

# RCHCA

## 2020 ANNUAL REPORT

RIVERSIDE COUNTY HABITAT CONSERVATION AGENCY

### STEPHENS' KANGAROO RAT HABITAT CONSERVATION PLAN



# WELCOME LETTER

Riverside County is the 10th most populous region in the United States with over 2.4 million residents in 28 different cities across 7,300 square miles of deserts, rivers, mountains, and fertile valleys. Located in Southern California, it is also one of the fastest-growing regions in the state.

We are facing an unprecedented challenge with COVID-19. During this time, the agency has worked to categorize essential services and tasks.

In Fiscal Year 2019/2020, RCHCA focused on elements of our core mission: conservation for the endangered Stephens' Kangaroo Rat (SKR); collaboration and coordination of management strategies; environmental education and outreach; and a public access plan for RCHCA owned lands. Efforts to reduce environmental impacts and employ innovative techniques

will foster continuity in species management, ultimately helping to achieve the overall goal of range-wide species recovery.

Our primary goal is to reach the milestone of species reclassification of SKR by working with the United States Fish and Wildlife Service (USFWS) to downlist from Endangered to Threatened in 2020. USFWS recognizes our success. After more than 30 years of conservation efforts, in September 2020, USFWS published a Proposed Rule to the Federal Register to reclassify SKR under the Endangered Species Act. The rule includes a concurrent proposed 4(d) rule, which will provide additional management flexibility within the species range.

RCHCA has achieved a significant milestone for each of our member jurisdictions and the County of Riverside.

This SKR Downlisting represents one of the few times a species has been downlisted in Southern California.

This annual report intends to provide an insight into the projects undertaken by the RCHCA in Fiscal Year 2019/2020. Thank you for your interest and support.



Michael M. Vargas  
*Chair, RCHCA Board of Directors  
Mayor, City of Perris*



Lesla Sobek  
*Vice-Chair, RCHCA Board of Directors  
Councilmember, City of Menifee*



# ABOUT THE RCHCA

The Riverside County Habitat Conservation Agency (RCHCA) is a Joint Powers Authority (JPA) comprised of the cities of Corona, Hemet, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Perris, Riverside, Temecula, Wildomar, and the County of Riverside. Through an Agreement for Services, RCHCA activities are administered by the Western Riverside Council of Governments (WRCOG).

The RCHCA manages conserved lands for the benefit of not only the Stephens Kangaroo Rat (SKR) but also other Threatened species. RCHCA's efforts are supported by local conservation partners, academic experts and the wildlife agencies, all working for species protection and to implement regional conservation goals.

## RCHCA BOARD MEMBERS

MICHAEL M. VARGAS (CHAIR)  
*Mayor, City of Perris*

TIM SHERIDAN  
*Councilmember, City of Lake Elsinore*

MARYANN EDWARDS  
*Mayor Pro Tem, City of Temecula*

LESA SOBEK (VICE-CHAIR)  
*Councilmember, City of Menifee*

DAVID MARQUEZ  
*Councilmember, City of Moreno Valley*

JOSEPH MORABITO  
*Councilmember, City of Wildomar*

YOLANDA CARRILLO  
*Councilmember, City of Corona*

CHRISTY WHITE  
*Councilmember, City of Murrieta*

JEFF HEWITT  
*Supervisor, County of Riverside  
District 5*

RUSS BROWN  
*Mayor, City of Hemet*

STEVE HEMMENWAY  
*Councilmember, City of Riverside*

## MISSION STATEMENT

The RCHCA's mission is to "Promote successful land management through responsible conservation, education, coordination & collaboration." This Annual Report provides an overview of the actions the RCHCA undertakes to accomplish the objectives set forth in that statement. We hope you will take some time to review this Report and learn about the many activities that have been undertaken during the last year by the RCHCA.

# IMPETUS

## FOR SPECIES CONSERVATION

The importance of preserving rare species was legally recognized in 1973 when the Endangered Species Act (ESA) was signed into federal law. The purpose of the ESA is not only to protect plant and animal species listed as Threatened or Endangered, but also to conserve the ecosystems upon which those species depend.

The United States Fish and Wildlife Service (USFWS) is one of the lead agencies tasked with the implementation of the ESA and is therefore responsible for regulating prohibited and allowable activities concerning Endangered or Threatened species. To mitigate the “taking,” which refers to any attempt or action involving the harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, or collecting of any listed species, Section 10 of the ESA regulates a range of activities that affect Endangered or Threatened plants and animals.

A Habitat Conservation Plan (HCP) is a required part of the ESA for species that have been listed as Endangered or Threatened, and is a planning document that ensures the

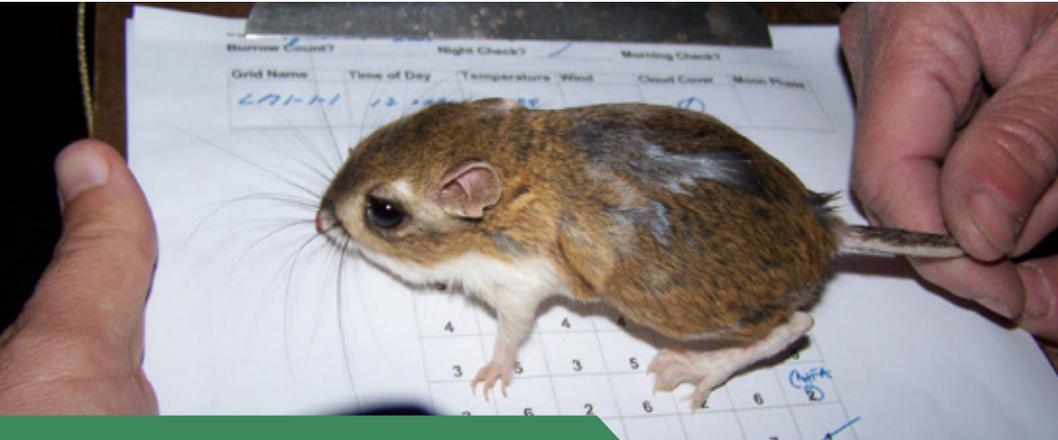
anticipated “take” of a listed species will be minimized or mitigated when development occurs. It conserves the habitat upon which the species depend, thereby contributing to the recovery of the species.

In Western Riverside County, the Stephens’ Kangaroo Rat Habitat Conservation Plan (SKR HCP) was developed in 1996 and established eight permanent conserved areas consisting of over 40,000 acres which make up the SKR Reserves. The majority of these conserved areas are under public ownership. The SKR HCP also creates a reserve system consisting of thousands of acres of land to be counted towards other conservation efforts in Riverside County, such as the Multi-Species Habitat Conservation Plan.



# STEPHENS' KANGAROO RAT

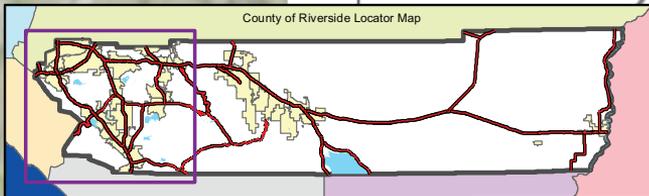
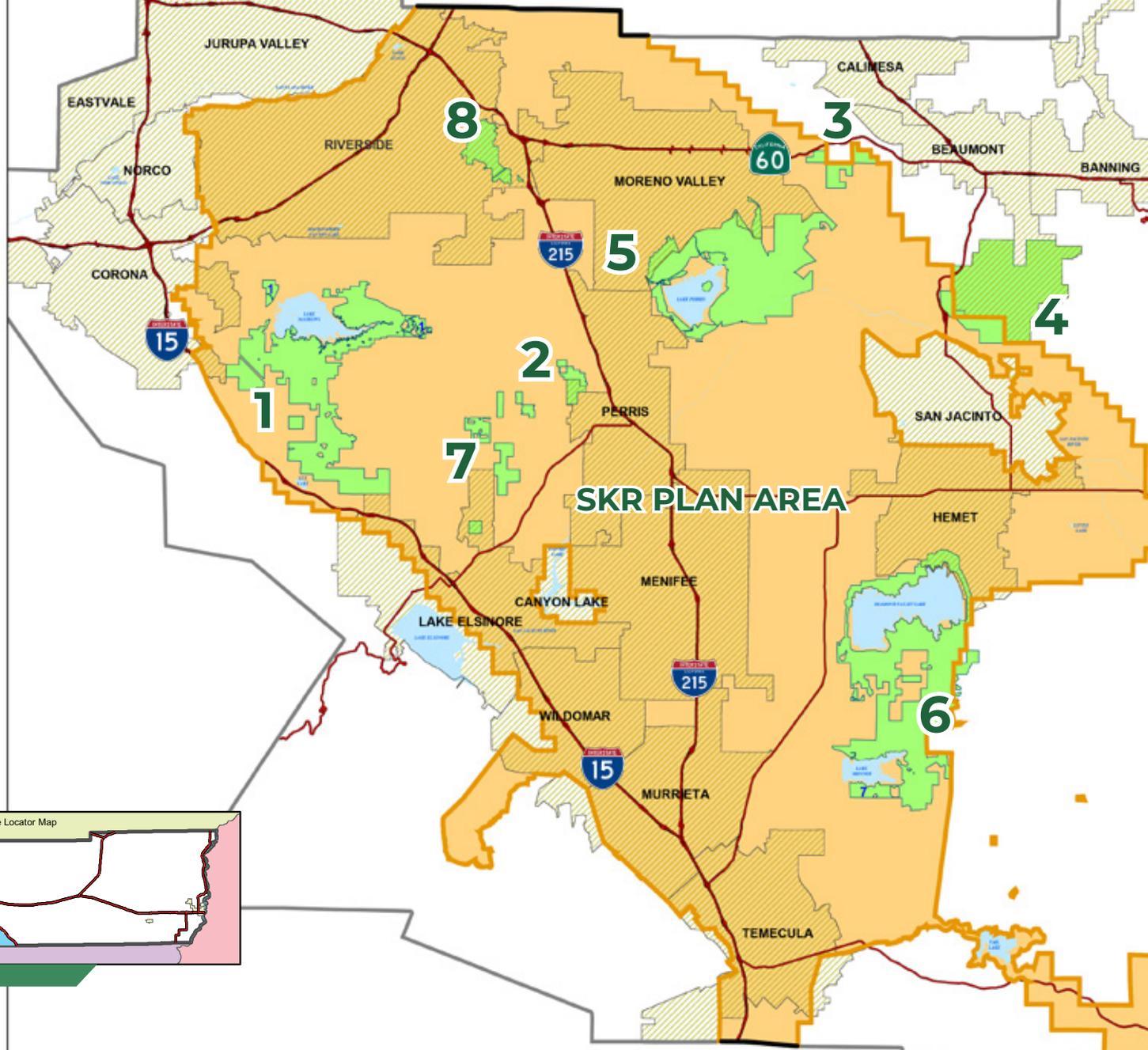
The Stephens' Kangaroo Rat (*Dipodomys stephensi*) is a species of rodent in the Heteromyidae family endemic to the Southern California region of the United States, primarily in Western Riverside and Northern San Diego Counties. Its natural habitat is sparse grassland and coastal sage scrub, which has been Threatened by habitat loss as a result of economic growth and development. SKR was listed as Endangered on the ESA in 1988. They are a keystone species, which means other species within their ecosystem depend upon them and their continued existence for their own survival. They weigh about 2.4 ounces and have the ability to leap a distance of 6 feet at speeds up to almost 10 feet/second and can quickly change direction between jumps.





## SKR FACTS

1. SKR is named after American zoologist Frank Stephens.
2. They hop on hind legs similar to the kangaroo; however, they are more related to the beaver family.
3. SKR have pouches, but not for carrying babies. Their pouches are located on the outside of their cheeks and are used for carrying seeds.
4. They live in complex burrow systems that have separate chambers for specific purposes like sleeping, living and food storage.
5. They are nocturnal and spend their days in the burrow where the air is moist and humid.
6. They are seed eaters that have the ability to convert the dry seeds into water.
7. They were originally thought of as generally solitary animals; however, RCHCA's research studies have shown they are neighborly and prefer to mate and live with neighbors instead of strangers.
8. They are territorial and stay in the same burrow system for the duration of their life.



# SKR CONSERVED LANDS

The SKR Plan Area consists of all or part of the RCHCA's member jurisdiction's boundaries. In total, there are eight areas of conserved lands for SKR in which some are outside of the SKR Plan Area. The conserved and jointly-owned lands form the nucleus of SKR and other species conservation efforts in Western Riverside County.

- 1 LAKE MATHEWS / ESTELLE MOUNTAIN RESERVE
- 2 MOTTE RIMROCK
- 3 POTRERO ACEC
- 4 POTRERO RESERVE
- 5 SAN JACINTO / LAKE PERRIS
- 6 SOUTHWESTERN RIVERSIDE COUNTY MULTI-SPECIES RESERVE
- 7 STEELE PEAK
- 8 SYCAMORE CANYON

# LAND MANAGEMENT ACTIVITIES

To coordinate SKR habitat management activity and biological monitoring among the individual Reserves, RCHCA established the Reserve Managers Coordinating Committee (RMCC). The primary mission of the RMCC is to promote coordination of SKR management throughout the Reserve system and address regional management issues of importance to species conservation.

The RMCC meets quarterly and membership consists of one representative from each entity having responsibility for management of SKR conserved lands. Existing land managers currently include:

Bureau of Land Management

California Department of Fish and Wildlife

City of Riverside, Parks and Recreation Department

County of Riverside

Metropolitan Water District

RCHCA

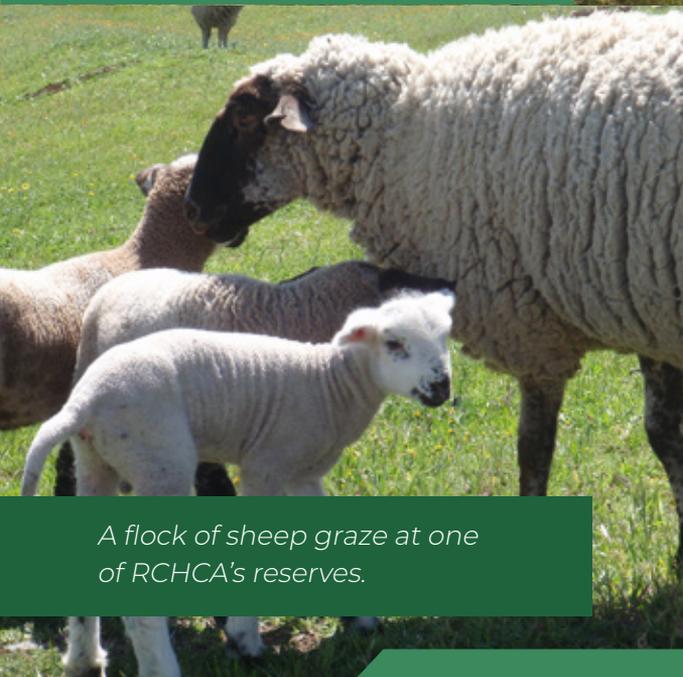
Riverside County Regional Parks and Open Space District

State of California Department of Parks and

Recreation (Lake Perris State Recreation Area)

The Nature Conservancy

United States Fish and Wildlife Service



This year, the RMCC focused on:

- Ongoing cooperative management efforts
- Weed abatement
- Use of remotely operated aerial drones to assist with invasive vegetation control, including stinknet and mustards
- Species Range wide Management and Monitoring Plan
- Research Data Collection
- Assisted USGS with Western Spadefoot Toad survey

Reserve management activities are dependent on environmental factors such as precipitation and the conserved area's habitat and land management plans that specify the management activities allowed.

**125 ACRES BURNED** to control grass and to maintain the ratio of at least 50% grassland to bare dirt  
**1,200 ACRES GRAZED** using sheep  
**57 ACRES MOWED**  
**HERBICIDE TREATMENT** for invasive weed populations

Once land management techniques are implemented, treated areas are restored by typically broadcast seeding with native SKR preferred seeds.

Reserve managers also provide information to other agencies responsible for land management on land management techniques and any beneficial or destructive impacts that have occurred on the reserves during the reporting period.

For more information on RMCC activities including meeting minutes and maps of areas managed please visit [www.rchca.us](http://www.rchca.us).

*A flock of sheep graze at one of RCHCA's reserves.*



# ACCOMPLISHMENTS

## FISCAL YEAR 2019/2020

There are three major category listings for animals and plants under the Endangered Species Act. SKR is listed at the highest level, Endangered. Delisting of an Endangered species occurs when a species is considered “recovered” from the critical levels that lead to that species listing as Endangered with population numbers and low level of threats to maintaining or increasing populations in the future.

In Fiscal Year 2019/2020, RCHCA met with U.S. Fish and Wildlife Agency in Washington D.C. and in Sacramento, C.A. The purpose of the meetings was to provide updates on RCHCA’s activities and SKR recovery efforts.

In September 2020, U.S. Fish and Wildlife published the Proposed Rule Recommending the Reclassification of SKR, Downlisting the species from Endangered to Threatened. This a monumental achievement for our region and provides recognition to the many partners who have worked towards this goal since the RCHCA was formed in 1990.

The RCHCA has completed most of the obligations in the SKR Draft Recovery Plan of 1997, qualifying SKR to be considered for Downlisting. Specifically, RCHCA has:

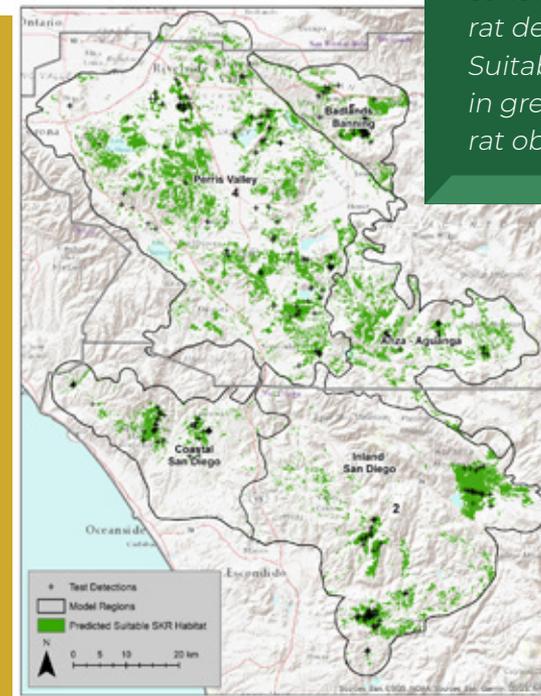
- Established eight dedicated ecosystem-based reserves in Western Riverside County.
- Funded the SKR Translocation Plan, which developed an efficient and reliable translocation strategy for all species of kangaroo rats.
- Developed an SKR Habitat Suitability Model that includes population genetics and improves habitat connectivity.

The Habitat Suitability Model was developed for the RCHCA by the Conservation Biology Institute (CBI) and is an integral component of the Stephens' Kangaroo Rat Habitat Conservation Plan. The habitat suitability model will use satellite imagery and innovative habitat modeling techniques to develop reliable statistical models to identify suitable habitat across the species' geographic range.

Specifically, the model will use European Sentinel-2 satellite imagery, in concert with other reliable geographic data, to develop habitat suitability maps that can be routinely updated over time across the species range as conditions change. The resulting models will be used to inform management and monitoring efforts to conserve and recover this charismatic Endangered species.

RCHCA has a strong commitment to the scientific community, having dedicated more than 30 years to conservation through research, innovation, and collaboration.

*Stephens' kangaroo rat habitat mapped using a statistical model based on environmental conditions at kangaroo rat detection points. Suitable habitat shown in green, and kangaroo rat observations as +.*



*Habitat Suitability Model provided by CBI.*

# RIVERSIDE COMMUNITIES PARTNERSHIP PROJECT



In collaboration with AmeriCorps National Civilian Community Corps (NCCC), RCHCA formed the Riverside Communities Partnership Project (RCPP) to provide a wide range of service-learning opportunities for community service volunteers to support various agencies and efforts throughout Western Riverside County.

RCPP is committed to the education and the enrichment of young adults in the community through service. We believe the concept of uplifting young adults in our region and exposing them to the service-learning and community involvement experience offered by AmeriCorps NCCC will create citizens with a deep connection to this area and foster environmental stewardship.

The shared goal is to identify projects that align with AmeriCorps NCCC's mission and those in which all involved have a vested interest in completing. Without a concentrated, collaborative effort, these projects large and small would take staffing, funding, and other resources that are not available, making them impossible to complete. The opportunity to work with AmeriCorps gives RCPP a foundation and structure with the goal of building focused and committed future leaders while simultaneously meeting the needs of our communities. The RCPP hopes to deliver an experience to the AmeriCorps members that is community focused, socially innovative, and works to impact the lives of those involved. Some of the activities volunteers work on include:

- Promoting environmental sustainability through fire mitigation / suppression, conservation restoration and wildlife habitat management
- Supporting building affordable housing units
- Assisting community recovery and emergency services management after natural or other disasters



# INVASIVE SPECIES MANAGEMENT

**B**attling invasive plant species is an ongoing activity for the RCHCA. Staff uses a number of land management techniques to support the growth of native plants which are valued for their economic, ecological, and aesthetic benefits. Sometimes what lies in-between native forbs are invasive plant species. Many invasive plant species thrive in areas that are being restored for the Stephens' Kangaroo Rat (SKR). Some invasives have aggressive root systems that often grow so densely that they smother the root system of surrounding native vegetation. "*Oncosiphon piluliferum* Calflora," commonly known as "stinknet," has been identified as an emerging invasive weed not just on RCHCA lands but throughout the state.

The RCHCA, in partnership with University of California, Riverside and the USFWS have conducted research on stinknet to determine its impacts on SKR habitat. Studies show if this invasive plant species is not controlled, it could have detrimental impacts on conserved lands.



# ENVIRONMENTAL CONSULTING SERVICE



The RCHCA manages conserved lands for the benefit of not only the SKR but also the 146 species covered under the Western Riverside Multi-Species Habitat Conservation Plan. Since 1996, the RCHCA has worked in concert with individual Reserve Management Committees (RMC) and coordinated regional responses and efforts for habitat conservation. Many agencies have specific management plans that protect habitat communities requiring specific monitoring of protected species. RCHCA has a staff of permitted biologists with a combined 25 years of experience, and frequently provides consulting services to these agencies to assist in their species conservation goals.

At Lake Mathews, for example, bat surveys were conducted using specialized field equipment designed for bat acoustic vocalization identification. During the monitoring period, 15 distinct bat species were identified, 4 of which are covered specifically under the Lake Mathews Habitat Conservation Plan (LMHCP). Of the 15 species detected, the survey found 2 rare species that have never been recorded in the area; the Big Free-Tailed Bat (*Nyctinomops macrotis*) and Underwood's Bonneted Bat (*Eumops underwoodi*), both species of critical concern in California.

Additionally, in concert with Mariposa Biology, RCHCA has been contracted with Waste Management, Inc. at the El Sobrante Landfill Conservation Area to conduct SKR and herpetology surveys. Other special species surveys conducted include a Western Spadefoot Toad survey at Lake Mathews, which was contracted through the United States Geological Survey (USGS).

RCHCA contracted with United States Geological Survey (USGS) to conduct Western Spadefoot Toad surveys at Lake Mathews.

# COLLABORATIVE EFFORTS

Several agencies work to protect SKR under their respective management plans. The Bureau of Land Management awarded a grant to the RCHCA to develop a Species Range-Wide Habitat Management and Monitoring Plan. RCHCA is working in partnership with Conservation Biology Institute and USFWS to develop the plan. When implemented, this plan will coordinate species management and monitoring of SKR throughout its geographical range which includes Northern San Diego County. This working group consists of military agencies, private and public landowners and other regulatory agencies. The plan will also include genetic protocols developed by Dr. Debra Shier from the San Diego Zoo Global, Zoological Society of San Diego.

The goal of the Species Range-Wide Habitat Management and Monitoring Plan is to provide the foundation for collaborative conservation action across Stephens' kangaroo rat populations and will include prioritized management actions to improve habitat and ameliorate threats across the landscape, including: fragmentation, habitat degradation, rodenticides, predation, and climate change. It will provide recommendations for promoting population connectivity to support recovery of the species and a standardized monitoring protocol to effectively track recovery progress.



Conservation  
Biology Institute

SAN DIEGO ZOO  
INSTITUTE FOR  
CONSERVATION  
RESEARCH



# EDUCATION AND OUTREACH

The Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) allows the RCHCA to provide an educational outreach program to increase awareness of Threatened and Endangered species in Western Riverside County. The program offers an opportunity to share information regarding the SKR reserves and the importance of conserving natural resources creating future environmental leaders.

12 Years of educational services reaching 10,000 students throughout Western Riverside County.



# RESERVE HIGHLIGHTS



*Motte Rimrock Photos Courtesy of University of California, Riverside*

# MOTTE RIMROCK GIFT OF LAND

Supervisor Marion Ashley and his wife Mary are longtime residents of the Inland Empire. Supervisor Ashley grew up in the Nuevo and Perris areas and attended Perris High School. Growing up, he helped his family farm the land. He served as a Riverside County Planning Commissioner from 1973-1981 and was elected to a seat on the Board of the Eastern Municipal Water District from 1992-2002. He was elected to the Riverside County Board of Supervisors in 2002, retiring in 2018.



The Ashley family's desire to preserve open space in the Perris Valley and to promote research on plant and animal species is evident in their commitment to conservation. They donated most of the land of the Motte Rimrock Reserve (Motte) in Perris, California; a part of the University of California, Riverside (UCR) Wildlife Preserve.

Motte Rimrock, originally founded by the Motte family in the 1960s, is a 715-acre ecological reserve and biological field station located on the western edge of Perris Valley. It is one of the eight Reserves dedicated to the protection of the Endangered Stephens' Kangaroo Rat. The area is cooperatively managed by the RCHCA and UCR, where Ken Halama serves as the reserve director. Motte supports a unique mix of habitats. There, you can find Riversidean sage scrub, coastal-desert transitional grassland and willow riparian thickets. Granite rock represents the dominant landscape feature. It is home to a diverse array of rare plants and animals. In addition to biological diversity, the Reserve also protects important archaeological sites, including an unexcavated ceremonial site and well-preserved pictographs.

This year, Supervisor Ashley donated 21.72 acres to support the preservation, maintenance and enhancement of Motte as a research facility. The property will be held by the Regents of the University of California and used to further support research and conservation efforts of the University's Natural Reserve System, whose mission is to contribute to the understanding and stewardship of the Earth and its natural systems by supporting academic teaching, research and public service at protected natural areas throughout California.



## LAKE MATHEWS - ESTELLE MOUNTAIN RESERVE

Lake Mathews is located in the Cajalco Valley in the foothills of the Santa Ana Mountains in Western Riverside County. Originally home to carob and citrus groves, it now serves as part of Colorado River Aqueduct that provides much of the water used by the region. After completion of the dam in 1939, the first water arrived from the Colorado River in February 1940. Today, much of the land is owned by the Metropolitan Water District (MWD).

Lake Mathews is surrounded by approximately 4,000 acres of protected land, which was declared a state ecological reserve in 1982. In the early 1990s, an additional 9,000 acres was added to the reserve after the discovery of the Endangered Stephens' Kangaroo Rat (SKR) in the area. The area is now called the Lake Mathews - Estelle Mountain Reserve, which RCHCA cooperatively manages 11,243 acres of.

The largest undeveloped expanse of habitat in Western Riverside County, Lake Mathews - Estelle Mountain Reserve is an important biodiversity spot with over 350 different species of plants and animals and 65 sensitive species. It supports one of the largest populations of Endangered California Gnatcatchers in Riverside County, and is an important wintering area for Bald Eagles and other migratory birds.

Under joint conservation effort with MWD, Lake Mathews is a multi-jurisdictional reserve composed of the Multiple Species Reserve and the lands within RCHCA's SKR Core Reserve lands. As such, in addition to ongoing SKR monitoring and surveys, RCHCA's permitted biologists also conduct special species surveys, including bat and Western Spadefoot toad surveys at Lake Mathews.



# FISCAL

## FINANCIAL STATEMENTS

In 2019, the RCHCA completed the full consolidation into WRCOG administration. The RCHCA remains as a separate Joint Powers Agency (JPA).

The Joint Powers Agreement guiding RCHCA operations and activities requires that full books and accounts be maintained for the RCHCA in accordance with practices consistent with those utilized by the Controller of the State of California. RCHCA contracts with a certified public accountant to make an annual audit of the accounts and records of the Agency.

Our auditor's opinion states, the financial statements present fairly, in all material respects the retrospective financial position of the governmental activities and the major fund of the Agency. There are no findings to report in relation to the audit and the Agency received an "unmodified opinion" which is the highest level of assurance.

### OPERATING REVENUES

<i>SKR Mitigation Fee Collections</i>	\$588,508
<i>Interest Earned on Endowments</i>	\$126,381
<i>Reimbursement for Contractual Service Agreements</i>	\$216,418

**TOTAL Revenues** **\$1,293,690**

### OPERATING EXPENSES

<i>General Operations</i>	\$918,698
<i>Lake Mathews Reserve Endowment</i>	\$362,381

**TOTAL Expenditures** **\$1,281,079**



*A view of Diamond Valley Lake featuring the annual poppy bloom.*

# SKR MITIGATION FEE COLLECTIONS

A mitigation fee is assessed on development projects in the SKR Fee Area. This fee is beneficial to the RCHCA because it allows for a streamlined permitting process for developers while providing funds to support habitat and species management.

## SKR MITIGATION FEES COLLECTED DURING 2019/2020

<i>City of Corona</i>	\$24,700
<i>City of Hemet</i>	\$0
<i>City of Lake Elsinore</i>	\$19,764.81
<i>City of Menifee</i>	\$26,932.50
<i>City of Moreno Valley</i>	\$57,555
<i>City of Murrieta</i>	\$27,425
<i>City of Perris</i>	\$33,330
<i>City of Riverside</i>	\$19,876.68
<i>City of Temecula</i>	\$905
<i>City of Wildomar</i>	\$5,415
<i>County of Riverside</i>	\$221,615

# STATUS OF RESERVE ENDOWMENTS

In 1990, the RCHCA began assembly of a Reserve System to protect SKR. There are eight reserves encompassing approximately 40,000 acres. Endowments were established to provide funding to support land management. The principal amount of the endowment remains intact while the interest income is available for use on Reserves that have an existing management plan to support of SKR recovery efforts.

CORE RESERVE	ENDOWMENT PRINCIPAL	FUND BALANCE (as of June 30, 2020)	INTEREST EARNINGS (as of June 30, 2020)	DOLLARS EXPENDED IN FY 2019/2020
<i>Lake Mathews (RCHCA)</i>	<i>\$6,500,000</i>	<i>4,539,461</i>	<i>75,470</i>	<i>\$362,381</i>
<i>Lake Skinner (SWMSR)</i>	<i>\$500,000</i>	<i>712,297</i>	<i>212,297</i>	<i>\$0</i>
<i>Lake Skinner (RCHCA)</i>	<i>\$500,000</i>	<i>531,738</i>	<i>31,737</i>	<i>\$0</i>
<i>Motte Rimrock</i>	<i>\$601,200</i>	<i>731,125</i>	<i>129,925</i>	<i>\$0</i>
<i>Sycamore Canyon</i>	<i>\$1,000,000</i>	<i>1,064,953</i>	<i>64,953</i>	<i>\$0</i>



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*Motte Rimrock Cover Photo Courtesy of University of California, Riverside.*

