**STAKEHOLDERS COMMITTEE**
**MEETING AGENDA**

TIME: **10:30 a.m.**

DATE: **Wednesday, May 6, 2026**

LOCATION: **MARCH FIELD CONFERENCE ROOM**
**County of Riverside Administrative Center**
**4080 Lemon Street, Third Floor, Riverside**

## COMMITTEE MEMBERS

Bruce Colbert, Property Owners Association of Riverside County
Cara Lacey, The Nature Conservancy
Dan Silver, Endangered Habitats League
Drew Feldmann, San Bernardino Valley Audubon Society
Juan Rosas, Hispanic Access Foundation
Laura Jamie, Shiishongna Tongva Nation Corona Band of Gabrielino Indians
Lou Monville, Building Industry Association of Southern California
Michael Linton, Vulcan Materials Company
Nicole Padron, Rivers & Lands Conservancy
Nolan King, Santa Rosa Plateau Ecological Reserve Nature Education Foundation
Pam Nelson, Santa Margarita Group/San Gorgonio Chapter Sierra Club
Rachael Johnson, Riverside County Farm Bureau
Sherli Leonard, Redlands Conservancy
Teri Biancardi, Temecula Elsinore Anza Murrieta Resource Conservation District
Tuba Ebru Ozdil, Pechanga Band of Indians

# *WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*

www.wrc-rca.org

**STAKEHOLDERS COMMITTEE**
**MEETING AGENDA**

***10:30 a.m.***
***Wednesday, May 6, 2026***

*In compliance with the Brown Act and Government Code Section 54957.5, agenda materials distributed 72 hours prior to the meeting, which are public records relating to open session agenda items, will be available for inspection by members of the public prior to the meeting on the RCA's website, www.wrc-rca.org.*

*In compliance with the Americans with Disabilities Act, Government Code Section 54954.2, Executive Order N-29-20, and the Federal Transit Administration Title VI, please contact the Clerk of the Board at (951) 787-7141 if special assistance is needed to participate in a Committee meeting, including accessibility and translation services. Assistance is provided free of charge. Notification of at least 48 hours prior to the meeting time will assist staff in assuring reasonable arrangements can be made to provide assistance at the meeting.*

**1. CALL TO ORDER**

**2. ROLL CALL**

**3. PUBLIC COMMENTS** - This is for comments on items not listed on the agenda. Comments relating to an item on the agenda will be taken when the item is before the Committee.

**4. APPROVAL OF MINUTES – JULY 24, 2024, SEPTEMBER 24, 2025, & NOVEMBER 19, 2025**

***Page 1***

**5. WESTERN RIVERSIDE COUNTY MULTIPLE SPECIES HABITAT CONSERVATION PLAN 2024 ANNUAL REPORT**

***Page 24***

***Overview***

This item is for the Stakeholders Committee to receive and file the Western Riverside County Multiple Species Habitat Conservation Plan 2024 Annual Report.

**6. FEDERAL LEGISLATIVE UPDATE**

***Page 249***

***Overview***

This item is for the Stakeholders Committee to receive a federal legislative update.

## 7. COMMUNITY ENGAGEMENT UPDATE SPRING 2026

***Page 250***

***Overview***

This item is for the Stakeholders Committee to receive and file the community engagement update for spring 2026.

## 8. COMMITTEE MEMBER / EXECUTIVE DIRECTOR REPORT

***Overview***

This item provides the opportunity for the Committee Members and the Executive Director to report on any other items related to Committee activities.

## 9. ADJOURNMENT

# AGENDA ITEM 4

# MINUTES

# *WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*

## *STAKEHOLDERS COMMITTEE MINUTES*

**Wednesday, July 24, 2024**

**1. CALL TO ORDER**

The meeting of the Stakeholders Committee was called to order by Executive Director Aaron Hake at 9:32 a.m., in the March Field Conference Room at the County of Riverside Administrative Center, 4080 Lemon Street, Third Floor, Riverside, California, 92501.

**2. ROLL CALL**

| **Members/Alternates Present** | **Members Absent** |
|---|---|
| Bruce Colbert | Alicia Thomas |
| Dan Silver | Cara Lacey |
| Juan Rosas | Drew Feldmann |
| Laura Jamie* | Teri Biancardi |
| Nicole Padron | |
| Nolan King | |
| Pam Nelson* | |
| Rachael Johnson | |
| Sherli Leonard | |
| Tuba Ebru Ozdil | |

*Arrived after the meeting was called to order.

**3. PUBLIC COMMENTS**

There were no requests to speak from the public.

**4. APPROVAL OF MINUTES – SEPTEMBER 23, 2023**

**M/S/C (Padron/Ozdil) to approve the Minutes as submitted. There were no objections to this motion.**

**5. PRESENTATION AND FEEDBACK – STRATEGIC IMPROVEMENT ASSESSMENT AND ACTION PLAN (SIAAP)**

Aaron Gabbe, Regional Conservation Director, provided a presentation on the Strategic Improvement Assessment and Action Plan (SIAAP). The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) could be considered a long-term programmatic land swap deal that was created and finalized in 2004. Under the California and federal Endangered Species Act, it exchanges development in certain areas of the plan for conservation of land. That

conservation in part, provides mitigation impacts to the endangered and threatened species. Before the plan was adopted in 2004, every development that could impact endangered species had to go through its' own rigorous permitting process. The MSHCP was designed to protect 500,000 acres that provides habitat for 146 covered species. The programmatic permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife (CDFW) allow the MSHCP to be implemented. Of the 500,000 acres, the RCA is responsible for acquiring 153,000 acres, which is an extraordinary ambitious plan. To date, RCA has acquired about 70,000 acres spending over $500,000,000 and streamlining over 100,000 acres of development.

The plan was developed in 2004 and has over 2,000 pages in two volumes. The plan had to make some assumptions as the plan was made to be implemented over the course of 75 years. Examples of outdated assumptions that affect implementation of the MSHCP include:

- The pace of development and corresponding revenue through development fees;
- Land acquisition costs are considerably higher than anticipated in certain regions of the plan area;
- The plan assumed that some 41,000 acres would come to the RCA by way of land donated or exchanged for incentives through the development review process, which has not happened;
- Some areas described for conservation have been developed since original baseline assessments of the plan area were made; and
- The pace of state and federal funding for habitat acquisition has been less than what was expected to complete the state and federal commitments in the MSHCP.

The structure of the land acquisition process has a reserved design of cores and linkages, leaving little flexibility. There are rules on which impacts are allowed under the permits, and the cities and the county do not have control over it either. The land that is prescribed for conservation needs to be consistent with the plan, if it is not, the local jurisdiction cannot extend the permit authorization to the landowner. The Habitat Evaluation and Acquisition Negotiation (HANS) process determines which properties the RCA must acquire, and what is identified for conservation. If RCA cannot extend the permit coverage for development, RCA must acquire the property, which can result in a less effective and efficient use of resources.

These outdated assumptions are, among other issues, affecting MSHCP implementation. For example, the development HANS process and corresponding conservation strategy provides little flexibility to the RCA to make acquisition decisions based on habitat quality or cost. This is because the spatial consideration configuration and the size of the reserve system is just as important to the ecological functions as the current habitat quality on the ground. Assembling the reserve system is like putting together a 10,000-piece puzzle of parcels with each new piece dependent on the other pieces, limiting flexibility.

On January 8, 2024, the RCA Board of Directors authorized an agreement with ICF Jones & Stokes (ICF) to prepare the SIAAP. The primary objective of the study is to identify and recommend pathways that the RCA and the other permittees may take to improve MSHCP implementation flexibility while maintaining financial stewardship and permit compliance. The study focuses on the HANS process and related aspects of MSHCP implementation, though

ultimately solutions may result in other changes to the MSHCP implementation process, as many aspects of the MSHCP are interrelated. It should be clear that the SIAAP is simply a study and does not change the MSHCP. Ultimately, the study will suggest recommended alternatives to address identified problems that staff will present to the Board, with the understanding that the Board will provide direction for RCA staff on how to proceed based on the results of the study and recommendations by RCA staff. The SIAAP does not "re-open" the MSHCP or the permits issued by the wildlife agencies.

At this time, Laura Jamie and Pam Nelson arrived.

Primary activities that the consultant has already undertaken include:

- Interviews with RCA Board Chair Kevin Bash and former Board Chair Natasha Johnson, Executive Directors of the RCA past and current, RCA staff, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife to better understand the intricacies of the MSHCP, implementation challenges, and to identify and vet potential solutions and recommendations.
- Reviewed the MSHCP and extensive documentation and supporting materials to better understand implementation challenges and identify alternative solutions, including the Implementing Agreement, 2020 Nexus Study, RCTC/RCA Right of Way and land acquisition policies and procedures, and past appraisals among others.
- The consultant team has also been gathering and analyzing data on revenue and land acquisition costs, zoning in Western Riverside County and the cities to identify trends in costs and to compare findings with the cost estimates and assumptions from the original 2004 MSHCP and the 2020 Nexus Study.
- Identify and describe the breadth and scope of development HANS-related implementation challenges that may affect the RCA and Permittee's ability to achieve the goals, requirements, and functions as intended by the MSHCP.

The next steps in the SIAAP process include:

- Completion of the Assessment Phase;
- An RCA staff Workshop led by the consultant team to establish and gain common understanding of the HANS-related issues and underlying mechanisms causing the issues and to begin identifying potential solutions;
- Document the findings of the assessment phase; and
- Begin Improvements Phase to identify and categorize potential types of changes that could be made to improve the HANS-related implementation processes.

Pam Nelson thought an interesting idea would be to look at the mitigation fees and have land be used in exchange for mitigation fees. Aaron Gabbe shared that there is currently a process for this in the plan. The policy does have limits on it though, as the mitigation fees are also used for long-term management and endowment.

Bruce Colbert also thought some of exchange issues was trading for land that was biologically equivalent and that the endowment funds were separate from acquisition funds.

Tuba Ebru Ozdil stated that new concepts were used in the creation of the MSHCP, and the land use and zoning did not match. Land use and zoning not matching is a big issue and creates a domino effect on open spaces. It should now be reviewed in detail within the cities and the county.

Aaron Gabbe noted that this plan was part of a three-pronged greater planning process in Western Riverside County. At the time, the region was developing very rapidly, and the infrastructure could not keep up and support the anticipated growth for the future. At the same time, the project-by-project permitting was making it even harder for infrastructure like highways and roads to keep up with the growth. The idea was that the environment and environmental regulations were inherent in the land use process itself. The three-pronged planning process, the Riverside County Integrated Project, included RCTC's Measure A, an update to the General Plan, and the MSHCP. The idea was that there needed to be an alignment between the vision of land use created by the MSHCP with the land use in the General Plan not just for the county by the cities as well.

Dan Silver shared that over 20 years ago, the County of Riverside came close to adopting a transfer of development rights program. The program was quite developed before it was scrapped. The plan was that a developer would get to increase their density by buying it from another property. This is an idea that could be revisited, though it would be a lot of work.

Aaron Hake had not heard of this plan before but believes there is language in the MSHCP that says this would be an eligible activity to achieve conservation objectives.

Aaron Gabbe confirmed that this was one of the incentives that could be implemented to bring land to the RCA without providing the funds to purchase it. This idea has also been in the discussion of the context of Vehicles Miles Traveled (VMT) regulation that affects land use throughout the state. This is an idea that has not been fully realized, but in discussion for a long time.

Pam Nelson wanted to know how this idea would be different than a conservation easement. Aaron Gabbe explained that the easement itself would be a restriction on a parcel, precluding that land from ever being developed. That would differ from a transfer of development where it would be run by the local city or county. If a developer wanted to develop low density housing on land that was valuable for conservation, the program would require giving the land that was for conservation and in exchange they would be able to develop at a higher density in a different area.

Laura Jamie inquired whether that included the development of light industrial warehouses, or if it was strictly related to housing. Aaron Gabbe shared that it had only been presented thus far in terms of housing but could not confirm that it was the only development that was applicable.

Aaron Hake thought it would be helpful to circulate the language in the planning of the incentives, after the meeting. The language lists the possible incentives, which is a

non-exclusive list. After this committee met on the fee credit issue, it was also mentioned in the incentives section. It was discovered that the cities and the county were not fully aware of what incentives were available for implementation to developers. To remedy this, a second page was added to the Joint Project Review (JPR) form to list all the incentive options and to let the RCA know if the landowner intended to use any.

Nolan King asked what the RCA's level of engagement was with local agencies. Aaron Gabbe stated that those entities to which the incidental take permitting is extended are referred to as permittees. When there is a project, the permittees must go through the MSHCP process where the RCA provides support when needed, evaluating proposals, and helping to identify alternatives consistent with the plan. There are also Participating Special Entities (PSE) that can apply for coverage for specific projects under the permit, such as Southern California Edison.

Lou Monville, Building Industry Association, Riverside County, asked that for the benefit of the process that RCA was undertaking, what kind of work is being done with consultants to implement the MSHCP work daily and also what is being done on new emergency listings that continue to emerge in California. With the addition of the new emergency listings, developers are losing the benefit of the intended streamlining permit process.

Aaron Gabbe stated that the ICF team includes Dudek Consulting, and both have consulted for the development side as things as well as RCAs in house processes. The MSHCP already covers an exceptionally broad range of species, many of whom are not federal or state listed currently. The intent was to include them in the plan so if they were listed later there would still be coverage. One species was missed, Crotch's bumble bee. RCA is in the process of addressing this right now, as it was proposed for listing under the California Endangered Species Act and they are in the process of making the final determination.

Even though Crotch's bumble bee is only listed as a candidate, it must be treated as though it was fully listed. Now, for this single species, developers must go back to a project-by-project permitting process. This has provided a unique view in how the plan is helpful to developers. RCA is currently working on how to incorporate this species into the plan, though we have been cautioned against amending the plan too soon, as there is a chance the species might not get listed.

Aaron Hake added that there is interim guidance that was issued from the CDFW that was shared with permittees. RCA is available to assist if there are applicants that run into any issues and help to facilitate a discussion with CDFW if necessary.

Aaron Gabbe shared that RCA is also working with CDFW on how the RCA can offer already conserved lands to support mitigation. Part of the guidance that came out from CDFW included the translocation of the bumble bee; RCA is open to having that done on our lands.

Aaron Hake stated that RCA had also done this with burrowing owls on MSHCP lands.

Laura Jamie wanted to know if there was a process to add additional species to the list that is covered by the MSHCP.

Aaron Gabbe shared that there is a process for species that are formally listed in the State or Federal Endangered Species Act. Adding a species to the MSHCP would require a Major Amendment, which has never been undertaken before. While there is only one plan, there are two permits that have separate regulatory laws and processes for approving the plan and approving an amendment to the plan.

Nolan King wanted to know if you could list something that was not necessarily endangered but was a special species to the area, like the Jurupa Oak. Aaron Gabbe stated that similar concerns are often expressed to RCA, but there is a rule book for the plan. RCA has no land use authority or regulatory powers, so we are unable to do anything. We can only support and back the MSHCP.

Lily Sweikert, ICF, provided a presentation on the Approach for Strategic Improvement Assessment and Action Plan for the Western Riverside County MSHCP. The SIAAP has been set up in three stages. The first stage is the Assessment Phase where ICF will gather as much information as possible, talking to staff members and wildlife agencies, and reviewing other plans to see how they are building their reserve system. After all the information has been collected, the team will move on to the Improvements Phase where there will be workshops and a shift to start thinking about problem solving. Once those ideas have been formulated, a recommended action plan will be presented in terms of next steps.

The Assessment Phase will include a land value analysis, and a source uses analysis looking at the cost and funding issues. This will also look at how the current economic status will affect the RCA in the future, and whether a new Nexus Study would be required.

The Improvement Phase is where we will start to look at solutions to the identified problems. Creating a common understanding of the HANS issues is of greatest concern. This phase will also look at systemwide implications and potential secondary effects to determine what could be a minor versus major amendment and prioritize the range of strategic improvement options.

The Action Plan Phase is where all the information comes together into a presentation to the Board to mesh everything, so it is digestible, and offers a clear menu of options.

Nicole Padron wanted to know how much continued education was done by the RCA to permittees to ensure they are well versed in the incentives that are available to landowners. Aaron Gabbe shared that RCA does training for permittees both for fee collection and to the planning departments for those that would be going through the HANS process. With the turnover of permittee staff, there is more that RCA could do. RCA is working on extending that same education to the public to provide value to a broad suite of stakeholders in the community.

Scott Fleury, ICF, added that the interviews conducted with Board Members and RCA staff provided candid input, including history with the plan from some of those who have been working with the MSHCP since its' inception as well as those that are new to the plan. This meeting can function as a group interview to highlight issues as seen by the Stakeholders, a place to share your thoughts on the MSHCP, and suggestions on how the plan could be improved.

Aaron Hake wanted to put it in stark terms that the RCA Board sees a great deal of urgency in this study, and it gets to the heart of RCA's ability to implement this overly ambitious plan. The plan is working, perhaps too well in some instances. We have land values that are increasing at an extremely high rate in Riverside County. It is a good thing that the economy is hot and there is a lot of demand, which also means that RCA is paying more for these lands. The process which has been set up by the MSHCP provides landowners with the ability to develop or have their land purchased, is putting RCA in a difficult situation when those lands come with a high dollar value. In a way, this also decreases RCA's ability to control the fate of the MSHCP and the ability to meet the reserve goals.

There are hundreds of acres of land in the county that would be ideal for conservation and some of them are willing sellers, but RCA has stopped all willing seller transactions in the last year because the HANS process is driving everything. RCA does not have the resources to complete those types of acquisitions. There may come a point when RCA will not even be able to commit to property owners going through the HANS process.

The purpose of the SIAAP is to figure out a solution that integrates all the points that have been mentioned, keeping the grand bargain that was this plan, together and sustainable. A lot has happened since this plan came together and with the changing circumstances, RCA needs to evaluate how to make sure the MSHCP continues to work.

Dan Silver stated this assessment was that there is a severe problem deriving from the HANS process, not that the HANS process is bad, but it has led us to a place that is creating problems. It is a surprise that 20 years ago when the plan was put together, it did not include flexibility to decide whether RCA wanted to purchase a certain property. RCA should continue to work closely with the Stakeholders Committee through this process.

Pam Nelson wanted to confirm that there was no categorization of land acquisition as far as risk was concerned for RCA and that properties must be purchased even if there is a risk. Aaron Hake explained that the plan describes certain properties for conservation and there is no priority to one over the other. If a property owner through the HANS process discovers their property is described for conservation, they cannot develop the land, and RCA must buy the property.

Pam Nelson thought that due to the lack of funding, RCA should look at land for biological diversity before it is purchased and this should be built into the process of acquisitions.

Lily Sweikert asked the committee, thinking back 20 years, how did they think Riverside County has changed today that is making the implementation of the MSHCP more difficult.

Rachael Johnson shared that Riverside County is currently the fastest growing county in the state of California.

Nolan King thought in the city of Wildomar, there are not any council members who are explicitly conservation oriented. The incentives that are available to the cities should be shared to point out the importance of not just promoting things that bring revenue to the city, but also things that may cost the city money while also improving the environment.

Aaron Hake stated that this feedback is something that RCA can act on now and include in community engagement. There is a really important element of the Riverside County Integrated Project that highlights what Nolan King was referring to. Measure A is the half-cent sales tax for transportation in Riverside County. In the sales tax ordinance, there is explicit language that any city that wishes to receive Measure A transportation dollars for local streets and roads will participate in the MSHCP, both in western county and the Coachella Valley. If cities want their money for potholes and signals, they must follow the MSHCP. This equates to millions of dollars going out to the cities.

Nolan King asked if Measure A also included money for mobility plans and non-car centric projects. Aaron Hake confirmed that Measure A also allows for transit funding and there are many other revenue sources available to RCTC for those projects as well.

Lou Monville stated that while the Measure A conversation was good, it will expire and that should be a concern. Sacramento is currently making the extension of these taxes much more difficult. This is a tool in chest that may be taken away.

Aaron Hake shared that 2039 is when the Measure A tax will expire.

Lily Sweikert explained that a conservation plan can only exist because there is take involved, and some cities may have forgotten that the MSHCP is only there to allow the cities to expand and take habitat.

Aaron Gabbe agreed that education on the incentives was important, but more importantly having champions, like the Stakeholders Committee, to share their support of the MSHCP with their peers. It is important that people are reminded of the diversity and benefits of the MSHCP.

Pam Nelson asked, money aside, would there be some way to sidestep the rising property values with mitigation and the fees RCA is currently charging are probably nowhere near the increase in prices.

Aaron Gabbe stated that it was the crux of one aspect of the challenge ICF is facing. They have a whole sub-consultant team who are responsible for evaluating costs and how RCA will be able to pay for the benefit it provides. Who should be responsible for what amount of burden of

those benefits, and how much it will ultimately cost. RCA is always looking for new sources of funding, using partners to fortify grant applications, and visiting Sacramento and Washington, D.C. to speak with leaders in the habitat coalitions.

Bruce Colbert thought right now there were a lot of great suggestions but responses to those suggestions were important.

Aaron Hake said that there is an urgency in trying to do something but the time it will take to implement the solution could take years.

**This item is for the Stakeholders Committee to receive a presentation summarizing the purpose of the SIAAP and to provide feedback.**

## 6. COMMITTEE MEMBER / EXECUTIVE DIRECTOR REPORTS

Aaron Hake, Executive Director, shared that sometime in the next month or two information on RCA's 20th Anniversary Celebration will be announced. This will be a public event to celebrate the accomplishments of the MSHCP.

## 7. ADJOURNMENT

There being no further business for consideration by the Stakeholders Committee, Executive Director Aaron Hake adjourned the meeting at 11:21 a.m.

Respectfully submitted,

Lisa Mobley
Administrative Services Director/
Clerk of the Board

# *WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*

## *STAKEHOLDERS COMMITTEE MINUTES*

**Wednesday, September 24, 2025**

**1. CALL TO ORDER**

The meeting of the Stakeholders Committee was called to order by Executive Director Aaron Hake at 2:07 p.m., in the March Field Conference Room at the County of Riverside Administrative Center, 4080 Lemon Street, Third Floor, Riverside, California, 92501.

**2. ROLL CALL**

| Members/Alternates Present | Members Absent |
|---|---|
| Bruce Colbert | Cara Lacey |
| Dan Silver | Drew Feldmann |
| Juan Rosas | Laura Jamie |
| Lou Monville | Michael Linton |
| Nicole Padron | Nolan King |
| Pam Nelson | Sherli Leonard |
| Rachael Johnson | Teri Biancardi |
| | Tuba Ebru Ozdil |

**3. PUBLIC COMMENTS**

There were no requests to speak from the public.

**4. APPROVAL OF MINUTES – JULY 24, 2024**

Approval of the minutes was deferred, as there was not a quorum present.

**5. PRESENTATION – COMMUNITY ENGAGEMENT UPDATE**

Italia Garcia, Community Engagement Manager, provided a presentation on the Community Engagement Update. The 146 Project was launched to increase student and community engagement and awareness. This program aims to have families in the community go out and visit RCA lands. The program was developed in partnership with the Girl Scouts; Katie Fuller created this fun patch program as a Gold Start Project to ensure the legacy of RCA was continued through generations. Students in kindergarten through eighth grade can participate, whether they are scout members or not, in various activities based on grade level to earn a fun patch and certificate of recognition.

RCA has reached nearly 2,000 Western Riverside County residents since 2024 and has had 14 community events. Stakeholders are asked to share with RCA staff if there are any opportunities for staff to attend community events to promote the 146 Project and the MSHCP.

RCA has joined forces with the Rivers & Lands Conservancy (RLC), and have hosted two major events thus far, in October 2024 and May 2025. In October 2024, staff went to the Teledine Reserve to restore Delhi Sands flower-loving fly habitat. Volunteers removed 1.5 tons of shrubs and collected 105 pounds of buckwheat seeds.

Aaron Gabbe, Regional Conservation Director, stated that the partnership came about as part of an Earth Day event that staff from RCA and RLC were both attending. RLC had strong community ties, while RCA had land that needed to be maintained. Together we were able to host events that used volunteers from the community to help bring about a sense of ownership to those involved.

Italia Garcia shared that the partnership has committed to having two events a year, one in the spring and one in the fall. There is an upcoming event on Saturday, October 25, 9 a.m. to 12 p.m., in the Fontana/Jurupa Hills area restoring Delhi Sand Dune Habitats.

Yvonne Lam, Senior Management Analyst, External Affairs, presented a slide on the public outreach efforts for the second quarter of 2025. Even though RCA is part of RCTC, they do have their own social media accounts on Facebook, Instagram, and Twitter, as well as *The Vista* Newsletter. Website users mostly access the RCA website from their desktop and public sentiment is mostly positive. There was a negative comment received regarding the San Diego Horned Lizard approaching extinction due to an invasive ant species, which is not necessary negative toward RCA, but it did help shed light on the importance of the MSHCP.

On social media there were mixed increases and decreases, due to RCA staff trying to analyze what they put out on social media and making sure the posts are intentional, solidifying facts and accurate information. There are 5,344 email subscribers to *The Vista* newsletter, as of the second quarter. The most visited story was about the Western Pond Turtle.

Italia Garcia again emphasized that RCA staff wanted to make sure the Stakeholders were in the know on RCA's community engagement. Stakeholders were urged to share this information and inform staff of any opportunities to further connect with the community at upcoming events.

Pam Nelson shared that there was an education forum this Saturday at the De La Rosa Plateau.

Lou Monville asked how staff were leveraging community outreach and social media work to the MSHCP goals and strategies. Italia Garcia stated that social media work aimed to correlate what was happening locally with what RCA might be currently doing. The on the ground civic engagement work has been picking up with the attendance of more events. RCA branding is now being recognized, but there is still room for evaluating more messaging, demographics, or areas.

Aaron Hake, Executive Director, clarified if the inquiry was about how RCA was using social media to advance acquisitions or to let the public know about them.

Lou Monville confirmed that was where the question was leading but the answer that was given was practical and appreciated. In the long term, acquisitions are going to get better with knowledge, understanding, and appetite.

Aaron Hake added that RCA heavily focuses on the species on social media to show what is being conserved. RCA has not yet embraced the advocacy message. Staff will need to look at how to pivot from saying look what we did to look what else we could do.

Juan Rosas stated knowing that Western Riverside is predominantly Hispanic, how can RCA start engaging Spanish-translation on things and other methods to bring that advocacy to the Hispanic community.

Ariel Alcon Tapia, Public Affairs Manager, shared that to reach the Hispanic community, RCA has done Spanish-translated promotional items. It is also understood that the newer generation of Hispanic community members are not always Spanish speakers, so photos in promotions are taken to show that we are all out there in the community and on the RCA lands. When launching new programs, RCA is mindful of showing a diverse set of folks visiting reserves and Riverside County Parks lands.

Italia Garcia added that another approach that has been discussed is being culturally aware, as in Latino and Hispanic communities' access to nature spaces is not the norm.

Nicole Padron thought that children were a great way to reach the different communities in Western Riverside County.

Bruce Colbert would like to see the newsletter highlight RCA accomplishments and acquisitions.

Aaron Hake thanked the Stakeholders for the discussion. RCA has a small but mighty team and if there are other opportunities that come up, please share them with staff.

## 6. STRATEGIC IMPROVEMENT ASSESSMENT AND ACTION PLAN FINDINGS AND POTENTIAL SOLUTIONS

Aaron Hake shared that this presentation was a mini version of what was presented to the RCA Board of Directors earlier in the month at the Board Workshop. The Board has directed staff to share this information with the Stakeholders Committee.

Aaron Gabbe provided a presentation on the RCA Board Workshop Overview. Just over a year ago, the RCA Board was having deep discussions about high-cost acquisitions, due to how the Plan was set up, they were all acquisitions that RCA had to make. The Board wanted staff to review the issues to determine what was at the core of the problem, out of that direction came

the Strategic Improvement Assessment and Action Plan (SIAAP). A consultant was hired to help conduct the study, generate a report, and provide recommendations to the RCA Board. The primary goal of the study was to identify ways to enhance the flexibility of the MSHCP implementation and more specifically to have the flexibility to make decisions on whether to purchase certain property ensuring financial stability and permit compliance.

The Development Habitat Acquisition and Negotiation Strategy (HANS) process is a tool to resolve development/conservation conflicts in the Criteria Area. The purpose of acquisitions is to create a reserve system of 153,000 acres, which is a little less than 50 percent of the entire Criteria Area. The Plan spends hundreds of pages describing what the reserve system should look like, and the HANS process facilitates the assembly of that reserve system. There is little flexibility in the HANS process, because if the land presented is conscribed for conservation, RCA must purchase it.

There is one tool the Plan provides to gain flexibility, the Criteria Refinement process. The Criteria Refinement process is a way that RCA can adjust written conservation criteria to facilitate reserve assembly. RCA can adjust where land will be protected if the replacement land is equal or better ecological value and the same size, so there is no net loss to the 153,000 required acres. This provides the landowner with the opportunity to develop their land if they can find replacement land and shift the conservation. This process is rarely used, primarily because of the challenge in finding the replacement property, not just equal in size and habitat quality, but also land that would be available from a willing seller in the right place.

One of the ways RCA evaluated whether it was possible to create more flexibility for the permittees was to identify the landscape to see if there were areas that the Plan did not describe for conservation but were adjacent to lands that were. It found that there are about 70,000 acres that were available across the landscape for future Criteria Refinements.

Another part of the Plan that was evaluated was the land acquisition costs since 2004 with a focus on purchases between 2018-2024. Between 2004 and 2017, there was a consistent average land cost of about $14,000 per acre, adjusted to 2020 dollars. This was consistent with what the Financial Plan predicted in 2003, and what was used to calculate fees in the first Nexus Study. However, in 2018 things started to change. The consultant evaluated 179 acquisitions between 2018 and 2024 and found that the average land cost had increased to about $25,000 an acre. This was in part because RCA had to acquire some high-cost parcels that had been zoned for development. If those high-cost acquisitions are removed, the average land value is around $16,500 per acre.

During the 2020 Nexus Study, three challenges were discovered, that continue to this day.

1. The 2003 Nexus Study and Finance Strategy overestimated the amount of revenue that would come to the RCA. It was predicted that development would happen at a much higher pace. The Great Recession further slowed the pace of development and thus reduced fee revenue. The shift to higher density development over low-density is contrary to what the 2003 Nexus Study predicted.

2. The overestimation of non-fee revenues also played a part as it was predicted this would amount to 44 percent when it has only been 9 percent.
3. Finally, there was an under-estimation of costs. As part of the Finance Strategy, there was an assumption that of the 97,000 acres that local agencies had to acquire, it was expected that 41,000 acres would be contributed free of charge through the Development HANS process in exchange for non-monetary incentives. Only 5,000 acres have been received, increasing the land budget significantly.

The Board attempted to tackle this by approving the 2020 Nexus Study, increasing the fees quite a bit. It paid off, as RCA has had robust revenues of about $30 million a year, and consistent non-fee revenues of about $6.5 million per year. With these revenues, RCA has acquired close to 10,000 acres, making substantial progress. RCA has managed and monitored 70,000 acres scattered over Western Riverside. RCA has been able to build up reserves which have helped absorb high-cost acquisitions along with strong reporting and financial management. If these high-cost acquisitions continue, RCA will need more funding resources.

The third part of the SIAAP study was conducting interviews with Wildlife Agency staff, Board Members, RCA staff, and a Stakeholder Committee meeting. The themes of the interviews were consistent: rising land prices and development pressure; the inflexibility in the reserve assembly; overevaluation of land appraisals; and that fees needed to be updated.

The perceptions from the permittees and stakeholders also had consistent feedback including: a limited sense of permittee ownership in the Plan; inconsistent alignment with zoning; and the need for public communication, training, and outreach focusing not just on the process but the purpose of RCA to expand and build on public support.

The SIAAP recommendations from the consultant focused on three topics:

1. Strengthening Funding and Cost Management
   - Manage Costs - Align land use and zoning with the reserve design and expand use of non-monetary compensation.
   - Expand Funding Options - Explore new revenue sources.
   - Adapt Funding Program - Revisit cost projections and development fee through a new Nexus Study.
2. Improve Reserve Assembly Flexibility
   - Explore alternative reserve configurations.
   - Identify and acquire areas for proactive Criteria Refinements from willing sellers.
   - Invest in habitat restoration to stay in rough step.
3. Increase Support for and Commitment to the MSHCP
   - Update the cost-benefit analysis.
   - Update training and outreach programs to permittee planning departments.
   - Develop communications and outreach materials for the public.
   - Incorporate permittee-owned lands into the reserve.

Lou Monville wanted to know what the permittee's incentive was to hold on to land that had not already been added to the reserve assembly. Aaron Gabbe shared that while exact reasons are unknown, sometimes there are mitigation reasons.

Aaron Hake stated that in speaking to one city who had purchased land, it was discussed that giving that land to RCA would prohibit creation of trails or other recreational activities as its' use would be limited due to the MSHCP.

Lou Monville thought that adding that to the real estate transaction would allow those activities. Aaron Hake stated that while that was correct, it would limit how much of that land could actually be included in the reserve.

Aaron Gabbe added that it was an incorrect belief that a permittee would need to create trails prior to donating land to the RCA, as that is something that needs a permit and the Plan has already identified trails that are covered.

Aaron Gabbe then shared the RCA staff recommendations to the Board after the completion of the SIAAP and the consultant recommendations.

1) Receive and file the draft Strategic Improvement Assessment and Action Plan (SIAAP);
2) Refer the SIAAP to the Stakeholder's Committee for review and input;
3) Direct staff to conduct an economic and financial analysis comprised of three parts: 1) initiating an economic and community benefits analysis of the MSHCP; 2) initiating a study to explore new sources of revenue to fund MSHCP land acquisition; and 3) initiating a nexus study to evaluate LDMF;
4) Direct staff to develop strategies and report back to the Board, in collaboration with Permittees and in consultation with stakeholders, that:
    i. Expand non-monetary compensation strategies in exchange for land dedication to the MSHCP reserve;
    ii. Better align areas described by the MSHCP for conservation and land use zoning designations;
    iii. Incorporate more Permittee-owned land into the MSHCP reserve;
    iv. Explore large-scale Criteria Refinements that could be used to increase land acquisition flexibility;
    v. Evaluate targeted changes to the MSHCP that can be strategically implemented during an amendment to the MSHCP to add Crotch's bumble bee; and
5) Direct staff to conduct a financial and human resources analysis to determine budget and staffing needs to implement the Board's direction on SIAAP-related initiatives.

Lou Monville wanted to know if for recommendation 4ii, staff had contemplated the continuing state intervention by usurping local land use authority. Moving forward, RCA should be assuming that the legislature will continue upzoning land for residential and stripping that from local government authority. Aaron Gabbe thought that was a great point and RCA will have to be adaptive in the implementation of the Plan.

Aaron Hake added that feedback received from some Board Members after the presentation made it clear that the consultants on this study were not land use experts. Some of the upzoning issues are being forced on permittees, but the issues that have caused high-cost acquisitions for RCA are not residential but rather commercial/industrial.

Aaron Gabbe shared that Stakeholders can contribute by helping to improve public investment in the Plan. Stakeholders were urged to review the SIAAP document and return to the next Stakeholders Committee to see how they can assist with addressing the outlined issues.

Aaron Hake stated that this was the reason that the Stakeholders Committee was written into RCA's Bylaws. This is a standing committee of the RCA that is intended to have environmental groups, developers, and property owners at the table for issues such as this. The Board has formally requested that this committee review this information and provide thoughtful feedback that will then be channeled back to the Board as staff are developing their implementation strategy. The expectation is that there is a start of the conversation today, and at the next meeting the committee can summarize or synthesize the various perspectives on these recommendations.

Bruce Colbert stated that after reviewing the document there were several thoughts that could be shared with RCA staff. Aaron Hake welcomed the comments via email and if one-on-one meetings were needed, they could be arranged.

At this time, Lou Monville left the meeting.

Bruce Colbert wanted to know why the increased support for and commitment to the MSHCP did not make it to the staff recommendation that was presented to the Board. Aaron Gabbe shared that it was the umbrella for some specifics that were mentioned in the staff recommendation. Most of the strategies to implement the recommendations require increasing permittee commitment.

Bruce Colbert asked if the economic benefit study was the same as the cost benefit study. Aaron Gabbe stated that they were similar. The cost funding analysis was used to generate the MSHCP fees. There was also an old, informal cost benefit analysis that highlighted the benefits of the MSHCP. Staff would like to update it with more current data to use it as tool to solidify that the MSHCP provides permit streamlining which equates to savings on project development.

Bruce Colbert added that the SIAAP did not mention modifying the Criteria Refinement process to allow for partial acquisitions, which the Stakeholders Committee had previously mentioned. Aaron Gabbe shared that the HANS process allows partial acquisition, as well as the Criteria Refinement process if someone is willing to sell only part of the property.

Aaron Hake confirmed that some of the recent high-cost acquisitions had landowners that were not willing to part with just a portion of their property, so RCA was required to purchase the entire property.

Pam Nelson wanted to know where the conservation easements would fit into this equation. Aaron Gabbe explained that in other parts of the state, when landowners want to keep and use their land, they can gain some money by selling a conservation easement. In Northern California, conservation plans use the easements instead of purchasing land, but this is not applicable in Western Riverside. Due to the layout of the conservation strategy, it dictates where the reserve system will be and where the permit can be extended. If there is a property that cannot be developed, and RCA is willing to buy their property for highest and best use, there is not a need for a conservation easement for only a fraction of the cost.

Pam Nelson asked if RCA were to get conservation easements if they would add to the required acreage. Aaron Gabbe confirmed it absolutely would count. This could be something to explore in the badlands, as it is not zoned for development, but there would be restrictions with those easements.

Dan Silver was initially optimistic about Criteria Refinements, but as it was pointed out the land has to be purchased first, making it harder to accomplish. Habitat restoration to maintain rough step was a good thought, if it would not require a plan amendment first. Aaron Gabbe did not think that it would be necessary, and the subject has already been broached with the Wildlife Agencies. It could be something that was memorialized as part of the Major Amendment for Crotch's bumble bee, but it could be accomplished without it as well.

Dan Silver thought that the mentioning of finding new funding sources, there are groups that have stated this time and again, and there is nothing new. A new measure or bond would be hard to achieve as you generally need a two-third vote to pass them. There is still a need for new or out-of-the-box mechanisms, and there are some thoughts to share on the subject, but this would be a long discussion.

Aaron Hake shared that it would be helpful to be pointed in the direction of other studies that have been done on the subject, so RCA can have a jumpstart on their analysis. Ultimately, the RCA Board is going to have to make some difficult decisions one way or another, so presenting them with a menu of options and the difficulty of each to accomplish would help them determine what was worth the difficulty.

Bruce Colbert likes the strategy that was proposed for the use of the Criteria Refinement, the section on it in the SIAAP, it is not set up as a land bank and it requires money upfront. Aaron Gabbe shared that there are some things in the works to purchase some land that is not currently described for conservation which may be able to be used for a land swap in the future if the conditions are right.

Bruce Colbert thought there were two main challenges from the Criteria Refinement process, the funding, and the equivalency analysis.

Nicole Padron wanted to know if the appraisal for the highest and best use would take into consideration if the property were in a streambed and would not have been able to be developed. Aaron Gabbe stated that should presumably be considered.

Dan Silver shared that in an appraisal it was considered the time delay and uncertainty due to habitat and species present, so the Plan is a victim of its' own success, it has removed that uncertainty. The appraisal should be done as if the Plan does not exist and it should take into account the aforementioned uncertainty and time delay.

Aaron Hake noted that the MSHCP is a grand compromise of stakeholders, and it was made clear to the Board that the HANS process was not the problem. The HANS process is a tool to assemble the reserve being fair to the landowner with protections built in to ensure they are compensated fairly. The HANS process is essential to the MSHCP.

Aaron Gabbe added that changing the process would require a radical overhaul to the overall conservation strategy and the location of the reserves, but the land needed to do that is not available anymore.

Pam Nelson wanted to know how much land had been acquired by non-profits obtaining their own funding and donating it to RCA. Aaron Gabbe responded that it had not happened within the last three years. The challenge is everyone would be competing for the same pots of money, so it is better to partner with other agencies.

Aaron Hake added that the amount of land that has been donated to the MSHCP is considerably less than what was projected when the Plan was formulated.

Bruce Colbert wanted to expand on the statement that the MSHCP reserve design was inflexible and what the cause of that was.

Aaron Gabbe shared that there were a number of factors, but the primary one was geography. The distribution of land between the areas that are zoned for development, and rural/residential or open space have no distinct boundaries. Other plans have clear limits on where development of any kind can occur and do not include tools like the HANS process, with acquisitions only occurring from willing sellers. The Wildlife Agencies are assured that no development will occur in those areas, and no permit authorization is given by the agency. The specificity of the reserve design in the MSHCP is what limits its' flexibility.

Aaron Hake thanked the Stakeholders for their comments. The goal over the next several weeks is to receive the Stakeholders' formal feedback, answer any questions, and have one-on-one meetings if needed. There will be another Stakeholders' meeting in a couple of months to have a wrap-up discussion on the SIAAP and its' findings.

**1) Receive the draft Strategic Improvement Assessment and Action Plan (SIAAP) for review and input.**

## 7. COMMITTEE MEMBER / EXECUTIVE DIRECTOR REPORTS

There were no comments or reports.

## 8. ADJOURNMENT

There being no further business for consideration by the Stakeholders Committee, Executive Director Aaron Hake adjourned the meeting at 3:42 p.m.

Respectfully submitted,

Lisa Mobley
Administrative Services Director/
Clerk of the Board

# *WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*

## *STAKEHOLDERS COMMITTEE MINUTES*

**Wednesday, November 19, 2025**

### 1. CALL TO ORDER

The meeting of the Stakeholders Committee was called to order by Executive Director Aaron Hake at 10:05 a.m., in Conference Room E, at the County of Riverside Administrative Center, 4080 Lemon Street, Eleventh Floor, Riverside, California, 92501.

### 2. ROLL CALL

| Members/Alternates Present | Members Absent |
|---|---|
| Bruce Colbert | Cara Lacey |
| Nicole Padron | Dan Silver |
| Pam Nelson | Drew Feldmann |
| Tuba Ebru Ozdil | Juan Rosas |
| | Laura Jamie |
| | Lou Monville |
| | Michael Linton |
| | Nolan King |
| | Rachael Johnson |
| | Sherli Leonard |
| | Teri Biancardi |

### 3. PUBLIC COMMENTS

There were no requests to speak from the public.

### 4. APPROVAL OF MINUTES – JULY 24, 2024 & SEPTEMBER 24, 2025

Approval of the minutes was deferred, as there was not a quorum present.

### 5. FEEDBACK – STRATEGIC IMPROVEMENT ASSESSMENT AND ACTION PLAN (SIAAP)

Aaron Gabbe, Regional Conservation Director, gave a brief overview of the history of SIAAP discussions. From the last Stakeholders Committee, the members were asked to review the SIAAP Executive Summary and provide feedback on how members of the Stakeholders Committee could contribute towards improving permittee, stakeholder, and public investment in the MSHCP. RCA staff also asked how the Stakeholders Committee could contribute towards MSHCP public outreach efforts to improve ownership and understanding of the Plan and reserve system.

Brue Colbert shared detailed thoughts that were emailed and included in the agenda. The gist of the first comment was that the suite of recommendations that were given to the Board needed to include the action items, increased permittee commitment. In the SIAAP on page 5-5, it was discussed that additional items that would also help with outreach were revising training and outreach strategy, which should be elevated. RCA updating the cost-benefit analysis would really be helpful to quantify not only the benefits but also the cost savings.

The last sentence regarding appraisals on page 5-3 of the SIAAP was thought to be unclear in its' reference to regulatory and biological context. Everything prior to that statement is clear and informative, but the last sentence is confusing.

The SIAAP mentions down-zoning everything to save money, but there is a limit to how much that can be done. That limit and the associated rules should be included or considered in the SIAAP. It was understood that the real issue was aligning the plan with land use.

In talking about the Criteria Refinement process, the way it was written did not provide direction on forming a land mitigation bank. This was not how the original plan was envisioned. It is possible that building a land mitigation bank would find the RCA out of balance with the habitat types available versus those needed.

Aaron Gabbe explained the reserve assembly process and the Criteria Refinement process.

Bruce Colbert highlighted some funding shortfalls that were detailed in the SIAAP, including the operating deficit.

Lisa Mobley, Administrative Services Director/Clerk of the Board, shared that as an agency, they tend to lean more toward summary/action minutes versus verbatim. If there is ever anything you want included verbatim, you can let us know, and we can attach them to the minutes. We can also correct the minutes if they are found to be in error prior to voting on them.

Nicole Padron stated that there was an item approved by the Board to incorporate more permittee owned land into the MSHCP reserve. In 2019, Rivers & Lands Conservancy entered into a Memorandum of Understanding (MOU) with RCA to include their land into Public Quasi-Public (PQP) and Additional Reserve Land (ARL) into the MSHCP. It was asked to what extent other land trusts have their land incorporated into the MSHCP.

Aaron Gabbe explained that RCA does a thorough analysis of PQP lands that are not counted as part of the 153,000 acres that the MSHCP has to acquire for mitigation. That review picks up everything that is supposed to be PQP.

Aaron Hake, Executive Director, wanted to clarify if Nicole Padron was wondering if RCA would be going to ask other entities to contribute their land to the MSHCP.

Nicole Padron confirmed that was what was asked.

Aaron Gabbe thought it was a good point, and it was something that RCA had not looked into before, but staff could look at the California Conservation Easement database to see if there were any leads.

Philip Kang, Technical Information Program Manager, added that there have been ongoing efforts for easements and other lands which have led to some of the MOUs with RCA in the past. Some of the easements are located outside of criteria cells, so they cannot be included in ARL.

Nicole Padron thought that Rivers & Lands Conservancy could continue to help RCA with public outreach and partnering on joint volunteer events. There are different events that could be explored as well.

Ebru Ozdil shared that it is very important to conduct outreach to planners and developers as unfortunately, many may not know what the MSHCP is and the history of what it has done for the county.

Aaron Gabbe led a discussion on other land mitigation banks and how they work.

Ebru Ozdil suggested that there should be guidelines for cities on how to address the MSHCP in general plans.

Aaron Hake thanked the committee for their robust discussion and insights on the MSHCP and the SIAAP.

## 6. COMMITTEE MEMBER / EXECUTIVE DIRECTOR REPORTS

Bruce Colbert asked that corrections be made to the minutes that were included in the agenda packet, they will be sent via email.

## 7. ADJOURNMENT

There being no further business for consideration by the Stakeholders Committee, Executive Director Hake adjourned the meeting at 11:22 a.m.

Respectfully submitted,

Lisa Mobley
Administrative Services Director/
Clerk of the Board

| | |
|---|---|
| **From:** | Bruce Colbert |
| **To:** | Lisa Mobley |
| **Cc:** | Melonie Donson; Italia Garcia |
| **Subject:** | [EXTERNAL] Re: RCA: November Stakeholders Committee Agenda - corrections addendum2 |
| **Date:** | Saturday, November 29, 2025 3:34:27 PM |
| **Attachments:** | PastedGraphic-15.tiff<br>image002.png<br>image003.png<br>image004.png<br>image005.png<br>image006.png<br>image007.png<br>image008.png |

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Hi Lisa,

For my final comment below, I would like to add the source of my estimate of $718,467,600 needed to fund state and federal acquisitions (56,000-acre state and federal acquisition goal - 27,794 acres acquired = 29,206 acres remaining to be acquired [SIAAP, p. 1-1] x $24,600/acre [SIAAP, Section 4.5.1.4, p. 4-15] = $718,467,600).

I would like to make to corrections to my entries in the Minutes for the RCA Stakeholders Committee Meeting on September 24, 2025.

- On page 18, on my first entry, change “a step up” to “set up.’”
- On page 18, on my second entry, change “to” to “from.”

In my September 24, 2025 Comment Letter, for the third bullet item, the word “qualifiable” ought to read “quantifiable.”

For my comment at the November 19, 2025 RCA Stakeholders Committee meeting, I meant to provide the source for my estimate of a $108 million operating funding deficit by 2044. In SIAAP Section 4.6.3.1, p. 4-21, Table 10 shows Recent Total Funding of $32,936,646; Table 11 shows Recent Total Costs of $38,668,237.

- ($38,668,237 - 32,936,646) x 19 years = $108,900,229 operating funding deficit.
- $108,900,229 operating funding deficit + $500,000,000 acquisition funding deficit = $608, 900,229 total funding deficit by 2044.

Thank you for your assistance!

Sincerely,

Bruce Colbert

**Bruce Colbert, AICP** | Executive Director
Property Owners Association of Riverside County
[redacted]
www.poarc.com

# AGENDA ITEM 5

| ***WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*** | |
|---|---|
| **DATE:** | May 6, 2026 |
| **TO:** | Stakeholders Committee |
| **FROM:** | Aaron Gabbe, Regional Conservation Director |
| **THROUGH:** | Aaron Hake, Executive Director |
| **SUBJECT:** | Western Riverside County Multiple Species Habitat Conservation Plan 2024 Annual Report |

***STAFF RECOMMENDATION:***

This item is for the Stakeholders Committee to receive and file the Western Riverside County Multiple Species Habitat Conservation Plan 2024 Annual Report.

***BACKGROUND INFORMATION:***

RCA prepares an annual report as part of the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or the Plan). The annual report provides a formal opportunity to assess the progress of the Plan and to address potential problems.

The MSHCP Plan Area is approximately 1.26 million acres. Within the Plan area, the MSHCP calls for a 500,000-acre reserve system to protect the 146 species covered by the Plan, of which 35 species are listed as endangered or threatened, or candidates for listing, under the federal and/or state Endangered Species Acts. When the MSHCP was permitted in 2004, 347,000 acres were classified as Public/Quasi-Public (PQP) lands in the MSHCP reserve system. These lands are owned and managed by public entities including Riverside County Parks and Open Space, Bureau of Land Management, State Parks, California Department of Fish and Wildlife, Metropolitan Water District (e.g., Lake Mathews Multiple Species Habitat Conservation Plan, Multi-Species Reserve), and United States Forest Service. The additional 153,000 acres needed to complete the 500,000-acre reserve are in the process of being acquired through a combination of local, state, and federal mechanisms. The RCA and other local Permittees of the MSHCP are responsible for acquiring 97,000 acres via the Habitat Acquisition Negotiation Strategy (HANS) and willing seller transactions, both funded by the Local Development Mitigation Fee (LDMF) imposed by RCA Member Agencies. Federal and state governments are responsible for acquiring a combined 56,000 acres.

A primary purpose of the MSHCP and associated permits is to streamline the environmental permitting and review process for public infrastructure and private development (e.g., commercial, industrial, and residential). Project consistency with the MSHCP provides "incidental take" under the Endangered Species Acts (state and federal) and biological resources mitigation under the California Environmental Quality Act (CEQA).

A foundational element of the MSHCP is to maintain a balance between habitat losses (project development) and habitat gains (lands incorporated into the MSHCP reserve) within nine identified regions (Rough Step Units) of the Plan Area. This balance is measured with the Rough Step Analysis, whereby Permittees submit their annual losses (project approvals) to the RCA and the RCA calculates Rough Step balance, using an equation provided by the MSHCP, to determine the rate of losses to gains in habitat. When a vegetation community tracked by Rough Step is out of balance, the Permittees must conserve lands supporting this vegetation to get back into Rough Step balance prior to authorizing additional loss of the vegetation type within cells of that Rough Step unit.

Producing the annual report takes approximately one year following the end of each calendar year. RCA staff collects land use permit data from all Permittees and property acquisition information from the RCTC Right of Way department. Staff calculate habitat gains and losses and RCA financials associated with implementation of the MSHCP. Further, staff collect data from the management and monitoring programs to assess the condition of the MSHCP reserve and the 146 covered species.

Below is a summary of the results presented in the 2024 Annual Report.

- In 2024, a total of 2,409 acres were acquired for the MSHCP reserve through the local process (e.g., donation, willing sellers, development) and state and federal grant funding. The total of Additional Reserve Lands (ARL) acquired for conservation under the Plan through 2024 is 70,502 acres. An additional 82,498 acres are needed to complete the 500,000-acre reserve.

- Through 2024, local, state, and federal government agencies have spent approximately $692,298,992 on land acquisition, including $46,952,000 in 2024. Through 2024, local agencies, primarily from Local Development Mitigation Fees, contributed approximately $485,192,286, including $18,288,055 in 2024; and, state and federal agencies, primarily through grants awarded to the RCA, contributed approximately $207,106,706, including $28,663,945 in 2024.

- The RCA processed Joint Project Reviews (JPR) for land use projects being processed by Permittees within the Criteria Area in 2024. JPRs are part of the HANS process. The RCA received 23 new JPRs and completed 27 JPRs in 2024, resulting in an additional 309 acres of future Proposed MSHCP Conservation Lands.

- The RCA updated its GIS database in 2024, identifying 13,000 acres that have been designated as dedications for future ARL (MSHCP reserve lands) through the HANS/JPR process since the inception of the MSHCP in 2004. These lands have not been incorporated into the MSHCP reserve primarily because the development projects have not progressed to the stage where the land must be transferred into the MSHCP reserve.
- Rough Step Unit 8 remains out of balance. Rough Step Unit 8 is out of balance by 105 acres for Grasslands and by 18 acres for Riversidean Alluvial Fan Sage Scrub. RCA notified

affected Permittees of the implications these imbalances have on development until Rough Step is back in balance. Following the Board of Directors filing of the annual report, updated information will be provided to affected Permittees.

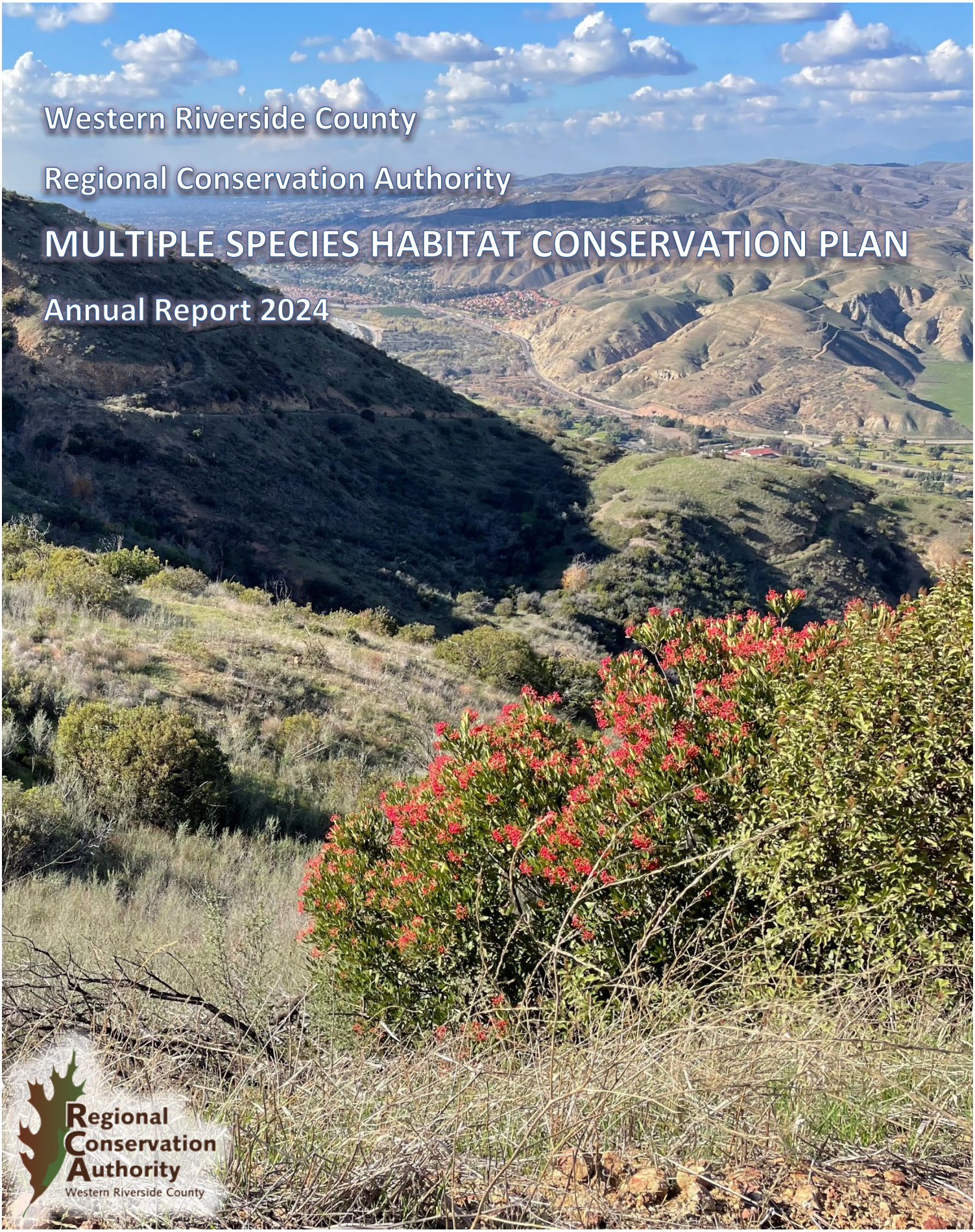
- The RCA, through a contract with the Riverside County Regional Park and Open-Space District (Parks), is managing over 51,899 acres of conservation lands, an increase of 4,899 acres from 2023. Trespassing, illegal dumping (an estimated 33 tons removed in 2024, an increase of 9 tons from 2023), and homeless encampments (37 encampments removed in 2024, an increase of 25 from 2023) continue to be issues within the reserve system. An increase in habitat damage caused by unauthorized recreation (e.g., mountain bike use) continued.

- In summer 2024, the Alamos Fire burned 12 acres of RCA-owned reserve land. Parks salvaged remaining Cholla cacti after the fire and re-established these plants in the burn scar caused by the 2023 Highland Fire in the Aguanga area to provide habitat for Cactus Wren. Efforts continued to enhance disturbed habitats at other RCA reserve lands, including ongoing restoration projects and research experiments (e.g., alkali playa invasive stinknet plant experiment and eradication) that directly benefit the MSHCP's Covered Species.

- The RCA, through a contract with the Santa Ana Watershed Association (SAWA), implements the Biological Monitoring Program. SAWA recorded 102 of the 146 covered species in 2024. Since inception of the Plan, 142 of the 146 covered species have been detected in the MSHCP reserve.

RCA staff are currently preparing the 2025 annual report, with completion anticipated by the end of the calendar year.

Attachment: 2024 Annual Report


Western Riverside County
Regional Conservation Authority
MULTIPLE SPECIES HABITAT CONSERVATION PLAN
Annual Report 2024
Regional
Conservation
Authority
Western Riverside County

**Cover Picture**

RCA's B Canyon 2 property, acquired in February of 2024, is located just South of State Route 91, at the border of Orange and Riverside County.

# Western Riverside County
# MULTIPLE SPECIES HABITAT CONSERVATION PLAN

## ANNUAL REPORT

*For the Period*

January 1, 2024 through December 31, 2024

*Submitted by the*

Western Riverside County Regional Conservation Authority

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**APN** – Assessor's Parcel Number

**ARL** – Additional Reserve Lands; 153,000 acres needed to complete the MSHCP reserve

**BLM** – Bureau of Land Management

**Board** – Board of Directors for the Western Riverside County Regional Conservation Authority

**CDFW** – California Department of Fish and Wildlife

**CEQA** – California Environmental Quality Act

**COI** – Certificates of Inclusion

**CNLM** – Center for Natural Lands Management

**County** – County of Riverside

**Criteria Area** – Areas within western Riverside County in which land can be acquired for the MSHCP. The Criteria Area is divided into **Criteria Cells**, which are units within the Criteria Area that are generally 160 acres in size.

**CWA** – Clean Water Act

**Development HANS** – Habitat Evaluation and Acquisition Negotiation Strategy for properties for which a development application is intended to be filed

**ERP** - Expedited Review Process

**ESA -** Endangered Species Act

**GIS** – Geographic Information System

**HANS** – Habitat Evaluation and Acquisition Negotiation Strategy

**HMU** – Habitat Management Units

**IA** – Implementing Agreement for the Western Riverside County Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan

**IERCD** – Inland Empire Resource Conservation District

**JPA** – Joint Powers Agreement/Authority

**JPR** – Joint Project Review

**LDMF** – Local Development Mitigation Fee

**LTMP** – Long Term Management Plan

**MADS** – Management Activity Data Sheets

**Member Agency** – 18 cities in western Riverside County and Riverside County that a part of the JPA

**MOU** – Memorandum of Understanding

**MSHCP/Plan** – Multiple Species Habitat Conservation Plan

**Non-Development HANS** – Habitat Evaluation and Acquisition Negotiation Strategy for properties for which a development application is not intended to be filed

**OHV** – Off-highway vehicles

**Parks/Parks District** – Riverside County Regional Park and Open-Space District

**PQP** – Public/Quasi-Public

**PSE** – Participating Special Entities

**RCA** – Western Riverside County Regional Conservation Authority

**RCHCA** – Riverside County Habitat Conservation Agency

**RCRCD** – Riverside Corona Resource Conservation District

**RCTC** – Riverside County Transportation Commission, the managing agency for RCA

**RCTD** – Riverside County Transportation Department

**REMAP** - Riverside Extended Mountain Area Plan

**RLC** – Rivers & Lands Conservancy

**RMOC** – the Reserve Management Oversight Committee

**Rough Step –** Methodology used by the MSHCP to ensure that conservation occurs roughly in step with development

**SAWA** – Santa Ana Watershed Association

**State** – State of California

**TEAM RCD** – Temecula-Elsinore-Anza-Murrieta Resource Conservation District

**TUMF** – Transportation Uniform Mitigation Fee

**USFWS** – United States Fish and Wildlife Service

**WRCOG** – Western Riverside Council of Governments

# EXECUTIVE SUMMARY

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP or Plan) is a comprehensive, multi-jurisdictional plan that conserves vulnerable plant and animal species and their habitats in western Riverside County. The Plan was approved in 2003, and the permits were issued on June 22, 2004, by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW).

The MSHCP Planning Area encompasses approximately 1.26 million acres in western Riverside County. The Plan calls for the conservation and management of approximately 500,000 acres within the Plan Area. Of the 500,000 acres, approximately 347,000 acres of land within Public/Quasi-Public (PQP) ownership came into the Reserve at inception of the MSHCP in 2004. Achievement of the 500,000-acre goal depends on conservation of 153,000 acres of Additional Reserve Lands (ARL) within the Plan Area that would occur through local, state, and federally funded acquisitions.

The Western Riverside County Regional Conservation Authority (RCA) was formed in January 2004 and assumed administration and implementation responsibility for the MSHCP in March 2004. The MSHCP requires that the RCA prepare and submit a report of its annual activities. This report provides a summary of activities for the reporting period of January 1, 2024, through December 31, 2024. This is the 20th annual report that covers a full calendar year of Plan implementation.

The 2024 Annual Report provides a means to evaluate the effectiveness of MSHCP implementation and the success of the RCA during the year.

## Reporting Requirements

In addition to reporting the amount of habitat conserved and impacted during the reporting period, this report includes other information that measures MSHCP progress. At a minimum, the MSHCP specifies that the Annual Report include:

- Documentation of revenue generated from mitigation fees.
- Status of Reserve Assembly progress as measured by the Rough Step formulas presented in *Section 6.7* of the MSHCP (Volume 1) and in accordance with Species-Specific Objective 1B of the Delhi sands flower-loving fly.
- Acres authorized for disturbance within the Plan Area during the reporting period.

- Single-family and mobile home development applications within the Criteria Area for the year, and cumulatively since inception of the Plan, processed by the County and cities under the Expedited Review Process (ERP) in *Section 6.1.1* of the MSHCP (Volume 1).
- New or expanded agricultural operations within the Criteria Area for the preceding year, and cumulatively since inception of the Plan, occurring under the processes identified in *Section 6.2* of the MSHCP (Volume 1).
- Minor administrative/clerical amendments approved during the reporting period in accordance with the procedures described in *Section 6.10.2* of the MSHCP (Volume 1).
- Ongoing management and monitoring activities highlighting issues of concern and proposed remedies/actions.

## Funding Summary

**Table ES-1 RCA Revenue and Expenditures**

| | Cumulative (2004-2023) | 2024 | Total (2004-2024) |
|---|---|---|---|
| **Revenue** | $596,561,954 | $41,776,852 | $638,338,806 |
| **Expenditures*** | $780,980,525 | $68,484,246 | $849,464,771 |

*Includes costs incurred before Plan inception and state and federal cost of acquisition which are not RCA direct costs.

**Table ES-2 Land Acquisition Funding Expended***

| | Cumulative (2004-2023) | 2024 | Total (2004-2024) |
|---|---|---|---|
| **Local Permittees+** | $466,904,231 | $18,288,055 | $485,192,286 |
| **State** | $109,594,699 | $25,107,389 | $134,702,088 |
| **Federal** | $68,848,062 | $3,556,556 | $72,404,618 |

*Includes costs incurred before Plan inception and state and federal cost of acquisition which are not RCA direct costs.

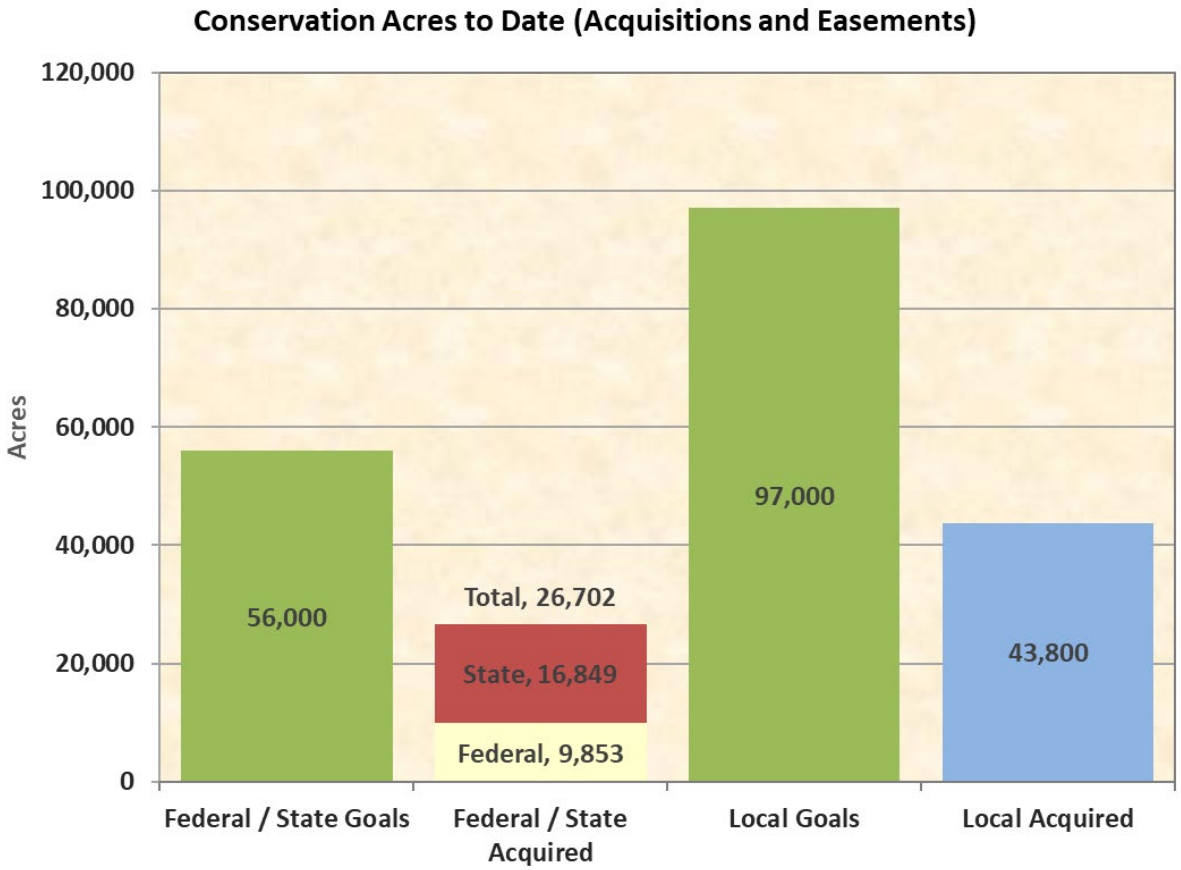
+Only includes land acquisition costs. Other costs related to the acquisition including appraisals are not included.

Table ES-1 revenues include development fees, landfill revenue, and infrastructure mitigation fees. Expenditures include costs for land acquisition, land management, species monitoring, and program administration. Expenditures reported in Table ES-1 far exceed revenue for two reasons. First, while expenditures for state and federal properties are included in the total expenditures, the revenues only represent local funding sources. As such, the state and federal grants, which offset the state and federal expenditures, are not included in revenues. Second, RCA acquired one property in 2024 using a combination of cash and notes payable. The full cost of this property is included in expenditures even though a portion will be paid for over the next four years, exacerbating the difference between revenues and expenditures. Table ES-2 shows the land

acquisition expenditures by local permittees, the state, and the federal government. For details, please see Section 6 of this report.

## Reserve Assembly Summary

**Figure ES-1 Conservation Acres to Date**




In 2024, a total of 2,409 acres of ARL was purchased, received through donation, or obtained through the local development process. Cumulatively, as of December 31, 2024, a total of 70,502 acres of ARL have been conserved for purposes of habitat and species conservation.

In 2024, 321 acres of habitat were lost to development within the Criteria Area. This amounts to 14% of all reported MSHCP permittee land development within Western Riverside County. Most of the development losses (2,040 or 86%) happened outside the Criteria Area.

## Rough Step Summary

Rough Step is a MSHCP performance measure used to monitor the pace of conservation of key vegetation communities against the pace of losses of key vegetation communities within discrete geographic units of the Criteria Area. The purpose of Rough Step is to help prioritize conservation of vegetation communities to ensure that they are protected in a timely manner in proportion to the permitted losses within the Criteria Area. The Rough Step analysis identifies where development is outpacing conservation and where conservation efforts therefore need to be focused. All Rough Step analyses are based on the 1994 baseline vegetation mapping used to develop the MSHCP and take allowances for species.

**Table ES-3 Rough Step Summary**

| | Rough Step Status | Out of Rough Step Vegetation Categories | Acres Out of Rough Step |
|---|---|---|---|
| **Rough Step Unit 1** | In Rough Step | - | - |
| **Rough Step Unit 2** | In Rough Step | - | - |
| **Rough Step Unit 3** | In Rough Step | - | - |
| **Rough Step Unit 4** | In Rough Step | - | - |
| **Rough Step Unit 5** | In Rough Step | - | - |
| **Rough Step Unit 6** | In Rough Step | - | - |
| **Rough Step Unit 7** | In Rough Step | - | - |
| **Rough Step Unit 8** | Out of Rough Step | Grasslands | -105 |
| | Out of Rough Step | Riversidean Alluvial Fan Sage Scrub | -18 |

## Reserve Management

In 2024, the RCA continued its security, protection, and enhancement of existing and new RCA lands brought into the MSHCP Reserve. At the end of 2024, the RCA was managing 51,899 acres of conservation lands. The RCA contracts the Riverside County Regional Park and Open-Space District (Parks District) to manage the RCA properties. Activities during the reporting period focused on access controls in high trespass areas, enforcement of policies prohibiting unauthorized activities such as off-road vehicle uses and illegal refuse dumping, removal of non-native invasive species, restoration of natural habitat, property assessments of potential future conservation lands, and fire abatement in compliance with County Ordinance 695 or other ordinances and policies of other jurisdictions as applicable to the location of the land.

## Biological Monitoring Program

The overall goals of the Biological Monitoring Program (Monitoring Program) are to collect data on the 146 Covered Species and associated vegetation communities across the Conservation Area to assess the MSHCP's effectiveness at meeting conservation objectives and to provide useful information to Reserve Managers in an adaptive management context. The MSHCP (Volume 2, Species Accounts) includes species-specific objectives that are intended to provide for the long-term conservation of all Covered Species. Species objectives direct the type and intensity of monitoring that is conducted by the Monitoring Program on an annual basis. Management decisions or actions are triggered if species objectives or MSHCP conservation goals are not met. The RCA contracts the Santa Ana Watershed Association to monitor the Conservation Area.

In 2024, the Monitoring Program recorded, either through focused surveys or incidental detections, 102 of 146 Covered Species. Since June 2004, a total of 142 of 146 Covered Species have been detected in the Conservation Area.

# 1. INTRODUCTION

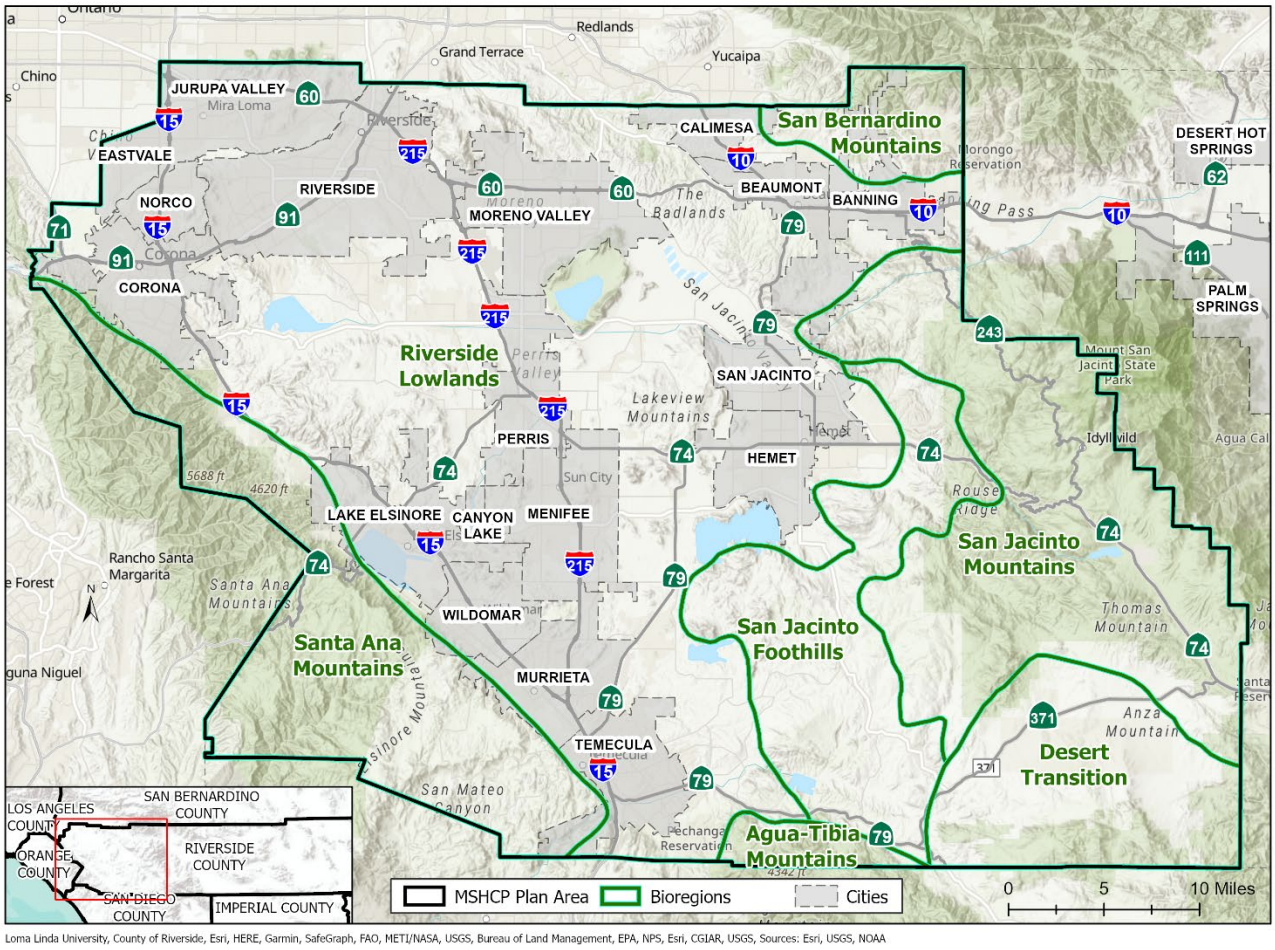
## 1.1. Overview of the Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP, the Plan) is a comprehensive, multi-jurisdictional conservation plan that protects threatened, endangered, and sensitive species and their habitats. Concurrently, the MSHCP streamlines the environmental permitting process for needed infrastructure like transportation and housing projects, resulting in improved efficiency and certainty, cost savings, and support for the local economy. Transportation infrastructure, for example, has been an important beneficiary of the MSHCP, which has expedited the processing of freeway and road projects by as many as five years. The Plan provides for mitigation under the federal and state Endangered Species Acts (ESA) as well as the California Environmental Quality Act (CEQA). From Burrowing Owl (*Athene cunicularia*) to the Western Pond Turtle (*Clemmys marmorata pallida*), the MSHCP protects 146 animal and plant species including 35 that are threatened or endangered, or candidate for listing as endangered or threatened, making it one of the largest habitat conservation plans in the United States. When the MSHCP reserve is completed, it will include 38 specially designated habitat linkages that will allow animals to safely move from one preserve to another, providing a critical lifeline between large blocks of core habitat.

The Plan was developed in partnership with the California Department of Fish and Wildlife (CDFW); the United States Fish and Wildlife Service (USFWS); multiple local jurisdictions; various other local, state, and federal agencies; and public interest groups/stakeholders. The Plan was approved, and permits were issued, on June 22, 2004, by the USFWS and CDFW. The MSHCP Plan Area encompasses approximately 1.3 million acres (approximately 1,967 square miles) in western Riverside County. The Plan Area includes all unincorporated County of Riverside within this geographic area, and the incorporated cities of Banning, Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Norco, Perris, Riverside, San Jacinto, Temecula, and Wildomar (Figure 1-1).

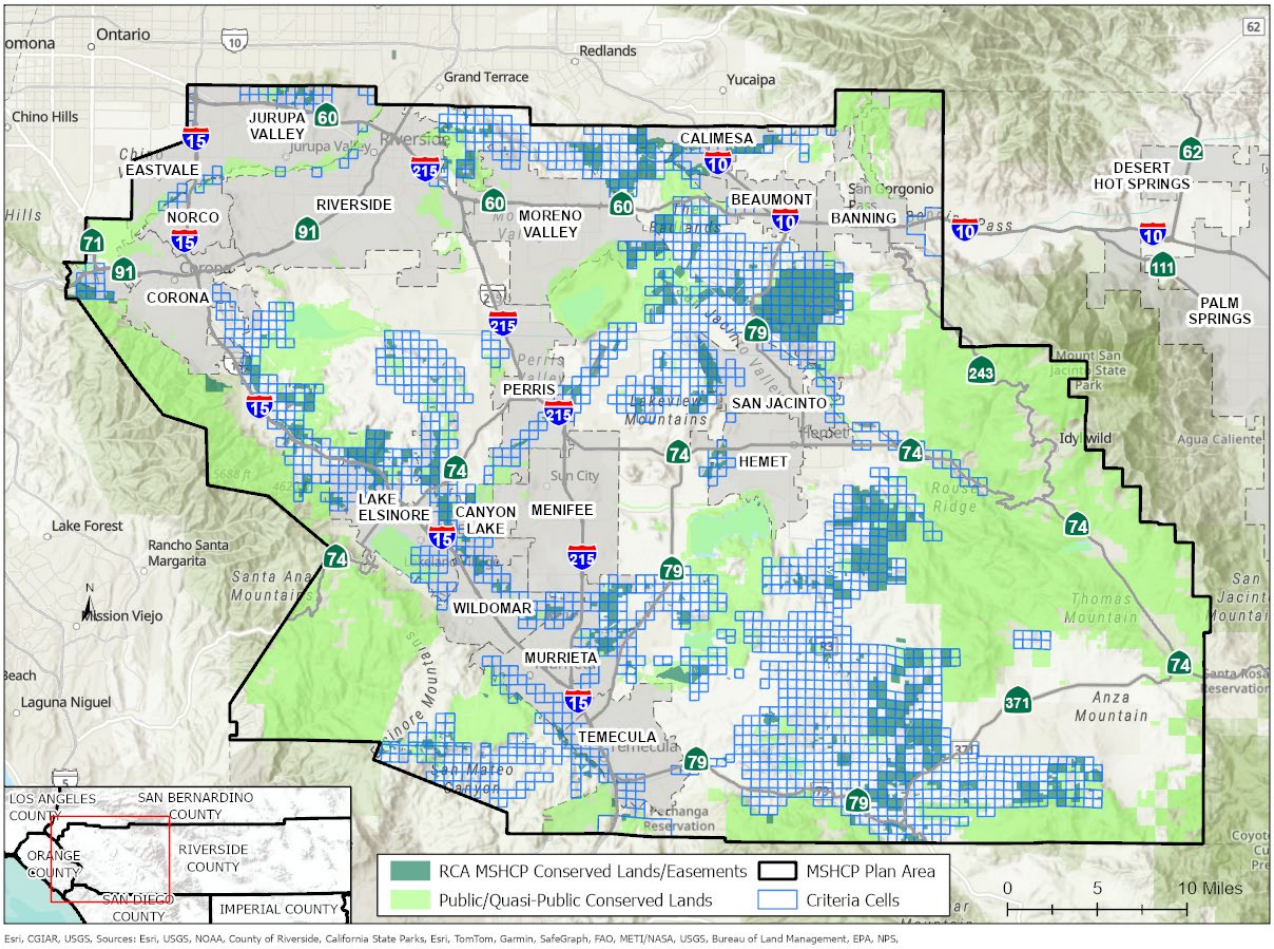
The Plan Area includes diverse landscapes from urban cities to undeveloped foothills and montane forests. Bioregions within the Plan Area include portions of the Santa Ana Mountains, Riverside Lowlands, San Jacinto Foothills, San Jacinto Mountains, Agua Tibia Mountains, Desert Transition, and San Bernardino Mountains (Figure 1-1).

**Figure 1-1. MSHCP Plan Area and Bioregions**




The MSHCP calls for the conservation and management of approximately 500,000 acres of the 1.3-million-acre Plan Area. Of the 500,000 acres, 347,000 acres were in Public/Quasi-Public (PQP) ownership at the time the Plan was adopted (Figure 1-2). The 347,000 acres include national forests, state parks, county parks, nature reserves, and state wildlife areas. The remaining 153,000 acres of Additional Reserve Lands (ARL) are being acquired by the RCA and the Local Permittees (97,000 acres) (County of Riverside, 18 cities, Riverside County Flood Control and Water District, Riverside County Regional Parks and Open Space District, Riverside County Department of Waste Resources, Riverside County Transportation Commission [RCTC], and the Western Riverside County Regional Conservation Authority [RCA]), California Department of Transportation (3,000 acres), California Department of Parks and Recreation (3,000 acres), and CDFW and USFWS (50,000 acres combined). The acquisition of the 153,000 acres of ARL has been ongoing since 2000 (prior to Plan approval).

**Figure 1-2. MSHCP Public/Quasi-Public Conserved Lands and Additional Reserve Lands**




The RCA administers the MSHCP along with the other Permittees (e.g., County of Riverside, 18 cities). The RCA is a Joint Powers Authority (JPA) responsible for acquiring ARL, monitoring the 500,000-acre Reserve, managing the RCA-owned ARL, overseeing Plan compliance, and assisting Permittees with MSHCP implementation.

## 1.2. Reporting Requirements

The MSHCP requires the RCA prepare and submit a report of its annual activities. **This report provides a summary of MSHCP implementation activities for the 20th full year of RCA operation: January 1, 2024 through December 31, 2024.**

Per the MSHCP, the annual report must include a description of:

- Reserve assembly activities and compliance with Rough Step as calculated using the formula presented in *Section 6.7* of the MSHCP (Volume 1) and as revised in Minor Amendment 2007-01. Rough Step is a tool to help direct conservation as development occurs. It is a tracking tool to ensure that development does not proceed at a pace that would preclude achieving the conservation goals for specific key vegetation communities within the Plan Area. Refer to Section 4.0 for more information.
- The number of acres authorized for disturbance and the number of acres conserved within the Criteria Area. This allows the RCA and Permittees to determine the rate of development and conservation occurring in the geographic areas described for conservation. Refer to Sections 2.0 and 3.0 for more information.
- New single-family and mobile home activity on existing parcels of land within the Criteria Area for the reporting year and cumulatively occurring under the Expedited Review Process (ERP) for these activities presented in *Section 6.1.1* of the MSHCP (Volume 1). Applications for a single-family home grading permit or for a mobile home site preparation permit on existing parcels of land within the Criteria Area are compared with the MSHCP conservation criteria to determine the least-sensitive location for the building pad and necessary access roadways. This review process is referred to as the ERP and, with approval under this process, applicable properties are referred to as "ERPs." The MSHCP included ERP activity assumptions (i.e., number of permits and acres disturbed) (*Section 7.3.2* of the MSHCP, Volume 1). The annual reporting process is used to determine whether ERP activity is occurring in a manner that is consistent with the assumptions made during MSHCP development. Furthermore, an analysis of ERP activity allows the RCA to determine if Reserve Assembly within the Criteria Area is being adversely impacted by ERPs. Refer to Section 4.1 for more information.
- New or expanded commercial agricultural operations within the Criteria Area for the reporting year and cumulatively occurring under the processes identified in *Section 6.2* of the MSHCP (Volume 1). Existing agricultural uses and conversion of natural lands to agricultural use are allowed as Covered Activities within the Criteria Area in *Section 7.3.3* of the MSHCP (Volume 1). New conversions to agricultural use within the Criteria Area are covered up to an established threshold of 10,000 acres over the life of the Plan. The annual reporting process is used to periodically measure new commercial agricultural activities against the 10,000-acre threshold, and to analyze potential impacts to Reserve Assembly associated with these new agricultural activities. Refer to Section 3.0 for more information.

- Minor Administrative/Clerical Amendments approved in accordance with the procedures described in *Section 6.10.2* of the MSHCP (Volume 1). The annual report provides a method to officially document such amendments. Refer to Section 5.0 for more information.
- Ongoing management and monitoring activities highlighting issues of concern and proposed remedies/actions. Refer to Sections 7.0 and 8.0 for more information.

## 1.3. Methods

RCA staff work with each member agency (the 18 cities and County of Riverside) to build a Geographic Information System (GIS) database of relevant conservation and development activity, which is used to calculate performance measures. For annual reporting purposes, conservation is counted as a gain when acquired through transfer of title, recordation of conservation easement, or conservation through a Memorandum of Understanding (MOU) with an entity that will manage their property pursuant to the terms of the MSHCP. This annual report presents the year 2024 and cumulative gains in conservation between February 2000 and December 31, 2024.

Development losses are counted at the time of grading permit issuance. This annual report presents year 2024 and cumulative losses between June 22, 2004, and December 31, 2024. As stated above, losses are usually counted relatively early in the development process (at time of grading permit issuance), and gains may be counted at the end of the development process (generally at time of fee title transfer or conservation easement recordation at the County Recorder's Office; time of occupancy). Because of this, the amount of habitat losses may appear greater as they are reported before the habitat gains can be reported to offset those losses.

# 2.0 HABITAT GAINS

Habitat gains are permanently conserved lands pursuant to the Plan and specifically count toward the protection of 153,000 acres of ARL being assembled from a variety of sources including:

- Private land acquisitions through the Habitat Acquisition Negotiation Strategy (HANS) process;
- Acquisitions from willing sellers;
- Donations of fee title or conservation easements; and
- Entities with conservation lands managed pursuant to the MSHCP with a MOU between the entity and the RCA.

The 500,000-acre MSHCP reserve will be completed once 153,000 acres of ARL are protected, in addition to the 347,000 acres of PQP that became part of the MSHCP reserve at inception of the Plan. ARL is managed specifically for species and habitats while PQP lands can have multiple management foci, such as passive recreation and conservation. The MSHCP allows passive recreation on trails, but with the focus on species and habitat management in perpetuity.

Cumulative habitat gains (or conservation) are reported from the period February 2000 through December 31, 2024. February 2000 is used as the start of the gain reporting period because in anticipation of MSHCP permit issuance, the County, CDFW, California Department of Parks and Recreation, and the USFWS began an early, aggressive campaign to assemble ARL prior to Plan permit issuance.

Conservation occurs within the Criteria Area, comprised of Criteria Cells. The MSHCP provides conservation criteria to guide the reserve assembly process to ensure the ultimate reserve achieves the 146 species objectives required by the MSHCP. Each Criteria Cell is approximately 160 acres in size (one quarter section; a tract of land that is half a mile square and contains 160 acres in the U.S. government system of land surveying).

In 2012, the RCA in consultation with the Wildlife Agencies (CDFW, USFWS), developed a policy for determining when lands outside of Criteria Cells can count as ARL. The policy allows conserved lands outside Criteria Cells to be counted as ARL under certain circumstances with Wildlife Agency concurrence. In general, the lands must be biologically valuable and occur directly adjacent to existing ARL or PQP. This policy created a pathway for valuable habitat outside of the Criteria Area to contribute toward achieving MSHCP habitat protection goals.

## 2.1. Conservation Summary

In 2024, a total of 2,409 acres of ARL were acquired, donated, or obtained through the local development process and state and federal grant funding. Cumulatively, as of December 31, 2024, a total of 70,502 acres of ARL have been conserved for purposes of habitat and species conservation. *Table 2-1, MSHCP Conservation Summary by Year*, provides a snapshot of the annual conservation activity completed through December 31, 2024.

**Table 2-1**

**MSHCP Conservation Summary by Year**

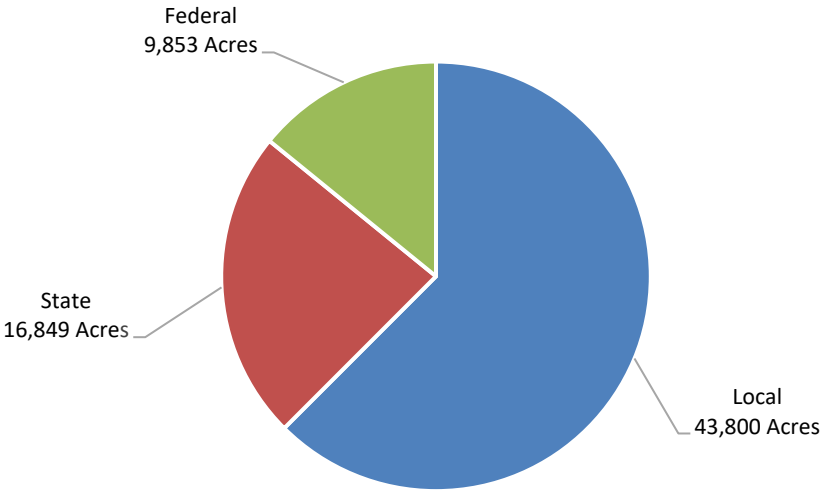
| Time Period | ARL Acres Reported in Annual Reports | Reconciled ARL Acres Conserved by Year |
|---|---|---|
| February 2000 – June 22, 2004 | 17,901* | 16,939 |
| June 22, 2004 – December 31, 2004 | 1,370* | 1,308 |
| January 1, 2005 – December 31, 2005 | 4,112* | 4,025 |
| January 1, 2006 – December 31, 2006 | 9,873* | 9,854 |
| January 1, 2007 – December 31, 2007 | 3,687* | 3,683 |
| January 1, 2008 – December 31, 2008 | 4,077* | 4,083 |
| January 1, 2009 - December 31, 2009 | 1,712* | 1,712 |
| January 1, 2010 – December 31, 2010 | 1,431* | 1,431 |
| January 1, 2011 – December 31, 2011 | 1,664* | 1,664 |
| January 1, 2012 – December 31, 2012 | 1,075 | 1,073 |
| January 1, 2013 – December 31, 2013 | 1,085 | 1,085 |
| January 1, 2014 – December 31, 2014 | 1,842* | 1,836 |
| January 1, 2015 – December 31, 2015 | 1,186 | 1,186 |
| January 1, 2016 – December 31, 2016 | 4,799 | 4,797 |
| January 1, 2017 – December 31, 2017 | 3,586 | 3,591 |
| January 1, 2018 – December 31, 2018 | 2,066 | 2,065 |
| January 1, 2019 – December 31, 2019 | 1,481 | 1,481 |
| January 1, 2020 – December 31, 2020 | 981 | 981 |
| January 1, 2021 – December 31, 2021 | 1,325 | 1,320 |
| January 1, 2022 – December 31, 2022 | 2,470 | 2,470 |
| January 1, 2023 – December 31, 2023 | 1,508 | 1,508 |
| January 1, 2024 – December 31, 2024 | 2,409 | 2,409 |
| **Adjusted Total**** | **71,640** | **70,502** |

* The acres reported as conserved have been refined, which resulted in minor changes from the reported totals in previous annual reports. The changes are mainly due to accounting for some lands that were acquired outside of Criteria Cells and corrections to acreage totals for selected acquisitions.

** Totals may not add up due to rounding.

As the MSHCP was being developed, it was understood that many of the MSHCP covered species and associated sensitive habitats occurred on federal and state lands (e.g., national forests, state parks). For these reasons, these lands were included in the 347,000 acres of PQP at the time of Plan inception. However, as described above, the Plan requires an additional 153,000 acres of ARL. These ARL gains are shared amongst the federal, state, and local permittees with the federal and state shared contribution being 56,000 acres and the local contribution being 97,000 acres. The contributions by federal, state, and local entities are shown in *Figure 2-1, Total Cumulative Acreage Contribution by Federal, State, and Local Jurisdictions*.

**Figure 2-1****
**Total Cumulative Acreage Contributions**
**Federal, State, and Local Jurisdictions**




**Totals may not add up due to rounding.

As of December 31, 2024, the federal agencies contributed 9,853 acres and the state agencies contributed 16,849 acres toward the 153,000-acre ARL conservation goal. The state contribution includes 3,000-acres from the California Department of Transportation. Local permittees contributed 43,800 acres toward the ARL conservation goal.

## 2.2. Conservation by Jurisdiction

The MSHCP has metrics to measure Plan performance within local government jurisdictions (cities, unincorporated County of Riverside). *Table 2-2, Conservation Targets by Jurisdiction,* provides a conservation summary for 2024, as well as cumulative conservation by jurisdiction (from February 2000 through 2024). New cities and annexations do not have goals under *Section 3.3* of the MSHCP (Volume 1) and instead inherit the goals of individual criteria cells that fall within their City jurisdiction, if any.

**Table 2-2**

**Conservation (ARL) Targets by Jurisdiction**

| Jurisdiction | Low End Acres of Goals | High End Acres of Goals | Total ARL Acres Conserved in 2024 | Total ARL Acres Conserved between February 2000 and December 31, 2024* |
|---|---|---|---|---|
| Banning | 50 | 90 | 0 | 0 |
| Beaumont | 5,440 | 9,060 | 0 | 8,123 |
| Calimesa | 1,240 | 2,240 | 0 | 2,336 |
| Canyon Lake | 30 | 50 | 0 | 0 |
| Corona | 330 | 610 | 0 | 367 |
| Eastvale* (incorporated 2010) | -- | -- | 0 | 100 |
| Hemet | 620 | 1,000 | 10 | 395 |
| Jurupa Valley* (incorporated 2011) | -- | -- | 73 | 586 |
| Lake Elsinore | 4,830 | 7,870 | 77 | 3,911 |
| Menifee* (incorporated 2008) | -- | -- | 0 | <1 |
| Moreno Valley | 80 | 130 | 0 | 1,040 |
| Murrieta | 1,580 | 3,200 | 0 | 1,470 |
| Norco | 60 | 140 | 0 | 42 |
| Perris | 720 | 1,400 | 0 | 182 |
| Riverside | 55 | 125 | 0 | 132 |
| San Jacinto | 1,580 | 2,680 | 0 | 1,130 |
| Temecula | 600 | 1,380 | 0 | 144 |
| Wildomar* (incorporated 2008) | -- | -- | 0 | 862 |
| Unincorporated, County of Riverside | 107,265 | 159,800 | 2,249 | 49,683 |
| **Totals**** | **124,480** | **189,775** | **2,409** | **70,502** |

* Acquisition goals have not been calculated for cities incorporated since 2004 but remain in County of Riverside goals. Overall reserve assembly goals by Area Plan, Cell Group, and Cell remain and affect newly incorporated cities as applicable.

** Totals may not add up due to rounding.

## 2.3. Conservation by Area Plan

The MSHCP uses 16 Area Plans as a performance measure to monitor success of overall Plan implementation. Area Plans are County planning units that augment the Riverside County General Plan. *Table 2-3, ARL Conservation Goals by Area Plan,* provides a summary of ARL conservation achieved through 2024 (February 2000 to December 31, 2024) by Area Plan, and the target conservation acreages identified for each Area Plan in *Section 3.3* of the MSHCP (Volume 1). In this section of the MSHCP, the target conservation acreages included an overall target conservation acreage that included both PQP lands plus ARL. The low- and high-range targets included in *Table 2-3* reflect only the ARL targets, rather than the overall Area Plan targets. This distinction, for annual reporting purposes, is an additional check-and-balance mechanism for ARL assembly. As described earlier in this report, only ARL is being acquired for reserve assembly. PQP land was incorporated into the MSHCP reserve at the inception of the Plan and is not a measure of MSHCP performance.

**Table 2-3**
**ARL Conservation Goals by Area Plan**

| Area Plan | Low End Acres of Goal | High End Acres of Goal | Total ARL Acres Conserved in 2024 | Total ARL Acres Conserved between February 2000 and December 31, 2024 |
|---|---|---|---|---|
| Eastvale | 145 | 290 | 0 | 107 |
| Elsinore | 11,700 | 18,515 | 322 | 7,742 |
| Harvest Valley/Winchester | 430 | 605 | 0 | 286 |
| Highgrove | 345 | 675 | 0 | 474 |
| Jurupa | 890 | 1,870 | 73 | 636 |
| Lake Mathews/Woodcrest | 3,215 | 5,470 | 0 | 1,025 |
| Lakeview/Nuevo | 6,650 | 10,235 | 356 | 1,858 |
| Mead Valley | 1,885 | 3,635 | 0 | 225 |
| Reche Canyon/Badlands | 10,520 | 15,610 | 642 | 7,492 |
| REMAP | 41,400 | 58,470 | 80 | 21,219 |
| Riverside/Norco | 90 | 240 | 0 | 77 |
| San Jacinto Valley | 11,540 | 19,465 | 68 | 8,059 |
| Sun City/Menifee Valley | 1,120 | 1,585 | 0 | 528 |
| Southwest | 22,500 | 36,360 | 197 | 6,787 |
| Temescal Canyon | 3,485 | 5,800 | 670 | 2,799 |
| The Pass | 8,540 | 13,925 | 0 | 11,187 |
| **Total*** | **124,455** | **192,750** | **2,409** | **70,502** |

* Totals may not add up due to rounding.

## 2.4. Conservation and Acquisition Challenges

The RCA, in conjunction with the Permittees, continues to focus its acquisition and conservation efforts toward meeting Rough Step and ARL goals. The RCA and Member Agencies strive to gain ARL at the rate of development and to gain the ARL in-step with vegetation community losses as calculated by the Rough Step analysis. This can be a difficult balance given the nature of acquisition funding. For example, acquisitions triggered through the development HANS process are contingent upon a development project's timeline. The RCA's ability to acquire land also depends upon Local Development Mitigation Fee (LDMF) revenue, which is heavily influenced by the pace of development and economic conditions affecting housing and commercial development markets in the region. The RCA also works with non-development HANS applicants and willing sellers; acquisition through these pathways is similarly influenced by the LDMF revenue. Additionally, there is the need to assemble linkages and constrained linkages, which do not always improve the Rough Step balance but is a requirement of the MSHCP. The RCA continues to work with local Permittees on obtaining donations through the land development process. For details on Rough Step, refer to Section 4 of this report.

## 2.5. Development Projects and Future Conservation

The HANS process, described in *Section 6.1.1* of the MSHCP (Volume 1) and the Joint Project Review (JPR) process, described in *Section 6.6.2.E* of the MSHCP (Volume 1), provides for a review of development projects proposed in Criteria Cells for consistency with the MSHCP. The HANS and JPR performed by the Member Agencies and the RCA, respectively, for proposed development projects are used to determine the impacts to MSHCP covered resources and what land, if any, needs to be conserved as ARL. The HANS/JPR process is essentially the only process whereby projects are reviewed for reserve assembly (ARL contribution).

Every proposed project triggering a discretionary action under CEQA that occurs in a Criteria Cell that goes through the approval process at a Permittee (i.e., Member Agency) planning department must go through HANS. Once the Member Agency finds the project consistent with the MSHCP, the Member Agency sends the project's JPR application to the RCA. This triggers the JPR process that is performed by the RCA. Once the RCA completes its consistency findings, the RCA sends the JPR application and findings to the Wildlife Agencies (USFWS, CDFW) for their JPR. Once the Wildlife Agencies complete their consistency findings, the project has completed the MSHCP consistency process (Figure 2-2). Projects that need to support reserve assembly (conservation of lands) will be conditioned to do so by the Member Agency. Proposed projects outside of Criteria

Cells do not go through the HANS/JPR process; rather, the Member Agency, without RCA's involvement, performs the MSHCP consistency review (without reserve assembly).

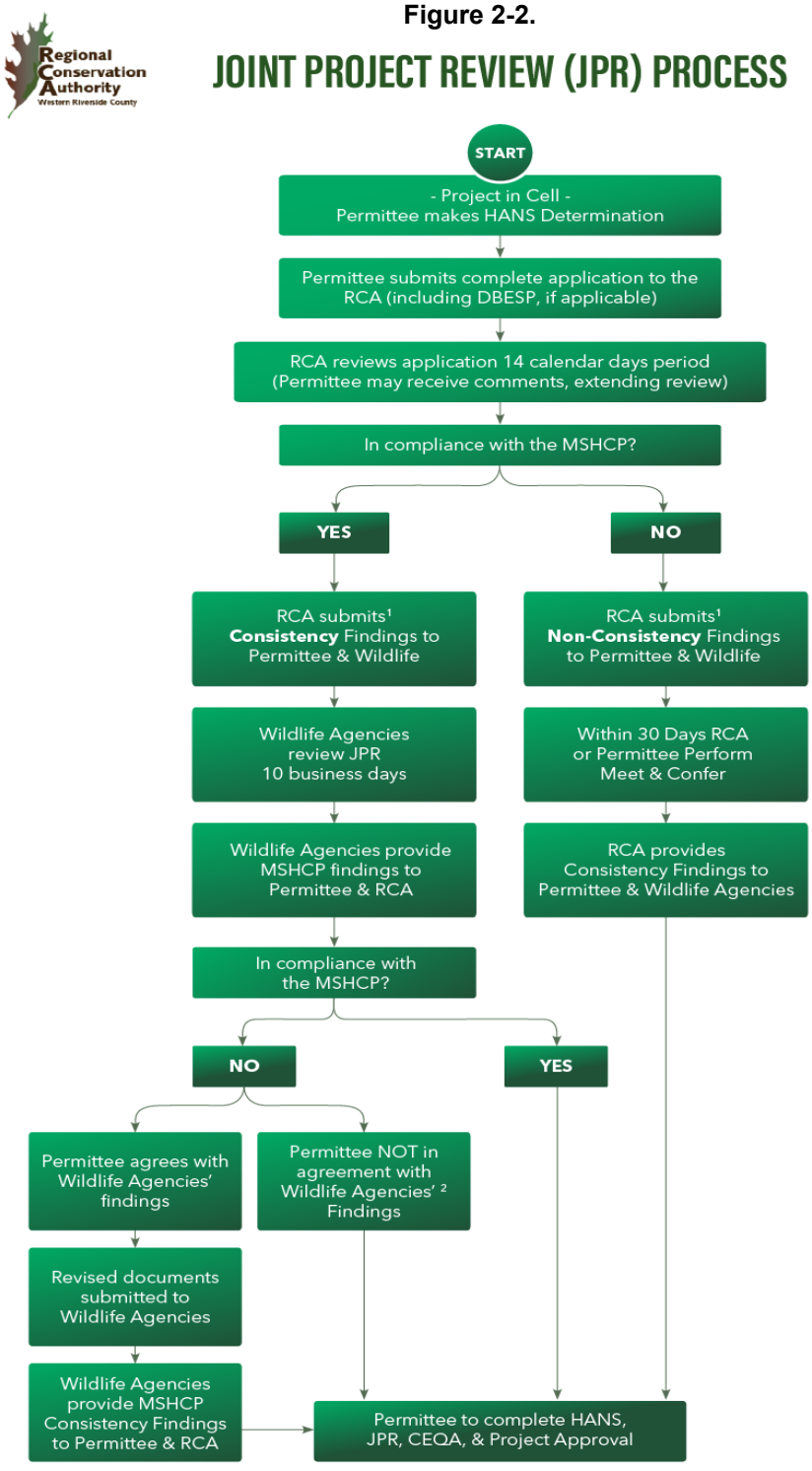
The MSHCP envisioned a total of 41,000 acres to be conserved as ARL through dedications (via zero-cash transactions) from development projects. The MSHCP projected approximately 1,640 acres would be conserved via dedication through the development process, annually. In retrospect, this was an overestimate and did not account for the extended time between development project approvals and commencement of construction, or the use of fee credits. The 2020 Nexus Fee Study lowered the estimate and assumes an additional (i.e., in addition to the less than 1,000 acres dedicated to the MSHCP reserve at the time of the Nexus Fee Study) 10,000 acres of land will be dedicated to the MSHCP reserve.

During the HANS/JPR review process, a development footprint and proposed areas for conservation are designated within the project area for each project. These designated areas are documented in a JPR database as Proposed MSHCP Conservation Lands and Proposed MSHCP Conservation Easements. The JPR database also includes projects that were designated as 100% conservation.

As of December 31, 2024, a total of 13,000 acres are currently designated through the HANS/JPR process as Proposed MSHCP Conservation Lands. In 2024, 23 JPRs were initiated with the RCA and the RCA completed 27 JPRs[1], resulting in 309 acres of Proposed MSHCP Conservation Lands. These future conservation lands will generally be conserved when project applicants are granted permits (e.g., grading, building) by the Member Agency with jurisdiction. Some projects that include areas of conservation may not be completed for a considerable amount of time.

[1] Completed JPRs may include those initiated in 2024 or prior to 2024.

**Figure 2-2.**




[1]=Findings include all project documentation including a DBESP (Determination of Biologically Equivalent or Superior Preservation) Report, if applicable. For the DBESP, the Wildlife Agencies have 60 calendar days to review and provide comments to the Permittee. The Permittee determines whether additional revisions to the project occurs in order to meet concurrence with the Wildlife Agencies on the DBESP.
[2]=Wildlife Agencies can request an Informal Meet and Confer with Permittee to address inconsistency finding.

# 3.0 HABITAT LOSSES

Habitat is lost to residential and commercial development, construction of infrastructure, and other activities that are reviewed by Permittees for MSHCP consistency. The tracking of habitat losses began on June 22, 2004, when MSHCP state and federal permits were issued.

## 3.1 Permittee Development Activities

The Plan Area is 1.3 million acres in size, with approximately 300,000 acres within the Criteria Area (where the 153,000-acre ARL is envisioned to be assembled). The MSHCP assumed a portion of the Criteria Area would be developed and that the remainder, 153,000 acres, would be conserved as ARL. Refer to Figure 1-2 in Section 1 for the distribution of Criteria Area (in the form of Cells) within the Plan Area. In 2024, a total of 2,361 acres were approved for development with 2,040 acres of habitat lost outside the Criteria Area and 321 acres of habitat lost within the Criteria Area (Criteria Cells). *Table 3-1, Habitat Loss by Jurisdiction (January 1, 2024 – December 31, 2024),* and *Table 3-2, Cumulative Habitat Losses by Jurisdiction (June 22, 2004 – December 31, 2024)*, provide summaries of the habitat losses that occurred during 2024 and since Plan inception, respectively.

Table 3-1 shows the number of grading/building permits issued by Permittees between January 1 and December 31, 2024, that were analyzed as habitat losses. Multiple types of permits (e.g., building, grading) were issued by the Permittees for various types of land development activities in 2024 and previous years. For MSHCP annual reporting purposes, when multiple permits were issued on one parcel, they were treated as one permit per parcel and counted as one loss in Table 3-1 and Table 3-2. Parcellation of a single property generates a permit for each new parcel created which is reflected in the high number of permits per acre of development in Tables 3-1 and 3-2.

**Table 3-1**
**Habitat Loss by Jurisdiction**
**(New Losses between January 1, 2024 and December 31, 2024)**

| Permittee | Grading/Building Permits Issued | | | |
|---|---|---|---|---|
| | Number of Records Representing Grading/Building Permits Issued | Total Development Acreage | Development Acreage Outside of Criteria Area | Development Acreage within Criteria Area |
| Banning | 6 | 60 | 60 | 0 |
| Beaumont | 21 | 5 | 5 | 0 |
| Calimesa | 4 | 2 | 2 | <1 |
| Canyon Lake | 6 | 1 | 1 | 0 |
| Corona | 89 | 51 | 51 | <1 |
| Unincorporated County of Riverside | 344 | 1,059 | 764 | 294 |
| Eastvale (incorporated 2010) | 86 | 147 | 147 | <1 |
| Hemet | 61 | 20 | 20 | 0 |
| Jurupa Valley (incorporated 2011) | 20 | 38 | 35 | 2 |
| Lake Elsinore | 13 | 8 | 8 | 0 |
| Menifee (incorporated 2008) | 111 | 265 | 265 | 0 |
| Moreno Valley | 147 | 366 | 366 | 0 |
| Murrieta | 12 | 28 | 12 | 15 |
| Norco | 25 | 20 | 19 | 1 |
| Perris | 25 | 90 | 90 | 0 |
| Riverside | 225 | 119 | 118 | <1 |
| San Jacinto | 2 | 2 | 2 | 0 |
| Temecula | 17 | 48 | 43 | 6 |
| Wildomar (incorporated 2008) | 98 | 34 | 32 | 2 |
| **Total*** | **1,312** | **2,362** | **2,040** | **321** |
| **% Total Development Acreage** | | **100%** | **86%** | **14%** |

* All numbers have been rounded to nearest integer. As a result, sum of columns may deviate from total.

**Table 3-2**
**Cumulative Habitat Losses by Jurisdiction**
**(June 22, 2004 – December 31, 2024)**

| Permittee | Grading/Building Permits Issued | | | |
|---|---|---|---|---|
| | Number of Records Representing Grading/Building Permits Issued | Total Development Acreage | Development Acreage Outside Criteria Area | Development Acreage Inside Criteria Area |
| Banning | 260 | 1,181 | 1,181 | 0 |
| Beaumont | 3,767 | 3,788 | 3,217 | 571 |
| Calimesa | 243 | 662 | 553 | 109 |
| Canyon Lake | 241 | 68 | 67 | 1 |
| Corona | 1,071 | 2,644 | 2,352 | 293 |
| Unincorporated County of Riverside | 16,412 | 51,053 | 37,254 | 13,799 |
| Eastvale (incorporated 2010) | 3,012 | 3,652 | 3,493 | 159 |
| Hemet | 1,162 | 3,381 | 3,260 | 121 |
| Jurupa Valley (incorporated 2011) | 2,218 | 3,411 | 2,969 | 442 |
| Lake Elsinore | 1,902 | 3,595 | 2,029 | 1,567 |
| Menifee (incorporated 2008) | 4,942 | 6,835 | 6,823 | 11 |
| Moreno Valley | 788 | 4,995 | 4,951 | 44 |
| Murrieta | 983 | 3,147 | 1,951 | 1,196 |
| Norco | 346 | 816 | 781 | 35 |
| Perris | 935 | 3,915 | 3,728 | 187 |
| Riverside | 3,096 | 3,786 | 3,761 | 25 |
| San Jacinto | 658 | 2,311 | 2,038 | 273 |
| Temecula | 1,978 | 2,539 | 2,115 | 424 |
| Wildomar (incorporated 2008) | 1,613 | 1,791 | 1,627 | 164 |
| **Total*** | **45,627** | **103,572** | **84,150** | **19,421** |
| **% Total Development Acreage** | | **100%** | **81%** | **19%** |

* All numbers have been rounded to nearest integer. As a result, sum of columns may deviate from total.

In 2024, 86% (Table 3-1) and cumulatively, 81% (Table 3-2) of the development occurred outside of the Criteria Area, which means most losses are not occurring within the area reviewed and considered for Conservation.

## 3.2 Development Activities by Area Plan

The MSHCP uses 16 Area Plans as a performance measure to monitor success of overall Plan implementation. The Area Plans are County planning units that augment the Riverside County General Plan (*Figure 3-1. Area Plan Boundaries within the MSHCP*). Losses from development within each Area Plan are summarized in *Table 3-3, Habitat Losses by Area Plan (New Losses between January 1, 2024 and December 31, 2024)* and *Table 3-4, Habitat Losses by Area Plan Cumulative (June 22, 2004 – December 31, 2024)*. Although development within each Area Plan has occurred mostly outside of the MSHCP Criteria Area, a substantial percent of development has occurred cumulatively in the Criteria Area within the boundaries of the Highgrove and REMAP (Riverside Extended Mountain Area Plan) Area Plans (Table 3-4).

**Figure 3-1. Area Plan Boundaries within the MSHCP**

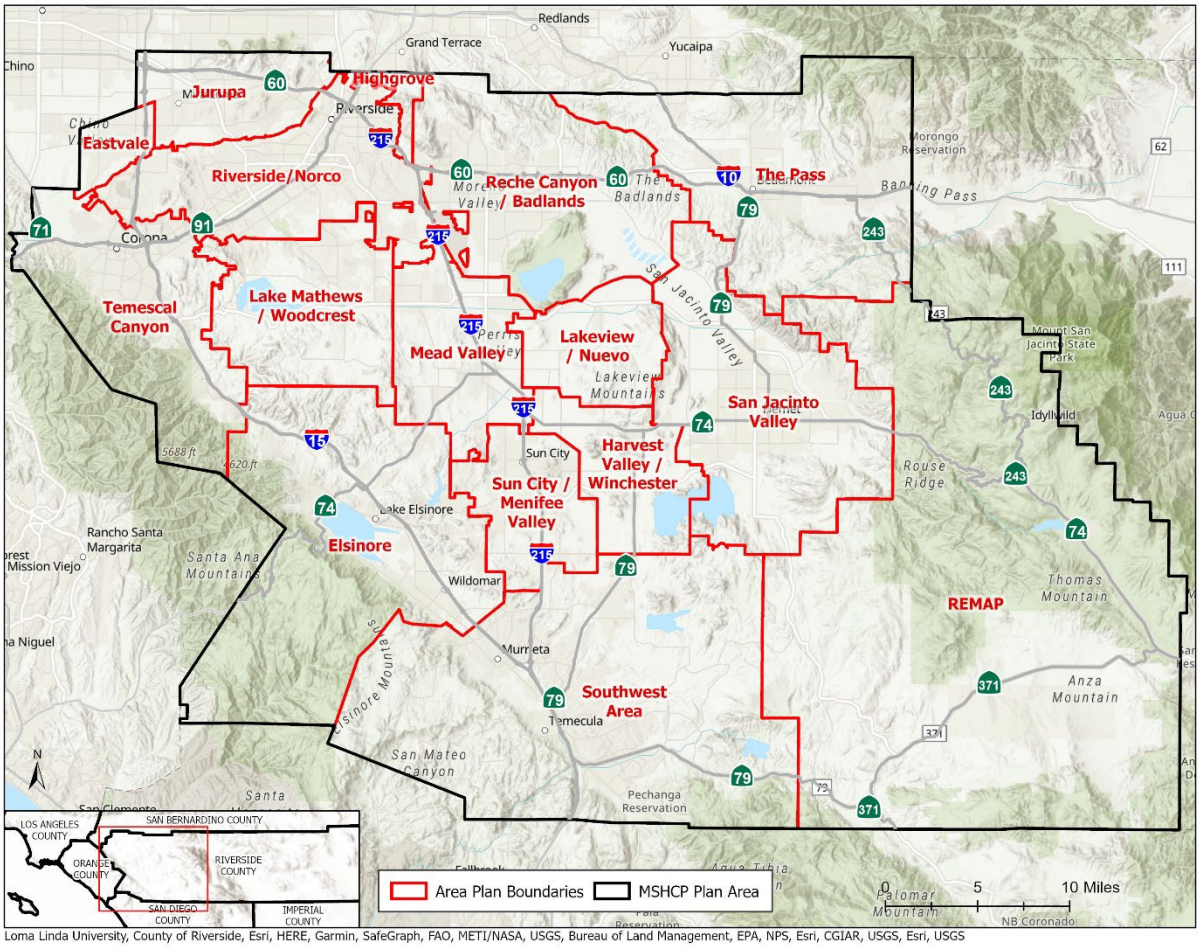


**Table 3-3**

**Habitat Losses by Area Plan**

**(New Losses between January 1, 2024 and December 31, 2024)**

| Area Plan | January 1, 2024 and December 31, 2024 | | | |
|---|---|---|---|---|
| | Total Acres Approved for Development | Acres Approved for Development Outside Criteria Area | Approved for Development Inside Criteria Area | % Approved for Development Inside Criteria Area** |
| Eastvale | 147 | 147 | 0 | 0 |
| Elsinore | 99 | 57 | 42 | 42% |
| Harvest Valley/Winchester | 95 | 95 | 0 | 0% |
| Highgrove | 21 | 21 | 0 | 0% |
| Jurupa | 38 | 35 | 2 | 5% |
| Lake Mathews/Woodcrest | 91 | 90 | 0 | 0% |
| Lakeview/Nuevo | 132 | 99 | 33 | 25% |
| Mead Valley | 159 | 137 | 22 | 14% |
| Reche Canyon/Badlands | 370 | 366 | 4 | 1% |
| REMAP | 167 | 70 | 97 | 58% |
| San Jacinto Valley | 54 | 35 | 19 | 35% |
| Southwest | 343 | 244 | 100 | 29% |
| Sun City/Menifee Valley | 265 | 265 | 0 | 0% |
| Temescal Canyon | 55 | 55 | <1 | <1% |
| The Pass | 231 | 231 | <1 | <1% |
| Riverside/Norco | 95 | 94 | 1 | 1% |
| **Total*** | **2,361** | **2,040** | **321** | **14%***** |

* All numbers have been rounded to nearest integer. As a result, sum of columns may deviate from total.

** (%) equals the percentage of the total approved development that occurs within Criteria Areas by Area Plan.

*** (%) equals percentage of the total approved development within Criteria Area within the entire MSHCP Plan Area.

**Table 3-4**
**Habitat Losses by Area Plan Cumulative**
**(June 22, 2004 – December 31, 2024)**

| Area Plan | June 22, 2004 – December 31, 2024 | | | |
|---|---|---|---|---|
| | Total Acres Approved for Development | Acres Approved for Development Outside Criteria Area | Approved for Development Inside Criteria Area | % Approved for Development Inside Criteria Area** |
| Eastvale | 3,719 | 3,670 | 49 | 1% |
| Elsinore | 7,518 | 5,348 | 2,170 | 29% |
| Harvest Valley/Winchester | 3,507 | 3,493 | 14 | <1% |
| Highgrove | 864 | 355 | 510 | 59% |
| Jurupa | 3,392 | 2,837 | 554 | 16% |
| Lake Mathews/Woodcrest | 4,972 | 4,745 | 226 | 5% |
| Lakeview/Nuevo | 1,857 | 1,335 | 522 | 28% |
| Mead Valley | 6,932 | 6,446 | 486 | 7% |
| Reche Canyon/Badlands | 5,866 | 5,386 | 480 | 8% |
| REMAP | 11,474 | 7,125 | 4,349 | 38% |
| San Jacinto Valley | 7,493 | 6,221 | 1,272 | 17% |
| Southwest | 23,035 | 16,499 | 6,535 | 28% |
| Sun City/Menifee Valley | 6,951 | 6,925 | 26 | <1% |
| Temescal Canyon | 4,965 | 3,838 | 1,127 | 23% |
| The Pass | 7,125 | 6,080 | 1,045 | 15% |
| Riverside/Norco | 3,903 | 3,846 | 56 | 1% |
| **Total*** | **103,571** | **84,150** | **19,421** | **19%***** |

* All numbers have been rounded to nearest integer. As a result, sum of columns may deviate from total.
** (%) equals the percentage of the total approved development that occurs within Criteria Areas by Area Plan.
*** (%) equals percentage of the total approved development within Criteria Area within the entire MSHCP Plan Area.

## 3.3 Agricultural Activities

Existing agricultural uses and conversion of natural lands to agricultural use are Covered Activities under the MSHCP. The MSHCP permits up to 10,000 acres of new agricultural uses within the Criteria Area over the life of the Plan.

The MSHCP defines agricultural operations as production of all plants (horticulture), fish farms, animals, and related production activities, including the planting, cultivation and tillage of the soil, dairying, and apiculture, and the production, plowing, seeding, cultivation, growing, harvesting, pasturing, and fallowing for the purpose of crop rotation of any agricultural commodity, including

viticulture, apiculture, horticulture, and the breeding, feeding, and raising of livestock, horses, fur-bearing animals, fish, or poultry and all uses conducted as a normal part of such operations, provided such actions are in compliance with all applicable laws and regulations. A Settlement Agreement in 2004 between the RCA, County of Riverside, Cities within the MSHCP boundary, and the Riverside County Farm Bureau (refer to Section 3.3.2 for details) clarified when agricultural activities trigger MSHCP compliance or are exempt from the Plan.

The RCA established the existing agricultural operations database and tracks annual losses occurring from new agricultural activities within the Plan Area, as discussed below.

### 3.3.1. Agricultural Grading Permits

Agricultural grading permits are issued by the Riverside County Building and Safety Department. These permits allow conversion of undeveloped land to agricultural uses, as well as additional or new agricultural activities on parcels that had already been in agricultural use. The MSHCP refers to the Agricultural Commissioner processing Certificates of Inclusion (COI) for agricultural activities; however, the County grading ordinance does not require COIs.

Utilizing information provided to the RCA by Permittees, the RCA verified the 14 agricultural grading permits processed in 2024 were within the Plan Area. The grading permits resulted in a combined loss of 254 acres. Cumulative losses since inception of the MSHCP total 148,444 acres (inside and outside Criteria Area), with 3,102 acres of new agriculture approved through either COIs or Agricultural Grading occurring within Criteria Area (Table 3-5) and 6,898 acres remaining of the 10,000-acre agriculture cap.

Further details on the process, procedures, and methods to update the Agricultural Operations Database with the COIs and Agricultural Grading permits for the MSHCP are described in the GIS metadata files. *Table 3-5, Agricultural Grading Summary* presents agricultural activities within the Plan Area. The map and GIS files for the database can be found within Appendix A of this annual report.

**Table 3-5**

**Agricultural Grading Summary**

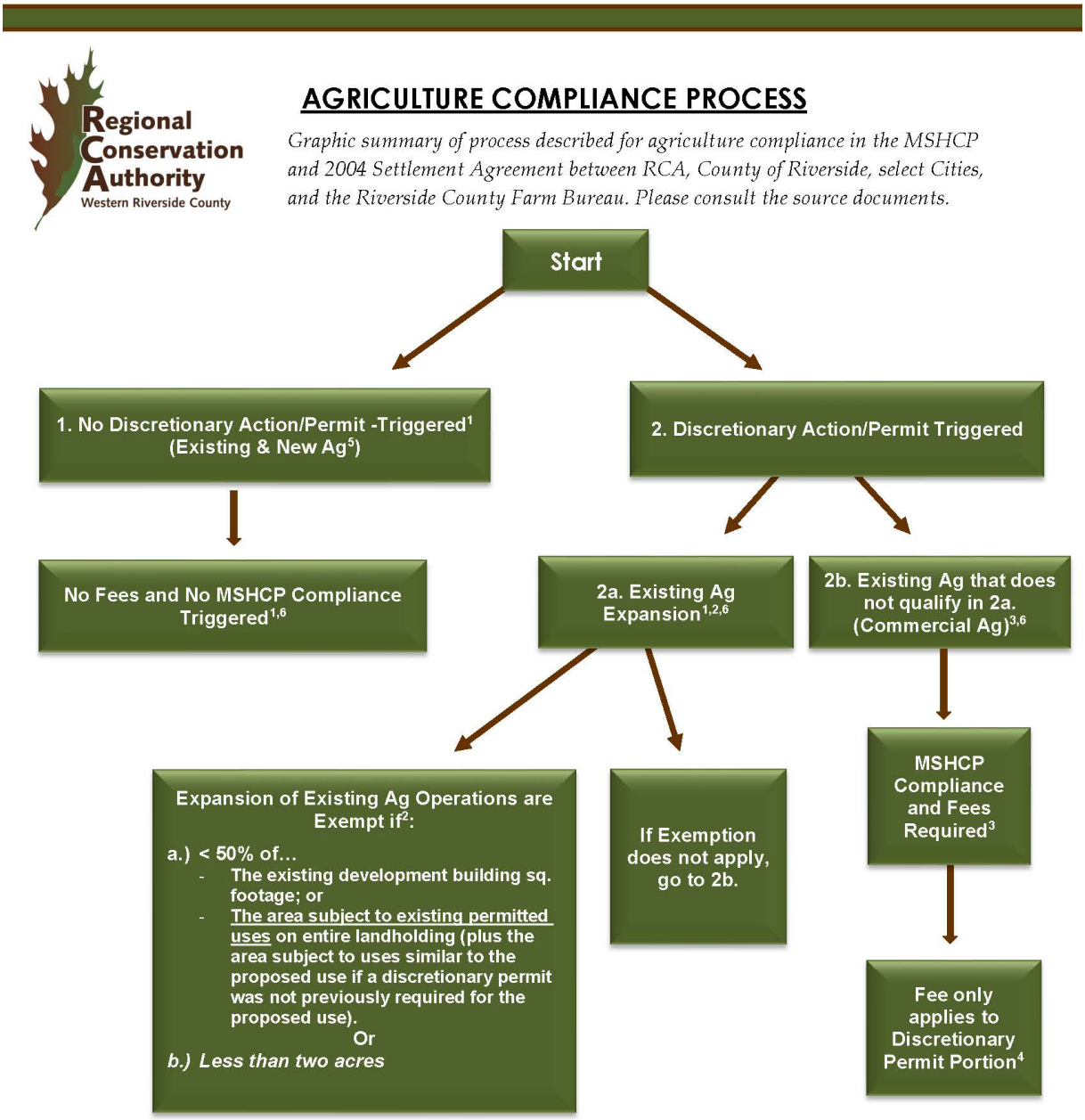
| | Agriculture Grading (Acres) | Count Towards 10,000-Acre MSHCP Agriculture Cap (Acres) |
|---|---|---|
| Since Plan Conception thru 2023 | 148,190 | 3,069 |
| 2024 | 254 | 33 |
| **Total*** | **148,444** | **3,102** |

* All numbers have been rounded to nearest integer. As a result, sum of columns may deviate from total.

### 3.3.2. Agriculture Compliance Process

Agricultural activities not requiring discretionary action or permit from the local land use authority (i.e., city or County of Riverside) are exempt from demonstrating MSHCP compliance (Figure 3-2). This includes new agricultural activities that are not commercial and are proposed on lands zoned for agriculture. In addition, agricultural actions requiring a discretionary action or permit from a Member Agency are exempt from MSHCP compliance if expansion of an existing agricultural operation is either (1) less than 50 percent of the existing development building square footage, or (2) less than 50 percent of the area subject to existing permitted uses on entire landholding, or (3) the expansion is less than two acres (Figure 3-2). All other agricultural activities triggering a discretionary action/permit need to comply with the MSHCP.

**Figure 3-2. Agriculture Compliance Process**




[1]=2004 Settlement Agreement section 2.
[2]=2004 Settlement Agreement sections F.
[3]=2004 Settlement Agreement section G.
[4]=2004 Settlement Agreement exhibit A section F.
[5]=2004 Settlement Agreement exhibit A section D (secondary ag uses on parcels of 5 ac. or less on single-family home lots will not count towards cap.
[6]= 2004 Settlement Agreement exhibit A section A.

# 4.0 ROUGH STEP

This chapter summarizes all habitat conservation and losses within the Criteria Area by means of Rough Step analysis. Rough Step is a MSHCP performance measure used to monitor the pace of conservation of key vegetation communities against the pace of losses of key vegetation communities within the discrete geographic units of the Criteria Area. There are nine Rough Step Units in the MSHCP Plan Area (refer to *Figure 4-1, Western Riverside County MSHCP Rough Step Analysis Units*). Each Rough Step Unit is characterized by similar weather patterns, soils, and geologic conditions to ensure that key, narrowly distributed vegetation communities are representatively conserved throughout the Criteria Area. Each Rough Step Unit includes land within and outside of the Criteria Area. The Rough Step analysis functions as an early warning system to signal where development and loss of the key vegetation communities is outpacing conservation and where future efforts should be focused on conserving those key vegetation communities. Rough Step Units 1 through 8 have Additional Reserve Land conservation goals for key vegetation communities (not all vegetation communities within a Rough Step Unit are tracked in the Rough Step analysis), while Rough Step Unit 9 does not; hence, Rough Step analysis is not performed on Unit 9 and, as such, will not be discussed further.

*Table 4-1, Key Vegetation Community Losses and Gains by Rough Step Unit in 2024*, summarizes how much development (losses) and conservation (gains) has taken place inside the Criteria Area (i.e., areas potentially needed for reserve assembly) during the last year. Note that acreages only include losses and gains for those key vegetation communities tracked within the particular Rough Step Unit.

**Table 4-1**
**Habitat Losses and Gains by Rough Step Unit in 2024**
**(January 1, 2024 through December 31, 2024) (Values in Acres)**

| Rough Step Unit | Size of Rough Step Unit | Total Criteria Area | Gains (Conservation) | Losses (Development) |
|---|---|---|---|---|
| 1 | 93,945 | 9,905 | 741 | 3 |
| 2 | 177,606 | 63,251 | 684 | 5 |
| 3 | 150,086 | 32,892 | 383 | 33 |
| 4 | 212,630 | 108,955 | 100 | 137 |
| 5 | 91,734 | 27,874 | 20 | 15 |
| 6 | 101,542 | 25,954 | 157 | 63 |
| 7 | 130,824 | 28,056 | 1 | 22 |
| 8 | 50,408 | 22,690 | 315 | 41 |
| **Total*** | **1,008,775**** | **319,577** | **2,409** | **321** |

* All numbers have been rounded to the nearest integer. As a result, sum of columns may deviate from total.

** Rough Step Units 1-8 do not encompass the entire Plan Area.

This Annual Report uses the corrected Rough Step formula approved by the Wildlife Agencies (USFWS, CDFW), as well as the changes made to *Table 6-3* of the MSHCP (Volume 1). The formula can be found in Minor Amendment 2007-01 (https://www.wrc-rca.org/Permit_Docs/MSHCP/RCA_2008_AR_Appendix_B_Minor_Amendment_2007-01.pdf).

**Figure 4-1. Western Riverside County MSHCP Rough Step Analysis Units**

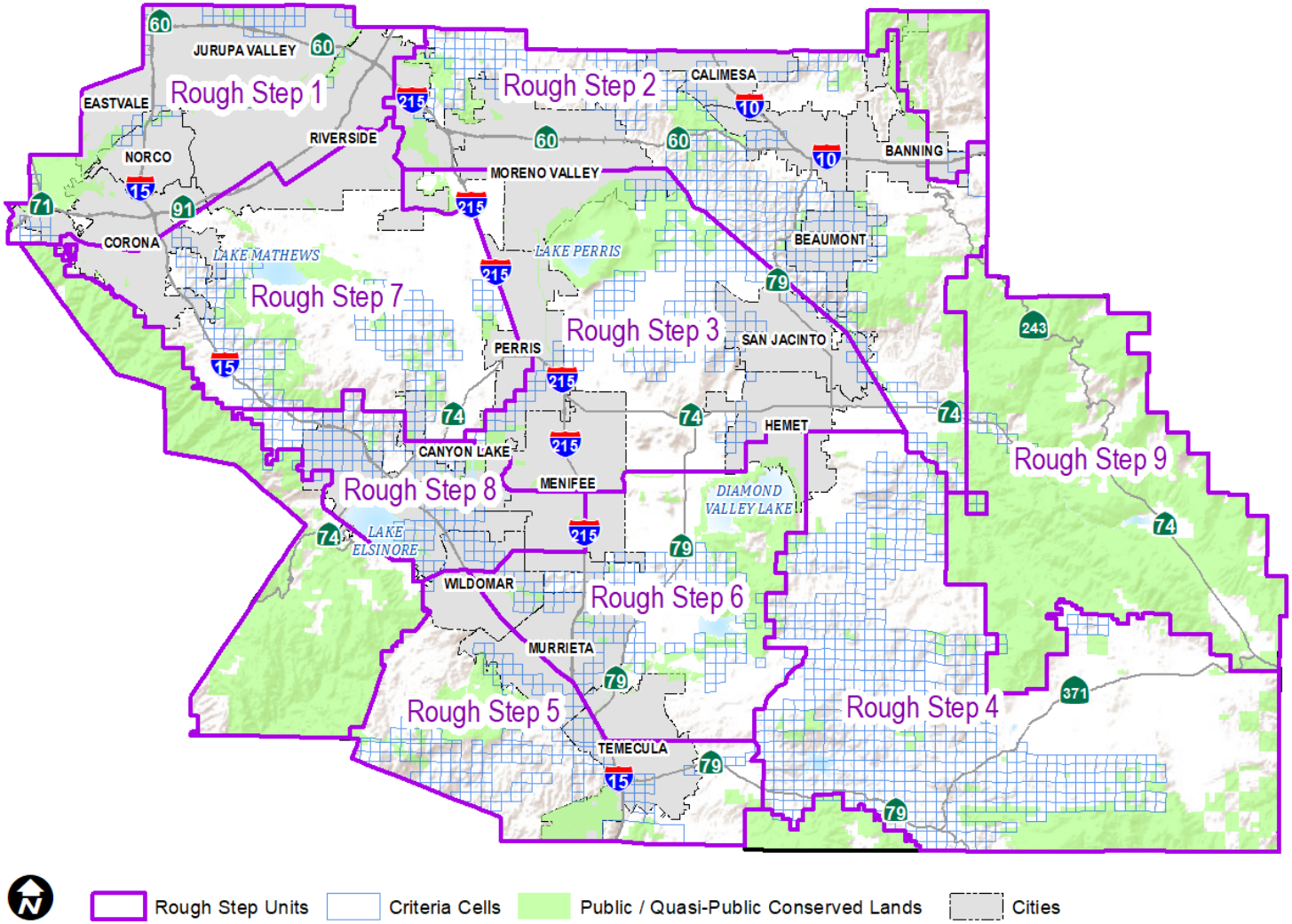


*Table 4-2, Rough Step Acreage Summary,* provides the amount of key vegetation types in the Criteria Area by Rough Step Unit (column 3 [from left to right]) and the Additional Reserve Land conservation goals set by the MSHCP (column 4). Also included are the total amount of each key vegetation community cumulatively conserved through December 31, 2024[1] (column 5) and the total amount of each key vegetation community authorized for development by Permittees (column 7) through HANS/JPR processes. The sixth column shows the amount of allowable development, by key vegetation community, for each Rough Step Unit set by the MSHCP, based on the amount of conservation that has occurred (column 5). Habitat Gains for conservation (column 5) are through December 31, 2024. Allowable development was calculated using losses (derived from grading or building permits) between June 22, 2004 and December 31, 2024. Allowable development, as calculated in Table 4-2, is the amount of allowable development remaining for a key vegetation community given the current (through December 31, 2024) amount of the key vegetation community that has not been permanently impacted. The amount of allowable development changes as additional land containing key vegetation communities are developed. Column 8 shows the difference between the amount of each key vegetation community authorized for development (column 7) and the allowable development calculated using the Rough Step formula (column 6). Where the difference is negative (**red**), the vegetation community would be considered out of Rough Step. Areas of development (losses) that contain tracked key vegetation communities for Rough Step Units 1 through 8 are depicted in Figures 4-2 through 4-9, respectively.

[1] Includes land conserved since February 2000.

**Table 4-2**
**Rough Step Summary (Values in Acres)**

| Rough Step Unit | Vegetation Communities within Rough Step Unit | From *Table 6-3* in the MSHCP** | | Amount Conserved (between February 2000 and December 31, 2024)* | Amount of Allowable Development through December 31, 2024 * | Area Authorized for Development by Cities and the County (between June 22, 2004, and December 31, 2024)* | Area Remaining for Authorized Development (-red denotes out of Rough Step)* |
|---|---|---|---|---|---|---|---|
| | | Vegetation Community within the Criteria Area | Additional Reserve Land Goal for the Vegetation Communities | | | | |
| 1 | Coastal Sage Scrub | 1,210 | 930 | 671 | 210 | 61 | +149 |
| | Grassland | 820 | 180 | 75 | 303 | 94 | +209 |
| | Riparian Scrub, Woodland, Forest | 680 | 550 | 153 | 46 | 16 | +29 |
| | **Total*** | **2,710** | **1,660** | **899** | **558** | **171** | **387** |
| 2 | Coastal Sage Scrub | 14,969 | 10,359 | 5,384 | 2,617 | 336 | +2,281 |
| | Grassland | 8,656 | 4,866 | 3,387 | 2,753 | 472 | +2,282 |
| | Riparian Scrub, Woodland, Forest | 590 | 460 | 247 | 76 | 35 | +41 |
| | Riversidean Alluvial Fan Sage Scrub | 1,190 | 1,110 | 633 | 49 | 9 | +40 |
| | Woodland and Forest | 300 | 180 | 130 | 90 | 20 | +70 |
| | **Total*** | **25,705** | **16,975** | **9,781** | **5,585** | **872** | **4,714** |
| 3 | Coastal Sage Scrub | 3,670 | 2,050 | 478 | 502 | 134 | +368 |
| | Grassland | 4,690 | 900 | 211 | 1,180 | 350 | +830 |
| | Playa and Vernal Pool | 4,340 | 3,830 | 1,870 | 275 | 15 | +260 |
| | Riparian Scrub, Woodland, Forest | 220 | 110 | 12 | 22 | 8 | +14 |
| | Riversidean Alluvial Fan Sage Scrub | 190 | 100 | 5 | 13 | 13 | +<1 |
| | **Total*** | **13,110** | **6,990** | **2,577** | **1,993** | **520** | **1,472** |
| 4 | Coastal Sage Scrub | 21,828 | 17,948 | 4,285 | 1,222 | 1,212 | +10 |
| | Desert Scrub | 4,340 | 3,680 | 1,918 | 376 | 159 | +217 |
| | Grasslands | 10,991 | 5,961 | 1,038 | 1,291 | 1,153 | +138 |
| | Riparian Scrub, Woodland, Forest | 1,420 | 1,322 | 159 | 20 | 10 | +10 |
| | Riversidean Alluvial Fan Sage Scrub | 1,169 | 1,099 | 364 | 28 | 23 | +5 |
| | Woodland and Forest | 1,562 | 872 | 225 | 229 | 89 | +140 |
| | **Total*** | **41,310** | **30,882** | **7,989** | **3,166** | **2,646** | **519** |

**Table 4-2**
**Rough Step Summary (Values in Acres)**

| Rough Step Unit | Vegetation Communities within Rough Step Unit | From *Table 6-3* in the MSHCP** | | Amount Conserved (between February 2000 and December 31, 2024)* | Amount of Allowable Development through December 31, 2024 * | Area Authorized for Development by Cities and the County (between June 22, 2004, and December 31, 2024)* | Area Remaining for Authorized Development (-red denotes out of Rough Step)* |
|---|---|---|---|---|---|---|---|
| | | Vegetation Community within the Criteria Area | Additional Reserve Land Goal for the Vegetation Communities | | | | |
| 5 | Coastal Sage Scrub | 1,540 | 370 | 106 | 418 | 214 | +204 |
| | Grasslands | 3,880 | 1,010 | 231 | 878 | 653 | +225 |
| | Riparian Scrub, Woodland, Forest | 550 | 460 | 34 | 15 | 15 | +<1 |
| | Riversidean Alluvial Fan Sage Scrub | 370 | 260 | 20 | 19 | 17 | +2 |
| | Woodlands and Forests | 2,080 | 1,000 | 288 | 388 | 122 | +266 |
| | **Total*** | **8,420** | **3,100** | **679** | **1,717** | **1,020** | **697** |
| 6 | Coastal Sage Scrub | 4,796 | 3,876 | 1,383 | 388 | 310 | +78 |
| | Grassland | 6,188 | 3,688 | 1,267 | 1,023 | 749 | +274 |
| | Riparian Scrub, Woodland, Forest | 268 | 208 | 53 | 20 | 14 | +6 |
| | Woodland and Forest | 140 | 110 | 40 | 13 | 3 | +10 |
| | **Total*** | **11,392** | **7,882** | **2,743** | **1,443** | **1,075** | **368** |
| 7 | Coastal Sage Scrub | 9,222 | 6,772 | 2,333 | 1,005 | 549 | +456 |
| | Grasslands | 3,620 | 1,516 | 399 | 709 | 229 | +480 |
| | Riparian Scrub, Woodland, Forest | 570 | 451 | 166 | 51 | 28 | +23 |
| | Riversidean Alluvial Fan Sage Scrub | 400 | 339 | 131 | 27 | 23 | +4 |
| | Woodlands and Forest | 493 | 333 | 41 | 34 | <1 | +33 |
| | **Total*** | **14,305** | **9,410** | **3,070** | **1,826** | **829** | **997** |
| 8 | Coastal Sage Scrub | 6,400 | 4,940 | 3,424 | 1,057 | 416 | +641 |
| | Grassland | 3,690 | 1,840 | 359 | 510 | 615 | -105 |
| | Riparian Scrub, Woodland, Forest | 280 | 250 | 100 | 14 | <1 | +13 |
| | Riversidean Alluvial Fan Sage Scrub | 190 | 130 | 23 | 16 | 34 | -18 |
| | **Total*** | **10,560** | **7,160** | **3,906** | **1,596** | **1,065** | **531** |

* All numbers have been rounded to the nearest integer, except for Acres Remaining for Authorized Development that are values <1. As a result, sum of columns may deviate from total.

** This Table uses the Rough Step formula, land acres, and additional reserve lands goals as per Minor Amendment 2007-01.

All key vegetation communities remain in Rough Step in Rough Step Units 1, 2, 3, 4, 5, 6, and 7. The following key vegetation communities are behind in Rough Step:

- Rough Step Unit 8. Grassland (-105 acres)
- Rough Step Unit 8. Riversidean Alluvial Fan Sage Scrub (-18 acres)

The Riversidean alluvial fan sage scrub category deficiency in Rough Step Unit 8 was caused by the issuance of a grading permit for a project in 2024. Joint project review for this proposed project was initiated in 2005 and then amended in 2023. Riversidean alluvial fan sage scrub was in step for Rough Step Unit 8 at the time of this amended joint project review.

The grassland vegetation category has been out of Rough Step in Unit 8 since inception of the MSHCP due to pre-MSHCP developments and associated project mitigation that resulted in lands coming into the MSHCP Reserve under the PQP classification that do not count toward Rough Step gains. However, there are 169 acres of grassland pending conservation in this Rough Step Unit. The timing of conveyance of development-related conservation is unknown as it is based on the project proponents' timeframes.

The RCA is actively engaged in acquiring parcels that would bring Riversidean Alluvial Fan Sage Scrub and Grassland into Rough Step in Unit 8. Rough Step Unit 3 was brought back into balance for Riversidean Alluvial Fan Sage Scrub with limited losses in 2024 and the acquisition of one property [known as SSR Investment Company (SSR153) property].

**Delhi Soils Rough Step**

All suitable habitat for the Delhi Sands Flower-loving Fly within the MSHCP Plan Area is in Rough Step Unit 1. The Delhi Sands Flower-loving Fly is found within the fine, sandy Delhi series soils along the northern edge of Rough Step Unit 1. Unlike other covered species, the Permittees were given options for conservation of this species. These options are described in the Delhi Sands Flower-loving Fly species objectives located in Table 9-2 in the MSHCP (Volume I). As part of the MSHCP Implementing Agreement, the Wildlife Agencies and Riverside County jointly opted to follow Delhi Sands Flower-loving Fly Species Objective 1B in the MSHCP (Volume I). Objective 1B mandates that surveys are to be conducted in areas where suitable habitat exists within the mapped Delhi soils (with the exception of Cells 21, 22, and 55). When the species is present, 75 percent of mapped Delhi soils on-site must be conserved. Surveys continue to be required in these areas of the Rough Step Unit.

Surveys are not required within Cells 21, 22, and 55. Instead, 50 acres of Additional Reserve Lands with Delhi soils and suitable habitat for the Delhi Sands Flower-loving Fly shall be acquired within these three cells. The 50 acres were acquired in 2020, and the Additional Reserve Land Goal has been met for Delhi Soils for Cells 21, 22, and 55. *Table 4-3, Delhi Soils Conservation (Species Account Objective 1B)*, provides a summary of the Delhi sands Rough Step analysis.

**Table 4-3**
**Delhi Soils Conservation (Species Account Objective 1B) (Values in Acres)**

| Delhi Soils within the Rough Step Unit | From Objective 1B in the MSHCP (Volume I) | | Total Delhi Soils Conserved (between February 2000 and December 31, 2024) |
|---|---|---|---|
| | Delhi Soils within the Criteria Area in the Rough Step Unit | Delhi Soil Conservation Goal | |
| Outside Cells 21, 22, 55 | 270 | 170 | 7 |
| Within Cells 21, 22, 55 | | 50 | 50 |
| **Total*** | **270** | **220** | **57** |

* All numbers have been rounded to the nearest integer. As a result, sum of columns may deviate from total.

**Figure 4-2. Rough Step Unit 1**

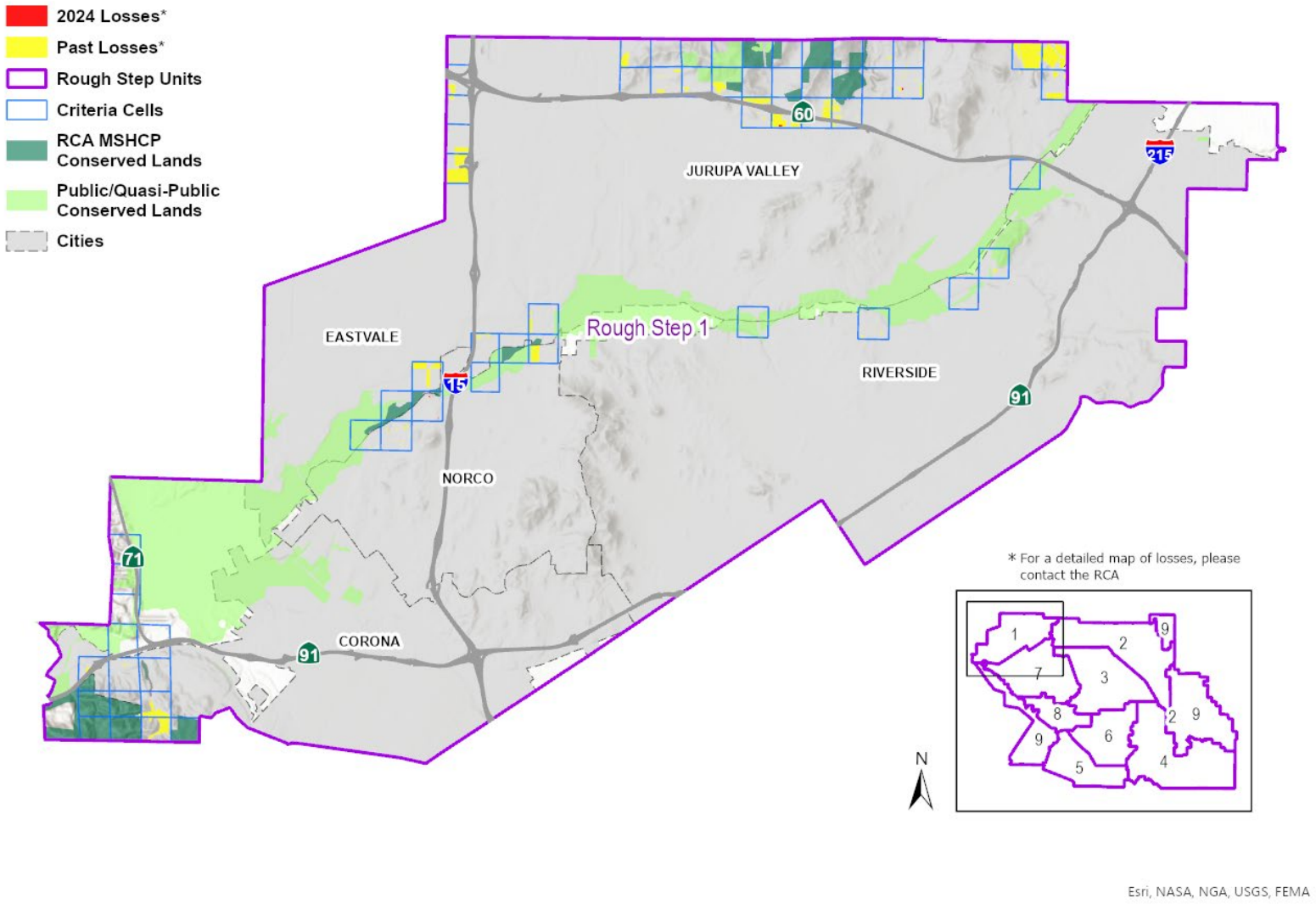


**Figure 4-3. Rough Step Unit 2**

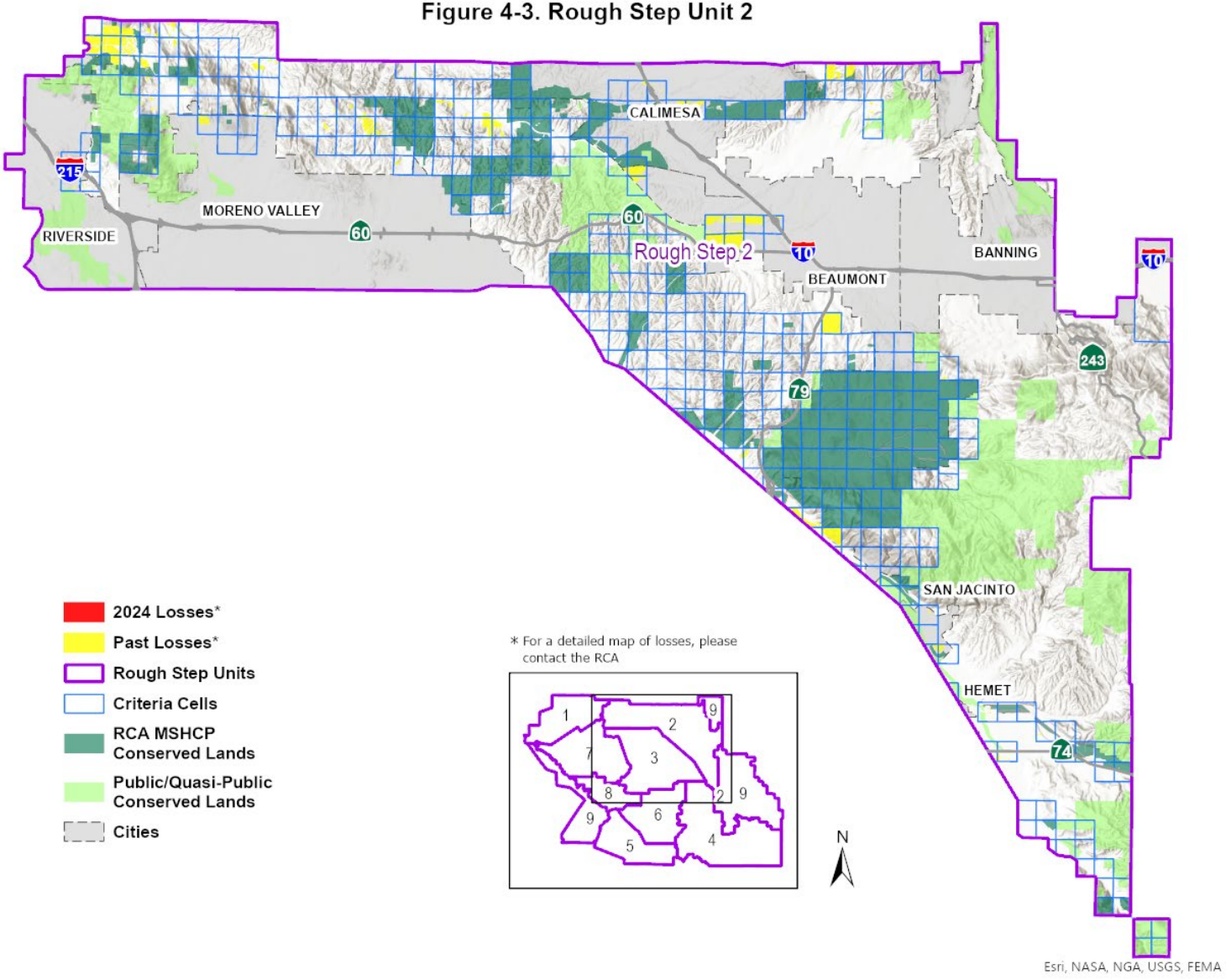


**Figure 4-4. Rough Step Unit 3**

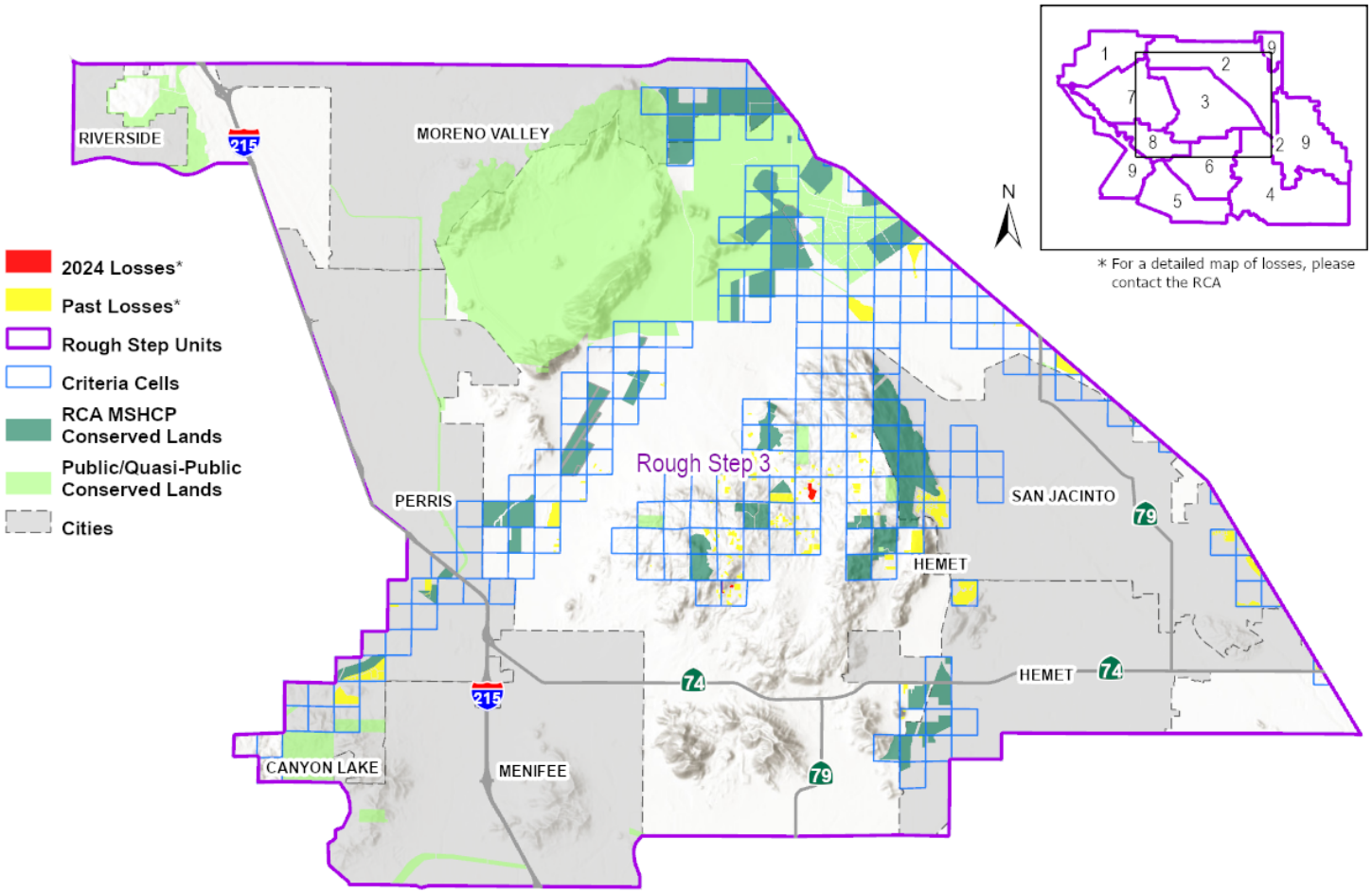


**Figure 4-5. Rough Step Unit 4**

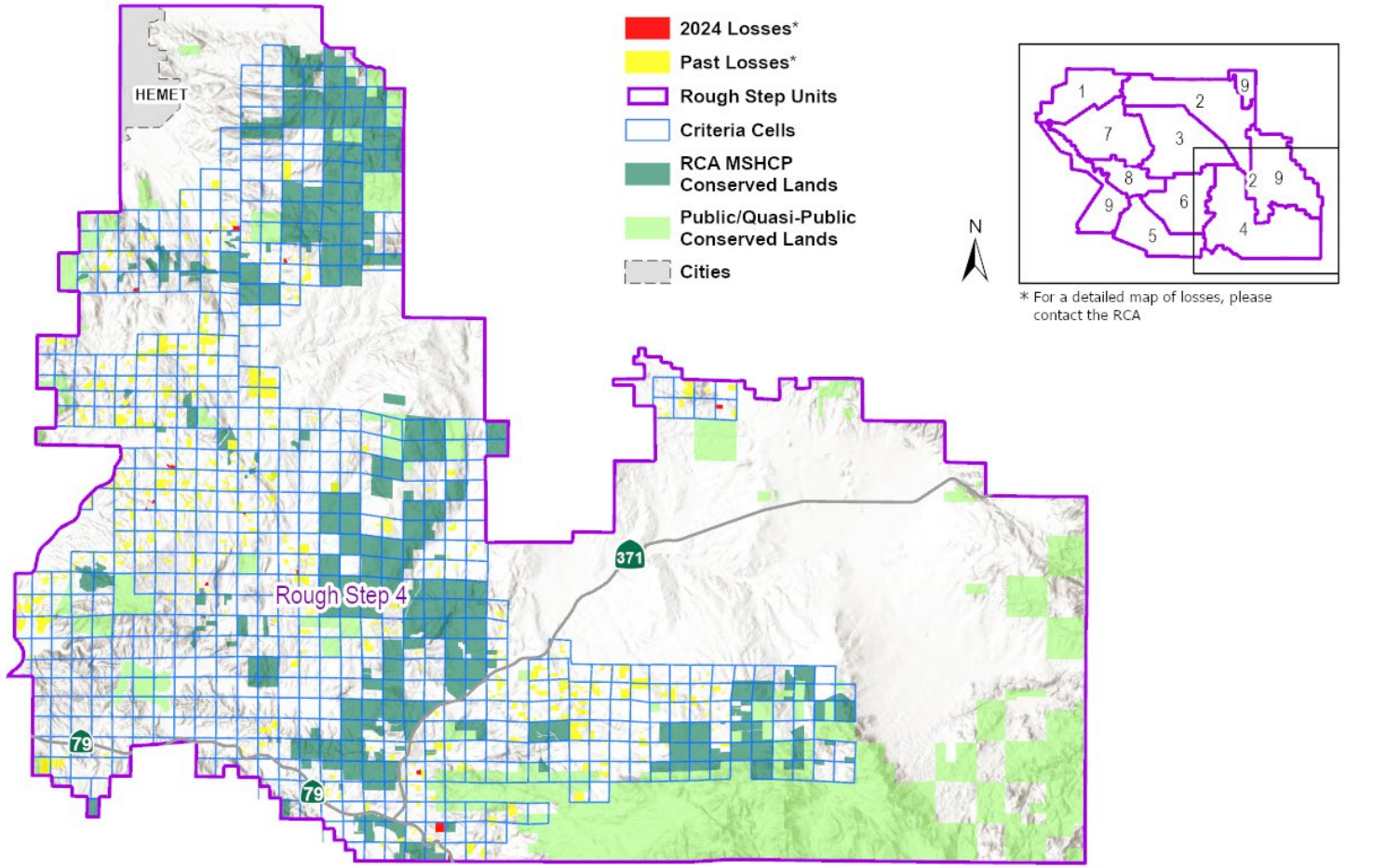


**Figure 4-6. Rough Step Unit 5**

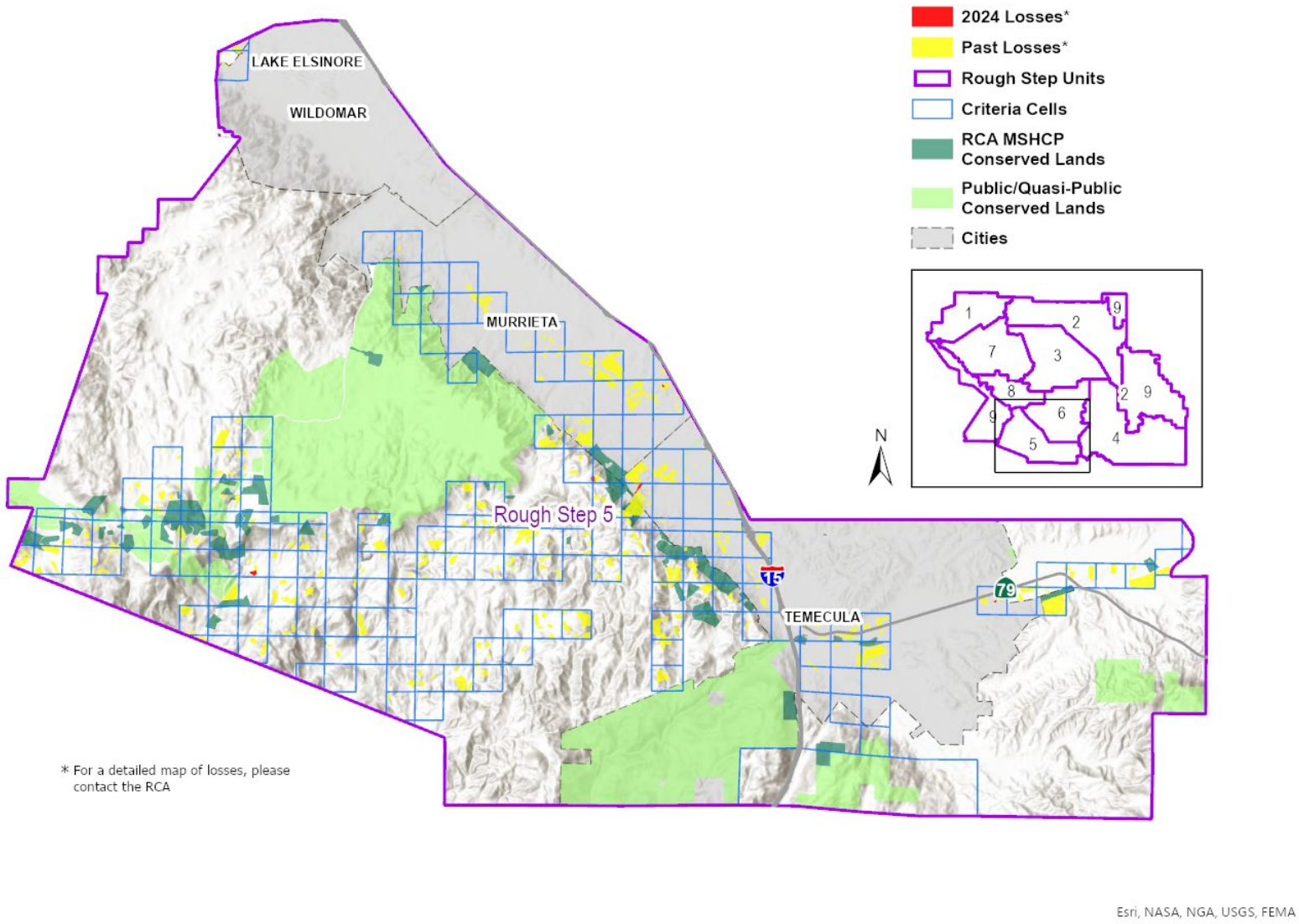


**Figure 4-7. Rough Step Unit 6**

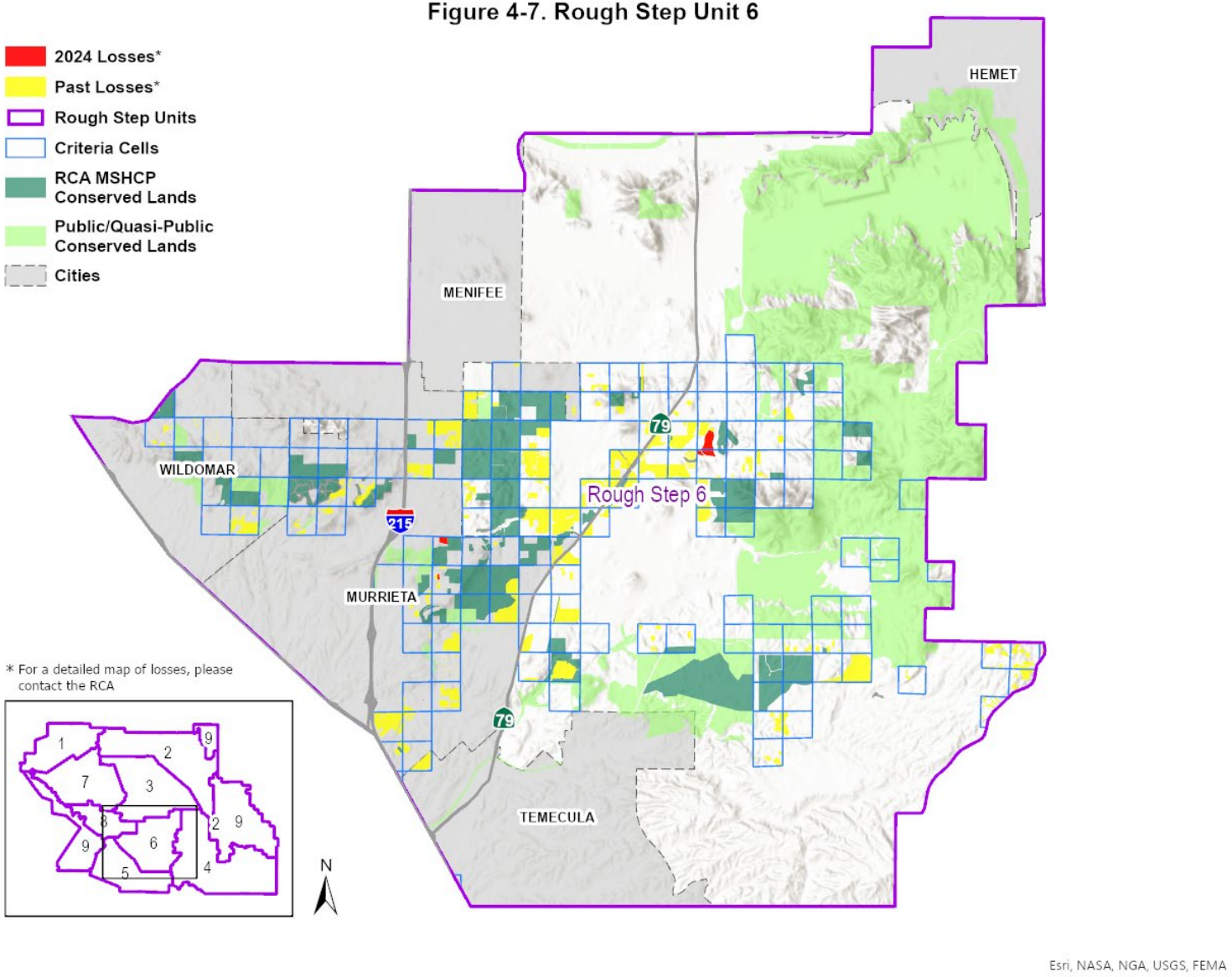


**Figure 4-8. Rough Step Unit 7**

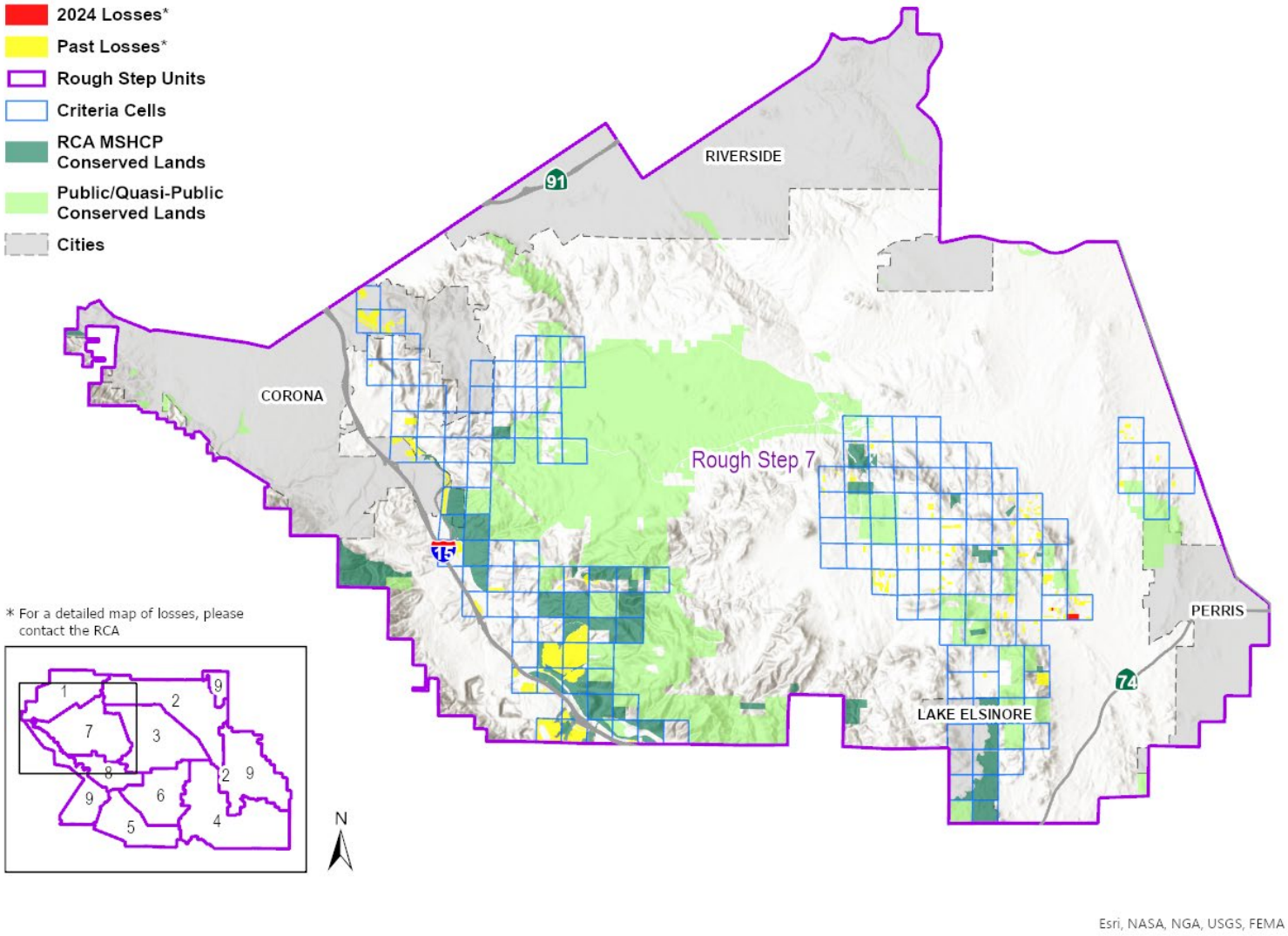
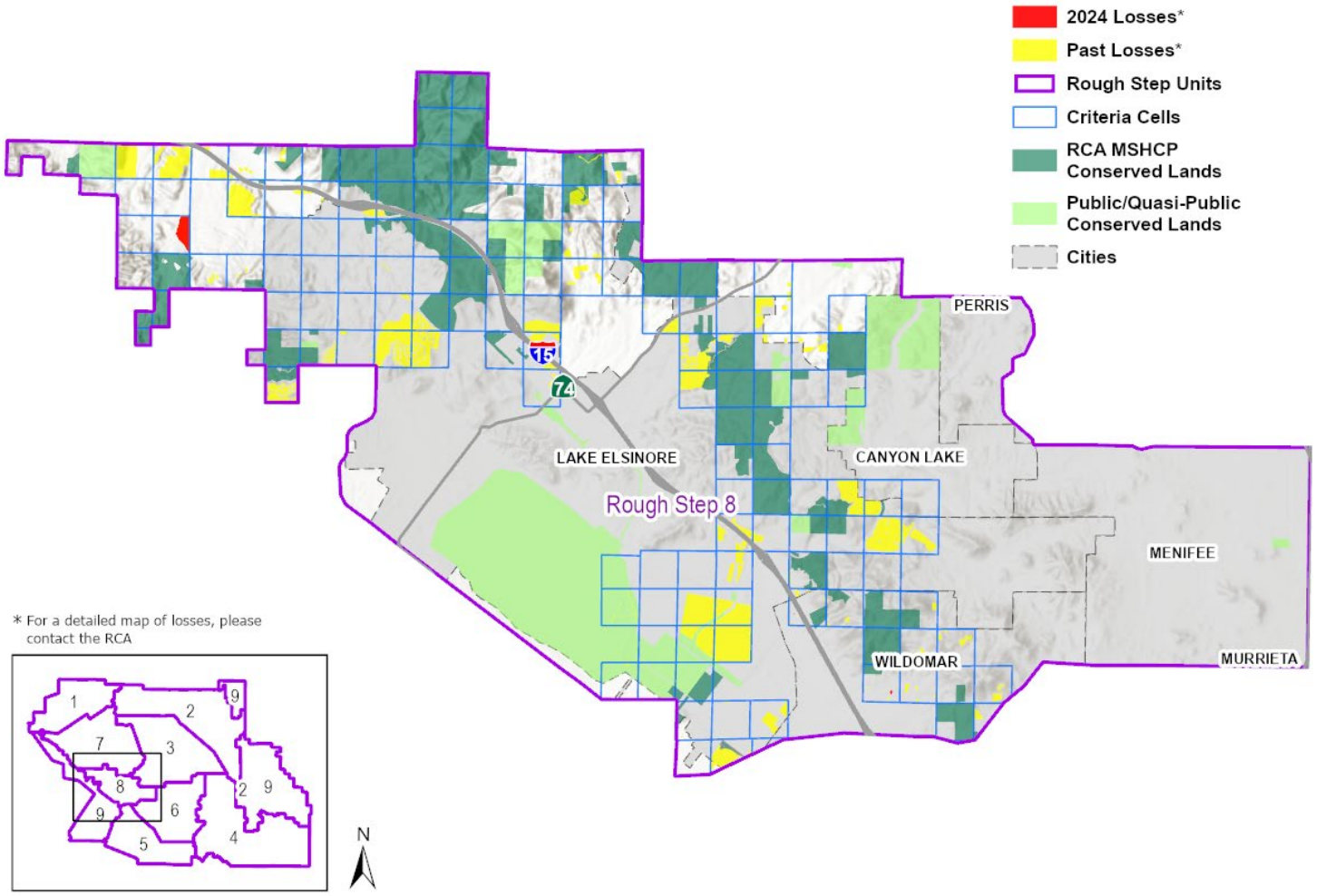


**Figure 4-9. Rough Step Unit 8**



# 5.0 ACTIVITIES WITHIN PLAN AREA

## 5.1. Single-Family/Mobile Home Activity

### 5.1.1. Background

In accordance with existing land use regulations, development of a single-family home or mobile home on an existing legal parcel is a Covered Activity, per *Section 7.3.2* of the MSHCP (Volume 1). Single-family home grading/site preparation permits and mobile home site preparation permits on existing legal lots within the Criteria Area are reviewed against the MSHCP Conservation Criteria solely to determine the least sensitive portion of the lot for building pad location. These activities are covered by the Expedited Review Process (ERP) provision of the Property Owner Initiated Habitat Evaluation and Acquisitions Negotiation Process. *Section 7.3.2* of the MSHCP (Volume 1) lists several assumptions used by the MSCHP to predict the annual level of single-family/mobile home development within the Criteria Area. Based on key assumptions, the MSHCP estimated approximately 75 parcels would utilize the ERP provision within the Criteria Area annually. These parcels were estimated to impact approximately 675 acres of land annually. The MSHCP also assumed that, of these 675 acres, half (338 acres) would be within areas considered desirable for inclusion in the MSHCP Conservation Area (i.e., described for conservation). Finally, the MSHCP assumed that the Permittees would successfully negotiate conservation on 75% of the 338 acres, and 85 acres that the MSHCP describes for conservation would be developed with single-family/mobile homes. The annual reporting process is used to determine whether ERP activity is occurring in a manner that is consistent with the assumptions made during MSHCP development.

### 5.1.2. Effect on Reserve Assembly

Between January 1, 2024, and December 31, 2024, 7 single-family/mobile home permit applications utilized the ERP. These permits covered approximately 66 acres within the Criteria Area, with 35 acres described for conservation. This level of ERP development is below the estimated annual acreage described in Section 5.1.1. The ERP data the RCA receives from the county and cities are likely incomplete due to the lack of data submitted by most cities. In 2024, most of the ERP development occurred within Rough Step Unit 4. *Figure 5-1, 2024 ERPs Distribution* shows the locations of ERP development in 2024.

Since inception of the MSHCP, the ERP has permitted 4,073[1] acres for development of single-family/mobile homes within the Criteria Area, with an annual average of 194 acres of ERP development within the Criteria Area. This is far less than the MSHCP estimate of 675 acres per year (refer to *Section 5.1.1*). As other forms of development impact critical vegetation categories, development of single-family and mobile homes permitted through the ERP may have an additive effect of unknown size on a region's rough step balance due to the lack of ERP data.

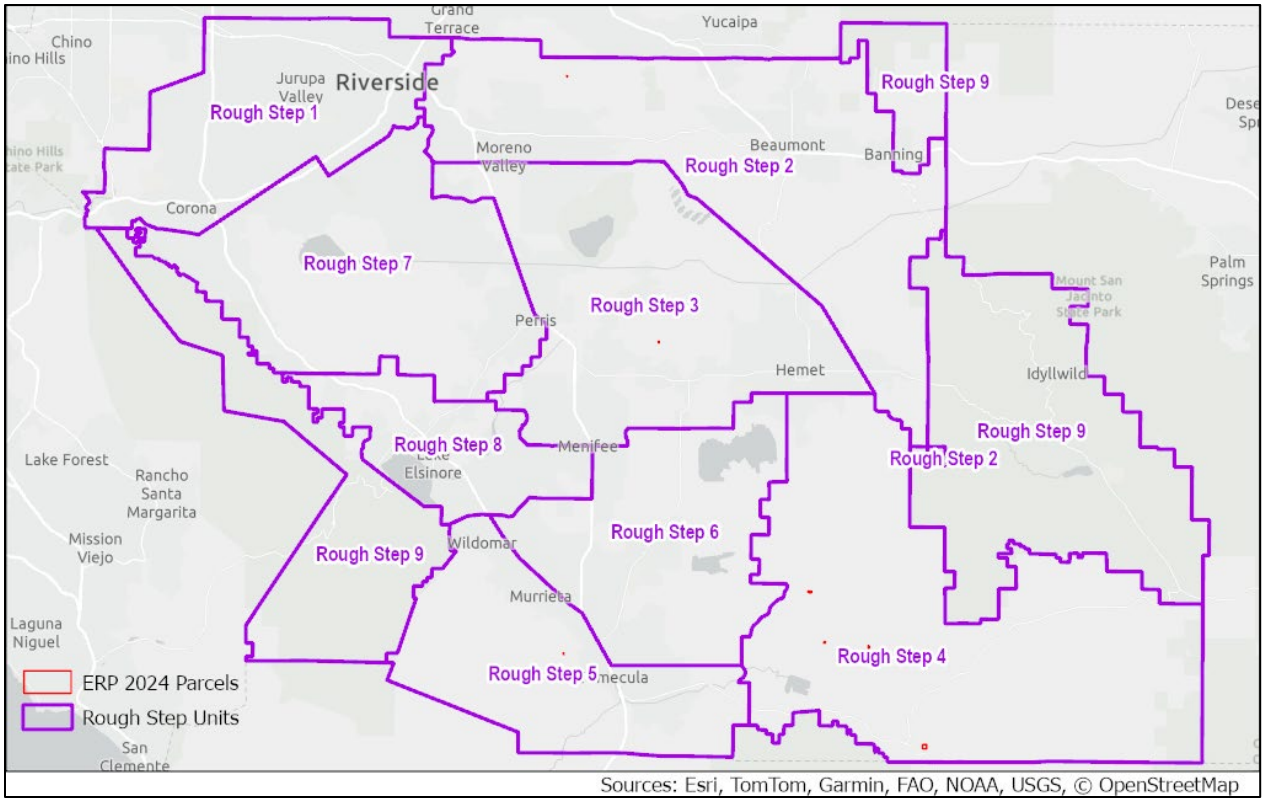



**Figure 5-1. 2024 ERP Distribution**

## 5.2 Public Works Projects

Public works projects, which may include maintenance of existing facilities, conducted by the Permittees receive coverage under the Plan and, when in a Criteria Cell, are subject to Joint Project Review (JPR). The Wildlife Agencies process JPRs for State Parks and Caltrans, while the RCA and the Wildlife Agencies process JPRs for public projects by Permittees. *Table 5-1, Public Works Projects (January 1 through December 31, 2024)* summarizes public works project activity during 2024 throughout the Plan Area.

[1]Acreages may differ per annual report due to parcel line shifts in the Riverside County Assessor Parcel data during each annual analysis.

**Table 5-1**
**Public Works Projects Throughout the Plan Area**
**(January 1, 2024 through December 31, 2024)**

| Public Works Permittee | Activities Permittees Approved between January 1 and December 31, 2024 |
|---|---|
| County of Riverside Transportation Department | • Gilman Springs Rd Phase 6 Safety Project<br>• Pedley Rd emergency road and storm drain damage repair work<br>• Good Hope community sidewalk improvement project<br>• De Portola Rd Drainage Improvements Project<br>• Slurry seal projects at various locations<br>• Road resurfacing projects at various locations<br>• Sidewalk projects at various locations |
| Riverside County Transportation Commission | • State Route (SR)-71/SR-91 Interchange Project<br>• Interstate-15 Smart Freeway Pilot Project<br>• Mid-County Parkway Phase 3/Ramona Expressway<br>• Metrolink South Perris Station Expansion<br>• State Route 60 Potrero Interchange |
| Riverside County Park and Open-Space District | • No major projects in 2024 |
| Riverside Flood Control and Water Conservation District | • Wildomar MDP Lateral C, Stage 3 and Bundy Canyon Basin<br>• Woodcrest – Rinehart Acres Drainage plan Improvements |
| California State Parks | • CA Citrus SHP Repaving and HVAC Projects<br>• Lake Perris SRA Patrol Dock Contract |
| Caltrans | • Upgrade or install curve warning signs at various locations<br>• Remove and replace asphalt concrete pavement at various locations<br>• I-215 Pavement Rehab Project<br>• Bridge preventative maintenance work on I-15, SR60, SR91<br>• Install CCTV on SR60<br>• Construct Northbound Auxiliary Lane on I-15<br>• Install, Operate & Maintain Systems To Collect Real-Time Traffic Data & Operate Active Traffic Management Devices, I-15, I-215 |
| Waste Management | • On-Call site improvement project at Riverside County Sanitary Landfills |

## 5.3 Participating Special Entity Permits

Per *Section 6.1.6* of the MSHCP (Volume 1), the RCA may grant MSHCP take authorization with approval from the Wildlife Agencies to non-signatory public agencies and other regional service providers under the Participating Special Entity (PSE) provision. The MSHCP defines "Participating Special Entity" as any regional public facility provider, such as a utility company or a public district or other agency that operates and/or owns land within the MSHCP Plan Area but who is not a MSHCP Permittee.

The RCA processed the following PSE projects in 2024:

- Rancho California Water District – Vail Lake Dam Seismic and Hydrologic Remediation Project (processing)
- Southern California Edison (SCE) – Canal 33kV Deteriorated Pole Replacement Project (processing)
- SCE – Saddleback 33kV Interset Pole Project (completed)

## 5.4 Criteria Refinement

As indicated in *Section 6.6.2F* of the MSHCP (Volume 1), Permittees are expected to implement the MSHCP consistent with Cell Criteria. In cases where a Permittee and/or landowner believes that conservation objectives could be achieved in an alternative location or alternative Reserve design scenario, the criteria can be refined to reflect such modification.

For the annual reporting year of 2024, the RCA met with several Permittees about Criteria Refinements as a potential option for proposed developments. The Criteria Refinement for the Lamb Canyon Landfill Project is on hold at the time of this report and the relocation of Proposed Constrained Linkage 1 (associated with the Green River Ranch Specific Plan) was completed.

## 5.5 Agency Cooperation

Many of the Covered Species and associated sensitive habitats are located on federal and state lands. For these reasons, existing federal and state lands were included in the existing 347,000 acres of Public/Quasi-Public lands. Assumption for conservation of these lands came with the goal that Memoranda of Understanding (MOU) between these state, federal, and other governmental/quasi-governmental agencies must be established to ensure that lands are managed in concert with Covered Species' needs.

**U.S. Forest Service.** Under agreement with the San Bernardino and Cleveland National Forests (Forest), MSHCP Monitoring Program biologists have been conducting species surveys in Forest areas since 2005 and have completed the initial inventory for species presence (refer to Section 8.2 in this report for more details). Survey information is shared, and activities coordinated, with Forest and other Reserve Managers within the MSHCP at monthly Reserve Managers meetings hosted by the Biological Monitoring Program.

**Bureau of Land Management (BLM).** Lands owned by the Bureau of Land Management (BLM) in western Riverside County contribute to Reserve Assembly Public/Quasi-public lands. Most of the BLM lands within the MSHCP are associated with the Riverside County Stephens' Kangaroo Rat Habitat Conservation Plan (SKR-HCP). The BLM released the revision to their draft South Coast Resource Management Plan (SCRMP) in June 2011. The RCA entered into an MOU with the BLM (RCA Agreement No. 09002, BLM MOU No.CA-660-08-01) on June 6, 2008, as a cooperating agency on this Plan. Through this MOU, the RCA worked with the BLM to maximize coordination and achieve consistency, where practical, in the development of the revisions to the SCRMP. When completed and adopted, the revised SCRMP will be the basis for the BLM and RCA to enter into additional MOU discussions to allow Adaptive Management on BLM properties that would be necessary to meet the objectives of the MSHCP's species-specific management plans as they evolve following completion of the initial Monitoring Program species inventory. The SCRMP has not yet been adopted by the BLM.

**Riverside County Habitat Conservation Agency (RCHCA).** The RCHCA is the Joint Powers Authority responsible for implementation of the SKR-HCP in western Riverside County. The RCHCA owns approximately 6,700 acres of conservation land at Estelle Mountain and the Southwest Riverside County Multi-Species Reserve (Southwest MSR) surrounding Lake Skinner and Diamond Valley Lake and manages another 10,000 acres at Southwest MSR. As such, the RCHCA is an important conservation landowner in the MSHCP Plan Area and monitoring/management coordination between the RCHCA and RCA benefit MSHCP Covered Species. The RCHCA allows access for MSHCP biological monitoring purposes.

**Riverside Corona Resource Conservation District (RCRCD).** In 2010, the RCA and RCRCD entered into a management MOU for properties that RCRCD either holds in fee title or has a conservation easement over. RCRCD manages these lands in a cooperative manner with the RCA consistent with the goals and objectives of the MSHCP. The RCA and RCRCD also work collaboratively on In Lieu Fee Program-related mitigation opportunities on RCA-owned land and on potential acquisitions within RCRCD's service area.

**Inland Empire Resource Conservation District (IERCD).** In 2012, the RCA and IERCD entered into a management MOU for properties within the Plan Area that IERCD either holds in

fee title or has a conservation easement over. IERCD manages these lands in a cooperative manner consistent with the goals and objectives of the MSHCP. The RCA and IERCD also work collaboratively on In Lieu Fee Program-related mitigation opportunities on RCA-owned land.

**Temecula-Elsinore-Anza-Murrieta Resource Conservation District (TEAM RCD).** In 2019, the RCA and TEAM RCD executed a management MOU for properties within the Plan Area that TEAM RCD either holds in fee title or has a conservation easement over. TEAM RCD manages lands in a cooperative manner consistent with the goals and objectives of the MSHCP.

**Rivers & Land Conservancy (RLC).** In 2017, the RCA and RLC executed a management MOU for properties that RLC either holds in fee title or has a conservation easement over. RLC manages these lands in a cooperative manner consistent with the goals and objectives of the MSHCP. The RCA and RLC also work collaboratively on In Lieu Fee Program related mitigation opportunities on RCA-owned land.

## 5.6 Clerical/Minor Amendments to the MSHCP

### 5.1.1. Clerical Amendments

*Section 6.10.1* of the MSHCP (Volume 1) outlines clerical amendments to the MSHCP. The MSHCP states that clerical amendments shall be made by the RCA on its own initiative or in response to a written request submitted by any Permittee or Wildlife Agency, which includes documentation supporting the proposed clerical change. Clerical changes shall not require any amendment to the MSHCP, the Permits, or the Implementing Agreement. Clerical changes include corrections of typographical, grammatical, and similar editing errors that do not change the intended meaning and corrections of any maps or exhibits to correct insignificant errors in mapping. It is assumed that most clerical changes to the MSHCP will occur during the first 10 years of MSHCP implementation. Clerical amendments are to be summarized in each annual report and are found in *Appendix A* of this report.

In 2024, the RCA did not process any clerical amendments.

### 5.1.2. Minor Amendments

*Section 6.10.2* of the MSHCP (Volume 1) outlines minor amendments to the MSHCP and associated revision procedures. The following items are considered minor amendments to the MSHCP and shall be administratively implemented:

**(1)** Minor corrections to land ownership;

**(2)** Minor revisions to survey, monitoring, reporting, and/or management protocols that clearly do not affect Covered Species or overall MSHCP Conservation Area functions and values;

**(3)** Transfer of target Reserve Assembly acreages between identified Subunits within a single Area Plan and/or between Area Plans within a single Rough Step Analysis Unit consistent with the criteria;

**(4)** Application of Take Authorization for development within Cities incorporated within the MSHCP boundaries after the effective date of the Implementing Agreement, assuming such inclusion does not preclude Reserve Assembly, significantly increase the cost of MSHCP Conservation Area management or assembly, or preclude achieving Covered Species conservation and goals;

**(5)** Annexation or de-annexation of property within the Plan Area pursuant to *Section 11.5* of the Implementing Agreement, provided such inclusion does not preclude Reserve Assembly, significantly increase the cost of the MSHCP Conservation Area management or assembly, or preclude achieving Covered Species conservation and goals;

**(6)** Minor extension of cut or fill slopes outside of the right-of-way limits analyzed in the MSHCP for covered roadways to accommodate construction in rolling or mountainous terrain; and

**(7)** Updates/corrections to the vegetation map and/or species occurrence data.

There were two minor amendments to the MSHCP completed in 2024:

1. MA 2023-01 – Annexation of Beaumont Pointe Specific Plan property from Riverside County into the City of Beaumont jurisdiction
2. MA 2024-01 – Withdrawing MA 2022-02 and MSHCP road coverage shift

## 5.7 Fires, Floods, and Drought

*Section 6.8.3* of the MSHCP (Volume 1) discusses Changed Circumstances potentially affecting the MSHCP Conservation Area that include short-interval return fire, floods, drought, and invasion by exotic species. This MSHCP section also describes planned responses to short-interval return fires. In 2012, RCA staff started reporting fire activity within the MSHCP Conservation Area. Information on actions performed in response to short-interval return fires during this reporting period is provided in Section 7 Management Activities of this Annual Report.

### Short-Interval Return Fire

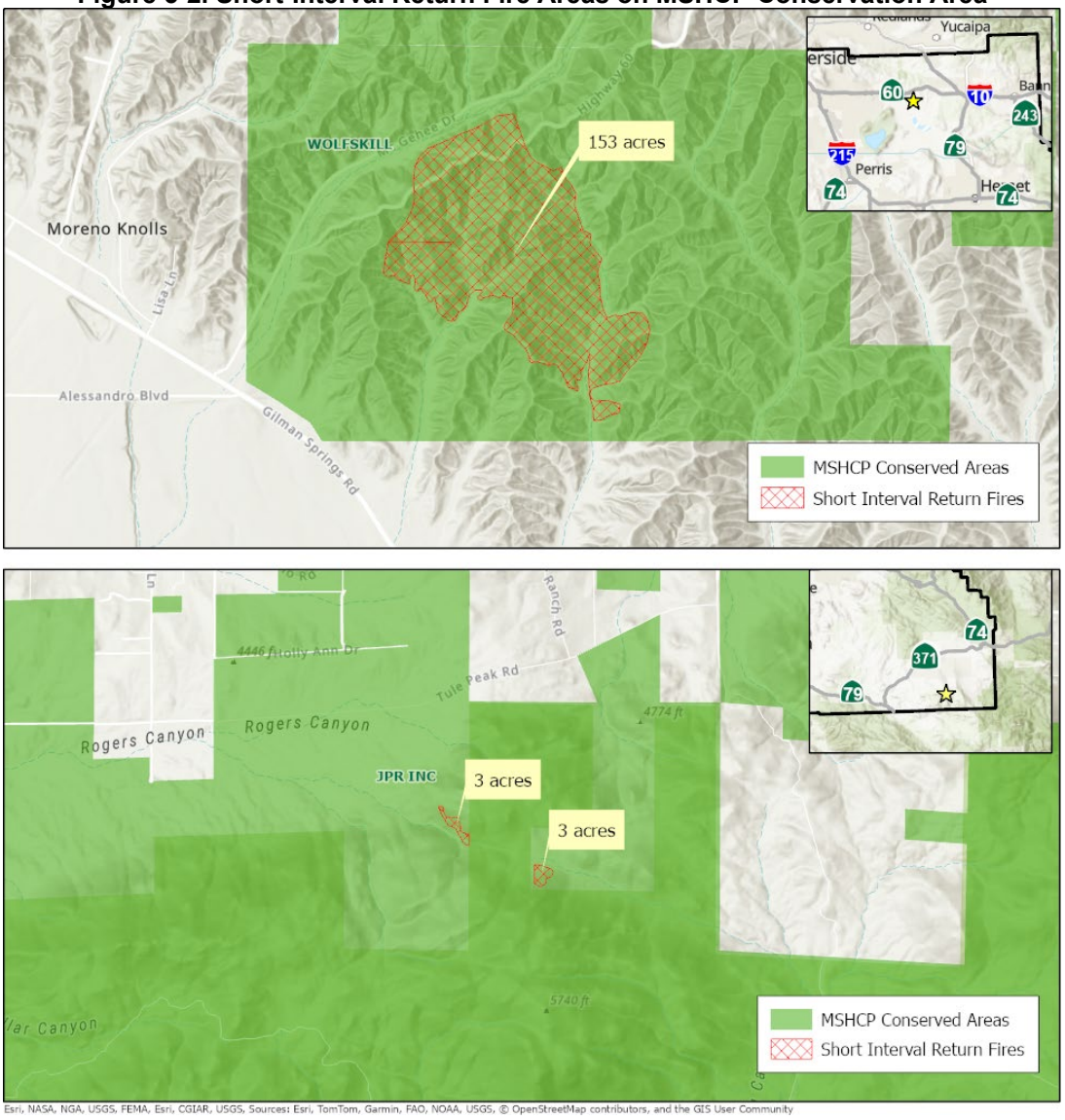
For the purpose of defining Changed Circumstances, short-interval return fire is defined as fire occurring in the same location as a previous fire within the same footprint more than once in a 5-

year period within the MSHCP Conservation Area. When fires return repeatedly to an area, native vegetation may not be able to regenerate sufficiently to limit non-native plant species from taking a stronghold and out competing the native vegetation, ultimately resulting in conversion of native habitat into non-native vegetation that provides lower quality habitat for MSHCP covered species. *Table 5-2, Short-Interval Return Fires on MSHCP Conserved Area* summarizes the short-interval return fires and *Figure 5-2, Short-Interval Return Fires on MSHCP Conserved Area* shows the locations of those short-interval return fires.

**Table 5-2**
**Short-Interval Return Fires on MSHCP Conserved Area**

| MSHCP Reserve Property | Overlapping Acres Burned | Years | Fire Names (Respective of Years) |
|---|---|---|---|
| Wolfskill | 153 | 2019, 2024 | Jerry Fire, Round Fire |
| JPR Inc | 6 | 2023, 2024 | Bonny Fire, Nixon Fire |

**Figure 5-2. Short-Interval Return Fire Areas on MSHCP Conservation Area**



## 5.8 Activities Affecting Reserve Assembly

In consultation with the Wildlife Agencies, this section is meant to provide documentation of actions that have influenced reserve design during the last year. The cost of land has been increasing since the inception of the MSHCP and 2024 was no exception. Through the HANS/JPR process, the RCA acquired the most expense property to date. Although the project applicant was interested in pursuing a Criteria Refinement, the deficiency of Riversidean alluvial fan sage scrub in Rough Step Unit 7 made it infeasible. The RCA, with help from the County of Riverside, worked out a funding strategy. However, the trend of increasing land costs may affect the pace of reserve assembly in future years.

# 6.0 FUNDING SUMMARY

The Plan requires that the RCA provide an accounting of relevant financial information for each reporting period. *Table 6-1, RCA Program Operation Financial Summary,* reflects the specific categories, as detailed in *Appendix B-05* of the MSHCP (Volume 1). *Table 6-2, Permittee Revenue (January 1, 2024 through December 31, 2024)* summarizes monthly income for each Permittee for the reporting period.

As noted in the table below, expenditures for the calendar year 2024 were significantly larger than revenues received during the same period. This difference is primarily attributed to two factors. First, the table accounts only for local revenues but includes the amounts spent on land acquisitions purchased with federal and state grant funds. Therefore, these amounts are not offset by the state and federal grants received which match the amount spent. The other factor is that RCA purchased one property during calendar year 2024 using a combination of cash and notes payable. The full value of the acquisition is included in the table even though over half the value will be paid for over the next four years as the notes are paid off.

**TABLE 6-1**

**RCA Program Operation Financial Summary**

| Operational Type | Targets/Assumptions | Prior to Plan Approval through December 31, 2023* | January 1 through December 31, 2024* |
|---|---|---|---|
| **PROGRAM COSTS** | | | |
| **A. Acquisitions** | | | |
| *Local Conservation: Land dedications through the HANS (Development) process 41,000 acres to be conserved* | Projected Progress Toward MSCHP Goal (Acres) | 38,540 | 820 |
| | Projected Progress Toward MSHCP Goal (Percent) | 94% | 2% |
| | Actual Progress Toward MSHCP Goal (Acres) | 1,880 | 0 |
| | Actual Progress Toward MSHCP Goal (Percent) | 5% | 0% |
| *Local Acquisitions (RCA) 56,000 acres to be conserved* | Projected Progress Toward MSCHP Goal (Acres) | 53,760 | 560 |
| | Projected Progress Toward MSHCP Goal (Percent) | 96% | 1% |
| | Actual Progress Toward MSHCP Goal (Acres) | 40,957 | 859 |
| | Actual Progress Toward MSHCP Goal (Percent) | 73% | 2% |
| | Actual Acquisition Cost[1] | $466,904,231 | $18,288,055 |
| | Actual Price per Acre | $11,400 | $21,290 |

| | | | |
|---|---|---|---|
| | Estimated Price per Acre | $13,100 | $13,100 |
| *Local Commitment Subtotal 97,000 acres to be conserved* | *Total Acres Conservation*[2] | *42,837* | *859* |
| | *Actual Progress Toward MSCHP Goal (Percent)* | *44%* | *1%* |
| | *Actual Acquisition Cost*[1,3] | *$466,904,231* | *$18,288,055* |
| *State Acquisitions* | Actual Conserved Acres | 15,855 | 1,000 |
| | Actual Acquisition Cost[3] | $109,594,699 | $25,107,389 |
| | Actual Price per Acre | $6,912 | $25,107 |
| *Federal Acquisitions* | Actual Conserved Acres | 9,424 | 428 |
| | Actual Acquisition Cost[3] | $68,848,062 | $3,556,556 |
| | Actual Price per Acre | $7,306 | $8,310 |
| *State & Federal Acquisitions Subtotal 56,000 acres to be conserved* | *Actual Conserved Acres* | *25,279* | *1,428* |
| | *Actual Progress Toward MSHCP Goal (Percent)* | *45%* | *3%* |
| | *Actual Acquisition Cost* | *$178,442,761* | *$28,663,945* |
| **Acquisitions Total 153,000 acres to be Conserved** | **Total Acres New Conservation** | **68,116** | **2,287** |
| | **Total Acquisition Cost** | **$645,346,992** | **$46,952,000** |
| **B. Program Management** | | | |
| *Land Management* | Based on Actual | $17,428,453 | $1,204,880 |
| *Species Monitoring* | Based on Actual | $27,543,126 | $3,130,762 |
| *Administration* | Based on Actual | $80,701,516 | $12,170,179 |
| *Endowment* | Based on Actual[4] | $9,960,457 | $5,026,425 |
| | **Program Management Total** | **$135,633,553** | **$21,532,246** |
| | **TOTAL REPORTING PERIOD COSTS[5]** | **$780,980,525** | **$68,484,246** |

| Operational Type | Targets/Assumptions | Prior to Plan Approval through December 31, 2023* | January 1 through December 31, 2024* |
|---|---|---|---|
| **PROGRAM REVENUE** | | | |
| **A. Development Fees** | | | |
| *Per unit Residential Fee $4,358*[6] | Combined Residential, Commercial and Industrial Fees | $331,340,436 | $35,362,897 |
| *Per acre Com & Ind Fee $19,615* | | | |
| *Density Bonus Fees* | Program in Development | $0 | $0 |
| *Units using density bonus* | Program in Development | $0 | $0 |
| *Per Unit Fee* | Program in Development | NA | NA |
| | **Development Fees Subtotal** | **$331,340,436** | **$35,362,897** |
| **B. Landfill Revenue** | | | |

| | | | |
|---|---|---|---|
| | Landfill Revenue - Previous Years | $6,000,000 | NA |
| | El Sobrante Revenue | $50,166,812 | $3,187,381 |
| | Other Landfill Fees | $5,906,464 | $400,000 |
| | **Landfill Revenue Subtotal** | **$62,073,276** | **$3,587,381** |
| **C. Infrastructure Mitigation** | | | |
| | Measure "A" Revenue | $152,009,708 | $0 |
| | TUMF | $13,790,815 | $1,113,064 |
| | Flood Control | $7,009,048 | $1,129,618 |
| | Other Gov MSHCP Infrastructure | $3,810,002 | 0 |
| | Other Gov MSHCP Civic projects | $3,088,016 | $554,420 |
| | Misc. Participating Fees | 23,440,653 | $29,472 |
| | **Infrastructure Revenue Subtotal** | **$203,148,242** | **$2,826,574** |
| | **TOTAL REVENUE IN REPORTING PERIOD** | **$596,561,954** | **$41,776,852** |

[1] Acquisition Costs include RCTC Measure "A" funds.
[2] There are approximately 13,000 acres identified to be conserved at some future date from the JPR (Joint Project Review) and HANS Review of developments from the inception of the Plan.
[3] Only includes land acquisition costs. Other costs related to the acquisition including appraisals are not included.
[4] Local Development Mitigation Fee Endowment created by the 2020 Nexus Study to be funded by 15 percent of all Local Development Mitigation Fees collected. Funding began in July 2021.
[5] Includes costs incurred before Plan inception and state and federal cost of acquisition which are not RCA direct costs.
[6] Residential fees have three rates depending on density. Low density (0-8 dwelling units per acre) $4,358; Medium density (8.1-14 dwelling units per acre) $1,817; High density (14 plus dwelling units per acre) $803. These were the fees in effect as of December 31, 2024.
* Numbers have been rounded before calculations are performed. As a result, sum of columns may deviate from total. Acres from January 1, 2021 forward use exclusively recorded acres. In prior years a mix of recorded and GIS acres were used. This results in a slight discrepancy between sum total acres in this table and tables in other sections of this annual report.

**TABLE 6-2**
**Permittee Revenue (January 1, 2024 through December 31, 2024)**

| Permittee | January-24 | February-24 | March-24 | April-24 | May-24 | June-24 | July-24 |
|---|---|---|---|---|---|---|---|
| City Of Banning | $112,528 | $15,894 | $44,482 | $0 | $4,236 | $37,724 | $294,147 |
| City Of Beaumont | 161,558 | 160,968 | 93,192 | 129,749 | 55,068 | 254,160 | 173,537 |
| City Of Calimesa | 0 | 0 | 2,746 | 0 | 0 | 0 | 0 |
| City Of Canyon Lake | 4,236 | 0 | 0 | 4,236 | 0 | 4,236 | 6,201 |
| City Of Corona | 34,398 | 147,945 | 31,074 | 128,713 | 42,596 | 3,875 | 6,987 |
| City Of Eastvale | 0 | 197,318 | 506,178 | 35,117 | 32,942 | 139,962 | 0 |
| City Of Hemet | 0 | 97,428 | 160,968 | 182,256 | 118,608 | 218,894 | 47,694 |
| City Of Jurupa Valley | 98,025 | 92,742 | 319,481 | 145,691 | 105,146 | 342,536 | 8,848 |
| City Of Lake Elsinore | 170,949 | 261,289 | 0 | 246,159 | 20,709 | 347,930 | 147,694 |
| City Of Menifee | 101,976 | 19,426 | 83,312 | 244,787 | 361,821 | 450,256 | 26,039 |
| City Of Moreno Valley | 122,840 | 191,068 | 158,202 | 99,957 | 255,556 | 217,175 | 144,701 |
| City Of Murrieta | 0 | 3,022 | 70,544 | 377,223 | 0 | 708,410 | 0 |
| City Of Norco | 2,039 | 8,310 | 8,277 | 0 | 6,932 | 2,495 | 6,049 |
| City Of Perris | 132,974 | 534,316 | 322,689 | 59,818 | 80,484 | 185,625 | 152,530 |
| City Of Riverside | 128,091 | 201,954 | 762,129 | 156,455 | 257,103 | 345,649 | 196,127 |
| City Of San Jacinto | 38,124 | 0 | 101,664 | 55,068 | 164,915 | 144,132 | 33,605 |
| City Of Temecula | 50 | 810 | 6,921 | 1,050 | 69,823 | -213,672 | 8,594 |
| City Of Wildomar | 8,472 | 161,920 | 21,180 | 29,652 | 38,124 | 69,617 | 87,640 |
| County Of Riverside | 1,688,200 | 297,967 | 1,112,576 | 1,172,302 | 1,180,798 | 766,137 | 914,042 |
| **Totals** | $2,804,460 | $2,392,377 | $3,805,615 | $3,068,233 | $2,794,861 | $4,025,141 | $2,254,435 |

**TABLE 6-2 (*Continued*)**
**Permittee Revenue (January 1, 2024 through December 31, 2024)**

| Permittee | Aug-24 | Sep-24 | Oct-24 | Nov-24 | Dec-24 | Totals 2024 | % of TOTAL |
|---|---|---|---|---|---|---|---|
| City Of Banning | $ 279,701 | $ 12,719 | $ 21,790 | $ 4,236 | $ 10,902 | $ 838,359 | 2.37% |
| City Of Beaumont | 297,378 | 7,107 | 0 | 25,987 | 49,917 | 1,408,621 | 3.98% |
| City Of Calimesa | 0 | 17,654 | 0 | 0 | 59 | 20,459 | 0.06% |
| City Of Canyon Lake | 4,358 | 0 | 0 | 8,716 | 0 | 31,983 | 0.09% |
| City Of Corona | 21,361 | 13,805 | 396,967 | 44,410 | 3,141 | 875,272 | 2.48% |
| City Of Eastvale | 10,902 | 40,654 | 33,890 | 26,411 | 66,449 | 1,089,823 | 3.08% |
| City Of Hemet | 100,315 | 1,030,268 | 7,802 | 36,798 | 8,661 | 2,009,692 | 5.68% |
| City Of Jurupa Valley | 73,673 | 85,821 | 95,544 | 140,008 | 69,728 | 1,577,243 | 5.68% |
| City Of Lake Elsinore | 127,665 | 21,577 | 4,358 | 102,937 | 8,716 | 1,459,983 | 4.46% |
| City Of Menifee | 442,879 | 140,592 | 330,809 | 421,364 | 437,676 | 3,060,937 | 8.66% |
| City Of Moreno Valley | 173,107 | 152,530 | 176,972 | 38,376 | 1,046,519 | 2,777,003 | 7.85% |
| City Of Murrieta | 94,893 | 1,918 | 0 | 0 | 11,036 | 1,267,046 | 3.58% |
| City Of Norco | 10,669 | 3,561 | 8,463 | 0 | 939 | 57,734 | 0.16% |
| City Of Perris | 972,744 | 226,616 | 43,458 | 361,836 | 67,664 | 3,140,754 | 8.88% |
| City Of Riverside | 152,984 | 133,931 | 158,097 | 224,096 | 166,118 | 2,882,734 | 8.15% |
| City Of San Jacinto | 226,037 | 119,391 | 160,487 | 0 | 56,654 | 1,100,077 | 3.11% |
| City Of Temecula | 23,455 | 63,602 | 39,906 | 29,072 | 128,607 | 158,218 | .45% |
| City Of Wildomar | 0 | 8,716 | 34,864 | 21,790 | 0 | 481,975 | 1.36% |
| County Of Riverside | 843,762 | 612,681 | 824,144 | 1,003,380 | 708,995 | 11,124,984 | 31.46% |
| **Totals** | $3,855,883 | $2,693,143 | $2,337,551 | $2,489,417 | $2,841,781 | $35,362,897 | 100.00% |

# 7.0 MANAGEMENT ACTIVITIES

## 7.1. RCA Management Activities

In 2024, the RCA Reserve Management and Monitoring Manager established land management priorities in collaboration with MSHCP Reserve Management Unit staff. The following outlines the 2024 priority management activities:

- Controlling unauthorized public access (patrol, fences, gates, signage, trash removal, etc.).
- Maintaining acquired lands in conditions similar to or better than when acquired.
- Removing non-native invasive species and restoring natural habitat using chemical and mechanical weed control and seeding, planting, transplanting, and passive restoration.
- Conducting fire abatement activities in compliance with County Ordinance 695 or ordinances and policies of other jurisdictions as applicable to the location of the land.

## 7.2. Reserve Management Units

The MSHCP contemplated five conceptual management units (refer to *Figure 5-1* of the MSHCP [Volume 1]). After Plan adoption, the Reserve Managers created a more detailed breakdown of the management units depicted in the MSHCP. To manage the entire 500,000-acre Reserve in an effective and efficient manner once assembled, it was necessary to divide the MSHCP's five management units into more manageable sizes. The current nine Reserve Habitat Management Units (HMU) are shown in *Figure 7-1, Location and Distribution of the Nine Reserve Habitat Management Units*. Although the U.S. Forest Service (Forest Service) Units are part of the 500,000-acre Reserve, they are not assigned a MSHCP Habitat Management Unit because the management of Forest Service lands is dictated by their Land Management Plans.

The MSHCP Management Team has completed management plans for Cactus Valley, Gavilan, and Sage HMUs and the draft management plan for the Menifee HMU which acts as the "blueprint" for management of the Menifee HMU. The management plans identify habitat and vegetation management methodologies (e.g., burning, mowing, grazing, herbicides, hand clearing or thinning), and species-specific management needs.

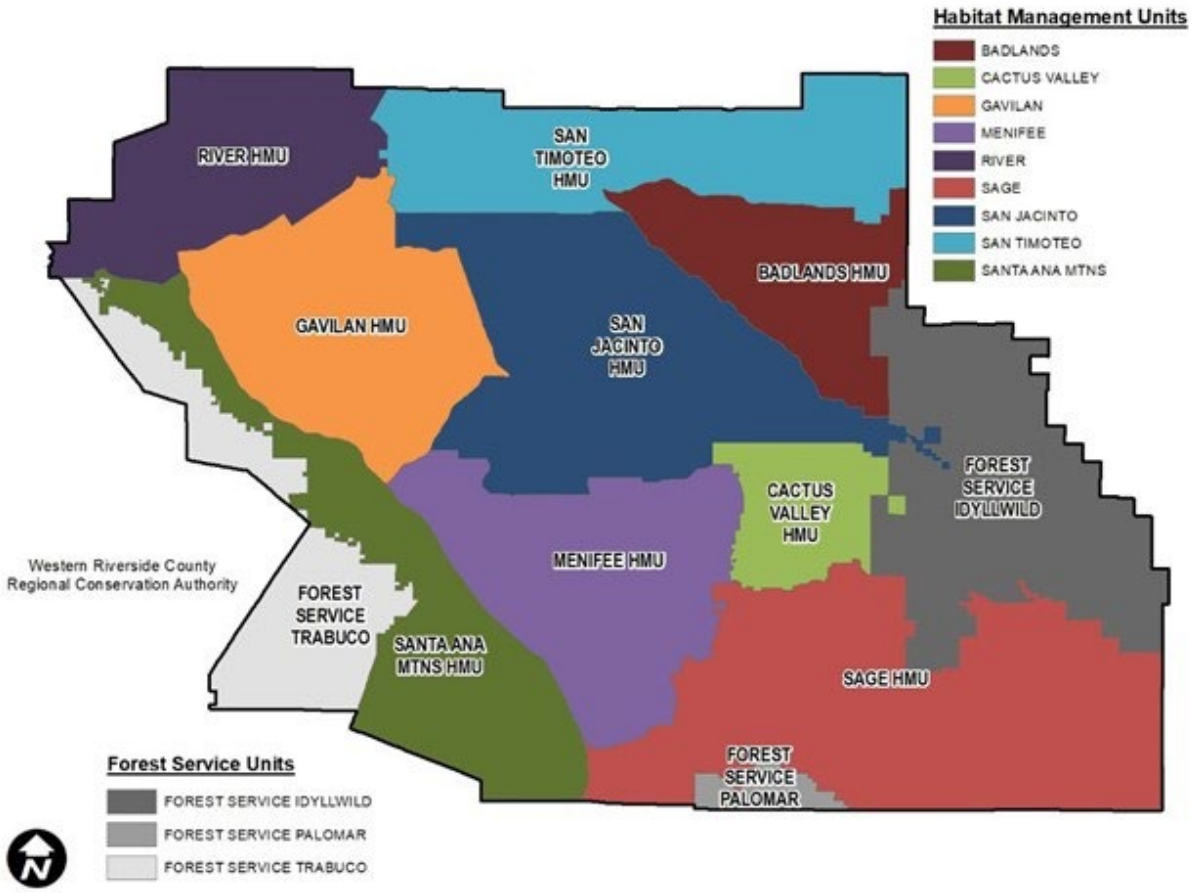



***Figure 7-1.*** *MSHCP Reserve Habitat Management Units.*

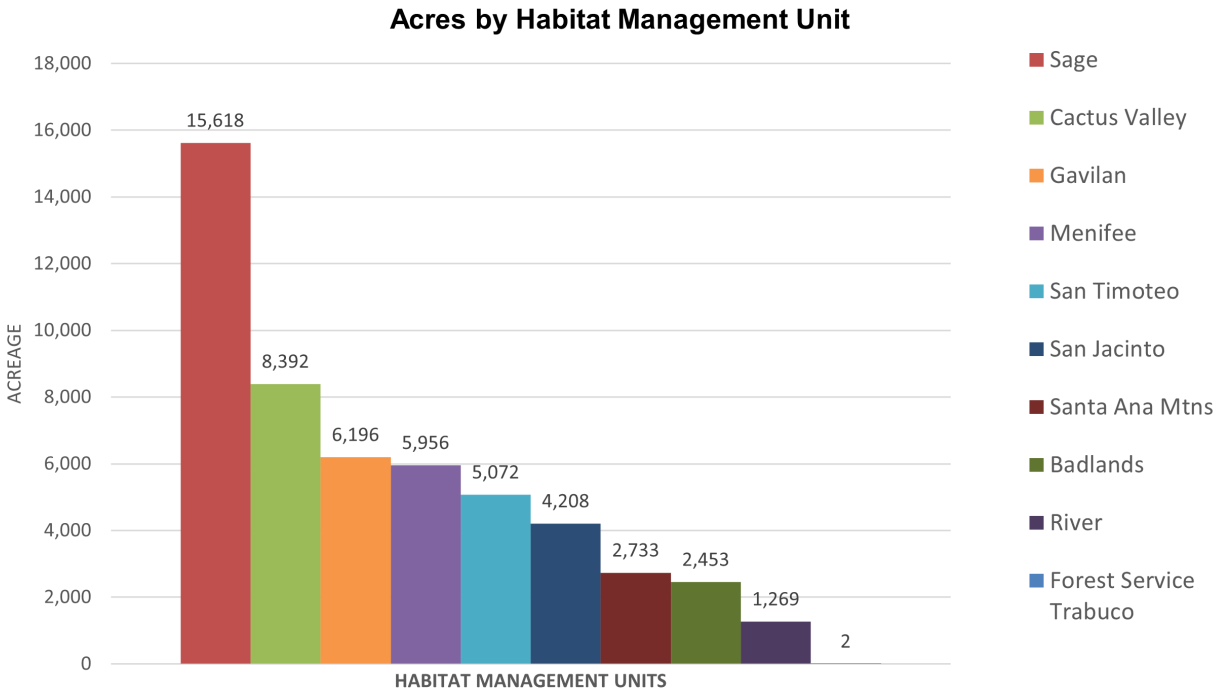



***Figure 7-2.*** *MSCHP Reserve Area Managed by the RCA by Habitat Management Unit through 2024.*

Through 2024, the Reserve Management Unit oversaw approximately 1,266 individual parcels (524 properties) totaling approximately 51,899 acres (Figure 7-2). As the Reserve in each management unit is assembled and the Reserve becomes increasingly contiguous, management activities will become more cohesive and streamlined to implement.

## 7.3. Reserve Management Staffing

The RCA contracts with Riverside County Regional Park and Open-Space District (Parks District) for Reserve land management. The RCA Reserve Management and Monitoring Manager oversees the Parks District team (Reserve Management Unit) for the RCA. The Parks District Reserve Management Unit in 2024 had eleven full time personnel assigned to the RCA program. The Reserve Management Unit included a Natural Resources Manager who oversees all MSHCP land management services; two Natural Resource Specialists who perform a variety of resource-related tasks, including the evaluation or assessment of newly acquired MSHCP lands; one Parks Ranger Supervisor who oversees day-to-day field operations of Parks Rangers; one Parks Maintenance Supervisor who oversees day-to-day field operations of Parks Maintenance Workers; three Parks Rangers; and three Parks Maintenance Workers.

## 7.4. RCA Managed Properties

Twenty-four properties totaling approximately 2,397 acres were added to the RCA-managed Reserve in 2024 (Table 7-1; Figure 7-3). The Reserve Management Unit manages land that the RCA holds either in fee title or in a conservation easement and in most cases, these lands are classified as Additional Reserve Lands (ARL). Some ARL, however, are owned and managed by outside entities (e.g., Riverside-Corona Resource Conservation District). Through a Memorandum of Understanding, the RCA continues to work with these ARL-owning entities to ensure Reserve properties are managed in accordance with the MSHCP.

**Table 7-1**

**RCA-Managed Properties Added to the Reserve in 2024**

| Closing Date | Property Name | Acres |
|---|---|---|
| 1/3/2024 | LAKEVIEW RANCH | 165 |
| 1/12/2024 | VALLEY WIDE RECREATION | 46 |
| 1/11/2024 | LA LAGUNA LAND SWAP | 3 |
| 1/31/2024 | JARPD (STATE JURUPA MOUNTAIN GRANT) | 53 |
| 2/7/2024 | JARPD (RCA) | 20 |
| 2/7/2024 | B CANYON 2 | 670 |
| 2/27/2024 | CAL TRANS HWY 79 | 21 |
| 3/8/2024 | WOLFSKILL | 642 |
| 3/21/2024 | DIAMANT VALLEY DONATION | 39 |
| 4/4/2024 | RANCHO CARDENAS NON DEV HANS | 198 |
| 4/29/2024 | SAMRITH | 20 |
| 6/17/2024 | SSR INVESTMENT COMPANY (SSR153) | 152 |
| 6/21/2024 | BAZAR (JPR 23-09-19-01) | 41 |
| 7/31/2024 | SSR 39 | 39 |
| 7/31/2024 | JOHNSON ACQUISITION | 10 |
| 9/16/2024 | SCE ALBERHILL DONATION | 47 |
| 8/26/2024 | TSENG (BACK BASIN) | 3 |
| 10/4/2024 | PHYLISS (BACK BASIN) | 22 |
| 10/16/2024 | AMPARAN DONATION | 20 |
| 11/15/2024 | GURROLA | 118 |
| 12/13/2024 | NICHOLS RD ASSEMBLAGE | 34 |
| 12/16/2024 | ROME HILL (BACK BASIN) | 12 |
| 12/24/2024 | HALEY | 19 |
| 12/31/2024 | DARBY (BACK BASIN) | 3 |
| | **Total*** | **2,397** |

* Total may not add up due to rounding.

**Figure 7-3.** *The Wolfskill property (left) and the B Canyon 2 property (right) were among the properties acquired in 2024.*

## 7.5. Property Assessments

The RCA conducts property assessments on all potential acquisitions. Following appraisals and negotiations, the RCA requests a site inspection by the Reserve Management Unit to identify potential issues that could prevent the RCA from taking fee title or managing the property consistent with the MSHCP. Such issues include significant trash, encroachments from neighboring parcels, hazardous materials or other health and safety issues, and threats to wildlife (Figure 7-4). The Reserve Management Unit also inspects the property to determine whether the property corners have been clearly staked and marked. When such issues are observed, the information is relayed to the RCA so the issues can be resolved prior to acquisition or during negotiation with the seller. If no issues are identified during the inspections, the RCA is informed, and the acquisition can be completed. Once an acquisition is finalized, the Reserve Management Unit assumes management of the property. In 2024, the Reserve Management Unit inspected 18 potential new properties totaling approximately 539 acres.

**Figure 7-4.** *Typical issues discovered and remediated during a property's pre-acquisition phase; a private property encroachment at the Darby Back Basin property (left) and illegal dumping at the PLH property (right).*

## 7.6. Habitat Protection and Site Security

The Reserve Management Unit commits significant resources to protecting Reserve Lands from human activities that degrade or destroy habitat. Measures to protect plants and wildlife and limit habitat degradation include fences, gates, fuels reduction, weed abatement, and increased Reserve Management Unit Ranger patrol during sensitive life cycle periods of certain species (e.g., Burrowing Owl [*Athene cunicularia*] during the breeding season; or wildflower blooming season). Most Reserve Management Unit efforts were spent on these endeavors during 2024.

In general, pursuant to the requirements of the MSHCP, passive public recreation such as hiking, running, birdwatching, and mountain biking is allowed on existing trails. Equestrian use of existing trails is also allowed on RCA lands that supported such activity at the time of acquisition. Motorized access or recreation (e.g., off-highway vehicles [OHV]), hunting, shooting, archery (unless authorized by the RCA), trail creation, camping, fires, and activities or use of devices with the potential to cause wildfire are not permitted.

A considerable portion of management efforts continued to be devoted to the establishment and maintenance of access controls in areas with significant unauthorized use. Such areas during 2024 included the Oak Valley Partners, Flemming French Valley, and Wilson Creek properties. In 2024, Reserve Management Unit staff fabricated and installed 0.65 miles of new fencing across 10 different properties. Seven gates were fabricated in-house and were installed by staff.

Enforcement during 2024 continued to focus on patrol for the interdiction of frequent unauthorized

uses such as OHV, illegal dumping, homeless encampments, and target shooting. A substantial amount of time was also devoted to patrolling unauthorized trail systems, often created by mountain bikers, and the interdiction of illegal marijuana grows on RCA-owned Reserve Lands.

The implementation of effective interdiction and gaining cooperation from OHV users continues to be difficult (Figure 7-5). In addition to establishing and maintaining OHV access controls and conducting regular patrols, Reserve Management Unit staff continued to coordinate assistance with external entities. With regards to OHV activity, Reserve Management Unit Ranger staff sought help from, and provided support to, Parks District Rangers (Open-Space Unit), the Riverside County Sheriff's Department, local law enforcement agencies, and Bureau of Land Management (BLM). These entities grappled with the same illicit activity within their own jurisdictional lands. In 2024, Reserve Management Unit Ranger staff contacted 327 OHV riders on or approaching RCA-owned Reserve Lands. In general, time was spent informing the riders of property boundaries, the MSHCP, and the prohibition of OHVs in western Riverside County (County Ord. 529), then escorting the riders out of the area. Contact was unsuccessful with 31 individual riders who evaded Reserve Management Unit Rangers when approached.

***Figure 7-5.*** *An OHV rider being contacted by an MSHCP Reserve Management Unit Ranger at the Wilson Creek property (left) and a fence extension being installed by Reserve Management Maintenance Workers to block an OHV gate go-around at the Lin property (right).*

Illegal dumping continues to be a major issue on RCA-owned Reserve Lands and requires considerable resources to address (Figure 7-6). In 2024, an estimated 33.44 tons of trash was removed from RCA-owned Reserve Lands by staff and taken directly to County-managed waste facilities or deposited in Parks District dumpsters. Of this, 6.88 tons was associated with homeless encampments, 24.10 tons was associated with illegal dump sites and roadside litter, and 2.36 tons was associated with illegal Cannabis grow sites. The amount of refuse removed from RCA-owned Reserve Lands increased from 2023 by 9.19 tons, from a total of 24.26 tons of refuse removed in 2023. In addition to refuse hauled away for proper disposal, Reserve Management Unit staff removed or recovered three stolen or abandoned vehicles, four dumped watercraft, and 275 gallons of hazardous materials from RCA-owned Reserve Lands in 2024.

***Figure 7-6.*** *Homeless encampment refuse being removed from a remote location at the JARPD (State Jurupa Mountain Grant) property (left) and a trespass Cannabis grow cleanup at the Cordova Phase 2 property (right).*

Homeless encampments on RCA-owned Reserve Lands are quickly addressed after discovery by the Reserve Management Unit to prevent them from becoming well established. These encampments were usually located in sensitive riparian habitat due to the natural cover that it provides. Negative impacts associated with these camps include massive amounts of trash, vegetation removal, water contamination, and increased risk of wildfire from cooking heating elements and campfires. In 2024, 37 active and abandoned homeless camps were located, cleared of occupants, and/or cleared of refuse. This was an increase from 25 encampments cleared by staff in 2023.

In July 2023, the RCA acquired the Lakeside property in Temescal Valley. The property surrounds Lee Lake and included infrastructure that supported recreational fishing, including four prefabricated buildings with additions, a tractor trailer, and a large accumulation of stored building materials and other refuse. The site appeared to be appealing to vagrants and the buildings were targeted for forced entry and copper salvaging not long after the former tenants left the property in early 2024. In late 2024, Reserve Management staff began demolishing the buildings and disposing of refuse at the site (Figure 7-7). Reserve Management Maintenance Worker staff used a large excavator to demolish the buildings on the property and filled two 40-yard containers with debris. The Reserve Management Unit took an additional 27 dump truck or dump trailer loads of refuse from the property to a nearby land fill. Although the work to clear debris from the site was ongoing at the end of 2024, the bulk of the demolition and subsequent cleanup had been completed, resulting in removal of 81.30 tons of refuse.

***Figure 7-7.*** *Building demolition (left) and cleanup (right) of the Lakeside property.*

## 7.7. Management Activity Data Sheets (MADS)

In 2024, Reserve Management Unit staff continued to document remedial actions taken on RCA-owned Reserve Lands impacted by vandalism or unauthorized activity using Management Activity Data Sheets (MADS). Mapped results depicted known hotspots and allowed Reserve Management Unit Ranger and Maintenance staff to respond accordingly. Reserve Management Unit staff submitted 172 MADS in 2024. The following incidents were documented with MADS and in weekly reports and corrected or addressed: 34 dumping issues, 156 incidents of damaged fencing, 144 incidents of gate or lock damage, 38 target shooters, five RCA property encroachments (totaling 2.49 acres), and one trespass cannabis grow (1,600 plants across two acres).

Prohibited OHV activity has caused substantial negative impacts on RCA-owned Reserve Lands because of physical damage caused to habitat, fences, and gates. This disturbance dissuades wildlife use of Reserve Lands, including use by MSHCP Covered Species. Of the 172 MADS recorded, 64 were associated with OHV activity, such as gates and fencing that were destroyed for the unauthorized ingress and egress to the properties, and new trails and jumps that were illegally created. Direct contact and escorted egress of OHV users occurred regularly; however, Reserve Management Unit Rangers were not always able to make direct contact, either because the OHV user fled, or because the use occurred when Reserve Management Unit Rangers were not present.

## 7.8. Management Coordination

Successful management of the Reserve requires coordination among the multiple entities involved. The Santa Ana Watershed Association (SAWA)-lead monthly MSHCP Management and

Monitoring meetings continued to provide an important venue for communication and collaboration between non-RCA and RCA land management entities. These meetings covered topics regarding land management within the boundaries of the MSHCP Plan Area. The meetings also provided a platform for relevant research topics to be presented. Since inception of the Reserve Management and Monitoring group, the meetings have grown to include members from local to national land management agencies, including the USFWS, U.S. Forest Service, BLM, California Department of Fish and Wildlife, California Department of Forestry and Fire Protection, California Department of Parks and Recreation, Center for Natural Lands Management, other non-profit entities, and other relevant organizations (e.g., colleges and universities). Together, this group discussed a myriad of management and monitoring issues, and shared information on experiences resolving these issues.

Reserve Management Unit staff also attended monthly meetings with the RCA and Biological Monitoring Program staff to discuss monthly activities, seek input on management issues, and coordinate field evaluations for RCA acquisitions. Additionally, Reserve Management Unit staff meets internally monthly to discuss current projects, new acquisitions, safety, and to coordinate management activities.

Collaborative partnerships between the Reserve Management Unit and external organizations continued to be developed and fostered for the benefit of mutually important natural resources. In 2024, these partnerships included (1) collaborating with the City of Lake Elsinore and County of Riverside Emergency Management Department to address potential public safety and habitat damage concerns related to a possible California Poppy (*Eschscholzia californica*) super bloom in Lake Elsinore; (2) developing and executing a joint volunteer outreach event with the Rivers and Lands Conservancy to thin California Buckwheat (*Eriogonum fasciculatum*) in Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*) habitat; (3) collaborating with University of California Agriculture and Natural Resources staff to investigate tailored herbicide treatments for specific non-native weeds and habitat types; (4) collaborating with the San Diego Natural History Museum on their Burrowing Owl prey base study at the El Sol Vineyard Hill Donation and Nuevo Donation properties; (5) coordinating with the project team to continue to manage habitat for a Burrowing Owl translocation from an Ontario, California industrial project site to the Nuevo Donation property; (6) collaborating with the California Department of Fish and Wildlife Cannabis Enforcement Program to halt and remove a two-acre illegal cannabis grow site at the Cordova Phase 2 property; and (7) facilitating an ongoing San Bernardino Kangaroo Translocation study by the San Diego Zoo Wildlife Conservation Alliance at the RCA San Jacinto River Ranchos Meadows At Lone Cone property.

Reserve Management Unit staff attended several symposiums, conferences, and working groups to stay abreast of current knowledge of plants, animals, native ecology, and novel land management strategies. Professional conferences and working groups allow for the dissemination of, and collaboration on, the newest science and developments within their respective subjects. In 2024, staff attended and presented

at the San Jacinto Valley Region Alliance Symposium and National Habitat Conservation Planning Coalition conference, and attended the Western Section of the Wildlife Society Conference, California Native Plant Society Meeting, Santa Ana River Science Symposium, California Society for Ecological Restoration Conference, an annual Delhi Sands Flower-loving Fly Working Group meeting, a Quino Checkerspot Butterfly Workshop, San Bernardino Kangaroo Rat Working Group meeting, the Park Rangers Association of California Conference, Southern California Fire Resource Advisor (READ) Cohort Meetings, and the World Ag Expo.

## 7.9. Habitat Enhancement

In 2024, the Reserve Management Unit continued efforts to enhance disturbed habitats at RCA Reserve properties. Activities included new active restoration projects and research experiments, long-term management of existing restoration projects, and an assortment of other habitat management activities that directly benefit the MSHCP's Covered Species and habitats. In 2024, Reserve Management Unit staff conducted active invasive plant control on 130.3 acres of Reserve Lands in addition to other forms of active habitat management. Some highlighted projects are described below.

**Post-fire Cholla Cactus Salvaging and Planting**

In late 2023, the 2,487-acre Highland Fire affected several RCA properties in the Aguanga area. While surveying impacts of the fire shortly after it was contained, several Cholla (*Cylindropuntia sp.*) cacti were found to have been crushed during fire suppression activities. Since one of the chief concerns of the fire was its potential to negatively affect occupied Cactus Wren (*Campylorhynchus brunneicapillus*) habitat, an opportunity was seen to salvage the impacted cacti and use it to re-establish Cactus Wren habitat. Reserve Management staff assessed areas within the burn scar where Cactus Wren had been documented in the past, and one location in the eastern portion of the Wilson Creek property was identified as a good candidate to restore with cactus. This area previously contained a large stand of cactus, where Cactus Wren had been detected in 2011, and was found to have burned with high severity. All cacti in the area appeared to have been killed in the fire and only charred skeletons remained.

In late 2023, all Cholla that had been found impacted by suppression activities were gathered and stockpiled near the burnt stand of cactus, and in January of 2024 Reserve Management staff collected the salvaged cactus and hiked 0.5 miles into the burnt cactus stand. Using a gas-powered auger to drill holes in the soil for planting, the crew planted approximately 500 salvaged Cholla cuttings throughout the former cactus stand area (Figure 7-8).

In November 2024, the planted cuttings were checked. Survivorship of the planted cuttings was found to be low with an estimated survival of only about 20% of the cuttings. Surprisingly several of the

remaining burned cactus individuals amongst the cuttings, which had been assumed to have been killed by the fire, were found to be sprouting back from their roots. The combination of surviving and planted cacti will hopefully provide suitable Cactus Wren habitat as they mature in the years to come.

***Figure 7-8.*** *Reserve management staff planting salvaged Cholla cuttings into the Nixon Fire burn scar at the Wilson Creek property.*

**Non-native Animal Removals for the Benefit of Western Pond Turtle (*Clemmys marmorata*)**

The Reserve Management Unit continued efforts to reduce the pressure of non-native aquatic animal predators on Western Pond Turtles in French Valley Creek, with additional evidence that the work has had its intended effect. Intensive monitoring of Pond Turtles by Reserve Management Natural Resource Specialist staff in the early 2010's found a moderate sized population of Pond Turtles within French Valley Creek. Unfortunately, no young Pond Turtles were detected, suggesting that the population was not successfully recruiting new individuals. The creek was home to several non-native aquatic animals that depredate young Pond Turtles, and it was postulated that they were consuming all young Pond Turtles before they had a chance to mature.

Beginning in the mid 2010's, the Unit began targeting non-native Red Swamp Crayfish (*Procambarus clarkii*), American Bullfrog (*Lithobates catesbeianus*), Green Sunfish (*Lepomis cyanellus*), Yellow Bullhead (*Ameiurus natalis*), and Large Mouth Bass (*Micropterus salmoides*) for removal from French Valley Creek at the Winchester 700 Murrieta, Murrieta Marketplace, Spencer's Crossing, and Richmond America properties. Utilizing electrofishing equipment and nets,

all portions of the creek with standing water were treated the majority of years, with the goal of reducing the density of non-native aquatic predators in the creek. The non-native animal removal was conducted late summer, as targeted species are concentrated in the remaining isolated pools.

In 2024, hundreds of Crayfish and Bullfrog tadpoles, and dozens of sunfish, bass, bullhead and bullfrog adults were removed from 0.64 miles of the creek on RCA properties (Figure 7-9). While conducting the work on the Murrieta Marketplace property, a young Western Pond Turtle was incidentally captured. This young Pond Turtle was estimated to be five years old. Along with another young Pond Turtle estimated to be five years old captured by the Unit at the Richmond America property in 2022, they represent the only young Pond Turtles captured in the creek in nearly two decades of species monitoring and reserve management under the MSHCP. Both Pond Turtles would have hatched shortly after efforts began to reduce non-native aquatic predators in the creek and their survival was likely facilitated by this work.

***Figure 7-9.*** *Non-native aquatic animal removals being conducted at the Spencer's Crossing property (left) and a young Pond Turtle incidentally captured at the Murrieta Marketplace property (right) during the efforts.*

**Alamos Fire Dozer Line Rehabilitation and Access Controls**

On the afternoon of August 2, the Alamos Fire ignited in the interior of the Rafco property. The wind driven fire was contained within hours but not before consuming 72 acres of conserved land. While most of the fire impacted the Center for Natural Lands Management (CNLM) Lincoln Ranch Preserve, a total of 12 acres of RCA lands were also affected at the Rafco properties and the Calvary Chapple of Murrieta property. Immediately after the fire, Reserve Management staff worked to secure the RCA properties and assess the damage. Several fence cuts that were made during suppression activities were located and secured at the RCA properties, and staff identified a 0.32-mile-long dozer line that was created at the Calvary Chapel of Murrieta property and a new 0.16-

mile-long access road that was created at the Rafco properties. The dozer line was successful at containing the fire; however, no effort was made to rehabilitate impacted habitat by responding agencies after the fire had been suppressed.

Typically, in such instances RCA properties that are affected by wildfires are temporarily closed to the public to allow habitats to recover to prevent potential impacts caused by public access (e.g. introduction of nonnative seeds and new trail creation). The Alamos Fire presented a unique scenario, however that made closures infeasible. The area of the fire contained a popular trail network that crisscrossed RCA and neighboring CNLM properties, and CNLM could not legally close their preserve to the public after the fire. Due to this, and that most of the fire was not on RCA property, it was decided that the RCA properties would not be closed to public, and that any issues would be addressed as they arose. It quickly became apparent that both the new access road at the Rafco properties and the dozer line at the Calvary Chapel of Murrieta property, both of which crossed several established public trails, were being used as trails by both mountain bikers and hikers.

Reserve Management staff developed and implemented a plan to prevent the establishment of new trails on the two disturbances created during the fire. Specifically, in all locations where the access road or dozer line crossed an established trail, efforts were made to discourage the public from veering off the established trail and onto the new disturbance. For the dozer line at the Calvary Chapel of Murrieta property, which crossed established trails in four locations, a combination of logs, brush, and signage were used to discourage access (Figure 7-10). At each location that a trail crossed the dozer line, Reserve Management staff utilized a CAT skid steer tractor with a grapple bucket to place large eucalyptus logs on either side of the trail (the logs had been stockpiled at the property earlier during a Southern California Edison tree removal project). Beyond the logs, staff pulled dead brush back onto the dozer line. The brush not only created a physical inconvenience for anyone who wished to travel the dozer line but also acted to make the dozer line less visually apparent. Finally, Carsonite® "Closed Trail" signposts were also placed at each trail-dozer line interface. An altered method was utilized at the Rafco properties as no dead brush or logs were readily available. Instead, staff utilized rocks and Carsonite® signs to block access onto the access road at two locations.

The access controls were periodically checked for the remainder of the year. They were found to be intact and serving their purpose as there were no signs of the public accessing the disturbed areas.

***Figure 7-10.*** *Dozer line before (left) and after (right) closure/rehabilitation at the Calvary Chapel of Murrieta property*

## 7.10. Lands Received through Federal Clean Water Act Section 404 Permits and Federal Endangered Species Act Section 7 Consultations

The RCA has acquired properties, either in fee title or as the grantee of a conservation easement, that are subject to special reporting requirements under the provisions of federal Clean Water Act (CWA) Section 404 permits and federal Endangered Species Act (ESA) Section 7 consultations. The monitoring, maintenance, and management activities for these properties can include:

1. Annual biological monitoring.
2. Annual removal of trash or man-made debris.
3. Annual maintenance of signage and other notification features.
4. Installation and maintenance of fences and gates.
5. Restoration of the property damaged by historical uses or prohibited activities.

The following subsections summarize the biological monitoring and management activities performed on each of the RCA properties acquired through CWA and ESA consultations. Additional information can be found in the annual MSHCP Species Reports and RCA Quarterly Reports provided to the RCA Board of Directors or where noted.

### 7.10.1 BFW CORONA[1]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

The BFW Corona property was patrolled periodically during 2024 with no major issues to report. The property, which straddles Temescal Creek, would benefit from the removal of dense gum trees (*Eucalyptus* spp.) that dominate the property, control of herbaceous non-native plants, and planting of native riparian plant species.

[1] RC21000025; Project ID 07-014; Acquired 3/07/2007

### 7.10.2 DR. Horton Holding Co[2]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

The Rivers & Lands Conservancy (RLC) entered into an oversight agreement over the 11.10-acre Conservation Easement on December 5, 2023. Pursuant to the agreement, RLC agreed to conduct/complete "Long-Term Weed Management, Field Surveys, Control of Invasive Plant Species, Removal of Accumulated Trash, Annual Report, Owner Contract, and Endowment Reporting…within a 4-acre portion of the Property identified in the Long Term Weed Management Plan (LTWMP)"

In 2024, RLC began surveying the property for habitat conditions, completing photo documentation, contracting pre-herbicide application nesting bird surveys, and contracting with Habitat Restoration Sciences, Inc. (HRS) for herbicide treatments of non-native annual vegetation. In March, HRS treated targeted non-native weeds across 0.50 acres of the oversight area. Additional information can be found in RLC's Annual Monitoring Report on the property.

Reserve Management Rangers periodically checked the property from its perimeter without identifying any issues. Due to the double wrought-iron fences along the property's border with the adjacent housing development and roadway, the property was accessed infrequently by the public.

### 7.10.3 Elsinore Lakeview Estates and Elsinore Lakeview Estates #2 Donation[3]

**Species Monitoring**

The MSHCP Biological Monitoring Program performed Coastal California Gnatcatcher (*Polioptila californica californica*) nest monitoring at the properties. One Gnatcatcher nest at the Elsinore Lakeview Estates was documented to have successfully fledged at least one chick. During the survey efforts one Belding's Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*) was incidentally recorded at the Elsinore Lakeview Estates #2 Donation property.

[2] RC21100007; Project ID 06-R01; Acquired 3/21/2006
[3] RC21000012 & 29; Project ID 06-005 & 06-41; Acquired 5/3/2005 & 12/29/2006

**Management**

Reserve Management Unit Rangers patrolled the properties on foot approximately quarterly. Throughout 2024, a washout of the dirt access road leading to the properties had continued to successfully prohibit full size vehicles from accessing the properties. Issues that had negatively affected the property in the past (i.e., homeless encampments and dumping) continued to be nonexistent at the properties in 2024, at least in part because of the lack of vehicular access.

Although occasional unauthorized dirt bike riding continued to occur, the activity has been greatly reduced at the properties since the time of their acquisition. This is most apparent at the Elsinore Lakeview Estates #2 Donation property which, at the time of the property's acquisition, was a popular riding area. The coastal sage scrub habitat has regrown and most of the former unauthorized trails have nearly vanished. As reserve assembly continues in the area, Reserve Management Unit staff will be afforded more locations to install practical and effective access controls, which will further restrict unauthorized access to the properties.

### 7.10.4 Emerald Meadows[4]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

In 2024, management activities on the Emerald Meadows property (APNs 186-250-007 and 186-250-013) included occasional patrols. The only issue encountered at the property during patrols was a breached gate, which was resecured by a Reserve Management Unit Ranger.

### 7.10.5 EMWD San Jacinto River Conservation Easement[5]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in

[4] RC21000031; Acquired 3/15/2007

[5] RC21000801; Project ID 12-E05; Acquired 5/31/2012

2024; however, three Coastal California Gnatcatchers were incidentally observed utilizing the property by MSHCP Reserve Management staff and MSHCP Biological Monitoring Program staff.

**Management**

MSHCP Reserve Lands in the San Jacinto River Wash had second consecutive year of elevated levels of homeless encampments in 2024. As a result, the property was patrolled one to several times per week. Throughout the year, Reserve Management Unit Rangers located, cleared, and removed six camps from within the property's boundaries. After notices were given to camp occupants to remove camp items and vacate the area with ample time, Reserve Management staff cleaned up each location. In total, an estimated 1.16 tons of camp items and refuse were removed from the property. Refuse from the camps were disposed of, while important or usable items (e.g. unsoiled clothing and camp supplies, legal documents, photos, etc.) were inventoried, collected, and stored for at least 90 days to allow people to reclaim their items if desired.

Reserve Management Unit Rangers also worked to address other unauthorized uses as they arose. The property continued to see moderate OHV use, with access for the unauthorized activity occasionally gained by vandalizing the property's access controls. Gates that directly access the property were found cut open and were secured shut on three occasions and cuts to the property's fencing were located and fixed on one occasion. While OHV activity at the property appeared to have decreased substantially since its acquisition, eliminating the activity on the property has proven difficult as the river bottom itself cannot be fenced and many access points into the river bottom are beyond control of the Reserve Management Unit.

Photo point monitoring stations across the property were visited on several occasions by Reserve Management Unit Natural Resource Specialist staff to document habitat conditions over time. A continued increase in Sahara Mustard (*Brassica tournefortii*) and Stinknet at the property from previous years was noted. In 2024, Reserve Management Staff began targeting Stinknet at the property, which had formed large stands in the western portion of the property but decreased to just scattered individual plants further east. Over the course of several days, Reserve Management staff spot sprayed two large stands, totaling 9.05 acres of Stinknet in the western portion of the property (Figure 7-11). Several days were then spent searching the remainder of the property for the weed and hand pulling, bagging, and removing it when encountered.

***Figure 7-11.*** *A large stand of Stinknet being treated at the EMWD San Jacinto River Conservation Easement*

Southern California Edison (SCE) restoration crews continued to restore habitat at the property damaged by SCE contactors that was discovered by Reserve Management Unit Rangers in early 2021. SCE restoration crews continued to weed non-native vegetation from the impacted areas. These efforts, combined with ground surface recontouring and vertical mulching that had occurred in the areas in 2021, and natural regrowth of damaged native shrubs, have largely made the impacted areas indistinguishable from the surrounding habitat.

### 7.10.6 La Laguna Specific Plan Donation[6]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024; however, they did incidentally observe Coastal Western Whiptail (*Cnemidophorus tigris*

[6] RC21000026; Project ID 18-009; Acquired 3/15/2019

*multiscutatus*) and Coulter's Matilija Poppy (*Romneya coulteri*) at the property while passing through it.

**Management**

The property was occasionally patrolled in 2024. Reserve Management staff located and cleared one homeless encampment from the property. Prior to the individual vacating the property, Reserve Management Rangers assisted the individual by contacting the Riverside County Housing Authority who began the process to find the individual housing. Once the camp was cleared, staff cleaned up scattered trash left behind at the site and repaired one cut to the property's fencing that was being used by the individual for foot access to their camp.

### 7.10.7 Murrieta Marketplace Donation[7]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024. One Western Pond Turtle was documented at the site incidentally by Reserve Management staff.

**Management**

Reserve Management staff conducted electrofishing non-native aquatic animal removals from the property for the benefit of Western Pond Turtle (See Section 7.9 Habitat Enhancement section above for background and additional information).

The property was also patrolled by Reserve Management Unit Rangers occasionally with no issues to report.

### 7.10.8 RCTC Conservation Easement[8]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

[7] RC21000091; Project ID 18-012; Acquired 4/12/2019
[8] RC21000036; Project ID 13-E02; Acquired 5/23/2013

**Management**

The property was inspected occasionally in 2024 by MSHCP Reserve Management Unit staff with no issues to report. The property's alkali playa habitat continued to be actively managed by a third-party restoration group as part of ongoing Riverside County Transportation Commission (RCTC) mitigation requirements.

### 7.10.9 Richmond American Homes[9]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

Third-party Tamarisk (*Tamarix ramosissima*) eradication commenced at the property in 2024. The project was funded through the RCA who had acquired funding from the Altair Development to mitigate for jurisdictional waters impacts at their project site in Temecula. In 2023, the RCA contracted SAWA to clear the property of the invasive tree. Throughout 2024, SAWA staff cut, treated with herbicide, and masticated scattered Tamarisk, and then retreated resprouts of the tree. Cover of Tamarisk varied greatly across the site, but a total of 0.45 acres of Tamarisk were removed and treated at the property. Additional information can be found in SAWA's annual report on the project.

Management activities by Reserve Management Unit staff at the Richmond American Homes property in 2024 included one round of weed abatement using string trimmers adjacent to residential development along the western boundary of the property, as well as adjacent to the roadside along Date Palm Street and Blue Spruce Lane. Weed abatement was limited to the removal of annual vegetation growing between established shrubs. The property was also patrolled one to two times quarterly with no issues to report.

### 7.10.10 Riverpark Mitigation Bank - Phase 1[10] (Conservation Easement)

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in

[9] RC21000023; Project ID 07-011; Conservation Easement 2003-552497; RCA acquired 3/7/2007
[10] RC21000106; Project ID 20-E01; Conservation Easement 2020-0090736 RCA Acquired 2/27/2020

2024.

**Management**

Although the property is managed by Ecosystem Investment Partners, it was occasionally checked by MSHCP Reserve Management Rangers who noted that large scale habitat manipulations were ongoing.

### 7.10.11 Southshore TTM 32013 Donation[11]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

The property was patrolled periodically during 2024. Sporadic dirt bike tracks continued to be noted on existing dirt roads within the property; however, no major issues were found.

### 7.10.12 Spencer's Crossing Donation[12]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

In addition to periodic patrols of the property, Reserve Management Unit staff continued long-term management of the property's former riparian restoration area. In 2024, the treated area was expanded beyond the former three-acre mitigation area to include a two-acre buffer area around it. Despite several years of treating non-native annual vegetation at the site by the Unit, weed coverage continued to persist with little change at the site. Two new weed species were found and targeted – likely because of a combination of new seeds being deposited at the site each year via storm surges in French Valley

[11] RC21000027; Project ID 06-040; Acquired 12/29/2006
[12] RC21000067; Project ID 20-002; Acquired 1/21/2020

Creek and the high densities of non-native vegetation that surround the site. Regardless, over the course of two visits in spring, Reserve Management Unit staff spent a total of eight staff workdays treating a non-native vegetation with Rodeo© herbicide, which was applied in the property's former restoration area and a 10- to 20-foot buffer around it. Targeted species included Black Mustard (*Brassica nigra*), Five-hook Bassia (*Bassia hyssopifolia*), Maltese Star Thistle (*Centaurea melitensis*), Bull Thistle (*Cirsium vulgare*), Perennial Pepperweed (*Lepidium latifolium*), Common Sow Thistle (*Sonchus oleraceus*), and Stinknet.

Reserve Management staff also conducted electrofishing to remove non-native aquatic animals from the property to benefit Western Pond Turtle (See Section 7.9 Habitat Enhancement section above for background and additional information).

### 7.10.13 Spring Mountain Ranch Donations PA5[13]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

Reserve Management Unit staff patrolled the property at least monthly during 2024 with little issues to report. Construction of the neighboring Spring Mountain Ranch housing development neared completion. The entire area, including the property itself, continued to be heavily impacted by large numbers of feral Donkeys (*Equus asinus*).

### 7.10.14 TET Sedco Hills Conservation Bank[14]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

In 2024, management activities at the TET Sedco Hills Conservation Bank property were limited to

[13] RC21000021; Project ID 18-004; Acquired 1/26/2018
[14] RC21000036; Project ID 09-001; Acquired 03/31/2009

one to two patrols quarterly. Three cuts to fencing blocking OHV access into the property at the neighboring RCA Nelson property were repaired.

Evidence of a history of heavy OHV use at the property continues to fade away in most areas as vegetation continues to grow back on old trails. Still, frequent unauthorized dirt bike activity persisted. The problematic nature of dirt bikes at the property stems from the rugged topography, local and entrenched OHV use in the area, and a lack of vehicular access into the most interior areas and distant boundaries of the property by Reserve Management Unit Rangers. Additional OHV access controls in remote areas abutting private property are being considered to further reduce the activity on the property.

Several abandoned cars and old household refuse remain in place at the old house site in the far southern portion of the property. Due to inaccessibility, the former house site cannot be cleaned because no legal access routes exist, and efforts to approach a neighboring private landowner for permission to access the area have been unsuccessful.

### 7.10.15 Teledyne/Mira Loma[15]

#### Species Monitoring

The MSHCP Biological Monitoring Program conducted Delhi Sands Flower-loving Fly (Delhi Fly) line-distance transect surveys at the property. Presence and reproduction of Delhi Fly at the site were confirmed in 2024. Although the Delhi Fly population density at the site had decreased from a record high in 2023, the species was found to be occupying the site at above average levels.

Several MSHCP Covered Species were incidentally documented using the property during monitoring and management activities. These included Coastal Western Whiptails (*Cnemidophorus tigris multiscutatus*), Northern Red-diamond Rattlesnakes (*Crotalus ruber ruber*), and a Peregrine Falcon (*Falco peregrinus*).

#### Management

Reserve Management Unit staff continued the Delhi Fly restoration and habitat improvement project at the property. Work completed on the site in 2024 was similar to recent year's efforts and included

[15] RC22100001; Project ID 03-013; Conservation Easement 2007-0514161; Recorded 8/09/2007; Conservation Easement 2008-0056649; Recorded 2/05/2008

maintenance of open non-vegetated areas with a four-wheel all-terrain vehicle and harrow on two miles of paths created in previous years across the entire site; and hand tool weeding of eight acres of the upper dunes to remove selected non-native plants, mainly Short-pod Mustard (*Hirschfeldia incana*), Sahara Mustard, and Golden Crownbeard (*Verbesina encelioides*) prior to the production and setting of seeds, and young California Buckwheat that had begun to encroach on the open habitat in the upper dunes. Targeted non-native species continued to decrease in overall coverage at the upper dunes due to several years of being eradicated prior to seed setting and required less control effort than in previous years as a result of the reduced presence.

Reserve Management staff also focused their attention on shrub vegetation. In the northwestern section of the property, mature California Buckwheat had become so dense that an area that had formerly been a hot spot for the Delhi Fly was at risk of no longer supporting the species. As a result, the Reserve Management Unit began efforts to thin the shrubs in the area, aiming to reduce it to approximately 50% cover (Figure 7-12). Two days were spent at the site to accomplish this task, once in January with four Reserve Management staff members and another in October with three staff members, four Youth Conservation Core members, one volunteer, and one RCA staff member. The latter was part of a joint RCA and RLC volunteer outreach event. During both visits, crews thinned mature Buckwheat by pulling them from the ground with chains, hauling the shrubs and raked leaf litter to a trailer, and disposing of the vegetation offsite. In total, approximately 2.6 tons of Buckwheat were cleared within a quarter of an acre of the property.

***Figure 7-12.*** *Mature California Buckwheat being thinned (left) and hauled away (right) from the Teledyne property.*

The property was patrolled approximately monthly by Reserve Management Unit Rangers. In May, Reserve Management staff found and worked to close a new, unauthorized 200-foot-long mountain bike connector trail that was under construction. On the new trail, and on the adjacent old trail, several new soil, rock, and sandbag features had been built. All features were torn down, 32 sandbags were removed, and the new trail was posted with "Closed Trail" signage. Throughout the year, Reserve Management Unit Rangers found and repaired cuts to locks and chains of the property's gates on six occasions and repaired two fence cuts.

### 7.10.16 Toscana Donation Phase 1 and Phase 3[16]

**Species Monitoring**

The MSHCP Biological Monitoring Program did not perform focused surveys on the property in 2024.

**Management**

The properties were patrolled by Reserve Management Rangers approximately monthly with no issues to report. Riversidean alluvial fan sage scrub and riparian restoration that had occurred on the Toscana Phase 1 property as mitigation for the neighboring Terramor Development, which achieved its restoration success criteria goals and received Wildlife Agency concurrence in 2024. The restoration areas and existing neighboring habitats of the same types contained a healthy assortment of native shrub and tree species, which showed little to no sign of stress or adverse impacts.

[16] RC21000094; Project ID 17-036 and 18-35; Acquired 12/20/2017 and 12/14/2018

## 7.11. Future Management Activities

Major goals and tasks for 2025 include:

- Plan and implement vegetation control measures, including prescriptive burns (if permitted), herbicide, grazing, and mechanical means to protect particularly sensitive habitats and species.
- Make concerted efforts to address encroachments onto RCA Reserve Lands.
- Maintain patrol and maintenance efforts.
- Purchase and install fencing and other access controls, such as k-rails and/or boulder fences.
- Perform necessary infrastructure improvements to reduce erosion, maintain access, etc.
- Continue to actively manage habitat at Burrowing Owl translocation sites.
- Continue and increase cooperation and coordination with local law enforcement entities.

# 8.0 BIOLOGICAL MONITORING ACTIVITIES

## 8.1 Goals and Objectives

The overall goals of the Biological Monitoring Program (Monitoring Program) are to collect data on the 146 Covered Species and associated vegetation communities over the 500,000-acre Conservation Area to assess the MSHCP's effectiveness at meeting conservation objectives and to provide useful information to Reserve Managers in an adaptive management context. The MSHCP (*Volume 2, Species Accounts*) includes species-specific objectives that are intended to provide for the long-term conservation of all Covered Species. Species objectives direct the type and intensity of monitoring that is conducted by the Monitoring Program on an annual basis. Management decisions or actions are triggered if species objectives or MSHCP conservation goals are not met.

## 8.2 Inventory Phase and Long-term Monitoring Phase

Because there was little existing science-based data for the majority of Covered Species when the MSHCP was permitted, the Monitoring Program is being implemented in two phases: an initial Inventory and Assessment Phase (Inventory Phase) and a Long-term Monitoring Phase. The purpose of the Inventory Phase is to determine where Covered Species occur within the Conservation Area, to gather more information on their habitat preferences and life history (e.g., seasonal activity, reproduction requirements), and to develop efficient survey protocols for species detection. The development of science-based survey protocols is necessary to standardize data collection, to test the reliability of survey methods, to determine feasible and useful monitoring metrics, and to provide a confidence level that unobserved species are truly absent at the survey location, rather than being overlooked.

The transition from Inventory Phase to Long-term Monitoring Phase has been gradual. For species with shorter survey intervals and reporting requirements, such as Quino Checkerspot Butterfly (*Euphydryas editha quino*; annual) or Coastal California Gnatcatcher (*Polioptila californica californica*; every three years), long-term monitoring is already in place. Multiple surveys for species with shorter survey intervals and reporting requirements have been conducted, providing the initial data for population trend assessment. For species with longer survey intervals and reporting requirements, such as Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*; every eight years), and with species-specific monitoring objectives requiring significant development and testing, the transition from Inventory Phase to Long-term Monitoring Phase is ongoing.

The transition to long-term monitoring involves developing monitoring metrics that are efficient to collect and are robust measures of species status and population trend. Along with the species-specific objectives related to monitoring, the baseline monitoring objective for most Covered Species requires at least 75% of listed Core Areas or known locations to be documented as occupied at least once every eight years. Monitoring protocols that provide additional information such as relative abundance of populations at occupied locations, reproductive success, or health of observed individuals will be employed whenever possible, to provide more detailed understanding of a species' status. Monitoring Program staff have worked in collaboration with University of California Riverside Center for Conservation Biology staff to develop conceptual models of Covered Species and their habitats to help identify key population drivers and environmental stressors upon which management can act.

One significant task included in the Inventory Phase was the development of a Long-term Monitoring Strategy document, as described in Section 5 of the MSHCP (*Volume 1*). This document explicitly describes the approach taken to meet the goals of the Monitoring Program. It does not include taxa-specific monitoring protocols, which are available from the Monitoring Program by request or can be found on the RCA website at https://www.wrc-rca.org/survey_protocols/. Monitoring Program staff completed and delivered the Long-term Monitoring Strategy to the RCA and the California Department of Fish and Wildlife (CDFW) as part of a State Wildlife Grant that expired on June 30, 2012.

The Long-term Monitoring Strategy describes a two-level design that gives priority to assessing the status of Covered Species as stated in the species-specific conservation objectives of the Plan, which emphasizes the continued occupancy of MSHCP-defined Core Areas or other areas of known occurrence. For some species, the objectives require that reproduction and/or minimum densities of individuals within species Core Areas be verified. The second level extends sampling for terrestrial vertebrates to the entire Conservation Area in a cost-efficient manner. The Long-term Monitoring Strategy describes monitoring goals and objectives, sample design considerations, protocol development, data and information management strategies, collaboration and communication with other organizations, and the organizational framework of the Monitoring Program.

One of the explicit goals of the Monitoring Program is to develop efficient long-term monitoring protocols that reduce redundancies by collecting information on multiple species where possible. For example, bird species co-occurring in similar habitat (e.g., willow riparian) during the breeding season can be detected using the same survey protocols. There will always be some Covered Species that occur in isolated pockets within the Conservation Area or that are difficult to detect using standard survey protocols; for these species, a focused survey effort will always be required.

## 8.3 Monitoring Program Operations

The Monitoring Program is implemented within the MSHCP Conservation Area on lands that are owned and managed by the various MSHCP participants and other entities and is comprised of PQP (347,000 acres) and ARL (70,502 acres). CDFW was responsible for implementing the Monitoring Program for the first eight years of the Permit (*MSHCP Volume 1, Section 6*). To ensure consistency in monitoring efforts throughout the Conservation Area, the Monitoring Program is overseen and implemented by a Monitoring Program Administrator. Effective July 1, 2012, when the State Wildlife Grant ended, the RCA assumed all funding responsibility for the Monitoring Program with the exception of one full time position provided by CDFW serving as the Avian Lead.

In the initial years of the Monitoring Program, extensive effort was devoted to setting up operating procedures, determining budgets, establishing contracts, purchasing supplies and equipment, hiring and training personnel, acquiring land access agreements, and coordinating with Reserve Managers within the Plan Area. These processes are now largely developed and only require updating (e.g., operating procedures), renewal (e.g., expiring right of entry agreements), or training when new personnel are involved (e.g., new Monitoring Program staff or Reserve Managers).

An integrated database to make information collected by the Monitoring Program manageable and accessible is now complete. Monitoring Program datasets that have been thoroughly proofed and certified as complete by the Data Manager are submitted to CDFW's Biogeographic Information and Observation System every year, as well as to local partnering agencies and entities. The structure needed to support a long-term Monitoring Program is in place.

### 8.3.1 Monitoring Program Personnel

The Monitoring Program Manager (Administrator) oversees staff funded by the RCA and provided by CDFW. RCA-funded staff are provided through a contract with the Santa Ana Watershed Association (SAWA). Monitoring Program staff work together as a team to coordinate, develop, and implement required monitoring activities for the MSHCP.

At the beginning of 2024, 16 positions were filled in the Monitoring Program, 15 of which were funded by the RCA, with one funded by CDFW. Nine of these positions consisted of Taxa Leads and office-based staff, and seven full-time field biologists.

Annual staffing levels, and therefore survey effort, reflect the budget available to the Monitoring Program. Although progress continues to be made toward documenting the current status of all

146 Covered Species, the availability of resources generally determines the amount of monitoring efforts conducted annually.

### 8.3.2 Training

All Monitoring Program field biologists are trained on local species identification, handling, and data collection methods. Field staff are trained in identification and survey techniques for multiple taxa to provide scheduling flexibility and increase staff efficiency. Specific training provided in any given year depends on the survey activities planned; however, safety training (e.g., wilderness first aid and CPR) is provided to all staff as necessary to keep certifications current. The Monitoring Program is required to use training programs approved by the Wildlife Agencies to ensure consistent data collection, uniform implementation of protocols, safe handling procedures, and appropriate experience with Covered Species (*MSHCP Volume 1, Section 7*). Training is provided both by experienced Monitoring Program biologists and by qualified outside entities (e.g., U.S. Geological Survey, U.S. Fish and Wildlife Service). More information on species training received is presented in Appendix C – *Staff Training.*

### 8.3.3 Land Access Agreements and Coordination with Reserve Managers

The Monitoring Program only conducts surveys within the Conservation Area, which is composed of PQP lands and ARL. Before surveys are conducted by the Monitoring Program, permission is obtained from the appropriate landowners or managing entities to access the survey areas. Land access agreements for 2024 for Monitoring Program activities are listed in Appendix B, Table B-1, *Access Agreements and RCA Lands Surveyed in 2024.*

To facilitate land access and to better coordinate monitoring activities with management activities, Monitoring Program staff meets monthly with Reserve Managers (Reserve examples listed in Appendix B, Table B-1). At these meetings, Monitoring Program staff provide a description of current activities, including protocols and maps when relevant, and present species occurrence data and current monitoring results to the Reserve Managers. Management/Monitoring coordination meetings also feature a short presentation on a relevant topic. Speakers range from researchers at local universities, local biologists conducting similar monitoring or land management work, regulatory officials, as well as MSHCP staff presenting monitoring results. All meetings were conducted virtually on a Zoom platform. In 2024, the following presentations were hosted:

- Properly Using Artificial Cover, Placement Strategies to Increase Success Rates.
- Investigating Spatial Spread and Revegetation Strategies for Invasive Annual Grasses After Fire.

- 2023 MSHCP Project Updates.
- Clinton Keith Under - Overpasses.
- Rattling Perceptions: Exploring the Social Lives of Rattlesnakes.
- Monitoring a Vernal Pool in Southern California: Implications of Changing Weather Patterns Across Years.
- Science to Inform Efficacy of Road Crossing and Barrier Systems for Reptiles and Amphibians.
- Disentangling the Drivers of Plant Community Structure Across a Southern California Elevation Gradient.
- For the Pines They Are A-Changin': Forest Dynamics of a Montane Hardwood-Conifer Forest
- Impacts of Effluent and Invasion in the Santa Ana River.

## 8.4 Summary of 2024 Monitoring Activities and Evaluation of Progress Toward Achieving Measurable Objectives

The activities of the Monitoring Program are largely based on requirements of the MSHCP species-specific monitoring objectives outlined in *Section 5 and Table 9-2* of the MSHCP (*Volume I*), as well as *Volume II-B Species Accounts*. Species objectives specify time intervals for detecting and reporting on each of the Covered Species in the Conservation Area. When species objectives do not specify a time interval, the status of the Covered Species must be reported at least once every eight years. In addition to species objectives, survey priorities are influenced by the quantity and quality of information available for each species (e.g., little or poor information means greater survey effort and/or more frequently), whether another agency is already conducting surveys (less effort required by the Monitoring Program), relative ease of gathering information (e.g., Yellow Warbler detections during Least Bell's Vireo surveys), and priority of the species to the RCA, Permittees, and Wildlife Agencies (e.g., Burrowing Owl is high priority).

The Monitoring Program only addresses species objectives that must be evaluated using biological surveys. Those species objectives, along with the frequency of the reporting requirement, whether the species was detected in the past or in the current reporting year, and whether the stated objectives are met are provided in Appendix B, Table B-2, *Details of Covered Species Monitoring*. The majority (121 of 146) of the Covered Species must be reported on at least once every eight years. The remaining 25 species have reporting requirements that vary between one and five years.

The Monitoring Program has developed a timeline for the survey of Covered Species. The scheduling of surveys is approximate due to the prioritization process described above and because

survey protocols can take more than one year to complete. Modifications to the timeline are expected to occur based on the results of each year's monitoring efforts and available budget.

The 2024 reporting period represents the twentieth full survey season for the Monitoring Program. The following survey activities were carried out in 2024 by the Monitoring Program:

- Burrowing Owl Monitoring
- Coastal California Gnatcatcher Nest Monitoring
- Grasshopper Sparrow Surveys
- Arroyo Toad Surveys
- Artificial Cover Surveys
- Drift-Fence Camera Surveys
- Western Pond Turtle Surveys
- Carnivore Surveys (Moreno Valley Wildlife Undercrossing /Anza Knolls)
- Clinton Keith Overcrossing and Undercrossing Surveys (ended in June)
- Vernal Pool Surveys (Fairy Shrimp and Western Spadefoot)
- Delhi Sands Flower-Loving Fly Surveys
- Quino Checkerspot Butterfly Surveys
- Rare Plant Surveys
- Incidental Species Sightings

Detailed survey reports, including the rationale for survey protocols, a description of methods, targeted species, and survey results for Coastal California Gnatcatcher Nest Monitoring, Grasshopper Sparrow, Clinton Keith Overcrossing and Undercrossing, Quino Checkerspot Butterfly and Rare Plants are available on the RCA website at https://www.wrc-rca.org/species-surveys. The Delhi Sands Flower-Loving Fly survey report will now be presented every two years. Detailed reports for Western Pond Turtle and Vernal Pool surveys will now be presented upon completion of the survey period; every three and eight years, respectively. A summary is presented below for each of the remaining survey activities carried out in 2024.

Evaluation of MSHCP monitoring objectives for Covered Species occurs annually. In 2024, Monitoring Program biologists conducted focused surveys for 65 of the 146 Covered Species in the Conservation Area. Fifty-five targeted MSHCP Covered Species were detected and an

additional 47 MSHCP Covered Species were incidentally observed (Appendix B, Table B-2, *Details of Covered Species Monitoring*). In total, 102 of the 146 Covered Species were detected within the Conservation Area in 2024. These numbers are calculated based on a 30-meter buffer around the Conservation Areas that is used in creating the Species Occurrence Dataset. Since June 2004, a total of 143 of the 146 Covered Species have been detected in the Conservation Area. A map of the Conservation Area is found in Section 1.1 of this report (refer to Exhibit 1-2).

Species-specific monitoring objectives, described in the Species Accounts from Volume 2 of the MSHCP, are evaluated at the interval indicated in the "Frequency" column of Appendix B, Table B-2, *Details of Covered Species Monitoring*. Objectives that have been met previously are subject to expiration based on the date the observations were last documented relative to the required monitoring frequency. When data collected by the Monitoring Program are determined to be sufficient to meet the species-specific monitoring objectives a "YES" appears in the "Objective Currently Met" column. When data collected by the Monitoring Program indicate that the expected conservation identified in the species accounts has not been achieved, a "NO" appears in the "Objective Currently Met" column. When data collected by the Monitoring Program indicate that the expected conservation identified in the species accounts has only partially been achieved (e.g., one of two objectives), a "Partial" appears in the "Objective Currently Met" column and additional information with regards to which objectives have been met is provided. The Monitoring Program has collected sufficient data to confirm that species-specific monitoring objectives for eight MSHCP Covered Species are currently met. There are five monitoring objectives that have been partially met for Covered Species. In addition, there are 44 Covered Species meeting the MSHCP Table 5-8 objective requiring a minimum level of occupation of known locations (Appendix B, Table B-2).

According to *Section 2.1.4* of the MSHCP (*Volume I*), 118 of the 146 Covered Species were considered to be adequately conserved at inception of the Plan. The remaining 28 Covered Species will be considered to be adequately conserved when certain conservation requirements are met as identified in the species-specific conservation objectives for those species. For 16 of the 28 species, particular species-specific conservation objectives, which are identified in *Table 9-3* of the MSHCP (*Volume I*), must be satisfied to shift those particular species to the list of Covered Species Adequately Conserved. For the remaining 12 species, a Memorandum of Understanding must be executed with the Forest Service that addresses management for these species on Forest Service Land to shift these species to the list of Covered Species Adequately Conserved.

When data collected by the Monitoring Program are determined to be sufficient to meet the species-specific objectives described in *Table 9-3* of the MSHCP (*Volume I*) a "YES" appears in the "Table 9-3 Requirement Met?" column of Appendix B, Table B-3, *Status of Covered Species*

*Not Adequately Conserved*. When data collected by the Monitoring Program indicate that the expected conservation identified in *Table 9-3* of the MSHCP (*Volume I*) has not been achieved a "NO" appears in the "Table 9-3 Requirement Met?" column. When data collected by the Monitoring Program indicate that the expected conservation identified in Table 9-3 has only partially been achieved (e.g., one of two objectives), a "Partial" appears in the "Table 9-3 Requirement Met?" column. The Monitoring Program has collected sufficient data to confirm that requirements listed in *Table 9-3* of the MSHCP (*Volume I*) for nine Covered Species Not Adequately Conserved have currently been met and one has been partially met (Appendix B, Table B-3). In this report, the species names used are those referenced in the MSHCP. See Appendix B, Table B-4 for updated classification of species names that have changed since Plan adoption.

### 8.4.1 Burrowing Owl Pair Count Monitoring

The species objectives for Burrowing Owl (*Athene cunicularia hypugaea*) require the conservation of five Core Areas, plus interconnecting linkages, containing a breeding population of 120 Burrowing Owls with no fewer than five pairs in any one Core Area. Core Areas listed in the MSHCP include Lake Skinner/Diamond Valley Lake, playa west of Hemet, San Jacinto Wildlife Area/Mystic Lake area including Lake Perris, Lake Mathews, and along the Santa Ana River. MSHCP Core Area descriptions can be found in Section 3.2.3 *Cores and Linkages within the MSHCP Conservation Area* of the MSHCP (*Volume I*).

Several Land Managers within the Conservation Area have installed artificial burrows and are managing vegetation to facilitate Burrowing Owl use of Core Areas. Reserve Managers or Biological Monitoring Program biologists check all artificial and previously occupied natural burrows at least three times each year (April, August, and December) to determine whether they are being used by Burrowing Owls, if there is burrow maintenance needed to make them hospitable, and whether nearby habitat needs to be modified or managed to further encourage use by Burrowing Owls.

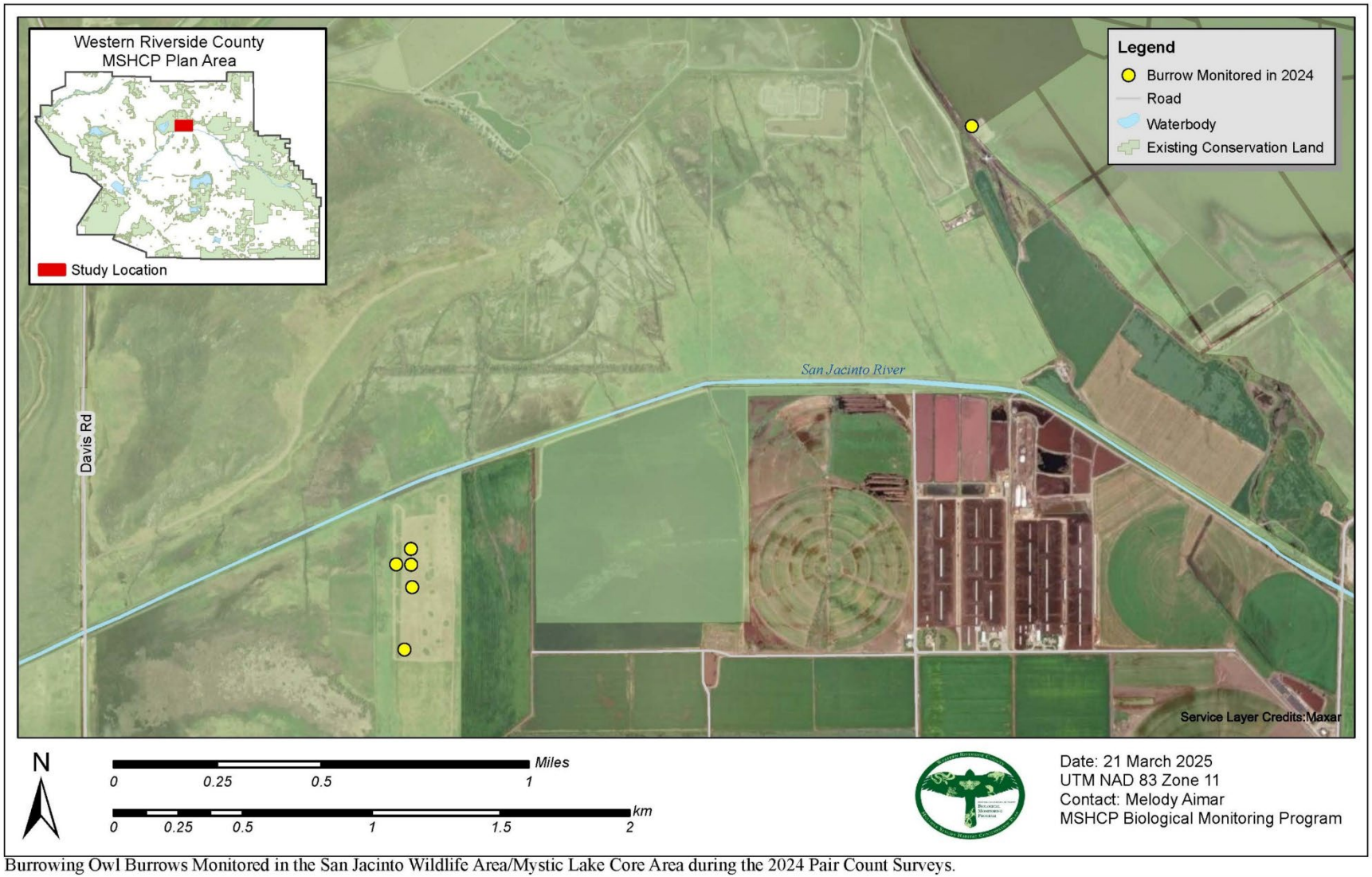
During the 2024 breeding season, two Burrowing Owl pairs distributed across five monitored burrows within the Lake Skinner/Diamond Valley Lake Core Area were monitored (*Figure 8-1, Burrowing Owl Burrows Monitored in the Lake Skinner/Diamond Valley Lake Core Area During the 2024 Pair Count Surveys*). Both of these pairs showed evidence of nesting, with one pair producing at least five fledglings and the other producing at least four fledglings. Two Burrowing Owl pairs distributed across six monitored burrows within the San Jacinto Wildlife Area/Mystic Lake Core Area were also monitored in 2024 (*Figure 8-2, Burrowing Owl Burrows Monitored in the San Jacinto Wildlife Area/Mystic Lake Core Area During the 2024 Pair Count Surveys*). Both of these pairs showed evidence of nesting, with one pair producing at least four fledglings and the other producing at least two fledglings.

Finally, biologists with the Riverside County Regional Park and Open-Space District monitored additional burrows within the Lake Skinner/Diamond Valley Lake Core Area, specifically on the RCA's El Sol Vineyard Hill Donation property. They also monitored burrows at the RCA's McElhinney/Stimmel property, which is not within any of the MSHCP-designated Core Areas for Burrowing Owls. Results and maps of these locations will be reported separately.

***Figure 8-1.*** *Burrowing Owl Burrows Monitored in the Lake Skinner/Diamond Valley Lake Core Area During the 2024 Pair Count Surveys.*


Burrowing Owl Burrows Monitored in the Lake Skinner/Diamond Valley Lake Core Area during the 2024 Pair Count Surveys.

***Figure 8-2**. Burrowing Owl Burrows Monitored in the San Jacinto Wildlife Area/Mystic Lake Core Area During the 2024 Pair Count Surveys*




Burrowing Owl Burrows Monitored in the San Jacinto Wildlife Area/Mystic Lake Core Area during the 2024 Pair Count Surveys.

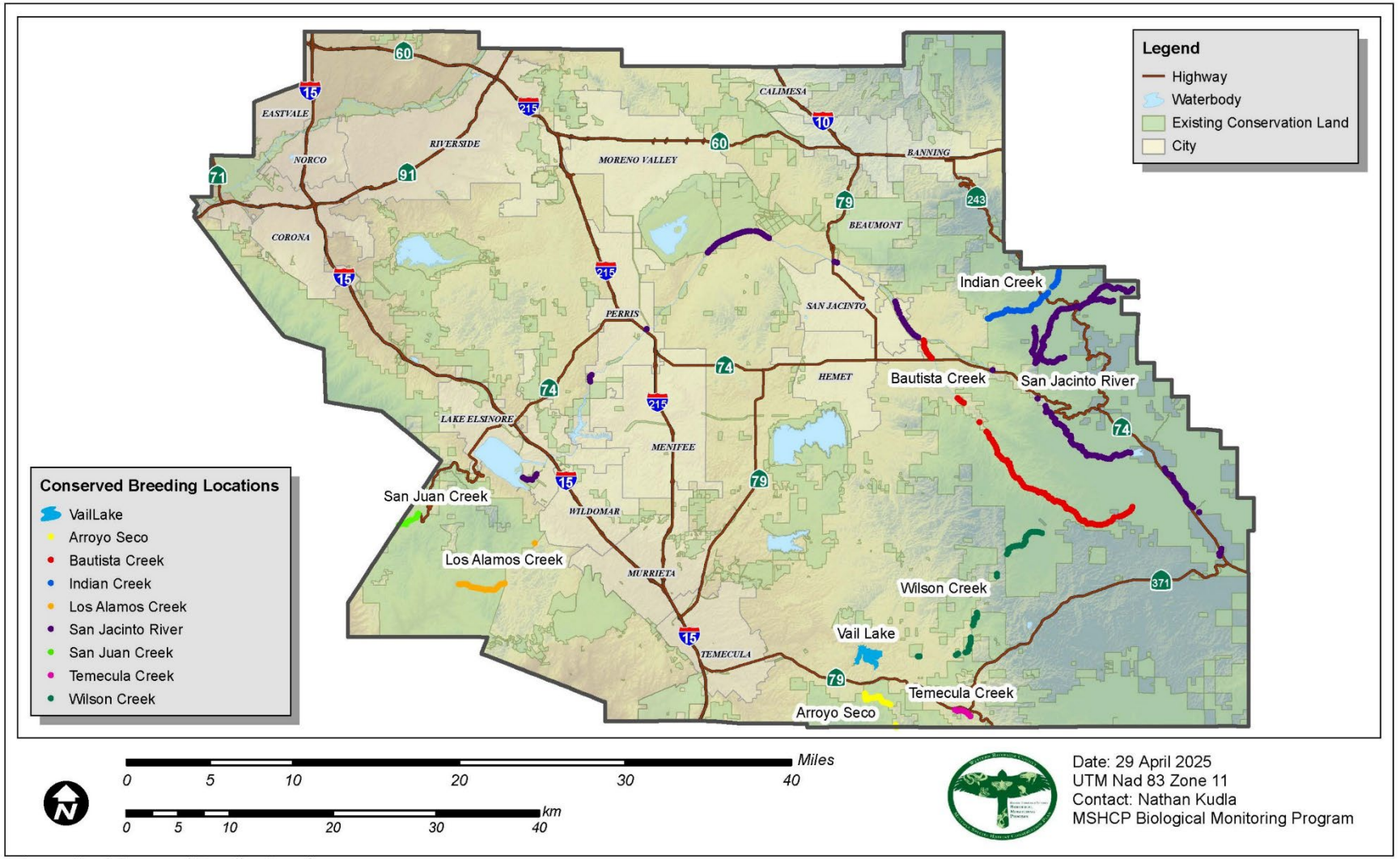
### 8.4.2 Arroyo Toad

The MSHCP Species Objective for the Arroyo Toad (*Bufo californicus*)[1] requires maintaining breeding populations within a minimum of 80% of the conserved breeding locations as measured by the presence of Arroyo Toad egg masses, tadpoles, or juvenile toads across any five consecutive years. There are nine conserved breeding locations including Arroyo Seco, Bautista Creek, Indian Creek, Los Alamos Creek, San Jacinto River, San Juan Creek, Temecula Creek, Vail Lake, and Wilson Creek (*Figure 8-3. Arroyo Toad Conserved Breeding Locations*). In 2024, we conducted stream surveys at the Bautista Creek conserved breeding location as Arroyo Toads have not been observed within this conserved breeding location since 2017. Additionally, there were and still are concerns pertaining to the impact of the 2022 Fairview Fire on Arroyo Toad habitat, as the fire encompassed the entirety of historic Biological Monitoring Program Arroyo Toad observations at Bautista Creek (*Figure 8-4. Arroyo Toad Survey Locations at Bautista Creek in 2024 in Relation to the 2022 Fairview Fire Area.).*

To conduct surveys, we followed the 2024 Western Riverside County MSHCP Biological Monitoring Program Stream Survey Protocol (https://www.wrc-rca.org/survey_protocols). Starting on May 13, 2024, and concluding on July 3, 2024, we conducted 48 stream surveys at 22 stream segments (5.5 kilometers) at Bautista Creek. We did not detect evidence of Arroyo Toad presence or reproduction at Bautista Creek. These results are concerning as this is the second year of extensive surveys conducted by the BMP for Arroyo Toad at Bautista Creek following the 2022 Fairview Fire with no observations documented since 2017. Further stream surveys are warranted at Bautista Creek to determine the continued occupancy of Arroyo Toads at this conserved breeding location.

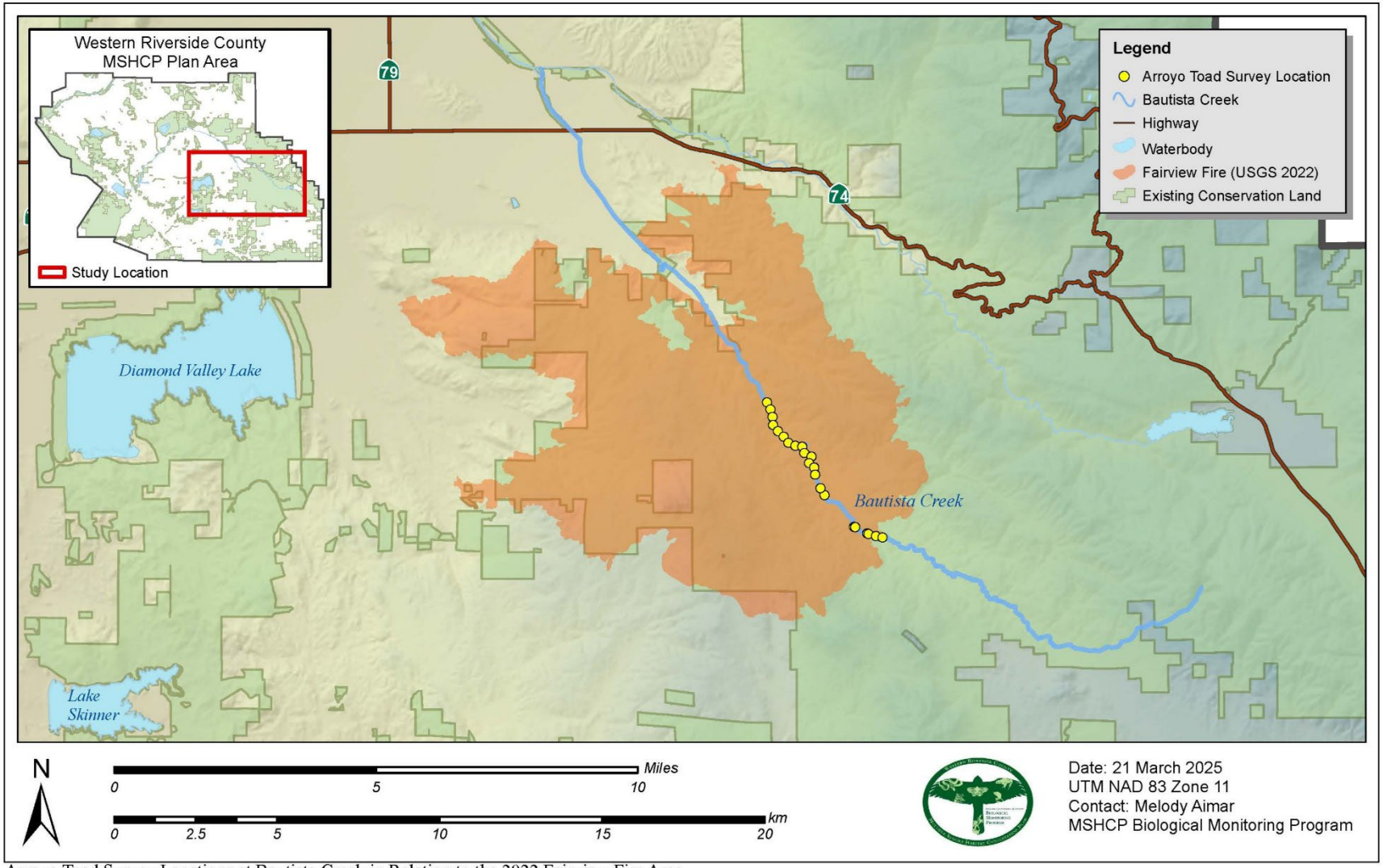
1 For the purposes of this report, species common and scientific names reflect those referenced in the Plan. Denoted species names have been updated through peer-reviewed literature and the taxonomic naming authorities (Appendix B-4).

***Figure 8-3.*** *Arroyo Toad Conserved Breeding Locations.*




Arroyo Toad Conserved Breeding Locations.

***Figure 8-4.*** *Arroyo Toad Survey Locations at Bautista Creek in 2024 in Relation to the 2022 Fairview Fire Area*




Arroyo Toad Survey Locations at Bautista Creek in Relation to the 2022 Fairview Fire Area.

### 8.4.3 Artificial Cover Surveys

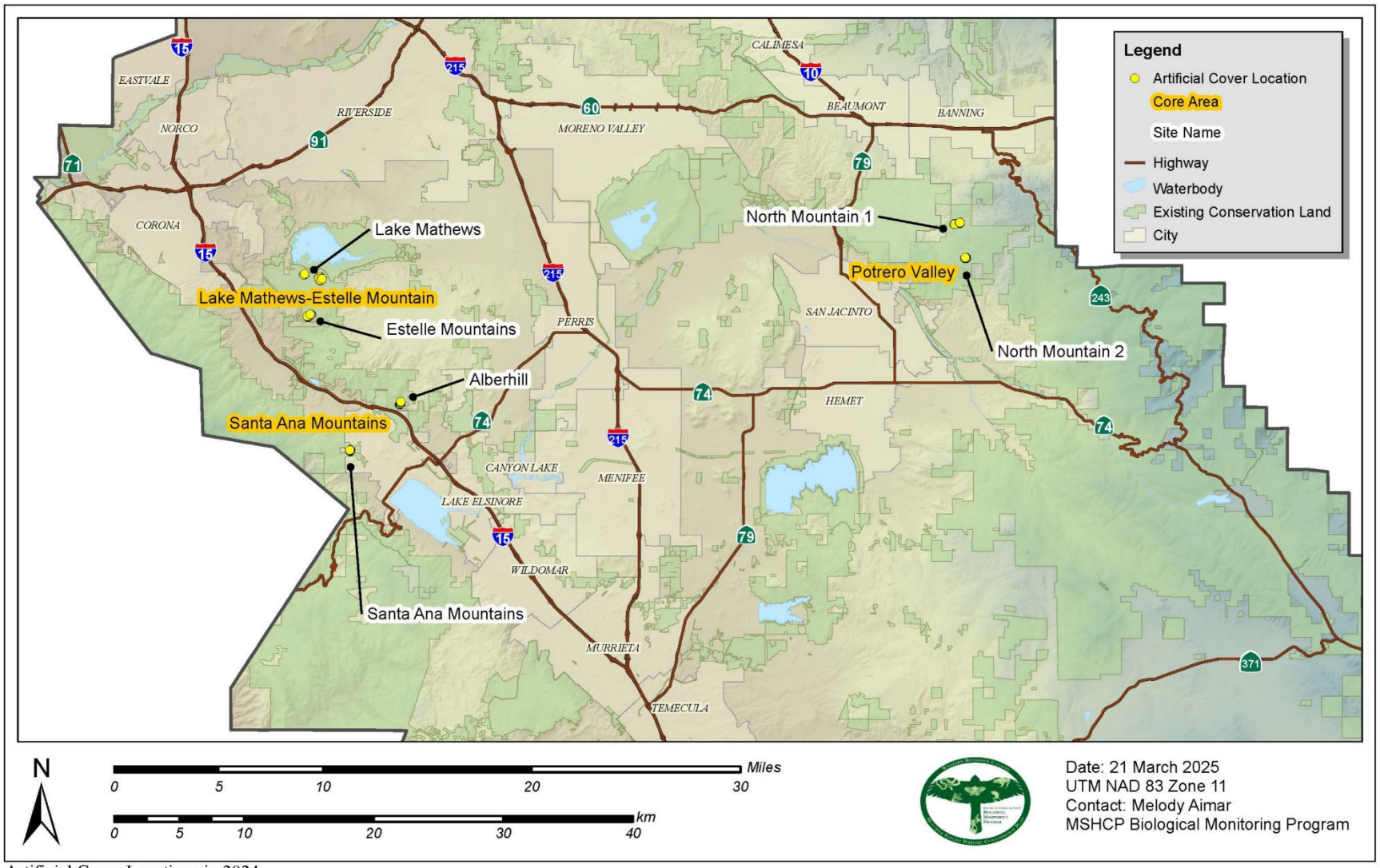
In 2024, we conducted artificial cover surveys to document the presence of MSHCP target Covered reptile species within three Core Areas, Lake Mathews/Estelle Mountain, Potrero Valley, and Santa Ana Mountains (*Figure 8-5. Artificial Cover Locations in 2024*). The eight target Covered reptile species included Belding's Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*)[1], Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)[1], Granite Night Lizard (*Xantusia henshawi henshawi*)[1], Granite Spiny Lizard (*Sceloporus orcutti*), Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*)[1], San Diego Banded Gecko (*Coleonyx variegatus abbottii*), San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*)[1], and San Diego Mountain Kingsnake (*Lampropeltis zonata pulchra*)[1].

We installed eight artificial cover objects made of wood (122 by 122 by 2.5 centimeters) and four made of tin (122 by 66 centimeters) at five sites within the aforementioned Core Areas. These include the North Mountain 1 and 2 sites in the Potrero Valley Core Area, the Lake Matthews and Estelle Mountain sites in the Lake Mathews/Estelle Mountain Core Area, and the Santa Ana Mountain site in the Santa Ana Mountains Core Area. A sixth site, Alberhill, in the Lake Mathews/Estelle Mountain Core Area was an exception with no tin artificial cover used (*Figure 8-5. Artificial Cover Locations in 2024*).

To conduct surveys, we followed the 2024 Western Riverside County MSHCP Biological Monitoring Program Artificial Cover Survey Protocol (https://www.wrc-rca.org/survey_protocols). Between January 26, 2024 and June 21, 2024, we conducted five artificial cover surveys at each artificial cover site. During artificial cover surveys, five MSHCP Covered reptile species were observed including the Belding's Orange-throated Whiptail, Coastal Western Whiptail, Granite Spiny Lizard, Northern Red-diamond Rattlesnake, and San Diego Horned Lizard (Table 8-1). We will continue monitoring artificial cover sites in 2025.

[1] For the purposes of this report, species common and scientific names reflect those referenced in the Plan. Denoted species names have been updated through peer-reviewed literature and the taxonomic naming authorities (Appendix B-4).

***Figure 8-5**. Artificial Cover Locations in 2024.*




Artificial Cover Locations in 2024.

**Table 8-1** Count of reptiles and amphibians observed at each artificial cover site during artificial cover surveys in 2024. Species with an asterisk (*) represent Western Riverside County MSHCP Covered Species.

| Species[1] | Lake Mathews | Estelle Mountain | Alberhill | North Mountain 1 | North Mountain 2 | Santa Ana Mountains | Totals |
|---|---|---|---|---|---|---|---|
| *Belding's Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*).[1] | 1 | - | - | - | - | - | 1 |
| *Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*) | 1 | - | - | 1 | - | - | 2 |
| *Granite Spiny Lizard (*Sceloporus orcutti*) | 2 | - | - | 2 | 1 | - | 5 |
| *Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*) | 1 | - | - | - | - | - | 1 |
| *San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*) | - | - | - | 1 | - | - | 1 |
| California Kingsnake (*Lampropeltis californiae*) | - | - | 2 | - | - | - | 2 |
| California Striped Racer (*Masticophis lateralis lateralis*) | - | - | - | - | 1 | - | 1 |
| California Toad (*Anaxyrus boreas halophilus*) | - | - | 1 | - | - | 3 | 4 |
| Garden Slender Salamander (*Batrachoseps major major*) | - | - | 1 | - | - | - | 1 |
| Great Basin Fence Lizard (*Sceloporus occidentalis longipes*) | 1 | 1 | - | - | 3 | 8 | 13 |
| Long-nosed Snake (*Rhinocheilus lecontei*) | - | - | 1 | - | - | - | 1 |
| Red Coachwhip (*Masticophis flagellum piceus*) | - | - | - | - | - | 1 | 1 |
| San Diego Gophersnake (*Pituophis catenifer annectens*) | 3 | - | 1 | - | - | - | 4 |
| San Diego Nightsnake (*Hypsiglena ochrorhyncha klauberi*) | 1 | - | - | - | - | 2 | 3 |
| Skilton's Skink (P*lestiodon skiltonianus skiltonianus*) | 1 | - | - | 2 | - | - | 3 |
| Southern Pacific Rattlesnake (*Crotalus oreganus helleri*) | - | - | - | 1 | 1 | - | 2 |
| Western Side-blotched Lizard (*Uta stansburiana elegans*) | 8 | 1 | - | 3 | 1 | 2 | 15 |

1 For the purposes of this report, species common and scientific names reflect those referenced in the Plan. Denoted species names have been updated through peer-reviewed literature and the taxonomic naming authorities (Appendix B-4)

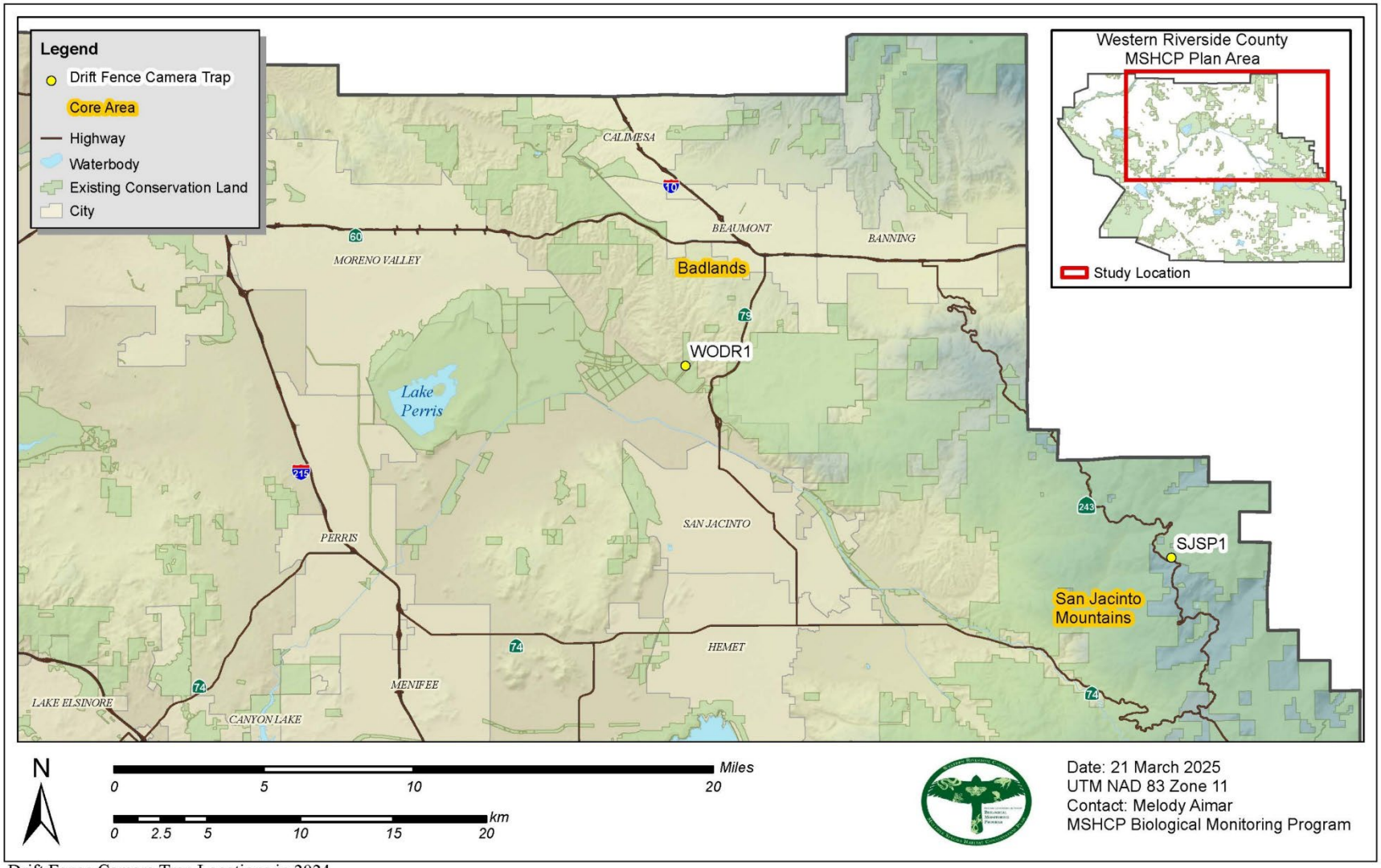
### 8.4.4 Drift-Fence Camera Surveys

We surveyed for covered herpetofauna and small mammals using drift fence camera traps (DFCT), within two Core Areas, the Badlands and San Jacinto Mountains (*Figure 8-6. Drift Fence Camera Trap Locations in 2024*). The DFCT consists of a drift fence and camera trap box. Animals that run into the drift fence are funneled into the camera trap box where a photo of the animal is taken. A detailed survey protocol is described in the Western Riverside County MSHCP BMP Drift Fence Camera Trap 2024 Protocol, available at https://www.wrc-rca.org/survey_protocols/. We used historic observations of covered herpetofauna and small mammal species to identify locations within Core Areas to place the DFCTs. We scouted for habitat features commonly used by herpetofauna and small mammals such as rock piles, ravines, washes, or water sources to place the DFCTs. After installing the DFCTs, they were checked approximately every four weeks to swap out the memory card, check the status of the camera batteries, and inspect the DFCTs for repairs/maintenance. The photos were downloaded off the memory card and species were identified by our biologists.

The DFCT named WODR1 was set within the Badlands Core Area on January 4, 2024, and was active through December 31, 2024. The DFCT named SJSP1 was set within the San Jacinto Mountains Core Area on April 30, 2024 and removed on December 4, 2024. At WODR1, we detected four covered herpetofauna; Belding's Orange-throated Whiptail (*Cnemidophorus hyperythra beldingi*)[1], Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)1, Granite Spiny Lizard (*Sceloporus orcutti*), and Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*)1 and five covered mammal species; Brush Rabbit (*Sylvilagus bachmani*), Coyote (*Canis latrans*), Dulzura Kangaroo Rat (*Dipodomys simulans*), Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*), and San Diego Desert Woodrat (*Neotoma lepida intermedia*)1. At SJSP1, we detected two covered herpetofauna species; Granite Spiny Lizard and Southern Sagebrush Lizard (*Sceloporous graciousus vandenburgianus*) and one covered mammal species; San Diego Desert Woodrat. In addition to the Covered Species, non-covered species detected via the DFCTs are shown in Table 8-2.

[1] For the purposes of this report, species common and scientific names reflect those referenced in the Plan. Denoted species names have been updated through peer-reviewed literature and the taxonomic naming authorities (Appendix B-4).

***Figure 8-6.*** *Drift Fence Camera Trap Locations in 2024.*




Drift Fence Camera Trap Locations in 2024.

**Table 8-2**. List of species detected during drift fence camera trap surveys in 2024 including number of detections. Species with an asterisk (*) represent Western Riverside County MSHCP Covered Species.

| Species | WODR1 | SJSP1 |
|---|---|---|
| **Amphibians** | | |
| California Toad (*Anaxyrus boreas halophilus*) | 10 | - |
| **Birds** | | |
| Bewick's Wren (*Thryomanes bewickii*) | 5 | 1 |
| California Towhee (*Melozone crissalis*) | 44 | - |
| Dark-eyed Junco (*Junco hyemalis*) | - | 6 |
| Greater Roadrunner (*Geococcyx californianus*) | 1 | - |
| Rock Wren (*Salpinctes obsoletus*) | 1 | - |
| **Mammals** | | |
| Big-eared Woodrat (*Neotoma macrotis*) | - | 2 |
| Botta's Pocket Gopher (*Thomomys bottae*) | 30 | - |
| *Brush Rabbit (*Sylvilagus bachmani*) | 147 | - |
| *Neotamias* spp. | - | 152 |
| California Ground Squirrel (*Otospermophilus beecheyi*) | 14 | 52 |
| California Vole (*Microtus californicus*) | 27 | - |
| *Coyote (*Canis latrans*) | 2 | - |
| Desert Cottontail (*Sylvilagus audubonii*) | 393 | - |
| *Dulzura Kangaroo Rat (*Dipodomys simulans*) | 11 | - |
| *Neotoma* spp. | 1527 | 11 |
| *Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*) | 478 | - |
| *Peromyscus* spp. | 1648 | 715 |
| *San Diego Desert Woodrat (*Neotoma lepida intermedia*)[1] | 62 | 2 |
| Striped Skunk (*Mephitis mephitis*) | 1 | - |
| Ticul's Desert Shrew (*Notiosorex tatalticuli ocanai*) | 21 | - |
| Western Harvest Mouse (*Reithrodontomys megalotis*) | 17 | - |
| **Reptiles** | | |
| *Belding's Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*)**Error! Bookmark not defined.** | 88 | - |
| California Striped Racer (*Masticophis lateralis lateralis*) | 1 | - |
| Coast Patch-nosed Snake (*Salvadora hexalepis virgultea*) | 1 | - |
| *Coastal Western Whiptail (*Cnemidophorus tigris multiscutatus*)**Error! Bookmark not defined.** | 26 | - |
| California Kingsnake (*Lampropeltis californiae*) | 1 | - |
| Gilbert's Skink (*Plestiodon gilberti*) | 1 | - |
| *Granite Spiny Lizard (*Sceloporus orcutti*) | 26 | 42 |
| Great Basin Fence Lizard (*Sceloporus occidentalis longipes*) | 34 | 49 |
| *Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*)**Error! Bookmark not defined.** | 1 | - |
| Red Coachwhip (*Masticophis flagellum piceus*) | 1 | - |
| San Diego Gophersnake (*Pituophis catenifer annectens*) | 3 | 3 |
| Southern Alligator Lizard (*Elgaria multicarinata*) | 1 | 1 |
| Southern Pacific Rattlesnake (*Crotalus oreganus helleri*) | - | 8 |
| *Southern Sagebrush Lizard (*Sceloporous graciousus vandenburgianus*) | - | 7 |
| Western Skink (*Plestiodon skiltonianus*) | 2 | - |

[1] For the purposes of this report, species common and scientific names reflect those referenced in the Plan. Denoted species names have been updated through peer-reviewed literature and the taxonomic naming authorities (Appendix B-4).

### 8.4.5 Carnivore Surveys

Species objectives for Bobcat *(Felis rufus*), Mountain Lion *(Puma concolor*), Coyote (*Canis latrans*), and Long-tailed Weasel (*Mustela frenata*) require the conservation of contiguous-habitat blocks and the maintenance of corridors that provide an effective means for dispersal. Because it is not explicitly stated in the species objectives, we assume that we must document these covered carnivores using ≥75% of Core Areas at least once every eight years (see Volume I, Section 5.0, Table 5-8 of the MSHCP). Carnivore movement must also be shown to occur across potential barriers to animal dispersal (i.e., freeway corridors; see Volume 1, Section 9.0, Table 9-2 of the MSHCP). In 2024, the Biological Monitoring Program monitored three sites using motion-triggered camera traps to document carnivore presence: two wildlife undercrossings on State Route 60 near Moreno Valley, and a wildlife guzzler on the RCA Anza Knolls property (*Figure 8-7. Carnivore Camera Locations in 2024).*

Wildlife use at both the western undercrossing, Moreno Valley Wildlife Undercrossing 1 (MVUC1), and the eastern undercrossing, Moreno Wildlife Valley Wildlife Undercrossing 2 (MVUC2), were monitored using eight motion triggered cameras. The undercrossings were constructed of 20 feet by 20 feet cement box culverts, each about 200 feet long. We placed two cameras at each culvert opening resulting in four cameras for each undercrossing. These cameras were monitored throughout the year. We began monitoring the Anza Knolls (ANKN) guzzler on 21 May 2024 and continued monitoring for the duration of 2024. Cameras were selectively installed to best capture use of the landscape by wildlife while keeping in mind the threat of theft of our camera equipment. Upon being triggered, all cameras were programmed to take a burst of three photos followed by a five-minute delay. Cameras were serviced (i.e., batteries checked, memory cards removed and replaced) every other week. After servicing, biologists reviewed the photos, documenting the best photo to represent what animal triggered the camera. Animals were identified to species where possible. However, some photographs did not allow for species identification and were either identified to genus, labeled as group (i.e., Canidae), or labeled as unidentified. Analyses did not look at individual animals per species.

The photographic rate for each species, or genus, was determined by dividing the number of unique images, per species or genus, by the number of days the cameras were operable (camera days). To account for animals' photo-captured more than once at a site (i.e., a Coyote walked the length of the undercrossing and was captured on more than one camera), photos were pooled for all cameras at each Moreno Valley undercrossing. Then, photo date and time was examined to ensure multiple occurrences of the same species were not recorded within a half hour period, which results in the number of unique images at each undercrossing. We averaged (Moreno Valley undercrossings) and totaled (Anza Knolls) camera days at each site. One camera at MVUC1 was not operable for 15 days, resulting in 362 camera days. There was no lapse in monitoring for any of the MVUC2 cameras, resulting in 366 camera days. The Anza Knolls camera was operable for 212 camera days.

We identified 1874 unique images at Anza Knolls, 450 unique images at MVUC1, and 4401 unique images at MVUC2. Mountain Lion and Long-tailed Weasel were not detected at either undercrossing or the guzzler. Photographic rates for all species and genus level identified animals are shown in Table 8-3.

**Table 8-3.** Photographic rate for species detected in 2024 on Anza Knolls (ANKN), Moreno Valley Undercrossing 1 (MVUC1) and Moreno Valley Undercrossing 2 (MVUC2) cameras. Species in alphabetical order. Species with an asterisk (*) represent Western Riverside County MSHCP Covered Species.

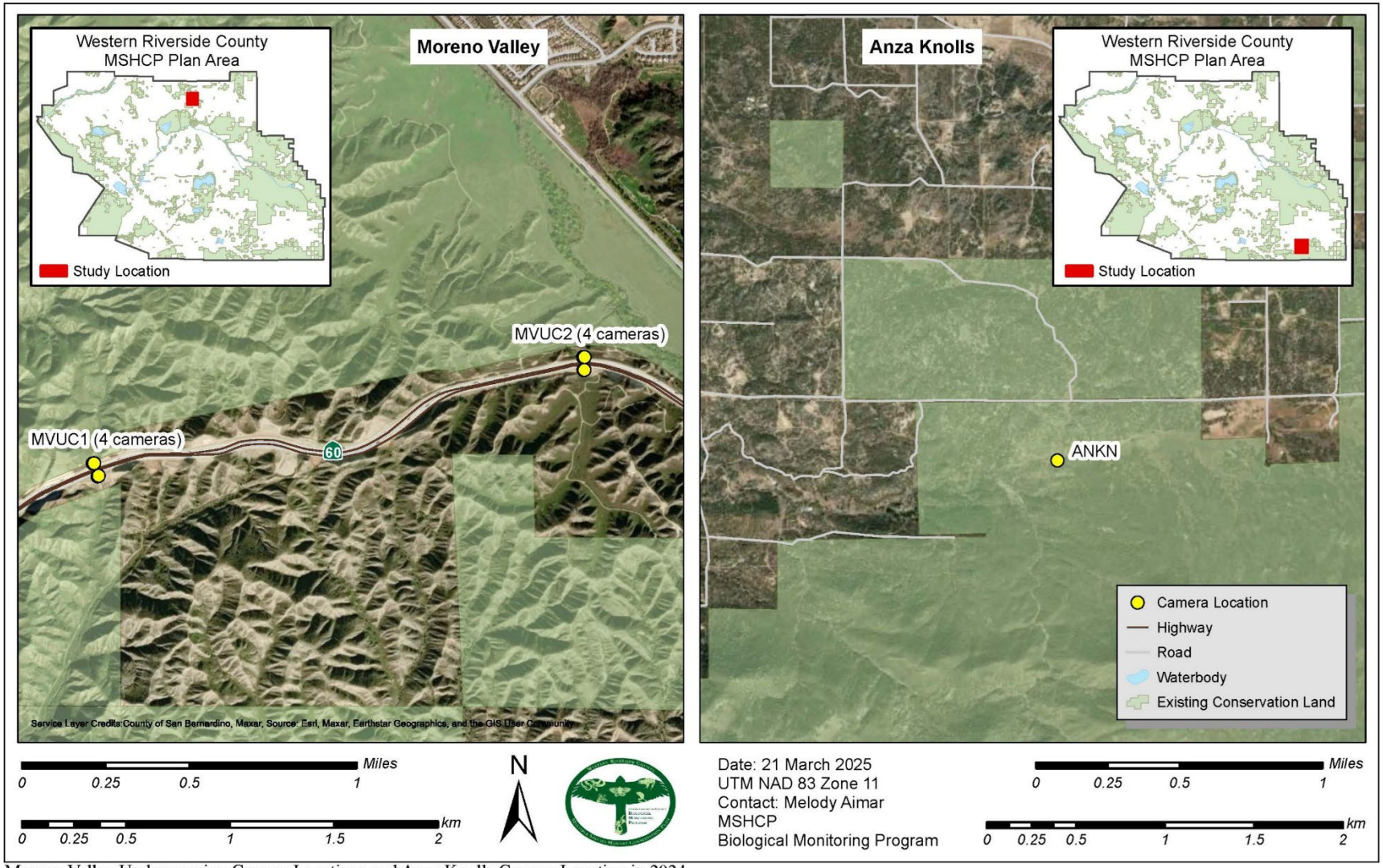
| Species | ANKN | MVUC1 | MVUC2 |
|---|---|---|---|
| American Badger (*Taxidea taxus*) | - | 0.069 | - |
| Barn Owl (*Tyto furcata*) | - | 0.003 | 0.003 |
| Bewick's Wren (*Thryomanes bewickii*) | 0.014 | 0.003 | - |
| Big-eared Woodrat (*Neotoma macrotis*) | 0.019 | - | - |
| *Bobcat (*Lynx rufus*) | 0.335 | - | 0.005 |
| California Ground Squirrel (*Otospermophilus beecheyi*) | 0.929 | - | 0.555 |
| California Scrub-Jay (*Aphelocoma californica*) | 1.175 | - | - |
| California Sister Butterfly (*Adelpha bredowii*) | 0.005 | - | - |
| California Thrasher (*Toxostoma redivivum*) | 0.811 | - | - |
| California Towhee (*Melozone crissalis*) | 2.175 | 0.011 | 0.003 |
| Chipmunk (*Tamias* sp.) | 0.014 | - | - |
| Common Raven (*Corvus corax*) | 0.420 | 0.003 | 3.516 |
| *Coyote (*Canis latrans*) | 0.349 | 0.732 | 1.161 |
| Dark-eyed Junco (*Junco hyemalis*) | 0.024 | - | - |
| Desert Cottontail (*Sylvilagus audubonii*) | 0.071 | 0.028 | 0.109 |
| Dog (*Canis lupus familiaris*) | 0.066 | - | 0.025 |
| Domestic Cat (*Felis catus*) | - | - | 0.022 |
| *Granite Spiny Lizard (*Sceloporus orcutti*) | 0.061 | - | - |
| Gray Fox (*Urocyon cinereoargenteus*) | 0.387 | - | - |
| Greater Roadrunner (*Geococcyx californianus*) | 0.071 | 0.003 | - |
| House Finch (*Haemorhous mexicanus*) | 0.373 | 0.008 | 0.003 |
| Human (*Homo sapiens*) | 0.042 | 0.362 | 6.311 |
| *Mountain Quail (*Oreortyx pictus*) | 0.052 | - | - |
| Mourning Dove (*Zenaida macroura*) | 0.005 | 0.003 | 0.019 |
| Mule Deer (*Odocoileus hemionus*) | - | - | 0.052 |
| Northern Flicker (*Colaptes auratus*) | 0.047 | - | - |
| Northern Mockingbird (*Mimus polyglottos*) | 0.009 | - | - |
| Northern Rough-winged Swallow (*Stelgidopteryx serripennis*) | - | 0.006 | - |
| Orange Sulfur Butterfly (*Colias eurytheme*) | 0.005 | - | - |
| Quail (*Callipepla* spp.) | 0.349 | - | - |
| Raccoon (*Procyon lotor*) | - | - | 0.093 |
| Red-tailed Hawk (*Buteo jamaicensis*) | 0.009 | - | - |
| Sara Orangetip Butterfly (*Anthocharis sara*) | 0.005 | - | - |
| Say's Phoebe (*Sayornis saya*) | - | 0.011 | 0.055 |
| Spiny Lizard (*Sceloporus* sp.) | 0.009 | - | - |

| | | | |
|---|---|---|---|
| Spotted Towhee (*Pipilo maculatus*) | 0.151 | - | - |
| Striped Skunk (*Mephitis mephitis*) | 0.024 | - | 0.087 |
| Toad (*Anaxyrus* sp.) | 0.061 | - | - |

**Table 1.** Continued.

| Species | ANKN | MVUC1 | MVUC2 |
|---|---|---|---|
| Western Fence Lizard (*Sceloporus occidentalis*) | 0.005 | 0.003 | - |
| White-crowned Sparrow (*Zonotrichia leucophrys*) | 0.127 | - | - |
| Wild Boar (*Sus scrofa*) | - | - | 0.005 |
| Woodrat (*Neotoma* sp.) | 0.618 | - | - |
| Wrentit (*Chamaea fasciata*) | 0.024 | - | - |

***Figure 8-7**. Moreno Valley Undercrossing Camera Locations and Anza Knolls Camera Location in 2024.*




Moreno Valley Undercrossing Camera Locations and Anza Knolls Camera Location in 2024.

### 8.4.6 Incidental Species Sightings

Covered Species incidentally observed during unrelated survey activities are recorded by Monitoring Program biologists to increase knowledge of Covered Species distribution within the Conservation Area. Incidental observations are different than focused survey data as the methods are not standardized and only positive data are recorded (i.e., only presence of the species). However, recording incidental observations of species that are difficult to detect is extremely important. Incidental observation data may be used as current documentation of species presence at a location, as a starting point for future focused survey efforts, and to provide information about appropriate habitat for the detected species in the future.

Incidental observations of Covered Species made during surveys in 2024 were entered into the Monitoring Program's centralized database and these data were incorporated into taxa-specific reports, as appropriate. All observations of Covered Species, whether made by focused survey or incidentally, are used when determining whether species-specific objectives have been met within a given reporting period (Appendix B-2).

## 8.5 Additional Survey Reports

- Coastal California Gnatcatcher Nest Monitoring
- Grasshopper Sparrows
- Clinton Keith Overcrossing and Undercrossing Surveys
- Quino Checkerspot Butterfly Surveys
- Rare Plant Surveys

## 8.6 Recommendations and Feedback for Adaptive Management

Effective land and species management requires current information regarding vegetation communities, wildlife habitats, species status, and population trends. The Monitoring Program coordinates and shares information with Reserve Managers throughout the MSHCP reserve system as data are collected and processed. Management/monitoring coordination meetings are held monthly to provide summaries of results and a venue for information exchange. The following are suggestions for adaptive management, conservation considerations, and continued/additional monitoring efforts based on the results of 2024 Monitoring Program surveys and other entities providing data to the Monitoring Program. For additional details and for maps depicting the Core Areas and locations discussed below, please refer to the detailed survey report for each species or species group (e.g., Riparian Birds), which are available on the RCA website at https://www.wrc-rca.org/species-surveys.

**Coastal California Gnatcatcher**

*Core Area Definitions*

We recommend including Lake Perris (Existing Core H), Badlands/Potrero (Proposed Core 3), and Tule Valley (Proposed Core 6) as additional Core Areas for Coastal California Gnatcatchers. We have frequently detected the species in these locations for at least the last 18 years, and we documented successful reproduction in the Badlands/Potrero Core Area in 2024. We have little information on the reproductive status of gnatcatchers in the northeast half of the Plan Area; therefore, including these as Core Areas would help us to better understand their status in western Riverside County.

**Grasshopper Sparrow**

*Conservation and Management*

Grazing and prescribed burns can be used by managers to create conditions that are preferred by Grasshopper Sparrows, but the suitability of each application may depend upon the site conditions. Management techniques for improving Grasshopper Sparrow habitat should seek to create a diverse grassland ecosystem that contains a patchwork of bare ground, litter, shrubs, and dense grasses and forbs. This patchwork may encourage use by adult Grasshopper Sparrows but may also be critically important for juvenile birds. More investigation may be needed at the local scale to determine when to apply treatment to Grasshopper Sparrow management and conservation.

**Clinton Keith Overcrossing and Undercrossing Surveys**

*Conservation and Management Recommendations*

We recommend continued management of non-native vegetation at this site, which can lead to enhanced Quino Checkerspot Butterfly (Quino) habitat. We also recommend studying connectivity between sites with existing Quino populations and sites where Quino has not been detected but where quality Quino habitat exists. It would be beneficial to monitor this overcrossing at regular intervals going forward to document wildlife use.

**Quino Checkerspot Butterfly**

*Future Surveys*

The extent of occupied area within each survey site and the number of occupied sites across the Conservation Area vary from year to year. Therefore, it is important to continue mapping the distribution of Quino within the Conservation Area. We should continue to prioritize monitoring of recently occupied sites, areas with suitable habitat, and areas adjacent to known occupied

habitat. We recommend expanding our survey efforts to areas with suitable habitat within the Warm Springs Creek Core Area, Wilson Valley Core Area, and Aguanga Satellite Occurrence Complex Area. We would also like to increase our survey efforts at the Beauty Mountain site in the Silverado/Tule Peak Core Area, which is approximately 1400 meters in elevation. We recommend scouting additional areas of Bautista Canyon, including the original Horse Creek site in SBNF, which has not been accessible since 2010. It may also be beneficial to monitor all fire affected areas more closely for increased colonization of non-native grasses and other invasive plants that may negatively impact the habitat that was previously suitable for Quino.

*Conservation and Management*

Invasive Stinknet (*Oncosiphon pilulifer*) was detected in the Warm Springs Core Area, including the Anheuser-Busch RCA property near the overcrossing. The increased growth of non-native vegetation in Quino habitat can have a negative impact on Quino, as it may reduce available basking areas, host plant population size, and nectar source availability. We recommend controlling non-native grasses (*Bromus* spp.) and herbs (Shortpod Mustard, *Hirschfeldia incana*) at this location. We also recommend managing the recent encroachment of the non-native Cape Marigold (*Dimorphoteca sinuate*) in the Sage Core Area. Additional research is needed to determine the effects of drought conditions and climate change.

*Core Area Definitions and Species Objective*

We recommend adding SBNF to the MSHCP Core Areas designation for this species that has been detected here 12 out of 17 survey seasons, including in 2024. We also recommend acquiring land 350 meters west of Quino-occupied Oak Mountain that is described for conservation but is not currently in MSHCP conservation.

**Rare Plants**

*Monitoring Recommendations*

Monitoring efforts should continue to focus on both reconfirming known rare plant occurrences within each future eight-year monitoring period and conducting inventory surveys for unmet species objectives. Inventory surveys in recently burned areas, new land acquisitions and remote areas within existing Conservation Area should be done to fully document current rare plant distribution within western Riverside County.

Surveys for Plummer's Mariposa Lily and Payson's Jewelflower should be prioritized in 2025. Both species require the confirmation of additional occurrences to meet all monitoring objectives. For Plummer's Mariposa Lily, two population counts of 500 individuals each are required to meet the Demonstrate-Conservation objective outlined in Table 9-3; *Volume 1* of the MSHCP (Dudek

& Associates 2003). For Payson's Jewelflower, three additional occurrences within Aguanga, Billy Goat Mountain and Lewis Valley are required.

Mojave Tarplant occurrences should be mapped to measure the area occupied by this species. Mojave Tarplant is known to exist within the Conservation Area but has not been recently mapped in a way that can evaluate whether Species Objective 3, which requires four localities occupying at least 100 acres, has been met.

*Land Management Recommendations*

California Orcutt Grass is a rare plant species restricted to vernal pools within western Riverside County. We have not confirmed the presence of California Orcutt Grass within the upper Salt Creek drainage despite the presence of other native vernal pool plant species. We recommend ongoing management of non-native plant species within lands owned and managed by the RCA to maintain suitable habitat for this species.

Wright's Trichocoronis has not been observed since 2011. We documented high levels of non-native plant species at two historic locations within the San Jacinto Wildlife Area that we surveyed in 2024. We recommend targeted non-native plant removal and the implementation of controlled flooding in areas historically occupied by Wright's Trichocoronis to mimic natural habitat requirements for this species.

## 8.7 Acknowledgements

The RCA and Monitoring Program thank the land managers in the MSHCP Plan Area, who in the interest of conservation and stewardship, facilitate Monitoring Program activities on the lands for which they are responsible. Monitoring Program staff who conducted surveys in 2024 were: Masanori Abe, Leah Dann, Karyn Drennen, Gabriel Elliott, Tara Graham, Lucas Haralson, Jennifer Hoffman, Nathan Kudla, Emily Lamb, Nicholas Peterson, Nathan Pinckard, Esperanza Sandoval, and Nicole Tomes. Assistance with data collection was provided by Jonathan Reinig, Ana Sawyer, and Taylor Zagelbaum of the Riverside County Regional Park and Open-Space District MSHCP Unit.

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# APPENDIX A

## *Additional Technical Reports and Information Used to Prepare the RCA 2024 Annual Report*

## Additional Reports and Information

The following reports, methods, procedures, and information contain information that was utilized or developed during the reporting period of January 1, 2024 through December 31, 2024. The reports, documents, and maps are provided as supporting information to the annual report and have been published in separate technical reports on the internet in PDF format. The Annual Report, Appendices, Maps and Documents can be found at the following location:

https://www.wrc-rca.org/document-library/annual-reports/

## RCA MSHCP Technical Reports

**1. GIS Methodology, Process and Procedures**

This document was created to provide details on how the Permit and Project information was assembled from the Permittees. The document describes the files and process that was used to prepare the information for the Annual Report, as well as the datasets used for Rough Step reporting. The methodology, process, and procedures using Esri™'s GIS software to assemble the numbers for the Rough Step vegetation, Area Plans, Area Plan Subunits and jurisdictions for both losses and gains are described. Included is a map product showing the gains and losses of the MSHCP.

2024_Annual_Report_Gains_Losses_Procedures.pdf
2024_AnnualReport_Permit_Process_GIS_Methods.pdf
AnnualReport_GainLoss_Cumulative.pdf

**2. Clerical Amendments to the MSHCP**

The RCA did not process or identify any clerical amendments to the MSCHP in 2024.

**3. Agricultural Operations Database**

The Implementation Agreement for the MSHCP, in Section 11.3, required that the RCA and County establish an Agricultural Operations database and report on agricultural activities, such as agricultural grading permits issued each year. Agricultural grading permits are included within the GIS Loss files for each reporting year.

WRC_Agricultural_Operations.shp (includes all data up to 12/31/2024) GIS file
AG_10000_Cap_MSHCP.shp (includes all data up to 12/31/2024) GIS file
AnnualReport_Agricultural_Operations.pdf

## 4. Conservation by Area Plan Subunits

*Appendix Table 1, Conservation Targets by Area Plan Subunit*, includes the goal acreages within each subunit of each Area Plan. As discussed above, the subunits are subsets of each Area Plan targeted for conservation. Acquisitions made over the calendar year of 2024 by subunit are listed below. The last column provides a context within which to compare the conservation achieved during the reporting period with conservation achieved to date. *Appendix Table 1* shows that progress is being made toward achieving the target acreage goals within the subunits.

**Appendix Table 1**
**Conservation Goals by Area Plan Subunit**

| Area Plan Subunit | Low** | Midpoint** | High** | Conservation (January 1, 2024 – December 31, 2024)* | Acres Conserved (February 2000 to December 31, 2024)* |
|---|---|---|---|---|---|
| **Eastvale Area Plan** | | | | | |
| SU1 – Santa Ana River Central | 145 | 220 | 290 | 0 | 107 |
| Not within a Subunit | NA | NA | NA | 0 | 0 |
| *Subtotal within Area Plan* | *145* | *220* | *290* | *0* | *107* |
| **Elsinore Area Plan** | | | | | |
| SU1 – Estelle Mountain/Indian Canyon | 4,100 | 5,065 | 6,030 | 244 | 3,112 |
| SU2 – Alberhill | 1,760 | 2,385 | 3,010 | 1 | 1,057 |
| SU3 – Elsinore | 925 | 1,370 | 1,815 | 66 | 83 |
| SU4 – Sedco Hills | 2,415 | 3,130 | 3,845 | 3 | 1,124 |
| SU5 – Ramsgate | 1,645 | 2,090 | 2,535 | 0 | 1,229 |
| SU6 – Steele Peak | 855 | 1,070 | 1,280 | 0 | 900 |
| Not within a Subunit | NA | NA | NA | 8 | 236 |
| *Subtotal within Area Plan* | *11,700* | *15,110* | *18,515* | *322* | *7,742* |
| **Harvest Valley/Winchester Area Plan** | | | | | |
| SU1 – French Valley/Diamond Valley Lake Connection | 130 | 135 | 145 | 0 | 0 |
| SU2 – Hemet Vernal Pool West | 300 | 380 | 460 | 0 | 286 |
| Not within a Subunit | NA | NA | NA | 0 | <1 |
| *Subtotal within Area Plan* | *430* | *515* | *605* | *0* | *286* |
| **Highgrove Area Plan** | | | | | |
| SU1 – Sycamore Canyon/Box Springs Central | 95 | 140 | 180 | 0 | 89 |
| SU2 – Springbrook Wash North | 250 | 370 | 495 | 0 | 227 |
| Not within a Subunit | NA | NA | NA | 0 | 158 |
| *Subtotal within Area Plan* | *345* | *510* | *675* | *0* | *474* |
| **Jurupa Area Plan** | | | | | |
| SU1 – Santa Ana River North | 135 | 190 | 245 | 0 | 10 |
| SU2 – Jurupa Mountains | 445 | 750 | 1,055 | 73 | 576 |
| SU3 – Delhi Sands Area | 310 | 440 | 570 | 0 | 0 |
| Not within a Subunit | NA | NA | NA | 0 | 50 |

| Area Plan Subunit | Low** | Midpoint** | High** | Conservation (January 1, 2024 – December 31, 2024)* | Acres Conserved (February 2000 to December 31, 2024)* |
|---|---|---|---|---|---|
| *Subtotal within Area Plan* | *890* | *1380* | *1870* | *0* | *636* |
| **Lake Mathews/Woodcrest Area Plan** | | | | | |
| SU1 – Lake Mathews East | 1,140 | 1,410 | 1,680 | 0 | 59 |
| SU2 - Dawson Canyon (Temescal Wash East) | 815 | 950 | 1,090 | 0 | 645 |
| SU3 – Gavilan Hills West | 1,175 | 1,825 | 2,475 | 0 | 298 |
| SU4 – Good Hope West | 85 | 155 | 225 | 0 | 21 |
| Not within a Subunit | NA | NA | NA | 0 | 1 |
| *Subtotal within Area Plan* | *3,215* | *4,340* | *5,470* | *0* | *1,025* |
| **Lakeview/Nuevo Area Plan** | | | | | |
| SU1 – San Jacinto River, Middle Reach | 2,605 | 3,315 | 4,025 | 163 | 1,180 |
| SU2 – Lakeview Mountains West | 4,045 | 5,130 | 6,210 | 191 | 676 |
| Not within a Subunit | NA | NA | NA | 2 | 2 |
| *Subtotal within Area Plan* | *6,650* | *8,445* | *10,235* | *356* | *1,858* |
| **Mead Valley Area Plan** | | | | | |
| SU1 – Motte/Rimrock | 315 | 455 | 590 | 0 | 0 |
| SU2 – Gavilan Hills East | 485 | 750 | 1,015 | 0 | 33 |
| SU3 – Good Hope East | 290 | 390 | 495 | 0 | 10 |
| SU4 – San Jacinto River Lower | 795 | 1,165 | 1,535 | 0 | 182 |
| Not within a Subunit | NA | NA | NA | 0 | 0 |
| *Subtotal within Area Plan* | *1,885* | *2,760* | *3,635* | *0* | *225* |
| **The Pass Area Plan** | | | | | |
| SU1 – Potrero/Badlands | 5,570 | 7,420 | 9,275 | 0 | 8,192 |
| SU2 – Badlands/San Bernardino National Forest | 1,105 | 1,650 | 2,195 | 0 | 1,306 |
| SU3 – San Timoteo Creek | 1,865 | 2,160 | 2,455 | 0 | 1,171 |
| Not within a Subunit | NA | NA | NA | 0 | 518 |
| *Subtotal within Area Plan* | *8,540* | *11,230* | *13,925* | *0* | *11,187* |
| **Reche Canyon/Badlands Area Plan** | | | | | |
| SU1 – Box Springs East | 175 | 265 | 350 | 0 | 703 |
| SU2 – Reche Canyon | 1,215 | 1,915 | 2,615 | 0 | 319 |
| SU3 – Badlands North | 8,270 | 9,580 | 10,895 | 639 | 4,158 |

| Area Plan Subunit | Low** | Midpoint** | High** | Conservation (January 1, 2024 – December 31, 2024)* | Acres Conserved (February 2000 to December 31, 2024)* |
|---|---|---|---|---|---|
| SU4 – San Jacinto Wildlife Area/Mystic Lake | 860 | 1,305 | 1,750 | 0 | 1,950 |
| Not within a Subunit | NA | NA | NA | 3 | 361 |
| *Subtotal within Area Plan* | *10,520* | *13,065* | *15,610* | *642* | *7,492* |
| **REMAP (Riverside Extended Mountain Area Plan)** | | | | | |
| SU1 – Cactus Valley | 6,020 | 6,805 | 7,590 | 0 | 4,875 |
| SU2 – Wilson Valley/Sage | 26,205 | 30,815 | 35,425 | 60 | 11,316 |
| SU3 – Temecula and Cottonwood Creeks | 1,480 | 2,115 | 2,745 | 21 | 650 |
| SU4 – Tule Creek/Anza Valley | 6,415 | 8,515 | 10,615 | 0 | 3,457 |
| SU5 – Upper San Jacinto River | 750 | 985 | 1,220 | 0 | 0 |
| SU6 – Tripp Flats | 520 | 680 | 840 | 0 | 0 |
| SU7 – Southern Badlands East | 10 | 20 | 35 | 0 | 0 |
| Not within a Subunit | NA | NA | NA | 0 | 922 |
| *Subtotal within Area Plan* | *41,400* | *49,935* | *58,470* | *81* | *21,219* |
| **San Jacinto Valley Area Plan** | | | | | |
| SU1 – Gilman Springs | 3,540 | 5,030 | 6,520 | 58 | 2,592 |
| SU2 – Lakeview Mountains East | 1,305 | 1,730 | 2,150 | 0 | 1,470 |
| SU3 – Upper San Jacinto River/Bautista Creek | 2,085 | 2,980 | 3,875 | 0 | 1,977 |
| SU4 – Hemet Vernal Pool Areas East | 940 | 1,190 | 1,445 | 10 | 269 |
| SU5 – Mica Butte | 3,670 | 4,570 | 5,475 | 0 | 1,509 |
| Not within a Subunit | NA | NA | NA | 0 | 241 |
| *Subtotal within Area Plan* | *11,540* | *15,500* | *19,465* | *68* | *8,059* |
| **Sun City/Menifee Valley Area Plan** | | | | | |
| SU1 – Warm Springs Creek/French Valley Area | 395 | 480 | 565 | 0 | 338 |
| SU2 – Lower Sedco Hills | 725 | 875 | 1,020 | 0 | 190 |
| Not within a Subunit | NA | NA | NA | 0 | 0 |
| *Subtotal within Area Plan* | *1,120* | *1,355* | *1,585* | *0* | *528* |
| **Southwest Area Plan** | | | | | |
| SU1 – Murrieta Creek | 640 | 1,055 | 1,465 | 0 | 76 |
| SU2 – Temecula and Pechanga Creeks | 365 | 600 | 840 | 0 | 58 |
| SU3 – Vail Lake | 10,065 | 11,500 | 12,930 | 0 | 359 |

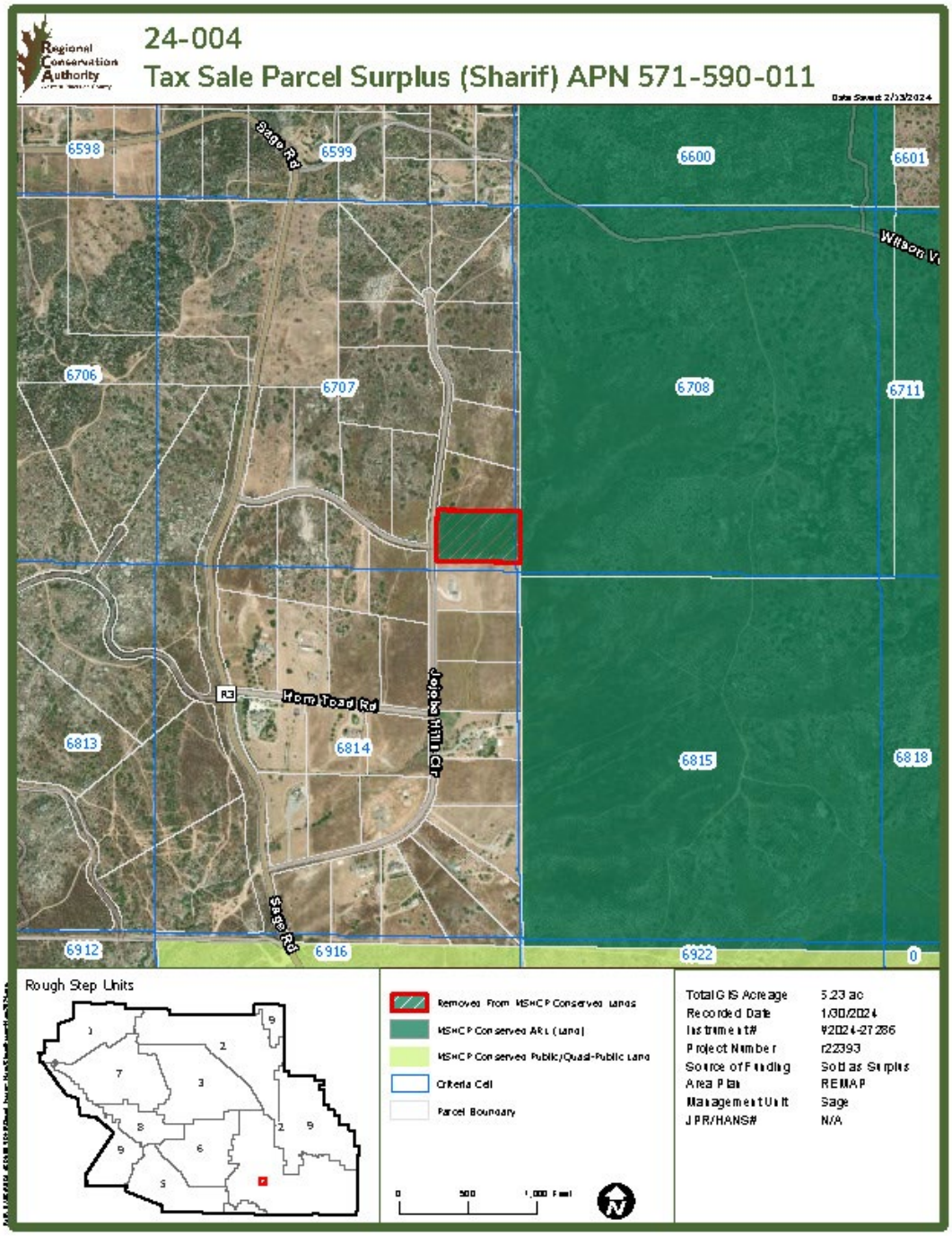
| Area Plan Subunit | Low** | Midpoint** | High** | Conservation (January 1, 2024 – December 31, 2024)* | Acres Conserved (February 2000 to December 31, 2024)* |
|---|---|---|---|---|---|
| SU4 – Cactus Valley/SWRC-MSR/Johnson Ranch | 4,395 | 6,180 | 7,970 | 176 | 1,116 |
| SU5 – French Valley/Lower Sedco Hills | 4,360 | 5,880 | 7,395 | 0 | 2,509 |
| SU6 – Santa Rosa Plateau | 1,285 | 2,100 | 2,915 | 0 | 610 |
| SU7 – Tenaja Corridor | 1,390 | 2,115 | 2,845 | 20 | 821 |
| Not within a Subunit | NA | NA | NA | 0 | 1,239 |
| *Subtotal within Area Plan* | *22,500* | *29,430* | *36,360* | *145* | *6,787* |
| **Temescal Canyon Area Plan** | | | | | |
| SU1 – Santa Ana River/Santa Ana Mountains | 250 | 400 | 550 | 498 | 675 |
| SU2 – Prado Basin | 200 | 300 | 395 | 0 | 0 |
| SU3 – Temescal Wash West | 2,790 | 3,600 | 4,415 | 0 | 1,283 |
| SU4 – La Sierra Hills/Lake Mathews West | 210 | 285 | 355 | 0 | 0 |
| SU5 – Temescal/Santa Ana Mountains | 35 | 60 | 85 | 0 | 78 |
| Not within a Subunit | NA | NA | NA | 172 | 763 |
| *Subtotal within Area Plan* | *3,485* | *4,645* | *5,800* | *670* | *2,799* |
| **Cities of Riverside and Norco Area Plan** | | | | | |
| SU1 – Santa Ana River South | 75 | 140 | 200 | 0 | 34 |
| SU2 – Sycamore Canyon West | 15 | 25 | 40 | 0 | 0 |
| Not within a Subunit | NA | NA | NA | 0 | 43 |
| *Subtotal within Area Plan* | *90* | *165* | *240* | *0* | *77* |
| **Grand Totals*** ** | **124,455** | **158,605** | **192,750** | **1,530** | **70,502*** |

***** The total includes acreage adjustments for planned roadways, the Potrero MARB SKR acquisition of 2,540 acres, and acquisitions outside of Criteria Cells. Acquisitions made prior to Plan approval are also included. Totals may not add up due to rounding.

** Low, midpoint, and high conservation goals are taken directly from *Table 3-2* of the MSHCP (Volume 1).

*** * All numbers have been rounded to the nearest integer. As a result, sum of columns may deviate from total.

## 5. Annual Conservation Acreage Reconciliation




In 2024, the Sharif (TAX SALE PARCELS 2019 DETAIL 5) property was sold as surplus property, due to HOA challenges. The 5.23 acres parcel was purchased in 2021.

## 6. Contact Information

Western Riverside County
Regional Conservation Authority
4080 Lemon St 3rd Floor
Riverside, CA 92501
Phone: (951) 787-7141

# SECTION 8.0
# APPENDIX B
# Tables

**TABLE B-1**
**Access Agreements and RCA Lands Surveyed in 2024**

| Landowner/Land Managing Entity | Property/Conserved Lands Name |
|---|---|
| California Department of Fish and Wildlife (CDFW) | Estelle Mountain Ecological Reserve, French Valley Wildlife Area, Davis Unit of San Jacinto Wildlife Area, Potrero Unit of San Jacinto Wildlife Area, Santa Margarita River Ecological Reserve, and Santa Rosa Plateau Ecological Reserve |
| California State Parks | State Parks: Chino Hills, Lake Perris State Recreation Area, San Timoteo Canyon, and Mount San Jacinto designated as PQP Lands |
| California Department of Transportation | Moreno Valley Wildlife Undercrossing – State Route 60 |
| Center for Natural Lands Management (CNLM) | Johnson Ranch, Skunk Hollow, Lincoln Ranch, Roripaugh Ranch, Sunland donation, Wilson Valley Preserve, and Summerhill |
| City of Lake Elsinore | PQP Lands: Tract 32077 and multiple parcels in Lake Elsinore area |
| City of Norco | PQP Lands in Santa Ana River |
| City of Riverside | PQP Lands: Santa Ana River and surrounding PQP Lands including Tequesquito Arroyo, Mount Rubidoux Park, Lake Evans, Fairmount Park, Mockingbird Reservoir and tributary drainage, Sycamore Canyon Wilderness Park and surrounding PQP Lands, and Box Springs Mountain Reserve |
| County of Riverside | PQP Lands in Santa Ana River and surrounding area |
| Metropolitan Water District | PQP Lands: Lake Skinner, Diamond Valley Lake, Lake Mathews, Upper Feeder-Jurupa Valley, Box Spring feeder, and Colorado River Aqueduct |
| Orange County Water District | PQP Lands in Prado Wetlands |
| Riverside-Corona Resource Conservation District | Conservation easements: Altfillisch, multiple in Temescal Wash and tributary drainage(s), Bedford, McBride, Lee Lake, multiple in Olsen Canyon area, and adjacent to Cleveland National Forest |
| Riverside County Flood Control and Water Conservation District | PQP Lands of multiple Flood Control Facilities/Properties |
| Riverside County Habitat Conservation Authority (RCHCA) | Multiple Properties |
| Riverside County Regional Park and Open-Space District | Bogart County Park, Box Springs North, Kabian Park, Johnson Ranch, Jurupa East, Norton/Younglove Reserve, Santa Rosa Plateau Ecological Reserve, Southwestern Riverside County Multi-Species Reserve, Valley Hi Oaks, and PQP Lands in Santa Ana River and Del Luz Creek |

**TABLE B-1**
**Access Agreements and RCA Lands Surveyed in 2024**

| Landowner/Land Managing Entity | Property/Conserved Lands Name |
|---|---|
| Riverside County Transportation Department | Clinton Keith Road over Warm Springs Creek and road overcrossing |
| San Bernardino National Forest | Portions designated as PQP Lands |
| U.S. Bureau of Land Management (BLM) | BLM land designated as PQP Lands |
| U.S. Department of Agriculture | PQP Lands in Cleveland National Forest |
| Western Riverside County Regional Conservation Authority | Anheuser Busch Phase 1, Anheuser Busch Phase 5, Anheuser Busch Phase 8, Anheuser Busch Phase 9, Anza Knolls, B Canyon 2, Bautista Canyon, Belle Terre, Benton 36 acres/Yoo, Boonklun, Cal Trans Hwy 79, Calvary Chapel of Murrieta, Carlsbad Dev, Tran/Clarke, Cordova Phase 1, Delgado Phase 3, Delgado Phase 4, Deetz/Fenster/Wieler, EIP Walker Canyon, El Sol Vineyard Hill Donation, Emerald Aliso, Fleming French Valley Phase 2, French Valley Donation, Gentry, Gentry Rita and Linnea, Hannon, Hwang, KB Home Coastal Donation #3, KB SJ River Donation, Kiley Donation, JPR Inc (APN: 579390011), JPR Inc (APN: 579160025), JPR Inc (6)- APN: 579020010, Henry, Lake Skinners Investors, Mc Elhinney/Stimmel, Mustang Lane, Nuevo Donation, Odegaard, Olsen Canyon, Paul, Rafco Phase 2, RCTC Dilworth Donation, RCTC Dilworth Donation #2, RCTC R&G Donation Phase 1 & 2, Reden Phase 3, Reden Gregory & Carol #2, Reynolds Phase 1 (Smith & Reynolds), RHW Phase 2, SDI Communities LLC, Schleuniger, Shiang, So Cal Gas La Paloma Donation, Sunland Donation, Teledyne, Terra Investment, United Five Star Capital (1), United Five Star Capital (4), Warren Rd Partners Phase 2, Wilhelm Ranch, Walker, Wilson Creek, Wilson Creek CB (SDI Community) Wilson Creek/JST, Winchester 700 Anza , Winchester 700 Murrieta, Winchester 700 Reed Valley, Wolfskill/Driscoll, Geller, North Peak #2, Gritton, White Rock 1, White Rock 2, White Rock 3, Trivalley, Toscana Donation Phase 5, Patterson, RCTC Chen Donation, Endres/Larson |

# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Arroyo Toad | *Bufo californicus* | Objective 2: Include within the MSHCP Conservation Area at least nine Core Areas which include portions of San Juan Creek, Los Alamos Creek, San Jacinto River, Indian Creek, Bautista Creek, Wilson Creek, Temecula Creek, Arroyo Seco, and Vail Lake. | - | - | - | - |
| | | Objective 6: Maintain breeding populations at a minimum of 80% of the conserved breeding locations as measured by the presence/absence of juvenile toads, tadpoles, or egg masses across any five consecutive years.<br><br>*Note: Breeding detected in 3 of 9 (33%) Core Areas.* | 5 | F / D | F / N | NO |
| California Red-legged Frog | *Rana aurora draytonii* | Objective 2: Include within the MSHCP Conservation Area the Core Areas in the Santa Rosa Plateau and the southern Santa Ana Mountains, and the intervening lands which shall provide movement between the Core Areas. The intervening lands are primarily situated around Avenoloca Mesa, Redonda Mesa, slopes and foothills of Squaw Mountain, and Alamos Canyon. | - | - | - | - |
| California Red-legged Frog | *Rana aurora draytonii* | Objective 6: Within the MSHCP Conservation Area, determine if successful reproduction is occurring as measured by the presence/absence of tadpoles, egg masses, or juvenile frogs once a year for the first five years after permit issuance and then as determined by the Reserve Management Oversight Committee as described in Section 6.6, MSHCP Volume I (but not less frequently than every 8 years) (Cook et. al. 2012).<br><br>*Note: Reproduction detected in 1 of 2 (50%) Core Areas.*<br>*Used survey data from USGS at Santa Rosa Plateau.* | 8 | F / N | N / N | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

‡ YES = objective(s) met; NO = objective(s) not met; Partial = portion but not entire objective met. Table B-2 analyzes objectives with monitoring component only.

§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Coast Range Newt | *Taricha tarosa tarosa* | Objective 5: Maintain occupancy of at least 75% of occupied habitat and determine if successful reproduction is occurring within the MSHCP Conservation Area as measured by the presence/absence of larvae or egg masses not less frequently than every 8 years.<br><br>*Note: Species detected in 23 of 27 (85%) known occupied habitat locations. Successful reproduction detected.* | 8 | F / D | N /N | YES |
| Mountain Yellow-legged Frog | *Rana muscosa* | Objective 2: Include within the MSHCP Conservation Area the Core Areas above 370 meters at the North Fork of the San Jacinto River (including Dark Canyon), Hall Canyon, and Fuller Mill Creek and other perennial water streams in the San Jacinto Mountains. | - | - | - | - |
| | | Objective 6: Maintain successful reproduction as measured by the presence/absence of tadpoles, egg masses, or juvenile frogs not less frequently than every 8 years.<br><br>*Note: Reproduction detected in 1 of 3 (33%) Core Areas. Used data from USGS surveys at Dark Canyon.* | 8 | F / D | N / N | NO |
| Western Spadefoot | *Scaphiopus hammondii* | Objective 4: Maintain successful reproduction at a minimum of 75% of the conserved breeding locations as measured by the presence/absence of tadpoles, egg masses, or juvenile toads once every 8 years.<br><br>*Note: Reproduction detected in 13 of 16 (81%) conserved breeding locations.* | 8 | F / D | F / D | YES |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Belding's Orange-throated Whiptail | *Cnemidophorus hyperythrus beldingi* | Objective 2: Include within the MSHCP Conservation Area at least nine Core Areas including Santa Rosa Plateau, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, and Anza Valley and numerous smaller Proposed and Existing Noncontiguous Habitat Blocks. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2. *Note: Species detected in 6 of 9 (67%) Core Areas.* | 8 | F / D | F / D | NO |
| Coastal Western Whiptail | *Cnemidophorus tigris multiscutatus* | Objective 2: Include within the MSHCP Conservation Area at least 13 Core Areas at the Santa Rosa Plateau, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, Anza Valley, Agua Tibia Wilderness, Santa Ana Mountain foothills, Santa Ana River, and Paloma Valley/Hogbacks. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2. *Note: Species detected in 12 of 13 (92%) Core Areas.* | 8 | F / D | F / D | YES |
| Granite Night Lizard | *Xantusia henshawi henshawi* | Objective 2: Include within the MSHCP Conservation Area at least 9 Core Areas at the Lake Skinner-Diamond Valley Lake, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake/Wilson Valley, Agua Tibia Mountains, San Jacinto Mountains, and Anza Valley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2. | 8 | F / D | N / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 6 of 9 (67%) Core Areas.* | | | | |
| Granite Spiny Lizard | *Sceloporus orcutti* | Objective 2: Include within the MSHCP Conservation Area at least 12 Core Areas at the Santa Rosa Plateau, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, Aqua Tibia Mountains, San Jacinto Mountains, Santa Ana Mountains, and Anza Valley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 11 of 12 (92%) Core Areas.* | 8 | F / D | F / D | YES |
| Northern Red-diamond Rattlesnake | *Crotalus ruber ruber* | Objective 2: Include within the MSHCP Conservation Area at least 10 Core Areas at the Santa Ana Mountains, Agua Tibia Mountains, San Jacinto Mountains, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, and Anza Valley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 8 of 10 (80%) Core Areas.* | 8 | F / D | F / D | YES |
| San Bernardino Mountain Kingsnake | *Lampropeltis zonata parvirubra* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Species Account.<br><br>*Note: Species detected in 1 of 2 (50%) Core Areas.* | 8 | F / D | F / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| San Diego Banded Gecko | *Coleonyx variegatus abbotti* | Objective 2: Include within the MSHCP Conservation Area at least 7 Core Areas at the San Jacinto foothills, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Santa Ana Mountains, and Sage/Vail Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 1 of 7 (14%) Core Areas.* | 8 | F / D | F / N | NO |
| San Diego Horned Lizard | *Phrynosoma coronatum blainvillei* | Objective 2: Include within the MSHCP Conservation Area at least 13 Core Areas at the Santa Rosa Plateau, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, Anza Valley, Agua Tibia Wilderness, Paloma Valley/Hogbacks, Santa Ana Mountain foothills, and Santa Ana River. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 10 of 13 (77%) Core Areas.* | 8 | F / D | F / D | YES |
| San Diego Mountain Kingsnake | *Lampropeltis zonata pulchra* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Species Account.<br><br>*Note: Species detected in 1 of 3 (33%) Core Areas.* | 8 | F / D | N / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Southern Rubber Boa | *Charina bottae umbratica* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Area as described in the Species Account.<br><br>*Note: Species detected in 0 of 1 (0%) Core Areas.* | 8 | F / I | F / N | NO |
| Southern Sagebrush Lizard | *Sceloporus graciosus vandenburgianus* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in the Species Account.<br><br>*Note: Species detected in 1 of 2 (50%) Core Areas.* | 8 | F / D | F / D | NO |
| Western Pond Turtle | *Clemmys marmorata pallida* | Objective 2: Include within the MSHCP Conservation Area at least eight Core Areas, including but not limited to, Cajalco Creek, San Mateo Creek, Santa Ana River, Chino Creek, Temecula Creek, Murrieta Creek, Santa Rosa Plateau, and San Jacinto River. | - | - | - | - |
| | | Objective 5: Maintain continued use at a minimum of 75% of the conserved Core Areas as measured once every 3 years.<br><br>*Note: Species detected in 5 of 8 (63%) Core Areas.* | 3 | F / D | F / D | NO |
| American Bittern | *Botaurus lentiginosus* | Objective 2: Include within the MSHCP Conservation Area at least 3 Core Areas including Mystic Lake/San Jacinto Wildlife Area (Subunit 4 of Reche Canyon/Badlands Area Plan), a possible nesting area, Santa Ana River/Prado Basin, a known nesting area, and Collier Marsh (Proposed Linkage 2), a potential nesting area, as well as other suitable habitat locations at Lake Skinner/Diamond Valley Lake (Existing Core J), Lake Mathews (Existing Core C), Vail Lake (Subunit 3 of Southwest Area Plan), Temescal Wash (Subunit 3 of Temescal Canyon Area Plan), and Temecula Creek (Subunit 2 of Southwest Area Plan). | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

‡ YES = objective(s) met; NO = objective(s) not met; Partial = portion but not entire objective met. Table B-2 analyzes objectives with monitoring component only.

§ See Volume 1, Section 5, Table 5-8 of the MSHCP

# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Objective 4: Maintain (once every 8 years) the continued use of 50% of the Core Areas.<br><br>*Note: Species detected in 2 of 3 (67%) Core Areas.* | 8 | F / D | N / I | YES |
| Bald Eagle | *Haliaeetus leucocephalus* | Objective 1: Include within the MSHCP Conservation Area at least 10,340 acres of open water habitat at the following seven open water bodies and one drainage: Lake Mathews, Diamond Valley Lake, Lake Skinner, Lake Elsinore, Vail Lake, Lake Perris, Mystic Lake and Santa Ana River. Include within the MSHCP Conservation Area 5,520 acres of suitable riparian habitat within the Prado Basin and Santa Ana River. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations (open water bodies) as described in Objective 1.<br><br>*Note: Species detected at 5 of 8 (63%) identified water bodies.* | 8 | F / D | N / I | NO |
| Bell's Sage Sparrow | *Amphispiza belli belli* | Objective 2: Include within the MSHCP Conservation Area at least 12 of 14 Core Areas and interconnecting linkages for Bell's sage sparrow. Core Areas will include the Jurupa Mountains (Proposed Noncontiguous Habitat Block 2), Lake Mathews-Estelle Mountain (Existing Core C plus Proposed Extension of Existing Core 2), Wasson Canyon (Subunit 5 of Elsinore Area Plan), Sedco Hills (Proposed Linkage 8), Hogbacks (Proposed Core 2), Lake Skinner/Diamond Valley Lake (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7), Vail Lake/Wilson Valley/Aguanga (Proposed Core 7), Tule Valley (Proposed Core 6), Lakeview Mountains (Proposed Noncontiguous Habitat Block 5), Lake Perris (Existing Core H), Badlands (Proposed Core 3), and Box Springs Mountains (Existing Noncontiguous Habitat Block A plus Proposed Constrained Linkage 8). | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 10 of 12 (83%) Core Areas.* | 8 | F / D | N / I | YES |
| Black Swift | *Cypseloides niger* | Objective 1: Include within the MSHCP Conservation area deciduous woodland and forest and montane coniferous forest within the San Bernardino Mountains and San Jacinto Mountains Bioregions to provide breeding and foraging habitat, including the known nesting location of the black swift at Tahquitz Creek within the San Jacinto Wilderness Area and the potential nesting location at the north fork of the San Jacinto River in the San Jacinto Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of bioregions as described in the Species Account. Objective based on landscape level habitat conservation on US Forest Service Lands.<br><br>*Note: Species detected in 0 of 2 Bioregions (0%).* | 8 | F / I | N / N | NO |
| Black-crowned Night Heron | *Nycticorax nycticorax* | Objective 2: Include within the MSHCP Conservation Area at least the 3 known and historic breeding locations in the Prado Basin/Santa Ana River, Mystic Lake/San Jacinto Wildlife Area, and Collier Marsh areas. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 3 of 3 (100%) known and historic breeding locations.* | 8 | N / I | N / I | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Burrowing Owl | *Athene cunicularia hypugaea* | Objective 2: Include within the MSHCP Conservation Area at least 5 Core Areas and interconnecting linkages. Core Areas may include the following: (1) Lake Skinner/Diamond Valley Lake area; (2) playa west of Hemet; (3) San Jacinto Wildlife Area/Mystic Lake area including Lake Perris area; (4) Lake Mathews and (5) along the Santa Ana River. | - | - | - | - |
| | | Objective 2 (continued): The Core Areas should support a combined total breeding population of approximately 120 burrowing owls with no fewer than 5 pairs in any 1 Core Area.<br><br>*Note: Burrowing Owl surveys show breeding population and pairs are below the requirements.* | 8 | F / D | F / D | NO |
| Cactus Wren | *Campylorhynchus brunneicapillus* | Objective 2: Include within the MSHCP Conservation Area at least 11 Core Areas and interconnecting linkages including Chino Hills (Proposed Extension of Existing Core 1), Badlands (Proposed Core 3), Box Springs Mountains (Existing Noncontiguous Habitat Block A plus Proposed Constrained Linkages 7 and 8), Lake Mathews-Estelle Mountain area (Existing Core C plus Proposed Extension of Existing Core 2), Alberhill (Subunit 2 of Elsinore Area Plan), Motte-Rimrock area MSHCP Conservation Area (Proposed Noncontiguous Habitat Block 4), Lake Perris/Bernasconi Hills (Existing Core H), Lake Skinner (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7), Vail Lake (Subunit 3 of Southwest Area Plan), Wilson Valley (Subunit 2 of REMAP Area Plan), and Aguanga (Subunit 4 of REMAP Area Plan). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2. | 8 | F / D | N / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 3 of 11 (27%) Core Areas. Species only consistently present in southeastern portion of Plan Area.* | | | | |
| California Horned Lark | *Eremophila alpestris actia* | Objective 2: Include within the MSHCP Conservation Area at least 3 Core Areas and a portion of a fourth Core Area for the California horned lark including grasslands around Prado Basin (including the adjacent Santa Ana River area), Wasson Canyon (Subunit 5 of Elsinore Area Plan), Mystic Lake/San Jacinto Wildlife Area (Subunit 4 of Reche Canyon/Badlands Area Plan), and a portion of the Core Area in the Murrieta/Murrieta Hot Springs area (Proposed Core 2). Other locations are conserved as well, although they may not include Core Areas. These other locations include Lake Elsinore grasslands, Santa Rosa Plateau, and Wilson Valley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 4 of 4 (100%) Core Areas.* | 8 | F / D | N / I | YES |
| California Spotted Owl | *Strix occidentalis occidentalis* | Objective 1: Include within the MSHCP Conservation Area suitable montane coniferous forest and oak deciduous woodland and forest habitats within the Santa Ana Mountains, San Bernardino Mountains, and San Jacinto Mountains Bioregions for breeding, foraging, wintering use, and dispersal movement for the California spotted owl. | - | - | - | - |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of bioregions as described in the Species Account.<br><br>*Note: Species detected (by SBNF contractor) in 1 of 3 (33%) Bioregions.* | 8 | F / D | N / N | NO |
| Coastal California Gnatcatcher | *Polioptila californica californica* | Objective 2: Include within the MSHCP Conservation Area at least 13 of the Core Areas and interconnecting linkages within 9 Core and Linkage areas including El Cerrito/Lake Mathews-Estelle Mountain Reserve (Existing Core C plus Proposed Extension of Existing Core 2), Alberhill area (Subunit 2 of the Elsinore Area Plan), the proposed North Peak Conservation Bank/Meadowbrook area (Subunit 6 of the Elsinore Area Plan), Wasson Canyon (Subunit 5 of the Elsinore Area Plan), Railroad Canyon/Sedco Hills (Proposed Linkage 8), a portion of the Quail Valley area (Proposed Linkage 7), Hogbacks/Murrieta Hot Springs (Proposed Core 2 plus Existing Constrained Linkage A), Lake Skinner/Buck Road to Pourroy Road east of Murrieta Hot Springs (Existing Core J plus Proposed Extension of Existing Core 5, 6, and 7), Vail Lake/Wilson Valley including the eastern Temecula Creek area (Proposed Core 7). | - | - | - | - |
| | | Objective 3: Maintain (once every 3 years) continued use of and successful reproduction at 75% of the Core Areas.<br><br>*Note: Species detected in 9 of 9 (100%) Core Areas. Successful reproduction detected in 9 of 9 (100%) Core Areas.* | 3 | F / D | F / D | YES |
| Cooper's Hawk | *Accipiter cooperii* | Objective 2: Include within the MSHCP Conservation Area at least 10 Core Areas at (1) the Prado Basin/Santa Ana River, (2) San Timoteo Canyon (Subunit 3 of The Pass Area Plan), (3) Temescal Wash (Subunit 3 of Temescal Canyon Area Plan), (4) Wasson Canyon (Subunit 5 of Elsinore Area Plan), (5) Temecula Creek (Subunit 2 of Southwest Area Plan), (6) Murrieta Creek (Subunit 1 of Southwest | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Area Plan), (7) Vail Lake (Subunit 3 of Southwest Area Plan), (8) Wilson Valley (Subunit 2 of REMAP Area Plan), (9) San Bernardino National Forest (Existing Core K), (10) Cleveland National Forest (Existing Core B). | | | | |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 9 of 10 (90%) Core Areas.* | 8 | F / D | N / I | YES |
| Double-crested Cormorant | *Phalacrocorax auritus* | Objective 1: Include within the MSHCP Conservation Area 16,100 acres of open water habitat within seven open water bodies and one drainage including Lake Mathews, Diamond Valley Lake, Lake Skinner, Lake Elsinore, Vail Lake, Lake Perris, Mystic Lake and Prado Basin/Santa Ana River and the wetland habitats within Prado Basin/Santa Ana River. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations (open water habitat) as described in Objective 1.<br><br>*Note: Species detected in 6 of 8 (75%) identified water bodies.* | 8 | F / D | N / I | YES |
| Downy Woodpecker | *Picoides pubescens* | Objective 2: Include within the MSHCP Conservation Area the 5 Core Areas and linkages within the Prado Basin/Santa Ana River, Vail Lake (Subunit 3 of the Southwest Area Plan), Temescal Wash (Subunit 3 of the Temescal Canyon Area Plan), Alberhill Creek (Subunit 2 of the Elsinore Area Plan), and Temecula Creek (Subunit 2 of the Southwest Area Plan). | - | - | - | - |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 3 of 5 (60%) Core Areas.* | 8 | F / D | N / I | NO |
| Ferruginous Hawk | *Buteo regalis* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in the Species Account.<br><br>*Note: Species detected in 1 of 2 (50%) identified locations.* | 8 | F / D | N / I | NO |
| Golden Eagle | *Aquila chrysaetos* | Objective 2: Include within the MSHCP Conservation Area and buffer from disturbance the known nesting locations at Temecula Gorge, in the hills north of Aguanga west of State Route 371, at Elsinore Peak, at Rawson Canyon, at Mesa de Burro on Santa Rosa Plateau, and in San Timoteo Canyon (likely nest). Buffering of the nest sites will include conservation of undeveloped habitat in the MSHCP Conservation Area within a one-mile radius around each of the nest site locations and may include a variety of habitats. | - | - | - | - |
| | | Objective 3: Maintain (once every 8 years) the continued use of and successful reproduction at 75% of the known nesting localities (including any nesting locations identified in the MSHCP Conservation Area in the future).<br><br>*Note: Species detected near 3 of 6 (50%) known nesting locations.*<br>*Successful reproduction detected at 0 of 6 (0%) known nesting locations.* | 8 | F / D | N / I | NO |
| Grasshopper Sparrow | *Ammodramus savannarum* | Objective 2/MSHCP Table 9-3: Maintain occupancy within 3 large Core Areas (100%) and at least 3 of the 4 smaller Core Areas (75%) in at least 1 year out of any 5 consecutive-year period. In order for this species to become a Covered Species | 1 to 5 | F / D | F / D | Partial |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Adequately Conserved, the following Conservation must be demonstrated: Include within the Conservation Area at least 8,000 acres in 7 potential Core Areas. Core Areas may include the following: (1) Prado Basin, (2) Lake Skinner/Diamond Valley Lake/Johnson Ranch area, (3) Lake Mathews-Estelle Mountain, (4) Badlands, (5) Box Springs, (6) Santa Rosa Plateau/Tenaja, (7) Kabian Park, (8) Steele Peak, (9) Sycamore Canyon, (10) Potrero, and (11) Mystic Lake/San Jacinto Wildlife Area. Three of the 7 Core Areas will be large, consisting of a minimum of 2,000 acres of grassland habitat or grassland-dominated habitat. The other 4 Core Areas may be smaller but will consist of at least 500 acres of contiguous grassland habitat or grassland-dominated habitat. Five of the 7 Core Areas will be demonstrated to support at least 20 grasshopper sparrow pairs with evidence of successful reproduction within the first 5 years after permit issuance.<br><br>Covered Species not adequately conserved until Objective 2 is met.<br><br>*Note: Species detected in 3 of 3 (100%) large Core Areas.*<br>*Species detected in 1 of 4 (25%) small Core Areas.*<br>*Reproduction detected in 2 of 7 (28%) Core Areas of any size in 2019 (not within the first 5 years after permit issuance).* | | | | |
| Great Blue Heron | *Ardea herodias* | Objective 2: Include within the MSHCP Conservation Area at least the 3 known breeding locations, in the Santa Ana River/Prado Basin, Lake Skinner area (Existing Core J), and Collier Marsh areas (Proposed Linkage 2). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 2.<br><br>*Note: Species found 3 of 3 (100%) identified locations.* | 8 | F / D | N / I | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Least Bell's Vireo | *Vireo bellii pusillus* | Objective 2: Include within the MSHCP Conservation Area at least 8 Core Areas and interconnecting linkages. Core Areas could include the following areas: 1) the Prado Basin/Santa Ana River; 2) Temescal Wash including Alberhill Creek (includes Subunit 3 of the Temescal Canyon Area Plan plus Proposed Linkage 2 and Proposed Constrained Linage 6); 3) Murrieta Creek (Subunit 1 of the Southwest Area Plan); 4) Temecula Creek (Subunit 2 of the Southwest Area Plan); 5) Lake Skinner/Diamond Valley Lake area (including Rawson Canyon) (Existing Core C, Proposed Extension of Existing Cores 5, 6, 7); 6) Vail Lake (Subunit 3 of the Southwest Area Plan); 7) Wilson Valley (Subunit 2 of the REMAP Area Plan) and 8) San Timoteo Canyon (Subunit 3 of The Pass Area Plan). | - | - | - | - |
| | | Objective 4: Maintain (once every 3 years) the continued use of and successful reproduction at 75% of the known vireo-occupied habitat (including any nesting locations identified in the MSHCP Conservation Area in the future).<br><br>*Note: Species detected in 6 of 8 (75%) Core Areas. Successful reproduction detected in 6 of 8 (75%) Core Areas.* | 3 | F / D | N / I | YES |
| Lincoln's Sparrow | *Melospiza lincolnii* | Objective 3/MSHCP Table 9-3: Maintain occupancy within 3 large Core Areas (100%) in at least 1 year out of any 5-consecutive-year period. In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Include within the MSHCP Conservation Area at least 100 acres in 3 Core Areas. Core Areas may include the following: (1) Tahquitz Valley; (2) Round Valley; (3) Garner Valley. The 3 Core Areas will be large, consisting of a minimum of 50 acres of montane meadow, wet montane meadow, and edges of montane riparian or riparian scrub. The Core Areas will be demonstrated to support at least 20 Lincoln sparrow pairs with evidence of successful reproduction within the first 5 years after permit issuance. | - | - | - | - |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Covered Species not adequately conserved until Objective 3 is met.<br><br>*Note: Species not detected in 2008 surveys. Two of the suggested Core Areas are outside of the Plan Area. Reproductive objective possibly will not be met because suitable breeding habitat is difficult to locate in the Plan Area, and species is rarely present during the breeding season. Species found in 1 of 3 (33%) Core Area from 2020-2024.* | 1 to 5 | F / D | N / I | NO |
| Loggerhead Shrike | *Lanius ludovicianus* | Objective 2: Include within the MSHCP Conservation Area at least 8 of 12 breeding and foraging locations constituting Core Areas including Prado Basin/Santa Ana River, Lake Mathews-Estelle Mountain area (Existing Core C plus Proposed Extended Existing Core 2), Wasson Canyon (Subunit 5 of the Elsinore Area Plan), Temecula Creek (Subunit 2 of the Southwest Area Plan), Wilson Valley (Subunit 2 of the REMAP Area Plan), Quail Valley (Proposed Linkage 7), Lake Perris/Mystic Lake/San Jacinto Wildlife Area (Existing Core H), and Badlands. | - | - | - | - |
| | | Objective 3: Maintain (once every 8 years) the continued use of, and successful reproduction within, 75% of the Core Areas.<br><br>*Note: Species detected in 6 of 8 (75%) Core Areas.*<br>*Successful reproduction detected in 4 of 8 (50%) Core Areas.* | 8 | F / D | N / I | Partial |
| MacGillivray's Warbler | *Oporornis tolmiei* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in the Species Account.<br><br>*Note: Species detected in 0 of 11 (0%) known locations.*<br>*A single observation (2020) was not in any of the above known locations.* | 8 | F / D | N / N | NO |

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## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Merlin | *Falco columbarius* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in the Species Account.<br><br>*Notes: Species detected in 5 of 8 (63%) known locations.* | 8 | F / D | N / I | NO |
| Mountain Plover | *Charadrius montanus* | Objective 2: Include within the MSHCP Conservation Area at least 4 Core Areas and interconnecting linkages. The Core Areas will consist of two "large" areas (at least 2,500 acres of suitable habitat: playa, grassland, fallow agriculture) and two smaller areas (at least 1,000 acres of suitable habitat). Core Areas shall include the following areas: San Jacinto River floodplain (Proposed Core 5, Existing Constrained Linkage C, Proposed Extension of Existing Core 4, and Proposed Constrained Linkage 19), Mystic Lake/San Jacinto Wildlife Area (Existing Core H), and the playa west of Hemet (Proposed Noncontiguous Habitat Block 7), and may include areas adjacent to Lake Elsinore (Subunit 7 of Elsinore Area Plan), Lake Skinner/Diamond Valley Lake (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7), and Lake Matthews (Existing Core C plus Proposed Extension of Existing Core 2). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 0 of 4 (0%) Core Areas.* | 8 | F / D | N / N | NO |
| Mountain Quail | *Oreortyx pictus* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Bioregions as described in the Species Account.<br><br>*Note: Species detected in 4 of 4 (100%) Core Areas.* | 8 | N / I | N / I | YES |

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**Details of Covered Species Monitoring**

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|---|---|---|---|---|---|---|
| Nashville Warbler | *Vermivora ruficapilla* | Objective 2: Include within the MSHCP Conservation Area at least three Core Areas. Core Areas will include the known breeding locations at Lake Fulmor and Pine Cove (represented by MSHCP Conservation Areas within the San Bernardino National Forest) and one additional breeding area identified within the MSHCP Conservation Area. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br>*Note: Species detected in 0 of 3 (0%) Core Areas. Species is uncommonly detected as a spring and fall migrant, and is unlikely to breed within the Plan Area. Species detected 15 times from 2017-2024.* | 8 | F / I | N /N | NO |
| Northern Goshawk | *Accipiter gentilis* | Objective 2: Within the MSHCP Conservation Area, protect and buffer from disturbance the 2 known nest sites (Lake Fulmor and San Jacinto Wilderness area), the possible nest site within Tahquitz Valley and any additional nesting locations. | - | - | - | - |
| | | Objective 3: Maintain (once every 3 years) the continued use of and successful reproduction at a minimum of 75% of the known nesting localities.<br>*Note: Species detected at 0 of 2 (0%) known nesting localities. Reproduction detected at 0 of 2 (0%) known nesting localities.* | 3 | F / I | N / N | NO |
| Northern Harrier | *Circus cyaneus* | Objective 5: Maintain (once every 5 years) the continued use of, and successful reproduction at, 75% of the known nesting areas (including any nesting locations identified in the MSHCP Conservation Area in the future).<br>*Note: Species detected in 6 of 7 (86%) Core Areas.* | 5 | F / D | N / I | Partial |

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**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Successful reproduction detected in 0 of 7 (0%) Core Areas.* | | | | |
| Osprey | *Pandion haliaetus* | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of identified locations as described in the Species Account.<br><br>*Note: Species detected at 5 of 8 (63%) identified locations.* | 8 | F / D | N / I | NO |
| Peregrine Falcon | *Falco peregrinus* | Objective 1: Include within the MSHCP Conservation Area at least 10,340 acres of open water Habitat at the following seven open water bodies and one drainage: Lake Mathews, Diamond Valley Lake, Lake Skinner, Lake Elsinore, Vail Lake, Lake Perris, Mystic Lake/San Jacinto Wildlife Area, and Prado Basin/Santa Ana River and the 5,520 acres of suitable riparian Habitat within the Prado Basin/Santa Ana River. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of identified locations (open water habitat) as described in Objective 1.<br><br>*Note: Species detected at 6 of 8 (75%) identified locations.* | 8 | F / D | N / I | YES |
| Prairie Falcon | *Falco mexicanus* | Objective 1: Include within the MSHCP Conservation Area at least 141,510 acres of suitable open and scrub Habitats including grassland, playa and vernal pool, Riversidean alluvial fan sage scrub, coastal sage scrub, and desert scrubs. Conservation will occur in large blocks throughout the Plan Area, including at a minimum: Mystic Lake/San Jacinto Wildlife Area, Lakeview Mountains, and Vail Lake. | - | - | - | - |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 1.<br>*Note: Species found at 1 of 3 (33%) identified locations. Species is distributed elsewhere in the Plan Area.* | 8 | F / D | N / I | NO |
| Purple Martin | *Progne subis* | Objective 2: Include within the MSHCP Conservation Area the 2 Core Areas including Dripping Springs (represented by Vail Lake) and Thomas Mountain (represented by the San Bernardino National Forest). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br>*Note: Species detected near 1 of 2 (50%) Core Areas; Thomas Mountain.* | 8 | F / I | N /N | NO |
| Sharp-shinned Hawk | *Accipiter striatus* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in the Species Account.<br>*Note: Species found in 11 of 26 (42%) known locations.* | 8 | F / D | N / I | NO |
| Southern California Rufous-crowned Sparrow | *Aimophila ruficeps canescens* | Objective 2: Include within the MSHCP Conservation Area at least 9 Core Areas and interconnecting linkages. Core areas will include: Lake Mathews-Estelle Mountain, Box Springs Mountains, Lake Perris, the Badlands, west of Lake Elsinore, Wasson Canyon, Lake Skinner (including Diamond Valley Lake), Wilson Valley, and the Hogbacks. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br>*Note: Species found in 9 of 9 (100%) Core Areas.* | 8 | F / D | N / I | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Southwestern Willow Flycatcher | *Empidonax traillii extimus* | Objective 2: Include within the MSHCP Conservation Area at least 6 Core Areas and interconnecting linkages. Core areas shall include the following areas: 1) Prado Basin/Santa Ana River, including Chino Creek, the Santa Ana River both up- and downstream of the Prado Dam, and the seven 2001 territories; 2) Temescal Wash including Alberhill Creek (estimated as Subunit 3 plus Proposed Constrained Linkage 6 and Proposed Linkage 2); 3) Murrieta Creek (Proposed Constrained Linkage 13); 4) Temecula Creek (Proposed Constrained Linkages 14 and 24); 5) San Timoteo Canyon (Proposed Linkages 5, 12 and Proposed Linkage 22); 6) Vail Lake. | - | - | - | - |
| | | Objective 4: Maintain (once every three years) the continued use of, and successful reproduction at 75% of the known southwestern willow flycatcher occupied Core Areas (including any nesting locations identified in the MSHCP Conservation Area in the future).<br><br>*Note: Species detected in 1 of 6 (17%) Core Areas since 2004. Successful reproduction detected in 0 of 6 (0%) Core Areas.* | 3 | F / D | N / N | NO |
| Swainson's Hawk | *Buteo swainsoni* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in the Species Account.<br><br>*Note: Species detected in 2 of 9 (22%) known locations.* | 8 | F / D | N / N | NO |
| Tree Swallow | *Tachycineta bicolor* | Objective 2: Include within the MSHCP Conservation Area the 6 known Core Areas including the breeding populations in the Prado Basin/Santa Ana River and other Core Areas at Wasson Canyon, Temecula Creek, Lake Skinner, Vail Lake, and Wilson Valley. Include additional areas that may contain breeding populations including Lake Mathews, Lake Perris, and Lake Elsinore, and drainages and | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | woodland areas within the Cleveland National Forest and San Bernardino National Forest. | | | | |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 2.<br><br>*Note: Species detected in 4 of 6 (67%) Core Areas.* | 8 | F / D | N / I | NO |
| Tricolored Blackbird | *Agelaius tricolor* | Objective 2: Include within the MSHCP Conservation Area the 5 Core Areas, including San Jacinto River floodplain (Proposed Core 5, Existing Constrained Linkage C, Proposed Extension of Existing Core 4, and Proposed Constrained Linkage 19), Mystic Lake/San Jacinto Wildlife Area (Existing Core H), Collier Marsh and Lake Elsinore grasslands (Subunit 3 of Elsinore Area Plan), Alberhill (Subunit 2 of Elsinore Area Plan), and Vail Lake/Wilson Valley/eastern Temecula Creek (Proposed Core 7). | - | - | - | - |
| | | Objective 4: Maintain (once every 5 years) the continued use of, and successful reproduction within at least 1 of the identified Core Areas.<br><br>*Note: Species detected in 2 of 5 (40%) Core Areas.*<br>*Successful reproduction detected in 1 of 5 (20%) Core Areas.* | 5 | F / D | N / I | YES |
| Turkey Vulture | *Cathartes aura* | Objective 4: Maintain (once every 3 years) the continued use of, and successful reproduction at the 2 known nesting locations and at nesting locations identified in the MSHCP Conservation Area in the future.<br><br>*Note: Species detected in 6 of 7 (86%) identified locations. Successful reproduction detected in 0 of 3 (0%) known locations* | 3 | F / D | N / I | Partial |

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## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Western Yellow-billed Cuckoo | *Coccyzus americanus occidentalis* | Objective 2: Include within the MSHCP Conservation Area at least five Core Areas and interconnecting linkages. Core areas shall include the following areas: 1) Prado Basin/Santa Ana River, including Chino Creek, Mill Creek, and the Santa Ana River both up- and downstream of the Prado Dam; 2) Temescal Wash including Alberhill Creek (estimated as subunit 3 of Temescal Canyon Area Plan plus Proposed Constrained Linkage 6 and Proposed Linkage 2); 3) Murrieta Creek (Proposed Constrained Linkage 13); 4) Temecula Creek (Proposed Constrained Linkages 14 and 24); 5) San Timoteo Canyon (Proposed Linkages 5, 12 and Proposed Linkage 22). | - | - | - | - |
| | | Objective 5: Maintain (once every 3 years) the continued use of, and successful reproduction at 75% of the known western yellow-billed cuckoo occupied Core Areas (including any nesting locations identified in the MSHCP Conservation Area in the future).<br><br>*Note: Species detected in 0 of 5 (0%) Core Areas. Successful reproduction detected in 0 of 5 (0%) Core Areas.* | 3 | F / D | N / N | NO |
| White-faced Ibis | *Plegadis chihi* | Objective 2: Include within the MSHCP Conservation Area at least the two known breeding locations and foraging areas at the Prado Basin/Santa Ana River and Mystic Lake/San Jacinto Wildlife Area, and the core foraging areas at Collier Marsh and San Jacinto Valley. | - | - | - | - |
| White-faced Ibis | *Plegadis chihi* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 2.<br><br>*Note: Species detected in 4 of 4 (100%) identified locations.* | 8 | N / I | N / I | YES |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| White-tailed Kite | *Elanus leucurus* | Objective 2: Include within the MSHCP Conservation Area at least 10 core breeding areas including 1) the Prado Basin/ Santa Ana River, 2) Lake Mathews-Estelle Mountain (Existing Core C), 3) Temescal Wash (Subunit 3 of Temescal Canyon Area Plan plus Proposed Constrained Linkage 6 and Proposed Linkage 2), 4) Wasson Canyon (Subunit 5 of Elsinore Area Plan), 5) Murrieta Creek (Subunit 1 of Southwest Area Plan), 6) Temecula Creek (Subunit 2 of Southwest Area Plan), 7) Vail Lake (Subunit 3 of Southwest Area Plan), 8) Wilson Valley (Subunit 2 of Southwest Area Plan), 9) Lake Skinner including the Diamond Valley Lake area (Existing Core C plus Proposed Extension of Existing Core 5, 6, 7), and 10) Lake Perris/Mystic Lake (Existing Core H). | - | - | - | - |
| | | Objective 5: Maintain (once every 3 years) the continued use of, and successful reproduction at 75% of the core breeding areas (including any core breeding areas identified in the MSHCP Conservation Area in the future).<br>*Note: Species detected in 3 of 10 (30%) Core Areas. Successful reproduction detected in 0 of 10 (0%) Core Areas.* | 3 | F / D | N / I | NO |
| Williamson's Sapsucker | *Sphyrapicus thyroideus* | Objective 1: Include within the MSHCP Conservation Area at least 34,020 acres of suitable breeding, wintering, and dispersal Habitat for the Williamson's sapsucker including oak woodland and forest and montane coniferous forest within the San Bernardino Mountains and San Jacinto Mountains Bioregions. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Bioregions as described in Objective 1.<br>*Note: Species detected in 1 of 2 (50%) Bioregions.* | 8 | F / D | N / N | NO |

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# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Wilson's Warbler | *Wilsonia pusilla* | Objective 1: Include within the MSHCP Conservation Area at least 198,850 acres of suitable montane meadow, riparian scrub, oak woodland and forest, coastal sage scrub, chaparral, and Riversidean alluvial fan sage scrub within the San Bernardino Mountains, San Jacinto Mountains, and Santa Ana Mountains Bioregions. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Bioregions as described in Objective 1.<br>*Note: Species detected in 2 of 3 (67%) identified Bioregions.* | 8 | F / D | N / I | NO |
| Yellow-breasted Chat | *Icteria virens* | Objective 2: Include within the MSHCP Conservation Area at least 5 Core Areas including the Prado Basin/Santa Ana River, Temescal Wash including Alberhill Creek (estimated as Subunit 3 of Temescal Canyon Area Plan plus Proposed Constrained Linkage 6 and Proposed Linkage 2), Temecula Creek (Subunit 2 of Southwest Area Plan), Vail Lake (Subunit 3 of Southwest Area Plan), and San Timoteo Creek (Subunit 3 of The Pass Area Plan) and maintain adequate Habitat linkages between Core Areas and smaller drainages and tributaries. | - | - | - | - |
| | | Objective 3: Maintain (once every 5 years) the continued use of, and successful reproduction at 75% of the Core Areas (including any Core Areas identified in the MSHCP Conservation Area in the future).<br>*Note: Species detected in 4 of 5 (80%) Core Areas.*<br>*Successful reproduction detected in 4 of 5 (80%) Core Areas in 2023.* | 5 | F / D | N / I | YES |
| Yellow Warbler | *Dendroica petechia brewsteri* | Objective 2: Include within the MSHCP Conservation Area at least 9 Core Areas including Prado Basin/Santa Ana River (9,670 acres), Temescal Canyon including tributaries such as Alberhill Creek (estimated as Subunit 3 of Temescal Canyon Area Plan plus Proposed Constrained Linkage 6 and Proposed Linkage 2), Wasson Canyon (Subunit 5 of Elsinore Area Plan) Temecula Creek (Subunit 2 of Southwest | - | - | - | - |

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## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Area Plan), Murrieta Creek (Subunit 1 of Southwest Area Plan), Vail Lake (Subunit 3 of Southwest Area Plan), Wilson Creek (Subunit 2 of REMAP Area Plan), San Timoteo Creek (Subunit 3 of The Pass Area Plan), and drainages and woodland areas within the San Bernardino National Forest. | | | | |
| | | Objective 3: Maintain (once every 5 years) the continued use of, and successful reproduction at 75% of the Core Areas.<br>*Note: Species detected in 9 of 9 (100%) Core Areas. Successful reproduction detected in 4 of 9 (44%) Core Areas.* | 5 | F / D | N / I | Partial |
| Arroyo Chub | *Gila orcuttii* | Objective 3: Include within the MSHCP Conservation Area, the suitable Core Areas and available adjacent habitat for the arroyo chub in the Santa Margarita watershed. Conserve the natural river and or creek bottom and banks up to an elevation of 400 meters in the reach of the Santa Margarita River in the Plan Area, and in De Luz Creek and its tributary downstream to the County line, in upper Sandia Creek downstream to the County line, in Murrieta Creek from Winchester Road to near its confluence with the Santa Margarita River, in Cole Creek between its confluence with Murrieta Creek and the boundary of Conservancy property and in Temecula Creek from Long (Smith) Canyon just below the falls near the County line downstream to a concrete drop structure at Highway 79 (upstream of Vail Lake). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 3.<br>*Note: Species detected in 4 of 7 Core Areas (57%).* | 8 | F / D | N / I | NO |
| Santa Ana Sucker | *Catastomus santaanae* | Objective 2: Include within the MSHCP Conservation Area the Core Areas upstream of River Road, between River Road and Prado Dam, and downstream of | - | - | - | - |

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**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Prado Dam; the known spawning areas at Sunnyslope Creek and within the area just below Mission Boulevard upstream to the Rialto Drain; and refugia and dispersal areas including the Market Street Seep, Mount Rubidoux Creek, Anza Park Drain, Arroyo Tequesquite, Hidden Valley Drain, and Evans Lake Drain. | | | | |
| Santa Ana Sucker | *Catastomus santaanae* | Objective 3: Include within the MSHCP Conservation Area the natural river bottom and banks of the Santa Ana River from the Orange County and Riverside County line to the upstream boundary of the Plan Area, including the adjacent upland habitat, where available, to provide shade and suitable microclimate conditions (e.g., alluvial terraces, riparian vegetation). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of identified locations as described in Objectives 2 and 3.<br><br>*Note: Species detected in 1 of 3 Core Areas (33%).* | 8 | N / D | N / I | NO |
| Riverside Fairy Shrimp | *Streptocephalus woottoni* | Objective 1: Include within the MSHCP Conservation Area at least five Core Areas of occupied vernal pools (or vernal pool complex) and their watersheds. Core Areas include the Santa Rosa Plateau Ecological Reserve, Skunk Hollow, Murrieta and Lake Elsinore back basin. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of Core Areas as described in Objective 1.<br><br>*Note: Species was detected in 2 of 5 Core Areas (40%).*<br>*Species was detected east of the Murrieta Core Area in an RCA property (Lake Skinner Investors).* | 8 | F / D | F / D | NO |
| Santa Rosa Plateau Fairy Shrimp | *Linderiella santarosae* | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of identified locations as described in the Species Account. | 8 | F / D | N / N | YES |

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**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 1 of 1 identified location (100%).* | | | | |
| Vernal Pool Fairy Shrimp | *Branchinecta lynchi* | Objective 3: Include within the MSHCP Conservation Area at least three Core Areas, which include the three known occupied vernal pools (or vernal pool complexes) and their watersheds in the West Hemet portion of Salt Creek, Santa Rosa Plateau Ecological Reserve, and Skunk Hollow. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 3.<br>*Note: Species detected in 2 of 3 Core Areas (66%).* | 8 | F / D | F / N | NO |
| Delhi Sands Flower - loving Fly | *Rhaphiomidas terminatus abdominalis* | Objective 2: Reserve Managers shall document successful reproduction at all 3 Core Areas or other areas to be conserved in accordance with Objective 1, as measured by the presence/absence of pupae cases or newly emerged (teneral) individuals once a year for the first 5 years after permit issuance and then as determined to be appropriate (but not less frequently than every 8 years).<br>*Note: Species detected in 1 of 3 Core Areas (33%).*<br>*Successful reproduction detected in 1 of 3 Core Areas (33%).* | 1 | F / D | F / D | NO |
| Quino Checkerspot | *Euphydryas editha quino* | Objective 1: Include within the MSHCP Conservation Area at least 67,493 acres of habitat mosaic (which may include chaparral, coastal sage scrub, desert scrubs, grasslands, peninsular juniper woodland and scrub, playas and vernal pools, and Riversidean alluvial fan sage scrub habitats) supporting the seven core populations in the southwest portion of the County, including 1) the Lake Mathews/Estelle Mountain/Harford Springs Core Area, 2) Warm Springs Creek Core Area, 3) | - | - | - | - |

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**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Johnson Ranch/Lake Skinner Core Area, 4) Oak Mountain Core Area, 5) Wilson Valley Core Area, 6) Sage Core Area, and 7) Silverado/Tule Peak Core Area. | | | | |
| | | Objective 2: Include within the MSHCP Conservation Area the 12 known satellite (non-core) occurrence complexes within the following six areas: French Valley, Oak Mountain/Vail Lake, Anza Valley, Sage/Wilson Valley, Brown Canyon/Cactus Valley and Aguanga. | - | - | - | - |
| | | Objective 4: Reserve Managers will document the distribution of Quino Checkerspot on an annual basis.<br><br>*Note: Documented distribution in the Plan Area.* | 1 | F / D | F / D | YES |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas and Satellite Occurrence Complex Areas as described in Objective 2.<br><br>*Note: Species detected in 2 of 9 (22%) Core Areas and Satellite Occurrence Complex Areas that were surveyed. Additional evaluation of some areas containing known satellite occurrence complexes is needed.* | 1 | F / D | F / D | NO |
| Aguanga Kangaroo Rat | *Dipodomys merriami collinus* | Objective 3: Within the 5,484 acres of occupied or suitable habitat in the MSHCP Conservation Area, ensure that at least 75% (4,113 acres) of the total is occupied and that at least 20% of the occupied habitat (approximately 823 acres) supports a medium or higher population density (≥ 5 to 15 individuals per hectare) of the species as measured across any 8-year period.<br><br>*Note: Species detected in 2 of 2 (100%) known locations. Density objectives are not currently being met because there are not enough occupied grids to determine density.* | 1 to 8 | F / D | N / N | Partial |

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| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Bobcat | *Lynx rufus* | Objective 3: Maintain or improve functionality of dispersal routes. Existing undercrossings in key areas will be evaluated for their adequacy and improved as necessary to convey bobcats (see Species Account for full objective). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of Core Areas as described in Objective 3.<br>*Note: Species detected in 8 of 8 (100%) habitat blocks.*<br>*Area searches for sign (tracks and scat) can be used to obtain occupancy data for this species.* | 8 | F / D | F / D | YES |
| Brush Rabbit | *Sylvilagus bachmani* | Objective 1: Include within the MSHCP Conservation Area 382,115 acres (63%) of suitable habitat in the Plan Area. Conservation in the primary core habitat areas includes the Existing Core A, Existing Core B (contiguous with Cleveland National Forest in Orange County), Existing Core C, Existing Core F, Existing Core G, Existing Core H, Existing Core I (with San Bernardino National Forest in San Bernardino County), Existing Core J, Existing Core K, Existing Core L (contiguous with Cleveland National Forest in San Diego County), Existing Core M (contiguous with Cleveland National Forest in San Diego County), Proposed Core 1, Proposed Core 2, Proposed Core 3, Proposed Core 4, Proposed Core 5, Proposed Core 6, and Proposed Core 7. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of identified locations as described in Objective 1.<br>*Note: Species detected in 8 of 18 (44%) Core Areas.*<br>*Trapping is currently the best method but is very labor intensive.* | 8 | F / D | N / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Coyote | *Canis latrans* | Objective 2: Include within the MSHCP Conservation Area habitat linkages between large habitat blocks. Key habitat linkages that likely will be used by coyotes to move between large habitat blocks include: Santa Ana River, Badlands/San Timoteo Creek, Indian Canyon and Horsethief Canyon crossings of I-15, Cole Canyon-Murrieta Creek, Warm Springs Creek, French Valley tributary to Warm Springs Creek, generally continuous upland habitat from Lake Mathews to Wildomar, Gavilan Hills, San Jacinto River, Temecula Creek-Santa Margarita River, Kolb Creek/Arroyo Seco, Tucalota Creek, Wilson Creek, Tule Creek, and San Gorgonio Wash. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 2.<br><br>*Note: Species detected in 10 of 15 (67%) habitat linkages. Objective was not met with incidentals.* | 8 | F / D | F / D | NO |
| Dulzura Kangaroo Rat | *Dipodomys simulans* | Objective 1: Include within the MSHCP Conservation Area 198,200 acres (58%) of suitable habitat in the Plan Area. The majority of conservation will occur in the following existing and proposed Core Areas: Existing Core C, Existing Core F, Existing Core G, Existing Core H, Existing Core I, Existing Core J, Existing Core M, Proposed Core 1, Proposed Core 2, Proposed Extension of Existing Core 2, Proposed Core 3, Proposed Core 4, Proposed Core 5, and Proposed Core 7. | - | - | - | - |
| Dulzura Kangaroo Rat | *Dipodomys simulans* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 1.<br><br>*Note: Species detected in 5 of 14 (36%) Core Areas.* | 8 | F / D | N / I | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Long-tailed Weasel | *Mustela frenata* | Objective 3: Maintain (measured once every 8 years) the continued use of Long-tailed weasel at a minimum of 75% of the localities where the species has been known to occur.<br><br>*Note: Species detected in 3 of 18 (17%) known localities.* | 8 | F / D | N / N | NO |
| Los Angeles Pocket Mouse | *Perognathus longimembris brevinasus* | Objective 1: Include within the MSHCP Conservation Area, at least 14,000 acres of suitable habitat for the Los Angeles pocket mouse (e.g., sandy to loamy-sand soils occurring in non-native grassland, Riversidean sage scrub, Riversidean alluvial fan sage scrub, desert scrub, playa and vernal pool, chaparral, or redshank chaparral habitat), with at least 2,000 acres within each of seven (7) Core Areas within the MSHCP Conservation Area. Based on existing population distribution information, probable Core Areas include the following: 1) San Jacinto Wildlife Area-Lake Perris Reserve, 2) the Badlands, 3) San Jacinto River and Bautista Creek, 4) Anza Valley, 5) Lake Skinner-Domenigoni Reserve, 6) Potrero Valley, and 7) Temecula Creek. | - | - | - | - |
| Los Angeles Pocket Mouse | *Perognathus longimembris brevinasus* | Objective 4: Reserve Managers shall demonstrate that each of the 7 Core Areas supports a stable or increasing population that occupies at least 30% of the suitable habitat (at least 4,200 acres) as measured over any 8-consecutive-year period.<br><br>*Note: Species detected in 3 of 7 (43%) Core Areas.* | 1 to 8 | F / D | N / N | NO |
| Mountain Lion | *Puma concolor* | Objective 1: Include within the MSHCP Conservation Area 319,843 acres (71%) of suitable habitat in the Plan Area. The majority of habitat conservation will occur in large blocks throughout the Plan Area, including the Santa Rosa Plateau-Santa Ana Mountains, Agua Tibia Wilderness-Palomar Mountains, Badlands-San Jacinto Mountains-Santa Rosa Mountains, and San Bernardino Mountains. Additional areas likely to be used by the mountain lion include Lake Mathews-Estelle | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Mountain, Lake Skinner-Diamond Valley Lake, and Vail Lake-Sage-Wilson Valley. | | | | |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of Core Areas as described in Objective 1.<br><br>*Note: Species detected in 6 of 7 (86%) habitat blocks.* | 8 | F / D | F / I | YES |
| | | Objective 3: Maintain or improve functionality of dispersal routes. Existing undercrossings in key areas will be evaluated for their adequacy to convey mountain lions (see Species Account for full objective). | - | - | - | - |
| Northwestern San Diego Pocket Mouse | *Chaetodipus fallax fallax* | Objective 1: Include within the MSHCP Conservation Area suitable habitat in the Plan Area. Conservation in the primary core habitat areas includes Existing Core C, Existing Core G, Existing Core H, Existing Core F, Existing Core I, Existing Core J, Existing Core M, Proposed Extended Existing Core 2, Proposed Extension of Existing Core 6, Proposed Extension of Existing Core 7, Proposed Core 1, Proposed Core 2, Proposed Core 3, Proposed Core 4, Proposed Core 5, and Proposed Core 7. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 1 and the Species Account.<br><br>*Note: Species detected in 6 of 16 (38%) Core Areas.*<br>*Species objectives can be met with other small mammal target trapping and a small amount of additional target trapping.* | 8 | F / D | N / I | NO |
| San Bernardino Flying Squirrel | | Objective 2/MSHCP Table 9-3: Confirm occupation of 1,000 ha (2,470 acres) with a mean density of at least 2 individuals per hectare (2 individuals per 2.47 acres) in | 8 | N / N | N / N | NO |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | *Glaucomys sabrinus californicus* | the San Jacinto Mountains; in the San Bernardino Mountains, confirm occupation of 100 ha.<br>Covered Species not adequately conserved until the above objective is met.<br>*Note: USFS and SDNHM staff have determined it is extremely unlikely that the objective will be met. Focused surveys have not been conducted.* | | | | |
| San Bernardino Kangaroo Rat | *Dipodomys merriami parvus* | Objective 3: Within the 4,440 acres of suitable habitat in the MSHCP Conservation Area, ensure that at least 75% of the total (3,330 acres) is occupied and that at least 20% of the occupied habitat (approximately 666 acres) supports a medium or higher population density (≥ 5 to 15 individuals per hectare) of the species as measured across any 8-year period.<br>*Note: Species detected in 1 of 2 known locations (50%). Distribution and density objectives have not been met.* | 1 to 8 | F / D | N / N | NO |
| San Diego Black-tailed Jackrabbit | *Lepus californicus bennettii* | Objective 1: Include within the MSHCP Conservation Area 142,116 acres (44%) of suitable habitat in the Plan Area comprised of grassland, coastal sage scrub, Riversidean alluvial fan sage scrub, desert scrub, juniper woodland and scrub, and playas and vernal pools. Conservation in the primary core habitat areas includes Existing Core A, Existing Core C, Existing Core D, Existing Core G, Existing Core H, Existing Core F, Existing Core J, Proposed Extension of Existing Core 2, Proposed Extension of Existing Core 6, Proposed Extension of Existing Core 7, Proposed Core 1, Proposed Core 2, Proposed Core 3, Proposed Core 4, Proposed Core 5, Proposed Core 6, Proposed Core 7, Non-contiguous Habitat Block 2, and Non-contiguous Habitat Block 5. | - | - | - | - |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 1.<br><br>*Note: Species detected in 12 of 19 (63%) Core Areas.* | 8 | F / D | N / I | NO |
| San Diego Desert Woodrat | *Neotoma lepida intermedia* | Objective 1: Include within the MSHCP Conservation Area 364,828 acres (62%) of suitable habitat in the Plan Area comprised of chaparral, coastal sage scrub, Riversidean alluvial fan sage scrub, desert scrub, and juniper woodland and scrub. Conservation in the primary core habitat areas includes Existing Core C, Existing Core G, Existing Core H, Existing Core F, Existing Core J, Proposed Extension of Existing Core 2, Proposed Extension of Existing Core 6, Proposed Extension of Existing Core 7, Proposed Core 1, Proposed Core 2, Proposed Core 3, Proposed Core 4, Proposed Core 5, Proposed Core 6, Proposed Core 7, and Non-contiguous Habitat Block 5. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of identified locations as described in Objective 1.<br><br>*Note: Species detected in 5 of 16 (31%) Core Areas.*<br>*Species objectives can be met with other small mammal target trapping and a small amount of additional target trapping. Trapping for woodrat can be targeted to rock outcrops or where sign (houses/scat) are located.* | 8 | F / D | N / I | NO |
| Stephens' Kangaroo Rat | *Dipodomys stephensi* | Objective 1: Include within the MSHCP Conservation Area a minimum of 15,000 acres of occupied habitat (as defined in the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County, March 1996), as measured across any consecutive 8-year period (i.e., the approximate length of the weather cycle), in a minimum of six Core Areas within the existing boundary of the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County. This objective is consistent with the requirements of the Stephens' kangaroo rat HCP. Core areas, as identified in the HCP, include Lake Mathews- | - | - | - | - |

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# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Estelle Mountain, Motte-Rimrock Reserve, Lake Skinner-Domenigoni Valley, San Jacinto Wildlife Area-Lake Perris, Sycamore Canyon-March Air Force (Reserve) Base, Steele Peak, and Potrero ACEC. | | | | |
| | | Objective 2: Include within the MSHCP Conservation Area at least 3,000 acres of occupied habitat, as measured across any consecutive 8-year period, in a minimum of two Core Areas outside the existing boundary of the Habitat Conservation Plan for the Stephens' Kangaroo Rat in Western Riverside County. One of the Core Areas will be the Potrero Valley area (as distinct from the Potrero ACEC Core Areas listed in Objective 1) and the other will be in the Anza and Cahuilla valleys. | - | - | - | - |
| | | Objective 3: Within the minimum 15,000 acres of occupied habitat in the MSHCP Conservation Area, maintain at least 30% of the occupied habitat (approximately 4,500 acres) at a population density of medium or higher (i.e., at least 5-10 individuals per hectare) across all Core Areas. No single Core Area will account for more than 30% of the total medium (or higher) population density area.<br><br>*Note: Species detected in 2 of 2 (100%) Core Areas outside of the SKR HCP. Distribution and density objectives not met.* | 1 to 8 | F / D | N /N | Partial |
| Beautiful Hulsea | *Hulsea vestita* ssp. *callicarpha* | Objective 2: Include within the MSHCP Conservation Area at least 12 of the known occurrences at Lake Fulmor, Pine Cove, Idyllwild, Mountain Center, Pine Meadow and Lake Hemet. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 10 of 12 (83%) known locations. The population at the UCR James Reserve is not accessible; Lake Fulmor historical location has been surveyed for but not been found in recent years.* | 8 | F / D | N / N | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Objective 3/MSHCP Table 9-3: Confirm 16 localities (locality in this sense is not smaller than 1 quarter section) with no fewer than 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining).<br><br>*Note: Species detected in 16 of 16 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Brand's Phacelia | *Phacelia stellaris* | Objective 2: Include within the MSHCP Conservation Area at least the two known localities of this species along the Santa Ana River at Fairmont Park and in the Santa Ana Wilderness Area. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 1 of 2 (50%) required locations.*<br>*Unable to meet Objective as written because a required occurrence included in Objective 2 has been extirpated.* | 8 | F / D | F / D | NO |
| California Beardtongue | *Penstemon californicus* | Objective 2: Include within the MSHCP Conservation Area at least 15 occurrences in Aguanga, Blackburn Canyon and the San Jacinto Mountains (including Garner Valley, Pyramid Peak, and Kenworthy Ranger Station). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 5 of 15 (33%) required locations.* | 8 | F / D | F / D | NO |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Unable to meet Objective as written. Objective 2 includes duplicate records and locations in habitat that does not support this species (possible errors in georeferencing).* | | | | |
| California Bedstraw | *Galium californicum* ssp. *primum* | Objective 2: Include within the MSHCP Conservation Area at least four of the known occurrences of this species in the vicinity of Alvin Meadows between Pine Cove and Idyllwild in the San Jacinto Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 2 of 4 (50%) required locations.* | 8 | F / D | N / N | NO |
| California Black Walnut | *Juglans californica* var. *californica* | Objective 2: Include within the MSHCP Conservation Area at least seven known occurrences of this species within the Santa Ana Mountains, at Lake Skinner, at the Santa Rosa Plateau and one east of Pedley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 1 of 7 (14%) required locations.*<br>*Unable to meet Objective as written. Required locations in Objective 2 differ significantly from occurrences observed.* | 8 | F / D | F / D | NO |
| California Muhly | *Muhlenbergia californica* | Objective 2: Include within the MSHCP Conservation Area the known locations at Sage, Aguanga, Estelle Mountain, Prado Dam, Temescal Canyon, and Sitton Peak. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / N | F / N | NO |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 0 of 6 (0%) required locations. Unable to meet Objectives because neither species nor historical records could be found within Plan Area.* | | | | |
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) containing at least 50 clumps (unless a smaller population has been demonstrated to be self-sustaining).<br><br>*Note: Species detected in 0 of 10 (0%) localities with population requirements.* | 8 | F / N | F / N | NO |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| California Orcutt Grass | *Orcuttia californica* | Objective 2: Include within the MSHCP Conservation Area at least three of the known locations of California Orcutt grass at the Santa Rosa Plateau, at Skunk Hollow and in the upper Salt Creek drainage west of Hemet. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 2 of 3 (67%) required locations.* | 8 | F / D | F / D (CNLM) | NO |
| Chickweed Oxytheca | Oxytheca caryophylloides | Objective 2: Include within the MSHCP Conservation Area at least five of the known locations within the San Jacinto Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 5 of 5 (100%) required locations.* | 8 | F / D | N / N | YES |

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## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) managed with 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining).<br>Note: *Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Cleveland's Bush Monkeyflower | *Mimulus clevelandii* | Objective 2: Include within the MSHCP Conservation Area the two known localities of this species on Santiago Peak in the Santa Ana Mountains and on the northern slopes of the Agua Tibia Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 2 of 2 (100%) locations.* | 8 | F / D | F / D | YES |
| Cliff Cinquefoil | *Potentilla rimicola* | Objective 2: Include within the MSHCP Conservation Area the two known localities of this species in Dark Canyon and near Deer Spring. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 1 of 2 (50%) required locations.*<br>*Unable to meet Objectives as written. Objective 2 includes a duplicate record and species occurs mostly outside of the Plan Area.* | 8 | F / D | F / D | NO |
| | | Objective 3/MSHCP Table 9-3: Confirm five localities (locality in this sense is not smaller than 1 quarter section). | 8 | F / D | F / D | NO |

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 2 of 5 (40%) localities.* | | | | |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Coulter's Goldfields | *Lasthenia glabrata* ssp. *coulteri* | Objective 2: Include within the MSHCP Conservation Area at least 20 of the known occurrences of this species, including the three Core Areas: the San Jacinto Wildlife Area and the southern shores of Mystic Lake, the middle segment of the San Jacinto River and a portion of the Alberhill locality. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 12 of 20 (60%) required locations. Objective 2 includes locations that are not within the Conservation Area and duplicate records.* | 8 | F / D | F / D | NO |
| Coulter's Matilija Poppy | *Romneya coulteri* | Objective 2/MSHCP Table 9-3: Confirm 30 localities (locality in this sense is not smaller than 1 quarter section).<br>*Note: Detected in 30 of 30 (100%) localities.* | 8 | F / D | F / D | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Davidson's Saltscale | *Atriplex serenana* var. *davidsonii* | Objective 2: Include within the MSHCP Conservation Area the three known localities of Davidson's Saltscale at Salt Creek, the San Jacinto River and the San Jacinto Wildlife Area. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | N / N | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 2 of 3 (67%) required locations. Surveys are ongoing to meet Objective 2.* | | | | |
| Engelmann Oak | *Quercus engelmannii* | Objective 2: Include within the MSHCP Conservation Area at least 33 known occurrences of this species, including the core locations at the Santa Rosa Plateau and in the Santa Ana Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 80% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 27 of 33 (82%) required locations.* | 8 | F / D | F / D | YES |
| | | Objective 3: Within the MSHCP Conservation Area, maintain recruitment at a minimum of 80% of the conserved populations as measured by the presence/absence of seedlings and/or saplings across any consecutive five years.<br>*Note: Recruitment detected in 27 of 42 (64%) conserved locations.* | 5 | F / D | N / N | NO |
| Fish's Milkwort | *Polygala cornuta* var. *fishiae* | Objective 2: Include within the MSHCP Conservation Area at least three of the known localities (Santa Rosa Plateau, Santa Margarita Ecological Preserve, and San Mateo Canyon). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 3 of 3 (100%) required locations.* | 8 | F / D | F / D | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 50 individuals (ramets or genets) each (unless a smaller population has been demonstrated to be self-sustaining).<br>*Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | F / D | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Graceful Tarplant | *Holocarpha virgata* ssp. *elongata* | Objective 2: Include within the MSHCP Conservation Area at least eight of the known locations, including four occurrences located on Santa Rosa Plateau and four occurrences in the San Mateo Canyon Wilderness Area. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 3 of 8 (38%) required locations. Objective 2 includes locations that cannot be found (poorly georeferenced historical records).* | 8 | F / D | N / N | NO |
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining).<br>*Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
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# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Hall's Monardella | *Monardella macrantha* ssp. *hallii* | Objective 2: Include within the MSHCP Conservation Area at least the five known locations of this species: Cahuilla Mountain and an occurrence southwest of Pine Cove in the San Jacinto Mountains, two occurrences on the north slope of the Agua Tibia Mountains and Santiago Peak in the Santa Ana Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 4 of 5 (80%) required locations.* | 8 | F / D | F / D | YES |
| Hamitt's Clay-cress | *Sibaropsis hammittii* | Objective 2: Include within the MSHCP Conservation Area the Core Area for this species, including at least the one known locality near Elsinore Peak and suitable habitat adjacent to these occurrences. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 1 of 1 (100%) required locations.* | 8 | F / D | F / D | YES |
| Heart-leaved Pitcher Sage | *Lepechinia cardiophylla* | Objective 2: Include within the MSHCP Conservation Area at least six known populations in the Santa Ana Mountains (within the vicinity of Sierra Peak, Indian Truck Trail, Bald Peak, Trabuco Peak, Horsethief Trail, Pleasants Peak, and the ridge between Ladd Canyon and East Fork Canyon). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 4 of 6 (67%) required locations.*<br>*Most historical populations straddle the county line and we have been unable to confirm some in Riverside County.* | 8 | F / D | F / D | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Intermediate Mariposa Lily | *Calochortus weedii* var. *intermedius* | Objective 2: Include within the MSHCP Conservation Area at least two of the known localities (hills west of Crown Valley and Vail Lake) and possibly a third locality (Sierra Peak area of the Santa Ana Mountains) of the species. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 1 of 2 (50%) required locations. Unable to meet Objective at this time. Objective 2 includes a location that is not within Conservation Area (non-PQP areas surrounding Vail Lake).* | 8 | F / D | N / N | NO |
| Jaeger's Milk-vetch | *Astragalus pachypus* var. *jaegeri* | Objective 2: Include within the MSHCP Conservation Area the seven known localities (18 occurrences) of this species at Aguanga Valley, San Jacinto Mountains, Potrero Creek, Sage, Temecula Canyon, and the core location at Vail Lake and the base of the Agua Tibia Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 4 of 7 (57%) required locations. Unable to meet Objective as written. Objective 2 includes many duplicate records, very old records (1880-1941), and records that are not within the Conservation Area.* | 8 | F / D | F / D | NO |
| Johnston's Rock Cress | *Arabis johnstonii* | Objective 2: Include within the MSHCP Conservation Area the two Core Areas for this species, including at least 17 of the known occurrences in Garner Valley and Mountain Springs and suitable habitat adjacent to these occurrences. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | F / D | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 6 of 17 (35%) required locations. Unable to meet Objective as written. Objective 2 includes duplicate records and locations that are not within Conservation Area.* | | | | |
| Lemon Lily | *Lilium parryi* | Objective 2: Include within the MSHCP Conservation Area at least six localities (seven occurrences) within the San Jacinto Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 6 of 6 (100%) required locations.* | 8 | F / D | F / D | YES |
| Little Mousetail | *Myosurus minimus* | Objective 2: Include within the MSHCP Conservation Area at least five of the known locations of this species, including Harford Springs County Park on the Gavilan Plateau and the three core locations: one along Salt Creek west of Hemet and two on the Santa Rosa Plateau. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 5 of 5 (100%) required locations.* | 8 | F / D | F / D | YES |
| Long-spined Spine Flower | *Chorizanthe polygonoides* var. *longispina* | Objective 2: Include within the MSHCP Conservation Area at least 32 locations of this species, including the two core locations at Lake Matthews and in the Agua Tibia Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | F / D | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 30 of 32 (94%) required locations.* | | | | |
| Many-stemmed Dudleya | *Dudleya multicaulis* | Objective 2: Include within the MSHCP Conservation Area at least 26 of the known occurrences of Many-Stemmed Dudleya, including the occurrences at Estelle Mountain, Temescal Canyon, the Santa Ana Mountains, Gavilan Hills, Alberhill Creek, and Prado Basin. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 6 of 26 (23%) of required locations. Objective 2 includes duplicate records, locations that are not within Conservation Area, and locations that cannot be found.* | 8 | F / D | F / D | NO |
| Mojave Tarplant | *Deinandra mohavensis* | Objective 2: Include within the MSHCP Conservation Area at least five of the known localities (represented by seven records) within the San Jacinto Mountains and Foothills and northeast of Vail Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 5 of 5 (100%) required locations.* | 8 | F / D | F / D | YES |
| | | Objective 3/MSHCP Table 9-3: Include within the MSHCP Conservation Area at least 4 localities (locality in this sense is not smaller than 1 quarter section) occupying at least 100 acres.<br>*Note: Detected in 0 of 4 (0%) localities with sufficient acreage to meet requirement. Acreage mapping not attempted* | 8 | F / D | N / N | NO |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Mud Nama | *Nama stenocarpum* | Objective 2: Include within the MSHCP Conservation Area two of the three known occurrences of this species along the San Jacinto River near Gilman Springs Road. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>Note: Detected in 2 of 2 (100%) required locations. | 8 | F / D | F / D | YES |
| Munz's Mariposa Lily | *Calochortus palmeri* var. *munzii* | Objective 2: Include within the MSHCP Conservation Area 10 of the known locations within the San Jacinto Mountains, including Garner Valley. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 8 of 10 (80%) required locations.* | 8 | F / D | N / I | YES |
| Munz's Onion | *Allium munzii* | Objective 2: Include within the MSHCP Conservation Area at least 13 localities within Temescal Valley and the southwestern portion of Plan Area, including the following Core Areas: Harford Springs Park, privately owned EO 5 population in Temescal Valley, Alberhill, DiPalma Rd, Estelle Mountain, Domenigoni Hills, Lake Skinner, Bachelor Mountain, Elsinore Peak, Scott Road, North Peak, and northeast of Alberhill (EO 16). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | F / D | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 12 of 13 (92%) required locations.* | | | | |
| Nevin's Barberry | *Berberis nevinii* | Objective 2: Include within the MSHCP Conservation Area the known locations for Nevin's Barberry in the San Timoteo/Badlands area, Jurupa Hills and Agua Tibia/Vail Lake area. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 1 of 3 (33%) required locations.*<br>*Unable to meet Objective as written. Objective 2 includes a location that is not within the Plan Area and another that is known to be extirpated.* | 8 | F / D | F / D | NO |
| Ocellated Humboldt Lily | *Lilium humboldtii* ssp. *Ocellatum* | Objective 2: Include within the MSHCP Conservation Area at least four of the known locations at Arroyo Seco Canyon in the Agua Tibia Wilderness Area and Fisherman's Camp in Tenaja Canyon and the historic occurrences known from Castro Canyon, Horsethief Canyon, Elsinore Mountains; and Corona between Tin Mine Canyon and Santiago Peak, Skyline Drive populations. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 3 of 4 (75%) required locations.* | 8 | F / D | F / D | YES |
| Orcutt's Brodiaea | *Brodiaea orcuttii* | Objective 1: Include within the MSHCP Conservation Area one occurrence at Miller Mountain within the San Mateo Wilderness Area; a complex of about five occurrences on the Mesa de Burro, Mesa de Colorado, and Mesa de la Punta on the Santa Rosa Plateau within the Santa Rosa Plateau Preserve; and one occurrence along the San Jacinto River. | - | - | - | - |

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**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 1.<br>*Note: Unable to meet Objective because species does not occur within the Plan Area as described in Objective 1. Objective 1 includes records for misidentified species (B. santarosae).* | 8 | F / N | N / N | NO |
| Palmer's Grapplinghook | *Harpagonella palmeri* | Objective 2: Include within the MSHCP Conservation Area at least 24 of the known occurrences of this species at Temescal Wash, Alberhill, Lake Elsinore, Antelope Valley, Bachelor Mountain, Vail Lake, Lake Mathews, Harford Springs Park, Cleveland National Forest, Skunk Hollow, Lake Skinner and Vail Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 21 of 24 (88%) required locations.* | 8 | F / D | F / D | YES |
| Palomar Monkeyflower | *Mimulus diffusus* | Objective 2: Include within the MSHCP Conservation Area at least 18 of the known locations on the Santa Rosa Plateau; in the vicinity of Sage; French Valley; east of Lake Skinner; and in the San Jacinto, Agua Tibia and Santa Ana Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 7 of 18 (39%) required locations.*<br>*Unable to meet Objective as written. Objective 2 includes locations that cannot be found (no historical records) and locations that are not within Conservation Area.* | 8 | F / D | F / D | NO |

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| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| Parish's Brittlescale | *Atriplex parishii* | Objective 2: Include within the MSHCP Conservation Area the three known populations of the Parish's Brittlescale in the upper Salt Creek drainage west of Hemet. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 0 of 3 (0%) required locations.*<br>*A single population has been observed outside the required locations (Paloma Valley). Unable to meet Objective because one or more required occurrences included in Objective 2 appear to be extirpated and Objective includes locations that are not within Conservation Area.* | 8 | F / D | N / N | NO |
| Parish's Meadowfoam | *Limnanthes gracilis* var. *parishii* | Objective 1: Include within the MSHCP Conservation Area at least one known location on the Santa Rosa Plateau. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 1.<br>*Note: Species detected in 1 of 1 (100%) required locations.* | 8 | F / D | N / N | YES |
| Parry's Spine Flower | *Chorizanthe parryi* var. *parryi* | Objective 2: Include within the MSHCP Conservation Area twenty (20) occurrences of Parry's Spine Flower, including locations throughout the Vail Lake area and in the vicinity of Lake Mathews, Gavilan Hills, Antelope Valley, Rawson Canyon, Santa Rosa Hills, Reche Canyon, Wilson Valley, Juniper Flats, Gilman Hot Springs Road and Diamond Valley Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | F / D | NO |

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## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 12 of 20 (60%) required locations. Unable to meet Objective 2 at this time because it includes locations that are not within Conservation Area and some occurrences that cannot be relocated.* | | | | |
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 1,000. *Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Payson's Jewelflower | *Caulanthus simulans* | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in the Species Account. *Note: Species detected in 1 of 4 (25%) of listed localities.* | 8 | F / D | F / I | NO |
| Peninsular Spine Flower | *Chorizanthe leptotheca* | Objective 2/MSHCP Table 9-3: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining). *Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | F / D | YES |
| Plummer's Mariposa Lily | *Calochortus plummerae* | Objective 2: Include within the MSHCP Conservation Area at least eight of the known occurrences (near Hemet Lake within Garner Valley within the San Jacinto Mountains, the Jurupa Hills, Reche Canyon, along Highway 74 in the San Jacinto | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

## TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Mountains and west of Oak Glen Conservation Camp within the San Bernardino Mountains) of Plummer's Mariposa Lily. | | | | |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 5 of 8 (63%) required locations.* | 8 | F / D | F / D | NO |
| | | Objective 3/MSHCP Table 9-3: Confirm 6 localities (locality in this sense is not smaller than 1 quarter section) of at least 500 individuals.<br><br>*Note Species detected in 4 of 6 (67%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | F / D | NO |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Prostrate Navarretia | *Navarretia prostrata* | Objective 1: Include within the MSHCP Conservation Area at least the one known occurrence of this species on the Santa Rosa Plateau. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 1.<br><br>*Note: Species detected in 1 of 1 (100%) required locations. Objective met through incidental observations.* | 8 | F / D | N / N | YES |
| Prostrate Spine Flower | *Chorizanthe procumbens* | Objective 2: Include within the MSHCP Conservation Area at least 14 of the known locations (in the Santa Ana Mountains, in the Agua Tibia Mountains including the Core Area at Dorland Mountain, west of Beaumont, and the vicinity of French Valley). | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 6 of 14 (43%) required locations. Unable to meet Objective 2 as written in the Species Account. The Biological Opinion states that there are only 8 valid historical records.* | 8 | F / D | F / D | NO |
| Rainbow Manzanita | *Arctostaphylos rainbowensis* | Objective 2: Include within the MSHCP Conservation Area the 15 known localities of Rainbow Manzanita: San Mateo Canyon Wilderness, Gavilan Mountain, Santa Margarita Ecological MSHCP Conservation Area, Santa Rosa Plateau and the Temecula, Wildomar, Margarita Peak and Pechanga areas. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 13 of 15 (87%) known locations.* | 8 | F / D | N / N | YES |
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with more than 50 individuals each.<br><br>*Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Round-leaved Filaree | *Erodium macrophyllum* | Objective 2: Include within the MSHCP Conservation Area eight out of the 10 known localities of Round-leaved Filaree: four occurrences in the Gavilan Hills Region, one at Lake Mathews, one along Temescal Wash near Lee Lake, one at Diamond Valley Lake and one in the foothills of the Agua Tibia Mountains. | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 4 of 8 (50%) required locations. Unable to meet Objective at this time because Objective 2 includes locations that are not within the Conservation Area and some occurrences that cannot be relocated.* | 8 | F / D | F / D | NO |
| San Diego Ambrosia | *Ambrosia pumila* | Objective 2: Include within the MSHCP Conservation Area at least two of the three known locations of this species: Alberhill Creek at Nichols Road and Skunk Hollow. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 1 of 2 (50%) required locations. Unable to meet Objective as written because Objective 2 includes a location (Alberhill Creek at Nichols Road) that is not within the Conservation Area.* | 8 | F / D (CNLM) | N / N | NO |
| San Diego Button-celery | *Eryngium aristulatum* var. *parishii* | Objective 1: Include within the MSHCP Conservation Area at least four known locations on the Santa Rosa Plateau. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 1.<br><br>*Note: Species detected in 4 of 4 (100%) required locations.* | 8 | F / D | N / N | YES |
| San Jacinto Mountains Bedstraw | *Galium angustifolium* ssp. *jacinticum* | Objective 2: Include within the MSHCP Conservation Area at least eight of the known locations of this species: Lake Fulmor, Dark Canyon and the Black Mountain area. | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

# TABLE B-2
## Details of Covered Species Monitoring

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 7 of 8 (88%) required locations.*<br><br>*There is ongoing taxonomic debate for this species. Historic Galium angustifolium records not previously identified to minimum -rank taxa have been used to meet the objective requirement of 8 historic locations.* | 8 | F / D | F / D | YES |
| San Jacinto Valley Crownscale | *Atriplex coronata* var. *notatior* | Objective 2: Include within the MSHCP Conservation Area the Alberhill Creek locality as well as the three Core Areas, located along the San Jacinto River from the vicinity of Mystic Lake southwest to the vicinity of Perris and in the upper Salt Creek drainage west of Hemet. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 3 of 4 (75%) required locations.* | 8 | F / D | N / I | YES |
| San Miguel Savory | *Satureja chandleri* | Objective 2: Include within the MSHCP Conservation Area at least seven of the known locations of San Miguel savory on the Santa Rosa Plateau; in the vicinity of Tenaja guard station and three miles south of Murrieta near De Luz Road in the Santa Ana Mountains; and three miles southwest of Murrieta near Warner's Ranch. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 3 of 7 (43%) required locations.* | 8 | F / D | N / N | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.

† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.

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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Unable to meet Objective 2 as written. Objective includes locations that cannot be found (old historical records) and locations that are not within the Conservation Area. Revision of objectives is needed.* | | | | |
| Santa Ana River Woollystar | *Eriastrum densifolium* ssp. *sanctorum* | Objective 2: Include within the MSHCP Conservation Area at least three localities of this species along the Santa Ana River near the San Bernardino County border. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Detected in 3 of 3 (100%) required locations.* | 8 | F / D | N / N | YES |
| Shaggy-haired Alumroot | *Heuchera hirsutissima* | Objective 2: Include within the MSHCP Conservation Area the two known localities of this plant in the San Jacinto Mountains: one locality lies on the western slopes of the San Jacinto Mountains above the San Jacinto River and the other locality is in a gully behind Tahquitz Rock. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 1 of 2 (50%) required locations.*<br>*Unable to meet Objective as written because Objective 2 includes a location that is not within the Plan Area.* | 8 | F / D | F / N | NO |
| Slender-horned Spine Flower | *Dodecahema leptoceras* | Objective 2: Include within the MSHCP Conservation Area at least 11 of the known locations of this species, including Temescal Canyon, Bautista Canyon, upper San Jacinto River, Agua Tibia Wilderness Area, Alberhill, Alberhill Creek east of Lake Elsinore, Railroad Canyon, Vail Lake, Kolb Creek, and east of State Street south of Hemet. | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 3 of 11 (27%) required locations. Unable to meet Objective as written because Objective 2 includes duplicate records and locations that are not within the Conservation Area.* | 8 | F / D | F / D | NO |
| Small-flowered Microseris | *Microseris douglasii* var. *platycarpha* | Objective 2: Include within the MSHCP Conservation Area at least eight of the known locations at Lake Matthews, in the Cleveland National Forest, at Lake Skinner and at Vail Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 4 of 8 (50%) required locations. Surveys for Objectives 2 are ongoing to reconfirm expired occurrences.* | 8 | F / D | F / D | NO |
| | | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining).<br><br>*Note: Species detected in 10 of 10 (100%) localities with sufficient numbers to meet population requirements.* | 8 | F / D | N / N | YES |
| | | Covered Species not adequately conserved until the above objective is met. | | | | |
| Small-flowered Morning-glory | *Convolvulus simulans* | Objective 2: Include within the MSHCP Conservation Area at least eight of the known localities (including Vail Lake, Lake Skinner, Lake Mathews, Temescal | - | - | - | - |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Canyon, Alberhill, Santa Rosa Plateau, Santa Ana Mountains, and Skunk Hollow) of this species. | | | | |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 7 of 8 (88%) required locations.* | 8 | F / D | F / D | YES |
| Smooth Tarplant | *Centromadia pungens* | Objective 2: Include within the MSHCP Conservation Area at least 27 of the known occurrences of this species at Antelope Valley; Temescal Canyon; Lake Elsinore; Murrieta Creek; French Valley; Lakeview Mountains; Lake Skinner; Diamond Valley Lake; Sycamore Canyon Park; Alberhill Creek; Lake Mathews; the Santa Ana River; and the core locations at the San Jacinto Wildlife Area, the middle segment of the San Jacinto River and upper Salt Creek. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 18 of 27 (67%) required locations. Objective 2 includes many historical records that are not within Conservation Area.* | 8 | F / D | F / D | NO |
| Spreading Navarretia | *Navarretia fossalis* | Objective 2: Include within the MSHCP Conservation Area at least 13 of the known locations of Spreading Naverretia at the Skunk Hollow, the Santa Rosa Plateau and core locations: the San Jacinto Wildlife Area, floodplains of the San Jacinto River from the Ramona Expressway south to Railroad Canyon, and upper Salt Creek west of Hemet. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2. | 8 | F / D | F / D | NO |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Note: Species detected in 6 of 13 (46%) required locations. Unable to meet Objective as written because several required occurrences included in Objective 2 appear to be extirpated and objective includes locations that are not within the Conservation Area.* | | | | |
| Sticky-leaved Dudleya | *Dudleya viscida* | Objective 2: Include within the MSHCP Conservation Area the three populations within the San Mateo Wilderness Area of the Santa Ana Mountains. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 3 of 3 (100%) required locations.* | 8 | F / D | N / N | YES |
| Thread-leaved Brodiaea | *Brodiaea filifolia* | Objective 2: Include within the MSHCP Conservation Area the Core Areas located at Goetz Road (EO1), Perris Valley airport (EO2), Tenaja Road (EO3), Mesa de Colorado (EO5), Hemet vernal pools (EO 26), South SJWA (EO27), Squaw Mountain (EO29), Santa Rosa ranch (EO30), Slaughterhouse (EO31), North SJWA (EO43) and Redondo Mesa (EO 52). | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8) §: 75% Minimum level of occupation of known locations as described in Objective 2.<br>*Note: Species detected in 6 of 12 (50%) required locations. Unable to meet Objective at this time. Objective 2 includes locations that are not within the Conservation Area and records for misidentified species.* | 8 | F / D | N / I | NO |
| Vail Lake Ceanothus | *Ceanothus ophiochilus* | Objective 2: Include within the MSHCP Conservation Area at least three core locations in the vicinity of Vail Lake and the Agua Tibia Wilderness area. | - | - | - | - |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 2 of 3 (67%) of required locations. Unable to meet Objective at this time because Objective 2 includes a location that is not within the Conservation Area (non-PQP areas surrounding Vail Lake).* | 8 | F / D | N / I | NO |
| Vernal Barley | *Hordeum intercedens* | Objective 2: Include within the MSHCP Conservation Area at least four locations (including three core locations) of Vernal Barley: the San Jacinto Wildlife Area, the middle segment of the San Jacinto River from Ramona Expressway south to Railroad Canyon, the upper Salt Creek drainage west of Hemet, and the occurrence near Nichols Road at Alberhill. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 3 of 4 (75%) required locations.* | 8 | F / D | F / D | YES |
| Wright's Trichocoronis | *Trichocoronis wrightii* var. *wrightii* | Objective 2: Include within the MSHCP Conservation Area at least four of the known locations along the San Jacinto River from the vicinity of the Ramona Expressway and San Jacinto Wildlife Area and along the northern shore of Mystic Lake. | - | - | - | - |
| | | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations as described in Objective 2.<br><br>*Note: Species detected in 0 of 4 (0%) required locations.* | 8 | F / D | F / N | NO |

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† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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**TABLE B-2**
**Details of Covered Species Monitoring**

| Common Name | Latin Name | Species Objective Evaluated by the Monitoring Program | Frequency | 2004-2023† | 2024† | Objective* Currently Met? ‡ |
|---|---|---|---|---|---|---|
| | | *Unable to meet Objective because one or more required known locations included in Objective 2 appears to be extirpated. Objective 2 includes locations that are not within the Conservation Area.* | | | | |
| Yucaipa Onion | *Allium marvinii* | Species Objective (MSHCP Table 5-8)§: 75% Minimum level of occupation of known locations§.<br><br>*Note: Species detected at 2 of 2 (100%) of known locations.* | 8 | F / D | F / D | YES |

* Only objectives evaluated by the Biological Monitoring Program are included; other objectives in this table were provided for reference purposes only. Objectives have been shortened to fit in the table; for full text, see the Species Accounts in Volume 2 of the MSHCP.
† Survey Type/Detection Type: F / D = focused survey, species detected; F / N = focused survey, species not detected; F / I = focused survey, species not detected during survey but detected incidentally; N / I = no focused survey but detected incidentally; N / N = no focused survey and not detected; N / D = no focused survey by the Monitoring Program but species detected during focused survey by agency reported in parentheses.
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§ See Volume 1, Section 5, Table 5-8 of the MSHCP

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| Beautiful Hulsea | *Hulsea vestita* ssp. *callicarpha* | Objective 3/MSHCP Table 9-3: Confirm 16 localities (locality in this sense is not smaller than 1 quarter section) with no fewer than 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| California Bedstraw | *Galium californicum* ssp. *primum* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| California Muhly | *Muhlenbergia californica* | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) containing at least 50 clumps (unless a smaller population has been demonstrated to be self-sustaining).<br><br>*Note: Species does not occur within the Plan Area.* | NO |
| California Spotted Owl | *Strix occidentalis occidentalis* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| Chickweed Oxytheca | *Oxytheca caryophylloides* | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) managed with 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining).<br><br>*Note: Detected in 10 of 10 (100%) localities with population requirements.* | YES |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| Cleveland's Bush Monkeyflower | *Mimulus clevelandii* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO* |
| Cliff Cinquefoil | *Potentilla rimicola* | Objective 3: Within the MSHCP Conservation Area, confirm five localities (locality in this sense is not smaller than one quarter section).<br>*Note: Objective includes duplicate records and species occurs mostly outside of the Plan Area.* | NO |
| Coulter's Matilija Poppy | *Romneya coulteri* | Objective 2: Within the MSHCP Conservation Area, confirm 30 localities (locality in this sense is not smaller than one quarter section). | YES |
| Fish's Milkwort | *Polygala cornuta* var. *fishiae* | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 50 individuals (ramets or genets) each (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| Graceful Tarplant | *Holocarpha virgata* ssp. *elongata* | Objective 3/MSHCP Table 9-3: Confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining). | YES |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| Grasshopper Sparrow | *Ammodramus savannarum* | Objective 2: Within the MSHCP Conservation Area, maintain occupancy within 3 large Core Areas (100 percent) and at least 3 of the 4 smaller Core Areas (75 percent) in at least 1 year out of any 5 consecutive year period. In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Include within the MSHCP Conservation Area at least 8,000 acres in 7 Core Areas. Three of the 7 Core Areas will be large, consisting of a minimum of 2,000 acres of grassland habitat or grassland dominated habitat (<20 percent shrub cover). The other 4 Core Areas may be smaller but will consist of at least 500 acres of contiguous grassland habitat or grassland dominated habitat (<20 percent shrub cover). Five of the 7 Core Areas will be demonstrated to support at least 20 grasshopper sparrow pairs with evidence of successful reproduction within the first 5 years after permit issuance. Successful reproduction is defined as a nest which fledged at least one known young.<br>*Note: Occupancy of the large Core Areas has been confirmed, but not for the small Core Areas. The reproduction portion of the objective has not been met.* | Partial |
| Lemon Lily | *Lilium parryi* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO* |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| Lincoln's Sparrow | *Melospiza lincolnii* | Objective 3/MSHCP Table 9-3: Maintain occupancy within 3 large Core Areas (100%) in at least 1 year out of any 5-consecutive-year period. In order for this species to become a Covered Species Adequately Conserved, the following conservation must be demonstrated: Include within the MSHCP Conservation Area at least 100 acres in 3 Core Areas. Core Areas may include the following: (1) Tahquitz Valley; (2) Round Valley; (3) Garner Valley. The 3 Core Areas will be large, consisting of a minimum of 50 acres of montane meadow, wet montane meadow, and edges of montane riparian or riparian scrub. The Core Areas will be demonstrated to support at least 20 Lincoln Sparrow pairs with evidence of successful reproduction within the first 5 years after permit issuance.<br>*Note: Species not detected in 2008 surveys. Two of the suggested Core Areas are outside of the Plan Area. Reproductive objective possibly will not be met because suitable breeding habitat is difficult to locate in the Plan Area, and species is rarely present during the breeding season. Found in Garner Valley in current reporting period (1 of 3 Core Areas; 33%).* | NO |
| Mojave Tarplant | *Deinandra mohavensis* | Objective 3: Include within the MSHCP Conservation Area at least four localities (locality in this sense is not smaller than one quarter section) occupying at least 100 acres.<br>*Note: Interpretation of acreage requirement necessary.* | NO |
| Ocellated Humboldt Lily | *Lilium humboldtii* ssp. *ocellatum* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO* |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| Parry's Spine Flower | *Chorizanthe parryi* var. *parryi* | Objective 3: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than one quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| Peninsular Spine Flower | *Chorizanthe leptotheca* | Objective 2: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than 1 quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| Plummer's Mariposa Lily | *Calochortus plummerae* | Objective 3: Within the MSHCP Conservation Area, confirm six localities (locality in this sense is not smaller than one quarter section) of at least 500 individuals each (unless a smaller population has been demonstrated to be self-sustaining). | NO |
| Rainbow Manzanita | *Arctostaphylos rainbowensis* | Objective 3: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than one quarter section) with more than 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| San Bernardino Flying Squirrel | *Glaucomys sabrinus californicus* | Objective 2: Within the MSHCP Conservation Area, confirm occupation of 1000 ha (2470 acres) with a mean density of at least 2 individuals per hectare (2 individuals per 2.47 acres) in the San Jacinto Mountains; and in the San Bernardino Mountains confirm occupation of 100 ha.<br>*Note: USFS and SDNHM staff have determined it is extremely unlikely that the objective will ever be met. Focused surveys have not been conducted.* | NO |
| San Bernardino Mountain Kingsnake | *Lampropeltis zonata parvirubra* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| San Diego Mountain Kingsnake | *Lampropeltis zonata pulchra* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| Shaggy-haired Alumroot | *Heuchera hirsutissima* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| Small-flowered Microseris | *Microseris douglasii* var. *platycarpha* | Objective 3: Within the MSHCP Conservation Area, confirm 10 localities (locality in this sense is not smaller than one quarter section) with at least 1,000 individuals (unless a smaller population has been demonstrated to be self-sustaining). | YES |
| Southern Rubber Boa | *Charina bottae umbratical* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| Southern Sagebrush Lizard | *Sceloporus graciosus vandenburgianus* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |
| Sticky-leaved Dudleya | *Dudleya viscida* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land. | NO |

**TABLE B-3**
**Status of Covered Species Monitoring -Not Adequately Conserved[1]**

| Common Name | Latin Name | Table 9-3 Requirement | Table 9-3 Requirement Met? |
|---|---|---|---|
| | | *Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | |
| Williamson's Sapsucker | *Sphyrapicus thyroideus* | A Memorandum of Understanding must be executed with the Forest Service that addresses management for this species on Forest Service Land.<br><br>*Note: A Memorandum of Understanding has not been executed with the Forest Service to date.* | NO |

[1] Refer to RCA website (https://www.wrc-rca.org/document-library/) for current status of species requirements met per Table 9-3 of the Volume of the MSHCP.
* Monitoring Objectives met, but MOU needed to move to Adequately Conserved.

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Birds | Bell's Sage Sparrow | *Amphispiza belli belli* | Bell's Sparrow | *Artemisiospiza belli* | 1/1/2013 | American Ornithologists' Union | Chesser RT, Banks RC, Barker FK, Cicero C, Dunn, JL, Kratter AW, Lovette IJ, Rasmussen PC, Remsen, JV, Jr., Rising JD, Stotz DF, Winker K. 2013. Fifty-fourth supplement to the American Ornithologists' Union *Check-list of North American Birds.* Auk 130:114. | From cited article: Updated genus based upon "the basis of differences in mitochondrial DNA, morphology, and ecology, and limited gene flow at the contact zone in eastern California." |
| Birds | Double-crested Cormorant | *Phalacrocorax auritus* | Double-crested Cormorant | *Nannopterum auritum* | 1/1/2021 | American Ornithologists' Union | Chesser RT, Billerman SM, Burns KJ, Cicero C, Dunn JL, Hernández-Baños BE, Kratter AW, Lovette IJ, Mason NA, Rasmussen PC, Remsen JV, Jr., Stotz DF, Winker K. 2021. Sixty-second Supplement to the American Ornithological Society's Check-*list of North American Birds*. Ornithology 138:1-18. | From cited article: "*Urile* and *Nannopterum* were formerly synonymized with *Phalacrocorax*…but genetic data…show deep divergences within *Phalacrocorax* largely congruent with differences based upon osteological data…" |
| Birds | Downy Woodpecker | *Picoides pubescens* | Downy Woodpecker | *Dryobates pubescens* | 1/1/2018 | American Ornithological Society | Chesser RT, Burns KR, Cicero C, Dunn JL, Kratter, AW, Lovette IJ, Rasmussen PC, Remsen JV, Jr., Stotz DF, Winger BM, Winker K. 2018. Fifty-ninth supplement to the American Ornithological Society's *Check-list of North American Birds*. Auk 135:798-813. | From cited article: "…Genetic data…indicate that *Picoides* as previously constituted was polyphyletic and that these species are not true *Picoides*." |
| Birds | MacGillivray's Warbler | *Oporornis tolmiei* | MacGillivray's Warbler | *Geothlypis tolmiei* | 1/1/2011 | American Ornithologists' Union | Chesser RT, Banks RC, Barker FK, Cicero C, Dunn, JL, Kratter AW, Lovette IJ, Rasmussen PC, Remsen, JV, Jr., Rising JD, Stotz DF, Winker K. 2013. Fifty-second supplement to the American Ornithologists' Union *Check-list of North American Birds*. Auk 128:600-613. | From cited article: "Phylogenetic analyses of sequences of mitochondrial and nuclear DNA…indicate that several species often placed in *Oporornis* (*tolmiei*…) are more closely related to *Geothlypis* species than to *Oporornis sensu stricto*…" |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Birds | Nashville Warbler | *Vermivora ruficapilla* | Nashville Warbler | *Leiothlypis ruficapilla* | 1/1/2019 | American Ornithological Society | Chesser RT, Burns KR, Cicero C, Dunn JL, Kratter, AW, Lovette IJ, Rasmussen PC, Remsen JV, Jr.,Stotz DF, Winker K. 2019. Sixtieth supplement to the American Ornithological Society's *Check-list of North American Birds*. Auk 136:ukz042. | From cited article: *Leiothlypis* "formerly considered part of *Vermivora*…or *Oreothlypis*…, but treated as separate…on the basis of genetic data…that indicate that species in *Oreothlypis* form two deeply divergent clades consistent with long-recognized phenotypic differences, and that species in *Leiothlypis* are not closely related to *Vermivora sensu stricto*." |
| Birds | Wilson's Warbler | *Wilsonia pusilla* | Wilson's Warbler | *Cardellina pusilla* | 1/1/2011 | American Ornithologists' Union | Chesser RT, Banks RC, Barker FK, Cicero C, Dunn, JL, Kratter AW, Lovette IJ, Rasmussen PC, Remsen, JV, Jr., Rising JD, Stotz DF, Winker K. 2013. Fifty-second supplement to the American Ornithologists' Union *Check-list of North American Birds*. Auk 128:600-613. | From cited article: "Phylogenetic analyses of sequences of nuclear and mitochondrial DNA…indicate that two species formerly placed in the genus *Wilsonia* (*canadensis* and *pusilla*)…form a clade with *Cardellina rubrifrons*. The generic name *Cardellina* has priority for this clade." |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Birds | Yellow Warbler | *Dendroica petechia brewsteri* | Yellow Warbler | *Setophaga petechia* | 1/1/2011 | American Ornithologists' Union | Chesser RT, Banks RC, Barker FK, Cicero C, Dunn, JL, Kratter AW, Lovette IJ, Rasmussen PC, Remsen, JV, Jr., Rising JD, Stotz DF, Winker K. 2013. Fifty-second supplement to the American Ornithologists' Union *Check-list of North American Birds*. Auk 128:600-613. | From cited article: "Phylogenetic analyses of sequences of mitochondrial and nuclear DNA…indicate that all species formerly placed in *Dendroica*…form a clade with the single species traditionally placed in *Setophaga* (*ruticilla*). The generic name *Setophaga* has priority for this clade." |
| Herps | Arroyo Toad | *Bufo californicus* | Arroyo Toad | *Anaxyrus californicus* | 2006 | Society for the Study of Amphibians and Reptiles | Frost, D.R., Grant, T., Faivovich, J., Bain, R.H., Haas, A., Haddad, C.F.B., de Sa´, R.O., Channing, A., Wilkinson, M., Donnellan, S.C., Raxworthy, C.J., Campbell, J.A., Blotto, B.L., Moler, P., Drewes, R.C., Nussbaum, R.A., Lynch, J.D., Green, D.M., Wheeler, W.C., 2006. The amphibian tree of life. B. Am. Mus. Nat. Hist. 297, 1–370. | This taxon of strictly North American toads was removed from "*Bufo*" (as well as were a number of other taxa) by Frost et al. (2006) as a revision to render a monophyletic taxonomy and with genera delimited to be more compact than the unwieldy "*Bufo*". |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Herps | California Red-legged Frog | *Rana aurora draytonii* | California Red-legged Frog | *Rana draytonii* | 2004 | Society for the Study of Amphibians and Reptiles | Shaffer HB, Fellers GM, Voss SR, Oliver JC, Pauly, GB. 2004. Species boundaries, phylogeography and conservation genetics of the red-legged frog (*Rana aurora/draytonii*) complex. Molecular ecology. 13:9 | Schaeffer et al. in a 2004 genetics study determined that *R. aurora* actually consists of two species, *R. aurora*, and *R. draytonii,* whose ranges overlap only in a narrow zone in Mendocino County. Before being split into two species, two subspecies of *Rana aurora* were recognized: *R. a. aurora*, and *R. a. draytonii*. Frogs in the very large area between Del Norte County and the Walker Creek drainage in Marin County were considered to be intergrades. |
| Herps | Coast Range Newt | *Taricha torosa torosa* | California Newt | *Taricha torosa* | 2007 | Society for the Study of Amphibians and Reptiles (SSAR) | Crother, B. I. (ed.). 2017. Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding pp. 1–102. SSAR Herpetological Circular 43. Kuchta, S. R. (2007). "Contact zones and species limits: hybridization between lineages of the California Newt, *Taricha torosa*, in the southern Sierra Nevada."*Herpetologica*, 63, 332-350. | The Coast Range Newt was originally thought to be a subspecies of *T. torosa* based on geographic distribution and coloration. However, recent phylogeographic work on *T. t. torosa* and *T. t. sierrae*, has shown that the two subspecies constitute distinct evolutionary lineages justifying recognition as separate species. (Crother 2017; Kuchta 2007). |

## TABLE B-4
## List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Herps | Coastal Western Whiptail | *Cnemidophorus tigris multiscutatus* | San Diegan Tiger Whiptail | *Aspidoscelis tigris stejnegeri* | 2002/2012 | Society for the Study of Amphibians and Reptiles | Reeder TW, Cole CJ, Dessauer HC. 2002. Phylogenetic Relationships of Whiptail Lizards of the Genus *Cnemidophorus* (Squamata: Teiidae): A Test of Monophyly, Reevaluation of Karyotypic Evolution, and Review of Hybrid Origins. *American Museum Novitates* 2002(3365), 1-61. Crother et al. 2012. Society for the Study of Amphibians and Reptiles Herpetological Circular No. 39. Ed. Moriarty JJ. | Genus changed from *Cnemidophorus* to *Aspidoscelis* (Reeder et al. 2002) with the treatment of *A. t. stejnegeri* as the name of the subspecies of *A. tigris* occurring in coastal southern California. The common name was changed from Coastal Western Whiptail to San Diegan Tiger Whiptail in the Seventh edition of the S.S.A.R. list, published in 2012. |
| Herps | Granite Night Lizard | *Xantusia henshawi henshawi* | Granite Night Lizard | *Xantusia henshawi* | 2001 | Society for the Study of Amphibians and Reptiles | Lovich, R. 2001. Phylogeography of the night lizard (*Xantusia henshawi*), in southern California: evolution across fault zones. Herpetologica 57(4):470-487. | Called *Xantusia henshawi henshawi* -Henshaw's Night Lizard, after the discovery of *X. h. gracilis*. It was returned to full species status in 2001 when Lovich elevated *X. gracilis* to a full species in 2001. |
| Herps | Northern Red Diamond Rattlesnake | *Crotalus ruber ruber* | Red Diamond Rattlesnake | *Crotolus ruber* | 2000/2012 | The International Commission on Zoological Nomenclature | The International Commission on Zoological Nomenclature (ICZN). 2000. Vol. 57: 189–190 (multiple research/authors recognized). *Retrieved from* https://www.biodiversitylibrary.org/item/45022#page/211/mode/1up .Stebbins, Robert C., and McGinnis, Samuel M. Field Guide to Amphibians and Reptiles of California: Revised Edition (California Natural History Guides) University of California Press, 2012. | ICZN ruled that the name *Crotalus ruber* Cope 1892 takes precedence over *C. exsul* Garman 1884 when used as a specific epithet. This ruling removed subspecies status as well. Though, it didn't appear in field guides until 2012. |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Herps | Belding's Orange-throated Whiptail | *Cnemidophorus hyperythrus beldingi* | Belding's Orange-throated Whiptail | *Aspidoscelis hyperythrus beldingi* | 2002/2014 | Society for the Study of Amphibians and Reptiles | Reeder TW, Cole CJ, Dessauer HC. 2002. Phylogenetic Relationships of Whiptail Lizards of the Genus *Cnemidophorus* (Squamata: Teiidae): A Test of Monophyly, Reevaluation of Karyotypic Evolution, and Review of Hybrid Origins. American Museum Novitates 2002(3365), 1-61. Taylor, Harry L. and James M. Walker. 2014. Pan-Peninsular pattern of morphological variation in *Aspidoscelis hyperythra* (Squamata: Teiidae), Baja California, Mexico. Southwestern Naturalist Jun 2014, Vol. 59, No. 2: 221-227. | Genus changed from *Cnemidophorus* to *Aspidoscelis (*Reeder et al. 2002). A multivariate analysis of morphological variation in *A. hyperythra* by Taylor and Walker (2014) found evidence of differentiation between populations north and south of the Isthmus of La Paz, which have previously been recognized as the subspecies *A. h. beldingi* and *A. h. hyperythra*. SSAR no longer recognizes the subspecies, though it should be noted that this genus classification may still be in flux. |
| Herps | San Diego Banded Gecko | *Coleonyx variegatus abbotti* | San Diego Banded Gecko | *Coleonyx variegatus abbotti* | 2015 | Society for the Study of Amphibians and Reptiles | Leavitt, DH. 2015. Lineage Diversification in Southwestern Lizards: Accounting for Introgression at Multiple Timescales [PhD Thesis]. University of California, Davis in Davis CA, and San Diego State University in San Diego, CA | New mt and nuDNA study shows this subspecies to be 2 separate subspecies with an area of intergrade, all of which may occur in the Plan area. Since the majority of the Plan area is within *C.v.abbotti* range, we will continue to use the Plan name. |
| | | | Desert Banded Gecko | *Coleonyx variegatus variegatus* | | | | |
| Herps | San Diego Horned Lizard | *Phrynosoma coronatum blainvillei* | Blainville's Horned Lizard | *Phrynosoma blainvillii* | 2004 | Society for the Study of Amphibians and Reptiles | Montanucci RR. 2004. Geographic Variation in *Phrynosoma Coronatum* (*Lacertilia, Phrynosomatidae*): Further Evidence for a Peninsular Archipelago. Herpetologica 60(1):117-139 | Montanucci (2004) treatment of *P. blainvillii* as a separate species from *P. coronatum*. |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Herps | San Diego Mountain Kingsnake | *Lampropeltis zonata pulchra* | California Mountain Kingsnake | *Lampropeltis zonata* | 7/31/2013 | Society for the Study of Amphibians and Reptiles | E. A. Myers,J. A. Rodríguez-Robles, D. F. DeNardo, R. E. Staub A. Stropoli, S. Ruane, F. T. Burbrink. 2013. Multilocus phylogeographic assessment of the California Mountain Kingsnake (*Lampropeltis zonata*) suggests alternative patterns of diversification for the California Floristic Province. Molecular Ecology 21:22 | This species was investigated using a multi-locus nuclear dataset (Myers et al., 2013), finding multiple species-level taxa. This species now comprises the formerly recognized subspecies *L. z. zonata, L. z. multicincta,* and *L. z. multifasciata* (part), including populations from the Sierra Nevada north. |
| | San Bernardino Mountain Kingsnake | *Lampropeltis zonata parvirubra* | | | | | | |
| Herps | Southern Rubber Boa | *Charina bottae umbratica* | Southern Rubber Boa | *Charina umbratica* | 2001 | Society for the Study of Amphibians and Reptiles | Javier A. Rodríguez-Robles, Glenn R. Stewart, and Theodore J. Papenfus. 2001. Mitochondrial DNA-Based Phylogeography of North American Rubber Boas, *Charina bottae* (Serpentes: Boidae). Molecular Phylogenetics and Evolution Vol. 18, No. 2, February, pp. 227–237 | Rodríguez-Robles et al. (2001) found *C. b. umbratical* to be morphologically and geographically distinct and were elevated to species status based in part on lineages using mtDNA evidence along with with allozyme data from a previous study (Weisman, 1988, MS Thesis, CSU Polytechnic Pomona) |

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**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Herps | Western Pond Turtle | *Clemmys marmorata pallida* | Southwestern Pond Turtle | *Actinemys pallida* | 2001<br>2002<br>2003<br>2008<br>2016 | Society for the Study of Amphibians and Reptiles | Holman, J.A. and U. Fritz. 2001. A new emydine species from the Middle Miocene (Barstovian) of Nebraska, USA with a new generic arrangement for the species of Clemmys sensu McDowell (1964) (Reptilia: Testudines : Emydidae). Zoologische Abhandlungen, Staaliches Museum fur Tierkunde Dresden 51, 331–354. Crother, B.I., et al. 2008. Scientific and standard English names of amphibians and reptiles of North America north of Mexico. Society for the Study of Amphibians and Reptiles, Herpetological Circular No. 37. J10. Spinks PQ, Thomson RC, McCartney-Melstad RC, Shaffer, HP. 2016. Phylogeny and temporal diversification of the New World pond turtles (Emydidae). Molecular Phylogenetics and Evolution. V103. | In 2001, a new arrangement for the genus *Clemmys* was published by Holman and Fritz (2001), placing it into the genus *Actinemys*. But in 2002, Feldman and Parham (2002) placed it back to its earliest genus *Emys* because they did not recognize *Actinemys* as a monotypic genus. In 2003, the Society for the Study of Amphibians and Reptiles used *Actinemys* and Pacific pond turtle (Crother et al. 2008). Subsequently in 2016, Spinks et al. demonstrated deep phylogeographic divergence within the genus, corresponding to the previously recognized subspecies, and recommended full species recognition for *pallida*. |
| Herps | Western Spadefoot | *Scaphiopus hammondii* | Western Spadefoot | *Spea hammondii* | 1991 | Society for the Study of Amphibians and Reptiles | Wiens JJ, and Titus TA. 1991. A Phylogenetic Analysis of Spea (Anura: Pelobatidae). Herpetologica 47:1 | Wiens and Titus (1991) recognized *Spea* as distinct from *Scaphiopus*, within which it was previously regarded as a subgenus. |
| Mammals | San Diego Desert Woodrat | *Neotoma lepida intermedia* | Bryant's woodrat | *Neotoma bryanti intermedia* | 6/12/2014 | Arctos (https://arctos.database.museum/) | Patton JL, Huckaby DG, Álvarez-Castañeda ST. The evolutionary history and a systematic revision of woodrats of the *Neotoma lepida* group. Univ of California Press; 2007. | Patton et al. 2007 recognized *N.byranti intermedia* as distinct from *N. lepida intermedia* based on examination of > 4600 museum specimens. The range of *N. lepida intermedia* is now recognized to be east of the Plan Area. |

**TABLE B-4**
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| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Plants | California Black Walnut | *Juglans californica* var. *californica* | Southern California Black Walnut | *Juglans californica* | 1/1/2012 | Jepson Flora Project | Alan T. Whittemore 2012, *Juglans californica*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=29566, accessed on January 19, 2021. | The Jepson Manual reclassified *Juglans californica* var. *californica* to *Juglans californica* and *Juglans californica* var. *hindsii* to *Juglans hindsii* following a 2007 molecular analysis of the genus *Juglans* by Aradhya et al. |
| Plants | Chickweed Oxytheca | *Oxytheca caryophylloides* | Chickweed Oxytheca | *Sidotheca caryophylloides* | 3/3/2005 | Jepson Flora Project | James L. Reveal & Thomas J. Rosatti 2012, *Sidotheca caryophylloides*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=82224, accessed on January 19, 2021. | Jepson accepted synonym: *Eriogonum caryophylloides.* |
| Plants | Cleveland's Bush Monkeyflower | *Mimulus clevelandii* | Cleveland's Bush Monkeyflower | *Diplacus clevelandii* | 3/1/2017 | Jepson Flora Project | Naomi S. Fraga 2018, *Diplacus clevelandii*, in Jepson Flora Project (eds.) Jepson eFlora, Revision 6, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=23083, accessed on January 20, 2021. | In 2012, the genus *Mimulus* was restructured based on genetic analysis by Barker et al. Most North American species were moved to *Erythranthe.* This species is one of those with axile placentation and long pedicels moved from *Mimulus* to *Erythranthe.* |
| Plants | Johnston's Rock Cress | *Arabis johnstonii* | Johnston's Rock Cress | *Boechera johnstonii* | 1/1/2012 | Jepson Flora Project | Michael D. Windham & Ihsan A. Al-Shehbaz 2012, *Boechera johnstonii*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=85470, accessed on January 07, 2021. | Jepson accepted synonyms: *Arabis hirshbergiae, Boechera hirshbergiae.* |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Plants | Little Mousetail | *Myosurus minimus* ssp. *apus* | Little Mousetail | *Myosurus minimus* | 11/1/2001 | Jepson Flora Project | Alan T. Whittemore 2012, *Myosurus minimus*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=34224, accessed on January 28, 2021. | The Jepson Manual does not recognize *Myosurus minimus ssp. apus,* which was initially distinguished from *M. minimus* by having shorter scapes. The California Native Plant Society (CNPS) has retained *M. minimus ssp. apus* pending further taxonomic review, noting that it is indistinguishable from hybrids of *Myosurus minimus x sessilis* yet occurs outside the known range of *M. sessilis.* Due to a lack of morphological differentiation, further genetic research is needed make a final determination. |
| Plants | Mud Nama | *Nama stenocarpum* | Mud Nama | *Nama stenocarpa* | 7/29/2013 | Jepson Flora Project | Sarah Taylor 2012, *Nama stenocarpa*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=34387, accessed on January 20, 2021. | Jepson accepted synonym: *Nama stenocarpum*. |
| Plants | Palomar Monkeyflower | *Mimulus diffusus* | Palomar Monkeyflower | *Erythranthe diffusa* | 2/23/2017 | Jepson Flora Project | Naomi S. Fraga 2018, *Erythranthe diffusa*, in Jepson Flora Project (eds.) Jepson eFlora, Revision 6, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=99116, accessed on January 07, 2021. | This species has also been lumped with *Mimulus palmeri* prior to MSHCP inception, which may affect accuracy of historical records. Jepson accepted synonym: *Mimulus grantianus*. |

**TABLE B-4**
**List of Covered Species Taxonomic Name Changes Since the MSHCP was Adopted**

| Taxon | MSHCP Common Name | MSHCP Latin Name | Current Common Name | Current Latin Name | Year Updated | Naming Authority | Citation | Name Change Notes |
|---|---|---|---|---|---|---|---|---|
| Plants | Parish's Meadowfoam | *Limnanthes gracilis* ssp. *parishi* | Parish's Meadowfoam | *Limnanthes alba* ssp. *parishii* | 1/10/2008 | Jepson Flora Project | Robert Ornduff & Nancy R. Morin 2012, *Limnanthes alba subsp. parishii*, in Jepson Flora Project (eds.) *Jepson eFlora*, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=86355, accessed on January 20, 2021. | Jepson accepted synonym: *Limnanthes versicolor* var. *parishii*. |
| Plants | Round-leaved Filaree | *Erodium macrophyllum* | Round-leaved Filaree | *California macrophylla* | 3/1/2007 | Jepson Flora Project | Marisa Alarcón, Carlos Aedo & Carmen Navarro 2012, *California macrophylla*, in Jepson Flora Project (eds.) *Jepson eFlora*, https://ucjeps.berkeley.edu/eflora/eflora_display.php?ti d=80427, accessed on January 19, 2021. | Jepson accepted synonym: *Erodium macrophlluym* var. *californicum*. |
| Plants | San Miguel Savory | *Satureja chandleri* | San Miguel Savory | *Clinopodium chandleri* | 4/22/2011 | Jepson Flora Project | Margriet Wetherwax & John M. Miller 2012, *Clinopodium chandleri*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=80482, accessed on January 19, 2021. | Jepson accepted synonym: *Calamintha chandleri*. |

# APPENDIX C
# Staff Training

## 2024 Staff Training:

- Vernal Pool Pre-Survey training held on 9 January.
- Botany Lead gave a Rare Plant kickoff presentation and 2024 Target Species Plant Guide presentation on 30 January.
- Botany Lead led Rare Plant field training on 28 February for selected biologists and visited the UCR Herbarium on 1, 5, 13, 28 February for Rare Plant study.
- Selected staff attended U.S. Geological Survey (USGS) California Gnatcatcher (CAGN) training in San Diego on 26 February.
- DSF and QCB/VP survey Leads attended the *Quino Checkerspot Butterfly Workshop* in San Diego on 26-28 February.
- Avian Lead gave the 2024 Grasshopper Sparrow pre-Survey training on 8 March.
- Avian Lead gave the 2024 CAGN nest monitoring pre-survey training on 21 March.
- Field Biologist Nicole Tomes took the Fairy Shrimp Identification class in San Diego on 16-19 April.
- Herp Lead attended The Wildlife Society Arroyo Toad Workshop on 26 April.
- DSF Pre-survey training on 4 June (attended by CDFW staff).
- Herpetological Lead gave the Western Pond Turtle pre-survey training on 15 July.
- GIS Analyst Vanessa Rivera del Rio attended the ESRI Conference on 15-18 July.
- Biologists went to the UCR entomology museum to study insects in preparation for taking the USFWS test on 16 September.
- Biologists attended field insect study day on 30 September.
- Avian Lead attended MSHCP training at the CDFW Ontario office on 2-3 October.
- Herp Lead listened to “Pond Turtle nesting workshop 2024” and “California Red-legged Frog level 1 lecture 2022” presentations by Jeff Alvarez.
- Field Biologist, Lucas Haralson, took and passed the USFWS Quino Checkerspot Butterfly practical exam in Carlsbad on 23 October.
- Staff attended the MEC (Munitions and Explosives of Concern) training at San Jacinto Wildlife Area (SJWA) on 15 November. This training prepares us for the possibility of finding munitions while doing field work at the Potrero Unit of the SJWA.
- BMP staff visited the UC Riverside Herbarium on 16 October and 6 November and the California Botanic Garden on 20 November to study MSHCP-covered plant species, co-occurring species and potential look-a-likes.
- Selected Staff trained for Northern Harrier surveys in November.
- Mammal tracks training at Hurkey Creek conducted by Mammal Lead on 5 December.

- Field biologists have been training for upcoming Avian Surveys at locations including the San Jacinto Wildlife Area (SJWA), Lake Perris, Garner Valley, and the San Jacinto Mountains.

# AGENDA ITEM 6

| WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY | |
|---|---|
| **DATE:** | May 6, 2026 |
| **TO:** | Stakeholders Committee |
| **FROM:** | Tyler Madary, Legislative Affairs Manager |
| **THROUGH:** | Aaron Hake, Executive Director |
| **SUBJECT:** | Federal Legislative Update |

***STAFF RECOMMENDATION:***

This item is for the Stakeholders Committee to receive a federal legislative update.

***BACKGROUND INFORMATION:***

***March 24-26 National HCP Coalition Washington, D.C. Trip***

On March 24, RCA staff traveled to Washington, D.C. with the National Habitat Conservation Plan Coalition (NHCPC) to advocate in support of increasing Section 6 Habitat Conservation Plan (HCP) Land Acquisition Program funding to $100 million annually. The RCA competes for grant funds under this program to fund land acquisition to advance the goals of the Multiple Species Habitat Conservation Plan. Currently, the Section 6 HCP Land Acquisition Program is funded at $26 million annually. RCA and the NHCPC's request to increase this funding to $100 million annually is consistent with prior requests, recognizing that funding for the program has diminished over time and is oversubscribed. Indeed, over $58 million in eligible applications went unfunded in the Fiscal Year 2024 grant cycle.

During the trip, RCA and the NHCPC met with Representative Mark Takano, U.S. Fish and Wildlife Service (USFWS) Director Brian Nesvik, U.S. Department of Interior (DOI) Associate Deputy Secretary Karen Budd-Falen, professional staff from the offices of Senator Alex Padilla, Senator Adam Schiff, Representative Ken Calvert, Representative Young Kim, and professional staff from the House and Senate appropriations and policy committees.

Other items discussed during the trip included:

- RCA's second Fiscal Year (FY) 2027 appropriations request for $10 million in discretionary funds to be allocated to the HCP Land Acquisition Program above FY 2026 levels, with accompanying report language to direct this allocation only to HCPs with federal commitments such as the MSHCP;
- The status of the DOI and USFWS pending review of FY 2025 Section 6 grant awards and FY 2026 Section 6 Notice of Funding Opportunity; and
- The benefits that programmatic HCPs provide for the conservation of threatened and endangered species and housing and infrastructure development alike.

# AGENDA ITEM 7

| ***WESTERN RIVERSIDE COUNTY REGIONAL CONSERVATION AUTHORITY*** | |
|---|---|
| **DATE:** | May 6, 2026 |
| **TO:** | Stakeholders Committee |
| **FROM:** | Italia Garcia, Community Engagement Manager |
| **THROUGH:** | Aaron Hake, Executive Director |
| **SUBJECT:** | Community Engagement Update Spring 2026 |

**STAFF RECOMMENDATION:**

This item is for the Stakeholders Committee to receive and file the community engagement update for spring 2026.

**BACKGROUND INFORMATION:**

The RCA continues to prioritize community engagement as a key component of advancing the goals of the Multiple Species Habitat Conservation Plan (MSHCP). Under the Board-approved Public Outreach Plan, staff have focused on expanding public awareness, strengthening partnerships, and increasing community participation through targeted programs and outreach efforts.

This update highlights recent progress and ongoing efforts related to:

- The 146 Project
- Rivers & Lands Conservancy partnership
- Quarterly Public Engagement Metrics Report

**The 146 Project Update**

The 146 Project is a youth-focused educational initiative designed to connect students with habitat conservation and environmental stewardship. Named after the 146 species protected under the MSHCP, the program introduces youth to the importance of preserving open space and biodiversity.

Developed in partnership with the Girl Scouts, the program provides hands-on learning opportunities for students from kindergarten through eighth grade to participate in activities such as visiting RCA preserves, completing educational exercises, and earning a commemorative patch upon completion.

Since its launch in December 2023, outreach efforts have included community events, school engagement, and digital promotion. This spring, staff participated in the Women in Transportation Society Inland Empire/American Association of Civil Engineers 10th Annual

Engineer's Day event at the San Bernardino Rail Museum, where students were introduced to various engineering disciplines and engaged in an interactive 146 Project activity that showcased how large-scale infrastructure projects benefit from the MSHCP's streamlined permitting process.

As a result of this outreach effort, 29 new 146 Project patches were awarded. In addition, 4 patches were distributed during the April 11, 2026, Rivers & Lands Conservancy volunteer event in recognition of student participation in post-fire habitat restoration efforts. To date, the 146 Project has reached a total of **47 participants.**

These efforts reflect continued progress in expanding the program through strategic partnerships and community-based engagement opportunities. Staff will continue to build on this momentum by identifying additional partnership opportunities to grow participation and awareness.

**Rivers and Lands Conservancy Partnership**

The RCA partners with Rivers & Lands Conservancy (RLC), a nonprofit organization dedicated to land conservation, habitat restoration, and public engagement, to advance shared conservation goals across Western Riverside County. Through this partnership, RLC supports on-the-ground stewardship activities, including habitat restoration, volunteer coordination, and environmental education efforts that align with the objectives of the MSHCP.

The RCA's partnership with the Riverside County Regional Park and Open-Space District supports expanding public access to conserved lands and enhances community-based stewardship opportunities. These partnerships collectively strengthen regional conservation efforts by leveraging resources, expertise, and community networks.

Recent efforts include the April 11, 2026, Post-Fire Habitat Restoration event at the "Country Roads" conservation site in Murrieta, which engaged 30+ volunteers and resulted in the removal of 34 garbage bags of invasive species, estimated at approximately 680 pounds.

This event provided a hands-on opportunity for community members to contribute directly to conservation efforts, including activities such as invasive species removal, and habitat restoration.

Staff will continue coordinating volunteer events aimed at:

- Expanding community participation
- Supporting habitat restoration goals under the MSHCP
- Strengthening partnerships with regional conservation organizations

**Quarterly Public Engagement Metrics Report (January – March 2026)**

The Quarterly Public Engagement Metrics Report provides an in-depth analysis of data recorded for the RCA over a one-year span. The analysis utilizes data related to public sentiment, social

media reach, and engagement to support and guide the RCA's outreach initiatives. RCA continues to educate the community about the 146 species protected by the MSHCP, the infrastructure projects it supports, and progress toward preserving 500,000 acres of habitat in western Riverside County. These digital communication efforts serve as a critical channel to highlight conservation activities and strengthen the connection between the RCA and the public.

The comparison of quarterly data allows staff to evaluate performance across similar timeframes, accounting for seasonal trends and variations in outreach activity. This approach supports the refinement of outreach strategies to strengthen public awareness of the MSHCP's benefits while maintaining consistent engagement across digital platforms.

This update summarizes key public engagement activities and performance metrics from January through March 2026, with comparisons to the same period in 2025.

**Social Media**

Public sentiment during the first quarter of 2026 remained consistent with the standing average. Content highlighting RCA species and themed campaigns generated strong engagement. A 146 Project post generated the highest number of views, reach, and engagement during the quarter, with over 182,900 views and a reach exceeding 164,000 users.

Social media reach increased across platforms, with Facebook reach increasing by 66% and Instagram reach increasing by 48% compared to the first quarter of 2025. Follower counts also continued to grow, reflecting expanded audience reach.

| Facebook | Q1 2025 | Q1 2026 | Difference |
|---|---|---|---|
| **Followers** | **2,954** | **3,084** | **+130** (+4.40%) |
| **Engagement** | **1,579** | **765** | **-814** (-51.55%) |
| **Reach** | **103,639** | **172,312** | **+68,673** (+66.26%) |

| Instagram | Q1 2025 | Q1 2026 | Difference |
|---|---|---|---|
| **Followers** | **788** | **856** | **+68** (+8.63%) |
| **Engagement** | **227** | **135** | **-92** (-40.53%) |
| **Reach** | **6,642** | **9,822** | **+3,180** (+47.88%) |

**The Vista E-Newsletter**

Public Affairs staff continue to develop content for The Vista newsletter, highlighting species protected by the MSHCP and the RCA's conservation efforts.

During the first quarter of 2026, the top-performing story featured a Species Spotlight, followed by a land feature highlighting conserved habitat. Newsletter performance included an increase in average open rates compared to the previous year.

| The Vista | Q4 2024 | Q4 2025 | Difference |
|---|---|---|---|
| **Email Subscribers** | **5,510** | **5,227** | **-283** (-5.14%) |
| **Average Open Rate** | **20.8%** | **27.9%** | **+34.13%** |
| **Average Click Rate** | **5.5%** | **2.2%** | **-54.55%** |

## Website

During the first quarter of 2026, the RCA website recorded 18,732 sessions and 13,515 unique visitors. Organic search accounted for 49% of total website traffic, followed by direct visits at 34%, referrals at 7%, and social media at 10%. The most visited pages included the homepage, the 146 Project page, and RCA maps.

Digital communication channels remain essential in supporting two-way interaction between the RCA and the public, and these insights will continue to inform and shape future outreach strategies.

| wrc-rca.org | Q1 2025 | Q1 2026 | Difference |
|---|---|---|---|
| **Website Sessions** | **15,621** | **18,732** | **+3,111** (+19.92%) |
| **Unique Visitors** | **11,349** | **13,515** | **+2,166** (+19.09%) |

Attachment: Q1 RCA Quarterly Public Engagement Metrics Dashboard

Regional Conservation Authority
Western Riverside County

# Public Engagement Metrics: Q1 2026

*January - March*

## Public Sentiment


| | |
|---|---|
| 1/6 | Positive sentiment on collab post with RCTC highlighting the mountain lion |
| 3/23 | Positive sentiment on Women's History Month and environmental leadership collab post |
| 3/26 | Negative sentiment from comment regarding tolls on Women's History Month collab post |

## Social Media

### Facebook

**3,084**
Followers
*+4.40% vs Q1 of 2025*

**765**
Engagement
*-51.55% vs Q1 of 2025*

**172,312**
Reach
*+66.26% vs Q1 of 2025*

### Instagram

**856**
Followers
*+8.63 % vs Q1of 2025*

**135**
Engagement
*-40.53% vs Q1 of 2025*

**9,822**
Reach
*+47.88% vs Q1 of 2025*

## Website

**18,732**
Total Sessions
*+19.92% vs Q1of 2025*

**13,515**
Unique Visitors
*+19.09% vs Q1 of 2025*

### *Sessions by Device*

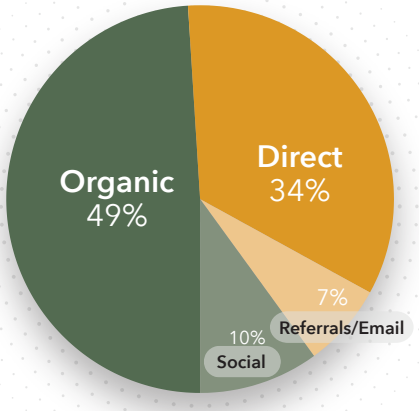
**Desktop** (59%)

**Mobile** (41%)
*Includes phones and tablets*

### *Top Pages Visited*

1. Home Page
2. 146 Project Page
3. RCA Maps

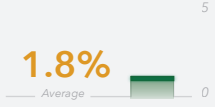
### *Sessions by Channel*




## Newsletter

**5,200**
Email Subscribers
*-4.48% vs Q1 of 2025*


*Open Rate*




*Click Rate*

### *Most Read Story*

Species Spotlight: ferruginous hawk