expected to coordinate its law enforcement activities with law enforcement branches of the U.S. Fish and Wildlife Service, the Bureau of Land Management, and the National Park Service. Primary project purpose is to provide a peace officer to patrol the property on a regular basis to enforce applicable ordinances, resolutions, orders, regulations and prohibited uses.

Accomplishments:

- Patrolled the BCCE for 2,865 hours.
- Travelled 31,232 miles on the various dirt roads within the BCCE.
- Contacted 372 persons who were using the BCCE for valid, legal purposes.
- Provided 350 maps and brochures to interested persons in the BCCE.
- Issued 45 warnings and 1 citation to persons violating the law.

Contract 3

Contract Title: Law Enforcement for the BCCE

Contract Number: 1905B

Vendor: Boulder City Police Department

Contract Amount: \$216,477.99

Funding Source: S10 2019-2021

Contract Term: 08/20/2019-08/17/2021

Contract Status: Complete

Accomplishments:

- Patrolled the BCCE for 3,309 hours.
- Travelled 28,004 miles on the various dirt roads within the BCCE.
- Contacted 436 persons who were using the BCCE for valid, legal purposes.
- Provided 114 maps and brochures to interested persons in the BCCE.
- Issued 123 warnings and 3 citations to persons violating the law.

PROGRAM AREA

BCCE

PROJECT 3

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; ACCOMPLISHMENTS

- Completed annual spring vegetation monitoring at permanent transects established at restoration sites.

Contract 1

Contract Title: BCCE Cultural Resource Survey
Contract Number: 2009-SWCA-809M
Vendor: SWCA Environmental Consultants
Contract Amount: \$34,096.00
Funding Source: S10 2009 - 2011
Contract Term: 02/04/2019 - 01/30/2020
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Completed Class III cultural survey of approximately 88 linear miles of illegal roads and trails throughout the BCCE as part of our pre-restoration planning process.
- Coordinated with BLM archeologists to complete review of the Draft Report.
- Completed the final cultural resources inventory report for the project area and submitted the report to BLM.

Contract 2

Contract Title: Restoration at the BCCE

Contract Number: 1745A

Vendor: Gothic Landscaping

Contract Amount: \$336,942.54

Funding Source: S10 17-19, 09-11, and 13-15

Contract Term: 10/22/2020 – 06/30/2025

Contract Status: In Progress

Accomplishments:

- Decompacted and imprinted approximately 3 miles of decommissioned road in preparation for restoration.
- Applied native seed and seed pellets to approximately 3 miles of decommissioned road to facilitate restoration.
- Planted over 500 salvaged native perennial plants at access points to the decommissioned road to camouflage the areas, 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.



Access area to decommissioned road before restoration.



Former access area to decommissioned road 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 487 acres spread across five geographic areas along the Virgin River: Mormon Mesa, Riverside, Bunkerville East, Bunkerville West, and Mesquite West. Additional properties currently being considered for acquisition along the Muddy and Virgin rivers could add as much as 200 acres to the reserve unit.

PROGRAM AREA

Riparian Reserves

PROJECT 1

Management of the Riparian Reserve Units

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; ACCOMPLISHMENTS

- DCP 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: Virgin River Weed Management

Contract Number: 1720A

Vendor: National Park Service

Contract Amount: \$143,000.00

Funding Source: S10 17-19

Contract Term: 2/21/2018-3/15/2021

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Conducted weed surveys of properties
- Conducted tall whitetop, camelthorn, and tamarisk treatments of Mormon Mesa restoration sites
- Treated malta starthistle at Mormon Mesa and Riverside
- Conducted tamarisk control at the Bunkerville property using the basal spray method
- Conducted cut stump treatment of tamarisk on Muddy River Reserve Unit F

Contract 2

Contract Title: Riparian Reserves

Contract Number: 1720F

Vendor: Eagle View Contractors, Inc.

Contract Amount: \$100,000.00

Funding Source: S10 17-19

Contract Term: 9/1/2019-12/31/2021

Contract Status: In progress

Accomplishments:

- Conducted as needed inspections of properties
- Maintained fencing, signage, and gates
- Removed trash and debris from the reserves
- Demoed a dilapidated structure and installed fencing
- Cleared access roads from overgrown vegetation
- Thinned invasive palm trees

Contract 3

Contract Title: Riparian Reserves Vegetation Management

Contract Number: 1910C

Vendor: National Park Service (NPS)

Contract Amount: \$160,000.00

Funding Source: S10 19-21

Contract Term: 3/17/2021-7/15/2023

Contract Status: In progress

Accomplishments:

- Submitted work plan



Muddy River Tamarisk Treatment



Muddy River Tamarisk Treatment



Muddy River Tamarisk Treatment



Muddy River Tamarisk Treatment



Palm trees before removal



Palm trees before removal



Palm trees after removal



Muddy River gate repair



Riverside structure demo, pre



Riverside structure demo, post

PROGRAM AREA

Riparian Reserves

PROJECT 2

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

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: 002-26-301-002, 002-26-301-004, and 002-26-301-007 (58.94 acres).
- An offer was submitted 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). This offer is pending.
- Offers were submitted for the following properties in Moapa on a willing seller-willing buyer basis: 030-23-101-004 (1.29 acres), 030-22-501-011 (0.68 acre), 030-23-101-001 (15.95 acres). These offers were rejected.

Associated Purchase Orders				
PO Number	Vendor	PO Title	PO Amount	Funding Source
917BD	Stanley Consultants, Inc.	Parceling for APN 002-26-501-009	\$ 8,760.00	S10 11-13
917JC	Tio S Difederico Real Estate Appraisal, Inc.	Appraisal Report 030-23-101-001	\$ 3,500.00	S10 11-13
917JD	Anderson Valuation Group	Appraisal Report 030-23-101-001	\$ 3,500.00	S10 11-13
917M		Bunkerville Compound, LLC Land Acquisition	\$ 430,000.00	S10 11-13
9170A	Lubaway & Associates, Inc	Appraisal Report 002-26-301-007	\$ 2,750.00	S10 11-13
917P	Anderson Valuation Group	Appraisal for Property Acquisition	\$ 12,000.00	S10 11-13
917Q		Costa Land Acquisition	\$ -	S10 11-13
917QA	Anderson Valuation Group	Appraisal Rpt 030-23-101-004 & 030-22-501-011	\$ 3,500.00	S10 11-13
917R		Cavada Land Acquisition	\$ -	S10 11-13



Latest parcel additions to Bunkerville West



Latest parcel additions to Bunkerville West

PROGRAM AREA

Riparian Reserves

PROJECT 3

Muddy River 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. These project include the preparation of a grading design for 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, and restoration of Parcel E.

IN-HOUSE WORK

DCP staff coordinated with Real Property Management (RPM) to develop multiple easements related to the Muddy River Restoration project.

ACCOMPLISHMENTS

- Reviewed temporary and permanent easements from adjacent land owners.

Contract 1

Contract Title: Muddy River Habitat Restoration

Contract Number: 1570C

Vendor: Natural Channel Design

Contract Amount: \$590,207.00

Funding Source: SNPLMA R16

Contract Term: 9/3/2019 to 6/28/2022

Contract Status: In progress

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.
- Performed geotechnical investigation.
- Developed preliminary grading design and drainage study with associated hydrologic models.
- Prepared legal descriptions for easements.
- Prepared utility coordination and location identification.

Contract 2

Contract Title: Muddy River
Habitat Restoration

Contract Number: 1446D

Vendor: National Park Service

Contract Amount: \$65,836.00

Funding Source: SNPLMA R14

Contract Term: 03/23/2018 to
09/30/2019

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- The Exotic Plant Management Team monitored the site after conducting cut-stump treatment on tamarisk growing along the steep slopes and revegetation with plant species grown in Song Dog Nursery. They monitored for weed establishment and conducted supplemental watering, as needed.
- The Exotic Plant Management Team completed this project by submitting a final report and data.



Overview of Muddy River Reserve



Excerpt of restoration design for Muddy River prepared by Natural Channel Design

PROGRAM AREA

Riparian Reserves

PROJECT 4

Avian Nest Monitoring

DCP PROJECT CONTACT

Caryn Wright

Environmental Specialist

702.455.2972

Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Mesquite West, a historically occupied flycatcher site, includes riparian habitat situated across two individual parcels in Mesquite, Nevada; this site has been surveyed and monitored by the Bureau of Reclamation (BOR) or Nevada Department of Wildlife (NDOW) since 1996 (excluding 2014). In 2018, the County purchased the eastern portion (Mesquite or Parcel 1-A) of the 11.7-ha Mesquite West site, and in 2018 through 2020, the County contracted with SWCA to conduct flycatcher presence/absence surveys on that parcel.

Data from annual surveys conducted along the Virgin River at the Mesquite West flycatcher site show high cowbird nest parasitism rates from 2015 to 2019 (53%). Nest-monitoring data at Mesquite West indicate consistently high rates of cowbird parasitism, and it is believed that parasitism has significantly contributed to the nest failures and low productivity at that site. A cowbird control program is recommended when parasitism rates of a threatened or endangered host reach 20%–30% or 50% for any host species. Monitoring of flycatcher nests is an essential component in determining whether a control program has an impact on the nesting success of flycatchers at Mesquite West.



Two banded nestlings at Mormon Mesa, 2020

Contract 1

Contract Title: Avian Nest Monitoring on Riparian Properties
Contract Number: 1910B
Vendor: SWCA
Contract Amount: \$68,040.00
Funding Source: S10 19-21
Contract Term: 5/1/2020 to 4/29/2021
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Determined residency status, observed resident flycatchers, monitored nests, and banded adults at Mesquite West. Twelve adults were documented, comprised of four pairs, one territorial male, and three individuals that could not be confirmed as resident at the study area. Of the four pairs, three were confirmed to have nested, while a possible nesting attempt could not be confirmed for the fourth pair. A total of six nesting attempts were documented; all were unsuccessful.
- Three new adults were color banded. Two additional adults were identified to individual via color band resighting. Four adults remained unbanded, and band status could not be determined for the remaining three adults.
- While no full-scale flycatcher territory and nest monitoring was conducted at Mormon Mesa, two flycatcher pairs were detected during flycatcher surveys, and their territories were revisited during subsequent flycatcher and cuckoo survey visits. One pair had two unsuccessful nesting attempts, both located just north of the County's Mormon Mesa parcel boundary. The second pair had one successful nesting attempt, which was located within one of the County's restoration plots.
- Three adults were color banded; the fourth individual remained unbanded. Two nestlings were banded also. The nest was successful and produced one confirmed fledgling.

Contract 2

Contract Title: : Avian Nest Monitoring on Riparian Properties
Contract Number: 1750F
Vendor: SWCA
Contract Amount: \$52,271.00
Funding Source: S10 17-19
Contract Term: 5/1/2021 to 12/31/2021
Contract Status: In progress

Accomplishments:

- Determined residency status, observed resident flycatchers, monitored nests, banded adults, and conducted cowbird control.
- Completed 7 weeks of flycatcher monitoring and cowbird control.
- Detected six territories at Mesquite West, consisting of three pairs and three unpaired males. The pairs had six nesting attempts, three failed and three were currently active.
- Detected one unpaired male at Mormon Mesa Parcel.
- Netted 11 female cowbirds across 7 weeks of trapping, and two cowbird eggs have been added at Mesquite West.
- Banded one male at Mesquite West and one male at Mormon Mesa Parcel.
- Flycatcher territories and nests will continue to be monitored until the last nest has failed or the last chicks have fledged, which is expected to take place somewhere around mid-August.



Banded nestling at Mesquite West, 2021



First female cowbird of the year caught at Mesquite West, 05-15-2021



Newly banded flycatcher at Mormon Mesa, 2021

PROGRAM AREA

Riparian Reserves

PROJECT 5

Integrated Watershed Plan for the Lower Virgin River

DCP PROJECT CONTACT

Caryn Wright

Environmental Specialist

702.455.2972

Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Desert Conservation Program is a member of the Virgin River Coalition, a collaboration of federal, state, and local government agencies, nonprofit organizations, and individuals that worked together to develop and implement a comprehensive conservation and management strategy for the Lower Virgin River ecosystem and its tributaries. The development and implementation of a comprehensive watershed plan allows for improved coordination of conservation and restoration activities across the watershed. Key goals of this are to maintain and recruit additional stakeholders within the watershed, to develop and implement projects that will benefit the community and improve the watershed for threatened and endangered native fish and the endangered Southwestern Willow Flycatcher and threatened Yellow-billed Cuckoo. The orchestration of these activities will be through facilitated workshops and identified working groups (recreation, riparian habitat, native fish and water management).

IN-HOUSE WORK; ACCOMPLISHMENTS

- Continued participation in facilitated workshops and working groups.

PROGRAM AREA

Riparian Reserves

PROJECT 6

Virgin River Restoration

DCP PROJECT CONTACT

Caryn Wright

Environmental Specialist

702.455.2972

Caryn.Wright@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Restoration efforts on the Virgin River Reserve are ongoing and habitat has been enhanced through fuel 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.

Contract 1

Contract Title: Virgin River Restoration Treatment
Contract Number: 1521H
Vendor: Summitt Forests, Inc.
Contract Amount: \$99,504.00
Funding Source: SNPLMA R15
Contract Term: 12/13/2019 to 12/31/2020
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Masticated 36 acres of non-native tamarisk in designated areas. Care was taken to not damage or remove any desirable native species, i.e., cottonwood, coyote or Gooding's willow, etc.

Contract 2

Contract Title: Mormon Mesa Plant Propagation
Contract Number: 1521J
Vendor: National Park Service
Contract Amount: \$24,114.00
Funding Source: SNPLMA R15
Contract Term: 3/3/2020 to 6/30/2021
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Propagated native plants

Contract 3

Contract Title: Mormon Mesa Restoration Services, Phase II
Contract Number: 1750C (1521K)
Vendor: American Conservation Experience
Contract Amount: \$82,951.19
Funding Source: SNPLMA R15, S10 17-19
Contract Term: 9/4/2020 to 6/30/2021
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Cleared tamarisk slash and debris from the channels of surface water throughout the site to prepare the planting area and allow water to flow.
- Planted container native species, and harvested and planted poles.
- Fortified the perimeter of the restoration site by closing off any access points from trespass cattle with tamarisk slash.
- Built a gate and an exclusion fence.
- Sprayed Plantskydd to deter herbivores from entering through vulnerable areas in the natural barrier.
- Vertically mulched a portion of a trail leading to the site to deter travel by off-road vehicles.
- In total, 3173 container plants and 1096 cuttings were planted.

Contract 4

Contract Title: Archaeological Resource Evaluations on Riparian Reserve Parcels
Contract Number: 1750D
Vendor: SWCA
Contract Amount: \$40,000
Funding Source: S10 17-19
Contract Term: 9/15/2020 to 8/31/2025
Contract Status: In progress

Accomplishments:

- Performed a record search/literature review for all reserve properties acquired to date.
- Completed reports for all reserve properties acquired to date and provided recommendations for restoration/maintenance activities.
- Conducted pre and post restoration surveys on Mormon Mesa parcel.
- Conducted pre restoration survey on Muddy River parcel.

Associated Purchase Orders

PO Number	Vendor	PO Title	PO Amount	Funding Source
1750E	Helena Chemical Company	Repellent Acquisition	\$498.00	S10 17-19



Propagated plants at Song Dog Nursery



Propagated plants at Song Dog Nursery



Staged plants ready for planting



American Conservation Experience crews planting container plants



American Conservation Experience crew auguring holes for plants



American Conservation Experience crews planting channels



American Conservation Experience crew installing fence



Mormon Mesa, pre-mastication



Mormon Mesa, post-mastication

PROGRAM AREA

Riparian Reserves

PROJECT 7

Management of Water Rights

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; ACCOMPLISHMENTS

- Coordinated with NDWR to discuss process once petitions to adjudicate basins 222, 223, 224 are filed.
- Evaluated water right inventory to determine which should be conveyed to Nevada Department of Wildlife.
- Coordinated with Nevada Division of State Lands to draft agreements to convey water rights identified to be conveyed to Nevada Department of Wildlife.
- Coordinated with Real Property Management to finalize agreements to convey water rights to Nevada Department of Wildlife.
- 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 to 12/31/2014

Contract Status: In Progress

Accomplishments:

- Provided expert opinions on issues potentially affecting Clark County Desert Conservation Program during the 2021 legislative sessions, including consultations for submission of comments on proposed Bills.
- 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 preparation and filing of Request for Determination with the NDWR
- Prepared and filed Requests for Determination with the NDWR.
- Conducted reviews of water rights proposed to be transferred to other organizations to best meet programmatic water right goals. Transfer of the identified water rights is on the agenda for Board of County Commissioners approval in October 2021.
 - Provided recommendations for water rights on the Muddy River Reserve during and after upcoming restoration project.

Contract 2

Contract Title: Water Rights Consulting

Contract Number: 1445E (805AE)

Vendor: Farr West

Contract Amount: \$11,943.30

Funding Source: S10 13-15

Contract Term: 12/1/2016 to 8/15/2019

Contract Status: Complete

Unspent Funds: \$153.21

Accomplishments:

- Provided expert opinions on issues potentially affecting Clark County Desert Conservation Program during the 2019 and legislative sessions, including consultations for submission of comments on proposed Bills.
- Conducted analysis of current and potential new project acquisitions and water right holdings, and provided information related to property and water right ownership.
- Conducted reviews of water rights proposed to be transferred to other organizations to best meet programmatic water right goals. Transfer of the identified water rights is not complete. Next steps include completing the transfer of water rights and the preparation and filing of Reports.

4 PUBLIC INFORMATION, EDUCATION, & 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.

DCP 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 1

Mojave Max Education Program

DCP PROJECT CONTACT

Kimberley Jenkins

Principal Environmental Specialist

702.455.5529

Kimberley.Jenkins@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.



Mojave Max at a school assembly in 2019.

Contract 1

Contract Title: Mojave Max Education Program

Contract Number: 1915A (1715A, 1515AC)

Vendor: Get Outdoors Nevada

Contract Amount: \$492,190.00

Funding Source: S10 17-19

Contract Term: 8/1/2017 – 7/31/2022

Contract Status: In progress

Accomplishments:

- Conducted 395 in-person programs for elementary school youth in Southern Nevada.
- Developed a virtual Tortoise Talk experience as well as a shorter, inquiry-based program option for students called Ranger Q&As; completed 29 virtual, synchronous programs for approximately 1,000 youth during Year Four.
- Conducted 40 in-person school assemblies for elementary school youth in Southern Nevada, then adapted the Mojave Max Assembly materials to a virtual experience for 14 schools that reached approximately 2,200 students during Year Four.
- Conducted 96 outreach events that reached 122,993 individuals.
- Conducted four emergence contests; 18,661 Southern Nevada elementary students entered the contest, and we conducted emergence announcements and field trips at Doral Academy, Pat Diskin Elementary School, Somerset Academy, and Bonner Elementary School.
- Throughout Year Four, the pandemic continued to halt all in-person programs and events; increased social media efforts this year to highlight the Mojave Max program across social media platforms with campaigns like “Year End Highlights” and featured videos showcasing Mojave Max staying safe throughout the pandemic. Additionally, these efforts also included: updating the classroom programs to virtual events, adapted program outlines and materials to be posted as Online Resources, and collaboration with MXT Media, vocalists Julian and Myles Smith, the University Nevada Reno Cooperative Extension, plus many more to create a music video to spread awareness and identify ways in which anyone in the community can help protect Desert Tortoises, like Max, through conservation practices.

Contract 2

Contract Title: Content Prod for MoMax Assemblies/Emergence

Contract Number: 1715AJ

Vendor: MXT Media

Contract Amount: \$61,000.00

Funding Source: S10 17-19

Contract Term: 8/25/2020 – 1/28/2021

Contract Status: Complete

Unspent Funds: \$0.00

The goal of this project was to produce content for the upcoming Mojave Max assembly season that complied with COVID-19 measures in place at the Clark County School District.

Accomplishments:

- Created a series of 20 short videos to be used during the Mojave Max assemblies and emergence contest, including:
 - 14 introductory videos naming the school selected with Mojave Max costume character
 - "Save the Tortoise" music video
 - Mojave Max conservation messages (filmed at the Springs Preserve)
 - Mojave Max Emergence Contest
 - Mojave Max Tortoise Pledge
 - Tortoise Anatomy
- Mojave Max Animated Cartoon
- Created two web-based virtual classrooms with content broken down by age group (grades 1-2 and grades 3-5).



Mojave Max attending a public outreach event.

Associated Purchase Orders

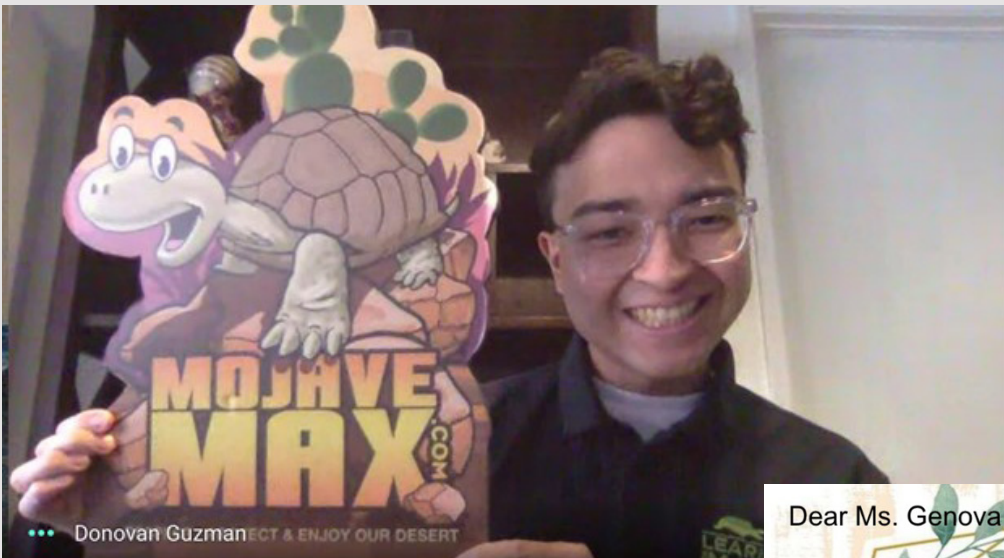
PO Number	Vendor	PO Title	PO Amount	Funding Source
1715AA	My Promos&Apparel	Acquisition of DCP Pencils	\$ 1,364.00	S10 17-19
1715AB	Logo Fusion USA, Inc.	Acquisition of Table Throw	\$ 120.00	S10 17-19
1715AC	My Promos&Apparel	Acquisition of Stainless Steel Water Bottles	\$ 962.12	S10 17-19
1715AE	Skyhigh Marketing	Acquisition of Playing Cards	\$ 3,480.00	S10 17-19
1715AF	My Promos&Apparel	Acquisition of DCP Gift Bags	\$ 242.98	S10 17-19
1715AG	Morgan Specialties, Inc.	Acquisition of Slim Sports Bottles	\$ 1,614.04	S10 17-19
1715AH	International E-Z Up, Inc	Acquisition of Shade Shelter	\$ 858.97	S10 17-19
1715V	The Pincenter	Acquisition of Mojave Max Lapel Pins	\$ 2,765.00	S10 17-19
1715W	My Promos&Apparel	Acquisition of Lip Balm Balls	\$ 2,986.00	S10 17-19
1715X	Giftco	Acquisition of Safety Sunglasses	\$ 1,852.00	S10 17-19
1715Y	Giftco	Acquisition of MoMax Iron on Patches	\$ 3,175.00	S10 17-19
1715Z	My Promos&Apparel	Acquisition of Rubber Wrist Bands	\$ 850.00	S10 17-19
1915B	Verizon Wireless	Acquisition of Arlo Go Camera	\$ 349.99	S10 19-21
1915C	CDW Government, Inc	Acquisition of Solar Panel & SD Cards	\$ 105.50	S10 19-21
1915E	Paper Zombies	Graphics Design Changes to Emergence Contest	\$ 225.00	S10 19-21
807J	International E-Z Up, Inc	Acquisition of Side Walls for E-Z Up Tent	\$ 568.29	S10 09-11



Clark County student recites the Tortoise Patrol Pledge.



"Save the Tortoise" music video.

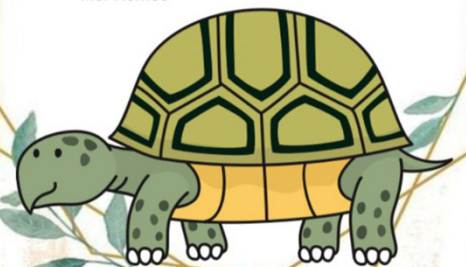


A member of the Mojave Max Education Team presents during a virtual Tortoise Talk.

Dear Ms. Genova

Thank you so much for visiting our class and giving us a lot of information about desert Tortoises. My class really enjoyed your presentation and they were very excited to learn so much about desert Tortoises.

Signed,
Ms. Romeo



Thank you card received from a teacher following a Tortoise Talk presentation.

PROGRAM AREA

Public Information, Education, and Outreach

PROJECT 2

General Outreach

DCP PROJECT CONTACT

Kimberley Jenkins

Principal Environmental Specialist

702.455.5529

Kimberley.Jenkins@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

One of the requirements of the Multiple Species Habitat Conservation Plan (MSHCP) is that the Desert Conservation Program (DCP) provide public information, education and outreach. In order to support the MSHCP message and mission, the DCP develops brochures, and other written collateral that contain conservation messages and further explain the DCP's purpose and mission. Written collateral is handed out at a wide variety of outreach events. Additionally, the DCP 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.

Contract 1

Contract Title: MSHCP Education Video

Contract Number: 1715AK

Vendor: We Market For Humans

Contract Amount: \$49,500

Funding Source: S10 17-19

Contract Term: 5/1/2020 – 11/30/2021

Contract Status: In progress

The goal of this project is to produce a 5-6 minute educational video that provides a plain-language explanation of the MSHCP's purpose and resources.

Accomplishments:

- This project has been kicked off; however, the majority of work will be accomplished in the next biennium. The video is expected to be complete in late 2021.

PROGRAM AREA

Public Information, Education, and Outreach

PROJECT 3

OHV Education and Outreach

DCP PROJECT CONTACT

Kimberley Jenkins

Principal Environmental Specialist

702.455.5529

Kimberley.Jenkins@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The purpose of this project is to encourage appropriate use of Off Highway Vehicles (OHVs) through outreach in areas where OHVs are used.



THANK YOU FOR WASHING YOUR WHEELS!

DON'T GIVE WEEDS A FREE RIDE!

Invasive weeds compete with native plants and animals and result in more frequent and intense fires. Washing off your OHV will help prevent the spread of non-native weeds.

- Stay on designated routes and trails.
- Clean vehicles by washing the undercarriage and brushing all dirt and mud off tires before entering and exiting a recreation site.
- Clean boots and other gear that can carry dirt and seeds before moving to new areas.

PLEASE DON'T TOUCH WILD DESERT TORTOISES

DESERT TORTOISES ARE PROTECTED UNDER FEDERAL LAW.

- Look underneath your tires for desert tortoises before moving your vehicle.
- If you see a desert tortoise in the wild, leave it alone, let it be wild.
- Take pictures of desert tortoises, and enjoy from afar.

FOR MORE INFORMATION, VISIT MOJAVEMAX.COM



Half-page advertisement placed in the Las Vegas Weekly.

Contract 1

Contract Title: DT Aware & Invasive Spec Ed for OHV Comm

Contract Number: 807H

Vendor: MXT Media

Contract Amount: \$50,000.00

Funding Source: S10 09-11

Contract Term: 10/22/2018 – 1/31/2020

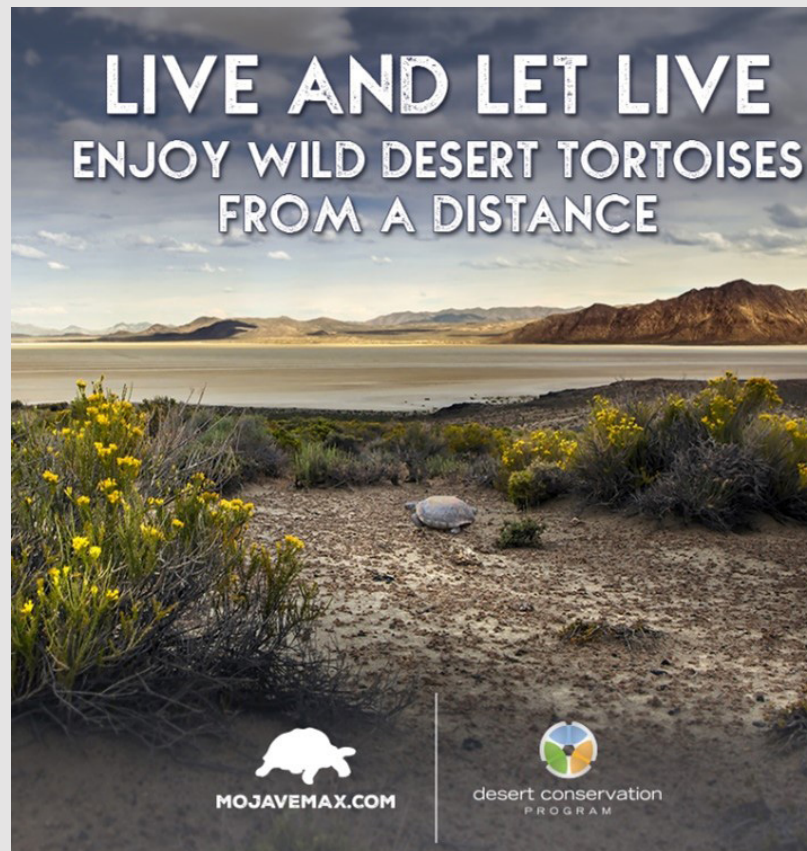
Contract Status: Complete

Unspent Funds: \$1,893.85

The goal of this project is to increase awareness of the desert tortoise in the wild and also ways the OHV community can help minimize the spread of invasive species. This will be accomplished by developing a marketing communications strategy and plan that promotes these ideas. MXT Media will provide outreach strategies and collateral materials to inform OHV users on best practices for minimizing the spread of invasive weeds and to increase awareness of the wild desert tortoise.

Accomplishments:

- Completed a draft and final Marketing Plan.
- Prepared marketing materials (rack cards, print ads, public service announcement, social media ads, add new page to OHV website (OHV.NV.GOV).
- Implemented advertising campaigns (print, radio, social media).
- Attended four public outreach events.
- Delivered rack cards to OHV dealerships and mailed to agencies/organizations.



Social media advertisement.

5

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 1

Wild Desert Tortoise Assistance 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.
- 9 Calls have been recieved on the hotline.
- 8 desert tortoise pickups been conducted, 7 of which were adults, and 1 was juvenile.
- 0 of these tortoises were immediately relocated within the Boulder City Conservation Easement.
- All Tortoises have recieved at least 1 Health Assessments have been conducted.
- 5 tortoises have been translocated, one was given to USGS, and 2 are currently in holding.
- 32 Outreach sessions have been performed.

Associated Purchase Orders

PO Number	Vendor	PO Title	PO Amount	Funding Source
803G	RodentPro.COM, LLC	Zoo Med Natural Grassland Tortoise Food	\$ 138.61	S10 09-11



Temporary holding pen and artificial burrow.



Tortoise drinking and soaking at the temporary holding area.

PROGRAM AREA

Wild Desert Tortoise Assistance

PROJECT 2

Translocation

DCP PROJECT CONTACT

Scott Cambrin

Senior Biologist

702.455.3859

Scott.Cambrin@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Augmenting depleted populations through a strategic program is one of the seven strategic elements in the 2011 Recovery Plan for the Mojave desert tortoise. These projects will support that element of the Recovery Plan through on-the-ground work to monitor release sites in Clark County that are connected to wild populations. The expected benefit is to move closer to using population augmentation as a tool in the recovery of the desert tortoise across its range.

The goal of this project is to assess the success (e.g., survivorship and distribution of translocated versus resident tortoises) of translocation to two sites in Clark County. An increase in tortoises in these areas through augmentation may help to facilitate recovery over time and improve habitat connectivity across the landscape.

Contract 1

Contract Title: BCCE DT Telemetry and Health Assessments

Contract Number: 1412D

Vendor: Great Basin Institute

Contract Amount: \$149,628.05

Funding Source: S10 13-15

Contract Term: 11/13/2018 – 11/14/2020

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Collected 3 months of weekly location data for 49 tortoises.
- Submitted 3 monthly data deliverables and one final data deliverable for the project.
- Submitted a final report summarizing all work done during the two years of the project.

Contract 2

Contract Title: BCCE DT Telemetry and Health Assessments

Contract Number: 1930A

Vendor: Great Basin Institute

Contract Amount: \$298,200.46

Funding Source: S10 19-21

Contract Term: 11/14/2021

Contract Status: In progress

Accomplishments:

- Conducted two years and seven months of monitoring Mojave desert tortoises at the BCCE.
- Submitted 21 monthly data uploads to Desert Conservation Program.
- Submitted 7 quarterly reports to Desert Conservation Program.
- Monitored telemetered animals on a monthly basis November through February.
- Monitored telemetered animals on a weekly basis March through June.
- Changed transmitters as needed.
- Affixed additional Mojave desert tortoises with transmitters.

Contract 3

Contract Title: Desert Tortoise Nesting Study on the BCCE

Contract Number: 2019-UNR-1985A

Vendor: University of Nevada Reno

Contract Amount: \$92,729.74

Funding Source: S10 19-21

Contract Term: 3/20/2020 – 1/31/2022

Contract Status: Active

Accomplishments:

- Completed a work and data management plan for the project.
- Located and tracked 22 adult female tortoises on the BCCE and attached GPS dataloggers that collected points every 15 minutes.
- Performed ultrasounds or coelomic cavity palpations to detect shelled eggs every 10 days.
- Located 2 nests and installed temperature and humidity data loggers as well as caged the nests to deter predation.
- Located 27 male or subadults and collected blood samples from those individuals for future genetic analysis.

Contract 4

Contract Title: DT Mating Opportunities on the BCCE

Contract Number: 2019-UNR-1985B

Vendor: University of Nevada Reno

Contract Amount: \$15,798.20

Funding Source: S10 19-21

Contract Term: 8/1/2020 – 5/15/2021

Contract Status: Completed

Accomplishments:

- Completed a work and data management plan for the project
- Performed 5 health assessments and collected 3 blood samples from tortoises.
- Attached and maintained GPS data loggers on 3 tortoises and attempted 3 others but complications arose to prevent a full dataset on 3 of the 6 tortoises.
- Completed a final report where we calculated home range sizes for the tortoises with full data.

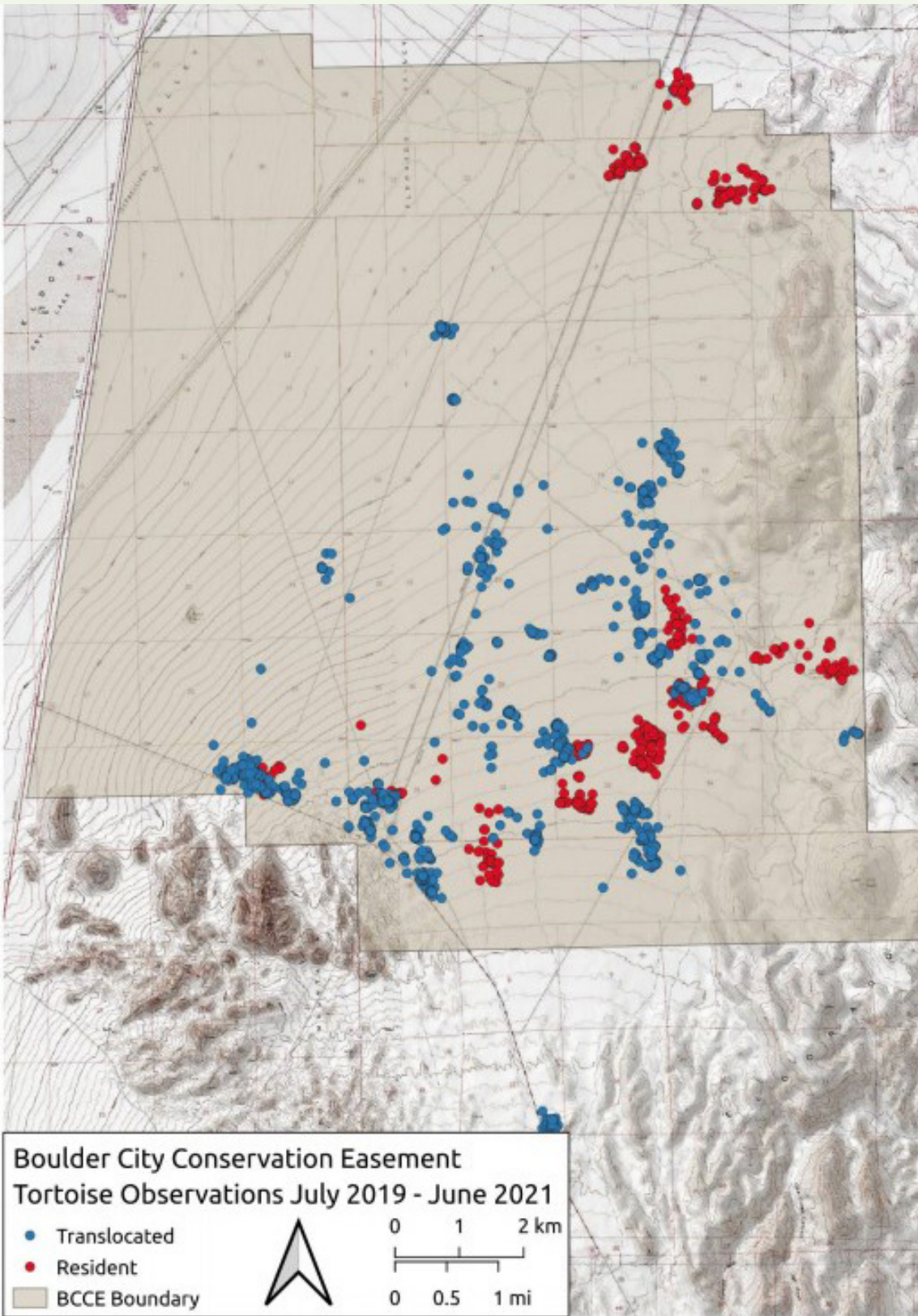


Figure 1. Map of BCCE tortoise locations from July 2019 to June 2021

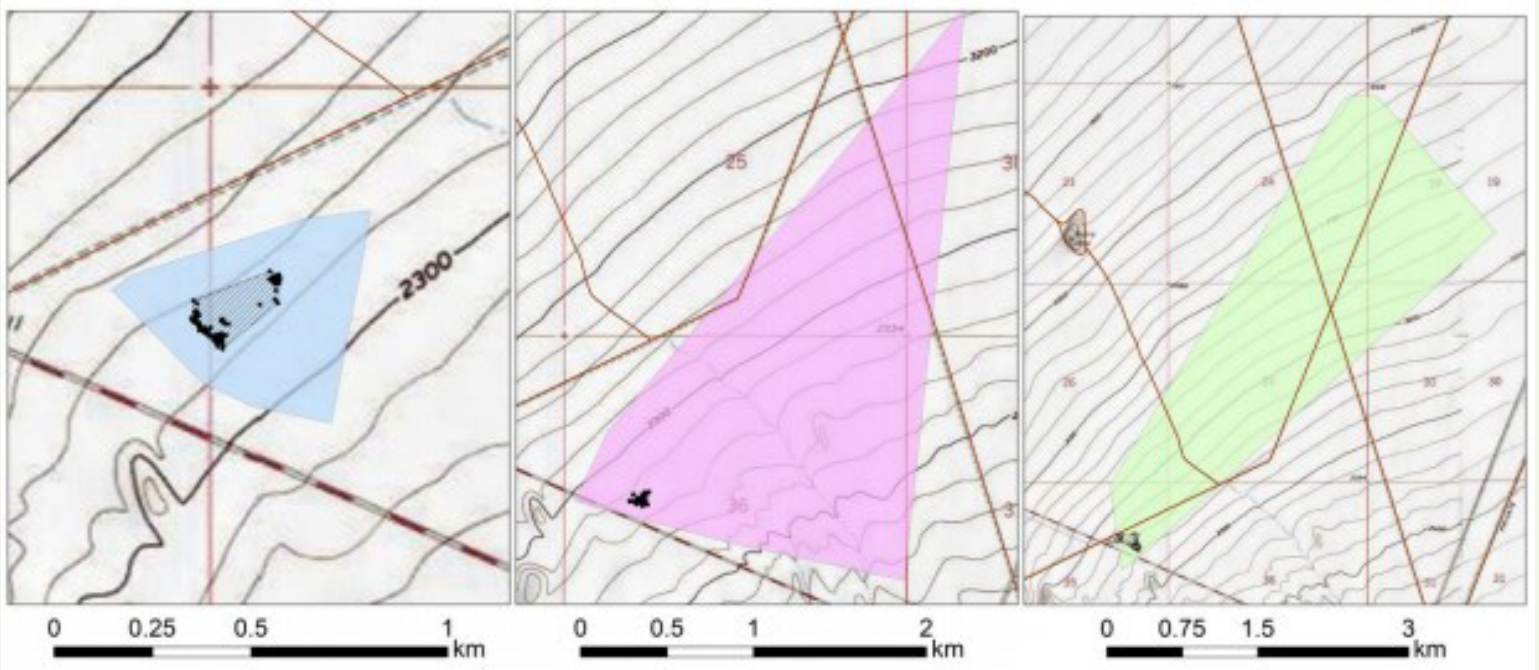


Figure 2. Minimum convex polygons of historical home ranges (2018 – 2020) calculated from locations provided by Great Basin Institute of Mojave desert tortoises (*Gopherus agassizii*) at the Boulder City Conservation Easement. Locations recorded by archival GPS loggers Sept. 16 – Oct. 2, 2020 shown as black dots, and hatched polygons show the MCPs calculated from those GPS locations. Left: EV4064; Middle: EV4238; Right: EV4247.



Tortoise with radio transmitter and GPS datalogger attached

PROGRAM AREA

Wild Desert Tortoise Assistance

PROJECT 3

Evaluating Desert Tortoise Habitat Restoration

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stafanie.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 Amount: \$60,000.00

Funding Source: SNPLMA Round 17

Contract Term: 11/01/2020 to 05/05/2022

Contract Status: In Progress

Accomplishments:

- Completed conference calls approximately every two months for symposium planning with the project team.
- Conducted extensive literature review of 400+ published papers on desert tortoise habitat requirements and Mojave Desert restoration practices and effectiveness.
- Assembled database housing the subset of relevant papers and their associated restoration information. Preparation of graphics is in progress.
- This is a continuing project and the next steps include continuing with assisting with symposium planning, completing the literature review document, and revising the literature review in accordance with project team comments.

Contract 2

Contract Title: Restoration Workshop Facilitation

Contract Number: 1760B

Vendor: Southwest Decisions Resources, Inc.

Contract Amount: \$50,000.00

Funding Source: SNPLMA Round 17

Contract Term: 05/27/2021 to 04/28/2022

Contract Status: In Progress

Accomplishments:

- Facilitated two planning team meetings: assisted with maximizing meeting efficiency and progress toward team goals, coordinated meeting scheduling, prepared agendas, and documented meeting minutes.
- Submitted finalized meeting minutes for County records.

PROGRAM AREA

Wild Desert Tortoise Assistance

PROJECT 4

Road Warriors

DCP PROJECT CONTACT

John Ellis

Environmental Specialist

702.455.3964

John.Ellis@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.



Large sections of US95 were recently graded prior to surveys.

Contract 1

Contract Title: Road Warrior DT Mortality Survey
Contract Number: 1955A
Vendor: Tortoise Group
Contract Amount: \$20,300
Funding Source: S10 19-21
Contract Term: 9/5/2019-1/29/2021
Contract Status: Completed
Unspent Funds: \$0.00

Accomplishments:

- Surveyed a total of 52 miles of roads on both sides of the road for mortality and desert tortoise sign.
- A total of 11 animal carcasses were located, 2 of those carcasses were from tortoises. Other carcasses located were 2 birds, 1 snake, 2 rabbits, and 2 coyotes, an unknown mammal tail, and a large ungulate (likely burro) tooth.
- Other tortoise sign observed included 2 desert tortoise burrows.

Contract 2

Contract Title: Fence Maintenance Survey
Contract Number: 1950A
Vendor: Tortoise Group
Contract Amount: \$10,000
Funding Source: S10 19-21
Contract Term: 9/5/2019-1/29/2021
Contract Status: Completed
Unspent Funds: \$0.00

Accomplishments:

- Surveyed 55.3 miles of desert tortoise fence.
- A total of 130 fence damage incidents were recorded and reported to the Nevada Department of Transportation for repair.



Tortoise carcass from the mortality survey

PROGRAM AREA

Wild Desert Tortoise Assistance

PROJECT 5

Transportation Ecology Workshop

DCP PROJECT CONTACT

Sara Carrizal

Project Coordinator

702.455.2722

Sara.Carrizal@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Desert tortoises are faced with numerous threats hampering recovery of populations. Mortality and illegal capture along roads is seen as one of the more significant issues relative to recovery of the desert tortoise. The construction of roads and highways over the past century has permanently fragmented desert tortoise habitat and reduced connectivity among populations. The installation of tortoise fencing to limit mortality and encourage re-colonization of habitat has been determined to be an effective conservation action that reduces mortality of individuals crossing roadways. The U.S. Fish and Wildlife Service initiated planning efforts to host a capstone workshop to address policy and implementation issues and develop technical specifications for fencing and culvert designs. The Desert Conservation Program provided funding support for this event and participated in numerous planning meeting; staff continue to participate via ongoing technical subcommittee meetings.

Contract 1

Contract Title: DT Transportation Capstone Workshop

Contract Number: 2009-CLLC-804M

Vendor: Center for Large Landscape Conservation

Contract Amount: \$ \$5,500.00

Funding Source: S10 09-11

Contract Term: 03/10/2021-06/30/2022

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Completed 3 day virtual workshop.
- 237 Individuals attended the workshop.
- Created the Desert Tortoise Ecology Task Force.
- 12+ volunteers will participate in the Task Force.
- Leadership panel consisted of 8 individuals from 8 different agencies in different states.

Contract 2

Contract Title: Transportation Ecology Documentary

Contract Number: 804L

Vendor: University of Nevada LV (UNLV) -School of Life Sci

Contract Amount: \$11,370.00

Funding Source: S10 09-11

Contract Term: 01/07/2021-06/30/2021

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Produced a 25 minute documentary video.
- Completed in 5 days and across 4 states.
- Traveled 1,218 miles
- Partnered with University of Nevada Las Vegas U.S. Fish and Wild Life Service, Center for Large Landscape Conservation, and Western Transportation Institute.



"The Road to Recovery Documentary"



The Road to Recovery Documentary”



Filming “The Road to Recovery Documentary”.

6

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 1

**Boundary Fence for the Tule Springs Fossil Beds
National Monument**

DCP PROJECT CONTACT

**Sara Carrizal
Project Coordinator
702.455.2722
Sara.Carrizal@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 fencing along the western boundary of the monument and along Corn Creek Road. This fencing would provide protection of sensitive environmental resources within the monument and would also protect desert tortoises from crossing U.S. Highway 95. Before the fence can be installed a set of fence design drawings were needed and a cultural resource survey needed to be completed and approved by Desert Conservation Program and the National Park Service.

IN-HOUSE WORK; ACCOMPLISHMENTS

- Desert Conservation Program staff have continued to coordinate with the National Park Service to address right-of-way issues and to obtain all necessary environmental clearances prior to constructing the project.
- Construction bid documents have been prepared and bids will be solicited during the next biennium. Fence construction is anticipated to occur in 2022.

Contract 1

Contract Title: TUSK Trail Head Design

Contract Number: 804K

Vendor: The WLB Group

Contract Amount: \$8,700.00

Funding Source: S10 2009-2011

Contract Term: 04/20/2020-
11/02/2020

Contract Status: Completed

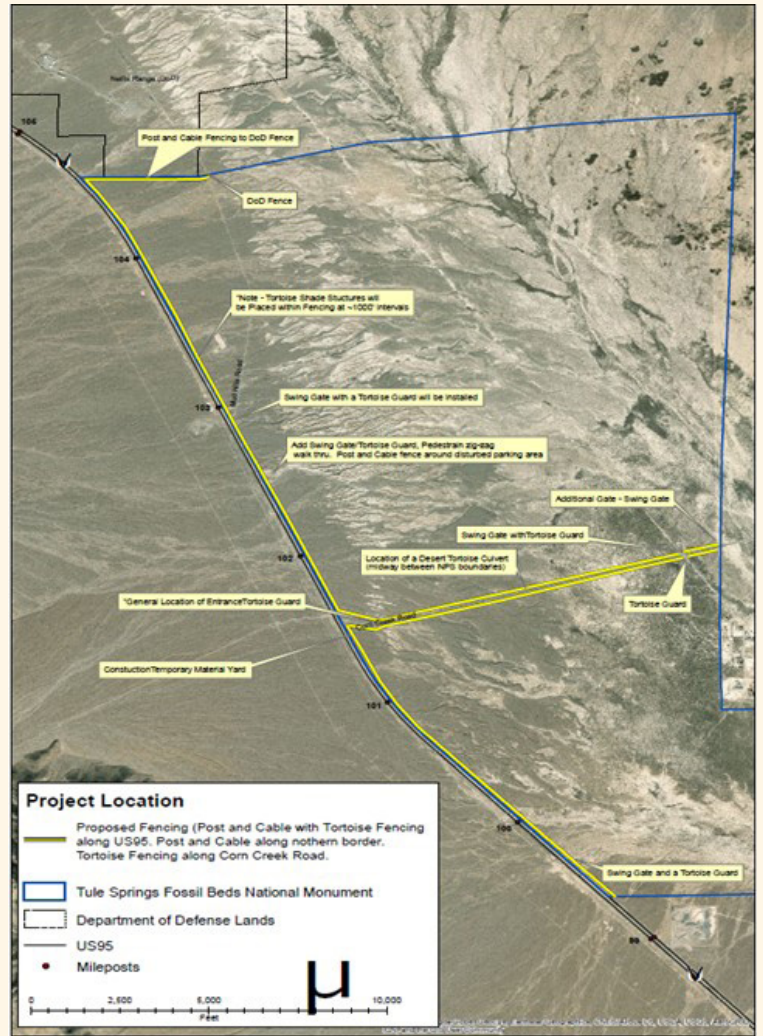
Unspent Funds: \$0.00

Accomplishments:

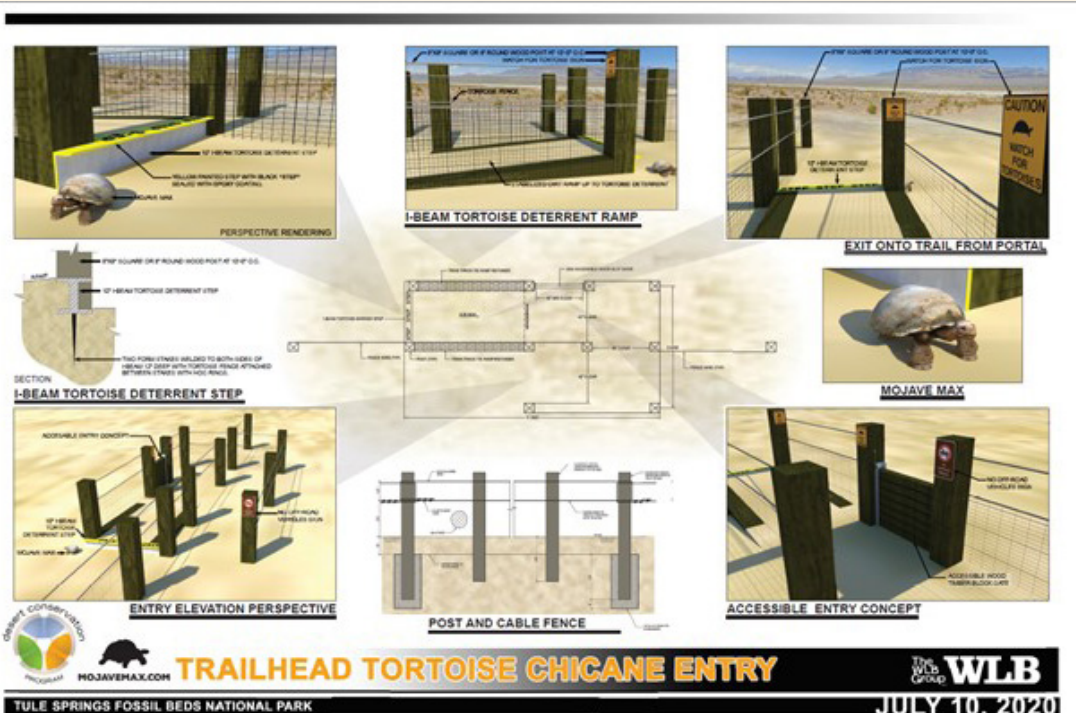
- Provided two 3D graphic renderings.
- Provided two preliminary construction detail drawings.



Project Priority Map



Project components



3D graphic rendering of a pedestrian access gate design

PROGRAM AREA

Conservation Projects

PROJECT 2

Installation of Bat Gates

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stefanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Abandoned mine land (AML) hazards are common in many parts of Clark County. AML hazards pose a danger to recreationists but also require protection due to their tendency to house wildlife, including multiple species of bats which are covered by the MSHCP. The goal of this project is to close off AML hazards in recreational areas of Clark County while maintaining habitat accessibility and functionality for wildlife.



Photos of desert tortoise, bats, gray fox, and ring-tailed cat using a gate at Gold Butte National Monument.

Contract 1

Contract Title: Gold Butte AML Closures

Contract Number: 1792C

Vendor: Nevada Division of Minerals

Contract Amount: \$193,824.79

Funding Source: S10 17-19

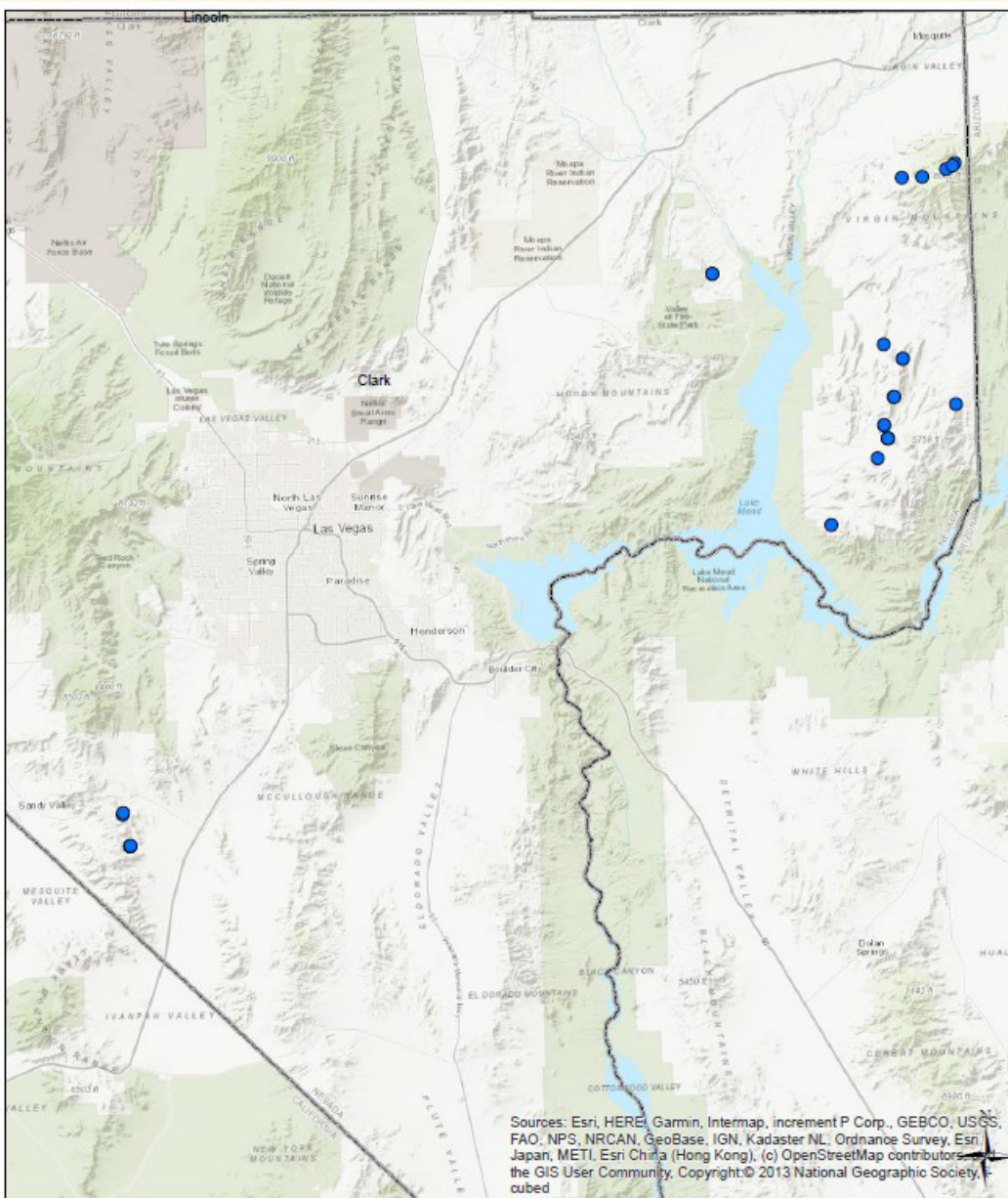
Contract Term: 07/10/2018 –
12/19/2019

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Installed a total of 26 wildlife compatible closures at AML hazards: 18 in the Gold Butte National Monument, 2 at Valley of Fire State Park, and 6 in the Historic Goodsprings Mining District. These closures accomplished the goal of maintaining accessibility for native wildlife species including 16 species of bats as well as desert tortoise while also eliminating unsafe conditions for the public.



● Wildlife Compatible Closures (n=26)

Scale 1:750,000

Date: 11/21/2019

Map of wildlife compatible closures installed for this project.

PROGRAM AREA

Conservation Projects

PROJECT 3

Gila Monster Ecology and 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 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 this 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: USGS

Contract Amount: \$ 123,000

Funding Source: S10 19-21

Contract Term: 12/20/2019 – 12/31/2021

Contract Status: In progress

Accomplishments:

- Acquired a total of 102 tissues from 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 Amount: \$193,900.00

Funding Source: S10 19-21

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

Contract Status: In progress

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 Title: Gila Monster Habitat Modeling

Contract Number: 1997C

Vendor: University of Nevada Reno (UNR) - BRRC

Contract Amount: 36,698.62

Funding Source: S10 19-21

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

Contract Status: In progress

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 draft habitat model, and subsequent updates incorporating new localities as they are available.

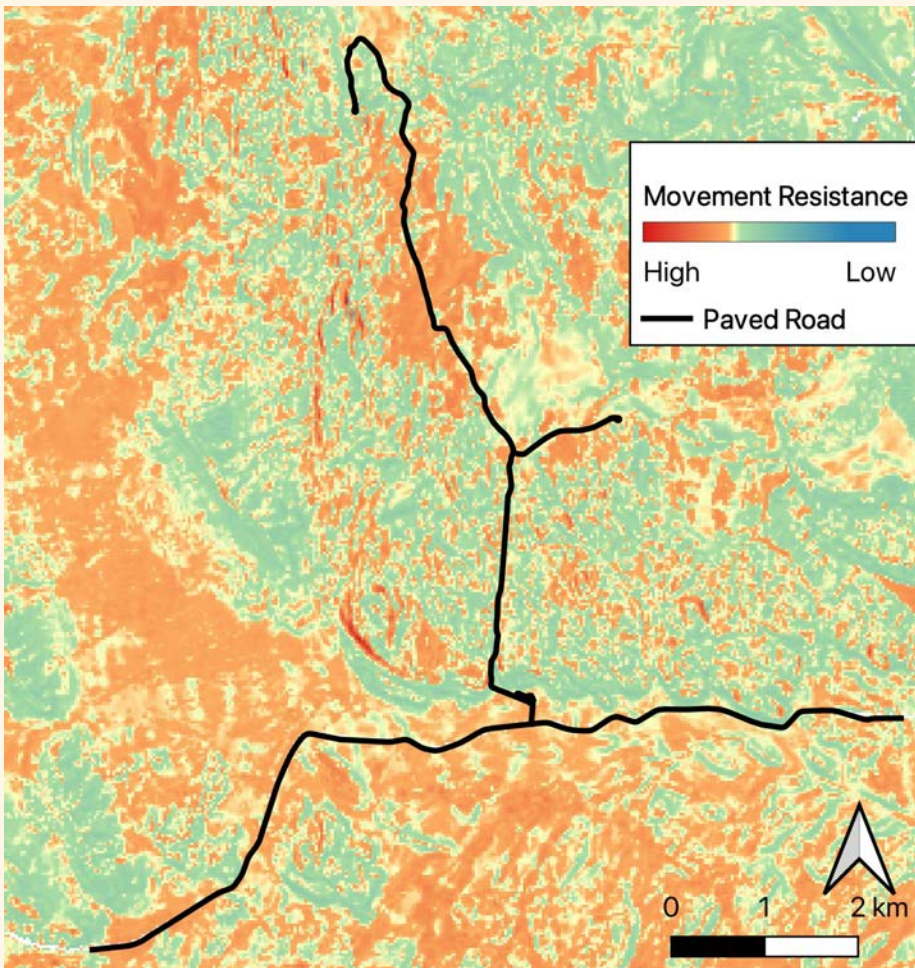


Gila Monster in Calico Basin.

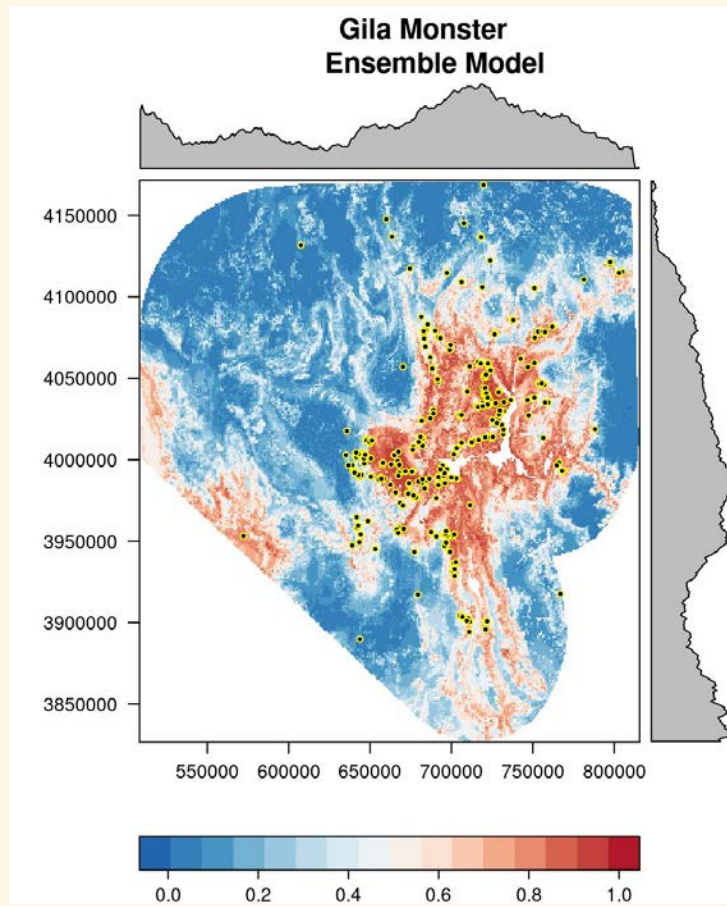


Biologist using Telemetry equipment tracking Gila Monsters.

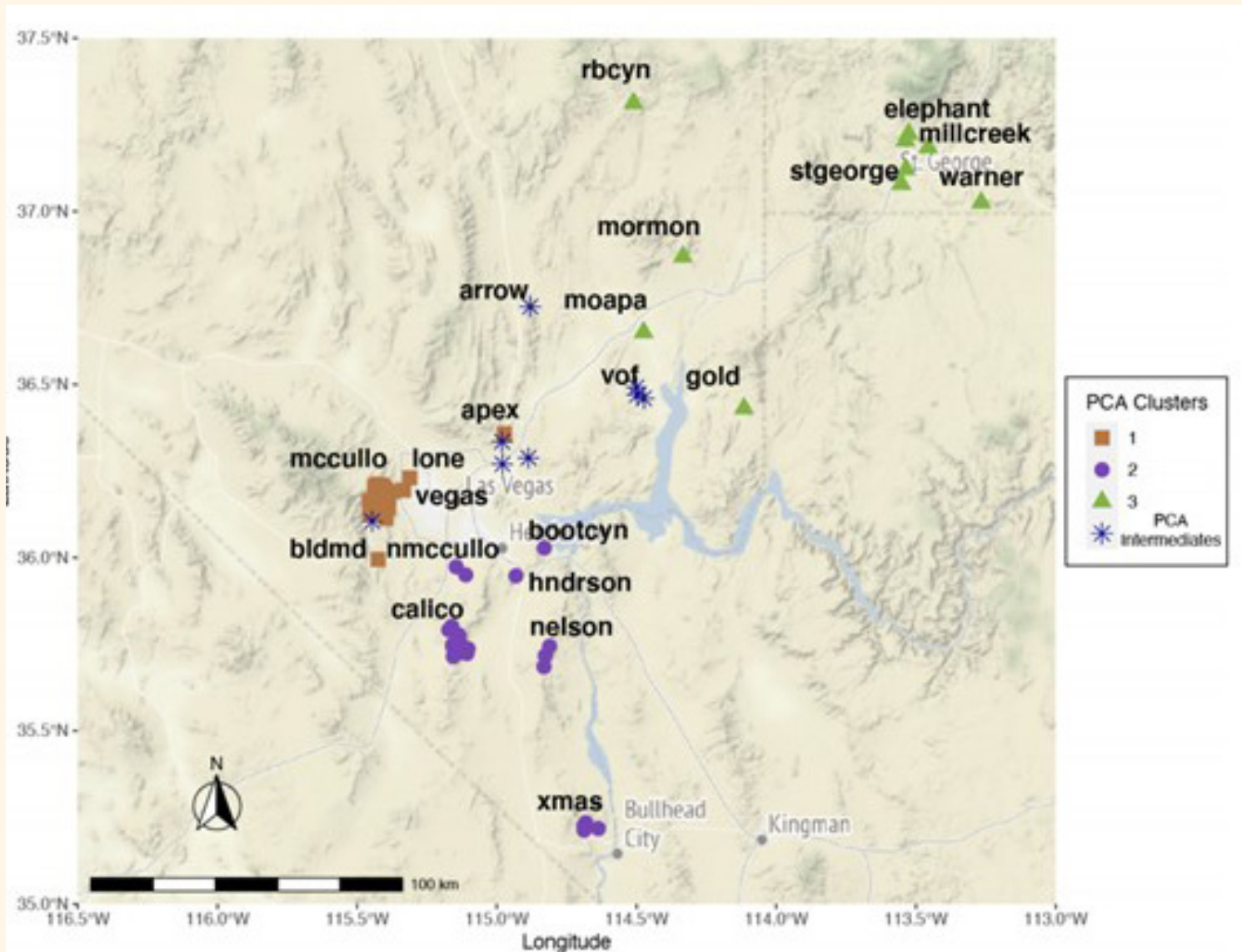




Draft Predictive Movement Model



Draft Habitat Suitability Model



Map showing the geographic distribution of the three clusters identified in the PCA plot across Nevada and Utah.

PROGRAM AREA

Conservation Projects

PROJECT 4

Relict Leopard Frog Conservation

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stafanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The purpose of this project is to provide conservation efforts towards the persistence of natural and established populations of the relict leopard frog and towards the establishment of additional populations. The project is a continuation of efforts funded by the Desert Conservation Program in the 2005-2007, 2007-2009, and 2009-2011 biennia. Conservation actions and continued conservation planning will be implemented as specified in a conservation agreement and strategy (CAS) for this species. The CAS was voluntarily entered into by several state and federal agencies, and is managed by a multiagency conservation team. Efforts under this project include: population monitoring, habitat improvements, headstarting/translocation actions, critical habitat management actions, and facilitation of conservation team meetings and reporting.



University of Nevada Las Vegas assistant conducting nocturnal survey (photo by Rebeca Rivera).

Contract 1

Contract Title: Relict Leopard Frog Conservation Planning and Implementation

Contract Number: 1550A

Vendor: University of Nevada, Las Vegas

Contract Amount: \$184,050.00

Funding Source: S10 15-17

Contract Term: 06/01/2016 to 04/30/2020

Contract Status: Complete

Accomplishments:

- Completed annual monitoring using nocturnal visual encounter surveys each spring and fall at all historical and translocation sites occupied by *Rana onca* (current number of sites totals 21).
- Completed diurnal visual encounter surveys each spring at most occupied sites (with the general exception of one site) to assess breeding activity and to search for egg masses or tadpoles for headstarting (rearing) efforts.
- Conducted field assessments at 14 unoccupied springs for their potential as translocation sites
- Completed four seasons of headstarting and translocations, releasing 3,347 frogs and tadpoles to a total of 9 different sites, including augmentation of historical sites within the Northshore springs complex. Two sites were established during the project period, including an artificial pond system at the Las Vegas Springs Preserve.
- Provided 487 frogs from the headstarting program to the University of Nevada, Las Vegas for research into the effects of the pathogenic amphibian chytrid fungus. Provided 19 juvenile frogs to the Las Vegas Springs Preserve as part of their public educational display.
- The overall count of frogs (abundance) increased by > 15% since project initiation (over 2015 count).
- Conducted monitoring or assisted with targeted field sampling associated with research on the pathogenic amphibian chytrid fungus at 9 sites.
- Conducted actions at 9 sites, often repeatedly, to maintain important habitat features or to assisted federal agencies with habitat maintenance and planning.
- Provided assistance on several research projects associate with *R. onca* conservation.
- Coordinated Relict Leopard Frog Conservation Team meetings and reporting.
- Assisted with writing of the 2016 Conservation Agreement, and Conservation Assessment and Strategy for the species.



University of Nevada Las Vegas assistant conducting nocturnal survey (photo by Rebeca Rivera).

PROGRAM AREA

Conservation Projects

PROJECT 5

Rare Plant Surveys

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stafanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

This project focuses on conducting surveys for state-listed plants in undersurveyed 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 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 habitat.



Las Vegas bearpoppy rosette in habitat at Gold Butte, April 25, 2021.

Contract 1

Contract Title: Rare Plant Surveys

Contract Number: 1755A

Vendor: Ironwood Consulting, Inc.

Contract Amount: \$268,000.00

Funding Source: S10 17-19

Contract Term: 01/08/2020 –
12/31/2022

Contract Status: In Progress

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 Desert Conservation Program and cooperating agencies' data deliverable standards, including the Nevada Natural Heritage Program and the Nevada Division of Forestry.
- Coordinated the 2020 and 2021 spring survey mobilizations, with Desert Conservation Program, BLM, National Park Service and Nevada Division of Forestry.
- Designed and implemented a data collection interface using ESRI Collector and Survey123 to meet the Nevada Natural Heritage Program data collection and deliverable standards.
- During the spring 2020 field mobilization, documented 46 rare plant occurrence records, occupying 94 of the 11,881 acres surveyed. Of the 22 locations surveyed, target species were observed at 13 locations.
- During the spring 2021 field mobilization, documented five rare plant populations, occupying approximately 2,400 acres of the 2,870 acres surveyed. Spring 2021 results include a very extensive population of blue diamond cholla (*Cylindropuntia multigeniculata*). Of the 7 locations surveyed, target species were observed at 3 locations.
- Completed the 2020 Survey Report and Data Deliverable that summarized results of the 2020 Spring Survey and provided clean and accurate data agency use.



Blue Diamond cholla in habitat at Summit Pass, April 27, 2021.

6 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

PROJECT 1

Independent Science Advisor Panel

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.

Specifically, the science advisor will:

- Review staff analyses of land use trends, habitat loss by ecosystem, and implementation status;
- Use available data to analyze MSHCP implementation projects' effectiveness and efficiency in meeting MSHCP goals and objectives;
- Provide advanced spatial (geographic information systems [GIS]) and statistical analyses; and
- Provide science-based recommendations on future implementation of MSHCP.

Contract 1

Contract Title: Science Advisor Panel for the DCP

Contract Number: 1730A

Vendor: Alta Science & Engineering

Contract Amount: \$486,074.90

Funding Source: S10 17-19

Contract Term: 1/21/2018 – 4/20/2020

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Completed the 2020 Adaptive Management Report along with a review of the Adaptive Management and Monitoring Plan (AMMP). This included an analysis of augmented tortoise populations and analysis of habitat fragmentation/connectivity.
- Provided a review of the technical memorandum for the Muddy River restoration design created by Natural Channel Design.
- Submitted survival manuscript revisions to the journal Ecology and Evolution which were accepted for publication in 2019
- Submitted occupancy manuscript revisions to the journal Biological Conservation which were accepted for publication in late 2019.
- Completed a report which analyzed data collected across 25 year throughout Clark County to develop a Population Viability Analysis model for desert tortoise in the eastern Mojave Desert.

Contract 2

Contract Title: Science Advisor Panel

Contract Number: 1920A

Vendor: Alta Science & Engineering

Contract Amount: \$550,000.00

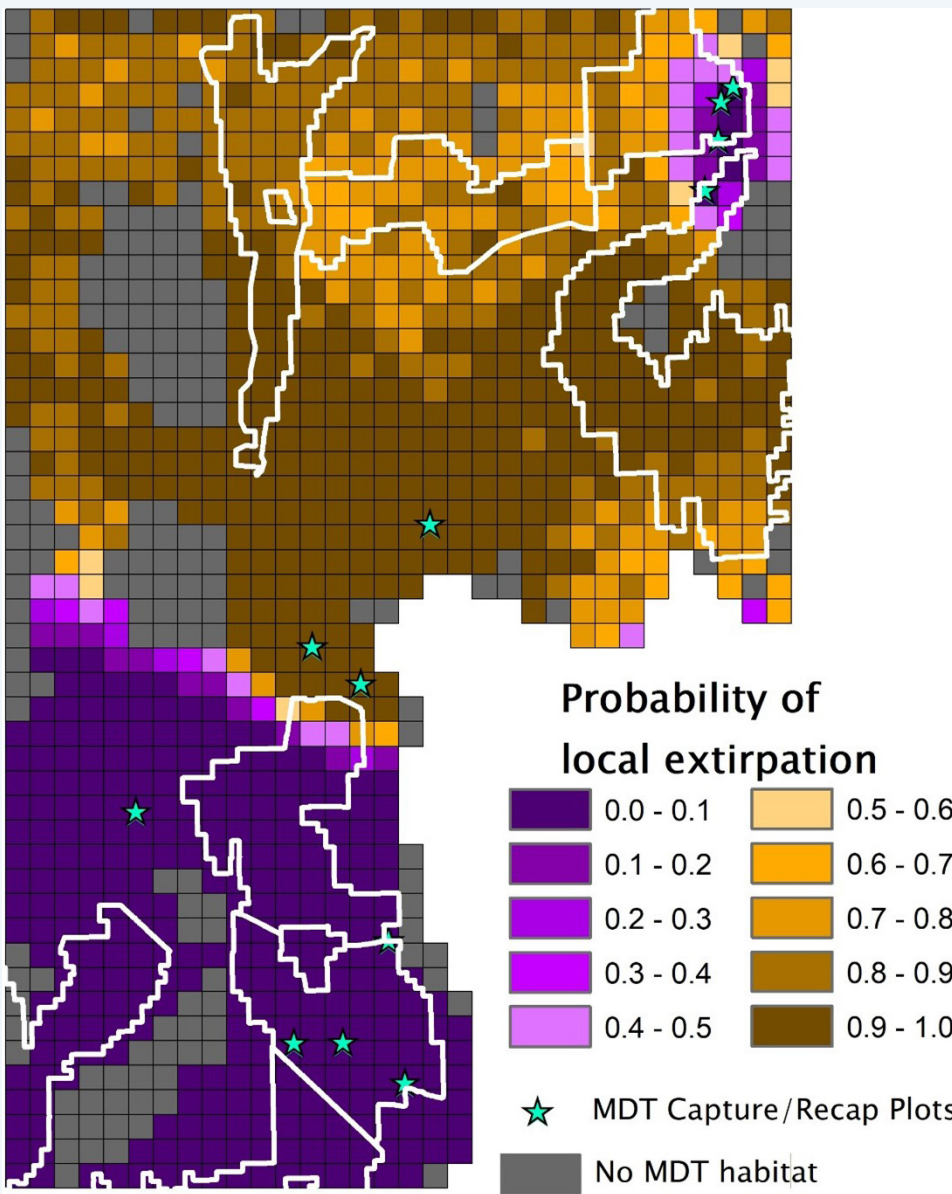
Funding Source: S10 19-21

Contract Term: 2/1/2020 – 2/20/2024

Contract Status: In progress

Accomplishments:

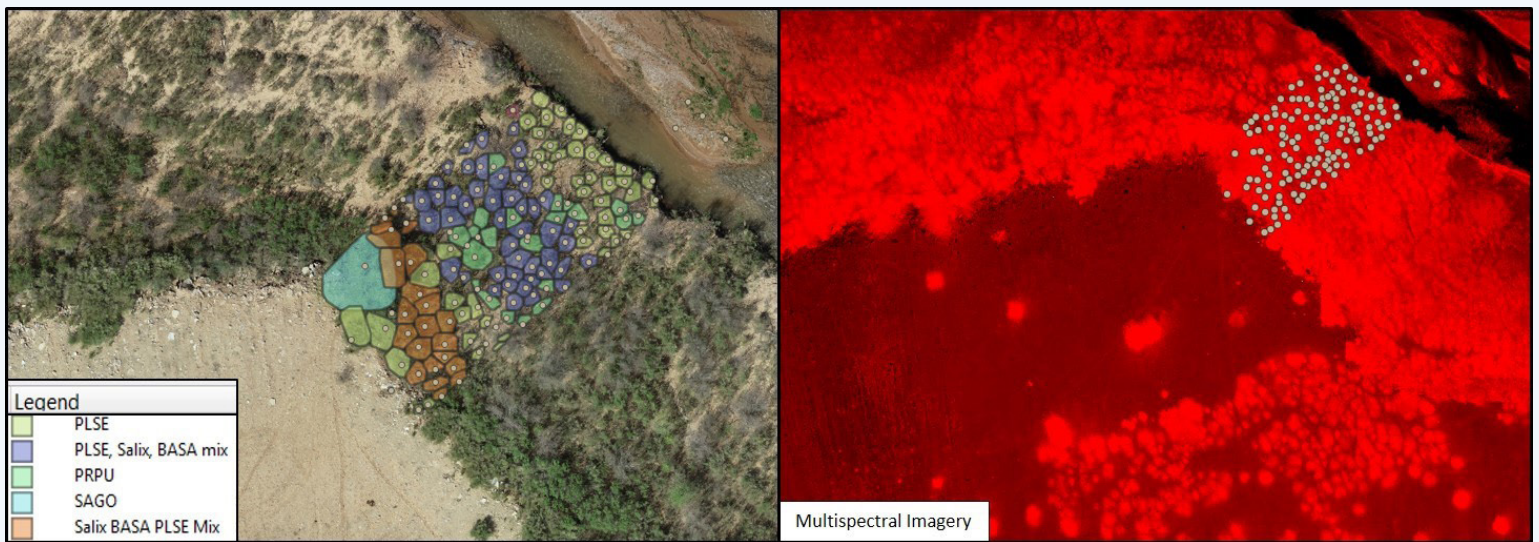
- Planned and executed a pilot project to identify efficient monitoring methods for riparian reserve units. We collected aerial LiDAR, multispectral, and Red-Green-Blue imagery data as well as terrestrial-based LiDAR to compare data products that are relevant to species and habitat monitoring described in the AMMP.
- Reviewed and revised the 2016 Biological Goals and Objectives. These will be further reviewed after the Sampling and Assessment Workshop as part of a revision of the AMMP.
- Reviewing deliverables submitted under other DCP contracts to provide technical and science-based feedback. Examples are reviews of the Muddy River restoration design plans and Habitat Equivalency planning.
- Providing science-based guidance and review of the Muddy River Restoration project scope of work, as well as reviewing proposals from potential contractors.
- Preparing a draft manuscript entitled “A spatially explicit model of population viability for Mojave desert tortoises in the eastern Mojave desert”. The manuscript is currently in review by several co-authors before being submitted for publication.



Extirpation Probability. Spatial patterns in probability of extirpation for Mojave desert tortoises in the northeastern portion of their range.



LiDAR Flight. Susan Firor piloting Alta's drone to collect UAS LiDAR data at the Bunkerville riparian reserve unit.



Terrestrial LiDAR Point Cloud. LiDAR point cloud data collected from a tripod at the Bunkerville riparian reserve unit.

PROGRAM AREA

Adaptive Management Program

PROJECT 2

Species Monitoring - Desert Tortoise

DCP PROJECT CONTACT

Scott Cambrin

Senior Biologist

702.455.3859

Scott.Cambrin@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

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

Contract 1

Contract Title: Desert Tortoise
Range-Wide Monitoring

Contract Number: 1541B; 1925A

Vendor: Great Basin Institute

Contract Amount: \$1,252,185.81

Funding Source: SNPLMA R15; S10
19-21

Contract Term: 12/5/2016-
12/4/2022

Contract Status: In progress

Accomplishments:

- Completed 1 year of field surveys in spring 2021 covering Gold Butte, Mormon Mesa, and Piute Valley for a total of 215 transects.
- Located 71 tortoises and 75 carcasses during the field season.
- Focal site telemetry was completed to correspond with each location so a correction factor could be calculated for analysis. A total of 852 tortoise observations were made of the 26 project days for an average of 32.8 observations a day.

Contract 2

Contract Title: DT Monitoring Data Mgmt Year 2-5

Contract Number: 1920C

Vendor: US Fish and Wildlife Service

Contract Amount: \$76,714.00

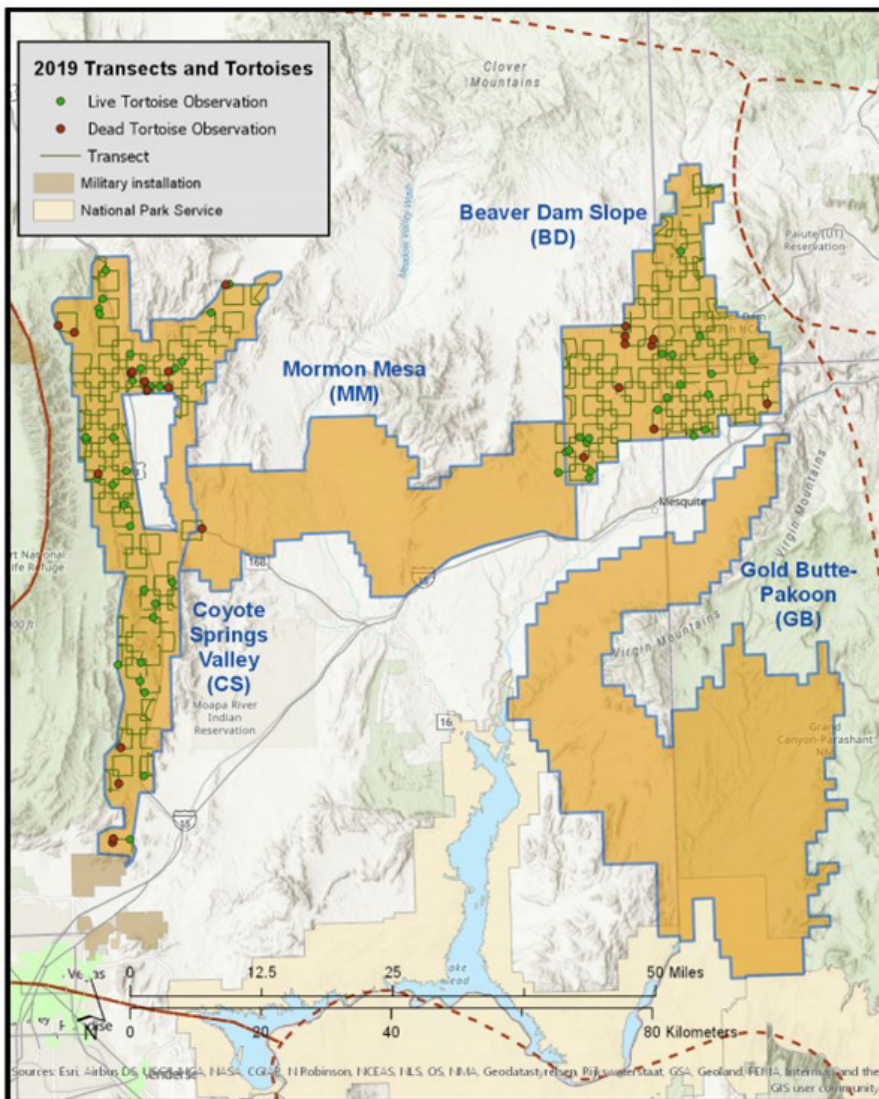
Funding Source: S10 19-21

Contract Term: 10/7/2016 – 3/15/2022

Contract Status: In progress

Accomplishments:

- Completed the annual analysis and report of the 2019 field data collected under 2015-GBI-1541B which include population density estimates for the strata surveyed that season.
- Trained field crews for 2015-GBI-1541B in proper way to walk transects, collect data, and handle tortoises.
- Completed two data reviews during the 2021 field season to ensure data was being collected properly and that crews were still walking transects correctly so that all data would be able to be combined and analyzed at the end of the field season.



Picture of tortoise with newly applied paper tag.

Distribution of transects and live tortoise observations in 2019 in the Coyote Springs and Beaver Dam Slope Tortoise Conservation Areas.

PROGRAM AREA

Adaptive Management Program

PROJECT 3

Species and Habitat Monitoring

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stefanie.Ferrazzano@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; ACCOMPLISHMENTS

- Performed passive acoustic monitoring for bats at 16 sites at the BCCE during the summer of 2018 and at 13 sites at the riparian reserves in 2019. Recordings were collected for one week per site.
- Performed passive acoustic monitoring for bats at five sites at the BCCE in May and June of 2021. Recordings were collected for six weeks per site, Desert Conservation Program will continue to monitor sites for six weeks each in future years.
- Completed a preliminary processing of the bat recordings using Kaleidoscope Pro software to remove noise files and auto-identify species.
- Bat monitoring will occur every summer and alternate between BCCE and riparian locations.



Desert Conservation Program in-house bat monitoring. A bat detector set up at the BCCE.

Contract 1

Contract Title: Riparian Small Mammal Survey
Contract Number: 910A
Vendor: BEC Environmental, Inc.
Contract Amount: \$72,650.00
Funding Source: S10 2019-2021, 2017-2019, 2013-2015
Contract Term: 02/14/2020 to 09/16/2020
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Completed and submitted Work Plan.
- Acquired updated Scientific Collection Permit from the State of Nevada Department of Wildlife (NDOW) to include species potentially captured for this project.
- Conducted and completed small mammal surveys in the Muddy River property and Mormon Mesa, Riverside, Bunkerville West, Bunkerville East, and Mesquite West sites that make up the Virgin River property.
- Trapped 929 individual small mammals including ten species; observed sign of one additional small mammal species.
- Collected and processed data for 3,720 trap nights.
- Developed a small mammal species inventory list for the riparian reserve units.
- Developed Final Project Data and Final Project Report.

Contract 2

Contract Title: Avian Species Surveys
Contract Number: 1730K
Vendor: SWCA Environmental Consultants
Contract Amount: \$100,084.00
Funding Source: S10 2017-2019
Contract Term: 04/10/2019 to 12/28/2019
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Completed southwestern willow flycatcher and yellow-billed cuckoo surveys at riparian properties.
- Completed point-count surveys at 25 riparian sites and 20 BCCE sites.
- Detected yellow-billed cuckoos at three riparian reserve units. A successful nesting attempt at Bunkerville Parcel 2-H confirms this Parcel as the third known breeding site for this species in the state of Nevada and is the first nesting attempt documented in the state since 2001.
- Surveys for southwestern willow flycatcher yielded four breeding individuals in Bunkerville Parcel 2-H over the course of the breeding season. Surveyors recorded five nesting attempts in the territory occupied by OWO and his three nesting females in the north-central portion of Parcel 2-H.
- Arizona Bell's vireo was fairly abundant, particularly at the Riverside Subunit, where it was the third most commonly detected species on point-count surveys. This species is likely breeding throughout the Riparian Reserve Units, particularly anywhere where willows or mesquite are present.
- Confirmed the presence of breeding LeConte's thrashers at the BCCE. This species appears to be fairly common across the BCCE, with detections from several survey points.
- Produced final data and annual project report, and presented survey results at the Desert Conservation Program's annual project symposium.

Contract 3

Contract Title: Desert Upland Small Mammal Surveys II
Contract Number: 1730M
Vendor: BEC Environmental, Inc.
Contract Amount: \$49,910.00
Funding Source: S10 2017-2019
Contract Term: 02/20/2019 to 08/30/2019
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Conducted and completed small mammal surveys in each of the habitats represented within the BCCE.
- Trapped 139 individual small mammals and eight small mammal species.
- Collected and processed data for 2,200 trap nights.
- Developed a small mammal species inventory list for the BCCE.
- Developed a Final Project Report, Final Project Data, and Presentation for the Desert Conservation Program.

Contract 4

Contract Title: Bat Recording Analysis
Contract Number: 1730N
Vendor: SWCA Environmental Consultants
Contract Amount: \$17,773.00
Funding Source: S10 2017-2019
Contract Term: 01/07/2020 to 04/30/2020
Contract Status: Complete
Unspent Funds: \$0.00

Accomplishments:

- Completed analysis of bat recordings collected through Desert Conservation Program's acoustic monitoring efforts from 2018 and 2019. A combination of Sonobat software and manual call identification was used.
- Identified detections of one of the three species designated as "covered" by the Clark County MSHCP: silver-haired bat (*Lasionycteris noctivagans*). This species was recorded at five survey points within the BCCE and at all of the riparian reserve units.
- Identified detections of two MSHCP "evaluation" species: pale Townsend's big-eared bat (*Corynorhinus townsendii*) and small-footed myotis (*Myotis ciliolabrum*). Pale Townsend's big-eared bat was detected at the Muddy River, and at the Riverside parcel. Western small-footed myotis was detected at Riverside and at the BCCE.
- Identified detections of 10 additional, undesigned species of bats.
- Established baseline bat species lists for the BCCE and Riparian Reserve Units.
- Produced final data and a final report.

Contract 5

Contract Title: Avian Surveys

Contract Number: 1730P

Vendor: SWCA Environmental Consultants

Contract Amount: \$88,572.00

Funding Source: S10 2017-2019, 2019-2021

Contract Term: 12/29/2020 to 12/28/2021

Contract Status: In Progress

Accomplishments:

- SWCA has detected all eight of the MSHCP-covered avian species at the County's properties for this project, including:
 - continued occupancy of Mesquite West Parcel 1-A by breeding flycatchers,
 - the first confirmed nesting of flycatchers in a restoration site at Mormon Mesa Parcel 5-A in 2020 (this nest was successful),
 - the first confirmed nesting of cuckoo at Mesquite West Parcel 1-A in 2019 (nest was successful), which was also the first confirmed nesting attempt in Nevada since 2001, and
 - multiple confirmed nesting attempts for LeConte's thrasher (*Toxostoma lecontei*), an MSHCP evaluation species, at the BCCE in 2019 and 2020.
- Submitted two monthly data deliverables.
- SWCA will complete the final two rounds of flycatcher surveys and the final three rounds of cuckoo surveys in summer 2021. Following the completion of these surveys, SWCA will produce the 2021 Final Data Deliverable and the 2021 Annual Project Report.



Peromyscus eremicus (cactus mouse) being released from a live trap amongst masticated tamarisk at the Mormon Mesa riparian reserve unit.



Chaetodipus penicillatus sobrinus (desert pocket mouse), a Clark County MSHCP evaluation species, after being captured and released from a live trap during survey activities conducted at the Bunkerville East riparian reserve unit.

Contract 6

Contract Title: Avian Surveys

Contract Number: 1920D

Vendor: SWCA Environmental Consultants

Contract Amount: \$96,658.00

Funding Source: S10 2019-2021

Contract Term: 12/29/2019 to 12/29/2020

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- Completed a habitat evaluation at newly acquired Desert Conservation Program riparian property to determine the extent of habitat that may support federally listed bird species.
- Completed southwester willow flycatcher and yellow-billed cuckoo surveys at riparian properties. Yellow-billed cuckoos were detected from three of the five Riparian Reserve Subunits, and four pairs of southwestern willow flycatchers (three of which were confirmed nesting) were detected at the Mesquite West and Mormon Mesa Subunits.
- Arizona Bell's vireos were fairly abundant, particularly at the Riverside Subunit, where it was the third most commonly detected species on point-count surveys. This species is likely breeding throughout the Riparian Reserve Units, particularly anywhere where willows or mesquite are present.
- Completed point-count surveys at 28 riparian sites and 20 BCCE sites. Biologists recorded a total of 13 LeConte's thrasher detections at 11 point-count locations within the BCCE in 2020. Although breeding of LeConte's thrasher could not be confirmed within the BCCE during point-count surveys, several active nests were incidentally recorded in 2020; this is the second consecutive year that breeding was confirmed for this evaluation species, and breeding presumably occurs at the BCCE annually.
- Produced final data and final report.



A southwestern willow flycatcher known as "OWO" (for its orange-white-orange color band), which was a resident male at Mesquite West Parcel 1-A for seven years until its last confirmed sighting in May 2020.



LeConte's thrasher nest at the BCCE found during 2019 surveys.



Biologist baiting and setting Sherman live trap for small mammal trapping activities.



Southwestern willow flycatcher nest at Parcel 2-H detected during 2019 surveys.



Peromyscus eremicus (cactus mouse) being released from Sherman live trap after being captured during small mammal trapping activities.

PROGRAM AREA

Adaptive Management Program

PROJECT 4

Desert Tortoise Occupancy Sampling

DCP PROJECT CONTACT

Scott Cambrin

Senior Biologist

702.455.3859

Scott.Cambrin@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The occupancy sampling project explores the use of occupancy sampling for monitoring Mojave Desert tortoise to meet the needs of land managers for smaller conservation areas. Occupancy sampling assesses the proportion of habitat occupied by a species and does not estimate abundance or density. Previous work suggests that occupancy sampling may be more efficient and have greater statistical power to detect annual declines in the proportion of area occupied as compared with annual declines in density detected by line distance sampling. In addition, patterns of occurrence and use across multiple sample units can be assessed related to particular areas or environmental variables (covariates). This information can provide valuable information to land managers to assess the species' responses to habitat quality, threats, and management activities. The assessment of covariates will strengthen with multiple years of data from each sample unit.

The covariates are a range of environmental variables that are hypothesized to be related to the seasonal and annual presence of desert tortoise. Covariates will be used to assist in the interpretation of the occupancy sampling data and test for correlations with hypothesized causal factors that influence the presence of desert tortoise. These correlated causal factors will then be used to develop and evaluate management actions that are intended to increase tortoise abundance. Ultimately, these data can be used to develop a statistical model to understand and predict the occurrence of desert tortoise in local landscapes.

Contract 1

Contract Title: DT Occupancy on the BCCE

Contract Number: 1920B

Vendor: Bio Logic, LLC

Contract Amount: \$ 191,693.00

Funding Source: S10 19-21

Contract Term: 2/1/2020 – 2/20/2024

Contract Status: In progress

Accomplishments:

- Completed 2 full years of surveys including surveying 70 plots three times each year.
- Located 44 tortoises in 2020 and 30 tortoises in 2021.
- Located 9 active burrows in 2020 and 25 active burrows in 2021.
- Completed the 2020 annual report detailing all the work that was accomplished that year.



Mojave desert tortoise retreating into a burrow after processing



Gravid female long-nosed leopard lizard.

PROGRAM AREA

Adaptive Management Program

PROJECT 5

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.



A male coyote marked with eartags and a GPS collar navigates a wash near Forlorn Hope Spring in the BCCE.

Contract 1

Contract Title: DT Predator-Prey Dynamics

Contract Number: 1987A

Vendor: U.S. Geological Survey

Contract Amount: \$491,152.20

Funding Source: S10 19-21

Contract Term: 1/1/2020 – 12/31/2020

Contract Status: Active

Accomplishments:

- Monthly spotlight surveys have been ongoing since February of 2018, and continue to be conducted on a monthly basis. At present, observations of 502 black-tailed jackrabbits, 65 kit foxes, and 5 coyotes have been documented on approximately 2997 km of spotlight surveys over 36 months.
- A grid of trail cameras (n=40) placed to monitor the density of prey and predator species in the BCCE has been operational since June of 2018, and has recorded approximately 925,693 photos, including observations of American badger (71), black-tailed jackrabbit (10,260), bobcat (4), coyote (127), gray fox (7) and kit fox (1,483).
- A series of trail cameras (n=45) was deployed in travel corridors and other sites in the BCCE and surrounding area to complement the grid camera array. These cameras have recorded approximately 518,553 photos, including observations of American badger (170), black-tailed jackrabbit (27,989), bobcat (90), coyote (2,238), desert cottontail rabbit (1,941), gray fox (126) and kit fox (2,089).
- The use of carcasses and bait sites to observe seasonal changes in the composition of predator and scavenger communities occurred from 2018 to 2020. 25 sites were established with approximately 40,592 videos or photos recorded. Species observed included American badger (6), coyote (4,368), common raven (10,332), golden eagle (3,730), gray fox (565), kit fox (1,463), spotted skunk (14), and turkey vulture (2,022). These sites have been discontinued to avoid spreading the emerging lagomorph calcivirus, Rabbit Hemorrhagic Disease Virus, Type 2.
- Between Fall 2019 and Spring 2021, a total of 21 coyotes were captured, marked, and collared. These collars have yielded more than 50,000 waypoints for spatial analysis.
- Between Fall 2019 and Spring 2021, a total of 155 black-tailed jackrabbits were captured, marked, and collared. These collars have yielded more than 80,000 waypoints for spatial analysis. Nine VHF/GPS collars are currently deployed on jackrabbits in the BCCE.



A group of kit foxes coursing through the BCCE.



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PROGRAM AREA

Adaptive Management Program

PROJECT 6

Desert Tortoise Habitat 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 have been 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.

Contract 1

Contract Title: Desert Tortoise Connectivity Modeling

Contract Number: 1580A

Vendor: University of Nevada Reno

Contract Amount: \$94,799.99

Funding Source: SNPLMA R16

Contract Term: 2/22/2018-10/15/2019

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Produced resistance surfaces for neutral landscapes, current levels of anthropogenic disturbance, and future projections of disturbance.
- Completed simulations of genetic connectivity forward in time in variable landscape scenarios.
- Finalized analyses of population dynamics, genetic diversity, and genetic differentiation in time series.
- Analyzed population genetic structure of simulation output.
- Applied a ranking system of corridor success to landscapes.
- Analyzed structural connectivity metrics (landscape metrics) and evaluated functional with structural connectivity.
- Produced a final report and data deliverable for Clark County, Desert Conservation Program.

Contract 2

Contract Title: DT Connectivity Across Roadways

Contract Number: 1580B

Vendor: Ecocentric, LLC

Contract Amount: \$503,617.00

Funding Source: SNPLMA R16; S10 19-21

Contract Term: 12/1/2019 – 9/15/2021

Contract Status: In progress

Accomplishments:

- Surveyed 36 800m radius semicircle plots along highways 93 and 95 three times each.
- Located 272 tortoises with 89 encounters being recaptures.
- They recorded two observations of animals that had crossed the highway.
- Recorded 2,745 burrows, 139 carcasses, 78 pieces of scat, and 133 eggshell fragments.
- Completed the final report and final data deliverable.

Contract 3

Contract Title: DT Connectivity Solutions Modeling

Contract Number: 1580C

Vendor: University of Nevada Reno

Contract Amount: \$348,455.90

Funding Source: SNPLMA R16

Contract Term: 5/10/2020 – 12/31/2021

Contract Status: In progress

Accomplishments:

- Completed Data Deliverable and Model Report.
- Identified key desert tortoise life history processes and simulation model parameters.
- Produced an individually-based forward-in-time population genetic simulation model.
- Improved realism (i.e. overlapping generations, multiple paternity, and demography).
- Begun simulation modelling scenarios in the Ivanpah Valley.

Contract 4

Contract Title: Mapping Potential DT Habitat Connectivity in Clark County

Contract Number: 1580D

Vendor: Conservation Science Partners

Contract Amount: \$42,000.00

Funding Source: SNPLMA R16

Contract Term: 8/1/2020 – 6/30/2021

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Completed a work plan and data management plan for the project.
- Calculated 293 Browning Bridge movement models for tortoises in the analysis area.
- Modeled movement habitat suitability using the covariates slope and vector ruggedness measure.
- Used the Circuitscape wall-to-wall approach to model connectivity across all of Clark County.
- Completed a final report and final data for the project.

Contract 5

Contract Title: DT Telemetry around Culverts

Contract Number: 1580E

Vendor: Ecocentric, LLC

Contract Amount: \$170,770.00

Funding Source: SNPLMA R16

Contract Term: 11/1/2020-6/15/2022

Contract Status: In progress

Accomplishments:

- Completed a work plan and data management plan for the project.
- Currently tracking 11 tortoises weekly.
- Equipped each tortoise with a GPS data logger which records a position every 30 minutes.
- Completed quality assurance/quality control and have submitted all data through the end of April 2021.

Contract 6

Contract Title: Culvert Inspection for Tortoise Usage

Contract Number: 1580F

Vendor: Newfields

Contract Amount: \$62,990.00

Funding Source: SNPLMA R16

Contract Term: 11/1/2020 – 8/31/2021

Contract Status: In progress

Accomplishments:

- Completed a work plan and data management plan for the project.
- Inspected over 850 culverts and evaluated for tortoise accessibility.
- The Nevada Department of Transportation culvert database was cleared of all irrelevant parallel and partial culverts.
- All culverts along the I-11 bypass were documented, located with a high accuracy GPS unit, and evaluated for desert tortoise accessibility.
- Completed and submitted final data and a final report.

Contract 7

Contract Title: Connectivity Management Plan
Contract Number: 1580G
Vendor: Recon Environmental, Inc
Contract Amount: \$81,549.00
Funding Source: SNPLMA R16
Contract Term: 12/15/2020 – 6/1/2022
Contract Status: In progress

Accomplishments:

- Attended/participated in the project kick-off meeting.
- Produced and submitted the project Work Plan.
- Conducted a call with the Project Manager/Senior Biologist for the Quarterly Meeting.
- Collected references for the Literature Review.

Contract 8

Contract Title: Culvert Image Inspection
Contract Number: 1580H
Vendor: SWCA Environmental Consultants
Contract Amount: \$50,000.00
Funding Source: SNPLMA R16
Contract Term: 5/1/2021 – 4/30/2022
Contract Status: In progress

Accomplishments:

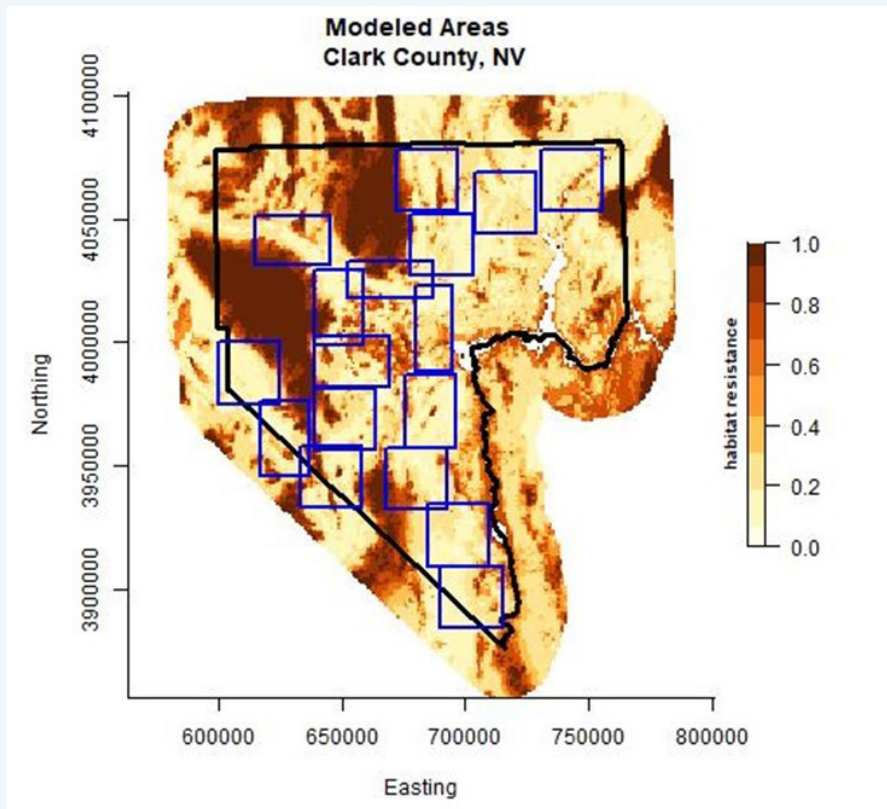
- Completed the data management plan.
- A total of 734,074 images have been organized and renamed, and a dataframe has been created including the original file names, date, and time of collection.
- Developed an R script to scrape the temperature, date, and time from the surface of images, and add the data to the dataframe.
- Developed a neural network to classify images as 'tortoise' or 'not tortoise'; a total of 231 tortoise images have been found so far.
- The model uses transfer learning from a neural network trained on an iNaturalist dataset on top of Google's Inception v3 model.

Contract 9

Contract Title: Connectivity Data Analysis
Contract Number: 1580J
Vendor: Heron Ecological, LLC
Contract Amount: \$93,940.00
Funding Source: SNPLMA R16
Contract Term: 6/10/2021 – 4/30/2022
Contract Status: In progress

Accomplishments:

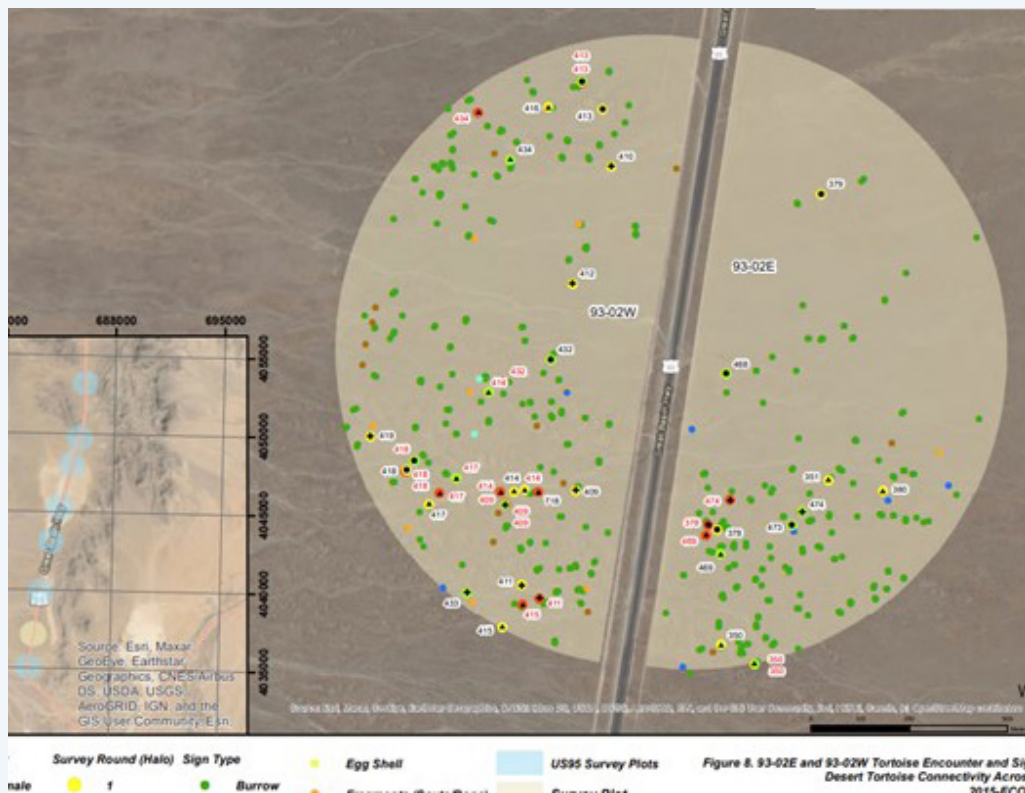
- Completed the data management plan for the project.



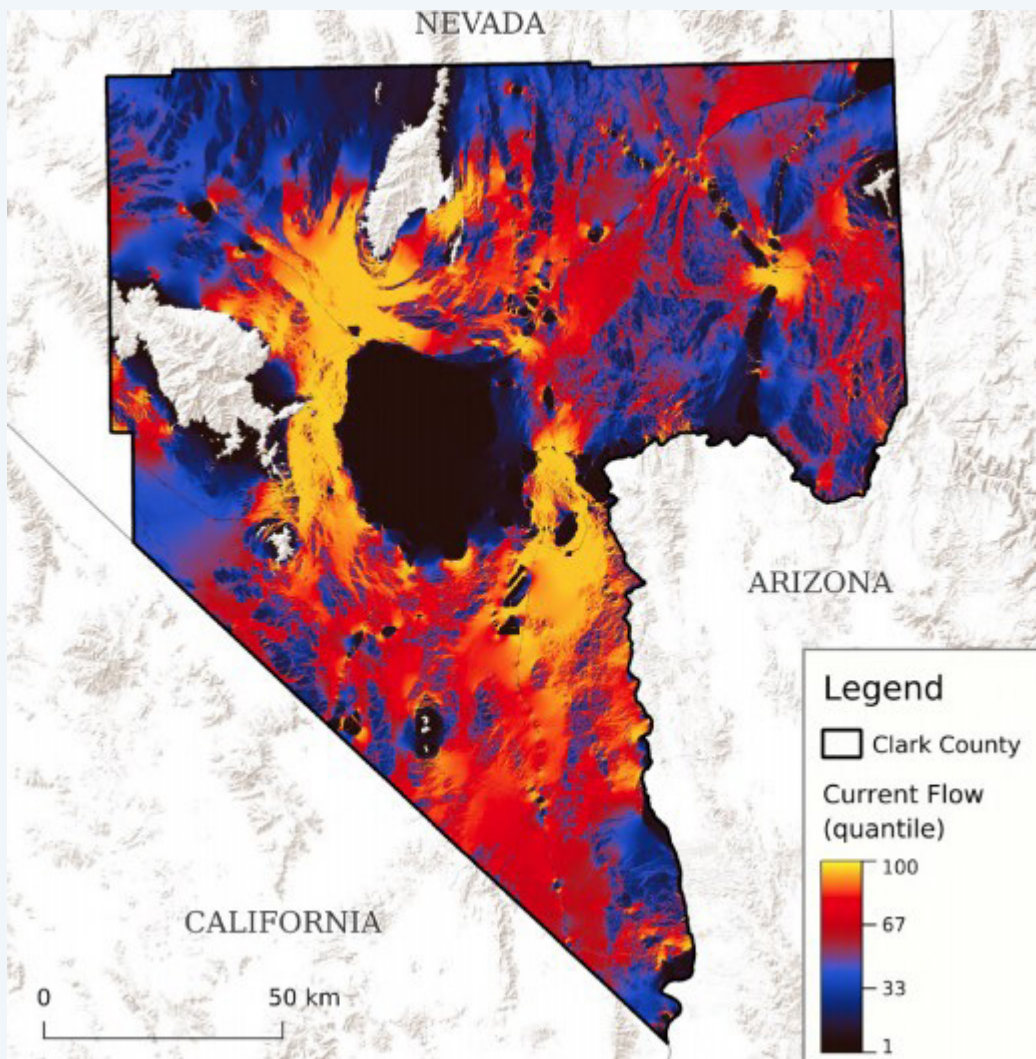
Simulation modeling locations in Clark County, Nevada depicted as a resistance surface without anthropogenic disturbance and a 20 km buffer.



Tortoise Encountered during DT Connectivity Across Roadways project, showing the tag as well as markings made to help avoid extracting the tortoise from a burrow on future surveys at the plot.



Map showing all captures and sign from one plot for project 2015-ECOCENT-1580B



Omni-directional connectivity output from Circuitscape for the Mojave desert tortoise in Clark County, NV. Current flow was visualized using a quantile color ramp with 20 breaks. A higher value indicates a higher amount of predicted movement and/or gene flow.



An example of a highly accessible culvert for desert tortoise use.



Photo of project resident tortoise CC0462 carapace with GPS and transmitter attachment.



Desert tortoise inside a corrugated metal culvert on US93

PROGRAM AREA

Adaptive Management Program

PROJECT 7

Desert Tortoise Forage Study

DCP PROJECT CONTACT

Scott Cambrin

Senior Biologist

702.455.3859

Scott.Cambrin@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

This project will allow us to have a better understanding of the associations between diet, gastrointestinal tracts (GIT) microbiota, physiological status, immune function, and animal response, which will aid in the management and recovery for Mojave desert tortoises by improving 1) animal husbandry and head-start programs for individuals held in captivity, 2) assessments of tortoise health and the pathogenesis of diseases by modifying protocols and diagnostics used to evaluate animal condition, and 3) knowledge on the link between habitat composition and quality with improved conditions for tortoises.



Photographs of captive juvenile Mojave desert tortoises (*Gopherus agassizii*) foraging on their assigned diet of *Bromus rubens* (A) or a mixture of native annual and perennial forb plants (B) on April 26th and June 1, 2018 respectively. Photographs were taken by Jordan Swart.

Contract 1

Contract Title: Effects of Exotic Forage on Mojave Desert Tortoise

Contract Number: 1730J

Vendor: U.S. Geological Survey

Contract Amount: \$49,881.49

Funding Source: S10 17-19

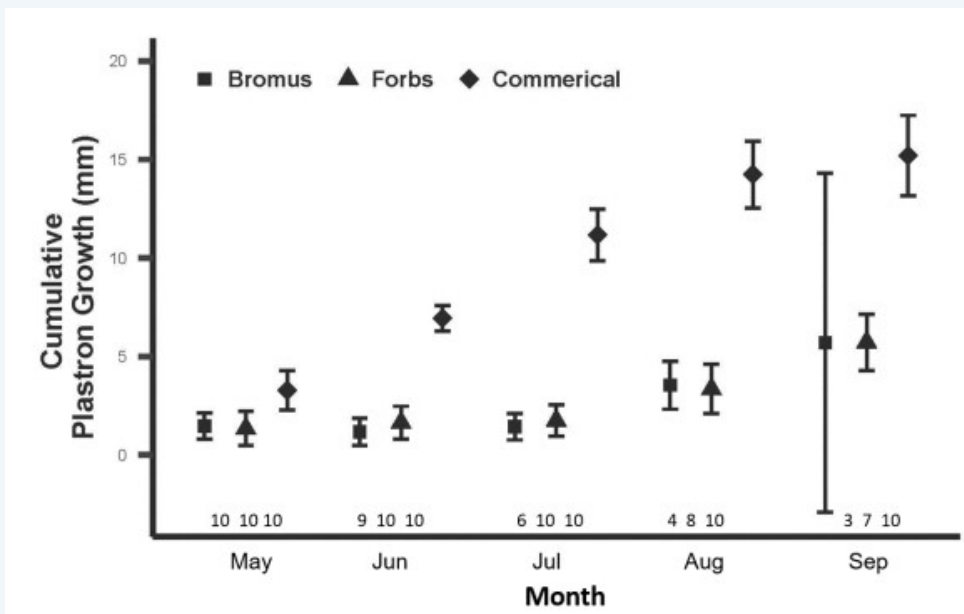
Contract Term: 1/29/2019 – 1/30/2021

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- 30 tortoises were divided into three groups and fed one of three diets made up of red brome, native annuals and forbs, or commercial tortoise food. With tortoises fed the commercial diet growing 3 times more than the others throughout the experiment.
- Tortoises were assessed monthly for condition with animals eating brome diets having lower survivorship than the other two groups.
- Fecal scat samples were collected throughout the experiment to evaluate the microbial community present in each individual.
- Plasma total protein concentrations were higher in animals with more growth during the study.
- This study highlights the complex and counterintuitive responses of tortoises to environmental and nutritional stress. We provided several scenarios to explain our results. We hypothesized that 1) tortoises may not stress in a “traditional context” to the point where their physiological profiles change at detectable levels, 2) metabolites (proteins, enzymes, etc.) in response to stressful stimuli were missed in blood panel, or 3) important biological and environmental components may be missing from our study.



Mean \pm 95% confidence interval for cumulative growth measurements for juvenile Mojave desert tortoises (*Gopherus agassizii*) each month (May–September) foraging on three diets. At the end of the experiment, tortoises foraging on commercial tortoise diet grew significantly more, increasing shell size by 200% compared to tortoises foraging on Bromus and native forb diets. The sample size used to calculate growth each month is stated at the bottom of the graph.

PROGRAM AREA

Adaptive Management Program

PROJECT 8

Brome Reduction and Native Plant Establishment at Trout Canyon

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stefanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Investments in tortoise recovery via population augmentation have been made at Trout Canyon and have been identified for Stump Springs. Red brome (*Bromus rubens*), an exotic invasive species of grass is known to occur at both of these locations. Due to the presence of brome on the landscape, the Trout Canyon area was identified by the U.S. Geological Survey as susceptible to fire (Van Linn et al. 2015), and brome was associated with poorer juvenile tortoise growth and survival at Trout Canyon compared to other translocation sites (Drake et al. 2018).

Pre-emergent herbicides have been effective at reducing the abundance of brome. However, some herbicides are more effective than others in this capacity, and environmental conditions can factor heavily into their efficacy. The purpose of this project is to identify which herbicides and which application techniques result in the greatest brome reduction.

IN-HOUSE WORK; ACCOMPLISHMENTS

- Continue to coordinate with BLM to finalize NEPA documentation (in progress)



Desert tortoise burrow present in Study Area 5, taken during the biological surveys associated with Herbicide Research Environmental Assessment, April 2020.

Contract 1

Contract Title: Environmental Assessment for Pesticide Use

Contract Number: 803H

Vendor: Wood Environment & Infrastructure Solutions, Inc.

Contract Amount: \$46,564.00

Funding Source: S10 09-11

Contract Term: 01/01/2020-04/15/2021

Contract Status: Complete

Unspent Funds: \$0

The Desert Conservation Program plans to conduct pesticide research to investigate the effectiveness of two pesticides, indaziflam and imazapic, for reducing red brome at Trout Canyon. The Trout Canyon area is managed by the Bureau of Land Management (BLM), and indaziflam is not currently approved for use on BLM land; therefore, the preparation of a Pesticide Use Proposal and an Environmental Assessment in accordance with the National Environmental Policy Act (NEPA) and BLM requirements is a prerequisite to receive authorization for this research.

Accomplishments:

- Completed biological surveys in the project location
- Produced draft and Final Biological Survey Report
- Produced draft and Final Biological Assessment
- Produced Pesticide Use Proposal
- Produced draft and final (for Public) Environmental Assessment
- Produced Draft Decision Record



View of the landscape present in Study Area 5, taken during the biological surveys associated with Herbicide Research Environmental Assessment, April 2020.

PROGRAM AREA

Adaptive Management Program

PROJECT 9

Rare Plant Propagation

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stafanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

This project aims to increase available knowledge of state-listed plant species (Las Vegas bearpoppy (ARCA), threecorner milkvetch (ASGET), Blue Diamond cholla (CYMU), and sticky buckwheat (ERVI)), and one non-state listed species (white margined beardtongue (PEAL)), by investigative propagation techniques and the feasibility of establishing nursery populations. The ability to propagate protected plant species in controlled settings 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.



A Blue Diamond cholla (*Cylindropuntia multigeniculata*) propagated from a joint cutting. (Photo: A Stosich, U.S. Geological Survey)



A flowering sticky buckwheat (*Eriogonum viscidulum*) propagated from the soil seedbank is testing open- vs. self-pollination in the U.S. Geological Survey shadehouse. Seed set will be determined from flowers in mesh bags that prohibit insects from visiting flowers while unbagged flowers are open to pollination by insects. (Photo: A Stosich, U.S. Geological Survey)

Contract 1

Contract Title: Rare Plant Propagation Research

Contract Number: 1990A

Vendor: U.S. Geological Survey

Contract Amount: \$141,678.00

Funding Source: S10 2019-2021, 2009-2011

Contract Term: 03/01/2020 – 12/16/2023

Contract Status: In Progress

Accomplishments:

- Produced a final status-of-knowledge report on ARCA (updated since past reviews from more than a decade ago) with emphasis on propagation and reintroduction information relevant to conservation of the species. The report draws from published and unpublished information for the species and was reviewed by local ARCA experts. This deliverable is currently being prepared for publication in a peer-review journal.
- Produced a final report on experimental propagation of CYMU from collected joint cuttings. The study compared different soil mixtures and watering schedules to determine optimal plant rooting and establishment. This report is being prepared for publication in a peer-review journal.
- Collected soil seedbank samples from around adult plants of PEAL (4 populations) and ASGET and ERVI (2 populations each) and began testing cold stratification and a watering/chemical series to propagate these species from field-collected soils. We are in the final stages of seedbank grow-out and were successful in growing PEAL and ERVI plants; no ASGET seedlings emerged from these soils.
- Collected a small amount of seed from one PEAL population and conducted a “move-along” germination trial to understand temperature requirements and seed dormancy (data analysis underway).
- Buried a subset of the collected PEAL seeds from one population in nylon mesh bags in the field and periodically exhumed them for viability tests in a seed longevity study.
- Began pollination trials for the ERVI plants that were propagated from the soil seedbank to determine if the species is open- or self-pollinated.

PROGRAM AREA

Adaptive Management Program

PROJECT 10

Riparian Plant Pollinator Ecology

DCP PROJECT CONTACT

Stefanie Ferrazzano

Biologist

702.455.6386

Stafanie.Ferrazzano@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

Pollination is a vital process for plant reproduction. Knowing and understanding the plant-pollinator systems within the riparian areas in Clark County could improve their function and restoration. One component of riparian restoration is whether the plants can be self-sustaining, which is heavily influenced by pollinator presence/absence and behavior. Also, understanding where pollination is lacking could lead to improved restoration efforts and connectivity. The goal of this project is to investigate the current ecology of plant-pollinator systems within riparian areas of Clark County so the resulting information can be used to better restore and manage riparian properties.

Contract 1

Contract Title: Riparian Plant-Pollinator Ecology Phase I

Contract Number: 1992A

Vendor: University of Nevada Las Vegas

Contract Amount: \$50,000.00

Funding Source: S10 19-21

Contract Term: 03/09/2020 – 02/15/2021

Contract Status: Complete

Unspent Funds: \$0.00

Accomplishments:

- In total, 22 species (18 native, 4 non-native) were recorded in the vegetation of plots, 12 species (9 native, 3 non-native) in soil seed banks, and 16 species (13 native, 3 non-native) in the seed rain.
- Detected and measured 4,677 seeds in soil seed bank samples. Captured 24,764 seeds in the seed traps. Germinability of subsets of seed was confirmed.
- Documented that native patches restored by Clark County through planting native species in 2014 remained dominated in 2020 by native trees, shrubs, grasses, and wildflowers. Many of the planted species were observed flowering in 2020 and likely represent important floral resources and structural habitat to pollinators and other fauna.
- Documented that soil seed banks in native patches were dominated by native species, which is a positive finding suggestive of continued recruitment opportunities for native plants and the sustainability of the planted native patches.
- Documented that seed rain into native patches was also dominated by native species, and the species composition differed to some extent from the vegetation and *in situ* soil seed banks. This diversity of native propagule seed sources could be important for “bet hedging” whereby there could be a full suite of mechanisms available for native species to persist in the patches through vegetative persistence, soil seed banks, and seed dispersal.
- The project results suggest that the Clark County patch restoration effort was highly successful at persistently reestablishing native vegetation and associated floral resources at these sites while also supporting seed banks and seed rain dominated by native species. Based on the highly successful small-scale restoration effort achieved by Clark County, expanding native species restoration to provide diverse habitat structure for native wildlife is supported by the project findings.



Inventorying a non-native tamarisk plot, with vegetation dominated by tamarisk but with seed banks and seed rain containing appreciable native species. Seed traps were placed in arrays around plots. One of the seed traps is shown in the center foreground of the photo as a white funnel structure. The seed traps were effective for trapping and inventorying thousands of seeds at the sites.



Inventorying vegetation in a native patch in which Clark County successfully reestablished native riparian species. Native patches contained diverse mixtures of native trees, shrubs, grasses, and wildflowers as habitat features for pollinators and other fauna. The Clark County native plant restoration efforts were highly successful at the patch scale, resulting in persistent native vegetation and seed banks and seed rain dominated by native species.

PROGRAM AREA

Adaptive Management Program

PROJECT 11

Eastern Mojave Conservation Collaborative

DCP PROJECT CONTACT

Scott Cambrin

Senior Biologist

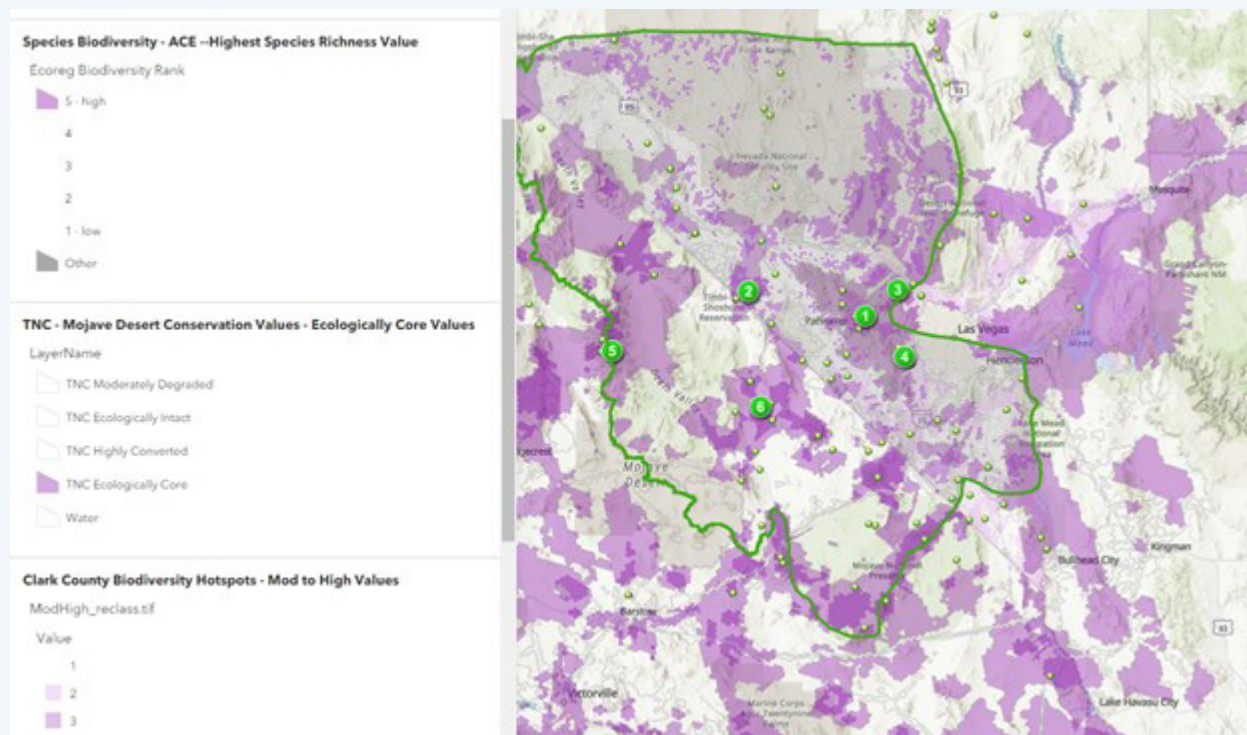
702.455.3859

Scott.Cambrin@ClarkcountyNV.gov

BACKGROUND AND NEED FOR PROJECT

The Eastern Mojave was selected as one of three Desert Landscape Conservation Cooperative (LCC) Landscape Conservation Design (LCD) pilot areas in early 2016. LCD is a process that identifies, develops and strengthens large-scale collaborative relationships. It produces information and tools needed by partners to meet common conservation goals.

The Eastern Mojave Conservation Collaborative aims to achieve lasting conservation outcomes in the Eastern Mojave Desert by promoting effective collaboration and leveraging existing resources. The collaborative is working with partners to identify important social values, resources, stressors, and trends in the area, as well as potential actions and target locations where partners can apply their management tools for maximum collective impact. The objective is to support coordinated management across multiple jurisdictions within the pilot area.



A combination of 5 biodiversity/species richness datasets used at different agencies to look for areas that have high agreement among all models.

Contract 1

Contract Title: Eastern Mojave Conservation Collaborative

Contract Number: 1410D

Vendor: Southwest Decision Resources

Contract Amount: \$5,959.88

Funding Source: S10 13-15

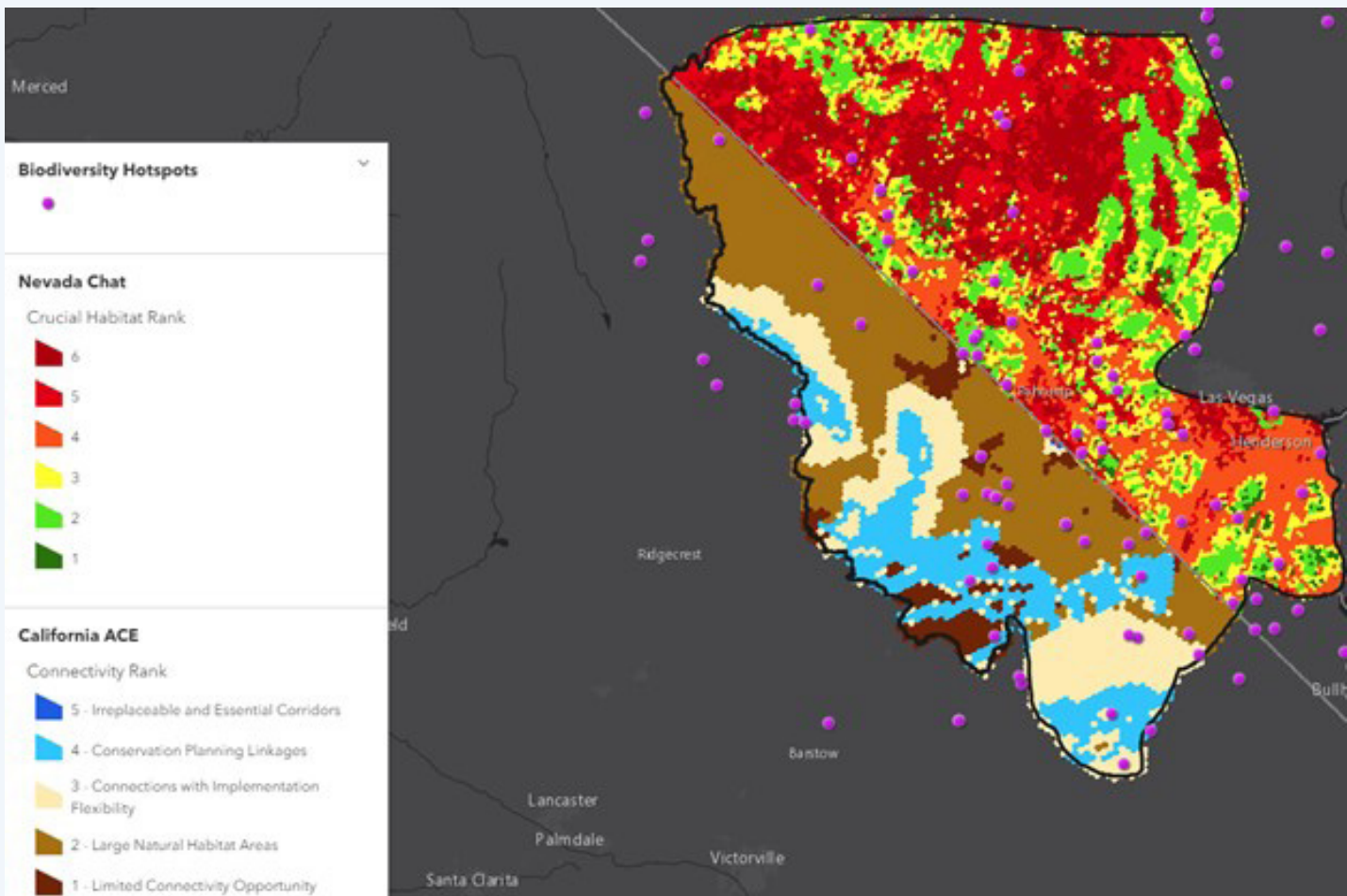
Contract Term: 5/1/2020 – 10/31/2020

Contract Status: Completed

Unspent Funds: \$0.00

Accomplishments:

- Facilitated 2 meetings and provided a meeting summary review for the Eastern Mojave Conservation Collaborative.
- Begun work on combining GIS layers for different entities within the group to look at the state of resources within the Eastern Mojave.



Combining Nevada's Crucial Habitat Assessment Tool and California's Areas of Conservation Emphasis Tool to look at areas of high conservation rank within the Eastern Mojave.



A large tortoise is resting on a rocky, arid landscape. It is positioned in the lower-left quadrant of the image, partially sheltered by a green, leafy bush. The ground is covered in small, grey rocks and sparse, dry vegetation. In the background, more bushes and a clear blue sky are visible. A large, semi-transparent yellow graphic element is overlaid on the right side of the image, containing the text 'SECTION 4'.

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 2019-2021 biennium, the program received 9 calls on the Wild Desert Tortoise Assistance Line and a total of 8 desert tortoises were collected (7 adults and 1 juvenile). Five desert tortoises have been released to the BCCE; 1 tortoise was provided to the U.S. Geological Survey, and 2 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.









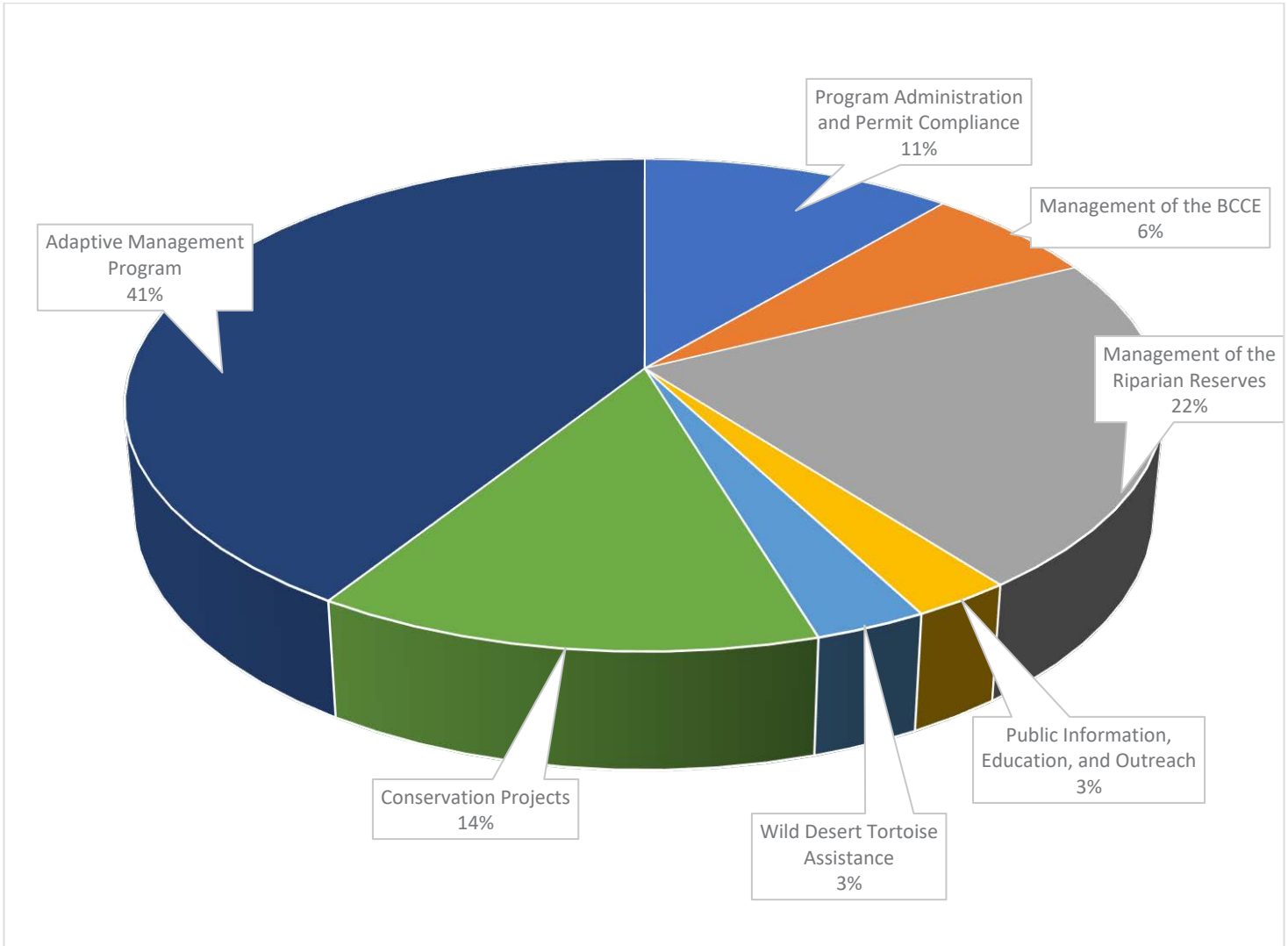
**SECTION
5**

FINANCIAL REPORT

CONTRACT FUNDING BY PROGRAM AREA

This graph presents a breakdown of all contracts and goods purchase orders, by major programmatic area, administered during the 2019-2021 biennium.

Program Area	Funds	Percent
Program Administration and Permit Compliance	\$ 1,712,688.19	11.2
Management of the BCCE	\$ 983,039.06	6.4
Management of the Riparian Reserves	\$ 3,351,685.85	21.9
Public Information, Education, and Outreach	\$ 413,816.12	2.7
Wild Desert Tortoise Assistance	\$ 468,460.92	3.1
Conservation Projects	\$ 2,092,096.86	13.7
Adaptive Management Program	\$ 6,264,282.52	41.0
Total	\$ 15,286,069.52	

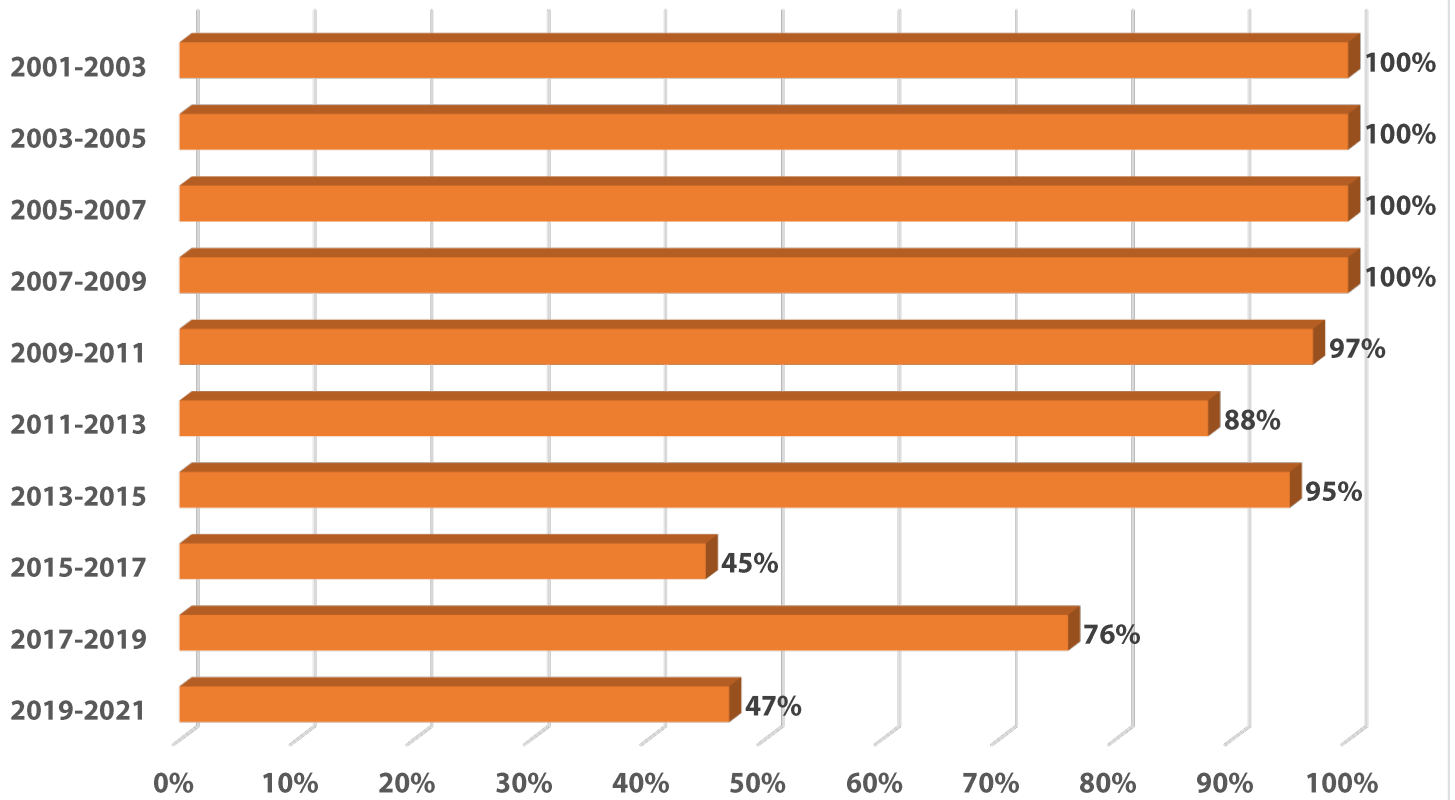


PERCENT COMPLETE BY BIENNIUM

This graph presents the percent of funds allocated per biennium that have been spent to date.

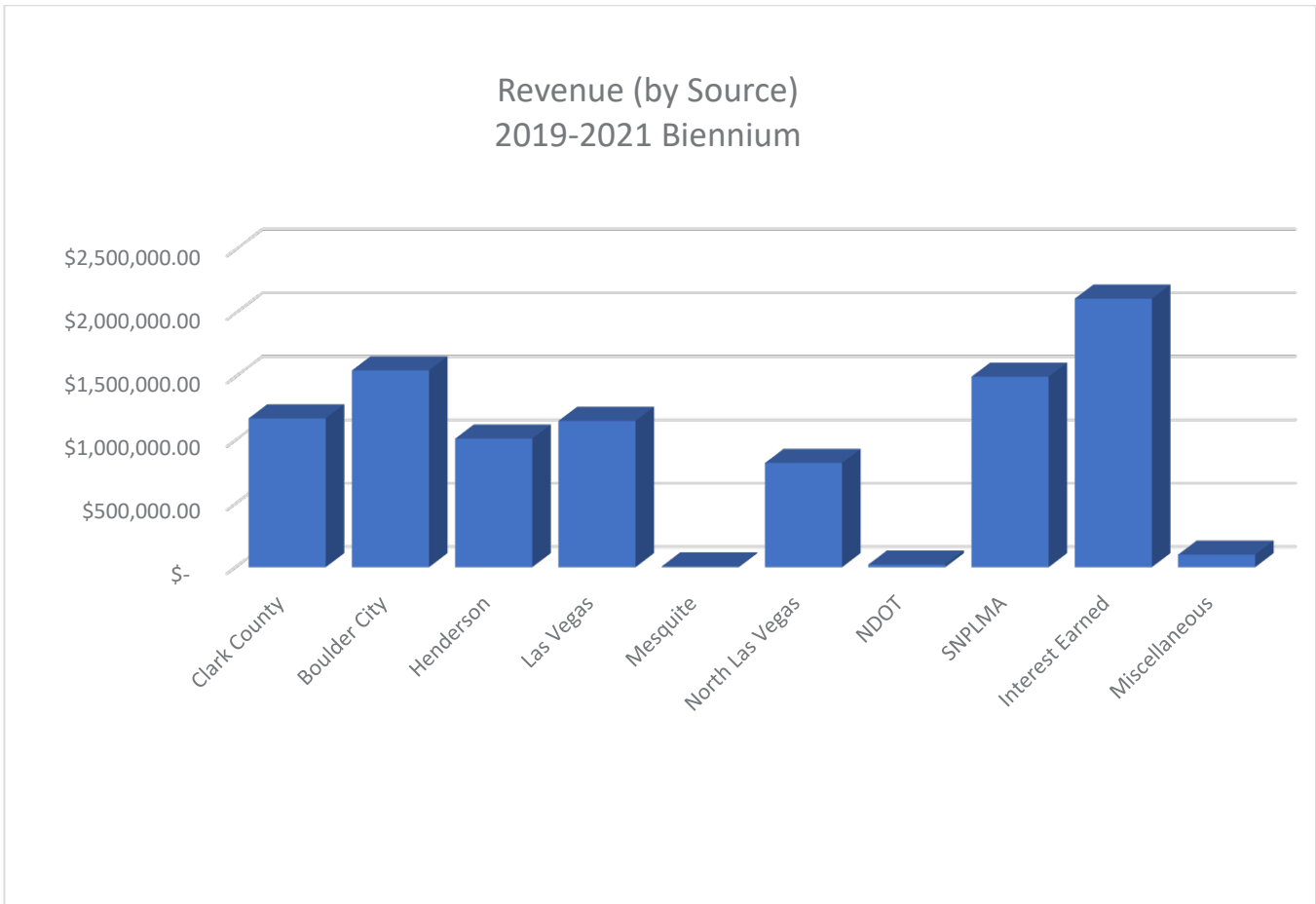
Biennium	Percent Complete
2019-2021	47%
2017-2019	76%
2015-2017	45%
2013-2015	95%
2011-2013	88%
2009-2011	97%
2007-2009	100%
2005-2007	100%
2003-2005	100%
2001-2003	100%

Progress per Biennium (percent complete)




REVENUE BY SOURCE

Revenue Source	Amount
Clark County	\$ 1,171,593.50
Boulder City	\$ 1,549,031.00
Henderson	\$ 1,011,999.50
Las Vegas	\$ 1,151,782.50
Mesquite	\$ 5,929.00
North Las Vegas	\$ 820,555.50
NDOT	\$ 20,003.50
SNPLMA	\$ 1,499,667.75
Interest Earned	\$ 2,114,245.31
Miscellaneous	\$ 98,260.46
Total	\$ 9,443,068.02







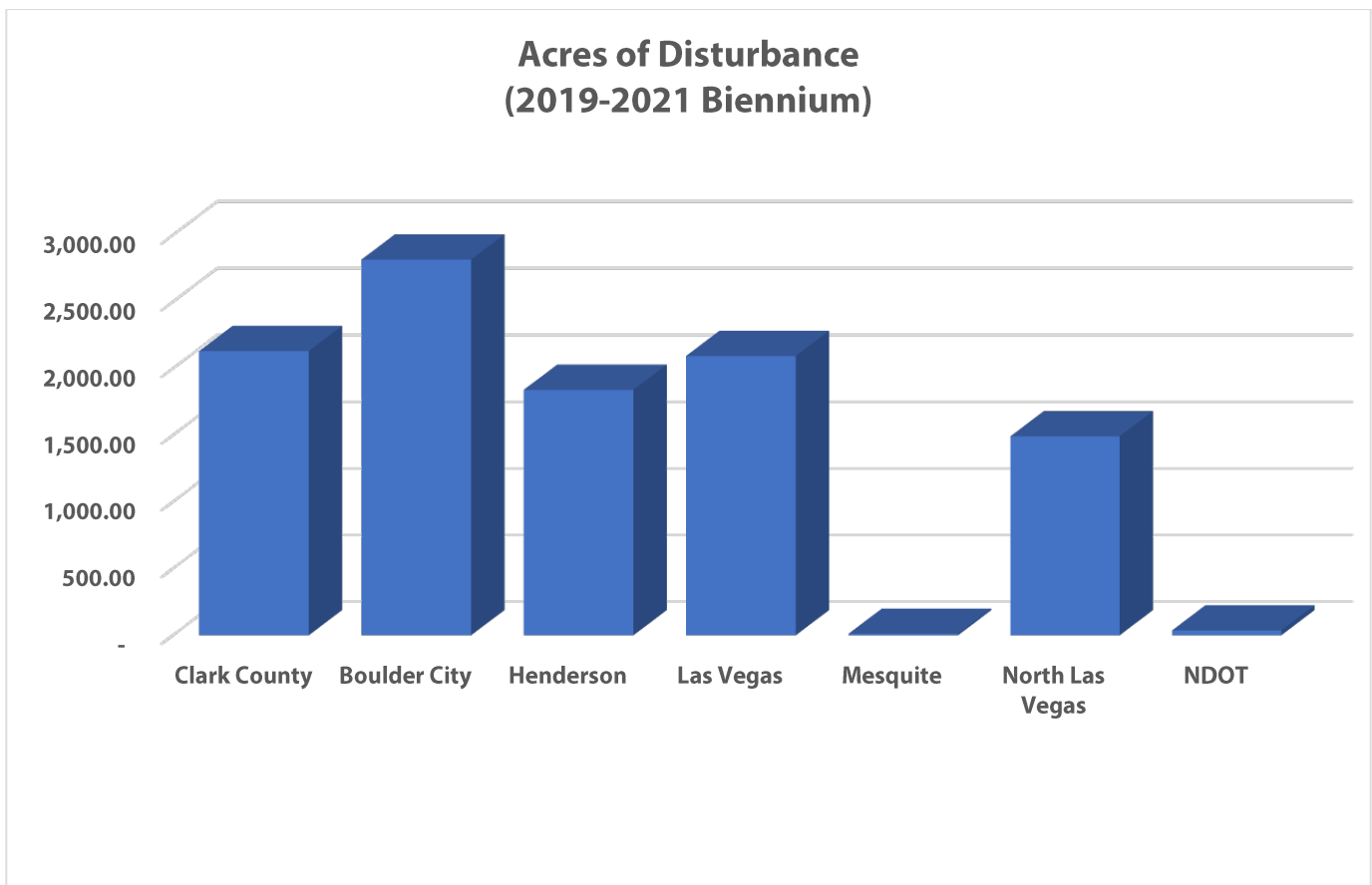


SECTION 6

LAND DISTURBANCE REPORT

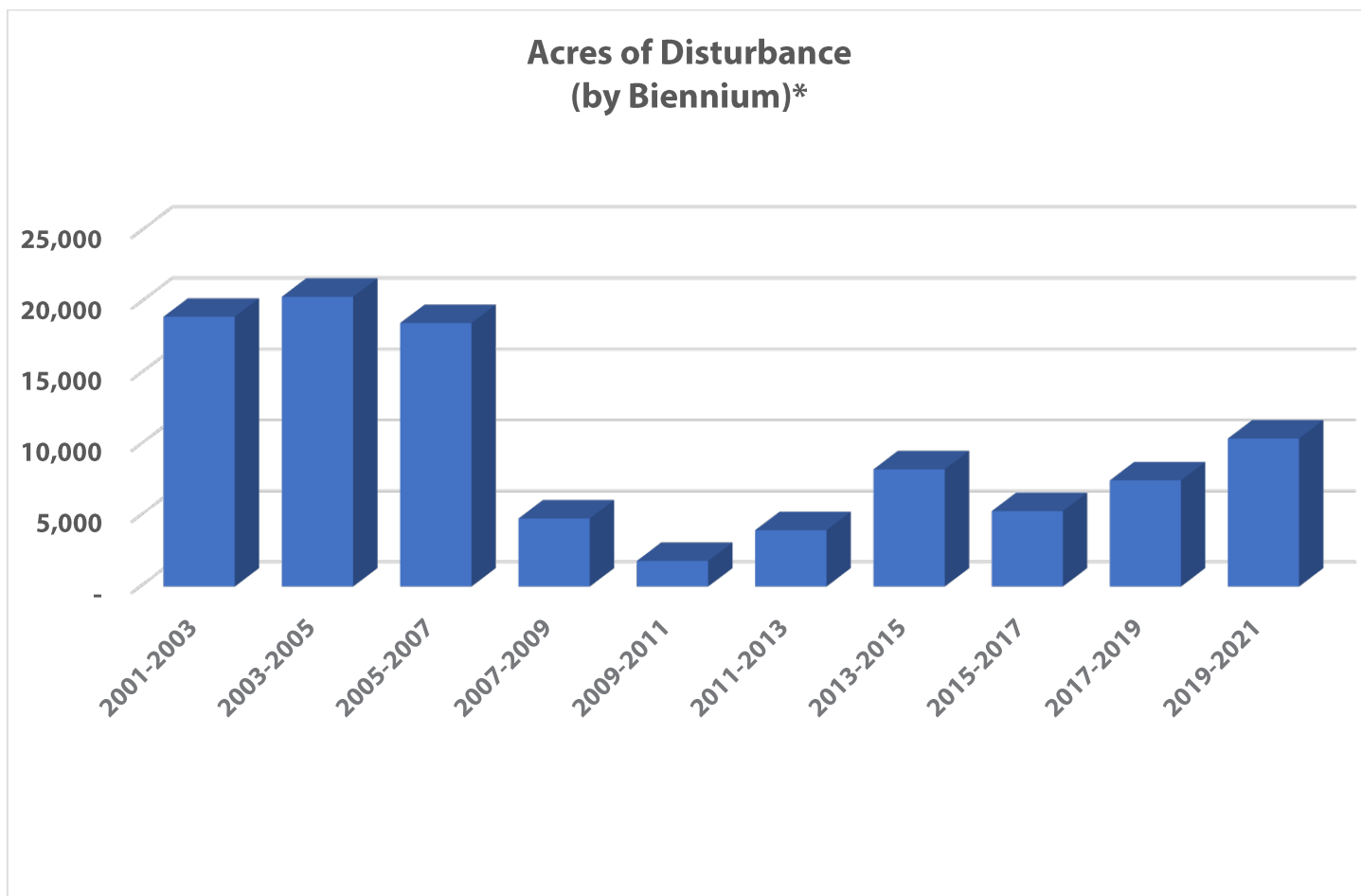
ACRES OF DUSTURBANCE 17-19 BIENNIUM

Permittee	Reported Disturbance (Acres)
Clark County	2,130.57
Boulder City	2,816.42
Henderson	1,840.00
Las Vegas	2,094.15
Mesquite	10.78
North Las Vegas	1,491.92
NDOT	36.37
Total	10,420.21



ACRES OF DUSTURBANCE BY BIENNIUM

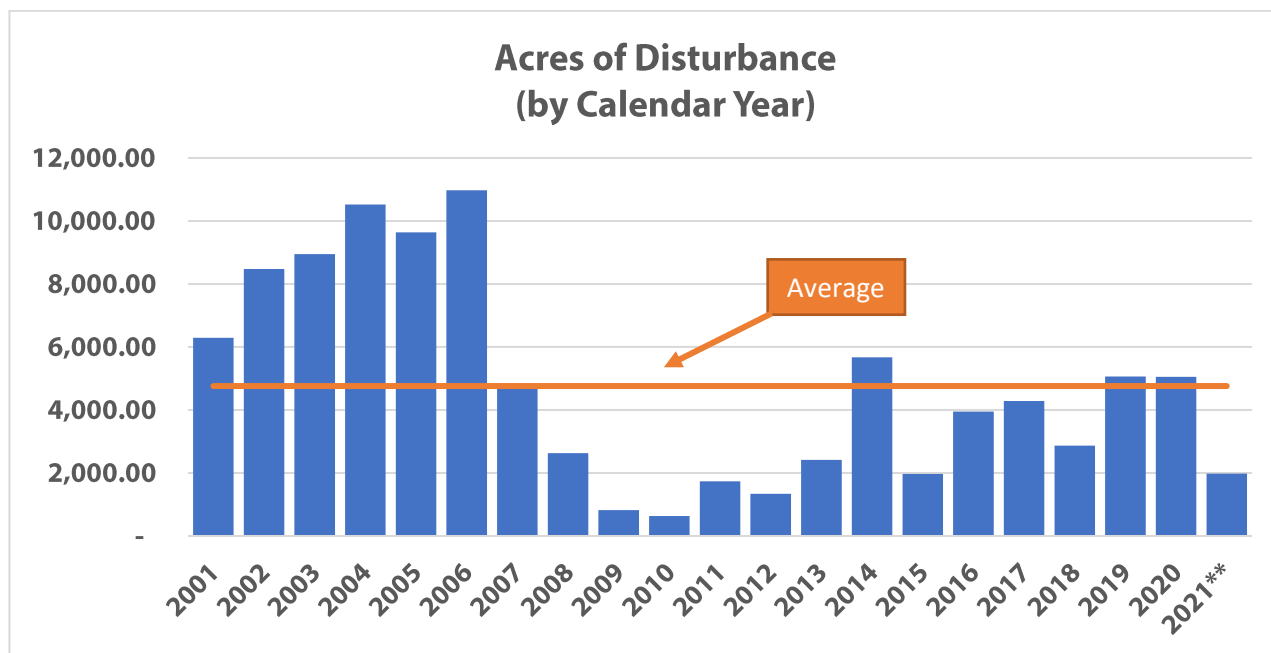
Biennium	Reported Disturbance (Acres)*
2001-2003	18,993.46
2003-2005	20,402.35
2005-2007	18,548.36
2007-2009	4,789.93
2009-2011	1,803.98
2011-2013	3,968.98
2013-2015	8,253.42
2015-2017	5,310.00
2017-2019	7,472.72
2019-2021	10,420.21



***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.**

ACRES OF DUSTURBANCE BY CALENDAR YEAR

Calendar Year	Reported Disturbance (Acres)*
2001	6,292.46
2002	8,475.58
2003	8,945.68
2004	10,520.61
2005	9,637.79
2006	10,974.28
2007	4,707.70
2008	2,627.86
2009	819.22
2010	632.48
2011	1,733.80
2012	1,337.85
2013	2,417.27
2014	5,669.06
2015	1,969.72
2016	3,950.71
2017	4,287.33
2018	2,868.66
2019	5,061.42
2020	5,051.20
2021**	1,977.28



*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

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 19-21	1900S	ABC Locksmiths	Shed Key Duplication	\$ 10.50
S10 13-15	1410C	Alta Sciences & Engineering, Inc.	Science Advisor Panel for the DCP	\$ 374,642.00
S10 17-19	1730A	Alta Sciences & Engineering, Inc.	Science Advisor Panel for the DCP	\$ 486,074.90
S10 19-21	1920A	Alta Sciences & Engineering, Inc.	Science Advisor Panel	\$ 550,000.00
S10 17-19	1750C	American Conservation Experience	Mormon Mesa Rest Svs -Phase II (w/1521K)	\$ 65,641.22
SNPLMA R15	1521K	American Conservation Experience	Mormon Mesa Rest Svs -Phase II (w/1750C)	\$ 34,358.78
S10 19-21	1905A	American Express	Reserves Maintenance Materials & Tools FY20	\$ 2,400.00
S10 19-21	1905D	American Express	Reserves Maintenance Materials & Tools FY21	\$ 1,800.00
S10 11-13	917P	Anderson Valuation Group	Appraisal for Property Acquisition	\$ 12,000.00
S10 11-13	917JD	Anderson Valuation Group	Appraisal Report 030-23-101-001	\$ 3,500.00
S10 11-13	917QA	Anderson Valuation Group	Appraisal Rpt 030-23-101-004 & 030-22-501-011	\$ 3,500.00
S10 19-21	1997B	Austin Peay State University	Gila Monsters Spatial Ecology and Habitat	\$ 193,900.00
S10 17-19	1730M	BEC Environmental, Inc.	Desert Upland Small Mammal Surveys II	\$ 49,910.00
S10 17-19	1720G	BEC Environmental, Inc.	Riparian Small Mammal Survey (w 1445J/1910A)	\$ 15,471.49
S10 19-21	1910A	BEC Environmental, Inc.	Riparian Small Mammal Survey (w 1445J/1720G)	\$ 57,025.30
S10 13-15	1445J	BEC Environmental, Inc.	Riparian Small Mammal Survey (w 1910A/1720G)	\$ 153.21
SNPLMA R17	1782A	BEC Environmental, Inc.	Desert Pocket Mouse Surveys	\$ 106,310.00
S10 19-21	1920B	Bio Logical, LLC	DT Occupancy on the BCCE	\$ 191,693.00
S10 17-19	1710A	Boulder City Conservation Easement Law Enforcement	Law Enforcement for the BCCE	\$ 250,016.29
S10 19-21	1915C	CDW Government, Inc	Acquisition of Solar Panel & SD Cards	\$ 105.50
S10 09-11	804M	Center for Large Landscape Conservation	DT Transportation Capstone Workshop	\$ 5,500.00
S10 19-21	1900B	Cintas First Aid & Safety	First Aid & Safety Supplies FY20	\$ 200.00
S10 19-21	1900Q	Cintas First Aid & Safety	First Aid & Safety Supplies FY21	\$ 200.00
S10 15-17	1510C	City of Boulder City	BCCE Boulder City Police Dept Drone Project	\$ 2,200.00
S10 19-21	1905B	City of Boulder City	Law Enforcement for the BCCE	\$ 216,477.99
S10 19-21	1965A	Cogan Technology Inc	Vegetation Map for Clark County (w/1460G)	\$ 400,000.00
S10 13-15	1460G	Cogan Technology Inc	Vegetation Map for Clark County (w/1965)	\$ 99,238.26
SNPLMA R16	1580D	Conservation Science Partners, Inc.	Mapping Potential DT Hab Conn in CC	\$ 42,000.00
S10 19-21	1900R	Dell Marketing LP	Acquisition of Technology Refresh Equipment	\$ 29,042.00
S10 17-19	1720F	Eagle View Contractors, Inc.	Riparian Reserves Maintenance	\$ 100,000.00
S10 07-09	1014J	Ebbin Moser & Skaggs, LLP	Legal Services for DCP	\$ 193,564.13
S10 19-21	1920F	Ecocentric, LLC	DT Connectivity Across Roadways (w/1580)	\$ 73,630.33

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
SNPLMA R16	1580B	Ecocentric, LLC	DT Connectivity Across Roadways (w/1920)	\$ 429,986.67
SNPLMA R16	1580E	Ecocentric, LLC	DT Telemetry around Culverts	\$ 170,770.00
S10 13-15	1445E	Farr West Engineering	Water Rights Consulting (w/805)	\$ 11,943.30
S10 17-19	1720E	Farr West Engineering	Water Rights Consulting (w/1440D & 1520Q)	\$ 15,423.02
S10 15-17	1520Q	Farr West Engineering	Water Rights Consulting (w/1440D & 1720E)	\$ 926.98
S10 13-15	1440D	Farr West Engineering	Water Rights Consulting (w/1520Q & 1720E)	\$ 8,600.00
S10 11-13	917A	Fidelity National Title Group	Title Rpt 030-23-101-004 & 030-22-501-011	\$ 200.00
S10 13-15	1420U	Forestry Suppliers	BCCE Culvert Wildlife Cameras	\$ 317.78
S10 17-19	1710E	Forestry Suppliers	Culvert Cameras for BCCE	\$ 375.52
S10 15-17	1510B	Frontier Precision	Acquisition of GPS Receiver (w/1420V)	\$ 29.12
S10 13-15	1420V	Frontier Precision	Acquisition of GPS Receiver (w/1510B)	\$ 1,830.88
S10 17-19	1715Y	Giftco	Acquisition of MoMax Iron on Patches	\$ 3,175.00
S10 17-19	1715X	Giftco	Acquisition of Safety Sunglasses	\$ 1,852.00
S10 17-19	1710D	Gothic Landscape, Inc	BCCE Maintenance (w/1510F & 1905C)	\$ 22,756.81
S10 19-21	1905C	Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1510F)	\$ 1,742.82
S10 15-17	1510F	Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1905C)	\$ 21,500.37
S10 17-19	1745A	Gothic Landscape, Inc	Restoration at the BCCE (W/809 & 1421)	\$ 151,031.00
S10 09-11	809P	Gothic Landscape, Inc	Restorations on the BCCE (w/1421 & 1745)	\$ 174,553.13
S10 13-15	1421C	Gothic Landscape, Inc	Restorations on the BCCE (w/809 & 1745)	\$ 11,358.41
S10 19-21	1930A	Great Basin Institute	BCCE DT Telemetry and Health Assessments	\$ 146,189.03
S10 13-15	1412D	Great Basin Institute	BCCE DT Telemetry and Health Assessments	\$ 56,435.34
SNPLMA R15	1541B	Great Basin Institute	Desert Tortoise Range-Wide Monitoring	\$ 1,022,850.16
S10 19-21	1925A	Great Basin Institute	DT Range-Wide Monitoring (w/1541)	\$ 229,355.65
S10 17-19	1750E	Helena Chemical Company	Repellent Acquisition	\$ 498.00
SNPLMA R16	1580J	Heron Ecological, LLC	Connectivity Data Analysis	\$ 93,940.00
S10 15-17	1510E	IML Security Supply	Acquisition of Gate Locks	\$ 91.56
S10 19-21	1900C	Inspire By Design	Uniform Apparel - FY20	\$ 600.00
S10 19-21	1900P	Inspire By Design	Uniform Apparel FY21	\$ 600.00
S10 17-19	1715AH	International E-Z Up, Inc	Acquisition of Shade Shelter	\$ 858.97
S10 09-11	807J	International E-Z Up, Inc	Acquisition of Side Walls for E-Z Up Tent	\$ 568.29
S10 17-19	1755A	Ironwood Consulting, Inc.	Rare Plant Surveys	\$ 268,000.00
S10 19-21	1900F	Jim Marsh Chrysler Jeep	Acquisition of 2019 Jeep Rubicon	\$ 44,250.00
S10 17-19	1710F	KVO Industries	BCCE Kiosk Signage	\$ 12,915.00
S10 15-17	1510D	KVO Industries	Replacement Kiosk Signage FY20	\$ 5,725.00
S10 17-19	1715AB	Logo Fusion USA, Inc.	Acquisition of Table Throw	\$ 120.00
S10 13-15	1445C	Louis Berger Engineering	Muddy River Grading Plan (w/722&805)	\$ 19,142.55

SORTED BY CONTRACTOR

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
SNPLMA R16	1570A	Louis Berger Engineering	Muddy River Grading Plan	\$ 150,000.00
S10 11-13	9170A	Lubaway & Associates, Inc	Appraisal Report 002-26-301-007	\$ 2,750.00
S10 19-21	1905E	Maile Concrete	Gabion Kiosks Build and Install	\$ 28,681.38
S10 19-21	1900K	Monsen Engineering	GIS Printer Preventative Maintenance	\$ 400.00
S10 17-19	1715AG	Morgan Specialties, Inc.	Acquisition of Slim Sports Bottles	\$ 1,614.04
S10 17-19	1715AJ	MXT Media	Content Prod for MoMax Assemblies/Emergence	\$ 61,000.00
S10 09-11	807H	MXT Media	DT Aware & Invasive Spec Ed for OHV Comm	\$ 50,000.00
S10 17-19	1715AF	My Promos&Apparel	Acquisition of DCP Gift Bags	\$ 242.98
S10 17-19	1715AA	My Promos&Apparel	Acquisition of DCP Pencils	\$ 1,364.00
S10 17-19	1715W	My Promos&Apparel	Acquisition of Lip Balm Balls	\$ 2,986.00
S10 17-19	1715Z	My Promos&Apparel	Acquisition of Rubber Wrist Bands	\$ 850.00
S10 17-19	1715AC	My Promos&Apparel	Acquisition of Stainless Steel Water Bottles	\$ 962.12
S10 19-21	1900G	MYS Project and Brand Management	2017-2019 BPR Graphic Design and Editing	\$ 3,550.00
SNPLMA R15	1521J	National Park Service (NPS)	Mormon Mesa Plant Propagation	\$ 24,114.00
SNPLMA R14	1446D	National Park Service (NPS)	Muddy River Habitat Restoration	\$ 65,836.00
S10 17-19	1720A	National Park Service (NPS)	Virgin River Weed Management	\$ 143,000.00
S10 19-21	1910C	National Park Service (NPS)	Riparian Reserves Vegetation Management	\$ 160,000.00
SNPLMA R16	1570C	Natural Channel Design, Inc	Muddy River Habitat Restoration	\$ 590,207.00
SNPLMA R17	1760A	Natural Resource Conservation LLC	Academic Consultant for DT Rest Workshop	\$ 60,000.00
S10 17-19	1792C	Nevada Department of Minerals	Gold Butte AML Closures	\$ 193,824.79
SNPLMA R15	1521E	Nevada Division of Forestry (NDF) - Carson City	Virgin River Riparian Restoration	\$ 80,000.00
SNPLMA R16	1580F	Newfields	Culvert Inspection for Tortoise Usage	\$ 62,990.00
S10 19-21	1900H	OpenText	Case360 Upgrade	\$ 55,809.00
S10 19-21	1900D	Opportunity Village	Document Shredding and Container FY20	\$ 150.00
S10 19-21	1900N	Opportunity Village	Document Shredding and Container FY21	\$ 180.00
S10 15-17	1515AC	Outside Las Vegas Foundation	Mojave Max Education Program (w/1715)	\$ 28,297.23
S10 19-21	1915A	Outside Las Vegas Foundation	Mojave Max Education Program	\$ 203,500.00
S10 19-21	1915E	Paper Zombies	Graphics Design Changes to Emergence Contest	\$ 225.00
S10 19-21	1900J	Precision Business Technologies, Inc.	Case360 Upgrade	\$ 23,200.00
SNPLMA R16	1580G	Recon Environmental, Inc	Connectivity Management Plan	\$ 81,549.00
S10 19-21	1900E	Red Wing Shoes of America	Lot 4 -Safety Shoes for Staff FY20	\$ 220.00
S10 19-21	1900M	Red Wing Shoes of America	Lot 4 - Safety Shoes for Staff FY21	\$ 550.00
S10 09-11	804N	RFP/in progress	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	\$ 57,016.05
S10 19-21	1975A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	\$ 306,020.00

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 17-19	1780A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	\$ 500,000.00
S10 17-19	1725A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	\$ 45,000.00
S10 15-17	1525C	RFP/in progress	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	\$ 175,887.40
S10 09-11	803G	RodentPro.COM, LLC	Zoo Med Natural Grassland Tortoise Food	\$ 138.61
S10 17-19	1715AE	Skyhigh Marketing	Acquisition of Playing Cards	\$ 3,480.00
S10 13-15	1410D	Southwest Decisions Resources, Inc	Eastern Mojave Consv Collaborative	\$ 5,959.88
SNPLMA R17	1760B	Southwest Decisions Resources, Inc	Restoration Workshop Facilitation	\$ 50,000.00
S10 11-13	917BD	Stanley Consultants, Inc.	Parceling for APN 002-26-501-009	\$ 8,760.00
S10 11-13	917MB	Stanley Consultants, Inc.	Parceling for Bunkerville Property	\$ 23,970.00
S10 19-21	1900A	Staples	Office Supplies - Admin FY20	\$ 5,000.00
S10 19-21	1900L	Staples	Office Supplies - Admin FY21	\$ 5,000.00
SNPLMA R15	1521H	Summitt Forests, Inc.	Virgin River Restoration Treatment	\$ 99,504.00
S10 17-19	1750D	SWCA Environmental Consultants	Archeological Resource Evals on Rip Rsv Parcels	\$ 40,000.00
S10 17-19	1750F	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	\$ 52,271.00
SNPLMA R17	1782B	SWCA Environmental Consultants	Avian Surveys	\$ 108,645.00
S10 19-21	1920D	SWCA Environmental Consultants	Avian Surveys	\$ 96,658.00
S10 19-21	1920E	SWCA Environmental Consultants	Avian Surveys (w/1730)	\$ 1,172.24
S10 17-19	1730P	SWCA Environmental Consultants	Avian Surveys (w/1920)	\$ 87,399.76
S10 19-21	1910B	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	\$ 68,040.00
S10 17-19	1730K	SWCA Environmental Consultants	Avian Species Surveys	\$ 100,084.00
S10 17-19	1730N	SWCA Environmental Consultants	Bat Recording Analysis	\$ 17,773.00
S10 09-11	809M	SWCA Environmental Consultants	BCCE Cultural Resource Survey	\$ 34,096.00
SNPLMA R16	1580H	SWCA Environmental Consultants	Culvert Image Inspection	\$ 50,000.00
S10 13-15	1411A	Terragraphics	Science Advisor (W/1410 & 901)	\$ 20,000.00
S10 17-19	1750B	The Nature Conservancy (TNC) of Nevada	VR Coalition Project Planning	\$ 10,000.00
S10 17-19	1715V	The Pincenter	Acquisition of Mojave Max Lapel Pins	\$ 2,765.00
S10 09-11	804K	The WLB Group, Inc	TUSK Trail Head Design	\$ 8,700.00
S10 11-13	917JC	Tio S Difederico Real Estate Appraisal, Inc.	Appraisal Report 030-23-101-001	\$ 3,500.00
S10 19-21	1955A	Tortoise Group	Road Warrior DT Mortality Survey	\$ 20,300.00
S10 19-21	1950A	Tortoise Group	Fence Maintenance Survey	\$ 10,000.00
S10 17-19	1710C	Turf Tech, Inc.	BCCE Maintenance	\$ 45,000.00
S10 15-17	1550A	University of Nevada (UNLV) - Board of Regents	Relict Leopard Frog Consv Plan and Impl	\$ 184,050.00
S10 19-21	1992A	University of Nevada (UNLV) - Board of Regents	Riparian Plant-Pollinator Ecology Phase 1	\$ 50,000.00
S10 09-11	804L	University of Nevada LV (UNLV) - School of Life Sci	Transportation Ecology Documentary	\$ 11,370.00
S10 13-15	1460F	University of Nevada Reno (UNR) - BRRC	Golden Eagle Habitat Model	\$ 10,615.96

SORTED BY CONTRACTOR

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
SNPLMA R16	1580A	University of Nevada Reno (UNR) - BRRC	Desert Tortoise Connectivity Modeling	\$ 94,799.99
S10 19-21	1985B	University of Nevada Reno (UNR) - BRRC	DT Mating Opportunities on the BCCE	\$ 15,798.20
S10 13-15	1460E	University of Nevada Reno (UNR) - BRRC	Species Distribution Modeling, Phase II	\$ 115,720.00
S10 19-21	1985A	University of Nevada Reno (UNR) - BRRC	Desert Tortoise Nesting Study on the BCCE	\$ 92,729.74
SNPLMA R16	1580C	University of Nevada Reno (UNR) - BRRC	DT Connectivity Solutions Modeling	\$ 348,455.90
S10 19-21	1997C	University of Nevada Reno (UNR) - BRRC	Gila Monster Habitat Modeling	\$ 36,698.62
SNPLMA R15	1541A	US Fish & Wildlife Service (USFWS) -Las Vegas	DT Monitoring Data Management Year 2-5	\$ 153,361.00
S10 17-19	1795A	US Geological Survey	Desert Tortoise Predator-Prey Dynamics	\$ 576,503.35
S10 19-21	1997A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Assess Genetic Diversity of Gila Monster	\$ 123,000.00
S10 17-19	1730J	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Effects of Exotic Forage on Mojave DT	\$ 49,881.49
S10 19-21	1987A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	DT Predator-Prey Dynamics (w/1795)	\$ 491,152.20
S10 09-11	809N	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/1990)	\$ 3,735.00
S10 19-21	1990A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/809)	\$ 137,943.00
S10 19-21	1915B	Verizon Wireless	Acquisition of Arlo Go Camera	\$ 349.99
S10 17-19	1715AK	WE MARKET FOR HUMANS	MSHCP Education Video	\$ 49,500.00
S10 17-19	1730H	Wildlife Acoustics, Inc.	Acquisition of Acoustic Analysis Software	\$ 798.00
S10 09-11	803H	Wood Enviroment & Infastructure Solution	EA for Pesticide Use	\$ 46,564.00
S10 13-15	1460A	WRA Environmental Consultants	HCP Consultant for the MSHCP Amend	\$ 441,238.04
S10 19-21	1970A	WRA Environmental Consultants	HCP Consultant for the MSHCP Amend w/1460	\$ 66,535.30
S10 11-13	917R		Cavada Land Aquisition	\$ 414,000.00
S10 11-13	917M		Bunkerville Compound, LLC Land Acquisition	\$ 430,000.00
S10 11-13	917K		DRB Holdings, LLC Land Acquisition	\$ 710,000.00
S10 11-13	917L		Happy Good Fortune, LLC Land Acquisiton	\$ -
S10 11-13	917Q		Costa Land Acquisition	\$ -

SORTED BY FUNDING SOURCE

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 07-09	1014J	Ebbin Moser & Skaggs, LLP	Legal Services for DCP	\$ 193,564.13
S10 09-11	809P	Gothic Landscape, Inc	Restorations on the BCCE (w/1421 & 1745)	\$ 174,553.13
S10 09-11	804M	Center for Large Landscape Conservation	DT Transportation Capstone Workshop	\$ 5,500.00
S10 09-11	807J	International E-Z Up, Inc	Acquisition of Side Walls for E-Z Up Tent	\$ 568.29
S10 09-11	807H	MXT Media	DT Aware & Invasive Spec Ed for OHV Comm	\$ 50,000.00
S10 09-11	804N	RFP/in progress	Tule Springs Monument Fence (w/1525, 1725, 1780, 1975)	\$ 57,016.05
S10 09-11	803G	RodentPro.COM, LLC	Zoo Med Natural Grassland Tortoise Food	\$ 138.61
S10 09-11	809M	SWCA Environmental Consultants	BCCE Cultural Resource Survey	\$ 34,096.00
S10 09-11	804K	The WLB Group, Inc	TUSK Trail Head Design	\$ 8,700.00
S10 09-11	804L	University of Nevada LV (UNLV) - School of Life Sci	Transportation Ecology Documentary	\$ 11,370.00
S10 09-11	809N	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/1990)	\$ 3,735.00
S10 09-11	803H	Wood Enviroment & Infastructure Solution	EA for Pesticide Use	\$ 46,564.00
S10 11-13	917P	Anderson Valuation Group	Appraisal for Property Acquisition	\$ 12,000.00
S10 11-13	917JD	Anderson Valuation Group	Appraisal Report 030-23-101-001	\$ 3,500.00
S10 11-13	917QA	Anderson Valuation Group	Appraisal Rpt 030-23-101-004 & 030-22-501-011	\$ 3,500.00
S10 11-13	917A	Fidelity National Title Group	Title Rpt 030-23-101-004 & 030-22-501-011	\$ 200.00
S10 11-13	917OA	Lubaway & Associates, Inc	Appraisal Report 002-26-301-007	\$ 2,750.00
S10 11-13	917BD	Stanley Consultants, Inc.	Parceling for APN 002-26-501-009	\$ 8,760.00
S10 11-13	917MB	Stanley Consultants, Inc.	Parceling for Bunkerville Property	\$ 23,970.00
S10 11-13	917JC	Tio S Diferederico Real Estate Appraisal, Inc.	Appraisal Report 030-23-101-001	\$ 3,500.00
S10 11-13	917R		Cavada Land Aquisition	\$ 414,000.00
S10 11-13	917M		Bunkerville Compound, LLC Land Acquisition	\$ 430,000.00
S10 11-13	917K		DRB Holdings, LLC Land Acquisition	\$ 710,000.00
S10 11-13	917L		Happy Good Fortune, LLC Land Acquisiton	\$ -
S10 11-13	917Q		Costa Land Acquisition	\$ -
S10 13-15	1421C	Gothic Landscape, Inc	Restorations on the BCCE (w/809 & 1745)	\$ 11,358.41
S10 13-15	1410C	Alta Sciences & Engineering, Inc.	Science Advisor Panel for the DCP	\$ 374,642.00
S10 13-15	1445J	BEC Environmental, Inc.	Riparian Small Mammal Survey (w 1910A/1720G)	\$ 153.21
S10 13-15	1460G	Cogan Technology Inc	Vegetation Map for Clark County (w/1965)	\$ 99,238.26
S10 13-15	1445E	Farr West Engineering	Water Rights Consulting (w/805)	\$ 11,943.30
S10 13-15	1440D	Farr West Engineering	Water Rights Consulting (w/1520Q & 1720E)	\$ 8,600.00
S10 13-15	1420U	Forestry Suppliers	BCCE Culvert Wildlife Cameras	\$ 317.78

SORTED BY FUNDING SOURCE

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 13-15	1420V	Frontier Precision	Acquisition of GPS Receiver (w/1510B)	\$ 1,830.88
S10 13-15	1412D	Great Basin Institute	BCCE DT Telemetry and Health Assessments	\$ 56,435.34
S10 13-15	1445C	Louis Berger Engineering	Muddy River Grading Plan (w/722&805)	\$ 19,142.55
S10 13-15	1410D	Southwest Decisions Resources, Inc	Eastern Mojave Consv Collaborative	\$ 5,959.88
S10 13-15	1411A	Terragraphics	Science Advisor (W/1410 & 901)	\$ 20,000.00
S10 13-15	1460F	University of Nevada Reno (UNR) - BRRC	Golden Eagle Habitat Model	\$ 10,615.96
S10 13-15	1460E	University of Nevada Reno (UNR) - BRRC	Species Distribution Modeling, Phase II	\$ 115,720.00
S10 13-15	1460A	WRA Environmental Consultants	HCP Consultant for the MSHCP Amend	\$441,238.04
S10 15-17	1510F	Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1905C)	\$ 21,500.37
S10 15-17	1510C	City of Boulder City	BCCE Boulder City Police Dept Drone Project	\$ 2,200.00
S10 15-17	1520Q	Farr West Engineering	Water Rights Consulting (w/1440D & 1720E)	\$ 926.98
S10 15-17	1510B	Frontier Precision	Acquisition of GPS Receiver (w/1420V)	\$ 29.12
S10 15-17	1510E	IML Security Supply	Acquisition of Gate Locks	\$ 91.56
S10 15-17	1510D	KVO Industries	Replacement Kiosk Signage FY20	\$ 5,725.00
S10 15-17	1515AC	Outside Las Vegas Foundation	Mojave Max Education Program (w/1715)	\$ 28,297.23
S10 15-17	1525C	RFP/in progress	Tule Springs Monument Fence (w/804, 1725, 1780, 1975)	\$ 175,887.40
S10 15-17	1550A	University of Nevada (UNLV) - Board of Regents	Relict Leopard Frog Consv Plan and Impl	\$ 184,050.00
S10 17-19	1710D	Gothic Landscape, Inc	BCCE Maintenance (w/1510F & 1905C)	\$ 22,756.81
S10 17-19	1745A	Gothic Landscape, Inc	Restoration at the BCCE (W/809 & 1421)	\$ 151,031.00
S10 17-19	1730A	Alta Sciences & Engineering, Inc.	Science Advisor Panel for the DCP	\$ 486,074.90
S10 17-19	1750C	American Conservation Experience	Mormon Mesa Rest Svs -Phase II (w/1521K)	\$ 65,641.22
S10 17-19	1730M	BEC Environmental, Inc.	Desert Upland Small Mammal Surveys II	\$ 49,910.00
S10 17-19	1720G	BEC Environmental, Inc.	Riparian Small Mammal Survery (w 1445J/1910A)	\$ 15,471.49
S10 17-19	1710A	Boulder City Conservation Easement Law Enforcement	Law Enforcement for the BCCE	\$ 250,016.29
S10 17-19	1720F	Eagle View Contractors, Inc.	Riparian Reserves Maintenance	\$ 100,000.00
S10 17-19	1720E	Farr West Engineering	Water Rights Consulting (w/1440D & 1520Q)	\$ 15,423.02
S10 17-19	1710E	Forestry Suppliers	Culvert Cameras for BCCE	\$ 375.52
S10 17-19	1715Y	Giftco	Acquisition of MoMax Iron on Patches	\$ 3,175.00
S10 17-19	1715X	Giftco	Acquisition of Safety Sunglasses	\$ 1,852.00
S10 17-19	1750E	Helena Chemical Company	Repellent Acquisition	\$ 498.00
S10 17-19	1715AH	International E-Z Up, Inc	Acquisition of Shade Shelter	\$ 858.97

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 17-19	1755A	Ironwood Consulting, Inc.	Rare Plant Surveys	\$ 268,000.00
S10 17-19	1710F	KVO Industries	BCCE Kiosk Signage	\$ 12,915.00
S10 17-19	1715AB	Logo Fusion USA, Inc.	Acquisition of Table Throw	\$ 120.00
S10 17-19	1715AG	Morgan Specialties, Inc.	Acquisition of Slim Sports Bottles	\$ 1,614.04
S10 17-19	1715AJ	MXT Media	Content Prod for MoMax Assemblies/Emergence	\$ 61,000.00
S10 17-19	1715AF	My Promos&Apparel	Acquisition of DCP Gift Bags	\$ 242.98
S10 17-19	1715AA	My Promos&Apparel	Acquisition of DCP Pencils	\$ 1,364.00
S10 17-19	1715W	My Promos&Apparel	Acquisition of Lip Balm Balls	\$ 2,986.00
S10 17-19	1715Z	My Promos&Apparel	Acquisition of Rubber Wrist Bands	\$ 850.00
S10 17-19	1715AC	My Promos&Apparel	Acquisition of Stainless Steel Water Bottles	\$ 962.12
S10 17-19	1720A	National Park Service (NPS)	Virgin River Weed Management	\$ 143,000.00
S10 17-19	1792C	Nevada Department of Minerals	Gold Butte AML Closures	\$ 193,824.79
S10 17-19	1780A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1725, 1975)	\$ 500,000.00
S10 17-19	1725A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1780, 1975)	\$ 45,000.00
S10 17-19	1715AE	Skyhigh Marketing	Acquisition of Playing Cards	\$ 3,480.00
S10 17-19	1750D	SWCA Environmental Consultants	Archeological Resource Evals on Rip Rsv Parcels	\$ 40,000.00
S10 17-19	1750F	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	\$ 52,271.00
S10 17-19	1730P	SWCA Environmental Consultants	Avian Surveys (w/1920)	\$ 87,399.76
S10 17-19	1730K	SWCA Environmental Consultants	Avian Species Surveys	\$ 100,084.00
S10 17-19	1730N	SWCA Environmental Consultants	Bat Recording Analysis	\$ 17,773.00
S10 17-19	1750B	The Nature Conservancy (TNC) of Nevada	VR Coalition Project Planning	\$ 10,000.00
S10 17-19	1715V	The Pincenter	Acquisition of Mojave Max Lapel Pins	\$ 2,765.00
S10 17-19	1710C	Turf Tech, Inc.	BCCE Maintenance	\$ 45,000.00
S10 17-19	1795A	US Geological Survey	Desert Tortoise Predator-Prey Dynamics	\$ 576,503.35
S10 17-19	1730J	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Effects of Exotic Forage on Mojave DT	\$ 49,881.49
S10 17-19	1715AK	WE MARKET FOR HUMANS	MSHCP Education Video	\$ 49,500.00
S10 17-19	1730H	Wildlife Acoustics, Inc.	Acquisition of Acoustic Analysis Software	\$ 798.00
S10 19-21	1905C	Gothic Landscape, Inc	BCCE Maintenance (w/1710D & 1510F)	\$ 1,742.82
S10 19-21	1900S	ABC Locksmiths	Shed Key Duplication	\$ 10.50
S10 19-21	1920A	Alta Sciences & Engineering, Inc.	Science Advisor Panel	\$ 550,000.00
S10 19-21	1905A	American Express	Reserves Maintenance Materials & Tools FY20	\$ 2,400.00
S10 19-21	1905D	American Express	Reserves Maintenance Materials & Tools FY21	\$ 1,800.00
S10 19-21	1997B	Austin Peay State University	Gila Monsters Spatial Ecology and Habitat	\$ 193,900.00
S10 19-21	1910A	BEC Environmental, Inc.	Riparian Small Mammal Survey (w 1445J/1720G)	\$ 57,025.30

SORTED BY FUNDING SOURCE

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 19-21	1920B	Bio Logical, LLC	DT Occupancy on the BCCE	\$ 191,693.00
S10 19-21	1915C	CDW Government, Inc	Acquisition of Solar Panel & SD Cards	\$ 105.50
S10 19-21	1900B	Cintas First Aid & Safety	First Aid & Safety Supplies FY20	\$ 200.00
S10 19-21	1900Q	Cintas First Aid & Safety	First Aid & Safety Supplies FY21	\$ 200.00
S10 19-21	1905B	City of Boulder City	Law Enforcement for the BCCE	\$ 216,477.99
S10 19-21	1965A	Cogan Technology Inc	Vegetation Map for Clark County (w/1460G)	\$ 400,000.00
S10 19-21	1900R	Dell Marketing LP	Acquisition of Technology Refresh Equipment	\$ 29,042.00
S10 19-21	1920F	Ecocentric, LLC	DT Connectivity Across Roadways (w/1580)	\$ 73,630.33
S10 19-21	1930A	Great Basin Institute	BCCE DT Telemetry and Health Assessments	\$ 146,189.03
S10 19-21	1925A	Great Basin Institute	DT Range-Wide Monitoring (w/1541)	\$ 229,355.65
S10 19-21	1900C	Inspire By Design	Uniform Apparel - FY20	\$ 600.00
S10 19-21	1900P	Inspire By Design	Uniform Apparel FY21	\$ 600.00
S10 19-21	1900F	Jim Marsh Chrysler Jeep	Acquisition of 2019 Jeep Rubicon	\$ 44,250.00
S10 19-21	1905E	Maile Concrete	Gabion Kiosks Build and Install	\$ 28,681.38
S10 19-21	1900K	Monsen Engineering	GIS Printer Preventative Maintenance	\$ 400.00
S10 19-21	1900G	MYS Project and Brand Management	2017-2019 BPR Graphic Design and Editing	\$ 3,550.00
S10 19-21	1910C	National Park Service (NPS)	Riparian Reserves Vegetation Management	\$ 160,000.00
S10 19-21	1900H	OpenText	Case360 Upgrade	\$ 55,809.00
S10 19-21	1900D	Opportunity Village	Document Shredding and Container FY20	\$ 150.00
S10 19-21	1900N	Opportunity Village	Document Shredding and Container FY21	\$ 180.00
S10 19-21	1915A	Outside Las Vegas Foundation	Mojave Max Education Program	\$ 203,500.00
S10 19-21	1915E	Paper Zombies	Graphics Design Changes to Emergence Contest	\$ 225.00
S10 19-21	1900J	Precision Business Technologies, Inc.	Case360 Upgrade	\$ 23,200.00
S10 19-21	1900E	Red Wing Shoes of America	Lot 4 -Safety Shoes for Staff FY20	\$ 220.00
S10 19-21	1900M	Red Wing Shoes of America	Lot 4 - Safety Shoes for Staff FY21	\$ 550.00
S10 19-21	1975A	RFP/in progress	Tule Springs Monument Fence (w/804, 1525, 1725, 1780)	\$ 306,020.00
S10 19-21	1900A	Staples	Office Supplies - Admin FY20	\$ 5,000.00
S10 19-21	1900L	Staples	Office Supplies - Admin FY21	\$ 5,000.00
S10 19-21	1920D	SWCA Environmental Consultants	Avian Surveys	\$ 96,658.00
S10 19-21	1920E	SWCA Environmental Consultants	Avian Surveys (w/1730)	\$ 1,172.24
S10 19-21	1910B	SWCA Environmental Consultants	Avian Nest Monitoring on Riparian Properties	\$ 68,040.00
S10 19-21	1955A	Tortoise Group	Road Warrior DT Mortality Survey	\$ 20,300.00
S10 19-21	1950A	Tortoise Group	Fence Maintenance Survey	\$ 10,000.00
S10 19-21	1992A	University of Nevada (UNLV) - Board of Regents	Riparian Plant-Pollinator Ecology Phase 1	\$ 50,000.00

Funding Source	Project Number	Contractor/Vendor	Contract Title	Contract Award Amount
S10 19-21	1985B	University of Nevada Reno (UNR) - BRRC	DT Mating Opportunities on the BCCE	\$ 15,798.20
S10 19-21	1985A	University of Nevada Reno (UNR) - BRRC	Desert Tortoise Nesting Study on the BCCE	\$ 92,729.74
S10 19-21	1997C	University of Nevada Reno (UNR) - BRRC	Gila Monster Habitat Modeling	\$ 36,698.62
S10 19-21	1997A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Assess Genetic Diversity of Gila Monster	\$ 123,000.00
S10 19-21	1987A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	DT Predator-Prey Dynamics (w/1795)	\$ 491,152.20
S10 19-21	1990A	US Geological Survey (USGS) - Western Eco Rsrch Ctr	Rare Plant Propagation Research (w/809)	\$ 137,943.00
S10 19-21	1915B	Verizon Wireless	Acquisition of Arlo Go Camera	\$ 349.99
S10 19-21	1970A	WRA Environmental Consultants	HCP Consultant for the MSHCP Amend w/1460	\$ 66,535.30
SNPLMA R14	1446D	National Park Service (NPS)	Muddy River Habitat Restoration	\$ 65,836.00
SNPLMA R15	1521K	American Conservation Experience	Mormon Mesa Rest Svs -Phase II (w/1750C)	\$ 34,358.78
SNPLMA R15	1541B	Great Basin Institute	Desert Tortoise Range-Wide Monitoring	\$ 1,022,850.16
SNPLMA R15	1521J	National Park Service (NPS)	Mormon Mesa Plant Propagation	\$ 24,114.00
SNPLMA R15	1521E	Nevada Division of Forestry (NDF) - Carson City	Virgin River Riparian Restoration	\$ 80,000.00
SNPLMA R15	1521H	Summitt Forests, Inc.	Virgin River Restoration Treatment	\$ 99,504.00
SNPLMA R15	1541A	US Fish & Wildlife Service (USFWS) -Las Vegas	DT Monitoring Data Management Year 2-5	\$ 153,361.00
SNPLMA R16	1580D	Conservation Science Partners, Inc.	Mapping Potential DT Hab Conn in CC	\$ 42,000.00
SNPLMA R16	1580B	Ecocentric, LLC	DT Connectivity Across Roadways (w/1920)	\$ 429,986.67
SNPLMA R16	1580E	Ecocentric, LLC	DT Telemetry around Culverts	\$ 170,770.00
SNPLMA R16	1580J	Heron Ecological, LLC	Connectivity Data Analysis	\$ 93,940.00
SNPLMA R16	1570A	Louis Berger Engineering	Muddy River Grading Plan	\$ 150,000.00
SNPLMA R16	1570C	Natural Channel Design, Inc	Muddy River Habitat Restoration	\$ 590,207.00
SNPLMA R16	1580F	Newfields	Culvert Inspection for Tortoise Usage	\$ 62,990.00
SNPLMA R16	1580G	Recon Environmental, Inc	Connectivity Management Plan	\$ 81,549.00
SNPLMA R16	1580H	SWCA Environmental Consultants	Culvert Image Inspection	\$ 50,000.00
SNPLMA R16	1580A	University of Nevada Reno (UNR) - BRRC	Desert Tortoise Connectivity Modeling	\$ 94,799.99
SNPLMA R16	1580C	University of Nevada Reno (UNR) - BRRC	DT Connectivity Solutions Modeling	\$ 348,455.90
SNPLMA R17	1782A	BEC Environmental, Inc.	Desert Pocket Mouse Surveys	\$ 106,310.00
SNPLMA R17	1760A	Natural Resource Conservation LLC	Academic Consultant for DT Rest Workshop	\$ 60,000.00
SNPLMA R17	1760B	Southwest Decisions Resources, Inc	Restoration Workshop Facilitation	\$ 50,000.00
SNPLMA R17	1782B	SWCA Environmental Consultants	Avian Surveys	\$ 108,645.00

