

**ANNUAL REPORT**

**July 1, 2020 – June 30, 2021**

**MOJAVE DESERT RESOURCE CONSERVATION DISTRICT  
15415 W. Sand St., #103, VICTORVILLE, CA 92392**

*Meetings are held the first Wednesday of each month at 1:00 P.M. at the District Office  
located at  
15415 W. Sand St., #103, Victorville, CA 92392*

**BOARD OF DIRECTORS**

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Vice President.....Paul Johnson  
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Associate Director.....Pat Flannigan  
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**DISTRICT STAFF**

District Manager.....Dana Raponi  
Consultant.....Jackie Lindgren  
ReLeaf Coordinator..... Cheryl Nagy  
Administrative Assistant.....Rebecca Everett  
Conservation Specialist.....Tony Walters  
Conservation Technician II.....Luis Cortes

**TECHNICAL STAFF**

**USDA NATURAL RESOURCES CONSERVATION SERVICE (NRCS)**

District Conservationist..... Holly Shiralipour  
Area Resource Conservationist .....Kim Lary  
Area Resource Soil Scientist .....Peter Fahnestock  
Area Engineer... ..Eduardo Gamez  
Soil Conservationist.....Elizabeth Bickham  
Farm Bill Assistant.....Bonnie Nam  
Area Resource Soil Scientist ..... Peter Fahnestock  
MLRA Soil Survey Project Leader .....Matthew Ballmer  
Soil Scientist.....//.....Russell Plumb



**MISSION STATEMENT: The Mojave Desert Resource Conservation District is committed to the development of a land stewardship ethic that promotes long-term sustainability of the region's rich and diverse natural resource heritage.**

### **NATURAL RESOURCE OBJECTIVES OF THE DISTRICT:**

- Provide resource management information to the community
- Promote the reduction of wind and water erosion
- Promote the proper utilization of our natural resources
- Promote water conservation
- Provide information for improved irrigation water management
- Demonstrate urban and agricultural practices that sustain and improve soil health, water quality and fish and wildlife habitat
- Work with the public and private sector toward land development practices that protect and enhance the region's natural resources and systems

### **TAMARISK/ARUNDO ERADICATION/CONTROL PROJECT**

The Mojave Desert RCD is continuing their invasive plant removal/retreatment program with the focus remaining on retreatments in the Mojave River. Over the years the Tamarisk Beetle (*Diorhabda*) has been slowly migrating its way along the Colorado River and can now be found across the California border and along the Mojave River. Due to the migration of this little beetle the District decided in the fall of 2019 to not treat the usual places and give the beetle a chance to proliferate. Retreatment at Camp Cady in Newberry Springs was paused again this year as well to allow the tamarisk beetle to settle and proliferate.

With bio-fund trust funding through MWA the District has enlisted the services of Dr. Tom Dudley with Restoration Science LLC in Santa Barbara, to monitor the Saltcedar Biological control for the Mojave Basin. In August and November of 2020 and again in early June of 2021 Dr. Dudley and his team surveyed the Mojave Basin for *Diorhabda* (tamarisk beetle) along the Mojave Riverbed. There has been extensive dispersal and establishment of the beetle in 2020 and the beginning of 2021. Beetles have been found to exist at Camp Cady in Newberry springs and along the I-40 half-way between Newberry Springs and the Lava flows. Next generation beetles were in large numbers in the tamarisk at the Marine Corps depot in Barstow and have survived the winter along the riverbed in Hinkley and Oro Grande. Due to the dry season the tamarisk beetle was not out in force by the end of June 2021, but signs were still visible of successful overwintering. According to Dr. Dudley the dry season will only delay the full force of the beetle until later in the summer. The District will follow the progress of the beetle and monitor the various tamarisk spots where they show the most sign. The *Diorhabda* doesn't kill the tamarisk plant but puts it in a suppressed state where it will not produce seed and thereby cannot spread. The hope is while the tamarisk plants are in this suppressed state native vegetation will rehabilitate the areas along the riverbed, using less water and providing habitat for native endangered wildlife.

The District began control of these invasive plants during 2008 and has currently treated the majority of infested acreage from south of the Mojave Forks Dam to ½ mile east of the Barstow Marine Base. Parcels of non-consenting landowners and critical erosion areas have

been avoided. To date, a total of 2,310 “weed” acres of a total of 10,000 assessed acres of these invasive species have been removed/controlled. Chemical retreatments will be ongoing in areas where the beetle is not established to make sure all weeds stay eradicated, and any new sprouts are treated before they go to seed. However, if the tamarisk beetle continues to proliferate within the salt cedar in the Mojave River, the need for chemical treatment may not be as necessary. Initial funding for removal efforts was provided by a USDA NRCS earmark of funds to the Mojave Water Agency, the Mojave River Basin Adjudication’s Biological Resources Trust Fund, State Proposition 50, and direct funding from the Mojave Water Agency.

Benefits of this program are:

1. Implement the Mojave Basin Area Judgment (improve riparian habitats, maintain ground/surface water saturation at root zone, increase downstream flows).
2. Reduce evapotranspiration of ground and surface waters (water conservation).
3. Reduce salt deposits in the riverbed (water quality).
4. Reduce wildfire potential.
5. Keep channels open – reduce debris damming and severity of flooding.

### **MOJAVE RIVER RIPARIAN AREA FIRE PREVENTION/HAZARD PROJECT**

In late summer of 2020 and early spring of 2021, the District again oversaw the mowing of tumbleweeds and other invasive species along the pasture fences and imbedded in the trees along the edge of the forested riparian area of the Mojave Narrows Regional Park. This mowing was accomplished by pulling out the tumbleweeds from within the trees along the south and southwest edges of the regional park by hand, where they were then mowed by a tractor attached commercial mower. This work was done by Marty Frazier Weed Abatement services and was funded by the Fish and Wildlife Biological Trust Fund. A mowing plan is being discussed between the Fish and Wildlife, San Bernardino County, Marty Frazier and the District to mow the different weed species at the right time of year to keep them from going to seed.

### **PEPPERWEED**

California Fish and Wildlife as well as the District are concerned about the amount of Pepperweed now taking over in the Mojave riverbed. As pepperweed is a very difficult invasive species to eradicate, different avenues to attack the weed are being discussed including a possible biological control.

## **MOUNTAIN COMMUNITIES RELEAF**

In 2003 the Old Fire burned through thousands of acres of precious land in the San Bernardino Mountains – in 2007 once again fire struck during the Slide and Grass Valley Fires.

Developed in 2004 after the 2003 Wildfires, Mountain Communities Wildfire ReLeaf is an ongoing program educating private landowners in the value of reforesting the burn areas and areas devastated by the bark beetle infestation. The ReLeaf program uses seeds previously collected in the San Bernardino Mountain burned areas. These seedlings are grown at the Southern California Edison Nursery in Auburn, CA and delivered to the sites for direct plantings as weather and climate conditions permit. Citizen and student volunteers are used on much of the larger burned areas, and professional planting crews in the more hazardous areas.

Working for over 17 years with Southern California Edison and CalFire we continue to work to grow and plant seedlings each year. Due to funding from American Forests, we have been able to complete site visits, land treatments, and the planting of additional seedlings across the San Bernardino Mountains of Southern California. Southern California Edison continues growing the seedlings needed for our 2022 planting season.

Since 2004, ReLeaf Volunteers, partnering with the Mojave Desert Resource Conservation District and CALFIRE (California Department of Forestry & Fire Protection) have planted over 450,000 native seedlings across several hundred acres of land in the San Bernardino Mountains and additional areas located in San Diego and Riverside Counties.

Currently ReLeaf is partnering with American Forests and CalFire in a two year project with the National Fish and Wildlife Foundation and Wells Fargo under the “Resilient Communities” grant program. This funding has supported planting, restoration treatments, community engagement and development of a climate – informed restoration plan for the San Bernardino Mountains over a two-year period. We had a busy planting season - planting 60,000 seedlings in partnership with American Forest, Cal Fire, and the California Conservation Corps.

## **MOJAVE WEED MANAGEMENT AREA (MWMA)**

The Mojave WMA continues to be coordinated by the District, which organizes and hosts quarterly meetings and oversees ongoing projects and outreach efforts. The tamarisk beetle (*Diorhabda*) has been confirmed at Camp Cady in Newberry Springs and farther west and south along the Mojave River to as far as the Hinkley bridge in Hinkley, and the Vista bridge in Silver Lakes. Cal-Ipc has been working tirelessly on assembly bills to provide funding for the Weed Management Areas. After the onset of Covid-19 the CDFA pulled remaining funds and new funding for weed management areas has not yet been restored. The Memorandum of Understanding for the MWMA currently has 23 signatories from agencies such as San Bernardino County Dept. of Agriculture, US Fish and Wildlife Service, Bureau of Land Management, California Dept. of Fish and Game, Joshua Tree National Park and Mojave National Preserve, to name a few.

## **CAMP CADY WILDLIFE MANAGEMENT AREA RESTORATION PROJECT**

The objective of this continuing demonstration study is to determine the potential suitability and sustainability of selected plant materials for site restoration/revegetation on riparian salt cedar infestation sites along the Mojave River, within the Camp Cady Wildlife Management Area's jurisdiction.

The Camp Cady water infrastructure has suffered quite a breakdown over the last few years due to age and environmental challenges. The well servicing the buildings has received a flow meter, new storage tanks and larger updated piping for distribution. While less time has been used to collect the data for the restoration plant sites, new drip system piping and plant replacement is underway. The tamarisk beetle (*Diorhabda*) has shown to be proliferating in the tamarisk at Camp Cady, stalling mechanical and chemical eradication measures on tamarisk trees until the damage done by the beetle can be determined. Other native plants have established in the study area showing what species will survive in the salty and sandy environment. Some nearby tamarisk have grown large enough to possibly affect the micro-habitat of the native restoration plants. The water uptake from the saltcedar may affect the nearby plants water availability, depending on the amount of stress the existing beetles are placing on the trees. Also, the partial shading from the remaining controlled saltcedar debris may affect the plant survival for these species in the sandy loam understory.

## **CAMP CADY FIELD AT HARVARD ROAD SAND BLOW REDUCTION**

The District, in partnership with California Department of Fish and Wildlife, San Bernardino County and Quail Forever, is working on a project to restore a portion of a Camp Cady grain field into operation. This field restoration will greatly diminish or possibly stop dune sand from blowing onto Harvard road in Newberry Springs. Every year Harvard road, a main road off of the 15 freeway, in Newberry Springs must be closed due to sand blowing across the road making it unsafe for traffic. This road stays closed for several days until the sand can be bulldozed onto the shoulder to allow traffic to continue. This closing of Harvard road happens several times per year in the winter and spring but especially in the fall. The planting of Sudan grass on this agricultural field up wind from Harvard road will not only work to diminish sand blow but provide a larger source of food and shelter for local wildlife.

Due to the discovered existence of the endangered Fringe toed Lizard in the vicinity of the proposed field extension, the forward momentum was delayed until the end of lizard breeding season. The San Bernardino County has agreed to supply the use of heavy equipment to spread the sand on the half field extension and a Newberry Springs farmer has agreed to plant Sudan grass seed to stabilize the soil and greatly impair or stop the sand blowing onto Harvard Road.

## **IRRIGATION WATER MANAGEMENT**

In partnership with Mojave Water Agency the District is dedicated to water conservation within the Mojave Desert RCD's large area. The District and MWA have implemented a program of water conservation alternatives through evaluation and field assistance for irrigation efficiency improvement, including enhancement irrigation water management automation, soil moisture and soil quality testing. From July to September 2020 over 27

irrigation assistance visits and 190 hours in initial and follow up assistance for water conservation was given in the areas of Apple Valley, Victorville, Hesperia, Phelan, Helendale, Lucerne Valley and Newberry Springs. With Covid-19 all of the visits were scheduled through cell phone contact and other assistance questions were answered through several communication applications such as “Google Duo video”. As the Victorville Field Office was closed, creativity was the method of choice to assist communities. In fall through mid-winter over 34 initial and follow up visits were performed to educate customers on water conservation and irrigation, focusing on winterizing irrigation systems and scheduling less irrigation days and times. At least fourteen of the total irrigation assistance “visits” were given via cell phone video where clients walked around their acreage showing Tony Walters, Conservation Specialist, their problem irrigation system asking questions with him offering assistance. In spring and summer of 2021 more visits were held in person or via google duo or the virtual computer program Zoom. During the ongoing pandemic more clients reached out for assistance and return visits. At least twenty-six of the clients visited reduce water use by 30% or more by incorporating recommended changes. The IWM visits consist of a comprehensive evaluation that quantifies current outdoor water use. Clients are then given options to help conserve and reduce their water use. Conservation options include: System evaluation, soil health in relation to water savings, installation options of current irrigation technologies, irrigation scheduling and mulching options for our area.

### **ASSISTANCE TO DAIRY OWNERS**

One of the Districts roles as a non-regulatory agency has been to facilitate communication between the Natural Resources Conservation Service, the Lahontan Water Board and the dairy owners to develop a collaborative solution to the nitrate concerns raised by the Lahontan Region Water Quality Control Board. The NRCS Conservation Nutrient Management Program (CNMP) can help producers utilize their manure sources available for nutrient application and to reduce nitrate intrusion into surface and/or ground water. The CNMP will also help with the infrastructure and in obtaining management resources available to aid in delivery and monitoring of nutrient and irrigated water applications to the cropland (i.e., flow meters, pipeline, manure spreading, pond liners, etc.). Lahontan has determined a general order will eventually come out that will apply to all Confined Animal Facilities. This draft will then go through dairy and public comment before going to the Lahontan board for review and approval. It is paramount all parties work together to achieve the most efficient and cost productive avenues that will determine the effectiveness of nitrate mitigation.

### **EVAPORATION COOLER STUDY**

In partnership with the Mojave Water Agency the District conducted an evaporation cooler water usage study. The swamp cooler study has had quite a few challenges from meter and adapter inconsistencies, and volunteer homeowner challenges to waiver delays and finally the Covid-19 shut down. July, August and September of 2020 finally saw things come together with approximately 30 meters being installed on residential swamp coolers in Joshua Tree, Apple Valley and Victorville. The meters were monitored and data collected was compared to data being collected from the University of Davis.

The data from this study will be used for calculating consumptive water use for regulations pending limits on household water use from the state of California. The District and MWA

are advocating to include water cooler use, which can be significant, in the desert regions. When the meters were placed on the cooler lines a series of questions were recorded including, location, weather data, type of cooler and model number. UC Davis is completing water bill collections and correlating that information with energy use through Edison bills. In summer and fall of 2020 community homeowner volunteers allowed a water meter to be placed on the water line to their swamp coolers. An initial reading was noted, and further periodic readings were taken for water consumption data. This data then went to Mojave Water Agency for analysis and subsequent calculations submitted to UC Davis. This study will not be repeated in Fiscal year 2021-22.

### **LAS FLORES RANCH MANAGEMENT AND TECHNICAL ASSISTANCE PROJECT**

The Mojave Desert RCD is in its third year working in partnership with the Crestline Sanitation District on the Management and Technical Assistance program for the Las Flores Ranch, located on Summit Valley Road in Summit Valley. This historic ranch leases over 600 acres of pasture to raise grass fed cattle. This pasture is flood watered by a gravity fed water source, through the Crestline Sanitation Facility and dissipating in the pastures of Las Flores. The Districts scope of work has included the use of the Global Positioning System to mark boundaries, water ways and pertinent landscape. The points have been used to create a shape file for use in Geographic Information System to allow the overlaying of data layers such as existing soil types within the boundaries. The soil quality and moisture holding ability and plant variety and quantity is being identified, inventoried, and disseminated into data for use in prescribing future pasture production and agricultural quality. Other partners for this project include Natural Resources Conservation Service and the Victor Valley College.

A land sale including this ranch acreage has been brokered and a Settlement was reached for the removal of cattle from this property due to the existence of the endangered Arroyo Toad. Several meetings have been attended with VCS Environmental Development, Center for Bio-Diversity and other interested entities, to determine the viability of a Mitigation Bank for the Las Flores acreage. While the RCD agreement with Crestline Sanitation will still include the monitoring of surface water flow and nitrate levels, infrastructure upgrade and future ranch management will no longer be done.

### **ALLIANCE for WATER AWARENESS and CONSERVATION**

The District remains an active participant in the Alliance for Water Awareness and Conservation (AWAC). The District is partnering with Mojave Water Agency to provide educational outreach in irrigation water conservation in both residential and agricultural forums as well as other water conservation topics for the AWAC, both in attending events and currently in the video workshop arena. The mission of this dynamic coalition of over 20 regional organizations is to promote the efficient use of water and increase awareness of conservation as an important tool to ensure an adequate water supply.

Due to the Covid-19 restrictions the necessity of creativity came about and the outreach and education turned to computer platforms such as Zoom presentations with a captive audience.

Joshua Basin Water District came on board with water conservation education requests and helped start the momentum. Originally scheduling a few online workshops, the demand was quickly expanded, consequently over 22 presentation workshops were given over the fiscal year, along with 9 presentations/lectures of water conservation. With some Covid restrictions lifted in 2021 over five workshops were able to be in person and hands-on covering irrigation system design, water auditing and system maintenance.

Several “Cash for Grass” visits – another MWA conservation program - were conducted with City of Victorville, Barstow Cemetery District and the Ashwood Golf Course. These AWAC program visits covered the entire Mojave Water Agency service area including, Victorville, Apple Valley, Barstow, Newberry Springs, and Joshua Tree.

While no in person events were held this fiscal year due to Covid-19 restrictions, the AWAC program headed by Tony Walters, Conservation Specialist, was able to reach over 130 people directly. Workshop presentations covered a variety of water conservation topics such as but not limited to irrigation design, irrigation maintenance, irrigation scheduling and new irrigation technologies. Outdoor garden education such as soil amendments for conservation, desert native plants and xeriscaping were high attendance presentations. Even topics on how the desert gets its water, how a growing garden can flourish in the desert and still conserve water, and the benefits of mulching were presented.

The four specific goals of AWAC are:

- Serve as a network to assist agencies in educating the public on water conservation.
- Provide resources with a consistent message to help agencies meet their respective conservation goals.
- Maintain current gallons per capita per day (GPCD) or lower and continue to position agencies for meeting future conservation needs.
- Exchange ideas between agencies, especially at quarterly meetings.

A calendar featuring low water use plants is published annually to heighten the public’s awareness of water efficient landscaping. These calendars are freely available to the public through AWAC members.

## **MITIGATION AND EASEMENTS**

The District remains engaged in providing mitigation/compensation and environmental credits for developers wanting to build in the San Bernardino County portion of the High Desert area. Mitigation practices include the removal/retreatment of tamarisk and Arundo in the Mojave River as well as trash removal on the designated sites. Seventeen contracts have been fulfilled since the start of this program in 2006.

## **NATIONAL RANGELAND INVENTORY**

An extended agreement with NRCS increasing the program funding, finds the District on its fourth year providing assistance in the USDA National Rangeland Inventory (NRI) program. This program is federally mandated throughout the nation. The District provides assistance in the form of surveying and documenting designated points in southern California. Each point is an onsite data collection for grazing and range inventory. Each point is surveyed via 150



foot transects to collect environmental data including but not limited to plant life, land cover/use, landscape and soils, disturbance indicators and biomass/production, cover, density, and height. Points are revisited every 5 years

The NRI program season resides in the spring and summer between the months of March and September, with annual training usually in February. Due to the Covid restrictions the NRI program was halted in the summer and fall of 2020. As the program is seasonal the months from winter of 2020 to March of 2021 were relatively quiet. In March of 2021 with the annual training completed in February, to the end of June 2021 the NRI team was able to complete eight points, traveling hundreds of miles in not only San Bernardino County but Riverside and Imperial Counties as well, with many points requiring overnight stays. Some of the site points were desolate requiring hiking long distances to reach. The excessive heat and smoke from the many fires in California forced the field work to be relegated to early mornings and evenings for the safety of the team. With the two-year agreement between USDA NRCS and the Mojave Desert RCD, the NRI program will be funded until 2022. A new agreement is in the process to continue the NRI funding after 2022.

### **PALISADES RANCH RESTORATION PROJECT**

In August of 2019 the District agreed to be the lead agency for the CEQA in the restoration of the Palisades ranch in Oro Grande. The Mojave Desert Land Trust purchased the retired agriculture farm with plans to restore the native wildlife habitat and plant species to the original Mojave river wash and desert landscape. The District has offered to assist in the tamarisk/Arundo removal. With the project description complete the environmental consulting process is moving forward and should be in the final stages soon.

### **CIMIS**

The District continues to maintain one California Irrigation Management Information System (CIMIS) station. Due to water conditions and subsequent sale of the field, the station previously located in Newberry Springs has been removed and stored while another suitable location can be found. A possible site in Hinkley is being considered. The Victorville station remains at Victor Valley College in Victorville. These weather stations assist not only agricultural producers but urban landowners as well. Evapotranspiration data for alfalfa and turf grasses is updated Monday through Friday by RCD staff and is available on our website: [www.mojavedesertgcd.org](http://www.mojavedesertgcd.org).

### **MOJAVE DESERT-MOUNTAIN RC&D**

The District continues to support and participate in the Mojave Desert-Mountain RC&D. This six-county organization works as an extension of the Resource Conservation District and assists in the economic development of the rural segments of San Bernardino County. The MDMRC&D holds a 501c3 status. With the Covid-19 restrictions the MDMRC&D is currently inactive but hopes to be operating again very soon. Their office is located in Antelope Valley.

## **NRCS FARM BILL PROGRAM**

The NRCS Victorville Service Center boundaries comprise most of San Bernardino County including the mountains in the Mojave River watershed and the High Desert extending east to the Arizona/Nevada borders. (The southwest corner of the County lies in the Redlands Service Center area.)

For FY21, the Victorville NRCS Field Office will have obligated 40 new EQIP and CSP contracts. Over \$1,157,053 dollars have been committed for the 2021 contracts. In total, since 2011, the Victorville Field Office of NRCS has obligated 277 EQIP and CSP contracts worth more than \$11 million— making a significant partnership investment in conservation in San Bernardino County. These contracts include agricultural practices such as seasonal high tunnels, water conservation, National Air Quality Initiative (tractors, front end loaders, etc), range improvements, and a variety of forestry practices in the San Bernardino Mountains.

## **KOREAN OUTREACH PROGRAM**

The District continues to support work with the Korean farming community in San Bernardino County. Korean farmers are moving to the High Desert to join existing Koreans to grow jujubes, pistachios, Japanese Ume Plums and apples, among other crops. The NRCS & RCD team is working with Korean farmers to improve their irrigation water management, and develop conservation plans and contracts for their farms. Korean farm bill assistant, Bonnie Nam, continues to assist with helping Korean producers understand the farm bill contracts and practice specifications.

During the past 18 months, the COVID 19 pandemic has modified NRCS office work practices with NRCS and RCD employees doing considerable teleworking. As of June 2021, the office is open with limited staffing. Customers are seen with appointments and appropriate COVID precautions. NRCS and RCD staff continue to provide the same high level of service utilizing creative strategies to get the work done. Field work and visits continue to be done while employing required COVID precautions.