



Long Range Objectives 2022 - 2027



Riverside-Corona Resource Conservation District

The Riverside-Corona Resource Conservation District advocates for the sustainable use of natural resources for each land use, including native habitats, urban/suburban areas, and agriculture; each acre of land to be managed according to its needs.

Resource Conservation Districts (RCDs) are enabled by Division 9 of the California Public Resources Code to provide for the treatment of each acre of land according to its needs, specifically in regard to:

- soil and water conservation
- control of runoff and sediment
- prevention and control of soil erosion

RCDs are empowered to conduct conservation measures and education programs that apply to natural resource conservation on farms, rangeland, open space, urban areas, wildlife habitat, recreation areas, woodlands, and watersheds in order to sustain the quality and quantity of natural resources, including soil, water, air, and native plants and animals that are essential components of healthy functioning ecosystems.

Long Range Objectives

2022-2027

This document is an assessment of the resource management, public education, and outreach needs of the Riverside-Corona Resource Conservation District (RCRCD). The objectives provided within will be used to plan future projects, programming, and district operations. An Annual Work Plan will be developed for each year based on this long term action plan.



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About RCRC D

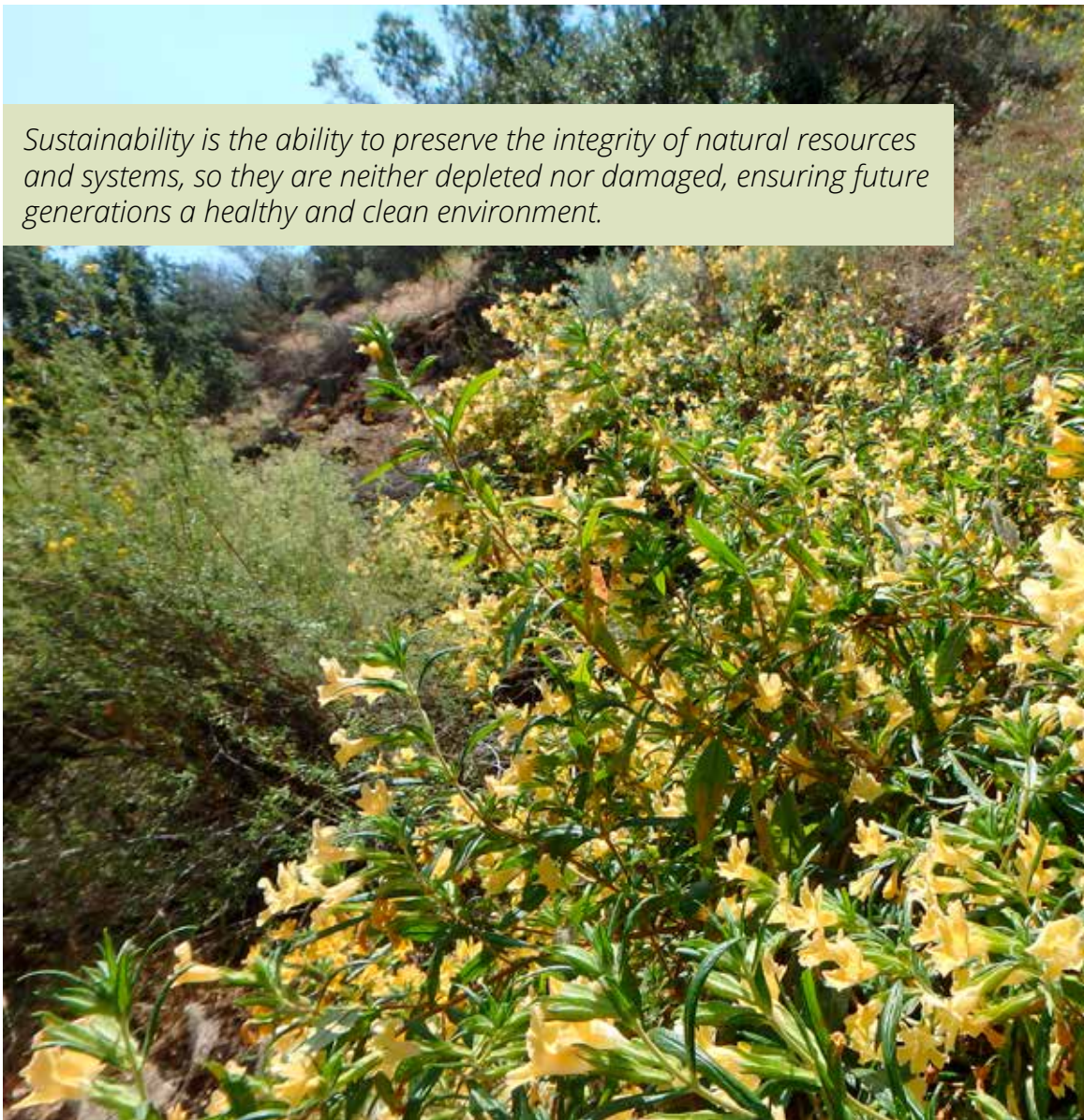
Mission

The Riverside-Corona Resource Conservation District (RCRC D) works to sustain natural resources and helps others conserve resources, so that high quality water, land, soil, air, native wildlife and plant life will be abundant forever.

How do we know when a community is sustainable?

There is a balance between the resources used and the resources generated. For example, trees are planted to replace those that were harvested.

Sustainability is the ability to preserve the integrity of natural resources and systems, so they are neither depleted nor damaged, ensuring future generations a healthy and clean environment.



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The Riverside-Corona Resource Conservation District (RCRCD) is a local government agency that works to conserve the natural resources of areas within western Riverside and San Bernardino Counties in Southern California. RCRCD provides resource management assistance to private and public land users, and conducts land treatment and education programming about the stewardship of natural resources. The District achieves its mission by coordinating community resources and cooperating with others.

RCRCD works to sustain natural resources by:

- Conserving habitat through land acquisition, habitat restoration, and management
- Restoring native species and conducting aquatic species research and propagation
- Educating broad audiences about stewardship of resources in natural, urban, and agricultural ecosystems.
- Providing onsite technical assistance, such as irrigation system evaluations

Stewardship is the responsible management of natural resources and systems. Stewards conserve limited resources, help regenerate degraded natural systems, and safeguard the quality of land, soil, water, air, plants, and wildlife.



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Beetles pollinate California native Cream Cups (*Platystemon californicus*), with California Goldfields (*Lasthenia californica*) in the background.

Areas of Focus

As defined in Division 9, Resource Conservation Districts are given broad abilities to protect natural resources from preventable waste and destruction.

The scope of work at the Riverside-Corona Resource Conservation District reflects local issues. The major RCRCD programs address, but are not limited to:

- Habitat conservation: preservation, restoration, and management
- Conservation of water
- Prevention of soil erosion and storm water pollution
- Facilitating sustainable agriculture and a local farm to fork food system

In the past, the goal of RCRCD was “to conserve,” or use resources wisely, without waste or pollution. However, conservation is only one component of “sustaining” resources. To sustain resources means to use them in ways that they will last forever. It requires us to plan for the future, not just conserve in the present.

Today our goal is to determine the best site-specific management for each land use to sustain resources while minimizing hazards to human health and environmental quality over the long term.

Structure

RCRCD is an independent, special district enabled by Division 9 of the California Public Resources Code. The District is self-governed by a locally appointed, five-member Board of Directors. The Board is comprised of citizens who understand local resource issues. The Directors guide programs, direct operations, set policies, establish priorities, and plan resource conservation goals. The Board meets the third Tuesday of each month at 12:30 PM at the District's headquarters. The public is welcome to attend.

The District retains local administration and direction over its programs. It coordinates public and private sources, partnering with groups, businesses, individuals, and agencies. RCRCD enters into written Memorandums of Understanding (MOU's) with cooperating agencies, which spell out working relationships.

Many RCRCD programs are conducted as joint efforts with partners who provide technical assistance, materials, or funding. Collaboration with these partners is integral to RCRCD programs and services.

The District provides onsite technical assistance to "cooperators," land stewards who are interested in conserving their natural resources. A cooperator might be an individual land owner, agency, business, or group, such as a Home Owners' Association.

RCRCD is non-regulatory; it achieves its conservation goals by working cooperatively with others.



Facilities

Resource Conservation Center

The Resource Conservation Center (RCC) is a re-purposed 9-acre campus that is located at an antiquated research facility, the former USDA's Soil Salinity Laboratory at the base of Mt. Rubidoux near downtown Riverside. In an effort to reuse the site, the buildings were renovated for energy efficiency and handicapped accessibility. The Center houses the Conservation District's headquarters (Building A) and other agencies with complimentary missions.

To demonstrate the principle of "re-use," the existing buildings were renovated. Initial demonstrations included: retrofitting parking areas with outdoor solar lighting, drought tolerant landscaping, and permeable surfacing materials. A native plant nursery was developed in abandoned salinity treatment areas, and old walk-in cold rooms have been refurbished for seed-banking. Today, the nursery and a seed bank are used for propagation of local plant species and seed storage. In addition, RCRCO operates aquatic tanks and raceways for rearing threatened fish and amphibians; greenhouses; and the LandUse Learning Center (LLC), a demonstration garden. Conservation agencies and grassroots organizations use the Resource Conservation Center demonstration garden and conference room for programs, training, and meetings.

For fish studies and propagation, the District:

- constructed a 300-foot long, recirculating stream where staff manages a native fish population that includes arroyo chub, Santa Ana speckled dace, and Santa Ana sucker
- created seven fish raceways that are used to breed, study, and research the life history, growth, fecundity (reproduction), and health of native fishes
- re-purposed eighteen concrete tanks were to be used for temporary quarantine and to treat ill or stranded fish, turtles, frogs, and salamanders

Utilizing these Resource Conservation Center facilities, staff have conducted numerous research projects, including fish sensitivity to water-borne contaminants; exotic red algae impacts to the Santa Ana sucker; and Santa Ana sucker longevity and reproduction.

The facility and buildings at 4500 Glenwood Dr., Riverside, CA 92501 also house a Citrus Research Board office and the California Department of Food and Agriculture's (CDFA's) facility for research and control of the Asian Citrus Psyllid.



© 2022-Citrus Pest & Disease Prevention Program

Asian Citrus Psyllid infestation

LandUse Learning Center

The LandUse Learning Center (LLC) is a demonstration garden that exhibits sustainable practices for the three main land uses of southern California: native habitats, urban areas, and agriculture. The LLC is an educational tool for empowering southern Californians to practice natural resource stewardship at home, at work, and in the community. Each area includes labelled plants with accompanying plant lists. The three garden areas demonstrate ways that land management practices, wise land use planning, and retrofits can be used to create urban and agro-ecosystems that function more like healthy natural ecosystems. The LLC is open to the public seven days per week.

The purpose of the LandUse Learning Center is to foster community conservation efforts and to empower Southern Californians to practice natural resource stewardship at home, at work, and in the community.

Sycamore Creek Preserve and Interpretive Center

RCRCD's Sycamore Creek Interpretive Center (SCIC) is a re-purposed, model-home trailer that is located at 11875 Indian Truck Trail in Temescal Valley. The Center provides information about conserving the resources at the Sycamore Creek Preserve. The preserve includes a riparian corridor with a flood control sediment basin. Sycamore Creek drains into Temescal Wash, which is a major tributary to the Santa Ana River. The nearby upland habitat is home to the rare Munz's Onion. Focused monitoring every five years is part of the long term management of the site.

The Interpretive Center offers hands-on, nature based learning activities. Staff provides educational programming about the local flora, fauna, ecosystem interactions, and the Santa Ana River Watershed. The Interpretive Center serves as a Citizen Science Outpost.

Currently, due to the pandemic, the Center is open periodically.

Greenbelt Aquatics Facility

RCRCD owns 10-acres in Riverside's agricultural greenbelt. The District developed an aquatic, native fish research and breeding facility, a small avocado orchard, and a 2-acre Monarch habitat. The construction of new raceways at the Greenbelt property increased capacity to safely hold, rear, and study native fishes, as well as to provide greater refugia for rescued fish, frogs, and pond turtles that may be extirpated from their native habitat due to catastrophic floods, drought, or other unforeseen conditions. This project is part of the Upper Santa Ana River Habitat Conservation Plan (SAR HCP). Under the plan, RCRCD will create conservation easements on some of the lower tributaries of the river in order to conserve and manage essential habitat. Fish rely on these areas during warm water conditions. They also need small backwater areas during flood events. Fish propagated at the facility will be released into tributaries of the Santa Ana River, a location where the Santa Ana sucker was once common.

The 2-acre Monarch conservation and education area was funded with a grant from the Wildlife Conservation Board (WCB) via a block grant through the California Association of RCDs. Staff propagated native narrow-leaf milkweed (*Asclepias fascicularis*) and several native nectar plants in the RCRCD nursery. Staff and volunteers planted 800 nectar plants and nearly 1,500 milkweeds. Volunteers and staff will collect milkweed and Western Monarch data into the future.

Programs

The Riverside-Corona Resource Conservation District conducts work under three main program areas:

- 1. Assist Land Users with Resource Planning and Management**
- 2. Conserve Habitat Land and Species**
- 3. Foster Stewardship through Education, Outreach, and Citizen Science**



Coulter's matilija poppy (*Romneya coulteri*) is found in the Temescal Valley and Santa Ana Mountains.

1. Assist Land Users with Resource Planning and Management

RCRCD provides technical assistance to land users, “cooperators,” who are interested in conserving natural resources while using or developing property.

Services provided to cooperators might include:

- onsite evaluation of a problem, such as an inefficient irrigation system;
- conservation planning based on resource data such as soil type and crop water needs
- specifications for the installation of conservation practices, such as erosion control structures

RCRCD’s staff provides resource data and planning tools, including soil and water testing, soil survey maps, and other technical information.

Water Conservation

RCRCD’s Irrigation Water Management (IWM) Mobile Lab evaluates irrigation systems for efficiency and uniform distribution of water. The Mobile Lab auditor travels to cropland, homes, and large turf areas at parks, schools, and golf courses to test irrigation systems. Soil samples are taken and tested on properties larger than ½-acre. The auditor then develops a report with recommendations for system improvements to help cooperators conserve water, and in so doing, save money.

Soil and Water Testing

RCRCD provides low-cost soil and water testing for private landowners and home owners. Soil tests evaluate macronutrients and micronutrients, soil texture, conductivity, and pH level. Water tests evaluate nitrate-nitrogen, phosphorus, pH level, and conductivity.

Technical Advice and Organizational Support

RCRCD collaborates with many entities to address some of the complex natural resource issues facing inland Southern California. Staff provides information about sustaining natural resources in cooperation with a variety of groups and agencies.



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Jose Iniguez, irrigation auditor, tested water pressure to evaluate a sprinkler system for uniform distribution of water.

2. Conserve Habitat Land and Species

Conserving Important Habitat

The Riverside-Corona Resource Conservation District (RCRCD) is a non-regulatory local agency that works to permanently protect land that has habitat, scenic, and/or agricultural values. RCRCD connects blocks of habitat by preserving and restoring corridors or linkages for wildlife movement and migration.

RCRCD conserves open space through habitat restoration, management, and land preservation within acquired fee-title lands and conservation easements:

Restoration

The Conservation District improves degraded habitat by removing invasive species and trash, replanting native plants, restocking native animals, protecting soil from erosion, protecting water from pollutants, and more. The amount and kind of restoration is determined by permit requirements (by regulatory agencies) and other field assessments.

RCRCD restores habitat in natural areas by re-establishing local native plant species for a variety of plant communities: riparian, scrubland, wetland, grassland, and oak woodland. Restoration efforts provide habitat for sensitive wildlife species including the California Gnatcatcher, Stephen's Kangaroo Rat, Horned Lizard, Red-sided Garter Snake, Least Bell's Vireo, Willow Flycatcher and other birds, mammals, and amphibians. Habitat for sensitive plant species and vegetation types is also conserved and restored.

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Management

RCRCD maintains and monitors restored habitat areas for water quality, rare and threatened wildlife species, exotic weeds, trash, Off-Road Vehicle (ORV) intrusion, noise, and other impacts. Staff monitors conservation lands and conducts a variety of different assessments, such as bird surveys for the California Gnatcatcher, soil surveys for detailed vegetation mapping, and rapid assessments of streams and vegetation communities.

As part of ongoing stewardship, RCRCD coordinates the cleanup of trash and debris; tests water quality; and monitors wildlife. Non-native aquatic species are removed from conservation easement waterways. Management includes blocking of illegal Off-Road Vehicle (ORV) routes and replanting disturbed soil with native vegetation. Occupation of preserve sites by homeless encampments has increased dramatically, mainly in riparian areas. Staff works with neighboring land owners, homeless resource groups, and law enforcement to deal with this difficult issue.

Preservation

The District protects important habitat areas from future development by accepting donations of land (deeds as fee-title, with appropriate endowments); conservation easements; and/or habitat mitigation funds. By 2022, RCRCD managed more than 3,000 acres as either fee-title lands or conservation easements.

The District owns and manages 135-acres in the Temescal Canyon area that adjoins the Estelle Mountain Reserve, which is part of the multi-species reserve system. The adjacency works to restore the historically extensive, but diminished coastal sage scrub plant community by increasing nesting sites for the California Coastal Gnatcatcher. The site also provides habitat for the Stephens Kangaroo Rat.

RCRCD purchased 111-acres on the main stem of the Santa Ana River near Norco and Eastvale. *Arundo donax* invaded the riparian habitat, and the invasive weed has been removed to help restore the area to native species. The District also purchased a 495-acre McBride Canyon parcel and a 306-acre Horsethief Canyon property in Temescal Valley.

Agencies, individual landowners, and Home Owners Associations have provided conservation easements to RCRCD. The District holds multiple conservation easements along Temescal Wash that supports a number of sensitive plant and animal species. Restoration improved habitat for the Least Bell's Vireo, Coastal California Gnatcatcher, and many more sensitive species and plant communities. Most of the acquired properties have required extensive restoration, including removal of exotic weeds and replanting of native species.



Coastal California Gnatcatcher (*Polioptila californica*)

Wildlife Corridors

RCRCD manages valuable corridors that link larger blocks of habitat for wildlife movement and migration. These connections are usually along waterways, riparian areas that provide water for wildlife. Many conserved lands have required extensive restoration.

Most of the District's conserved and managed lands are located within four main areas: the Temescal Corridor, Cajalco Corridor, Riverside Area Arroyos, and the Santa Ana River Main Stem.

Mitigation Projects for Loss of Habitat

RCRCD has worked with many developers and the City of Riverside to restore and monitor habitat to compensate for development impacts and land use changes. The California Department of Fish and Wildlife, Army Corps of Engineers, and Santa Ana Regional Water Quality Control Board allow the District to work in waterways through Permits 1601, 1603, 404 and 401 in order to maintain lands under RCRCD's jurisdiction.



Bobcat (*Lynx rufus californicus*)

In-Lieu Fee Program

RCRCD worked with the Army Corps of Engineers to develop an "In-Lieu Fee" program in response to increasing demand for mitigation opportunities that can help offset impacts due to urban development.

In-Lieu-Fee (ILF) is an approach to habitat mitigation in which a "permittee" (i.e.: land developer or public agency project proponent) pays a fee to a third party "in lieu of" conducting project-specific mitigation. ILF mitigation is used to compensate for unavoidable impacts to wetlands or other waters when it is in the best interest of the environment, and when other approaches to compensation are not available or practical.

Santa Ana Watershed Association (SAWA)

RCRCD is a member of the Santa Ana Watershed Association. SAWA is a nonprofit organization that works to restore native habitats within the Santa Ana River Watershed by removing invasive plants and animals from waterways and monitoring wildlife populations.



Non-native Giant Reed (*Arundo donax*)

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Multi Species Habitat Conservation Plan

The Western Riverside County Multi Species Habitat Conservation Plan (MSHCP) is a unified plan that guides development and provides for economic growth while protecting local habitats for native plants and animals. During the 1980s and 1990s the area saw a growing number of endangered species, and that was slowing urbanization. Through a lengthy stakeholder process and environmental evaluation, a comprehensive approach was developed to protect our unique landscapes and wildlife while expediting development. The Western Riverside County Regional Conservation Authority (RCA) was created to steward the Plan, or MSHCP. RCRCDD was part of the process that developed the plan. The District conducts habitat conservation projects that support and complement the Plan, and staff works with RCA in the sharing of information.

Fish, Amphibian, and Aquatic Reptile Programs

RCRCDD conducts a variety of restoration and research projects in an effort to increase fish and amphibian populations in their native ranges of the Santa Ana River Watershed.

Native fish and amphibian species are impacted by loss or degradation of stream habitat, water pollution, drought, non-native fish and aquatic animals, flood control structures, water diversion, sand and gravel mining, and changes in the watershed that result in erosion, sediment, and debris flows.



In an effort to help reduce impacts to important aquatic and riparian environments, the District has a permitted and specialized aquatic program that is able to:

- restore aquatic habitats
- transport and translocate native fish and amphibians
- capture, propagate, and monitor native fish
- conduct research
- remove non-native exotic species (red-eared sliders, bullfrogs, clawed frogs, etc.)

RCRCD also provides emergency watershed rescue of fish and amphibians, such as after fire. For removal of non-native species, the District is equipped with watercraft, seines, and electro-shock tools.

Augmentation of native fish populations is conducted through the Upper Santa Ana River Habitat Conservation Plan and through agreements with local water districts, the US Fish and Wildlife Service (FWS), the California Department of Fish and Wildlife (CDFW), and the U.S. Forest Service (USFS).

Native Fish Studies and Propagation

In 2000, the District constructed a specially designed stream at the LandUse Learning Center that supports a native fish population of Speckled Dace, Arroyo Chub, and Santa Ana sucker, a threatened species. The number of fish varies from year to year, depending on natural reproduction. The recirculating, 300-foot long stream was constructed to replicate a small tributary to the Santa Ana River.

RCRCD's seven 100-foot long raceways have been used for the breeding and study of native fish, in cooperation with the California Department of Fish and Game (DFG)- Region 6, the US Fish and Wildlife Service (FWS), and the US Geological Survey (USGS).

Temescal Wash

RCRCD was awarded the American Fisheries Society Riparian Challenge Award in 2010 for its work in Temescal Creek near the City of Corona, CA. The Temescal Creek Native Fish Restoration Project was conducted over a three-year period and included the removal of non-native plants and animals, such as crawdads, bullfrogs, bullhead catfish, and Red-eared slider turtles. Many of these



pests were originally released as pets or bait, but have since become “naturalized” and compete with native plant and animal populations. Restoration efforts, such as dip netting and re-establishment of native plants, help to improve habitat for native fish, amphibians, and aquatic reptiles.

Riverside Waterways

The District continues to work with local water districts, US Fish and Wildlife Service, California Department of Fish and Wildlife, and the City of Riverside on the restoration of the lower Tequesquite Arroyo for the benefit of the Santa Ana sucker. The creek was degraded due to trash, exotic plants, and barriers to water flow. The five-year project was completed by removing exotic species, controlling erosion on channel banks, placing substrate onto the channel bottoms to create spawning habitat, and planting of native vegetation. The Santa Ana River Restoration/ Recovery Trust Fund (held by San Bernardino Valley Municipal Water District) provided \$125,000 to restore native fish habitat in the lower Tequesquite Arroyo.

Also along the Tequesquite Arroyo, RCRCO supervised the restoration of a rare alkali meadow that was removed when the City of Riverside developed Bonaminio Park. RCRCO’s nursery supplied plants for a bioswale planting that was conducted in cooperation with California Native Plant Society (CNPS) volunteers. Staff created signs that interpret the waterway, the rare plant community, and the wildlife that depend upon it.

RCRCO also restored riparian areas along the Santa Ana River at Anza Drain and Hole Creek in collaboration with the County and City of Riverside.

Coldwater Creek

RCRCO’s Coldwater Creek property includes an 80-acre upland-riparian site that has a breeding population of genetically pure steelhead - coastal rainbow trout. These fish once swam to the ocean, but dams, flood control projects, and changes in stream hydrology prevented migration. The District monitors creek water quality, fish population dynamics, and streamside habitat in cooperation with the CDFW. Ongoing surveys and monitoring is conducted by staff in order to manage the fish population and prevent decline or extirpation. A grant from the State of California and Southern California Edison provided funds to continue to manage and maintain the property and its natural resources.



Arroyo Chub (*Gila orcutti*)



Speckled Dace



Coldwater Creek

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Upper Santa Ana River Habitat Conservation Plan

The Upper Santa Ana River Habitat Conservation Plan (SAR HCP) will create suitable conditions for Santa Ana sucker and other native fish species along the Santa Ana River in Colton, Grand Terrace, and San Bernardino. RCRCDD will provide propagated fish for reintroduction. As part of the Plan, the District will hold conservation easements and manage aquatic and upland sites. RCRCDD is working with the Upper SAR HCP team during the planning phases, and will help develop HCP and Forest Service goals for speckled dace. The Plan will conserve aquatic resources in tributary creeks and streams, while providing mitigation opportunities for water conveyance and storage projects.

Amphibian and Aquatic Reptile Restoration

RCRCDD and partners work to foster and re-introduce amphibian and aquatic reptile populations into restored conservation areas. Some species include the Western pond turtle, California salamander, West coast newt and California tree frog.

RCRCDD manages an amphibian restoration program through a Special Environmental Project (SEP). On the Lee Lake Conservation Easement, a three-acre pond is being used to restore Western pond turtle habitat. As the habitat of the Lee Lake pond is improved, Western pond turtles will be introduced. Any native turtles living in Temescal Creek would be able to use the pond as a refuge. Additionally, a one-acre small sink pond in McBride Canyon will be used as a refuge. The McBride property also serves as a home to the tricolored blackbird.

Water Quality Testing

Staff monitors water quality at Lee Lake Conservation Easement pond, at other sites in Temescal Canyon, at RCRCDD's native fish stream and raceways, periodically in Coldwater Canyon, and occasionally at other sites. By the end of 2021, most of the testing locations in Temescal Valley were dry due to drought. The testing provides data for RCRCDD and the Regional Water Quality Control Board to help track water quality fluctuation and trends.

Plant Programs and Projects

The Riverside-Corona Resource Conservation District (RCRCDD) provides native plants for habitat restoration, landscaping, erosion control, and other types of planting projects. District staff propagate plants at the native plant nursery for a variety of re-vegetation projects and uses refrigerated seed storage facilities to store locally-collected seed. Staff helps train others in production and use of native plants to help sustain the natural biological diversity of southern California.



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Tricolored Blackbird (*Agelaius tricolor*)

Native Plant Nursery

All plants produced in the native plant nursery were started from wild-collected seeds and rhizomes from our local ecoregions. Staff propagates plants from the local watershed for planting projects, but the nursery has begun to shift to testing stored seeds, collecting propagules, and starting plants to be grown by others for future projects. RCRCD will provide a limited number of container plants for restoration projects and landscaping plants. In addition, staff continues to maintain a seed bulking area for local annual wildflowers and other perennials that are difficult to collect in the wild like California milkweed.

From 2005 through 2021, the nursery supplied more than 34,776 local native plants for restoration, erosion control, and water quality projects and 3,097 for landscaping. Many of the landscaping plants have been utilized at RCRCD facilities. Staff developed native plant profiles with ecologic, taxonomic, distribution, and genetic information to help land managers develop use strategies: rcrcd.org/plant-profiles.

Seed Collections

Staff stores special collections of seeds for projects in two walk-in cold rooms that were renovated in 2013. The temperature and relative humidity are controlled in the storage rooms so that seeds remain viable for longer. The stored seeds are used primarily to propagate plants for restoration, water quality, and bank stabilization projects.

Staff surveys sites for potential seed collection and applies for permits to collect seeds on public lands. The District focuses on making collections of seeds in a way that reflects the genetic diversity of natural populations. The extended drought has made finding and collection of viable seeds difficult. Collection during good years and storing seed for future use has become especially important.



Alluvial Scrub, Sage Scrub, and Chaparral Native Plant Materials Project

Staff collects information about native plants and prepares plant profiles that focus on use of plants for habitat restoration. Staff is also working on species distribution modeling and climate change forecasting of future habitat suitability for many shrub species to help guide the sourcing of plant materials for restoration projects. Results are being incorporated into outreach materials to be made available online.

Adaptation to Climate Change: Eco-Adapt

In addition to work on species distribution modeling, staff participates in workshops with the U.S. Forest Service other agencies, universities, and non-government organizations to help develop forest management priorities to address some of the problems associated with climate change.

Santa Ana River and Orange County Weed Management Area

RCRCD is a partner with the Santa Ana River and Orange County Weed Management Area (SAROCWMA), which works to eradicate non-native weeds on both private and public lands in portions of Riverside, San Bernardino, and Orange Counties. The Weed Management Area has been successful in controlling common invasive weeds, especially *Arundo donax* (giant reed), *Lepidium latifolium* (perennial pepperweed), *Tamarisk* spp. (salt cedar), and *Ricinus communis* (castor bean). The group works to control populations of invasive plants, but also targets smaller populations of new, emerging weeds, and removes them before they become a problem. More funding is needed for this important work.



Non-native castor beans (foreground)

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3. Foster Stewardship through Education, Outreach, Volunteer Programs and Citizen Science

Education

RCRCD strives to educate residents of all ages by offering informative programs, technical assistance, and resource information. The District seeks to empower people to be stewards (caretakers) of natural resources and to be informed about resource issues and management. RCRCD provides a variety of educational services concerning natural resources and their stewardship. To learn about the District's various educational programs, see rcrcd.org/educational-programs.



2020 UC California Naturalist class

Adult Education

Besides offering informal programs at RCRCD's two educational sites: the LandUse Learning Center (LLC) and the Sycamore Creek Interpretive Center (SCIC), staff conducts two college level courses: the UC California Naturalist and UC Climate Stewards trainings. These two multifaceted programs run from 10-12 weeks and include field trips, citizen science, and capstone projects. After completion, graduates join a Community of Practice that is hosted by RCRCD. The program is conducted through the University of California's Division of Agriculture and Natural Resources out of UC Davis. Learn about our local program here: youtube.com/watch?v=lcLm8dnpCj4&t=6s.

Within RCRCD's boundaries, there are four major colleges with a student population of 69,791. In addition, several universities have satellite schools within the area. Staff provides tours of the LandUse Learning Center for college and the UC California Naturalist and Climate Steward classes. In the past, RCRCD has also coordinated volunteer projects with college students, such as tree plantings, invasive weed removal, and Monarch habitat plantings.

Staff also provides a variety of "Teacher Trainings," including Project Wet, Project Wild, Project Learning Tree, Population Education, and docent training.

For residents and adult groups, RCRCD provides the *Help Create a Sustainable Community* program that explains simple ways to create communities that conserve natural resources for future generations.

The project includes:

- a booklet with information about creating more sustainable communities
- a tour of the LandUse Learning Center, with publications and plant lists that empower residents to conserve resources at home, at work, and in the community
- a variety of related and localized publications and videos
- a slide production that explores ways to conserve resources in three land use areas: native habitats, urban areas, and agriculture

LandUse Learning Center

The LLC is a 3-acre garden that demonstrates sustainable practices for the three main land uses of southern California: native habitats, urban areas, and agriculture. Each land use has been developed with trails, plantings, interpretive signs, and appropriate plant lists. Watch the introductory video here [youtube.com/watch?v=fNjFD2e0GM4&t=2s](https://www.youtube.com/watch?v=fNjFD2e0GM4&t=2s).

The **Native Habitat** area depicts four dwindling, local plant communities of inland western Riverside and San Bernardino Counties: riparian, coastal-sage-scrub, chaparral, and oak woodland. The riparian plant community includes a recycling stream for the study of native fish, including the threatened Santa Ana sucker.

Learn more about native fish in our publication: *Protecting our Native Fish* at rccrd.org/files/2fd782352/ProtectingOurNativeFish.pdf.

Learn about waterways and their protection in *Conserving Waterways: Preventing Impacts from Human Activity* at rccrd.org/files/5f43d25b4/Conserving-Waterways2018web.pdf.

For more information about habitat, see the publication *Conserving Critical Habitat* at rccrd.org/files/e51e3855c/ConservingCriticalHabitat.pdf.

Visitors to the LLC learn about specific actions that they can take to reduce their impacts on habitat and wildlife, such as by eliminating invasive plant species from landscaping and creating habitat for urban-adapted wildlife in yards. Learn more in *Living on the Edge of the Urban-Wildlands Interface* at rccrd.org/files/45b80a884/LivingOnTheEdge.pdf.



Stream at the LLC in the Native Habitat area

The **Urban Area** demonstrates ways to steward resources in urban or suburban eco-systems with four styles of water-wise yards, lawn alternatives, and an Arbor Trail with tree species that are suitable for urban areas of inland southern California. Signs about urban forestry explain the value of trees and how trees mitigate for air pollution, the urban heat island effect, and climate change. Visitors learn about proper tree care and planting, placement of trees to reduce energy use, and more. Our current tree publications include:

Tree Care at www.rcrcd.org/files/d49cf6036/TreeCare.pdf

Waterwise Tree Care at rcrcd.org/files/ff1ba974d/WaterwiseTreeCare.pdf.

Wild about Natives is an introduction to the use of native plants in landscaping:

rcrcd.org/files/da6576344/wildaboutNativesweb.pdf.

The **Agricultural Area** demonstrates crops that thrive in our local climate. Interpretive signs depict sustainable agricultural practices, including irrigation water management, integrated pest management using a variety of biological controls, and other methods that farmers use to build soil health, capture carbon, control erosion, and prevent sediment in water. Signs encourage consumers to support sustainable agriculture and thus benefit from a high quality, safe, local food supply, while reducing pollution from transportation.



Munz's Onion (*Allium munzii*)

© 2008 PACIFIC SOUTHWEST REGION U.S. FISH AND WILDLIFE SERVICE

Sycamore Creek Interpretive Center

RCRCD serves the Temescal Valley area out of the Sycamore Creek Interpretive Center (SCIC). The purpose of SCIC is to interpret the importance of the Sycamore Creek Preserve's natural resources that provide quality habitat for native plants and animals. Indian Canyon waterway runs through the preserve providing a corridor with water for wildlife. Water is a limited resource in dry SoCal. The area is also home to threatened and endangered species, including Munz's Onion and the California Gnatcatcher.



The Interpretive Center staff cultivates environmental understanding and stewardship by providing engaging experiences that empower visitors to live more sustainably.

Learn more at: youtube.com/watch?v=z1vjiY9f75Q&t=48s.

At the Sycamore Creek Interpretive Center, you will learn why is it important to:

- protect waterways from pollutants and encroachment
- create defensible space around your home
- guard oak woodlands and their unique functions, and much more

SCIC provides free programs, children's activities, and a small nature center. To find upcoming programs, follow the Center's Facebook page at: facebook.com/SCICTV/.

Events and Presentations

Pre-COVID, RCRCDC participated with tables/booths at 10-20 community events each year. Cumulatively, thousands of people attended the events and were provided educational materials. It is expected that these community outreach events will resume.

Staff host a variety of events, including First Saturdays “Ask a Master Gardener,” monarch planting events, and farmer training programs.

RCRCDC also brings together groups to collaborate on events and projects. During 2019, the District conducted an award winning Pollinator Festival, habitat plantings, and hosted a California Native Plant Society plant sale to support western monarch butterflies. The efforts were coordinated with Riverside’s Mayor’s office for the National Wildlife Federation’s Mayor’s Monarch Challenge.

Staff has continued the support for Riverside’s current mayor who is planning a pollinator demonstration planting at city hall. RCRCDC will provide a set of monarch interpretive signs for the demonstration site, as well as for Bonaminio Park’s pollinator planting, and for the Northside’s urban greening project.

In early 2022, RCRCDC hosted the first gathering of local climate groups for the Inland Empire region. Those advocacy groups, along with some agencies, are joining forces to help communities become more climate aware and resilient.

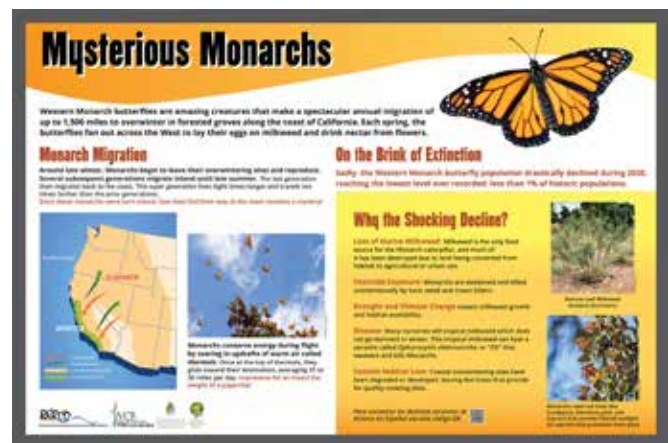
Staff members provide presentations at various functions and on a variety of topics, including monarch and habitat gardening. As part of the Mayor’s Monarch Challenge, RCRCDC created a video about propagating milkweed for the western monarch butterfly: [youtube.com/watch?v=hcl6mL-vUw&t=41s](https://www.youtube.com/watch?v=hcl6mL-vUw&t=41s).

The video, the Monarch publication *Steps for Success with Milkweed and Monarchs* (rccrd.org/files/65eb89ba5/2020_Monarch_Milkweed_for_SoCal.pdf), and the *Hedgerow Planting* publication (rccrd.org/files/4bab03892/Hedgerow.pdf) are all used in our monarch education programs.

Staff also serves on various committees, such as Riverside’s Trails Committee and SCAG’s Natural and Working Lands Committee to assist with development of the Southern California Greenprint.

Youth Education

The student population from kindergarten through high school includes 126,227 from 166 public schools. RCRCDC serves schools in the Alvord, Corona-Norco, Riverside, and portions of Colton, Val Verde, and Lake Elsinore Unified School Districts. Riverside is also home to the California School for the Deaf and Sherman Institute for Native Americans. There are about another 8,568 students attending private schools. In addition, there are many home school groups, charter schools, youth organizations, and an increasing number of organized “after-school” programs within RCRCDC boundaries.



Elementary Programs

RCRCD provides school garden information and mini-grants to teachers who work or reside within District boundaries.

In the past, RCRCD conducted interactive water and recycling education programs for schools and youth groups on behalf of the City of Corona's Department of Water and Power and the City of Riverside's Waste Management Department. Since the pandemic began, staff has not been able to go into classrooms. The presentations were supplemented with educational materials including the appropriate grade-level student booklets *Where Does Your Watershed?*, teacher guides, Santa Ana River Watershed posters, and watershed bookmarks.

Virtual Programs

Staff created a virtual water education program for the elementary level in 2021: [youtube.com/watch?v=vwZvfl9M3og&t=7s](https://www.youtube.com/watch?v=vwZvfl9M3og&t=7s). This project was partially funded by a \$5,000 grant from the Alliance for Water Efficiency (AWE) supported by the Scotts Miracle Grow Foundation.

A recycling video with curriculum is in production.

RCRCD partnered with the Southwest Resource Management Association (SRMA) to create the Power of Pollinators virtual curriculum during 2021. Funding came from a Wildlife Conservation Board grant and SRMA's \$2,000 grant that was an award from the Environmental Education Collaborative (EEC). The teacher promo is here: [youtube.com/watch?v=OI4OKwIMOIw&t=15s](https://www.youtube.com/watch?v=OI4OKwIMOIw&t=15s).



High school students participated in the 2018 California Envirothon.

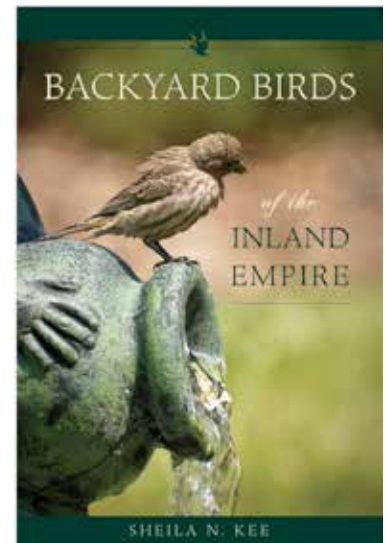
High School Programs

Each year RCRCD sponsors high school environmental teams to compete in the California Envirothon. Students study until the spring competition learning about soils, aquatics, forestry, wildlife, and a special environmental topic.

Some years RCRCD hosts the Student Speak-Off for high school students who compete against each other presenting speeches about an important environmental topic.

Publications

Staff creates localized educational publications about stewardship and resource management and distributes them at our two educational sites, outreach events, workshops, and at partners' programs. rcrcd.org/files/7f10fb540/2019+Education+Materials+Form+-+Not+Elementary+updated+11-18-19.pdf.



Educational Material Distribution

Free educational materials are offered annually to all elementary, middle, and high school teachers, who work or reside within the RCRC's boundaries, via a "Materials Order Form."

Regional Books

RCRC is in the process of revising the book *Backyard Birds of the Inland Empire* by Sheila Kee, which was originally developed by the Riverside-Corona Resource Conservation District in 2004. The second edition was published by Heyday Books in 2010. The book provides descriptions and tips for identifying over 50 of the most common birds that visit yards in Southern California's inland region. Each bird is identified by color, then described by its behavioral traits, calls, food preferences, and nesting patterns. The guide is available for sale at the District's office. The first edition won a National Association of Conservation Districts' Outreach Award.

Wildflowers and Important Native Plants of the Inland Empire by Barbara Iyer was published by RCRC in 2020. The book helps people identify plants by the color and size of their flowers.

The book provides easy to use features:

- full color photos of each unique plant
- park locations for seeking wildflowers
- a comprehensive glossary and drawings to help with unfamiliar terms

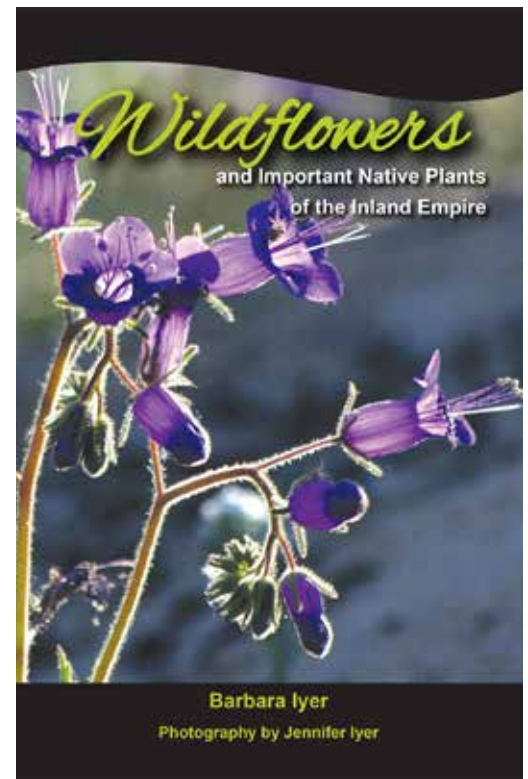
The book has more than 80 species descriptions covering the plants that are most likely to be seen in southern California's inland valleys and foothills of western San Bernardino and Riverside counties. Plant descriptions include information about Native American, landscape, and wildlife uses of plants. Chapters include information about dangerous plants, plant communities, and plant conservation. The book can be purchased at RCRC's office.

RCRC also sells *Flora of the Santa Ana River and Environs* by Oscar Clarke, Greg Ballmer, Danielle Sveta, and Dr. Arlee Montalvo (our retired plant restoration ecologist). RCRC helped sponsor the first edition, and sells copies at cost. The book is used as a reference for training workshops, such as for the California Rapid Assessment Method (CRAM).

Educational Partnerships

The district works to support a more sustainable use of natural resources, largely through synergistic partnerships with groups who have complementary goals.

In turn, staff has helped build capacity for groups and partnerships with the Riverside Food Systems Alliance, Riverside Garden Council, Inland Urban Forest Council, Environmental Education Coalition, Riverside Neighborhood Partnership, and more.



Urban Forestry

Community forests are fundamental components of urban ecosystems, and their management is essential for creating sustainable communities. RCRCDD works to increase canopy cover and promotes best practices and urban forest management planning. The District partners with the Inland Urban Forest Council (IUFC) to bring professional education programs to local tree-care professionals and awareness to residents. Visit the IUFC website for videos and publications about proper pruning and more at inlandurbanforestcouncil.org .

Riverside Food Systems

Another essential component of a sustainable community is a food system that provides for access to locally produced foods, protected prime farmlands, community gardens, and urban agriculture. The District has helped RFSA with building the local farm to fork network and to raise awareness about the benefits of purchasing locally produced foods. During prior years, RCRCDD created the first and second editions of *Fresh and Local*, an award-winning, 48-page guide that connects consumers to local foods and educates about components of the local food system. Watch the promo about it at youtube.com/watch?v=O3C0mRdloFg . During 2020, RCRCDD updated the listings and created an online version for the Riverside Food Systems Alliance's website: riversidefoods.org . A postcard with a QR code directs people to the guide online. The postcard is distributed by partners including the Riverside Food Systems Alliance and UC Master Gardeners.

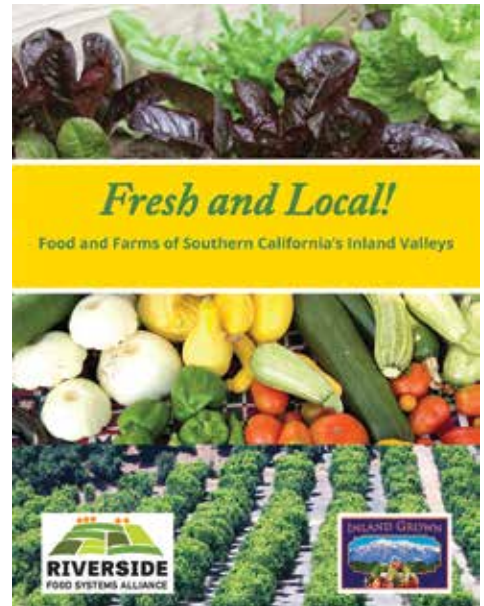
Twice RCRCDD has been awarded a \$50,000 grant from NACD to assist with urban ag conservation. With that funding staff produced and distributed *Fresh and Local*, developed videos and newsletters, organized events, and created eleven interpretive signs for the Northside Heritage Meadows urban greening project in Riverside. Find a video about the Northside project at youtube.com/watch?v=f4itDhwYID8 . The California Department of Conservation and donors also contributed to the printing and mailing of *Fresh and Local*.

Riverside Garden Council

Staff works with community gardens and assists the Riverside Garden Council with capacity building. RCRCDD convened the first community open house for the Northside Heritage Meadows (aka: Northside Agricultural Innovation Center). One outgrowth of that neighborhood event was the formation of a garden planning committee that has been planning Nick's Garden with and for the Northside community.

California Native Plants

RCRCDD works to educate people about the importance of local native plants and the creation of urban landscapes that support local native habitats. RCRCDD collaborates with the California Native Plant Society's (CNPS) Riverside-San Bernardino chapter.



Environmental Education Collaborative

RCRCD has been a leading partner with the Environmental Education Collaborative (EEC) of Riverside and San Bernardino Counties. RCRCD provides support for EEC's meetings, programs, and annual symposiums.

RCRCD developed *Environmental Learning Resources*, a 32-page guide and online searchable list of local non-formal education sites and resources: found at enviroedcollaborative.com/. The guide was recognized by the California Association of Public Information Officers with an EPIC Award and by the Public Relation Society of America's IE Chapter with a Polaris Award. Video about the Resource guide: youtube.com/watch?v=nQVh2W_fb5M&t=1s.

National Association of Interpretation

Margie Valdez of the Riverside County Parks Department brought low-cost, National Association for Interpretation (NAI) training to our staff who became Certified Interpretive Guides (CIG). Staff members engage with NAI Region 8 for continuing education and for promotion of RCRCD's mission and sites.

Outreach

Newsletters

The education staff creates *Resources Update* as a print and electronic newsletter. We also use an online platform to seek donations via the mailings.

Website and Social Media

Social media and the website RCRCD.org, are tools that the District uses to increase the delivery of information and the promotion of programming. RCRCD uses a variety of social media tools, including Facebook, NextDoor.com, and organizations' electronic newsletters. The District's YouTube channel is used for informational and educational videos: youtube.com/channel/UCZ9qcZKB2xePvErzAbsCZuQ/videos.

Staff continues to administer and/or contribute to the social media pages of partners, including California Naturalists and Climate Stewards IE, Northside Heritage Meadows project, RFSA, EEC, Greater Riverside Environmental Engagement Network (GREEN), Riverside Neighborhood Partnership, Riverside Garden Council, and more.



Volunteer and Citizen Science

Volunteer Programs

The District offers a variety of ways that individuals and groups can volunteer, including:

- propagating native plants in the nursery
- welcoming and touring visitors at the LandUse Learning Center
- welcoming and touring visitors at the Sycamore Creek Interpretive Center
- maintaining a vegetable garden in the LandUse Learning Center
- pruning fruit trees and vines in the LandUse Learning Center
- conducting educational programs at the LandUse Learning Center
- planting and caring for monarch habitat at our Greenbelt facility
- monitoring the monarch butterfly population
- monitoring bluebird nest boxes in Spring
- group projects, as needs arise

RCRCD was awarded a nearly \$60,000 grant in 2020 from the Wildlife Conservation Board and California Association of Resource Conservation Districts (CARCD) for the propagation and planting of 2-acres of native milkweed at the Greenbelt property. Volunteers helped plant and weed the site.



Volunteers and staff planted milkweed at the Greenbelt facility.

Citizen Science

Staff introduces community science projects at both the LLC and SCIC sites, where backpacks with data collection materials are available for check out. Staff began a Santa Ana Watershed Community Science Network and shares opportunities to its Facebook page and to the Riverside Citizen Science page.

RCRCD has led the way with community science, beginning in 2002 with the bluebird nest box monitoring program. Staff remains involved in educating about citizen science, mainly through site visits, the UC Climate Stewards training, and the California Naturalist program.

Bluebird Nest Box Monitoring

Since 2002, each spring during nesting season, volunteers have monitored bluebird nest boxes that have fledged over 2,873 Western Bluebirds and more than 418 other cavity nesting birds including ash-throated flycatchers, tree swallows, Bewick's wrens, acorn woodpeckers and mountain chickadees.

Currently, the results are submitted online to Cornell University Nestwatch, the California Bluebird Recovery Program, the North American Bluebird Society, and Southern California Bluebird Club. RCRCD volunteers manage the longest running, most prolific Bluebird Trail in Riverside County.



Kelli Ong built bluebird nest boxes as a scouting project.

Goals and Objectives

GOAL 1 Assist Land Users with Resource Planning and Management

GOAL 2 Conserve Habitat Land and Species

GOAL 3 Foster Stewardship through Education, Outreach, Volunteer Programs and Citizen Science

GOAL 4 Help Create Sustainable Communities: Urban Sustainability and Partnerships

GOAL 5 Conduct Efficient Operations





GOAL 1 Assist Land Users with Resource Planning and Management

Provide technical assistance to land users to help them manage their natural resources in sustainable ways. Provide conservation planning information, including inventories, assessments, and treatment recommendations.

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Objectives

1.1 Water Conservation

- Continue to provide assistance to local water agencies on meeting state mandates for commercial and industrial best management practices.
- Provide information about best management practices (BMPs) that conserve water.
- Conduct irrigation water management evaluations for large land users.
- Conduct workshops about low water-use irrigation and maintenance.
- Partner with water districts, California Native Plant Society, GrowRIVERSIDE, and others on landscaping and water conservation training.
- Provide information about the Water Use Classification for Landscape Plants (WUCOLS), and more current tools as they become available.
- Assist homeowners with conversion to low-water use landscapes through use of the LandUse Learning Center, plant lists, and water-wise programming.

1.2 Soil Conservation

- Conduct low-cost soil testing for residents.
- Provide information to growers about soils and best management practices (BMPs) that assist with maintaining soil quality.
- Assist landowners with erosion control, non-point source pollution, and assessing flood damage potential.
- Educate landowners about Best Management Practices for creating healthy soil.

1.3 Land Conservation

- Develop an inventory of agricultural and urban ag lands and update important farmland mapping.
- Identify local growers that are interested in supplying food for the local economy.
- Connect consumers to growers by updating and promoting the *Fresh and Local* food and ag guide, with partners.
- Develop programs for preserving local agriculture, high quality soils, and farmlands.
- Promote the use of conservation easements and fee-title donations of land.

1.4 Plant Materials

- Work to expand the inventory of local native plants for partnering nurseries, landscape use, including for pollinator gardens, hedgerows, and swales.
- Provide appropriate plant information for conservation purposes.
- Nursery management: Develop a growing schedule for annual goals.
- Propagate local native milkweed for sale to the public.
- Bring the nursery to financial self-sustainability.
- Develop and adapt a nursery volunteer program.
- Develop a system of billing for projects and public sales.
- Temporarily expand the nursery by Building F in a way where it can be moved to the Greenbelt aquatic facility in the near future.
- Produce plants for RCRC's landscapes, including the LLC and SCIC interpretive centers.
- Work on maintaining a well-stocked inventory of local plants for pollinators and hedgerows.
- Complete a plant palette review for landscaping, restoration, erosion control, etc.
- Promote the use of local native plant genotypes for re-vegetation projects.
- Promote the use of genetic diversity in local native plant materials.
- Promote long-term restoration and management planning.

1.5 Wildlife Conservation

- Provide BMP information and assistance to land users to assist with habitat management.
- Promote exotic, invasive species control and removal from landscaping.
- Provide information about different kinds of wildlife corridors and about bridging roads and railways with under-crossings and "living bridges".
- Identify invasive species that are listed on recommendation lists, including in water use classification of landscape species (WUCOLS), tree publications, and landscaping references.
- Provide wildlife information on the RCRC's website.
- Provide baseline presence/absence surveys on all natural lands managed by the RCD.
- Hold training and workshops for the general public on wildlife conservation.
- Identify funding sources to supplement current programs and/or to provide funds on lands to increase wildlife occupation.

California Buckwheat (*Eriogonum fasciculatum* var. *polifolium*)

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GOAL 2 Conserve Habitat Land and Species

Restore and connect sustainable native landscapes through land treatment and preservation tools.

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Objectives

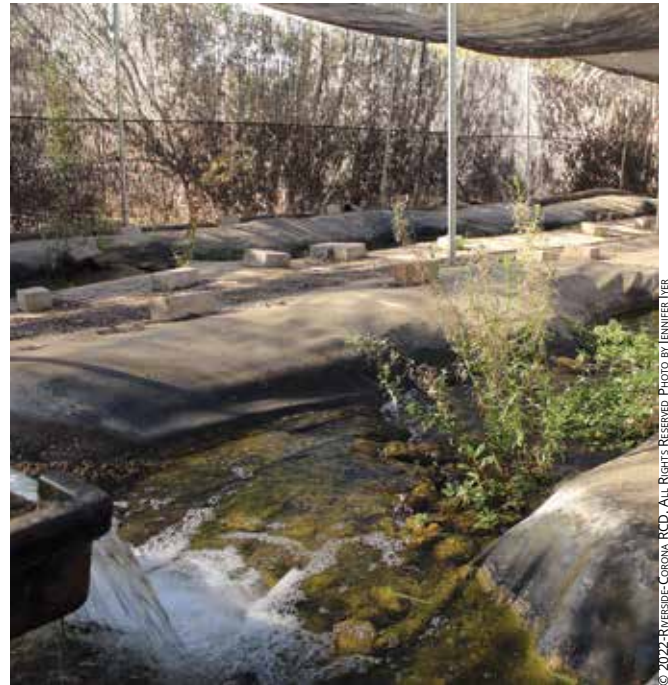
2.1 Habitat Land Conservation

- Purchase conservation properties, such as at Blue Mountain, as funding allows.
- Plan and conduct habitat restoration and Best Management Practices (BMPs) on RCRCDD's conservation areas.
- Remove exotic species and re-establish native species on District-controlled properties.
- Use tools, including the In-Lieu Fee (ILF) Program, conservation easements, and fee-title, to obtain blocks of habitat and wildlife corridors.
- Provide habitat and aquatic services to public and private entities that provide funding support.
- Develop long-term restoration plans and vegetation maps for RCRCDD lands. Use soil maps and ArcGIS to make overlays for all sites.
- Increase rare, threatened, and endangered species rearing and release programs.
- Increase monitoring of indicator, invasive, and rare species, including emerging pests, diseases, bees, algae, lichens, mosses, liverworts, cryptogamic crusts, and animal tracks.
- Help identify emerging weeds and invasive species.
- Utilize current technology (drones, GPS, laser imaging, etc) to manage invasive weed species.
- Work with federal, state, and local agencies and appropriate nonprofits to develop propagation, translocation, re-introduction, and augmentation (PTRA) programs for freshwater fish and amphibian conservation.
- Create signage and companion materials/programs to educate about habitat conservation.

- Develop reference site comparison methods for assessing restoration success.
- Evaluate appropriate sites for multi-use or trails along easement edges.
- Survey and map watercourses, wetlands, soils, vegetation and wildlife on RCRCO properties as a baseline for restoration planning and long-term management.

2.2 Animal Conservation

- Propagate and release Southern California native fish, aquatic reptiles, and amphibians, as funding becomes available.
- Install data loggers at aquatic sites to track water quality data.
- Monitor and collect water quality data on RCD streams.
- Conduct annual native fish surveys throughout the RCD.
- Conduct transponder tagging surveys with USGS.
- Coordinate Santa Ana Sucker feeding study with UC Riverside.
- Develop and finalize Access Software database for native birds.
- Continue to manage the Greenbelt research facility with fish raceways plus indoor/outdoor tank storage for quarantine and short term fish and amphibian care.
- Rear Santa Ana sucker for translocation into upper watershed.
- Install nest boxes and watering facilities in RCRCO habitat areas as needed.
- Install wildlife cameras at RCRCO corridor crossings and webcams at select nest boxes to monitor local wildlife.
- Coordinate with USGS to monitor western pond turtles and on RCRCO aquatic sites.
- Conduct bird surveys on conservation easements and fee title lands to track occupation of listed species.
- Provide monitoring of nesting birds in maintained project areas to reduce or eliminate disturbance.



Fish runs (artificial streams) are used to study local native fish, including the threatened Santa Ana sucker.

2.3 Plant Conservation

- Promote the use of local native plant genotypes for re-vegetation projects.
- Promote the use of BMPs for controlling the spread of invasive plants, animals, insects, pathogens.
- Develop standards for the design of plant pallets for the restoration, rehabilitation, and reclamation of different types of habitat.
- Continue to improve RCRCO's native plant nursery to meet phytosanitary conditions for restoration projects.
- Develop tools to guide restoration practitioners and land managers in habitat restoration and habitat creation plans under a changing climate.

- Develop a fact sheet on use of the available Roadside Revegetation Technical Guide
- Customize a weed identification notebook for our service area
- Provide appropriate native plant source material to local nurseries for conservation uses, including for pollinator habitat.
- Research native plant gene pool regions in Southern California.
- Research plants that can be adapted to constructed wetlands to be used to filter pollutants.
- Evaluate erosion control plants that are acceptable for use in threatened and endangered species areas. Establish native plant material trials to determine promising plants for erosion control and use in environmentally sensitive areas.
- Work on procedures for establishing and maintaining desirable and native species on roadsides.
- Work with nurseries to reduce the sale of non-native milkweed and invasive plants.
- Coordinate projects with appropriate agencies and organizations regarding plant material issues and/or concerns, including NRCS pollinator species specifications. Integrate into planning how potential changes in climate may affect factors such as hydrology, wildfire risk, and habitat suitability for different organisms. Consider vulnerabilities of each habitat type to climate change. Consider other anthropogenic influences and their relative risks.

2.4 Seed Projects

- Collect, document, and inventory native seeds and cuttings for restoration of native landscapes and for urban landscaping near the wildland-urban interface. Purchase seed processing equipment for in-house seed bank. Coordinate with local preserves to collect seed on their lands.
- Evaluate seeding rates, depths, mixes and cultural techniques for the establishment of native grasses, shrubs, and forbs for Southern California.
- Collaborate on the regional Native Seed Coalition, which would coordinate seed collection, storage, and source documentation programs as well as growers, sellers, and buyers of native seeds. Explore options for seed testing.
- Continue to increase and develop a “Seed Bank” for the region.

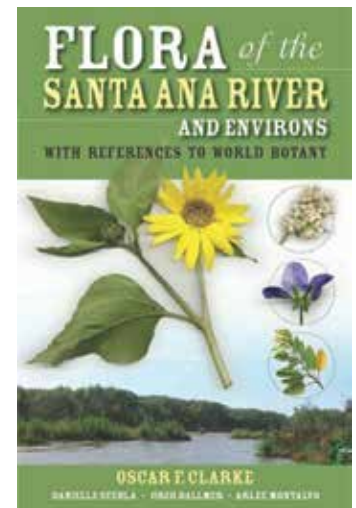


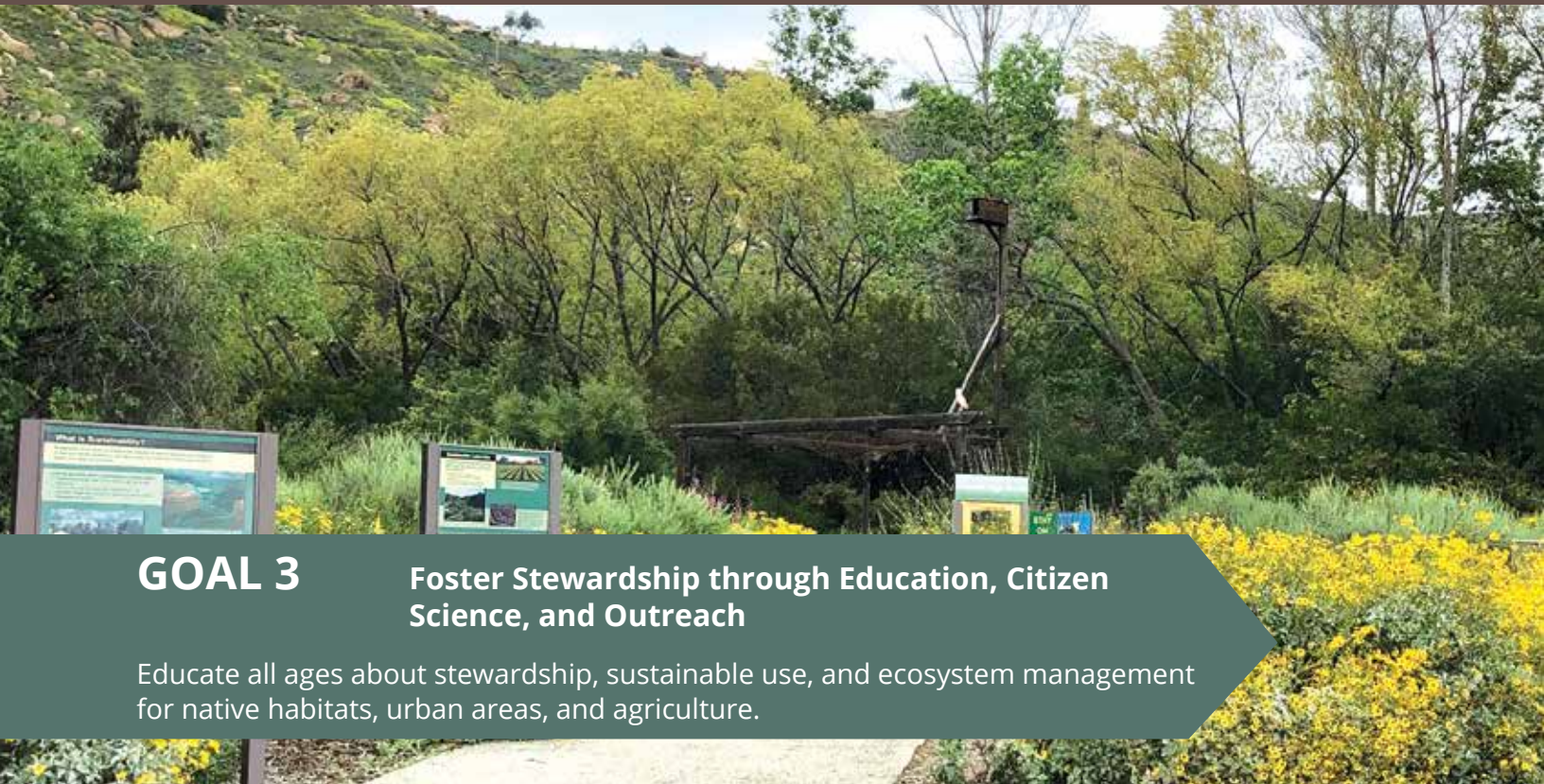
2.5 Fuels Management

- Develop fuel modification demonstration projects, which may include mowing, thinning of woody vegetation, and fire-wise planting.
- Research and provide training on determining the viability of soil seed banks after wildfires.
- Utilize non-traditional methods of fuels management such as grazing with livestock (goats, cattle and sheep).
- Research and evaluate fire-resistant, drought-tolerant, native and introduced landscape plants with low fuel volume, that can also provide erosion control on slopes.

2.6 Lead in developing and disseminating needed technical information and materials.

- Develop detailed profiles for native plants that are important to land restoration and habitat creation and make them available on the RCRC web site.
- Research and develop standardized plant pallets for the restoration, rehabilitation, and reclamation of habitat.
- Provide information for the use of native plants in landscaping.
- Work with other groups to promote the use of fire-wise and water-wise landscaping.
- Obtain reference site data to guide restoration activities in a variety of habitats.
- Train local agencies and others in the use of the *"Flora of the Santa Ana River and Environs"* book
- Train local government and others about native plant restoration methods and Best Management Practices (BMPs), invasive species identification and removal, and pest management.
- Continue to develop a "Seed Bank" and cooperate with the Forest Service, California Botanic Garden, and others in developing a "Native Seed Network" for the region.
- Develop a digital resource inventory in GIS in both a detailed form, usable for management planning, and a broader informative form to be placed online for the public to learn about types and percentages of resources in the area.
- Develop climate change and suitability models for local resources, habitats, and sensitive species.





GOAL 3

Foster Stewardship through Education, Citizen Science, and Outreach

Educate all ages about stewardship, sustainable use, and ecosystem management for native habitats, urban areas, and agriculture.

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Objectives

3.1 Conservation and Stewardship Education

Conduct and promote youth programs.

- Offer and provide educational materials to public and private schools and homeschoolers.
- Promote and conduct the Storm Water Pollution Patrol and the Soil Saver Club programs, as needed.
- Sponsor the Conservation Mini-Grant Program to help fund school gardens and on-the-land projects. Support school garden programs and interest in environmental learning/teaching.
- Provide initial planning assistance for school gardens and projects. Refer Master Gardeners and Composters to youth projects.
- Present *Help Create a Sustainable Community* programs to high school students upon request.
- Provide educational materials to teachers. Inform teachers about environmental education opportunities through Facebook, online newsletter, and/or YouTube. Add additional sustainability and resource conservation education links to the website.
- Develop conservation education programs for elementary, middle, and high schools that complement the LandUse Learning Center.
- Develop and conduct a school field trip program with traveling trunk materials and lesson plans.

- Offer water education and recycling programs to municipalities and agencies on a contractual basis.
- Provide online monarch curriculum to educators. Develop additional programs and materials as needed.
- Develop education materials about appreciation and stewardship of RCRC's Native Habitat Areas.

Conduct and promote adult programs.

- Develop education materials about appreciation and stewardship of RCRC's Native Habitat Areas.
- Conduct the UC California Naturalist Program
- Conduct the UC Climate Stewards Program
- Maintain a Community of Practice for ongoing education and connections with graduates of Cal Nat, Climate Stewards, and RCRC docents.
- Coordinate educational programming for the LandUse Learning Center and Sycamore Creek Interpretive Center, such as Master Gardener programs, gardening/composting speakers, monthly "Ask a Master Gardener," etc.
- Provide training and workshops for identification and treatment of local invasive species.

3.2 Outreach Programs

- Provide outreach materials to County Boards of Supervisors, City Councils and others.
- Present displays at public events, including conferences, community conservation events, Earth Day, field days, fairs, libraries, and expos. Distribute materials at those events. Identify local target areas and support those areas by attending neighborhood meetings and by providing programs such as informational workshops and walks. Distribute relevant literature, door-to-door, if necessary.
- Present programs for a variety of audiences, upon request.
- Promote sustainability through a variety of media including electronic, periodicals, signs, and publications.
- Inform the public about national, state, and local issues relating to resource conservation through the newsletter, website, and other means, whenever possible.
- Develop informational "how to" videos on water conservation, irrigation maintenance, soil-plant-water relationship and general homeowner landscape care.
- Create environmental education and short promo videos.
- Continue supporting the Mayor's Monarch Challenge initiative with outreach and education.
- Lead in climate education and resilience.
- Create educational programs that are inclusive of all. Provide materials in Spanish whenever possible.



Publications

- Produce and distribute periodic newsletters with fact sheet inserts that are also uploaded onto the RCD website. Distribute District newsletter and literature to libraries, offices and waiting rooms.
- Develop, update, and distribute educational and technical print materials: LLC plant guides, trail guides, brochures, posters, and curriculum. These may include:
 - Bluebird Nest Box Monitoring training
 - Trees for the Inland Empire
 - Backyard Bugs and Insects of the IE
 - Pollinators of the IE
 - Snakes, Lizards and Amphibians of the IE
 - landscaping with native plants
 - a roadside re-vegetation guide
 - a weed identification booklet about exotic, invasive species control
 - a backyard habitat guide
 - native and non-native plant guides as needed for local projects, and standardized plant pallets.
- Recreate the book *Backyard Birds of the Inland Empire*.

3.3 Citizen Science and Volunteer Opportunities

- Conduct community citizen-science programs, which may include milkweed/monarch monitoring, bluebird nest box monitoring, water quality testing, air quality monitoring, etc.
- Conduct volunteer stewardship and service-learning conservation projects as needed, including pollinator plantings, tree plantings, habitat restoration projects, waterway cleanup events.
- Offer volunteer opportunities to Master Gardeners
- Offer volunteer opportunities to California Conservation Corps in native plant production
- Develop a volunteer program that supports the nursery
- Continue community science collaboration with partners, including iNaturalist; City Nature Challenge; University of California, Riverside; City of Riverside's Department of Parks, Recreation and Community Services; Museum of Riverside; USDA Forest Service-Fire Lab; Smithsonian Institute's National Museum of Natural History

3.4 Sycamore Creek Preserve and Interpretive Center

The purpose of the SCIC is to interpret the conservation and natural history of the Sycamore Creek Preserve and outer lying areas of the Temescal Valley. Sycamore Creek Interpretive Center programs cultivate environmental understanding and stewardship through engaging educational experiences that empower all of us to live more sustainably. We provide hands-on,



nature-based learning experiences for all ages through interactive exhibits, displays, crafts, and activities.

Continue the development of the Sycamore Creek Interpretive Center and its educational components including:

- Additional educational landscaping, drinking fountains, picnic tables
- Develop site interpretation with additional signs, murals, or removable banners.
- Use the site as a Santa Ana Watershed Citizen Science Waystation
- Identify and secure sources of funding
- Build capacity and staff capability
- Increase community engagement and partnerships
- Promote the Center and programming through a variety of outreach methods

Develop and conduct educational programs at the Sycamore Creek Interpretive Center, such as:

- Junior Naturalist - Steward Program and scout badges
- remote viewing of wildlife
- rare and invasive plant presentations
- environmental education workshops
- summer day camp
- programs about Temescal Valley conservation and sustainability issues.

3.5 LandUse Learning Center

Complete the development and educational components of the LandUse Learning Center (LLC), a 3-acre demonstration of sustainable practices for the three main land uses of southern California: native habitats, urban areas, and agriculture.

Projects to complete the development include:

- Install two buildings (museum/audio-visual and hands-on lab).
- Finish the inside of the entrance building: design and install interpretation.
- Install a grow wall and/or roof.
- Install solar roof panels and system.
- Develop the indoor museum space based on exhibit conservation guidelines.
- Develop, and install indoor interpretive displays and exhibits.
- Design and develop interpretive signs for the Urban and Native Habitat Areas.
- Complete the LLC entrance area with an arbor, trail map sign, and demonstration landscaping.
- Develop an erosion control demo area and additional demonstrations/plantings.
- Create an exhibit space in unused offices.
- Install additional animal, trail, and other signs.
- Install benches, trail lighting, an amphitheater awning, and water fountains.





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Develop the LandUse Learning Center educational programs and materials.

- Develop an interpretive plan and staff/docent script.
- Expand a docent program for interpretation programs at the LLC.
- Develop conservation education programs for elementary, middle and high schools that are companion to the themes of the LandUse Learning Center. Design and construct curriculum kits for three land uses, four plant communities, climate change, urban forestry, and more.
- Expand the elementary school field trip program.
- Develop a plant community and other posters.
- Develop Fact Sheets that correlate to LLC demonstrations to empower visitors and provide information about sustainable choices.
- Set up a farm/gift shop with business volunteers/docent assistants.
- Build staffing and docent capacity to conduct school field trips.

Use the LLC as an educational tool.

- Conduct environmental education, agritourism, and stewardship activities.
- Conduct tours, programs, and demonstrations with companion publications.
- Seek funding and support from a variety of sources including partnerships and grants.
- Develop additional sponsor recognition.

3.6 Greenbelt Facility

Build an aquatic operational center for RCRCD programs.

- Upon development of the aquatics and Monarch habitat areas, tours and educational programs will be conducted at RCRCD's Greenbelt site.
- Maintain and monitor milkweed and nectar plants.
- Maintain the 2-acre ag area.
- Conduct native fish studies and propagation.
- Build Research office and storage facility.
- Use a portion of the property for nursery propagation and storage.
- Monitor Monarch use of the habitat planting.
- Establish Best Management Practices to enrich soil, capture carbon, control erosion, eradicate invasive plants, and biologically control pests.



GOAL 4 **Help Create Sustainable Communities and Partnerships**

Coordinate and support sustainability efforts within and between communities, enlisting help from public and private partners.

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Objectives

4.1 Promote efficient land use, smart growth, and the value of natural, urban, and agro-ecosystems.

- Promote sustainable agricultural methods and disseminate information about local, successful sustainable farming practices.
- Help build capacity of the Riverside Food Systems Alliance (RFSA), Riverside Garden Council, Environmental Education Collaborative, Inland Urban Forest Council and others.
- Support local initiatives that relate to conservation, such as GrowRIVERSIDE, the Northside Agriculture Innovation Center project, and Riverside Neighborhood Partnership’s environmental stewardship.
- Develop, support, and promote urban sustainability efforts and Best Management Practices for land use planning, ground water recharge, improved transportation methods, trails, tree plantings, urban forestry, storm water quality, water-wise landscaping, backyard habitat, the use of mulch, composting, recycling, and more.
- Support the conservation and stewardship of open space, and “Green” Infrastructure.
- Support efforts to conserve and develop well designed wildlife corridors that connect blocks of habitat.
- Support city, county, and regional planning efforts in relation to natural resources and their sustainable use.
- Support the work of the Southwest Resource Management Association (SRMA), Santa Ana River - Orange County Weed Management Area and the Santa Ana Watershed Association (SAWA).
- Collaborate with cities, water districts, and University Sustainability Committees.
- Work with agencies to incorporate RCRCDC conservation lands in mitigation bank programs.



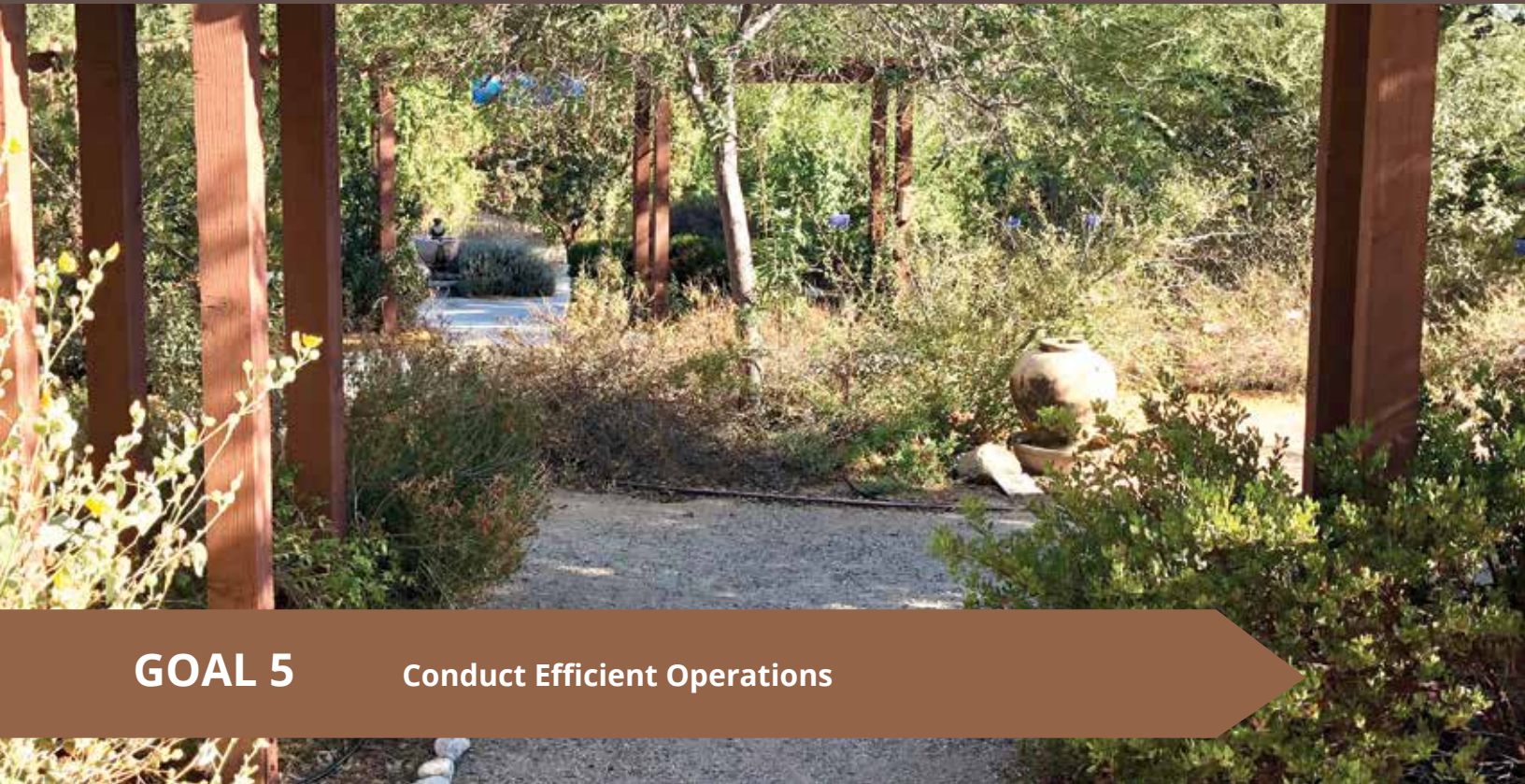
Site visit planning the Northside Urban Greening Project. (Left to right) Nick Melquiades, Erin Snyder, Joyce Jong, Analicia Gomez

4.2 Coordinate resource conservation efforts for native habitats, urban areas, and agriculture with businesses, groups, individuals, and agencies at the local, state and federal levels.

- Sponsor workshops, training sessions, and meetings to inform other agencies, civic groups, and individuals, as needed.
- Network with national, state, and regional groups regarding climate change, water supplies, sustainable agriculture, soil and water conservation, urban forestry, environmental and science education, and more. Serve on various committees as needed.
- Develop working relationships with key legislators within the District.
- Recognize local citizens who steward natural resources, implement good resource conservation practices, and volunteer.
- Network with local groups in the Santa Ana River and Orange County Weed Management Area to promote and advance coordinated weed control efforts in the watershed.
- Conduct plant sales to increase awareness about native plants, especially in relation to declining species, such as monarchs. Use plant sales to help fund the nursery and other pollinator projects.

4.3 Promote sustainability and conservation techniques using a variety of methods.

- Support urban agriculture, carbon farming, community gardens, and conservation practice adoption in all ag areas.
- Increase use of electronic media to improve communication regarding local resource issues, information, educational opportunities, and to raise funds.
- Build relationships with local media: newspapers, magazines, and radio stations.



GOAL 5 Conduct Efficient Operations

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Objectives

5.1 Budget and Funding

- Research other avenues of funding to supplement District programs and projects.
- Monitor District finances on a monthly basis.
- Execute necessary contracts as needed.
- Conduct annual audits.
- Use online fundraising tools, such as book sales, video trainings, etc.

5.2 Human Resources

- Monitor staffing needs of the District.
- Create an agency culture of justice, equity, diversity and inclusion.
- Provide a “health and safety” program for all employees, directors, and volunteers.
- Provide benefit and retirement planning information.
- Adhere to all appropriate Federal and State personnel laws.
- Develop personnel policies as needed.
- Provide training for District staff as needed.
- Staff will attend professional groups, professional development programs, training, and networking opportunities.
- Continue to participate in internship programs as needed.
- Provide staff, equipment, and reports per agreement with SRMA.

5.3 Public Relations

Improve name and purpose recognition. Promote the RCRCDD mission and programs to a variety of audiences.

- Produce promotional videos about RCRC D's history, programs, and services.
- Create a power point presentation and update the flyer about District programs. Present programs to municipalities and groups.
- Develop an historical display and publication about RCRC D.
- Publish newsletters in print and electronically, as needed.
- Recognize local citizens who are champions of resource conservation.
- Develop news releases for social media, local newspapers, and magazines. Distribute public service announcements (PSA's) to local radio stations as needed regarding District programs, special events, and projects.
- Distribute District literature electronically, via social media, libraries, offices, and waiting rooms that offer reading material.

5.4 Property Management

- Continue to renovate and maintain RCRC D's Resource Conservation Center facilities, the Sycamore Creek Interpretive Center, and the Greenbelt facility.
- Develop and coordinate signage at RCRC D's sites.
- Maintain security features for facilities.
- Manage and protect RCRC D's fee title and conservation easement lands.
- Manage and maintain fish/amphibian research/propagation facilities including the LLC stream, raceways, and tanks.
- Manage and maintain plant propagation and seed storage facilities.
- Upgrade underground utilities as needed (water, sewer, phone, electric, etc.)

5.5 District Operations : Establish, plan, and direct a conservation program

- Revise District policies, procedures, and programs as needed.
- Hold regular monthly board meetings to monitor federal, state, and local trends.
- Monitor and revise as necessary the District's Long Range Objectives.
- Develop Annual Work Plans and an Annual Report.
- Publish an annual Santa Ana sucker 10a permit report for the US Fish and Wildlife Service.
- Apply for CDFW Scientific Collection Permits on projects as needed.
- Publish annual CDFW Reports for Conservation Lands, region-wide 1600 Permit activity, mitigation projects, and field activities.
- Publish an annual Santa Ana River Watershed In-lieu Fee Program Report (SARWILF).
- Monitor and maintain expenses and revenues for the SARWILF program.
- Annually update the State Controller's Office Financial Transaction Report and Employee Compensation.
- Monitor changes to Division 9 of the California Public Resources Code.
- Provide necessary liability insurance to conduct business.
- Update equipment and computer programs as needed.
- Participate in national, state, and local programs as requested.
- Monitor California's direction regarding local government and its role in the state.

5.6 Develop Memorandums of Understanding (MOUs) to spell out working relationships. If needed, RCRC will develop MOUs with the following:

- Army Corps of Engineers
- California Department of Fish and Wildlife
- California Department of Parks and Recreation, for seed collection
- City of Riverside Parks, Recreation and Community Services Department
- County of Riverside, for agriculture and open space permits/ordinances
- Environmental Protection Agency (EPA)
- Land conservancies
- Riverside County Regional Conservation Authority
- Riverside County Regional Parks and Open Space District
- Santa Ana Regional Water Quality Control Board
- USDA Forest Service

5.7 Review and continue Memorandums of Understanding with the following, as needed:

- California Department of Water Resources
- Riverside County Flood Control and Water Conservation District
- Riverside Public Utilities
- USDA Natural Resources Conservation Service (NRCS)
- Western Municipal Water District

5.8 Strengthen relations with conservation groups, businesses, agencies, research institutions, and schools as needed, including:

- Army Corps of Engineers (ACOE)
- Association for Environmental and Outdoor

- Education (AEOE)
- California Association of Nurserymen (CAN)
- California Association of Nurseries and Garden Centers
- California Association of Resource Conservation Districts (CARCD)
- California Association of Public Information Officers (CAPIO)
- California Baptist University
- California Department of Conservation (DOC)
- California Department of Fish and Game (DFG)
- California Department of Forestry and Fire Protection (CAL FIRE)
- California Department of Parks and Recreation
- California Department of Water Resources (DWR)
- California Invasive Pest Council (Cal-IPC)
- California Native Plant Society (CNPS)
- California Urban Forest Council (CaUFC)
- Center for Biological Diversity
- City of Colton
- City of Corona
- City of Grand Terrace
- City of Norco
- City of Riverside
- Environmental Education Collaborative (EEC)
- Environmental Protection Agency (EPA)
- Friends of Mt. Rubidoux
- Friends of Riverside's Hills
- GrowRIVERSIDE
- Inland Urban Forest Council
- Metropolitan Water District of Orange County (MWDOC)
- National Association for Interpretation (NAI)
- Native Seed Network
- Orange County Coast Keeper
- Orange County Parks and Recreation
- Plant Conservation Alliance
- Public Relations Society of America
- Regional Water Quality Control Board
- Riverside Community College



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- Riverside County Agricultural Commissioner
- Riverside County Board of Supervisors
- Riverside County Building and Safety Department
- Riverside County Farm Bureau
- Riverside County Flood Control
- Riverside County Habitat Conservation Authority
- Riverside County Parks and Recreation
- Riverside County Planning Department
- Riverside County Office of Education and unified school districts
- Riverside County Waste, Master Composters
- Riverside Food Co-op
- Riverside Food Systems Alliance
- Riverside Metropolitan Museum
- Riverside Public Utilities Department
- Santa Ana River Conservancy
- Santa Ana Watershed Project Authority (SAWPA)
- Santa Ana Watershed Planning Advisory Committee
- Santa Ana River and Orange County Weed Management Area
- San Bernardino Ag Commissioner
- San Bernardino County Board of Supervisors
- San Bernardino County Museum
- San Bernardino Planning Department
- San Jacinto Basin and other neighboring RCDs
- Santa Ana Watershed Association (SAWA)
- School districts
- Southern California Association of Governments (SCAG)
- Southwest Resource Management Association (SRMA)
- Tri-County Conservation League
- UC Master Gardeners
- UCR Center for Conservation Biology
- UCR Center for Sustainable Development
- UC Cooperative Extension Service
- UCR Herbarium
- University of California, Riverside (UCR)
- Upper Santa Ana River Habitat Conservation Plan
- USDA Forest Service (USFS) Pacific Southwest Research Station, Fire Lab
- USDI Bureau of Reclamation
- USDI Fish and Wildlife Service (USF&W)
- US Green Building Council
- Victoria Avenue Forever
- We Are Temescal Valley
- Western Municipal Water District (WMWD)
- Western Riverside Council of Governments (WRCOG)
- Western Riverside County Multi-Species Habitat Conservation Authority (MSHCP)
- Local native plant nurseries, museums, libraries, colleges and universities

5.9 Continue memberships with:

- American Fisheries Society
- Bat Conservation International
- California Botanic Garden (RSABG)
- California Invasive Plant Council (Cal-IPC)
- California Native Grass Association (CNGA)
- California Native Plant Society (CNPS)
- California ReLeaf
- California Society for Ecological Restoration (SERCAL)
- California Special District's Association- (CSDA)
- California Urban Forest Council
- Cornell Laboratory of Ornithology
- Corona Chamber of Commerce
- Ducks Unlimited
- Friends of the Entomology Research Museum (UCR FERM)
- Inland Urban Forest Council
- International Erosion Control Association
- Irrigation Association
- Land Trust Alliance
- National Arbor Day Foundation
- National Association of Conservation Districts (NACD)
- National Audubon Society
- National Bluebird Society (NABS)
- National Interpreters Association
- North American Association for Environmental Education
- Pesticide Applicators Professional Association (PAPA)
- River Network
- Rivers and Lands Conservancy
- Riverside Chamber of Commerce
- Riverside County Farm Bureau
- Santa Ana Mountains Fire-Safe Alliance
- Society for Ecological Restoration (SER)
- Soil and Water Conservation Society
- Southern California Coalition of RCD's
- Southern California Steelhead Coalition
- Southern California Water Committee
- Trout Unlimited



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Land Uses

Native Habitats, Urban Areas, and Agriculture

Native Habitats

The land that is maintained as native habitat is important for many reasons:

Environmental Value

Natural areas are homes, or habitat, for wildlife. Native habitat provides wildlife with water, food, shelter, nesting sites, and space to live. Native habitats support a wide diversity of insects, birds, bats, fish, amphibians and other

animals, which also help pollinate crops and control pest infestations.

The variety of life supported in natural areas preserves genetic diversity, which helps maintain evolutionary processes and stores genes that are potentially beneficial to humans. Native landscapes effectively clean water and air, reduce flooding and help control erosion.

Natural areas enhance the quality of life for people by providing opportunities for exercise, recreation, and solitude. They also buffer urban areas, provide oxygen and filter air pollutants. Many psychologists believe that humans require contact with nature for emotional health and well-being.

Economic Benefits

Natural areas are desirable amenities that can help define community identity. Studies have shown that natural areas enhance the economic value of residential properties. Tax-paying businesses are attracted to communities with high “quality of life.” Recreational activities support businesses, such as photography, outdoor sporting goods, fishing, and hunting supply industries.

To ensure that natural ecosystems remain healthy, we remove invasive species and prevent urban pollution from entering waterways. To keep habitat viable, we work with landowners and agencies to plan land-use to help preserve large blocks of native landscapes where appropriate, and connect those areas with corridors for wildlife movement. RCRCDD works with local landowners and regulatory agencies to obtain conservation easements on critical habitat areas and to manage those areas in perpetuity. The District works in many sensitive and declining habitat areas, primarily, aquatic and riparian areas. These tracts of land and narrow waterways provide the hydrology necessary for all the other natural functions and values to occur, such as vegetation diversity and structure, species occupation and reproduction, water flow and velocity, and groundwater recharge.

Urban and Suburban Areas

In order to meet the needs of our growing population, we must rethink how we manage and conserve natural resources in our urban landscapes. Urban ecosystems present a different set of challenges when it comes to resource conservation due to the high population density and urban infrastructure. Common practices in urban and suburban environments are now being re-examined to better replicate natural systems and result in more efficient use of natural resources. As cities and suburbs first began to expand, little thought was given to how paved surfaces might impact our underground water storage. Now we are retrofitting with practices that increase water

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infiltration and replenish underground water basins for example, by using pervious surfaces like gravel in place of pavement. Urban forestry is another example of conservation practice that is addressing impacts from paved surfaces. Planting trees in cities provides shade which reduces the unnatural accumulation of heat from concrete, asphalt and roofs. Other examples include urban infrastructure improvements, such as rain gardens; “green” bridges for wildlife corridors in urban areas; and “green” roofs.

Agriculture

Agriculture has played a prominent role in the development of Riverside County since the last half of the 19th century. In the 1870s a variety of citrus, deciduous fruits, grains, and vegetables were planted.

Despite the many challenges that 2020 brought to life as we know it, agriculture in Riverside County proved to be an industry of growth and prosperity. The gross value of agricultural crops produced during 2020 in Riverside County is \$1,418,220,000. This total represents an increase of \$97 million (7.3% from 2019) total value. The largest increase (21%) was seen in nursery production followed by livestock and poultry production (18.5%) while vegetable crops saw a 5.6% drop in value.

As of February, 2022, the Riverside Agricultural Commissioner’s Weights & Measures Office indicates there are 22 organic growers in the Riverside District.

For the Riverside District portion, the City of Riverside area has a rich history of agriculture and includes the introduction of the new seedless oranges by Eliza Tibbets in 1873. The Riverside/ Corona Agricultural District, while a fast growing urban area, still saw a 47% increase in the crop valuations from 2016 to 2020. The 2020 valuation for the district was \$135,650, an increase of 44%

Principles of Sustainable Agriculture

- Protect and renew soil fertility.
- Optimize the use of on-farm resources, reducing the need for nonrenewable resources and purchased inputs, such as fertilizers and pesticides.
- Use natural, biological controls.
- Provide an adequate and dependable farm income.
- Minimize adverse impacts on health, safety, wildlife, water quality and other ecosystems.

of the 2016 valuation. Riverside County is still the 14th leading agriculture producer in California, raising high value crops like table and wine grapes, citrus, and nursery stock.

The impact of diminishing agricultural lands continues to be felt as most of the agricultural land is converted to residential and commercial uses, in part, as a result of the high cost of energy, water, and land. The farmland that remains is mostly small acreage estates and hobby farms, usually 5 acres or less. There is a trend in small organic farming within the district and interest is growing for more locally available produce products at farmer's markets and restaurants.

Agricultural land is essential: it is the land we use to produce the food and fiber we need to survive. Since the end of World War II, agriculture has changed dramatically in the United States. Mechanization, increased chemical use, and government policy have caused productivity to skyrocket. Farmers, using monoculture technology, have created incredibly efficient production systems. As a result, fewer farmers, with less labor, produce more food and fiber.

Unfortunately, these advanced methods require greater investments of energy and larger quantities of fertilizers and pesticides. It is now more important than ever to detect and eradicate invasive species and pests in order to sustain the food supply for a growing human population.

What is Sustainable Agriculture?

Sustainable agriculture does not refer to a prescribed set of practices. Instead, it challenges us to think about the long term effects and the dynamics of agricultural systems in balance with profit, community, and consumer need. As with the other land uses, farmers use the ecosystem perspective to understand sustainability in agriculture. In a sustainable agro-ecosystem, farmers evaluate nutrient and energy cycling and resource interactions. Sustainable farmers develop efficient biological systems, that are less toxic, less energy intensive, and that do not require large quantities of fertilizers and pesticides. Making the transition to sustainable agriculture is a process. The transition often involves a series of small, realistic steps. Strategies are site specific.

To determine production methods, site considerations include: soil qualities, climate, potential pests, previous crop history, topography, availability of local sources for inputs, including water, and the grower's goals. Plant species are chosen to suit the site.



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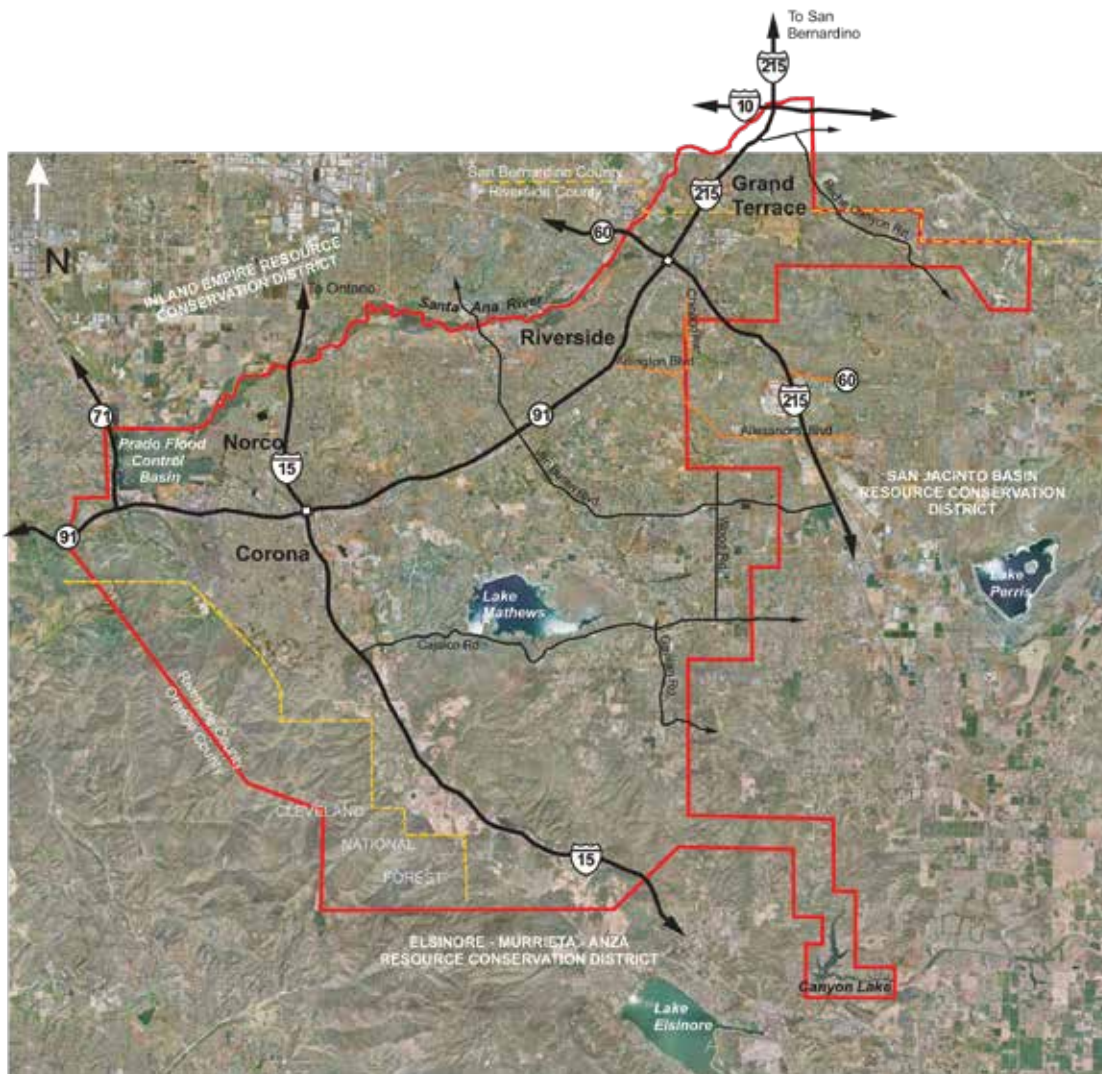
Inventories and Assessments

Location

The RCRCRD boundaries surround approximately 200,000 acres of land in western Riverside and San Bernardino counties of Southern California. The Santa Ana River is the northwest border of the District in both counties. Elevations run from 400 feet in the Santa Ana River Canyon to 5,000 feet in the Santa Ana Mountains.

Approximately 150,000 acres are in urban use. Riverside County communities include Riverside, Corona, Norco, Woodcrest, Orangecrest, Gavilan Hills, Temescal Canyon, and Canyon Lake. A small area in San Bernardino County covers the Cooley Ranch and Reche Canyon areas of Colton and Grand Terrace.

Principal tracts of public lands include a portion of the Cleveland National Forest, at nearly 25,000 acres; Lake Mathews and Prado Flood Control Basin, covering about 7,500 acres; Riverside County Parks and Recreation Department holdings, in excess of 6,000 acres; and the Estelle Mountain Reserve at 10,000 acres.



Climate

The climatic character of the area is semi-arid, Mediterranean, with warm, dry summers and usually mild, wet winters. Although there is one distinct climate, there are many micro-climates within the District, which vary depending upon elevation, vegetation, landforms (topography), aspect in relation to the sun, amount of paved surface area, etc. Areas to the west have cooler summers due to onshore breezes. Upland areas have colder winters due to the higher elevations and surrounding low areas. Summer temperatures often exceed 100 degrees F, but nights are much cooler and winter nighttime temperatures rarely drop below 25 degrees F. Annual precipitation averages 10 to 13 inches. The average growing season for crops ranges from 250 to 300 days along the valley areas, to less than 250 days in the upland areas. California has been experiencing extreme drought, with rainfall less than 6 inches in many local areas which leads to stressed habitats, fallowed farmlands, and dry waterways.



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“M” Trail in Box Springs Mountain Reserve

Population and Quality of Life

The RCD area has a population of approximately 700,487. The City of Riverside is the county seat and has a population of 334,772 as of 2020. RCRCDD's headquarters is adjacent to downtown Riverside which includes many courthouses and government buildings. The greater Riverside area has a rich agricultural heritage and had the highest per capita income in the country due to the citrus industry in the late 1800s.

Today, Riverside includes large blocks that have been identified as "low income and low access." Some areas are also identified as "Severely Disadvantaged" and "Disadvantaged," including a Disadvantaged Community with a food desert on the Northside of Riverside, according to the Disadvantaged Communities Mapping Tool: adaptationclearinghouse.org/resources/california-disadvantaged-communities-mapping-tool.html.

According to the California Health Interview Survey (CHIS), more than half of the 10 zip codes in the City of Riverside have a household food insecurity prevalence that is higher than the California average of 6.4%. The food insecurity percentages are 9.7% in the 92507 zip code and range between 10-13% in the 92503-92505 zip codes.

RCRCDD in collaboration with partners is working to reverse this trend by improving the social determinants of health, including access to affordable, healthy food. During 2020, RCRCDD received a \$50,000 grant from the National Association of Conservation Districts (NACD) to assist and build capacity for the local food movement and to create interpretive signs for the Northside Heritage Meadows project that is a food desert and within the 95th percentile according to Cal EnviroScreen.



Tequesquite Community Garden at Ryan Bonaminio Park

Watershed

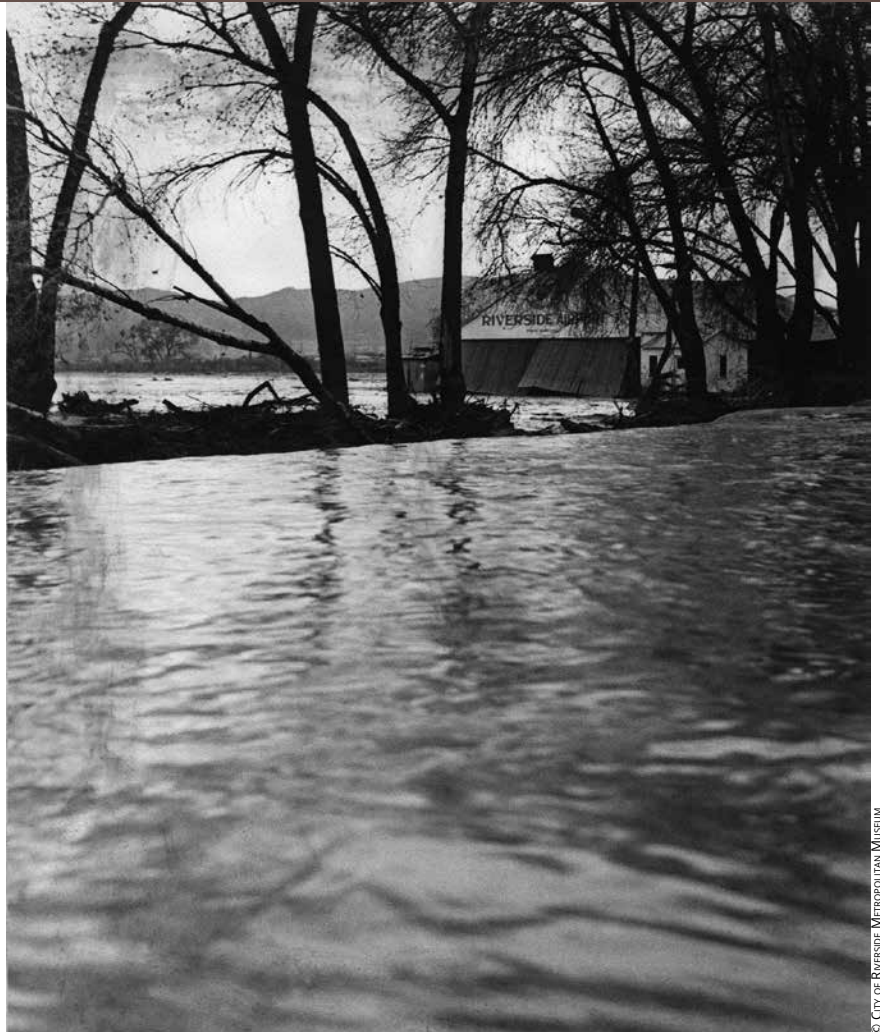
The District is within the Santa Ana River Watershed that encompasses approximately 2,700 square miles. It is the largest river basin in Southern California. Runoff can be rapid and debris-laden, flowing into valley areas, sometimes causing flooding. Within RCRC, Temescal Wash is the terminus of the San Jacinto River, the largest tributary to the Santa Ana River.

The largest recorded flood in the Santa Ana River occurred in 1862, when an estimated 320,000 cubic feet-per-second flowed through the canyon. Severe flooding occurred in January, 1969. Flows were estimated at only 77,000 cubic feet-per-second, however, the 1969 floods were the most damaging on record in Riverside, San Bernardino and Orange Counties. Other great floods of the past equaled or exceeded the 1969 flows, however they occurred when Southern California was less urbanized and before flood control projects were constructed. Flooding occurred in January of 1993, 1995 and 1998. During a 1995 flood, Riverside County sustained damages of \$32,112,000 and lost four lives.

Within the District, major damages occurred in tributaries of the Santa Ana River, such as Oak Street Channel, Temescal Wash and Mockingbird Canyon as a result of the March, 1978 and February, 1980 floods. Oak and Main Street concrete lined channels and debris basins were constructed under USDA Soil Conservation Service programs to reduce damage to what was then downstream citrus groves in Corona.

In 1998, to reduce flooding along River Road in Corona and Norco, Congressman Ken Calvert directed funding to RCRC for removal of invasive *Arundo donax* or giant reed.

During 2010, flooding occurred at Mockingbird Canyon, Temescal Wash, and along some lowland sections of the Santa Ana River.



1938 flooding inundated the Riverside Airport (now Flabob Airport).

Soils

The district has over 100 different soil classifications with varying depths and textures according to the Western Riverside County Soil Survey. Alluvial soils of the inland valleys are generally medium to coarse textured and usually well drained, forming into and from, deep alluvial fans. Valley soils are often greater than 60 inches deep.

Upland soils are found on rolling to steep terrain. Most upland soils are shallow, usually no more than 36 inches in depth, with most having less than 24 inches of effective depth. Many soils hold little water after the rainy season, so supplemental irrigation is necessary for crop production and landscaping plants.

Highly productive agricultural soils are classified as prime farmland and farmland of statewide importance. Unfortunately, many of these soils have been lost to development or other non-farm uses. Important soils have been identified and mapped as part of Riverside County Important Farmland Study.

RCRCD promotes soil health and erosion control through education and outreach programs, such as its *Soil Saver Club* learning materials. Staff educates the public about soil conservation through interactive programs, demonstrations, and displays at the Sycamore Creek Interpretive Center and the LandUse Learning Center.

Water

Water used within RCRCD's boundaries is mainly groundwater from local aquifers. However, ground water cannot alone fulfill the needs of the Inland Empire region.

Most groundwater is pumped by local public utilities, however, a few landowners have private wells. Riverside has holdings in the historic Gage Canal, which delivers ground water to most of the remaining citrus areas within the city. This source is of fair quality (420 ppm average total dissolved solids). The canal delivers 36,000-39,000 acre feet of water to the Arlington Heights area. Fifty-five percent of the water is delivered to citrus with the remaining 45 percent delivered to a City of Riverside Reservoir.

Degraded water quality and contamination plague some local underground water sources. The Arlington basin has been abandoned due to high nitrate, MTBE, and perchlorate levels. Riverside installed infrastructure to remove perchlorate from water extracted from contaminated wells. A reverse osmosis desalination plant is currently operating in the basin to produce a domestic quality supply and to help clean underground water.

In addition, some communities rely on Colorado River water and the State Water Project to meet needs. Amounts of imported water vary from year to year. The California State Water Project, delivered chiefly for domestic uses, began with a small increment in late 1979. Metropolitan Water District is the wholesaler of state water, which is normally provided to Western Municipal Water



Gage Canal

District (WMWD) and other communities. During the latest and worst drought on record, the City of Riverside sold water from underground sources to WMWD. Western provides water to the higher elevation areas in, and around Riverside, including Orangecrest, Mission Grove, Woodcrest, and Gavilan Hills. WMWD is the largest supplier of water in the RCRC meeting both agricultural and domestic needs

Colorado River water is high in salts (around 700 ppm) and has become increasingly costly for agriculture. A significant entitlement reduction has occurred. Since the ongoing drought, less and less water has become available for use by all municipalities with rights to the water.

The City of Corona blends underground supplies with varying percentages of Colorado River water (6% in 2014), predominantly for domestic purposes.

The City of Norco currently supplies its users, essentially domestic, from underground water, which is above the Health Service Standard in regard to nitrate levels. Wells in some areas have been capped due to nitrates.

The only water supplier in the District with surface flow rights, Elsinore Valley MWD, also pumps from underground supplies to meet the bulk of the remaining agricultural irrigation needs. The water district anticipates the need for supplemental water from Western Municipal Water District due to domestic water demand increases. Other areas served from underground sources include the City of Grand Terrace, Home Gardens, and small portions of Lake Elsinore and Colton.

Reclaimed Water

The City of Corona was an early adopter of reclaimed water use. Corona installed purple pipes throughout the City and irrigates its parks with reclaimed water.

The City of Riverside has expanded its capacity to use reclaimed water. Eventual reclaimed water use is planned for the irrigation of parks, the airport, golf courses, and other turf areas. The City of Riverside has been supplying Toro Lawnmower Company with approximately 100,000 gallons of reclaimed water for use on turf.

Western Municipal Water District also uses reclaimed water. Riverside National Cemetery and the General Old Golf Course receive reclaimed wastewater from the adjacent March Air Force

Base wastewater facility and purchases imported Colorado River water to meet the remaining demand. As other major reclaimed water customers develop in Western's service area, WMWD intends to meet demands with additional wastewater reclamation facilities.

The Cities of Colton, Corona, and Riverside have an agreement with Caltrans to irrigate landscaped areas along the freeways with reclaimed water. Some of the tertiary treated water is discharged into the Santa Ana River for enhancing riparian habitat.



Riverside National Cemetery

Air Quality

American Thoracic Society researchers believe that hundreds of people die each year because of Southern California's poor air quality. Pollution levels continue to exceed the levels deemed safe by health professionals. The Riverside-San Bernardino-Ontario metropolitan area was second worst, with about 808 people estimated to die annually because of air pollution. Compared to that, the worst is the Los Angeles-Long Beach-Glendale area where about 1,341 people are estimated to die each year because of bad air. Nationally, total deaths were estimated at 9,320 a year, so a large percentage is in SoCal. The study was based on air pollution data for both fine particle and ozone levels in U.S. metropolitan areas recorded in 2011, 2012 and 2013.

The South Coast Air Quality Management District (SCAQMD) is the air pollution control agency for the South Coast Air basin. The Basin includes California's largest metropolitan region including the western portions of Riverside and San Bernardino Counties, the southern two-thirds of Los Angeles County, and all of Orange County. The air basin covers 6,729 square miles, is home to more than 40 percent of California's population, and generates about 29 percent of the State's total criteria pollutant emissions. The California Air Resources Board has current and historic data for the South Coast, as well as the whole state, including the Latest Ozone Summary.

To comply with the Clean Air Act, an area that has been targeted by the Environmental Protection Agency and State Air Quality Board is visible air pollution referred to as PM 10. PM 10 includes dust from wind erosion that comes largely from farmlands. Also a target, and smaller than PM 10 is PM 2.5. PM 2.5 is smaller particulate matter that is formed by combustion such as wildfires, burning diesel fuel, and to a lesser extent burning gasoline. PM 10 can cause immediate health problems while PM 2.5 can travel deeper into the lungs and have negative health effects over time. RCRCDD works to raise awareness about controlling wind erosion and particulate matter from farmlands to reduce PM 10. RCRCDD also promotes safe practices at wildland/urban interfaces to balance defensible space for wildfires and protect natural habitat.

The Global Warming Solutions Act of 2006 (AB 32) required that the California Air Resources Board (ARB) determine the statewide 1990 greenhouse gas (GHG) emission level and approve a statewide greenhouse gas emissions limit. In 2006, Assembly Bill 1803 made ARB responsible to prepare, adopt, and update California's greenhouse gas inventory. The act also required that the Board approve a statewide greenhouse gas emissions limit, equal to the 1990 level, as a limit to be achieved by 2020. Municipalities and joint powers authorities have been developing Climate Action Plans. RCRCDD provided review of the City of Riverside's Climate Action Plan, which will help the City reach 2020 goals.



In August of 2016, the California legislature passed a bill for \$900 million Greenhouse Gas Reduction Funds (GGRF) that will create significant opportunities. California's climate initiatives recognize the role of natural and working lands to reduce carbon. Also, the bill includes incentives for greater participation within and around Disadvantaged Communities (DAC). Riverside and San Bernardino account for 15% of California's DAC population.

Air pollution comes from the products and services we use every day. RCRCDC promotes numerous practices that reduce air pollution and that mitigate for greenhouse gases.

Vegetation

Vegetation found within the District consists of seven major types of plant communities– riparian woodland, grassland, chaparral, coastal sage scrub, alluvial scrub (aka alluvial fan sage scrub, scale broom scrub), southern oak woodland and conifer forest with transitions between these plant communities. Since the Multi Species Habitat Conservation Plan (MSHCP) was implemented, a classification system for vegetation has been used that more accurately reflects the tremendous diversity encompassed within these major vegetation types. A Manual of California Vegetation, 2nd Edition (MCV2) is the guiding document. Riparian woodland, coastal sage scrub, some types of alluvial scrub, and southern oak woodland are sensitive habitats found within RCRCDC.

The Western Riverside County Multi Species Habitat Conservation Plan (MSHCP) is a unified plan that guides development and provides for economic growth while protecting native habitats. In the 1980s-1990s a growing number of endangered species was slowing development. Through a lengthy stakeholder process and environmental evaluation, a comprehensive approach was developed to protect our unique landscapes and wildlife while expediting development. The Western Riverside County Regional Conservation Authority (RCA) was created to steward the plan, or MSHCP. RCRCDC was part of the process that developed the plan, and the monitoring biologists for the MSHCP were housed in building C at the RCD's headquarters: the Resource Conservation Center.

Riparian Woodland

Riparian woodland is found in moist to wet soils along rivers and streams. Riparian woodlands are generally characterized as narrow and frequently discontinuous bands of trees following stream courses. These woodlands are of considerable regional importance to many wildlife species as well as areas where water can be found year round.

Alluvial Scrub

Alluvial Scrub plant communities play an essential role in stabilizing alluvial fans and wash habitats. The vegetation aids in the percolation of water

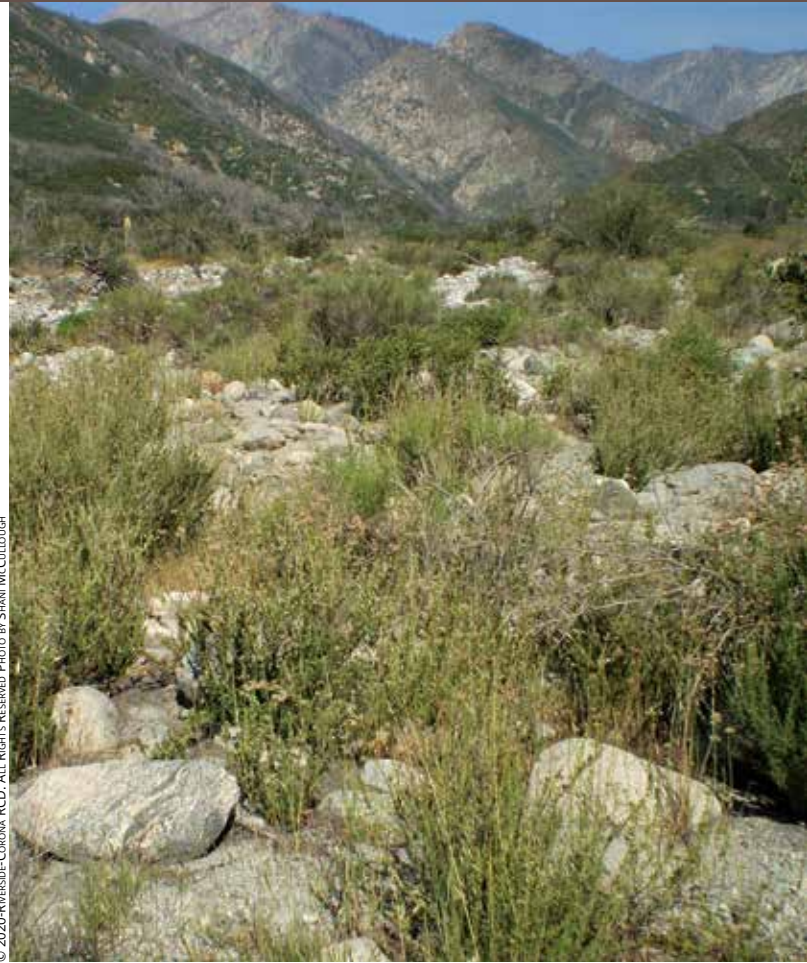


Riparian Habitat

into ground water systems and basins and in controlling erosion and flooding of downstream habitat and developments. Alluvial Scrub also serves as habitat for many rare plant and wildlife species and is considered as threatened habitat. Alluvial Scrub habitat is threatened by climate change, artificially high fire frequency, introduced species, disruption of natural erosion and deposition processes, urbanization, and other human impacts.

Alluvial scrub vegetation is variable in composition and occurs primarily on low gradient, unstable substrates of alluvial fans and along washes at the bases of inland mountain ranges and on alluvial terraces within the floodplain of the upper Santa Ana River and its tributaries. One of the most important shrubs of Alluvial Scrub vegetation is scale broom, *Lepidospartum squamatum*. The species composition of Alluvial Scrub communities varies by location, depending on factors such as exposure, soil texture, time since last disturbance, water availability, elevation, frequency of fire and flooding, and the availability of intact, adjacent habitat.

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Alluvial Scrub Habitat

Grasslands

Nearly all grasslands within the District, especially those at lower elevations are predominately introduced annual grasses. Mixed in with these are usually some native grasses and native forbs and a scattering of sub-shrubs. Grasslands are associated with relatively gentle topography and deeper, fine textured soils. Rare native grasslands with purple needlegrass or foothill needlegrass, but often dominated by non-native wild oats, are found on clay soils within the Santa Ana Mountains and the Gavilan Hills.

Chaparral

Chaparral consists mostly of evergreen shrub species that form a continuous canopy that is often less than six feet high. Species are all well adapted to withstand drought, but are most active in the cooler, wetter part of the year. Many chaparral species possess leathery leaves and deep root systems that help the plants to conserve and utilize water for a longer growing season than other shrubland communities. Chaparral usually develops between 1,500 and 4,000 feet in elevation where annual rainfall is 14-25 inches. Many species sprout or produce seedlings in response to fire.

Riversidean Sage Scrub

The Riversidean sage scrub community occupies coastal foothills and bluffs, inland valleys, and mountain slopes below 3,000 feet, usually below the chaparral. Compared to chaparral, Riversidean sage scrub is dominated by low, open scrubby vegetation. Many species are aromatic, such as California sage brush and several species of sage, and have thin leaves that become dormant, and partially to completely deciduous, during the summer dry season. Precipitation is light, varying from 10-20 inches per year. Riversidean sage scrub is considered to be an important natural habitat, supporting a diverse array of wildlife and a diversity of forb species that occur in open areas and after fire. Many species either re-sprout or have seeds that germinate after fire.

Oak Woodland

Two phases of the southern oak woodland exist within the District. The phases are known as the Englemann oak phase and the Coast live oak phase. Isolated trees, prominently of Englemann oak and drier soils characterize the Englemann oak phase. Coast live oak and California walnut dominate the denser (over 30% cover), widespread woodland of the Coast live oak phase. Generally, this phase is found on the moister slopes, along fault lines, and by riparian areas within the District. This community can be found at elevations up to 5,000 feet. Precipitation ranges from 15-25 inches per year with a considerable amount of runoff if slopes are steep.

Conifer Woodland

The conifer woodland community is of two major types within our District, the Coulter Pine (*Pinus coulteri*) Woodland alliance and the Bigcone Douglas Fir (*Pseudotsuga macrocarpa*) Woodland alliance, found at elevations between 4,000 and 5,500 feet in the Santa Ana Mountains. Precipitation, sometimes in the form of snow, can range between 25-45 inches per year. The soils are mostly residual upland soils and are moderately to strongly acidic. Plants within these communities can include: big cone Douglas fir, Coulter pine, canyon live oak, coast live oak, California bay, with a sparse shrub (e.g., Eastwood manzanita, toyon).

Englemann Oak at the Santa Rosa Plateau Ecological Reserve





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Significant Natural Areas

The California Department of Fish and Wildlife's Lands and Natural Areas Program determines "Significant Natural Areas" (SNAs). These areas represent "the most important elements of California's natural diversity." SNAs are not technically protected by the state, but are designed to raise awareness about their uniqueness. If an area is listed as an SNA, it may help prevent future abuse and uncontrolled, unplanned development.

There are twelve SNAs found within the RCRCD including: Alberhill Mountain, Bedford Canyon, Box Springs, El Cerrito, Gavilan Springs, Harrison Reservoir, Ida-Leone, Sierra Peak, the south side of Lake Mathews, Upper Santa Ana River, Upper Temescal Canyon, and Wardlow Canyon (part of northeastern Santa Ana Mountains, Fresno to Tin Mine Canyons). There are also other areas that have significant habitat value and unique, threatened or endangered species due to their location, soils, hydrology or other environmental factors that are found nowhere else. Together, the SNAs contain many sensitive species of plants and wildlife. Examples of some of the sensitive residents are listed under each SNA. Examples of sensitive habitat include: Riparian, Riversidean Sage Scrub, Alluvial Sage Scrub, Oak Woodland and wetlands.

Alberhill Mountain is home for the San Diego horned lizard, orange-throated whiptail, many-stemmed dudleya, Munz's onion (extremely rare), and Palmer's grapplinghook.

Bedford Canyon is a community of southern coast live oak riparian forest, southern interior cypress forest, and Tecate cypress.

The **Box Springs** area is characterized by southern sycamore alder riparian woodland. The San Diego horned lizard, orange-throated whiptail, western spadefoot toad, bobcat, pallid bat and the endangered Stephen's kangaroo rat are some of the sensitive and endangered species that occur there.

The **El Cerrito** area contains rare southern willow scrub habitat that is home to associated bird species such as the rare least Bell's vireo, the sensitive yellow-breasted chat, and the yellow warbler.

Gavilan Springs is a southern sycamore alder riparian woodland habitat and well-formed Coastal Sage Scrub. Munz's onion and large-leaf fillare can sometimes be found here, as well as many species of sensitive reptiles, such as the coast horned lizard.

Harrison Reservoir is another place where the southern willow scrub and associated sensitive bird species define the natural community.

Ida-Leone hosts a southern coast live oak riparian forest habitat. The Cooper's hawk and long-eared owl make their homes there. Federally listed species include the threatened coastal California gnatcatcher and endangered Stephen's kangaroo rat. Other sensitive species found there include the San Diego horned lizard, little mouselike, orange-throated whiptail, and Munz's onion. Palmer's grapplinghook is considered a "best example" of the area in which this plant defines the natural community, in a "relatively pristine and undisturbed condition."

Sierra Peak is an area composed of southern sycamore alder riparian woodland and southern interior cypress forest. The rare Tecate cypress can be found there. The heart-leaved pitcher sage, a candidate for federal listing, is found there, as well.

Southside Lake Mathews habitat is composed of southern sycamore alder riparian woodland. The coastal California gnatcatcher and the Stephen's kangaroo rat are residents of the southside.

Upper Temescal Valley communities include southern cottonwood willow riparian forest and southern willow scrub bordered by coastal sage scrub and several types of alluvial-scrub, including what has been called alluvial fan sage scrub and *Lepidospartum squamatum* scrub. The shrubland slopes above riparian communities support the orange-throated whiptail (a species of lizard), Munz's onion, Palmer's grapplinghook, the many-stemmed dudleya, the endangered



slender-horned spineflower, and the Stephen's kangaroo rat. The riparian areas support nesting populations of least Bell's vireo, (an endangered songbird) and other habitat-associated bird species. Temescal Creek was once home to the yellow-billed cuckoo, a relative to the roadrunner. It nested in the large willow-cottonwood forests along Temescal Creek. It has recently been listed as endangered and has not been seen or heard in this area since the early 1990s. The area also drains the east slopes of the Santa Ana Mountains, and the Cleveland National Forest, which are occupied by a number of additional listed species and their habitats. The District holds easements and fee-title lands along the lower slopes of the mountains, which are managed in cooperation with the forest service when District lands abut the forest. Important aquatic habitats that occur here, and that the District owns, manages or monitors are Bedford Wash, McBride Canyon, Coldwater Creek and Horsethief Canyon.

The **Upper Santa Ana River** can be described as a southern cottonwood willow riparian forest. Sensitive animals in the area include San Diego horned lizard, orange-throated whiptail, white-tailed kite, California black rail, burrowing owl, willow flycatcher, least Bell's Vireo, and the yellow-breasted chat. The western yellow-billed cuckoo may also occur there.

The **Wardlow Wash** habitat is made up of the southern cottonwood willow riparian forest and southern sycamore alder riparian woodland. The endangered least Bell's vireos are residents of the wash and have nested there.

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Invasive Species

Over the last decade, invasive plants have come to the forefront of agricultural and environmental issues. Due to these plants' aggressive growth habits, they have overtaken many natural areas and now pose a threat to the native habitats in which they grow. Many local agencies have been working on removal over the last several years, with the District working on removal in small target areas during the past decade. Although some of these species may be visually attractive, invasive plant species do not provide quality habitat or a food source for native wildlife species. Many of these plants are out-competing the native plants that some endangered birds need for nesting. This increases the potential for damage to both the plant and animal communities and local extinctions of plants and wildlife.

These are just a few of the dozens of invasive plants that are being targeted for removal within the District service area. Due to the aggressive nature of these exotic, non-native plants, eradication takes many years, with some plants requiring as much as 10 years of control efforts. Integrated pest management (IPM) is also being used to control some species. IPM uses a mixture of chemical, mechanical, and biological controls to manage pest plants. This helps reduce the dependence on chemicals alone, and gives the management agencies and contractors better ability to control costs. A 20 year control plan for the Santa Ana River Watershed is in place for the management of giant reed (*Arundo donax*). The extensive plan includes cooperation with other Conservation Districts through the Santa Ana Watershed Association (SAWA). Each District works within its boundaries to control giant reed along upstream tributaries and the Santa Ana River main stem. Currently, there is a movement to draft a plan for management of the very invasive perennial pepperweed.

The most common problems resulting from the invasion of non-native plant species include:

loss of native habitat,
increased fire hazard, and
increased use of water in riparian areas

Common invasive plants of riparian areas include:

Giant reed (*Arundo donax*)
Salt cedar
Perennial pepperweed
Castor bean
Tree tobacco
Fan palm
Bullthistle
Eucalyptus species
Common fig
Tree of Heaven
English ivy

Common invasive plants of upland slopes include:

Yellow star thistle
Tocalote
Shortpod mustard
Sahara mustard
Red brome
Ripgut brome
Wild oats
Mediterranean grass
Stinknet
Yellow fountain grass
Russian thistle

Mexican Fan Palm



Invasive Pests

Other invasive pests such as the Asian citrus psyllid, wood-boring beetles and wild pigs have become increasingly difficult agricultural and environmental issues. Combined with drought and other environmental factors, these pests are threatening many natural and agricultural areas. Many invasive beetles, such as the polyphagous shot hole borer and goldspotted oak borer target urban, native, and agriculturally important species and carry fungi that cause significant damage to the affected trees. Many local and state agencies have been working on control efforts and best management practices (BMPs) to reduce the spread of pests. The District utilizes and promotes these BMPs and educates the public and conservation practitioners about these issues.

Other aquatic invasive pests that have invaded waterways in the District are:

Yellow bullhead catfish
African clawed frog
Bullfrog
Red-eared slider turtle
Softshell turtle
Snapping turtle



Invasive species Red-eared slider turtle (*Trachemys scripta elegans*) and African clawed frog (*Xenopus laevis*)

Wildlife

Distribution of wildlife is determined by the distribution and variety of vegetative communities, water, and available food. Urban growth within the District has put pressure on remaining areas suitable for wildlife. Direct loss of habitat, the diversion of streams for municipal water supplies, increased effluent discharge, and intensified recreational use of open space has adverse impacts on wildlife populations.

In the RCRC, threatened habitats include:

- Riparian habitats such as the Santa Ana River and tributaries which support numerous species, including several of limited abundance; one threatened species of fish and two species of concern
- Lakes and reservoirs, which support wintering raptors and thousands of migrating waterfowl
- Chaparral and other upland habitats which support quail, deer, ground squirrels, and numerous raptors
- Coastal sage scrub which is home for a diverse number of species, including the endangered coastal California gnatcatcher, the Stephen's kangaroo rat, and the Quino checkerspot butterfly
- Purple needlegrass grassland
- Alluvial scrub
- Alkali meadow

There are only six native freshwater fish species present in Southern California, four of which occur in the RCRC: the arroyo chub, speckled dace, coastal rainbow trout, and the Santa Ana sucker, a threatened species. All of these species prefer clean, clear, cool running water and areas that have gravel or cobble bottomed streams, particularly those where no predatory fish are present, that are good for spawning and larval fish development. Good streamside habitat also helps to protect young fish by shading the water during the hot summer months and providing insect populations for food. Many native fish populations decline rapidly in water over 80 degrees Fahrenheit or in water that is otherwise of poor quality and high turbidity. Factors such as flooding, drought, illegal dumping in waterways, and other human activities can also impact native fish populations.

The western pond turtle is the only native turtle in the RCRC service area, and its numbers have declined in recent years. It is also a species of special concern with the California Department of Fish and Wildlife. Western pond turtles prefer warm, slow moving creeks and ponds with upland vegetation for nesting. Since much of the coastal sage scrub land of the Inland Empire has been converted to urban development, this species has not been reproducing except in the small, isolated ponds and creek areas that remain, with some along the Santa Ana River.



Native Western Pond Turtle (*Actinemys marmorata*)

The following species have been identified as sensitive, rare, threatened, or endangered by the U.S. Department of Interior, the California Department of Fish and Wildlife, and/or have been included in the Southwestern County Multiple-Species Habitat Conservation Plan (MSHCP). Many sensitive species are rare, threatened, or endangered. Federally listed endangered or threatened species (FE, FT) and State listed endangered or threatened species (SE, ST) are protected. Some species are considered sensitive by federal or state agencies and are designated as species of special concern (FSC or SSC, respectively), or candidate species for listing (C). Some of these are rare and have protected status in the state (SP). In addition, the California Native Plant Society publishes a list of rare, threatened, and endangered plants. Those that are particularly sensitive and rare are listed as 1A or 1B and are considered fully under the California Environmental Quality Act (CEQA). The Southwestern County Multiple-Species Habitat Conservation Plan (MSHCP) includes many unlisted sensitive species (e.g., CNPS, SSC, C, and other locally recognized sensitive species) in its plan, because with further habitat loss, they may become candidates for listings as threatened or endangered. All species listed below with FE, FT, SE, ST, SSC status, are in the MSHCP. The absence of other MSHCP species below does not indicate that they can't be found in the District. The species listed are those with recent documentation.

Insects

Quino Checkerspot Butterfly (*Euphydryas editha quino*) FE
 Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*) FE

Fish

Arroyo Chub (*Gila orcutti*) SSC
 Coastal Rainbow Trout (*Oncorhynchus mykiss irideus*) SSC
 Santa Ana Speckled-Dace (*Rhinichthys osculus* ssp.) SSC
 Santa Ana Sucker (*Catostomus santaanae*) FT

Amphibians

Southwestern Arroyo Toad (*Bufo californicus* = *Bufo microscaphus californicus*) FE, SSC
 California Red-Legged Frog (*Rana aurora draytonii*) FT
 Western Spadefoot Toad (*Spea [=Scaphiopus] hammondii intermontanus*) SSC
 Coast Range Newt (*Taricha torosa torosa*) SSC

Reptiles

Coast Horned Lizard (*Phrynosoma coronatum blainvillii*) SSC, SP
 Coast Patch-Nosed Snake (*Salvadora hexalepis virgulata*) SSC
 Coastal Rosy Boa (*Charina [=Lichanura] trivirgata roseofusca*) SSC
 Coastal Western Whiptail (*Cnemidophorus tigrismultiscutatus*) SSC
 Granite Spiny Lizard (*Sceloporus orcutti orcutii*) MSHCP
 Long-Nosed Leopard Lizard (*Gambelia wislizenii*) SSC
 Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*) SSC, SP
 Red Diamond Rattlesnake (*Crotalus ruber ruber*) SSC
 San Bernardino Ringneck Snake (*Diadophis punctatus modestus*) SSC
 San Diego Banded Gecko (*Coleonyx variegates abbotti*) SSC
 San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*) SSC, SP
 Western Pond Turtle (*Actinemys marmorata*) SSC

Birds

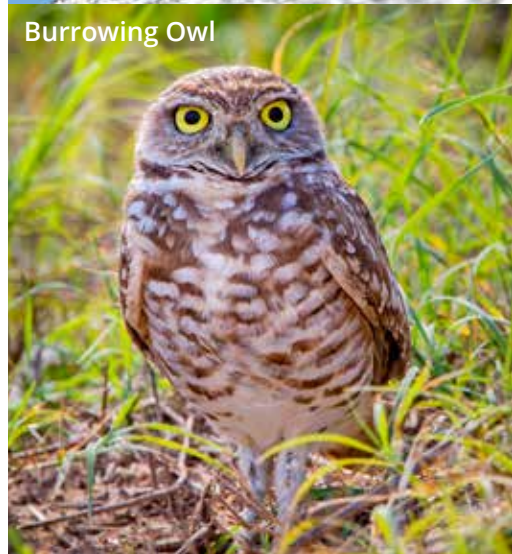
Bald Eagle (*Haliaeetus leucocephalus*) SE
 Burrowing Owl (*Speotyto cunicularia hypugaea*) MSHCP
 Cactus Wren (*Campylorhynchus brunneicapillus cousei*) MSHCP
 Coastal California Gnatcatcher (*Polioptila californica californica*) FT
 Cooper's Hawk (*Accipiter cooperii*) MSHCP
 Gilded Northern Flicker (*Colaptes auratus chrysoides*) SE
 Golden Eagle (*Aquila chryseatos*) MSHCP
 Grasshopper Sparrow (*Ammodramus savannarum perpallidus*) MSHCP
 Least Bell's Vireo (*Vireo bellii pusillus*) SE, FE
 Mountain Plover (*Charadrius montanus*) MSHCP
 Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*) MSHCP
 Southwestern Willow Flycatcher (*Empidonax traillii extimus*) FE
 Swainson's Hawk (*Buteo swainsoni*) ST
 Tricolored Blackbird (*Agelaius tricolor*) MSHCP
 Turkey Vulture (*Cathartes aura*) MSHCP
 Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) ST
 Wilson's Warbler (*Wilsonia pusilla pileolata*) MSHCP



Delhi Sands Fly



Granite Spiny Lizard



Burrowing Owl



Gilded Flicker

Stephen's Kangaroo Rat



Black-Tailed Jack Rabbit



Santa Ana River Woollystar



Santiago Peak Phacelia



Yellow Warbler (*Dendroica petechia brewsteri*) MSHCP
 Yellow-Breasted Chat (*Icteria virens longicauda*) MSHCP

Mammals

Badger (*Taxidea taxus*) MSHCP
 Black-Tailed Jack Rabbit (*Lepus californicus bennetii*) SSC
 Bobcat (*Lynx rufus californicus*) MSHCP
 Coyote (*Canis latrans clepticus*) MSHCP
 Desert Woodrat (*Neotoma lepida intermedia*) SSC
 Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*) SSC
 Mountain Lion (*Puma concolor*) SP
 Pallid Bat (*Antrozous pallidus*) MSHCP
 San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*) FE
 Stephen's Kangaroo Rat (*Dipodomys stephensi*) ST, FE

Plants

California Orcutt-Grass (*Orcuttia californica*) SE, FE
 Chaparral Nolina (*Nolina cismontana*) CNPS
 Chocolate Lily (*Fritillaria biflora*) MSHCP
 Coulter's Goldfields (*Lasthenia glabrata* var. *coulteri*) CNPS 1B, C2, MSHCP
 Coulter's Matilija Poppy (*Romneya coulteri* var. *trichocalyx*) MSHCP
 Fish's Milkwort (*Polygala cornuta* var. *fishiae*)
 Heart-leaved Pitcher Sage (*Lepechinia cardiophylla*) 1B, C2, MSHCP
 Large-leaved Filaree (*California macrophyllum*)
 Little Mousetail (*Myosurus minimus* ssp. *apus*) C2, MSHCP
 Many-Stemmed Dudleya (*Dudleya multicaulis*) CNPS 1B; MSHCP
 Munz's Onion (*Allium munzii*) ST, CNPS 1B
 Palmer's Grapplinghook (*Hapagonella palmeri*) CNPS 2, C2, MSHCP
 Parry's Spineflower (*Chorizanthe parryi parryi*) MSHCP
 Paysen's Jewelflower (*Caulanthus simulans*) C2, MSHCP
 Peninsular Spineflower (*Chorizanthe leptotheca*)
 Plummer's Mariposa Lily (*Calochortus plummerae*) CNPS 1B, C2, MSHCP
 Robinson's Peppergrass (*Lepidium virginicum* var. *robinsonii*) CNPS 1B; MSHCP
 San Diego Ambrosia (*Ambrosia pumila*)
 Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*) SE, FE, 1B
 Santiago Peak Phacelia (*Phacelia suaveolens* var. *keckii*) CNPS 1B,C2, MSHCP
 Slender-Horned Spineflower (*Dodecahema leptoceras*) SE, FE, CNPS 1B
 Small-flowered morning glory (*Convolvulus simulans*)
 Smooth Tarplant (*Hemizonia pungens* ssp. *laevis*) CNPS 1B, C2, MSHCP
 Southern California Black Walnut (*Juglans californica* var. *californica*) MSHCP
 Thread-Leaved Brodiaea (*Brodiaea filifolia*) SE, CNPS 1B

Geology

The geologic setting of the District is diversified and complex. The land is composed of sedimentary, crystalline bedrock and alluvial deposits. Fault activity dictates location and distribution of most rock types, with much of the area affected by internal faults. Surface erosion of soil and rock in many hill and plateau areas result in large residual boulders on slopes. Liquefaction poses a significant hazard along the Santa Ana River near Riverside and Norco. Landslides are a basic geologic hazard and occur on steep, unstable earth masses and mountain slopes. Rain, construction grading, and earthquakes cause soil movement. Softer sedimentary rocks along the northeast flank of the Santa Ana Mountains near Corona are subject to landslides, and many areas contain fossils from the time they were formed in shallow seas. The natural abundance of alluvial materials in the District has fostered an extensive sand and gravel industry. Sizable amounts of cement, sand, gravel, stone, iron ore and lime are mined south of Corona, and contribute to the large production of industrial minerals. Riverside County is one of the highest production areas for these materials in the state. Much of the crystalline rock in the area is similar to that of the Sierra Nevada, and was formed at the same time. A few small gold mines were dug to tap this resource, but most have been abandoned or depleted.



Seismicity

The San Jacinto Fault branches from the San Andreas Fault near Cajon Pass and crosses into the District at the Santa Ana River just east of Colton, extending to Reche Canyon. It is the most active of the faults in Southern California. During this century, seven shocks of magnitude 6.0 to 7.1 have occurred along its length. The Elsinore Fault, which is located along Temescal Canyon, has been relatively inactive in recent geologic times. Most of the geographic features of the District have been formed by faults. The Santa Ana River has cut a defile canyon through the Santa Ana Mountains and shows the slow uplift of this range as compared to the erosion and down-cutting of the river.

RCRCD History—1952 - 2022

In 1952, 126 farmers sent a petition to the Riverside County Board of Supervisors, which requested the formation of a Soil Conservation District. A Conservation District could help bring federal programs to local farms. By a public vote, the Riverside-Corona Soil Conservation District was formed in 1953 and has been helping to conserve the natural resources of the greater Riverside area ever since. In 1972 Soil Conservation Districts were renamed Resource Conservation Districts (RCD's).

In its first five years, the RCRCD gained 429 cooperators who farmed 22,714 acres of land. U.S. Department of Agriculture soil conservationists and engineers worked with farmers to plan and develop their properties, largely citrus groves. The farmers installed conservation measures to conserve soil and water, including contour furrows, outlet drain lines, cover crops, mulch, check dams, grassed waterways, reservoirs, and efficient irrigation systems. In the early years, the RCRCD's technical partner was the USDA Soil Conservation Service, later renamed the Natural Resources Conservation Service (NRCS). Today, RCRCD programs rely on numerous partners and cooperative funding.



Published in the Riverside Daily Press, dated Wednesday May 20, 1953.

The Riverside-Corona Resource Conservation District (RCRCD) originally worked with farmers to conserve soil and water on farmland. However, over the years, RCD programs have evolved to address changing land uses and resource issues. Many of the challenges that we currently face, such as water pollution and degraded wildlife habitat, are a result of population growth. In 1950, the inland population was about 50,000 people. In 1990, the population of the District was nearly 500,000. By 1995 the population actually decreased by 11 percent due to a poor economy. Since then, housing and industrial developments have expanded throughout the District, specifically in Gavilan Hills, Temescal Canyon, Highgrove, Norco, Corona, and the Woodcrest, Orangecrest, and Eagle Valley areas of Riverside. Today the population of the greater Riverside area is over 1.5 million. Current RCD programs work to restore habitat, educate the public, and conserve resources, especially water.



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Shani McCullough measured sprayer output in an avocado grove.

In 1987 the District received funding from the California Department of Water Resources to conduct evaluations of irrigation systems for farmers. Over the years, the program has expanded to help save water at parks, schools, golf courses, and homes. Funding has come from additional sources including Western Municipal Water District, Metropolitan Water District, Southern California Edison, and Riverside Public Utilities.

During the eighties and nineties, urbanization eliminated or degraded many important native habitats. Waterways had been, and continue to be, contained in storm drains or lined with concrete in order to make land usable for urban development. As a result, critical wildlife habitats have been lost and fragmented. Urban runoff has degraded water quality, and invasive species have taken over riparian habitat. To address these issues, RCRC D programs were created to monitor and manage habitat and wildlife.

During the late 1990s, the District helped form the Santa Ana Watershed Association (SAWA) to remove invasive species and restore habitat. In cooperation with SAWA, the RCRC D has removed *Arundo donax* (giant reed), an invasive weed. As a result, during 2008, over 1,000 vireo territories were documented in the watershed, an increase of 600 from 2000. (A "territory" is an area claimed by a male through singing.)



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RCRC D coordinated the restoration of an alkali meadow at Ryan Bonaminio Park along the Tequesquite Arroyo and developed interpretive signs to educate park visitors.

From 2000 to 2022, RCRC D grew its habitat conservation programs and created fish and amphibian preservation programs. Staff conducted a variety of restoration, research and rescue projects in an effort to increase fish and amphibian populations in their native ranges of the Santa Ana Watershed. A recirculating, 300-foot long stream was constructed to propagate, study, and research native fish. Later, an additional seven 100-foot long fish raceways were built at District headquarters.

From 2005-2020, RCRC D's native plant nursery supplied more than 31,890 local native plants for restoration, erosion control, and water quality projects and 2,559 for landscaping.

By 2022 the District managed more than 3,000 acres as either conservation easements or fee-title lands.

Education Program

The Conservation District's early education program consists of land judging competitions for Future Farmers of America (FFA) and Student Speak-Offs, at the high school level. During the seventies and eighties, RCD programs expanded as the population grew. Education programs



Morton Gilbert, Speak-Off winner at the 2019 Pollinator Festival

were created for schools, fairs, community groups, and home gardeners to raise awareness about resource management and stewardship. Resource Educators present programs to adult groups and schools. Tree programs are conducted for schools and events. Each year, teachers and students are given learning tools such as posters, puzzles, and booklets. A mini-grant program was created to fund outdoor, hands-on learning activities, such as gardens and composting.

At different times, RCRCDD has provided training for Sherman Indian Institute and California School for the Deaf (CSDR). CSDR students helped at the LandUse Learning Center creating compost, working the garden plots, and spreading mulch. They monitored bluebird nest boxes at their school and at Olivewood Memorial Park and collected data for *Operation Tree Canopy-Focal Trees*, another citizen science project.

For areas along Riverside's arroyos, the District works to help educate homeowners, land users and local groups about stewardship at the wildland-urban interface. Residents learn about specific actions that they can take to reduce their impacts on habitat and wildlife, such as eliminating invasive plant species from landscaping and using integrated pest management techniques in their yards. To add to the education component, several RCRCDD publications were created and are distributed to residents, including:

- *Living on the Edge of the Urban-Wildland Interface:*
rccrd.org/files/45b80a884/LivingOnTheEdge.pdf
- *Wild About Natives:* rccrd.org/files/da6576344/wildaboutNativesweb.pdf
- *Conserving Critical Habitat:*
rccrd.org/files/e51e3855c/ConservingCriticalHabitat.pdf
- *Conserving Waterways:*
rccrd.org/files/5f43d25b4/Conserving-Waterways2018web.pdf
- *Protecting our Native Fish:*
rccrd.org/files/2fd782352/ProtectingOurNativeFish.pdf

In 2002, RCRCDD launched the *Help Create a Sustainable Community* public outreach program that included a slide show presentation with companion publications for local leaders, community groups, staff meetings, and high school classes.

English version: rccrd.org/files/1204cbc27/Sustainable+Community+book-2011.pdf

Spanish version: rccrd.org/files/4d0146b31/Sustainable+Community+Spanish.pdf

The 3-acre LandUse Learning Center (LLC) was developed to demonstrate conservation practices. Tours of the LLC educate and empower residents and growers to become more sustainable in their approaches: youtube.com/watch?v=fNjFD2e0GM4.

Lacking educational materials about local native plants and animals, staff developed localized tools to help raise awareness and create a sense of place for residents of western Riverside County. RCRCO commissioned and self-published the book *Backyard Birds of the Inland Empire* by Sheila Kee. The first edition, published in 2002, helped readers find birds by color and size. The book won a National Association of Conservation Districts' Outreach Award. The second edition was published by Heyday Books, whose founder Malcom Margolin helped launch the Inlandia Institute, that today supports inland writers and literacy.



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Author Barbara Iyer (left) and photographer Jennifer Iyer at the LandUse Learning Center.

During the summer of 2020, RCRCO published *Wildflowers and Important Native Plants of the Inland Empire* by naturalist Barbara Iyer, with photos by daughter Jennifer Iyer. The 220-page field guide is user friendly with color-coding of flowers. Learn more at rcrcd.org/books.

For 15 years, staff conducted hands-on classroom presentations for Riverside County elementary schools for the Cities and County of Riverside's *StormWater-CleanWater* Protection Program. The song "Keep Our Water Clean," watershed posters, and *Pollution Patrol Club* booklets were created to teach about the Santa Ana River Watershed. During that time, about 100,000 students learned about water pollution and ways they could help prevent it. Later, RCRCO contracted with the City of Corona to provide similar classroom programs about water conservation.

Around 1998, the District began sponsoring and training high school California Envirothon teams. Teams from Arlington High School, coached by teacher Sherri Harris, consistently placed in the top three and won the North American Competition in 2021.

RCRCO also expanded its public education programs from 2000-2022 with the gradual development of the Land Use Learning Center, later the Sycamore Creek Interpretive Center (youtube.com/watch?v=z1vYiY9f75Q&t=50s), and a 10-acre Greenbelt facility that today provides fish runs, an avocado grove, and 2-acres of monarch butterfly habitat.

During 2015, the District began to support the local food movement supporting GrowRIVERSIDE, Growers' Forums, and the emerging Riverside Food Systems Alliance. With grant funding and fundraising, staff created *Fresh and Local*, an award-winning food and agriculture guide:

rcrcd.specialdistrict.org/files/3ab208586/2019freshlocalguideweb.pdf.

Thanks to two Urban Agriculture Conservation Grants from the National Association of Conservation Districts, staff helped plan the Northside Heritage Meadows project (now Northside Agricultural Innovation Center), initiated the planning of the community garden, and developed eleven interpretive signs to teach about urban greening.

Staff has been providing training and materials for teachers, docents, and volunteers throughout the years. In 2018, RCRCD took over conducting the California Naturalist training for the inland region. The UC Division of Agriculture and Natural Resources' program offers two adult certification courses: UC California Naturalist and Climate Stewards. RCRCD added the Climate Steward training in 2021: [youtube.com/watch?v=IcLm8dnpCj4](https://www.youtube.com/watch?v=IcLm8dnpCj4).

With these programs, bluebird nest box monitoring, and several others, RCRCD has continued to train the community about citizen science and data collection.

Staff developed the *Environmental Learning Resources* guide in 2019 for the Environmental Education Collaborative (EEC) of San Bernardino and Riverside counties. The award-winning, 32-page publication helps people find local sites and programs for learning about natural resources, agriculture, and the environment. The guide includes a directory of environmental and agricultural learning sites and programs, now with an interactive online map: enviroedcollaborative.com.



In 2021, the Climate Stewards class enjoyed a field trip to the Oak Glen Preserve.

Monarch Conservation

During 2019, RCRCRD set out to help save the western monarch butterfly from extinction. Since much of our native milkweed had been lost when habitat lands were developed to other uses, staff worked to educate about and plant narrow-leaf milkweed (*Asclepias fascicularis*). Working with Mayor Rusty Bailey, RCRCRD helped Riverside fulfill the National Wildlife Federation certification program: The Mayor's Monarch Challenge. From 2019 – 2021, staff orchestrated the citywide initiative to fulfill the Challenge objectives, conducting a variety of plantings and events, including hosting a native plant sale for the California Native Plant Society. Initially, volunteers helped establish 2,000 plants at three sites: Sycamore Creek Interpretive Center, the LandUse Learning Center, and Ryan Bonaminio Park. Those plants were provided by the Xerces Society.

In November, 2019, RCRCRD hosted an award-winning and free, family-friendly Pollinator Festival with 18 partnering organizations. For more Milkweed and Monarch information, see [youtube.com/watch?v=hcl6mL-vUw&t=2s](https://www.youtube.com/watch?v=hcl6mL-vUw&t=2s).

Part of the community education program included the creation of *Steps for Success with Milkweed and Monarchs for Inland Southern California Valleys*: rcrcd.org/files/65eb89ba5/2020_Monarch_Milkweed_for_SoCal.pdf and an online Power of Pollinators education program at [youtube.com/watch?v=OI4OKwIMOiw&t=15s](https://www.youtube.com/watch?v=OI4OKwIMOiw&t=15s).



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Tom Donahue, Riverside Neighborhood Partnership Chair (left) and Mayor Rusty Bailey



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In 2021, Riverside's new Mayor Patricia Lock Dawson decided to continue working with RCRCRD on the Mayor's Monarch Challenge and install a pollinator garden at City Hall. The demonstration planting will be completed in 2022.

With funding from the Wildlife Conservation Board, nursery staff collected seed and propagated local native narrow-leaf milkweed, plus a variety of native plants that provide energy-rich nectar for the adult butterfly stage. In 2021, with over 100 volunteers, the RCRCRD established the 2-acre monarch habitat site at the Greenbelt property and created sets of

Monarch interpretive signs that will be installed at seven pollinator garden locations, including at Riverside's City Hall. Going forward, staff will coordinate volunteers to help monitor monarch populations.

For farmers, RCRCRD recommends the planting of field edges with hedgerows of native plants, especially milkweed in *Planting a Hedgerow for the SoCal Inland Region*: rcrcd.org/files/4bab03892/Hedgerow.pdf.

During the pandemic from 2020-2021, all in-person events and programs were cancelled. Staff was able to create numerous online educational videos to continue with virtual programming: [youtube.com/channel/UCZ9qcZKB2xePvErzAbsCZuQ/videos](https://www.youtube.com/channel/UCZ9qcZKB2xePvErzAbsCZuQ/videos).

For more historical information, please see *60 Years of Resource Conservation 1953-2013*: www.rcrcd.org/files/b33dde4e1/60thAnniversary.pdf.

Salute to the RCRCD Board of Directors



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After about 17 years of trying, RCRCD was finally able to purchase the Resource Conservation Center site from the federal government in 2021. Standing: Diana Ruiz, Shelli Lamb, Kerwin Russell. Seated: Roy Takeno, Bob Hewitt, Carol Bartels, Bud Bonnett (Chair).



© 2018 JOHN GLESS/GLESS RANCH

John Gless, Jr. is a well-known grower who oversees his multi-generational family enterprise. John, shown with wife Janet, served on the Board of Directors from 1988 to 2021.



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In 2012, Jolyn Murphy, aide to Congressman Ken Calvert, presented a congressional award for 50 years of service to Bud Bonnett, the president of RCRCD's Board of Directors, at the California Association of Resource Conservation Districts (CARCD) South Coast Area meeting.



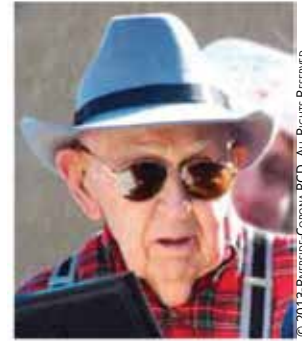
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Charles Colladay served 29 years on the Board. He is a third generation citrus grower who worked in agriculture since 1959.



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PHOTO BY DIANA RUIZ

Roy Takeno served on the RCRCD Board of directors for 41 years and was a champion of conservation education.



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Stan Cooley (1908-2006) served on the Board over 50 years, almost since the district's inception in 1953. He managed a diverse farming and ranching operation along the Santa Ana River on the Indian Knolls Ranch that was settled by his grandparents in 1857.



© 2021 SEAN MILL

Newest board member Sean Mill joined in 2021.



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RCRCD Board members in 2013: Carol Bartels (Treasurer since 1993), Bud Bonnett (President), John Gless, Jr. (joined 1988), Carl Pongs (joined 2006), Roy Takeno (joined 1980), and District Manager Shelli Lamb.



Past Awards

2021 The Public Relations Society of America (PRSA) Inland Empire chapter recognized RCRCDD with a prestigious Polaris award for leading the 2020 effort to help save pollinators with the Pollinator Festival and habitat plantings.

2020 The California Association of Public Information Officers (CAPIO) provided two EPIC awards: one for the publication *Environmental Learning Resources Guide*, and one for the Pollinator Festival special event.

2016 The Public Relations Society of America Inland Empire Chapter recognized RCRCDD with an award for the publication *Fresh and Local*.

California Urban Forests Council provided RCRCDD with an Excellence in Education Award
National Association of Conservation Districts: \$50,000 Urban Agriculture Grant.

2013 President Alfred B. Bonnet (Bud) was recognized by Congressman Ken Calvert for 50 years of service on the RCRCDD board.

California Association of Resource Conservation Districts' District Manager Award went to Shelli Lamb.

2010 American Fisheries Society Western Division's Riparian Challenge Award was granted to RCRCDD for its native fish restoration project for the Temescal Creek Watershed.

2009 \$1,500 gift awarded by the Deep Creek Flyfishers, for RCRCDD's fish research, restoration and education program.

2006 \$60,000 City Makeover Grant Award, presented by the Metropolitan Water District of Southern California (MWD) to help finance the development of the LandUse Learning Center (LLC). Many partners have given funds toward development of the LLC.

An Excellence in Communications Award of \$500 and Honorable Mention was granted to RCRCDD by the National Association of Conservation Districts (NACD) and the Association of Equipment Manufacturers (AEM).

A Litter Prevention Award was presented to RCRCDD by "Keep Riverside Clean and Beautiful" for pollution prevention education programs and for organizing waterway cleanup events.

2006 A Certificate of Recognition on behalf of the California State Legislature was presented to RCRC in response to its Outstanding Litter Prevention Efforts Award by “Keep Riverside Clean and Beautiful.”

Certificate of Appreciation, awarded by the U.S. Department of Agriculture for outstanding educational outreach

Environmental Awareness Award/Certificate of Special Congressional Recognition, presented by Ken Calvert, member of US Congress to RCRC in recognition of outstanding and valuable service to the community

A Certificate of Appreciation from U.S. Senator Barbara Boxer honoring RCRC’s outstanding service and litter prevention efforts

2005 McMurchie Excellence in Safety Award

2004 Governor’s Environmental and Economic Leadership Award

2003 Earl F. Sayer Safety Award for Excellence, presented by the California Special Districts Association
 Certificate of Recognition from John J. Benoit, Assembly member, California State Legislature, was presented to RCRC for fifty years of hard work and dedication to resource conservation.

Award of Appreciation for outstanding support of the 2003 California Envirothon State Champions, Arlington High School Lions, 1st in California, 16th in North America

U.S. Fish and Wildlife Service National Wetlands Conservation Award - Santa Ana Watershed Association of Conservation Districts.

2002 The National Association of Conservation Districts (NACD) and the Association of Equipment Manufacturers presented the District Outreach Award for a special publication *Birdwatching in your own Backyard for the Inland Empire*.

2000 Durrel Maughn Award, presented by the California Urban Forests Council for a pilot biomass reuse project that milled city trees into lumber and for urban forestry education.

1997 Grand Award for Conservation Achievement in California, awarded by Goodyear and the National Association of Conservation Districts (NACD)

Water Efficiency Award was presented by the Water Education Advisory Council of Western Riverside County for RCRC’s California Water Awareness Campaign.

Integrated Pest Management Innovator award was presented to RCRC by the California Environmental Protection Agency, Department of Pesticide Regulation, for invasive species removal.



2020 Pollinator Festival Award

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RCRC developed the 36-page *Fresh and Local* guide that was recognized with a Capella Award for Creative Communication by the Public Relation Society of America’s Inland Empire chapter.

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1995 RCRC's newsletter was chosen first place national winner by NACD and the Equipment Manufacturers Institute (EMI).

1994 Environmental Achievement Award for excellence in education, presented by the International Erosion Control Association

1992-1993 The Land Stewardship Award was awarded by the Riverside Land Conservancy to RCRC for being an outstanding public agency cooperator.

1991 Grand Award for Conservation Achievement in California, awarded by Goodyear and the National Association of Conservation Districts (NACD)

1989 The Conservation Program Award was presented by the California Association of Resource Conservation Districts for distinguished and innovative work in conservation education.

1988 First Place- National and State Winner of the Conservation Education Award from NACD and the Deutz-Allis Corporation

Merit Award for Conservation Education and Public Outreach presented by the Soil and Water Conservation Society

1987 Goodyear Honor District for California

1985, 1986 & 1991 The District's newsletter "Resources Update" was selected Pacific regional winner by NACD and the Farm Industrial Equipment Institute (FIEI).



In 1985, the "Resources Update" newsletter received the first place award from NACD and the Farm Industrial Equipment Institute (FIEI). Stan Cooley and Shelli Lamb, District Manager, accepted the award.

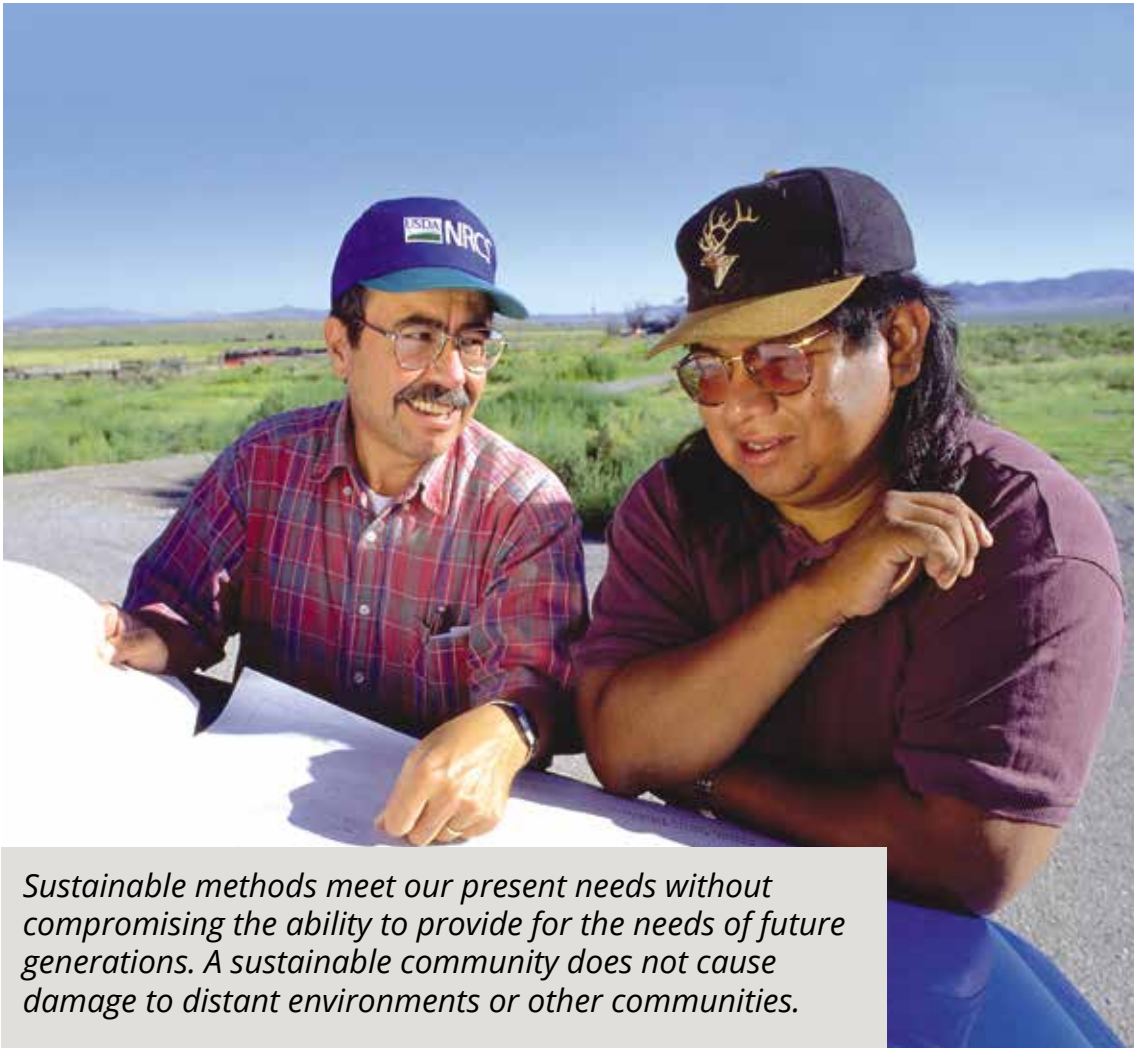
Join Us

The Riverside-Corona Resource Conservation District is a local government agency responsible for conserving natural resources in portions of Riverside and San Bernardino Counties. This monumental task is accomplished through cooperative efforts and community support. We invite your participation.

Together, individuals, businesses, and government agencies have tremendous opportunities to create:

- A sustainable vision of the future
- A widely held ethic of stewardship
- Innovative solutions for sustainable use of natural resources

If you would like to partner with the RCRC, please contact District Manager Shelli Lamb at (951) 683-7691 ext. 202.

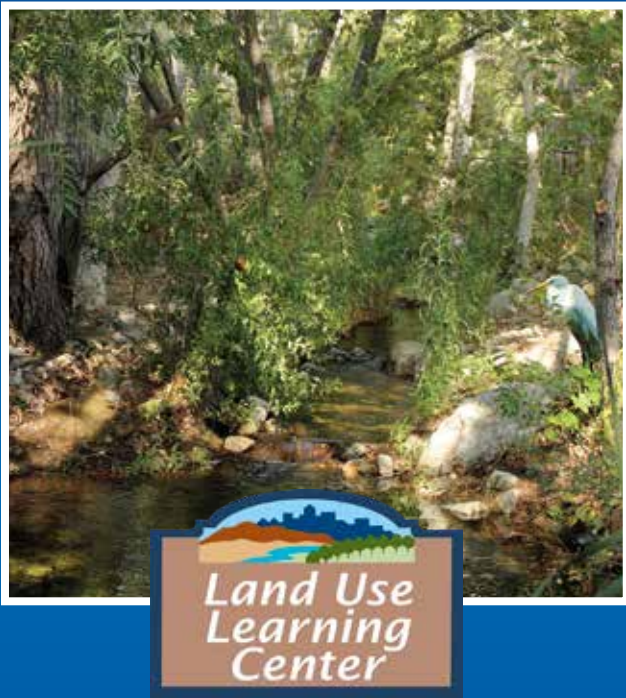


Sustainable methods meet our present needs without compromising the ability to provide for the needs of future generations. A sustainable community does not cause damage to distant environments or other communities.

Help Create a Sustainable Future!

Visit the Riverside-Corona Resource Conservation District's (RCRCD) free educational sites for:

- tours and field trips
- workshops about native plants, waterwise yards, tree care, urban agriculture
- training, including UC California Naturalist, UC Climate Stewards, Project Learning Tree, Project Wet, and Community Science, and more



Explore a 3-acre garden of sustainable practices for native habitats, urban areas, and agriculture with labeled plants, checklists, and activities.

4500 Glenwood Dr., Riverside, CA 92501
Open Daily 8 am - 4 pm Closed Holidays
(951) 683-7691, ext. 207 snyder@rcrcd.org



Discover the significance of the Sycamore Creek Preserve. Learn about local native plants, animals, and conserving natural resources.

11875 Indian Truck Trail, Temescal Valley, CA 92883
Find dates and times: www.facebook.com/SCICTV
(951) 277-0219 scic@rcrcd.org

Pick up educational materials and find local resource management information online at <http://www.rcrcd.org/#Publications>.



Riverside-Corona Resource Conservation District www.rcrcd.org (951) 683-7691

RCRCD is a local government agency that helps conserve the natural resources (soil, water, plants, and wildlife) of areas within western Riverside and San Bernardino Counties. RCRCD provides educational programs for the community, technical advice for land users, and conducts habitat conservation projects. Find upcoming programs and events: www.facebook.com/RCRCD/.



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All RCRCD programs and services are offered on a nondiscriminatory basis, without regard to race, national origin, religion, age, gender, handicap or orientation.

Find out about upcoming programs by visiting our website and Facebook page: www.facebook.com/RCRCD

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