

**Southwestern Riverside County Multi-Species Reserve
Annual Report Fiscal Year 2018-2019**



Munz's Onion (*Allium munzii*)



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I. Introductions

The Southwestern Riverside County Multi-Species Reserve (Reserve) was established in October 1992 as mitigation for impacts to sensitive species resulting from the creation and operation of the reservoir “Diamond Valley Lake” (DVL) near Hemet, California. To this end, the Metropolitan Water District of Southern California (MWD) developed a Multi-Species Habitat Conservation Plan (MSHCP) which included the establishment of the Reserve, provisions for research and management funding, and a Cooperative Management Agreement (CMA) between the five agencies with interest in the Reserve: MWD, the Riverside County Habitat Conservation Agency (RCHCA), the Riverside County Regional Park and Open-Space District (RCRPOSD), the California Department of Fish and Wildlife (CDFW), and the U.S. Fish and Wildlife Service (USFWS) (Cooperative Management Agreement, 1992)

The Reserve MSHCP covered a 20,000-acre planning area including approximately 2,400 acres of previously conserved habitat (the Shipley Reserve), 6,600 acres of new conservation land, 8,600 acres dedicated to two reservoirs and water-related facilities, and 2,400 acres dedicated to recreation facilities at Diamond Valley Lake (previously “Domenigoni Valley Reservoir Project” or “Eastside Reservoir Project”) and existing Lake Skinner. The Reserve was established by combining the Shipley Reserve, lands around Lake Skinner, and lands around DVL to create a contiguous Reserve of approximately 9,000 acres. Subsequent acquisitions have added to the Reserve and increased the size of the Reserve to approximately 14,000 acres (21 square miles). The CMA established a Reserve Management Committee (RMC) consisting of one representative from each of the five agencies. Management of the Reserve is by a consensus (unanimous) vote of at least three RMC members present and voting, except that one member from either CDFW or USFWS must be present for business to be transacted (Southwestern Riverside County Multi-Species Reserve Management Plan, 2008).

II. Multi-Species Reserve

A. Reserve Patrol & Management

1. Patrol

In order to fulfill the management objectives established in the Reserve Management Plan, the Reserve is patrolled by a full time Park Ranger employed by Parks (per SWRCMSR Service Contract). Additionally, two (2) Parks Open-Space Rangers

were crossed trained on Reserve boundaries and assist the Reserve Ranger on occasion. The majority of the Reserve is off limits to the general public due to its sensitive habitat and critical species residing within the Reserve. Routine patrols include the inspection of Reserve boundary fencing, removal of unauthorized people, and visitor interactions while on trails. The bulk of the reoccurring issues this year included illegal dumping, fence damage, and homeless trying to establish encampments on the Reserve boundary. The use of ArcGIS Collector was utilized to track these occurrences. This data will be used to highlight sections of the Reserve needing increased Ranger presence.

A total of 1,280 patrol hours was conducted in 2018-2019.

2. Brochure

The popularity of the Reserve has increased in recent years due to the opening of the historic Alamos Schoolhouse and multi-use trails that give users a one of a kind experience. Reserve management created a brochure that provides the public with a brief history of the Reserve and information on protected species, rules, and staff contact information. 500 brochures were created and will be distributed at the Alamos Schoolhouse and Lake Skinner entrance kiosk.

3. Trails

Heavy rainfall led to an increase in annual wildflowers and visitor use on the northern section of the Reserve. Reserve staff increased patrols on the Wildflower Trail during the peak bloom season and conducted interpretive hikes on the weekends.

4. Maintenance

Upgrading equipment to improve efficiency has been a priority during the reporting year. A new Ford F350 truck will be utilized by the Reserve Ranger and will have a fire suppression unit in the bed of the vehicle. Additionally, staff replaced hydraulic hoses on both MSR tractors, which were damaged by the sun and rodents. A new

diesel tank was purchased due to fuel problems caused by the old age of the unit, and all mower attachments were serviced to ensure longevity of the machines.

5. License and Certification

As part of continuing education, the Reserve Manager obtained a Qualified Applicators License (QAL) and completed the Riverside County Strategic Leadership Academy. The Reserve Ranger also recertified his Qualified Applicators Certificate and Reserve staff attended the Park Rangers Association of California Conference. Additionally, staff attended CPR, Wilderness First Aid, and Wildland Fire Training.

B. Surveys

1. Researchers

During the reporting year, (3) MSR Research Proposals were submitted and have been approved by the Reserve Manager. Each researcher is in the process of completing their work and will provide the Reserve Manager with published results. Graduate student Tessa Shates completed her project *Do insect-vectored crop viruses threaten California native plants?*

2. Quino checkerspot butterfly

During surveys conducted by the Reserve Manager and Biological Monitoring Crew a total of 32 adult Quino checkerspot butterfly (*Euphydryas editha quino*) were seen during the presence-absence surveys. FY 18/19 saw an increase in annual rainfall and a higher germination rate of the host plant *plantago erecta*. Incidental observations only slightly increased from the previous year.

3. Engelmann Oak

A total of 64 Engelmann oak (*Quercus engelmannii*) were identified and assessed in the Lopez Canyon and Rawson rift. Each tree was assessed for overall health, sign of insect pests, presence of acorns, and hybridization. Five adult trees have not recovered from the previous drought years and are now considered dead. Reserve

management will continue to monitor each tree. Additionally, wood boring beetles (GSOB and PSHB) have not been observed on the Reserve.

4. Rare Plant Species

A significant increase in rainfall provided an ideal environment for native plant species. Numerous observations of covered species such as Munz's onion (*Allium munzii*), Palmer's grapplinghook (*Harpagonella palmeri*), and Paysons jewelflower (*Caulanthus simulans*) were seen by Reserve Management and Western Riverside County Regional Conservation Authority (RCA) Biological Monitoring Program Crew. Identified sites were plotted and will be managed for non-native plant species in subsequent years.



Figure 1. Munz's Onion management site-North Shore

5. California gnatcatcher

California gnatcatcher (*Polioptila californica californica*) surveys were conducted during the 2019 bird nesting season by the RCA Biological Monitoring Program Crew. During this timeframe 14 individual birds were identified.

6. Burrowing Owl

Observations of Burrowing owl (*Athene cunicularia*) were conducted in accordance to the Reserve Management Plan. Quarterly observations were conducted throughout

the year. None of the management units held a resident owl for more than a few weeks.

7. Avian Species

Several covered bird species were observed on the Reserve including Bald eagle (*Haliaeetus leucocephalus*), White-tailed kite (*Elanus leucurus*), and Loggerhead shrike (*Lanius ludovicianus*). Observations made by Reserve staff were inputted into the ArcGIS Survey123 App database. The RCA Biological Monitoring Program Crew conducted raptor and Grasshopper sparrow (*Ammodramus savannarum*) surveys and will continue these surveys next year.

C. Vegetation Management

1. Non-native grassland

For the 2nd straight year, Reserve staff focused on managing non-native grassland in order to increase habitat for covered species and prevent the spread of wildfires.

Reserve staff and Cal-Fire crews aggressively conducted weed abatement on approximately 11 miles of roadside and as part of the 5 year Vegetation Management Plan (VMP), the team conduct prescribed burns on 425 acres and mowed 200 acres. Unfortunately, sheep grazing was unavailable during the specified time period set by MWD Water Quality Department and the 60 acre objective was not met.

2. Bassia/Stinknet

Adaptive management practices continue to be utilized to control the spread of highly invasive weed species such as Five-hook bassia (*Bassia hyssopifolia*). A management plan was developed by UCANR Inland and Desert Natural Resources Advisor Dr. Chris McDonald and the Reserve Manager in order to prevent the spread of the noxious weed. The eight (8) acre Bassia plot outside of the east dam has seen a reduction in vegetation density since treatment started 2 years ago. Continuous management of the weed should lead to eradication at this site within the next 2 years. Stinknet (*Oncosiphon piluliferumhas*) has not spread into the core of the Reserve and the small populations observed in previous years continue to be treated. Diamond Valley Lake and Domingoni Hills remain an area of concern due to large

populations of stinknet north of the Reserve. Reserve staff will continue to monitor and log occurrences in ArcGIS Collector.

3. Tualota Creek Restoration

Reserve staff and Cal-Fire crews cleared 3 acres of Tamarisk (*Tamarix ramosissima*) in Tualota Creek. In order to continue restoring the creek, a 2-phase nursery that is capable of holding 500 plants was created. Reserve staff propagated approximately 250 native plants this year, which included various species of Salix, Baccharis, and Populus. These plants were installed in the creek and placed on drip irrigation as part of the active restoration component of the project. Additionally, brown-headed cowbird (*Molothrus ater*) trapping within the watershed was also conducted in order to protect nesting birds from being parasitized. A total of 37 brown-headed cowbirds were successfully captured and euthanized.



Figure 2. Tualota Creek tamarisk removal

D. Habitat and Species Management

1. Engelmann Oaks

Collection of Engelmann oak acorns that would be used for propagation did not take place during this reporting period. Even with high rainfall totals this season, acorn production was minimal and the seeds were not viable. A total of twenty-five (25) acorns that were collected last year remain in one gallon pots and will be planted in Lopez Canyon once the plants reach maturity.

2. Quino Checkerspot Butterfly

As specified in the SWRCMSR Management Plan, a management goal of the Reserve is to expand habitat for Quino checkerspot butterfly (*Euphydryas editha quino*). Reserve management selected a 2-acre plot that had an abundance of host plant *Plantago erecta* and is adjacent to an active management site. Field staff implemented IPM techniques by mowing and utilizing selective herbicide in order to reduce non-native grasses in the unit.



Figure 3. Quino checkerspot butterfly Expansion Unit

3. Burrowing Owl

The Reserve Manager was invited to join a regional working group, which included members from California Department of Fish and Wildlife, U.S Fish and Wildlife Service, Western Riverside County Regional Conservation Authority, and Center for Natural Lands Management. Additionally, inspections of artificial burrowing owl boxes was conducted twice during the reporting year and field staff conducted annual maintenance on each unit.

4. Stephens Kangaroo Rat

Reserve staff have managed approximately 400 acres of suitable habitat for Stephens' kangaroo rat (*Dipodomys stephensi*). Management activities include mowing, herbicide treatment, and prescribe burns. The Las Mananitas Ranch 200-acre easement was inspected by the Reserve Manager and found that the landowner was actively mowing the property to increase Stephens' Kangaroo Rat habitat and has expanded his operation by mowing additional acres on the property.

III. Alamos Schoolhouse Nature Center

A. Interpretive

1. Schoolhouse

The Nature Center was open to the public 122 days this year and 2,924 visitors attended nature walks, daily programs, and events. Five new displays were added and woodchips were spread throughout the landscape.

2. Special Event

Parks hosted the 2nd Annual Earth Day special event, which brought in 126 people. Special thanks to Metropolitan Water District and RCHCA for providing support for the event.

3. Scout Projects

To enhance the Reserve by utilizing outside resources including labor, material, and funds, Reserve staff created a list of Scout projects that were disseminated to

local Troops. One project was completed, while 2 others are in the final stages of approval and will be completed in 2020.

B. Volunteers

Alamos Schoolhouse has one (1) volunteer dedicated to the Nature Center. The volunteer worked a total of 576 hours and conducted nature hikes, daily interactions, and programs. Additionally, Reserve staff conducted multiple training sessions for Lake Skinner volunteers. The training informed park volunteers on covered species, goals, and upcoming projects. This information can be distributed to visitors entering the regional park.



Figure 4. Staff preparing for Alamos Schoolhouse Earth Day special event.

IV. Budget

The annual budget for FY 2018-2019 was **\$399,893**. Reserve management used **\$364,967** of this approved amount on all operations indicated in this report and the Southwestern Riverside

County Multi-Species Reserve 2018-2019 Annual Work Plan. The approved budget for FY 2019-2020 has been set at \$399,992. Actual year-to-date expenditures can be referenced in Appendix: Attachment 2.

V. Reserve Management Committee Approvals

During FY 2018/2019 the RMC hosted 4 management committee meetings. Subsequent information states all approvals from this period (**RMC Minutes, 2018-2019**).

A. September 5, 2018

- 1. Approval of meeting notes** – May 2018 meeting notes were presented and discussed.

MOTION to approve the meeting notes as presented for May.

Motion – Eddy Konno; Second – Geary Hund; Motion approved

- 2. Reserve habitat credit bank – MWD will provide the mitigation credits fee schedule for discussion** - Alex introduced the item, a continuation of the RMC's May 2018 meeting discussion, and Bill to provide the update. Bill distributed copies of the revised recommended fee schedule to the RMC and provided an overview of mitigation banks across the region. He noted that the most comparable bank to the Reserve is the Silverado Ranch Conservation Mitigation Bank in Riverside County, which provides credits for Quino checkerspot butterfly, SKR, and coastal California gnatcatcher.

MOTION to approve the proposed mitigation bank fee schedule.

Motion – Brian Shomo; Second – Eddy Konno; Motion approved √

B. December 5, 2018

- 1. Approval of meeting notes** – September meeting notes were presented and discussed.

MOTION to approve the meeting notes as presented for September.

Motion – Eddy Konno; Second – Brian Shomo; Motion approved √

- 2. Trail Update - MWD will update the RMC on trails planning efforts** – Alex presented the item and that MWD is moving forward with the trails planning effort. He noted that MWD has decided to pursue a trail along the San Diego Canal to

provide the north-south connection between Diamond Valley Lake and Lake Skinner rather than the two connecting trails approved by the RMC at the March 2017 meeting, including the Goldrich Trail Extension. Alex indicated that the canal trail was included in the Eastside Reservoir (DVL) Project EIR and SWRMSHCP. The effort would also include two interpretive trail options at Lake Skinner, the alignment approved by the RMC in March 2017 and an alignment previously supported by the RMC and included in Addendum #7 to the Eastside Reservoir EIR in 2002. He provided an exhibit depicting the proposed trail alignments. Alex indicated that although the current trails planning effort would not include all of the trails approved by the RMC in March 2017, those could be proposed for development in the future. He stated that MWD's planning effort would include an environmental constraints analysis to inform the trail alignments and development of the plan

MOTION to approve moving forward with the trails plan with the alignments presented.

Motion – Kyla Brown; Second - Eddy Konno; Motion approved ✓

C. March 13, 2019

1. Approval of meeting notes – December 5, 2018 meeting notes were presented and discussed.

MOTION to approve the meeting notes as presented for the December meeting.

Motion – Brian Shomo; Second – Alex Marks; Motion approved ✓

2. RMC will consider a research proposal for Ms. Yuwei Cui to conduct research on the Reserve. CDFW issued collecting permit – Robert introduced the item and stated that Leonard Nunney from UC-Riverside was in attendance to present the research proposal. Mr. Nunney stated that the project would involve a genome-wide comparison to learn more about the genetic differences between the *D. simulans* (Dulzura) and *D. agilis* (*Agile*) kangaroo rat species. He noted that the literature on kangaroo rat genetics is extremely limited and suggested that given the regulatory status of kangaroo rats, it is important to study their genomes and to determine whether there are genomic signatures of gene introgression. Mr. Nunney stated that

the gene data would be taken from ear tissue samples collected from approximately 10 individuals at two locations north of Lake Skinner, in the Reserve. Methods to handle the incidental trapping of Stephen's Kangaroo Rat would be coordinated with the Reserve Manager prior to the research project commencing.

MOTION to approve the proposal by UC-Riverside to conduct kangaroo rat research on the Reserve.

Motion – Richard Kim;

Second – Alex Marks;

Motion approved ✓

D. June 5, 2019

Minutes are under review and pending approval by the committee.

A. References

Cooperative Management Agreement. (1992). California Department of Fish and Wildlife, Metropolitan Water District of Southern California, Riverside County Habitat Conservation Agency, Riverside County Regional Park and Open-Space District, and U.S. Fish and Wildlife Service.

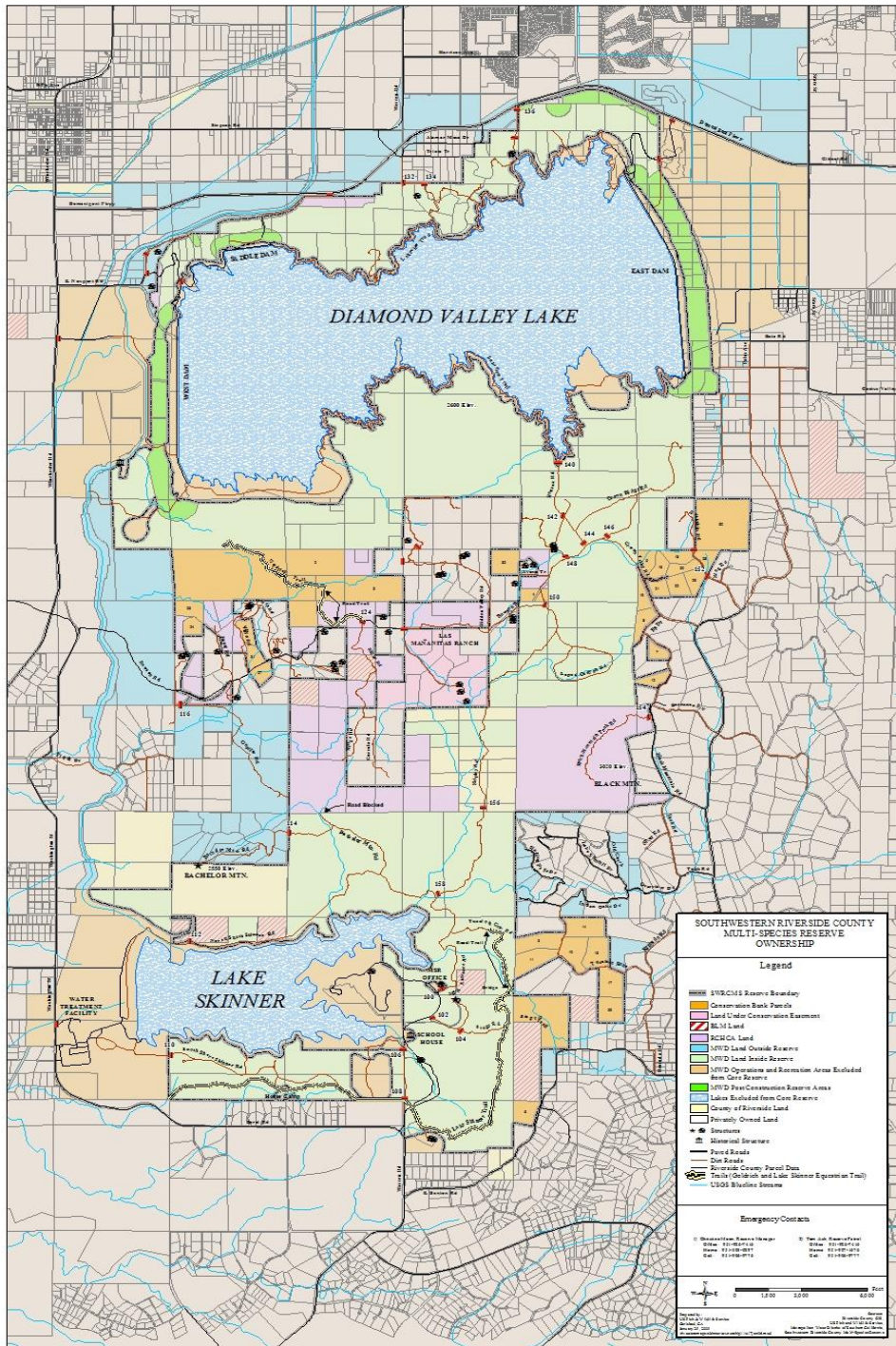
Reserve Management Committee Minutes. (August 2, 2017. November 1, 2017. February 7, 2017. May 2, 2018) The Reserve Management Committee.

Schoolhouse Trapping of Stephen's kangaroo rat (Dipodomys stephensi; SKR). (October 2017) San Diego Zoo Institute for Conservation Research. Shier, D. M.

Southwestern Riverside County Multi-Species Reserve Management Plan. (September 3, 2008). Moen, C.

B. Appendix Attachments

Attachment 1. Reserve Map





WESTERN RIVERSIDE MULTI-SPECIES RESERVE
FY18-19 TASK ORDER ACTUALS

Description	T001 Reserve Admin	T002 SKR Habitat Maintenance	T003 Habitat & Species Management	T004 Weed Management	T005 Habitat Restoration	T006 Habitat Restoration	T007 Reserve Patrol & Mgmt	T008 Research	TOTAL ACTUAL
PERSONNEL									
Total Personnel	\$ 47,118	\$ 18,830	\$ 27,668	\$ 79,283	\$ 27,186	\$ 22,395	\$ 58,465	\$ 4,699	\$ 285,645
SUPPLIES & OTHER									
Total Supplies & Other	\$ 15,653	\$ 729	\$ 637	\$ 5,550	\$ 5,976	\$ 318	\$ -	\$ -	\$ 28,863
ADMINISTRATIVE OVERHEAD									
Admin Overhead @ 12.5%	\$ 7,846	\$ 2,445	\$ 3,538	\$ 10,604	\$ 4,145	\$ 2,839	\$ 7,308	\$ 587	\$ 39,314
MILEAGE REIMBURSEMENT									
2018 Mileage	439	185	83	2,475	69	1,119	5,568	-	
2018 IRS Mileage Rate	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545	\$ 0.545
2019 Mileage	354	558	1,972	3,376	754	311	2,531	21	
2019 IRS Mileage Rate	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580	\$ 0.580
Mileage Reimbursement	\$ 445	\$ 424	\$ 1,189	\$ 3,307	\$ 475	\$ 790	\$ 4,503	\$ 12	\$ 11,145
FY18-19 TOTAL COSTS	\$ 71,062	\$ 22,429	\$ 33,032	\$ 98,745	\$ 37,782	\$ 26,343	\$ 70,276	\$ 5,299	\$ 364,967
FY18-19 Reimbursements	\$ 68,582	\$ 22,409	\$ 32,995	\$ 97,440	\$ 36,971	\$ 26,330	\$ 70,213	\$ 5,299	\$ 360,238
Over/(Under) Reimbursed	\$ (2,480)	\$ (20)	\$ (37)	\$ (1,305)	\$ (811)	\$ (13)	\$ (63)	\$ -	\$ (4,729)