



COACHELLA VALLEY CONSERVATION COMMISSION MEETING AGENDA

**THURSDAY, NOVEMBER 13, 2025
10:30 a.m.**

**Coachella Valley Water District
Steve Robbins Administration Building Training Room
75515 Hovley Lane East
Palm Desert, CA 92260**

Members of the public may use the following link for listening access and ability to address the CVCC when called upon:

<https://us02web.zoom.us/j/89090253814?pwd=jyJOEZlCJJE0KFbom1vkRrxNUcUxTL.1>

**Dial In: +1 669 900 9128 US
Webinar ID: 890 9025 3814
Password: 573139**

IF YOU ARE UNABLE TO CONNECT VIA DIAL IN OPTION, PLEASE CALL 760-346-1127

Public comment is encouraged to be emailed to the CVCC prior to the meeting via email to cvag@cvag.org by 5:00 pm on the day prior to the Commission meeting. Members of the public joining the meeting by Zoom can also provide comment by using the “raise hand” feature or hitting *9 on the phone keypad.

As a convenience to the public, CVCC provides a call-in option and internet-based option for members of the public to virtually observe and provide public comments at its meetings. Please note that, in the event of a technical issue disrupting the call-in or internet-based options, the meeting will continue unless otherwise required by law.

**THIS MEETING IS HANDICAPPED ACCESSIBLE.
ACTION MAY RESULT ON ANY ITEMS ON THIS AGENDA.**

1. **CALL TO ORDER** – Mayor Pro Tem Gary Gardner, Chair, City of Desert Hot Springs

2. **ROLL CALL**

A. Member Roster

P4

3. **PLEDGE OF ALLEGIANCE**

4. **AGENDA MODIFICATIONS (IF ANY)**

5. **PUBLIC COMMENTS ON AGENDA ITEMS**

This is the first of two opportunities for public comment. Any person wishing to address the Coachella Valley Conservation Commission on items appearing on this agenda may do so at this time. At the discretion of the Chair, comments may be taken at the time items are presented. Please limit comments to 3 minutes.

6. **COMMISSION CHAIR/DIRECTOR ANNOUNCEMENTS**

7. **CONSENT CALENDAR**

A. Approve the minutes of the September 11, 2025, meeting

P5

7. 1 **ITEMS HELD OVER FROM CONSENT CALENDAR**

8. **DISCUSSION / ACTION**

- A. Acquisition of one parcel in the Upper Mission Creek/Big Morongo Canyon Conservation Area** – Diana Rosas, Coachella Valley Mountains Conservancy **P11**
- Recommendation:** Approve Resolution 2025-07 for acquisition of one parcel consisting of approximately +/-10.77 acres in the Upper Mission Creek/Big Morongo Canyon Conservation Area at a cost not to exceed \$140,000, plus closing and transaction related costs not to exceed \$2,500; and authorize the Executive Director to execute all necessary contracts and take such other actions as necessary for the acquisition
- B. Presentation: 30 x 30 Wildlife Connectivity Project** – Dr. Fraser Shilling and Shannon Lemieux, UC Davis Road Ecology Center
- C. Burrowing Owl Status & Permitting Update** – Kathleen Brundige **P16**
- Recommendation:** Information
- D. Cleanup of Illegal Dumpsites and Encampments in Upper Mission Creek/Big Morongo Canyon Conservation Areas** – Will Steichen **P22**
- Recommendation:** Information
- 9. INFORMATION**
- A. Attendance Record** **P35**
- B. Contracts under Executive Director’s signing authority** **P36**
- C. Acquisition Status Report** **P37**
- D. Native Planting Palette Resources for the Coachella Valley** **P39**
- E. Managing the North Shore Ranch property** **P142**
- 10. PUBLIC COMMENTS ON NON-AGENDA ITEMS**
- This is the second opportunity for public comment. Any member of the public wishing to address the Commission on items of general interest within the purview of this Commission may do so at this time. Please limit comments to 2 minutes.
- 11. ANNOUNCEMENTS**
- The next meeting of the **Coachella Valley Conservation Commission** will be held on Thursday, January 8, 2026, at 10:30 a.m. at the Coachella Valley Water District, Steve Robbins Administration Building Training Room, 75515 Hovley Lane East, Palm Desert, 92260.
- 12. ADJOURN**

ITEM 2A

**Coachella Valley Conservation Commission
Member Roster
2025 - 2026**



City of Cathedral City	Councilmember Ernesto Gutierrez
City of Coachella	Mayor Steven Hernandez
Coachella Valley Water District	Board Member Anthony Bianco
City of Desert Hot Springs	Mayor Pro Tem Gary Gardner, <i>Chair</i>
Imperial Irrigation District	Director Alex Cardenas
City of Indian Wells	Mayor Pro Tem Dana Reed
City of Indio	Mayor Pro Tem Elaine Holmes, <i>Vice Chair</i>
City of La Quinta	Mayor Linda Evans
Mission Springs Water District	Director Amber Duff
City of Palm Desert	Mayor Pro Tem Evan Trubee
City of Palm Springs	Mayor Ron deHarte
City of Rancho Mirage	Mayor Ted Weill
Riverside County	Supervisor Jose Medina - District 1 <i>Alternate: Councilmember Stephanie Virgen, Coachella</i> Supervisor Karen Spiegel – District 2 <i>Alternate: Councilmember Kathleen Fitzpatrick, La Quinta</i> Supervisor Chuck Washington – District 3 <i>Alternate: Mayor Jan Harnik, Palm Desert</i> Supervisor V. Manuel Perez – District 4 <i>Alternate: Mayor Scott Matas, Desert Hot Springs</i> Supervisor Yxstian Gutierrez – District 5 <i>Alternate: Councilmember Ben Guitron, Indio</i>

ITEM 7A

Coachella Valley Conservation Commission Meeting Minutes September 11, 2025



The audio file for this committee can be found at: <http://www.cvag.org/audio.htm>

- 1. CALL TO ORDER** – The meeting was called to order by Chair Gary Gardner, City of Desert Hot Springs Mayor Pro Tem, at 10:30 a.m. in the Coachella Valley Water District, Steve Robbins Administrative Building Training Room, 75515 East Hovley Lane, Palm Desert.

3. PLEDGE OF ALLEGIANCE

Chair Gardner requested a moment of silence to honor those who lost their lives in the September 11, 2001 terrorist attacks, then led the commission in the Pledge of Allegiance.

- 2. ROLL CALL** – Following the pledge, roll call was taken and it was determined that a quorum was present.

Members Present

Councilmember Ernesto Gutierrez
Mayor Steven Hernandez
Mayor Pro Tem Gary Gardner, *Chair*
Mayor Pro Tem Dana Reed
Councilmember Oscar Ortiz*
Mayor Linda Evans
Director Amber Duff
Mayor Pro Tem Evan Trubee
Mayor Ron deHarte
Mayor Ted Weill
Councilmember Stephanie Virgen
Councilmember Kathleen Fitzpatrick
Mayor Jan Harnik
Supervisor V. Manuel Perez
Councilmember Ben Guitron

Agency

City of Cathedral City
City of Coachella
City of Desert Hot Springs
City of Indian Wells
City of Indio
City of La Quinta
Mission Springs Water District
City of Palm Desert
City of Palm Springs
City of Rancho Mirage
Riverside County – District 1
Riverside County – District 2
Riverside County – District 3
Riverside County – District 4
Riverside County – District 5

Members Not Present

Director Anthony Bianco
Director Alex Cardenas

Coachella Valley Water District
Imperial Irrigation District

**arrived at Item 5*

4. AGENDA MODIFICATIONS (IF ANY)

None

5. PUBLIC COMMENTS ON AGENDA ITEMS

Deputy Clerk Elysia Regalado acknowledged a public comment submitted via email by Fish and Wildlife Biologist Lory Salazar-Velasquez in support of agenda item 7C and transitioning CVCC committees into informal working groups.

7. CONSENT CALENDAR

Prior to the announcements, the Chair accepted a motion for the Consent Calendar items.

- A. **Approve the minutes of the June 12, 2025, meeting**
- B. **Authorize the Executive Director to execute an Amendment No. 1 to the agreement with University of California, Davis to include the project “*Genetic Analysis to Test Effectiveness of Linkages for Corridor Dwelling Small Mammals*” at an additional not-to-exceed cost of \$152,287 through March 31, 2027**
- C. **Adopt a revision of the By-Laws, incorporating references to the CVCC’s Procurement Policy and Procedures, clarifying meeting cancelations and authorizing the Executive Director to take steps to transition the Reserve Management Oversight Committee, Reserve Management Unit Committees and Trails Management Subcommittee to informal working groups**

IT WAS MOVED BY MAYOR PRO TEM REED AND SECONDED BY COUNCILMEMBER GUTIERREZ TO APPROVE THE CONSENT CALENDAR ITEMS.

THE MOTION CARRIED WITH 15 AYES AND 2 MEMBERS ABSENT.

Councilmember Ernesto Gutierrez	Aye
Mayor Steven Hernandez	Aye
Director Anthony Bianco	Absent
Mayor Pro Tem Gary Gardner	Aye
Director Alex Cardenas	Absent
Mayor Pro Tem Dana Reed	Aye
Councilmember Oscar Ortiz	Aye
Mayor Linda Evans	Aye
Director Amber Duff	Aye
Mayor Pro Tem Evan Trubee	Aye
Mayor Ron deHarte	Aye
Mayor Ted Weill	Aye
Councilmember Stephanie Virgen	Aye
Councilmember Kathleen Fitzpatrick	Aye
Mayor Jan Harnik	Aye
Supervisor V. Manuel Perez	Aye
Councilmember Ben Guitron	Aye

7.1 ITEMS HELD OVER FROM CONSENT CALENDAR

None

6. COMMISSION CHAIR / DIRECTOR COMMENTS

Executive Director Tom Kirk introduced U.S Fish and Wildlife Service Assistant Field Supervisor for the desert region Brian Croft and thanked him for being present. Mr. Croft addressed the Commission

8. DISCUSSION / ACTION

A. Partnership with Mojave Desert Land Trust for Seed Collection and Preservation

MDLT's Seed Program Manager Patrick Emblidge provided a detailed PowerPoint presentation on seed collection and preservation process.

Robust member discussion ensued with Mr. Emblidge and CVCC staff answering questions from the Commission regarding target areas and species involved in preservation efforts, as well as general inquiries related to seed collection.

IT WAS MOVED BY MAYOR WEILL AND SECONDED BY COUNCILMEMBER FITZPATRICK TO AUTHORIZE THE EXECUTIVE DIRECTOR TO EXECUTE A MEMORANDUM OF UNDERSTANDING WITH MOJAVE DESERT LAND TRUST FOR SEED COLLECTION AND PRESERVATION THROUGH DECEMBER 31, 2028

THE MOTION CARRIED WITH 15 AYES AND 2 MEMBERS ABSENT.

Councilmember Ernesto Gutierrez	Aye
Mayor Steven Hernandez	Aye
Director Anthony Bianco	Absent
Mayor Pro Tem Gary Gardner	Aye
Director Alex Cardenas	Absent
Mayor Pro Tem Dana Reed	Aye
Councilmember Oscar Ortiz	Aye
Mayor Linda Evans	Aye
Director Amber Duff	Aye
Mayor Pro Tem Evan Trubee	Aye
Mayor Ron deHarte	Aye
Mayor Ted Weill	Aye
Councilmember Stephanie Virgen	Aye
Councilmember Kathleen Fitzpatrick	Aye
Mayor Jan Harnik	Aye
Supervisor V. Manuel Perez	Aye
Councilmember Ben Guitron	Aye

B. Presentation: Creating climate resiliency in the CVMSHCP

Dr. Lynn Sweet from UC Riverside Center for Conservation Biology provided the Commission with a presentation regarding climate resiliency and species in the area.

Brief member discussion ensued regarding information presented.

No action was taken, as the item was presented for informational purposes only.

C. Like Exchange between East Indio Hills Conservation Area and Dos Palmas Conservation Area

Program Manager Peter Satin presented the staff report providing detail and logistics of the like exchange.

IT WAS MOVED BY MAYOR HERNANDEZ AND SECONDED BY MAYOR WEILL TO ADOPT RESOLUTION 2025-06 AND APPROVE A LIKE EXCHANGE TO THE COACHELLA VALLEY MULTIPLE SPECIES HABITAT CONSERVATION PLAN, FINDING THE LIKE EXCHANGE DOES NOT REQUIRE FURTHER ENVIRONMENTAL REVIEW AND DIRECTING THE EXECUTIVE DIRECTOR TO FILE A NOTICE OF DETERMINATION, EXECUTE THE LIKE EXCHANGE AGREEMENT AND TAKE THE NECESSARY STEPS TO ACCEPT THE TRANSFER OF PROPERTY REQUIRED BY THE LIKE EXCHANGE

THE MOTION CARRIED WITH 15 AYES AND 2 MEMBERS ABSENT.

Councilmember Ernesto Gutierrez	Aye
Mayor Steven Hernandez	Aye
Director Anthony Bianco	Absent
Mayor Pro Tem Gary Gardner	Aye
Director Alex Cardenas	Absent
Mayor Pro Tem Dana Reed	Aye
Councilmember Oscar Ortiz	Aye
Mayor Linda Evans	Aye
Director Amber Duff	Aye
Mayor Pro Tem Evan Trubee	Aye
Mayor Ron deHarte	Aye
Mayor Ted Weill	Aye
Councilmember Stephanie Virgen	Aye
Councilmember Kathleen Fitzpatrick	Aye
Mayor Jan Harnik	Aye
Supervisor V. Manuel Perez	Aye
Councilmember Ben Guitron	Aye

D. Local Development Mitigation Fee Nexus Study Update

Mr. Satin presented the staff report.

A brief discussion among members followed, focusing on questions about the study's costs and fees in comparison to similar efforts.

IT WAS MOVED BY MAYOR EVANS AND SECONDED BY MAYOR HARNIK TO AUTHORIZE THE EXECUTIVE DIRECTOR ENTER INTO A PROFESSIONAL SERVICES AGREEMENT WITH ECONOMIC AND PLANNING SYSTEMS, INC., FOR A NOT-TO-EXCEED AMOUNT OF \$174,850 THROUGH APRIL 30, 2026, TO UPDATE THE LOCAL DEVELOPMENT MITIGATION FEE AND RELATED DOCUMENTS

THE MOTION CARRIED WITH 15 AYES AND 2 MEMBERS ABSENT.

Councilmember Ernesto Gutierrez	Aye
Mayor Steven Hernandez	Aye
Director Anthony Bianco	Absent

Mayor Pro Tem Gary Gardner	Aye
Director Alex Cardenas	Absent
Mayor Pro Tem Dana Reed	Aye
Councilmember Oscar Ortiz	Aye
Mayor Linda Evans	Aye
Director Amber Duff	Aye
Mayor Pro Tem Evan Trubee	Aye
Mayor Ron deHarte	Aye
Mayor Ted Weill	Aye
Councilmember Stephanie Virgen	Aye
Councilmember Kathleen Fitzpatrick	Aye
Mayor Jan Harnik	Aye
Supervisor V. Manuel Perez	Aye
Councilmember Ben Guitron	Aye

E. Election of CVCC Officers

Mr. Kirk opened the floor for nominations for Chair and Vice Chair of the Commission. Councilmember Fitzpatrick nominated the current Chair and Vice Chair to stay in their roles for the fiscal year. No other nominations were received.

IT WAS MOVED BY COUNCILMEMBER FITZPATRICK AND SECONDED BY MAYOR EVANS TO ELECT COUNCILMEMBER GARY GARDNER AS CHAIR AND MAYOR PRO TEM ELAINE HOLMES AS VICE CHAIR OF THE COACHELLA VALLEY CONSERVATION COMMISSION FOR FISCAL YEAR 2025-26

THE MOTION CARRIED WITH 15 AYES AND 2 MEMBERS ABSENT.

Councilmember Ernesto Gutierrez	Aye
Mayor Steven Hernandez	Aye
Director Anthony Bianco	Absent
Mayor Pro Tem Gary Gardner	Aye
Director Alex Cardenas	Absent
Mayor Pro Tem Dana Reed	Aye
Councilmember Oscar Ortiz	Aye
Mayor Linda Evans	Aye
Director Amber Duff	Aye
Mayor Pro Tem Evan Trubee	Aye
Mayor Ron deHarte	Aye
Mayor Ted Weill	Aye
Councilmember Stephanie Virgen	Aye
Councilmember Kathleen Fitzpatrick	Aye
Mayor Jan Harnik	Aye
Supervisor V. Manuel Perez	Aye
Councilmember Ben Guitron	Aye

9. INFORMATION

- A. Attendance Record Attendance Record**
- B. Contracts under Executive Director's signing authority**
- C. New location of CVCC's public meetings**
- D. Illegal Dumping in the Coachella Valley**
- E. Update on the status of the Chuckwalla National Monument**
- F. Acquisition Status Report**
- G. CVCC's Unaudited Financial Reports through June 30, 2025**
- H. CVCC's Quarterly Investment Report through June 30, 2025**

10. PUBLIC COMMENTS ON NON-AGENDA ITEMS

None

11. ANNOUNCEMENTS

Palm Desert Mayor Harnik recommended that the Commission review suggested plant palettes to help guide and inform residents about selections that are most beneficial to the local environment without mandating the suggestions.

The next **Coachella Valley Conservation Commission** meeting will be held on Thursday, November 13, 2025, at 10:30 a.m at the Coachella Valley Water District, Steve Robbins Administration Building Training Room, 75515 Hovley Lane East, Palm Desert, 92260.

12. ADJOURN

Chair Gardner adjourned the meeting at 11:40 a.m.

Respectfully submitted,

Elysia Regalado
Deputy Clerk

ITEM 8A

Coachella Valley Conservation Commission
November 13, 2025



STAFF REPORT

Subject: Acquisition of one parcel in the Upper Mission Creek/Big Morongo Canyon Conservation Area

Contact: Diana Rosas, Coachella Valley Mountains Conservancy (drosas@cvmc.ca.gov)

Recommendation: Approve Resolution 2025-07 for acquisition of one parcel consisting of approximately +/-10.77 acres in the Upper Mission Creek/Big Morongo Canyon Conservation Area at a cost not to exceed \$140,000, plus closing and transaction related costs not to exceed \$2,500; and authorize the Executive Director to execute all necessary contracts and take such other actions as necessary for the acquisition

Background: The Upper Mission Creek/Big Morongo Canyon (UMC/BMC) Conservation Area contains a total of approximately 29,440 acres, with conservation objectives that include conserving a total of 10,810 acres of contiguous habitat, wildlife linkages, and sand transport corridors. As of the 2024 CVCC Annual Report, 7,603 acres have been conserved in this area. Historically, the CVCC has prioritized acquisitions in the Morongo Wash portion of the Conservation Area, as it serves as a wildlife movement corridor and has critical biological and watershed significance for several covered species under the Coachella Valley Multiple Species Habitat Conservation Plan (Plan), including the burrowing owl, Coachella Valley round tailed ground squirrel, little San Bernardino mountains linanthus, and Palm Springs pocket mouse. As CVCC staff and acquisition managers continue to review Plan acquisition progress, the UMC/BMC Conservation Area continues to be a priority area for the importance of the biological corridor and linkages as well as for advancing the overall goals and objectives of the Plan.

In September 2024, an appraisal report was completed for targeted properties in the UMC/BMC Conservation Area. The fair market value of the properties was determined, and contingent offer letters were sent to potential willing sellers. The acquisition manager has spent many hours negotiating with property owners in the area and, after complex and lengthy negotiations, one property owner accepted the contingent offer and executed an Agreement for the Purchase and Sale of Real Estate with the CVCC for the following parcel:

- Assessor Parcel Number 665-110-003 totaling approximately +/-10.77 acres, for a purchase price of \$140,000, (or \$12,999 per acre), plus closing and transaction related costs not to exceed \$2,500.

The purchase agreement is contingent upon: (1) approval by the CVCC; (2) the sellers' ability to provide the CVCC an owner's policy of title insurance subject only to such exceptions as may be accepted in writing by the CVCC; and (3) a site inspection demonstrating that there are no hazardous materials or hazardous conditions on the Property, and all debris shall be removed by close of escrow by sellers.

The purchase price of the parcel is consistent with other recent conservation purchases in the area. The parcel is located at Dillon Road, east of Nancy Drive and west of Palm Drive, within a potentially

highly developable area in the City of Desert Hot Springs. The parcel is also directly adjacent to other parcels already owned by CVCC. Acquiring the property will help staff manage this area for illegal dumping.

The property has an unpaved dirt road that leads to a slab foundation where an old homestead cabin once existed. The acquisition manager confirmed, through review of public records, that the demolition of the homestead in the 1980s was appropriately permitted by the County of Riverside. The seller also disclosed the presence of an abandoned well and potential septic tank on the property and worked with the acquisition manager to confirm that the well had been properly capped and abandoned. The seller did not have knowledge of the exact location of the septic tank and contracted with a specialized septic company to identify its location and abandon in place. The septic contractor was unable to locate any septic tank in any of the locations indicated by abandoned leach lines or topographical features. It seems likely that the septic tank was collapsed and filled during the earlier demolition of the property, but County records are incomplete on that detail.

The subject property also contained illegal dumping along the dirt road and the wash area that leads to the old homestead slab foundation. During the negotiation process, sellers were cited by the City of Desert Hot Springs' Code Enforcement for the illegal dumping. The sellers completed the cleanup of the dumping in early October to avoid any disturbance to potential nests during nesting season. The acquisition manager has confirmed that the property is now free and clear of all dumping.

Staff recommends the CVCC approve Resolution 2025-07 and authorize the purchase of the property which contains significant conservation value for use as part of the CVMSHCP reserve system with recreational options, consistent with habitat values in perpetuity to advance the goals and objectives of the Plan by maintaining the wildlife corridor for the conservation area.

Fiscal Analysis: The cost of the purchase is \$140,000, with closing costs not to exceed \$2,500. Funding for this purchase is available in CVCC's Land Acquisition Fund.

Attachments:

1. Resolution 2025-07
2. Property location map

Resolution No: 2025-07

**A RESOLUTION OF THE
COACHELLA VALLEY CONSERVATION COMMISSION
AUTHORIZING ACQUISITION OF
APN 665-110-003**

WHEREAS, the Coachella Valley Conservation Commission ("Commission") is a public agency of the State of California formed by a Joint Exercise of Powers Agreement; and

WHEREAS, the Commission implements the Coachella Valley Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan ("Plan"); and

WHEREAS, the primary means of conservation under the Plan is acquisition of land from willing sellers; and

WHEREAS, APN 665-110-003 consisting of approximately +/-10.77 acres, as further described in Exhibit A (the "Property"), is within the Upper Mission Creek/Big Morongo Canyon Conservation Area of the Plan, containing biological resources such as important plant or wildlife habitat or hydrologic features, cultural resources, significant scenic attributes, and recreational options consistent with habitat values; and

WHEREAS, the owners have accepted a contingent offer for the Commission to purchase the Property at the fair market value determined by an appraisal; and

WHEREAS, acquisition of the Property would advance the goals and objectives of the Plan; and

NOW, THEREFORE, be it resolved that the Commission approves the purchase of the Property using the Land Acquisition Fund at the appraised fair market value of \$140,000 plus closing and transaction related costs estimated not to exceed \$2,500.00; and

FURTHER, the Commission hereby authorizes the Executive Director to negotiate and execute all necessary contracts and documents and take such other actions as necessary to effect the acquisition of the Property.

The foregoing Resolution was passed by the Coachella Valley Conservation Commission this 13th day of November 2025.

APPROVED:

Gary Gardner
Chair

Tom Kirk
Executive Director

Exhibit A

Legal Description of Real Property to be Acquired

The land referred to herein is situated in the State of California, County of Riverside and described as follows.

The South 1,000 feet of the East 495 feet of the Northeast Quarter of Section 12, Township 3 South, Range 4 East, San Bernardino Meridian, as shown by United States Government Survey

EXCEPTING THEREFROM the northerly 15 feet of the Southerly 55 feet thereof, as conveyed to the County of Riverside by deed recorded September 12, 1963, as Instrument No. 100129.

APN: 665-110-003

Proposed Acquisition in Upper Mission Creek/Big Morongo Canyon

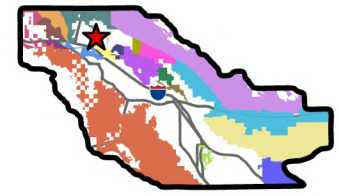


CVCC

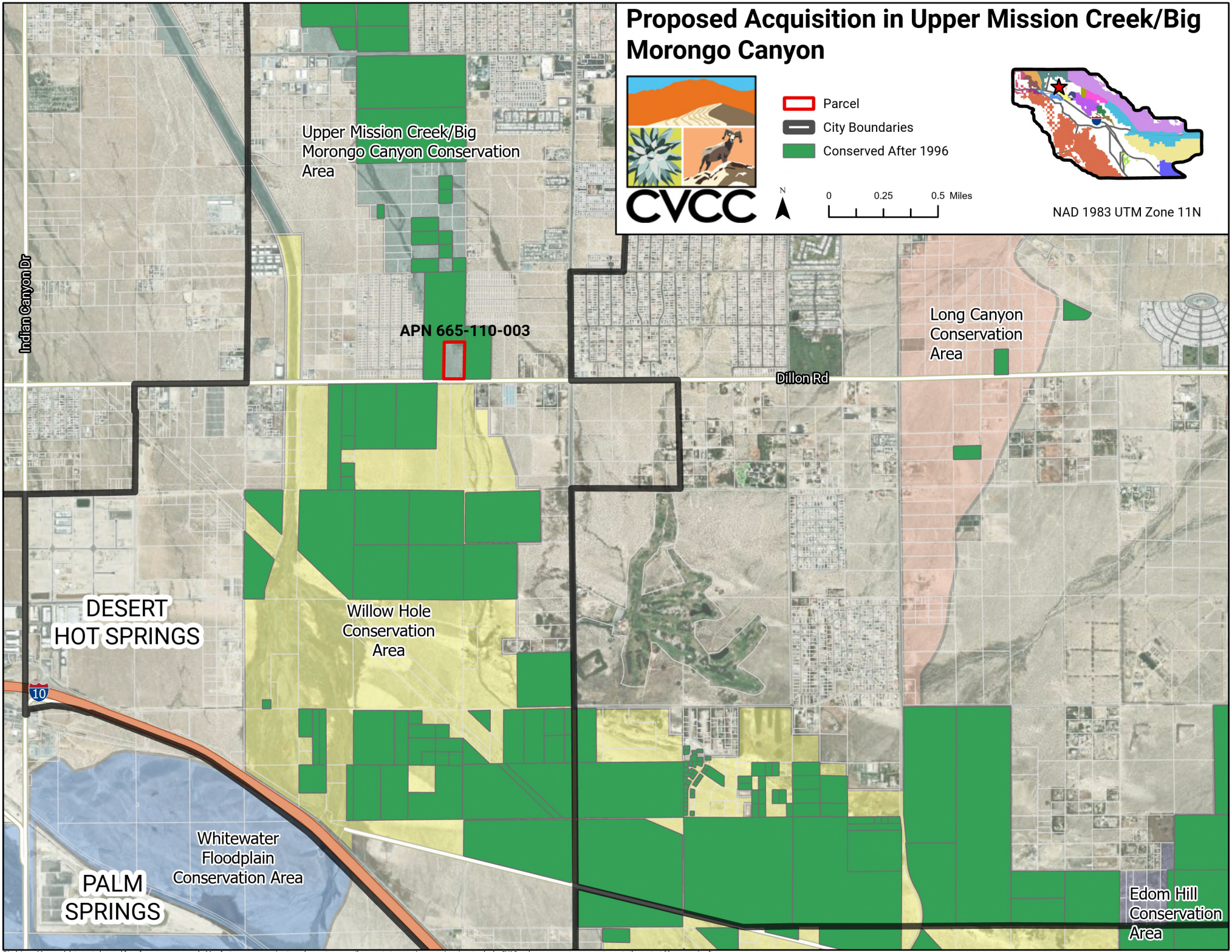
- Parcel
- City Boundaries
- Conserved After 1996



0 0.25 0.5 Miles



NAD 1983 UTM Zone 11N



Disclaimer: Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. CVAG makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user

Coachella Valley Conservation Commission

November 13, 2025



STAFF REPORT

Subject: Burrowing Owl Status & Permitting Update

Contact: Kathleen Brundige, Director of Land and Habitat Conservation
(kbrundige@cvaq.org)

Recommendation: Information

Background: On September 19, 2025 the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife issued a formal letter to the CVCC, with copies going to City Managers and key staff of Permittees participating in the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The letter addressed compliance concerns related to the western burrowing owl (BUOW). CVCC staff takes these concerns with the utmost seriousness. Staff are actively coordinating with both wildlife agencies to ensure compliance with permit obligations and are working collaboratively with Permittees to address the issues raised. A formal response is anticipated within the next month. An update on burrowing owl monitoring and management will also be presented at the CVCC meeting scheduled for November 13, 2025.

Since the Plan's adoption in 2008, CVCC has made significant progress in burrowing owl monitoring and management, addressing many of the concerns outlined in the recent correspondence. In February 2025, staff submitted comprehensive documentation to both wildlife agencies in response to a request for data and reports that may inform the State's decision regarding the potential listing of the western burrowing owl. This decision has been deferred until spring 2026 to allow for thorough review of population data. Supporting documentation includes Annual Work Plans developed by the CVCC's Reserve Management Oversight Committee (RMOC) and its Reserve Management Unit Committees (RMUC); Annual Reports detailing biological monitoring and management outcomes; and peer-reviewed scientific publications. These materials are linked throughout this staff report for ease of access.

The CVCC remains steadfast in its commitment to the CVMSHCP and to conserving the biodiversity of the Coachella Valley and promoting the long-term viability of the western burrowing owl. Excerpts in bold from the [CVMSHCP Section 8.5.2 Burrowing Owl Conservation Strategy Actions](#) (pg. 90) followed with details on how they have been addressed since the Plan was permitted in 2008.

REQUIREMENTS FROM THE PLAN

Excerpt from CVMSHCP Section 8.5.2:

First 3 Years – CVCC shall implement an interim conservation strategy, subject to approval of the Wildlife Agencies, that shall involve:

- 1) Systematic surveys of appropriate habitat within the Conservation Areas, where access is provided, using a protocol developed through the Monitoring Program with Wildlife Agency concurrence, to determine distribution and abundance of BUOW within Conservation Areas.***

- 2) Management actions to be taken to eliminate potential threats and stressors to BUOW and to sustain the BUOW population. These actions may include:**
- a. Installation of artificial burrows in the CAs where appropriate to attract and retain BUOW;**
 - b. Installation of artificial perches in CAs where appropriate to attract and retain BUOW;**
 - c. Other actions as necessary to maintain a minimum of 16 pairs of BUOW within the Conservation areas until data are gathered to identify a minimum number of occupied sites and carrying capacities for those sites.**

An Interim Management Strategy was required for burrowing owls upon Plan issuance. The Plan required the RMOC implement an adaptive approach to burrowing owl management with data gathered through the Monitoring Program. The following information was obtained through the CVCC Biological Monitoring Program for the implementation of the Interim Conservation Strategy as well as the development of the long-term conservation strategy for BUOW during the first six years following the Permit issuance.

In September 2009, CDFW awarded the CVCC a Local Assistance Grant P0860011 to complete the objectives of establishing a reliable baseline of distribution and abundance of burrowing owls. A biological working group was convened and burrowing owl experts were consulted to provide background to test various methodologies for the inventory. Fulfilling these objectives in support of the CVMSHCP provided the Interim Conservation Strategy including the development of a region-wide Burrowing Owl Inventory and Monitoring Protocol along with a habitat suitability niche model and occupancy models to guide future survey efforts and key areas to best support BUOW.

The 2009 survey effort completed surveys inside and outside planned conservation areas, including the inventory of owls in levees, berms, dikes, and similar features in the CVMSHCP area maintained by the Permittees. As a deliverable, a geographically referenced database of all known burrowing owl locations (nest sites and individual sightings) throughout the berms, levees, and dikes was developed including historic museum and California Natural Diversity Database data.

Recommendations for the long-term conservation strategy were presented as results and reviewed with the wildlife agencies as part of the 2009 and 2010 Reserve Management Unit Committees (RMUC) and Reserve Management Oversight Committee (RMOC) meetings, resulting in the final grant report "[*Inventory and Monitoring of Western Burrowing Owls for the CVMSHCP*](#)" as well as a peer-reviewed publication in the Wildlife Society Bulletin, "[*Modeling Seasonal Detection Patterns for Burrowing Owl Surveys*](#)".

The 2009 survey effort identified 53 occupied locations, 86 owls, and 40 pairs across 50 (about 750 km) linear survey routes and point counts during the breeding season, as well as an additional seven identified locations on the long-term monitoring plots, using the aeolian sand tracking protocol for a total of 60 independently occupied locations. All told, 70 percent of the locations identified were in the planned conservation areas.

The survey protocol was reviewed by the RMUC and RMOC and repeated in 2011 with slight modification to the routes as informed by the occupancy and niche models to identify highly suitable habitat areas. The survey detected 88 owls, (about 40 pairs) across the 50 linear routes; this time in the post-breeding season, with an additional 10 individuals identified by the aeolian sand surveys. Results were published in the [*2013 BUOW Report for the CVMSHCP Annual Report*](#) (pgs. 53-54 and 79-86).

INTERIM CONSERVATION STRATEGY

The Major Amendment to the CVMSHCP adding Desert Hot Springs as a Permittee under the Plan was completed in 2016. The Interim Conservation Strategy focused on the need to conserve land and complete the Major Amendment to add Desert Hot Springs to the Plan. Protection of the habitat was considered the highest priority from threats such as dumping, off-highway vehicle use, and packs of feral dogs with acquisitions concentrated in the areas with the highest probability of occurrences as found through survey and modeling efforts such as the Upper Mission Creek/Big Morongo Canyon (known as the Special Provision Area prior to the Major Amendment), Snow Creek/Windy Point, Willow Hole and Coachella Valley Stormwater Channel and Delta Conservation Areas.

In the Upper Mission Creek and Big Morongo Canyon Conservation Area alone, CVCC has purchased 105 parcels totaling approximately 3500 acres, for a cost of \$24 million. As of 2025, nearly all of the observed occupied habitat from the 2009 and 2011 surveys has been conserved, and many of the parcels have been fenced, signed and have regular patrols to monitor dumping, vandalism, OHV use, and encampments.

Since the BUOW populations were thriving in natural burrows, meeting the minimum of 16 pairs and averaging 40 pairs per survey year, no installation of artificial burrows or artificial perches were recommended unless the RMOC identified a dramatic decrease in the population numbers. It was also recommended that a subset of nest sites be monitored annually to understand how selection of prey items contributed to nest success. Starting in 2014, CVCC cleaned, signed, and fenced off BUOW habitat in the Upper Mission Creek-Big Morongo Wash and Willow Hole Conservation Areas, where most owls were identified in Desert Hot Springs. These lands are closely monitored for OHV use and other illegal activities. CVCC has to date installed approximately 13 miles of post and cable fence in BUOW habitat to protect from these activities.

Additional recommendations included working directly with Coachella Valley Water District to complete their Operations and Maintenance Manual due to the BUOWs found in the Coachella Valley Stormwater Channel. The Manual went through several revisions during review by the wildlife agencies from 2012 to 2015. [The O&M Manual](#) was completed in September 2015.

RESEARCH FOR LONG-TERM CONSERVATION STRATEGY

Excerpt from CVMSHCP Section 8.5.2

Within First 6 Years – Research and monitoring should focus on gathering data to address specific questions through the hypothesis-based adaptive management approach. Information from the interim conservation strategy should be used as a guidance tool. Data gathered during the first 6 years, together with other pertinent scientific information, should be used to develop a long-term conservation strategy for BUOW.

- 1) Monitoring Program shall address the following Questions:**
 - a. Territory and home range size for BUOW pairs in Cons Areas;**
 - b. Source population for BUOW dispersal/immigration into CAs;**
 - c. Reproductive success and recruitment of known BUOW pairs in CAs;**
 - d. Analysis of historic and current observations of BUOWs within Plan area to ascertain past and present distribution and habitat use;**
 - e. Other questions as identified during the Adaptive Management process.**
- 2) Implement the long-term conservation strategy developed from the data gathered during the first 6 years.**
- 3) Applicable Permittees shall require that relocation of BUOW consistent with Section 4.4 be implemented for all Covered Activities.**

The CVMSHCP Biological Monitoring Program worked with the RMO and RMUC including Wildlife Agency representatives to address the Monitoring Questions identified in the Plan for the long-term conservation strategy. Each year, priorities were identified for the Annual Work Plan and Budget.

Monitoring question 1D was completed with the 2009 and 2011 inventory along with the modeling efforts that resulted in a Habitat Suitability Niche Model and a MaxEnt Species Distribution Model.

In 2011, for question 1B, a study was conducted to investigate the spatial ecology of burrowing owls within Riverside County to account for observed fluctuations to determine their significance for population viability by analyzing $\delta^2\text{H}$, $\delta^{13}\text{C}$, and $\delta^{15}\text{N}$ isotope ratios of adult and nestling feathers to develop isotopic signatures of nestlings' native born to localities across Riverside. Isotopic signatures to developed environmental isoscapes to determine if the techniques could be used on a local scale to understand the spatial boundaries of populations and to determine philopatric (native-born) and immigrant owls. As part of this work:

- Known nest sites were visited throughout the breeding season and chicks of the right age. Owls were trapped for banding efforts and feathers collected for isotope analyses. A total of 32 feathers were collected from 26 owls within the Coachella Valley in suburban, wildland, and agricultural areas. Six additional feathers were collected from owls residing in wildland and suburban areas in Western Riverside County for comparison. Nestlings were trapped at six nest sites in western Riverside County and eight nest sites in the Coachella Valley. Each nest had a brood size of one-to-five nestlings. In the Coachella Valley, feathers were collected from at least seven individuals in each habitat type (wildland, suburban, and agricultural). In western Riverside County, feathers were collected exclusively from nestlings within wildland habitat.
- Many nestling owls exhibited isotopic signatures within the precipitation range for deuterium in southern California. Three feathers collected along the Coachella Valley Stormwater Channel exhibited deuterium readings closer to those from Mexico. Five feathers collected from individuals in the Lake Matthews and Whitewater Hill locations matched the deuterium concentrations expected from the Colorado River watershed, inferring that those individuals have access to Colorado River water on a regular basis. Five feathers collected from western Coachella Valley and western Riverside County returned deuterium readings off of local scales and closest to deuterium gradients in the Yucatan and southeastern United States.
- Results were published in the ["2013 Biological Monitoring Program Year End Report - Appendix 3: Isotopic analyses and spatial ecology of Riverside County burrowing owls \(*Athene cunicularia*\)" \(pgs. 79-86\).](#)

In early 2015, CVCC held a BUOW Conservation Workshop, to coordinate monitoring efforts and objectives among the regional habitat plans, including research questions regarding factors supporting or impacting this species. Wildlife agency representatives along with burrowing owl biologists, land managers and consultants attended the meeting and provided recommendations.

In 2015 and from 2017 to 2020, annual monitoring efforts focused on walking a subset of the transects that had owls present and identifying 10 nests to be monitored by wildlife cameras to address monitoring question 1C. Because 2016 was a severe drought year, monitoring priorities shifted away from the BUOWs that year. The cameras recorded demographic data and prey availability for these nests. Pellets were also collected from nests regularly to identify Palm Springs pocket mouse and other rodent species persistence within the owls' home range. These cameras helped document the reproductive success of the nests, diets (via pictures from the cameras coupled with the collection of pellets), and nest disturbance levels (from people and potential predators). The results of these studies can be found in the [2015 \(pgs. 35-43\)](#), [2017 \(pgs. 93-102\)](#), [2019 \(pgs. 123-135 and 210-243\)](#), and [2020 \(pgs. 117-137\)](#) biological monitoring sections of the CVMSHCP Annual Report.

One of the highest priorities identified for the long-term conservation strategy at the 2015 Burrowing Owl Workshop was the need to understand the effectiveness of relocation as a burrowing owl conservation and management method. Burrowing owls have adapted to a variety of disturbed and developed sites. However, the presence of burrowing owls in development areas results in conflicts between conservation and economic activity. Avoidance, minimization, and conservation measures are used when land development displaces and negatively impacts resident species. When avoidance of burrowing owl impacts is not feasible, the California Department of Fish and Wildlife (CDFW) recommends mitigation (required in compliance with the California Environmental Quality Act) through the use of disturbance buffers (setback distances) and burrow exclusion (passive relocation). Ongoing monitoring of passively and actively relocated owls using telemetry was needed to fully assess the success of the management action.

In 2015, the San Diego Zoo Institute for Conservation Research received a Local Assistance Grant #P1682901 from California Department of Fish and Wildlife to track passive and actively translocated owls outside and adjacent to conservation areas with the attachment of GPS backpack trackers. CVCC also provided a support letter and matching funds for a second study funded through the California Energy Commission (CEC) to expand the study to renewable energy sites throughout California. The results of this study can be found in the [2019 Annual Report](#) (pgs. 210-243) and the corresponding CEC study for renewable energy can be found on [the CEC website](#).

From 2021 to 2023, BUOW monitoring was not implemented in the CVMSHCP area. Populations were considered relatively stable, with the most significant threats being homeless encampments and raven predation as well as illegal dumping. Homeless encampments were an ongoing challenge, and focused management actions were completed to protect BUOW habitat from illegal camping and dumping. The fiscal analysis for ongoing management of these areas is included below.

In August 2023, Tropical Storm Hilary caused significant flooding and erosion of much of the habitat in the City of Desert Hot Springs. Emergency flood control cleanup efforts significantly affected the habitat.

As part of the Annual Work Plan for Fiscal Years 2024 and 2025, the RMOC requested a full resurvey addressing research question 1D, using the original transects inside and outside the conservation area to verify the persistence of the BUOW population.

- In 2025, Imperial Irrigation District and AECOM biologists performed a region-wide census of burrowing owls, repeating and expanding the methodology from the 2009 and 2011 surveys, but with a reduced number of samples (two vs. five per route/cell).
- In 2025, CVCC contracted with Dr. Conway and the University of Idaho to revisit at least 100 owls in the conservation areas, and along levees, berms and dikes in Riverside Flood Control, IID, and Coachella Valley water District (CVWD) service areas to perform banding surveys and collect tissue for DNA analysis. Results should address population viability, demographics and resident vs transient owl questions for the long-term conservation strategy.

Staff has spent significant time coordinating with local Permittees on this issue. Staff will continue to work with the wildlife agencies to address any questions related to this issue.

Fiscal Analysis: There is no additional cost to this update. Coordination with the wildlife agencies, as well as the Plan Permittees, is covered under existing staff time.

In the Upper Mission Creek/Big Morongo Canyon Conservation Area of Desert Hot Springs and the County of Riverside, CVCC has purchased 105 parcels totaling approximately 3500 acres, for

a cost of about \$24 million. Fencing, signage and cleanups of these areas has cost approximately \$456,000 since 2014. This amount does not include encampment cleanup and land management costs or Biological Monitoring costs budgeted for the Fiscal Year 2025-26 Management and Monitoring Fund.

ITEM 8D

Coachella Valley Conservation Commission

November 13, 2025



STAFF REPORT

Subject: Cleanup of Illegal Dumpsites and Encampments in Upper Mission Creek/Big Morongo Canyon Conservation Areas

Contact: Will Steichen, Conservation Management Analyst (wsteichen@cvag.org)

Recommendation: Information

Background: The CVCC owns several parcels in and around the City of Desert Hot Springs that are within the Upper Mission Creek/Big Morongo Canyon Conservation Areas. These parcels serve as important transition zones between conservation habitat and developed areas. Since 2019, CVCC and its partners have observed increasing challenges with illegal dumping and homeless encampments on these properties, where soft sand dunes, washes, and limited access routes have complicated cleanup efforts and created ongoing health, safety, and environmental concerns.

To address these issues, CVCC secured funding in early 2025 from the California Department of Resources Recycling and Recovery (CalRecycle) through the Illegal Disposal Site Abatement Grant Program. This funding supports cleanup, transportation, and disposal activities across approximately 1,284 acres of CVCC-owned lands. The grant was designed to cleanup address 15 previously identified dumpsites including nine encampments, as well as any new sites identified during the contract term.

The project is being completed in two phases: Phase 1 addresses encampment dismantling, cleanup, and debris removal; car, trailer and RV towing; and tire and hazardous materials consolidation. Phase 2 will address hazardous waste packaging, transportation, and disposal; general project area cleanup and tire removal. The Urban Conservation Corps (UCC) will collect and recycle the consolidated tires at no cost to CVCC.

In October 2025, CVCC staff led a coordinated undertaking to cleanup its properties. In preparation for encampment evictions, CVCC staff coordinated with the City of Desert Hot Springs Police Department, Code Compliance and Animal Control to ensure the cleanup proceeded safely and lawfully. CVCC also coordinated with the Social Welfare Action Group (SWAG), which the City contracts with to run homelessness services at The Hub. On September 24, 2025, CVCC and City partners issued eviction notices at all known encampment sites, providing a 34-day notice for voluntary relocation and access to supportive services. Throughout October, Desert Hot Springs Police and SWAG conducted weekly outreach, offering temporary supportive shelter and rehabilitative treatment. CVCC also leased a storage unit and offered residents the opportunity to store personal belongings during their relocation.

On October 27, 2025, CVCC staff, Desert Hot Springs Police and SWAG conducted the final eviction and outreach support. Several residents were assisted in freeing drivable vehicles that had become stuck in the sand, allowing them to leave voluntarily prior to site clearance. No arrests

or forceful evictions were required. One female dog and her six newborn puppies were found abandoned and removed by Desert Hot Springs Animal Control.

As cleanup operations commenced, AIS began debris removal, addressing one encampment site at a time, while E&C Towing coordinated the recovery and disposal of abandoned vehicles across the project area. Progress has remained steady despite difficult conditions, including soft sand, narrow access routes, and equipment frequently getting stuck. These challenges require ongoing coordination and safety adjustments throughout the cleanup.

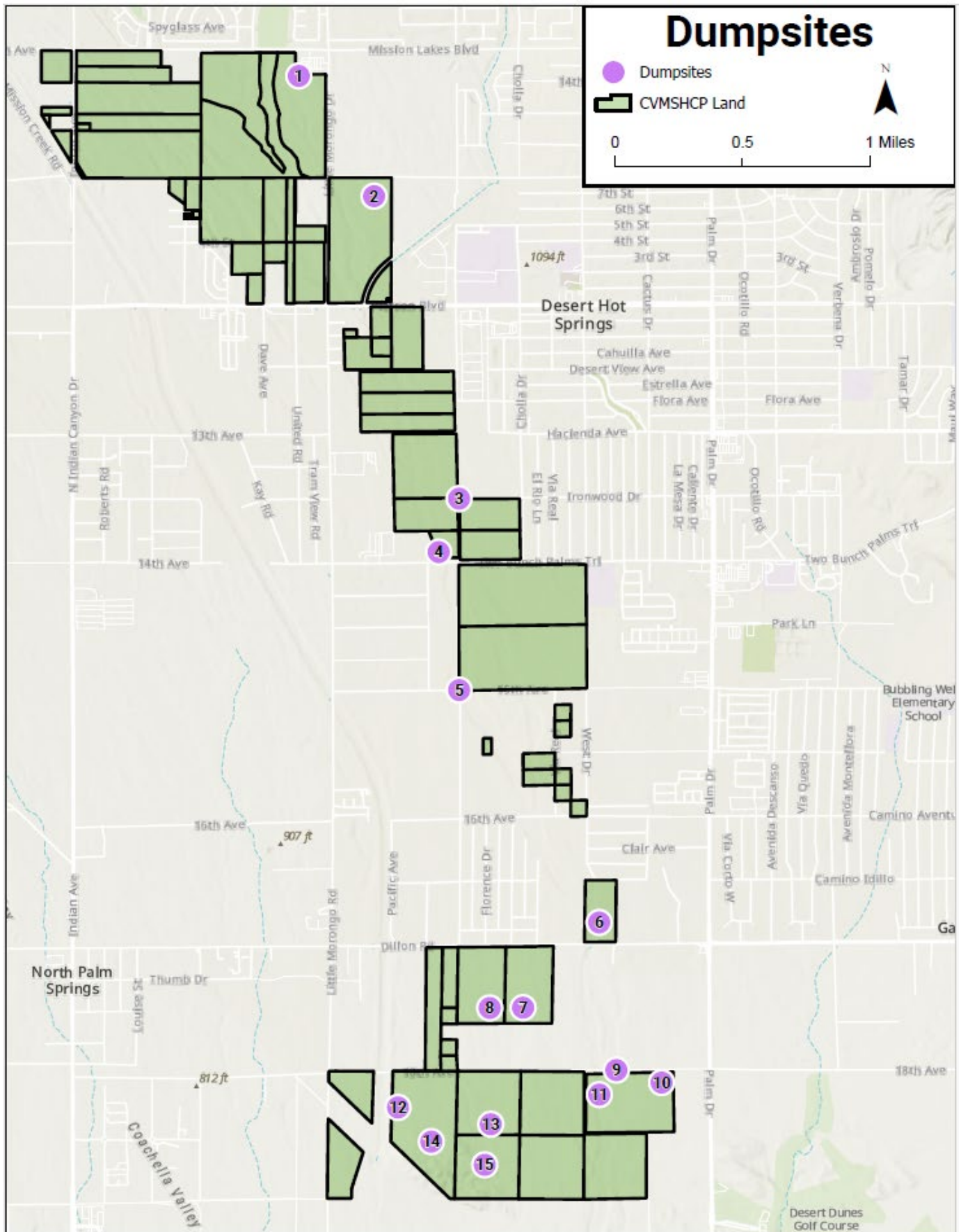
As of October 30, 2025, the two largest sites have been cleared of debris, structures, and vehicles. Eighteen 40-cubic yard dumpsters with roughly 200,000 pounds of debris have been removed. While the project was originally anticipated to take two weeks, the difficult terrain and site conditions have extended the timeline by an additional week and have required close attention by CVCC staff.

Following the cleanup, CVCC coordinated with Desert Hot Springs Police to continue regular patrols of the project area, funded through an existing Memorandum of Understanding (MOU) between CVCC and the City. In addition, four Flock Safety cameras will be installed this winter throughout the site and integrated into the Desert Hot Springs Police Department's camera network, allowing for real-time monitoring and response to any new illegal dumping or encampment activity that may occur after the cleanup.

Fiscal Analysis: The cleanup project is funded through the Management and Monitoring Program budget and will be fully reimbursed by the CalRecycle grant. These costs are included in the CVCC Fiscal Year 2025-26 budget.

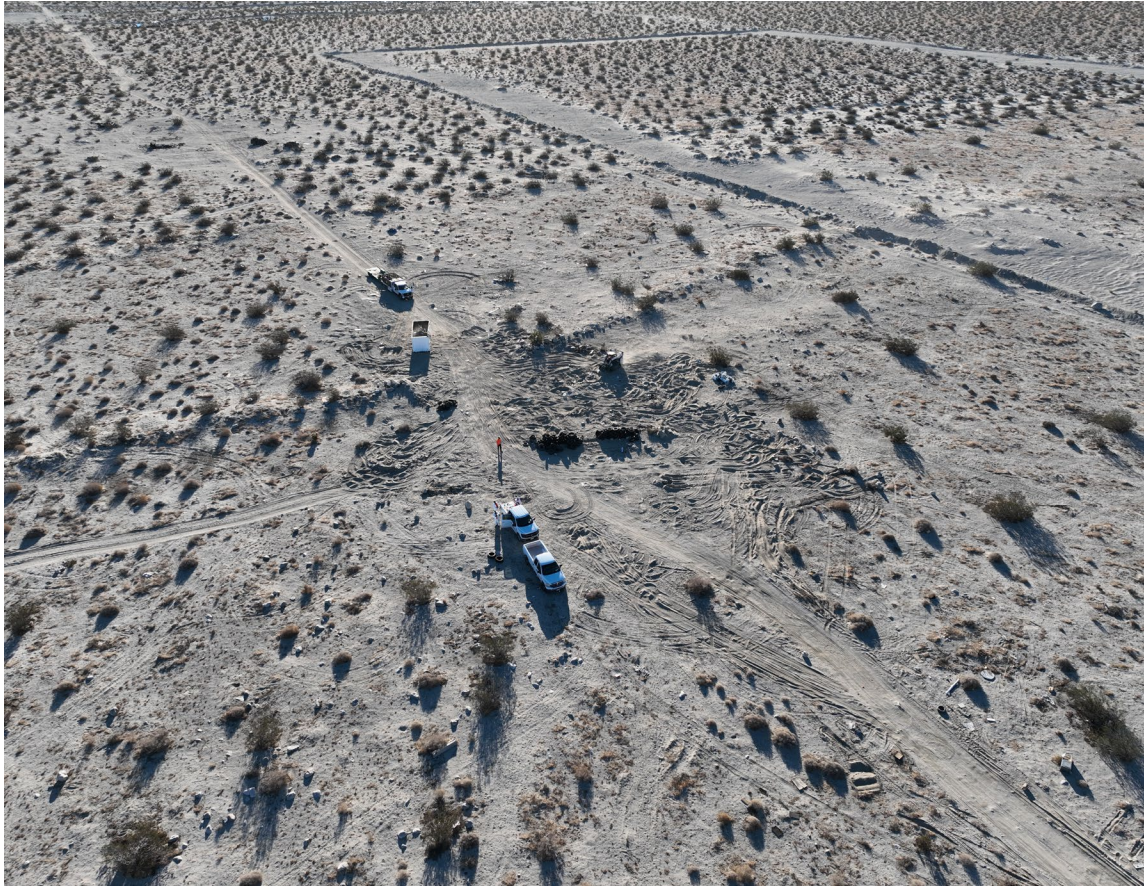
Following a competitive procurement process, the CVCC in June awarded a contract to American Integrated Services (AIS) for a not-to-exceed amount of \$249,234. AIS quoted \$118,240 for Phase 1 leaving \$130,994 available for Phase 2 and contingency. E&C Towing performed vehicle towing, storage, and disposal services on an as-needed basis, under a contract not to exceed \$100,000. The agreement, executed under the Executive Director's signature authority, extends through March 31, 2027. UCC will collect and recycle the consolidated tires at no cost to CVCC.

Attachment: Project site map and photos



Site 8 (10/27/2025)







Site 15 (10/28-29/2025)





Site 15 (after) - 3 RV's left to remove.



Site 12 (10/30-11/3/2025)









Item 9A

**COACHELLA VALLEY CONSERVATION COMMISSION
FY2025-2026 ATTENDANCE RECORD**

JURISDICTION / AGENCY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
City of Cathedral City	-	-	✓	-	-	-	-	-	-	-	-	-
City of Coachella	-	-	✓	-	-	-	-	-	-	-	-	-
Coachella Valley Water District	-	-		-	-	-	-	-	-	-	-	-
City of Desert Hot Springs	-	-	✓	-	-	-	-	-	-	-	-	-
Imperial Irrigation District	-	-		-	-	-	-	-	-	-	-	-
City of Indian Wells	-	-	✓	-	-	-	-	-	-	-	-	-
City of Indio	-	-	✓	-	-	-	-	-	-	-	-	-
City of La Quinta	-	-	✓	-	-	-	-	-	-	-	-	-
City of Palm Desert	-	-	✓	-	-	-	-	-	-	-	-	-
Mission Springs Water District	-	-	✓	-	-	-	-	-	-	-	-	-
City of Palm Springs	-	-	✓	-	-	-	-	-	-	-	-	-
City of Rancho Mirage	-	-	✓	-	-	-	-	-	-	-	-	-
Riverside County - District 1	-	-	✓	-	-	-	-	-	-	-	-	-
Riverside County - District 2	-	-	✓	-	-	-	-	-	-	-	-	-
Riverside County - District 3	-	-	✓	-	-	-	-	-	-	-	-	-
Riverside County - District 4	-	-	✓	-	-	-	-	-	-	-	-	-
Riverside County - District 5	-	-	✓	-	-	-	-	-	-	-	-	-

Absent 
 Present 
 No Meeting 

ITEM 9B

Coachella Valley Conservation Commission
November 13, 2025



STAFF REPORT

Subject: Contracts under Executive Director's signing authority

Contact: Allen McMillen, Contracts Analyst, (amcmillen@cvag.org)

Recommendation: Information

Background: The following contracts were signed by the CVCC Executive Director under his signature authority since the Commission last met in September 2025:

1. A Research Project Schedule (RPS) was executed for a not-to-exceed amount of \$74,703 in accordance with the U.C. Riverside (UCR) Master Research Agreement to analyze the genetic effectiveness of linkages for corridor dwelling small mammals. This master agreement was approved by the Commission in June 2025 to allow CVCC to continue to engage in contracts with UCR through June 2030.
2. A no-cost amendment was executed to the Memorandum of Understanding (MOU) with the City of Desert Hot Springs to extend the term through June 30, 2026 for cooperative land management and law enforcement activities under the Coachella Valley Multiple Species Habitat Conservation Plan.

Fiscal Analysis: The UCR RPS services are in accordance with the UCR Master Research Agreement approved by the Commission in July 2025 and extending through June 30, 2030.

There is no additional cost incurred for executing the MOU with the City of Desert Hot Springs.

Coachella Valley Conservation Commission

November 13, 2025



STAFF REPORT

Subject: Acquisition Status Report

Contact: Peter Satin, Conservation Program Manager (psatin@cvag.org)

Recommendation: Information

Background: In response to feedback from the CVCC, staff has established an acquisition tracker to provide updates on where current acquisition efforts are being prioritized and the status of any open negotiations. This report will now appear regularly on CVCC meeting agendas.

Prior to taking title to any property, CVCC and staff at the Coachella Valley Mountains Conservancy conduct a title review to identify any items of concern recorded against the property (such as deeds of trust or existing easements) and perform a site inspection to identify any physical defects on the property (including dumping, illicit off-road vehicle use and similar concerns). An appraisal is also ordered to determine the fair market value of the property. The findings from each of these due diligence activities will inform the final acquisition price offered in the Purchase and Sale Agreement, which is brought before CVCC for approval.

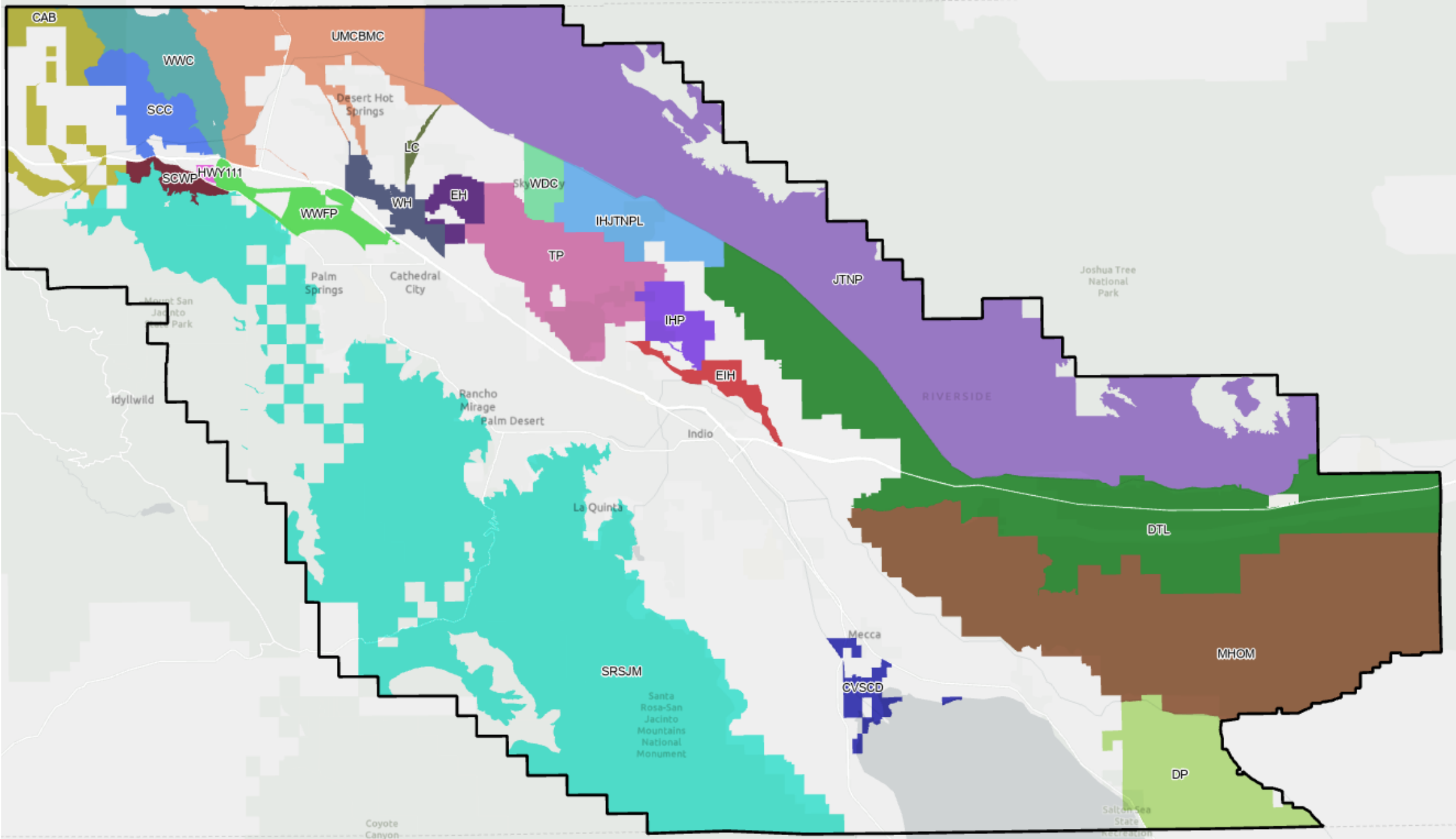
CVCC has not closed on any parcels since September.

CVCC Commissioners have also inquired about the status of tax-default sales. In 2023, the US Supreme Court handed down the decision *Tyler v. Hennepin County, Minnesota, et al.*, finding that public agencies could not retain any revenues from tax-default sales that exceeded the sum total of delinquent taxes owed. The Riverside County Treasurer-Tax Collector has suspended all in-process tax-default sales while it reviews the implication of the *Tyler* decision on future tax-default sales. CVCC has not withdrawn its application for the current round of tax-default sales, but staff have been informed by the Treasurer's office that the original purchase prices are no longer valid. CVCC staff will continue to monitor the situation and provide updates in future status reports.

Fiscal Analysis: This informational item has no cost. Individual purchase prices are listed for each respective project.

Active Acquisitions									
Conservation Area	APN(s)*	Acreage	Title Review	Site Inspection	Appraisal	PSA	Purchase Price	Close of Escrow	
WH	1	9.23	X						
WH	1	5	X						
TP	1	5.14	X						
TP	1	4.86	X						
MHOM	3	140.75			X	\$	63,000		
UMC 665-110-003		10.77	X	X	X	X	\$ 140,000		

*Only if PSA executed. Otherwise, Parcel Count



ITEM 9D

Coachella Valley Conservation Commission November 13, 2025



STAFF REPORT

Subject: Native Planting Palette Resources for the Coachella Valley

Contact: Will Steichen, Management Analyst – Conservation (wsteichen@cvag.org)

Recommendation: Information

Background: Commissioners have recently requested additional information the use of native and climate-appropriate plants in landscapes throughout the Coachella Valley. The CVCC and its partners have developed several planting palette guides over the years, and this staff report highlights three of them that are intended to assist jurisdictions, land managers, developers, and residents in choosing plant species that support conservation goals, climate resilience, and community well-being.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), managed by the CVCC, provides an official plant palette in Table 4-112. This includes a comprehensive list of native species suitable for landscaping within the Plan Area. Developed in collaboration with The Living Desert and the Coachella Valley Mountains Conservancy, this palette serves as the foundational resource for ensuring that landscaping within conservation areas and mitigation projects supports native biodiversity.

In 2021, the Coachella Valley Association of Governments (CVAG) supported a CivicSpark fellowship that led to the development of an Urban Greening Guide. This guide focuses on building urban greening capacity. It includes a Tree Palette, developed through consultation with arborists, nurseries, University of Riverside, The Living Desert and other experts. It was intended to support cities in implementing climate action plans, pursuing grant funding, and guiding community-level greening projects.

The Friends of the Desert Mountains (FODM) has also produced a Native Planting Guide. The most recent guide, produced in 2023-24, is designed for broad public use. It provides a reader-friendly, visually engaging resource that highlights the ecological, cultural, and practical benefits of native plants. It also complements the more technical palettes by offering a tool that residents, schools, and community groups can easily apply.

Staff is including copies of all three guides as part of this report. Collectively, these resources reinforce the importance of aligning conservation goals with community greening efforts and provide a suite of tools that can be applied across technical, policy, and public-facing contexts.

Fiscal Analysis: There is no additional cost for this informational item.

Attachments:

1. CVMSHCP Plant Palette (Table 4-112)
2. Urban Greening Guide - CivicSpark (2021)
3. Friends of the Desert Mountains' Native Planting Guide

**Table 4-112: Coachella Valley Native Plants
Recommended for Landscaping¹**

BOTANICAL NAME	COMMON NAME
Trees	
<i>Washingtonia filifera</i>	California Fan Palm
<i>Cercidium floridum</i>	Blue Palo Verde
<i>Chilopsis linearis</i>	Desert Willow
<i>Olneya tesota</i>	Ironwood Tree
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	Honey Mesquite
Shrubs	
<i>Acacia greggii</i>	Cat's Claw Acacia
<i>Ambrosia dumosa</i>	Burro Bush
<i>Atriplex canescens</i>	Four Wing Saltbush
<i>Atriplex lentiformis</i>	Quailbush
<i>Atriplex polycarpa</i>	Cattle Spinach
<i>Baccharis sergiloides</i>	Squaw Water-weed
<i>Bebia juncea</i>	Sweet Bush
<i>Cassia (Senna) covesii</i>	Desert Senna
<i>Condalia parryi</i>	Crucillo
<i>Crossosoma bigelovii</i>	Crossosoma
<i>Dalea emoryi</i>	Dye Weed
<i>Dalea (Psoralea) schottii</i>	Indigo Bush
<i>Datura meteloides</i>	Jimson Weed
<i>Encelia farinosa</i>	Brittle Bush
<i>Ephedra aspera</i>	Mormon Tea
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Eriogonum wrightii membranaceum</i>	Wright's Buckwheat
<i>Fagonia laevis</i>	(No Common Name)
<i>Gutierrezia sarothrae</i>	Matchweed
<i>Haplopappus acradenius</i>	Goldenbush
<i>Hibiscus denudatus</i>	Desert Hibiscus
<i>Hoffmannseggia microphylla</i>	Rush Pea
<i>Hymenoclea salsola</i>	Cheesebush
<i>Hyptis emoryi</i>	Desert Lavender
<i>Isomeris arborea</i>	Bladder Pod
<i>Juniperus californica</i>	California Juniper
<i>Krameria grayi</i>	Ratany
<i>Krameria parvifolia</i>	Little-leaved Ratany
<i>Larrea tridentate</i>	Creosote Bush
<i>Lotus rigidus</i>	Desert Rock Pea
<i>Lycium andersonii</i>	Box Thorn
<i>Petalonyx linearis</i>	Long-leaved Sandpaper Plant
<i>Petalonyx thurberi</i>	Sandpaper Plant
<i>Peucephyllum schottii</i>	Pygmy Cedar
<i>Prunus fremontii</i>	Desert Apricot
<i>Rhus ovata</i>	Sugar-bush
<i>Salazaria mexicana</i>	Paper-bag Bush

Table 4-112 (cont.)

BOTANICAL NAME	COMMON NAME
<i>Salvia apiana</i>	White Sage
<i>Salvia eremostachya</i>	Santa Rosa Sage
<i>Salvia vaseyi</i>	Wand Sage
<i>Simmondsia chinensis</i>	Jojoba
<i>Sphaeralcea ambigua</i>	Globemallow (Desert Mallow)
<i>Sphaeralcea ambigua rosacea</i>	Apricot Mallow
<i>Trixis californica</i>	Trixis
<i>Zauschneria californica</i>	California Fuchsia
Groundcovers	
<i>Mirabilis bigelovii</i>	Wishbone Bush (Four O'Clock)
<i>Mirabilis tenuiloba</i>	White Four O'Clock (Thin-lobed)
Vines	
<i>Vitis girdiana</i>	Desert Grape
Accent	
<i>Muhlenbergia rigens</i>	Deer Grass
Herbaceous Perennials²	
<i>Adiantum capillus-veneris</i>	Maiden-hair Fern (w)
<i>Carex alma</i>	Sedge (w)
<i>Dalea parryi</i>	Parry Dalea
<i>Eleocharis montevidensis</i>	Spike Rush (w)
<i>Equisetum laevigatum</i>	Horsetail (w)
<i>Juncus bufonis</i>	Toad Rush (w)
<i>Juncus effuses</i>	Juncus (w)
<i>Juncus macrophyllus</i>	Juncus (w)
<i>Juncus mexicanus</i>	Mexican Rush (w)
<i>Juncus xiphioides</i>	Juncus (w)
<i>Notholaena parryi</i>	Parry Cloak Fern
<i>Pallaea mucronata</i>	Bird-foot Fern
Cacti and Succulents	
<i>Agave deserti</i>	Desert Agave
<i>Asclepias albicans</i>	Desert Milkweed (Buggy-whip)
<i>Asclepias subulata</i>	Ajamete
<i>Dudleya arizonica</i>	Live-forever
<i>Dudleya saxosa</i>	Rock Dudleya
<i>Echinocereus engelmannii</i>	Calico Hedgehog Cactus
<i>Ferocactus acanthodes</i>	Barrel Cactus
<i>Fouquieria splendens</i>	Ocotillo
<i>Mamillaria dioica</i>	Nipple Cactus
<i>Mamillaria tetrancistra</i>	Corkseed Cactus
<i>Nolina parryi</i>	Parry Nolina
<i>Opuntia acanthocarpa</i>	Stag-horn or Deer-horn Cholla
<i>Opuntia bigelovii</i>	Teddy Bear or Jumping Cholla
<i>Opuntia basilaris</i>	Beavertail Cactus
<i>Opuntia echinocarpa</i>	Silver or Golden Cholla
<i>Opuntia ramosissima</i>	Pencil Cholla, Darning Needle Cholla

Table 4-112 (cont.)

BOTANICAL NAME	COMMON NAME
<i>Yucca schidigera</i>	Mojave Yucca, Spanish Dagger
<i>Yucca whipplei</i>	Our Lord's Candle

¹ Source: "Coachella Valley Native Plants, Excluding Annuals (0 ft. to approximately 3,000 ft. elevation)." Compiled by Dave Heveron, Garden Collections Manager, and Kirk Anderson, Horticulturist, The Living Desert, May, 2000, for the Coachella Valley Mountains Conservancy.

² Common names for herbaceous perennials that are followed by "(w)" indicate a water or riparian species.

Table 4-113: Prohibited Invasive Ornamental Plants¹

BOTANICAL NAME	COMMON NAME
<i>Acacia</i> spp. (all species except <i>A. greggii</i>)	Acacia (all species except native catclaw acacia)
<i>Arundo donax</i> (✓)	Giant Reed or Arundo Grass
<i>Atriplex semibaccata</i> (✓)	Australian Saltbush
<i>Avena barbata</i>	Slender Wild Oat
<i>Avena fatua</i>	Wild Oat
<i>Brassica tournefortii</i> (✓✓)	African or Saharan Mustard
<i>Bromus madritensis</i> ssp. <i>rubens</i> (✓)	Red Brome
<i>Bromus tectorum</i> (✓✓)	Cheat Grass or Downy Brome
<i>Cortaderia jubata</i> [syn. <i>C. atacamensis</i>]	Jubata Grass or Andean Pampas Grass
<i>Cortaderia dioica</i> [syn. <i>C. selloana</i>]	Pampas Grass
<i>Descurainia sophia</i>	Tansy Mustard
<i>Eichhornia crassipes</i>	Water Hyacinth
<i>Elaeagnus angustifolia</i>	Russian Olive
<i>Foeniculum vulgare</i>	Sweet Fennel
<i>Hirschfeldia incana</i>	Mediterranean or Short-pod Mustard
<i>Lepidium latifolium</i>	Perennial Pepperweed
<i>Lolium multiflorum</i>	Italian Ryegrass
<i>Nerium oleander</i>	Oleander
<i>Nicotiana glauca</i> (✓)	Tree Tobacco
<i>Oenothera berlandieri</i> (#)	Mexican Evening Primrose
<i>Olea europea</i>	European Olive Tree
<i>Parkinsonia aculeata</i> (✓)	Mexican Palo Verde
<i>Pennisetum clandestinum</i>	Kikuyu Grass
<i>Pennisetum setaceum</i> (✓✓)	Fountain Grass
<i>Phoenix canariensis</i> (#)	Canary Island Date Palm
<i>Phoenix dactylifera</i> (#)	Date Palm
<i>Ricinus communis</i> (✓)	Castorbean
<i>Salsola tragus</i> (✓)	Russian Thistle
<i>Schinus molle</i>	Peruvian Pepper Tree or California Pepper
<i>Schinus terebinthifolius</i>	Brazilian Pepper Tree
<i>Schismus arabicus</i>	Mediterranean Grass
<i>Schismus barbatus</i> (✓✓)	Saharan Grass, Abu Mashi
<i>Stipa capensis</i> (✓✓)	No Common Name
<i>Tamarix</i> spp. (all species) (✓✓)	Tamarisk or Salt Cedar
<i>Taeniatherum caput-medusae</i>	Medusa-head

Table 4-113 (cont.)

BOTANICAL NAME	COMMON NAME
<i>Tribulus terrestris</i>	Puncturevine
<i>Vinca major</i>	Periwinkle
<i>Washingtonia robusta</i>	Mexican fan palm
<i>Yucca gloriosa</i> (#)	Spanish Dagger

¹ Sources: California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego Department of Agriculture.

Key to Table 4-113:

- # indicates species not on CalEPPC October 1999 “Exotic Pest Plants of Greatest Ecological Concern in California” list
- ✓ indicates species known to be invasive in the Plan Area
- ✓✓ indicates particularly troublesome invasive species

4.5.6 Barriers

Land uses adjacent to or within a Conservation Area shall incorporate barriers in individual project designs to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in a Conservation Area. Such barriers may include native landscaping, rocks/boulders, fencing, walls and/or signage.

4.5.7 Grading/Land Development

Manufactured slopes associated with site Development shall not extend into adjacent land in a Conservation Area.

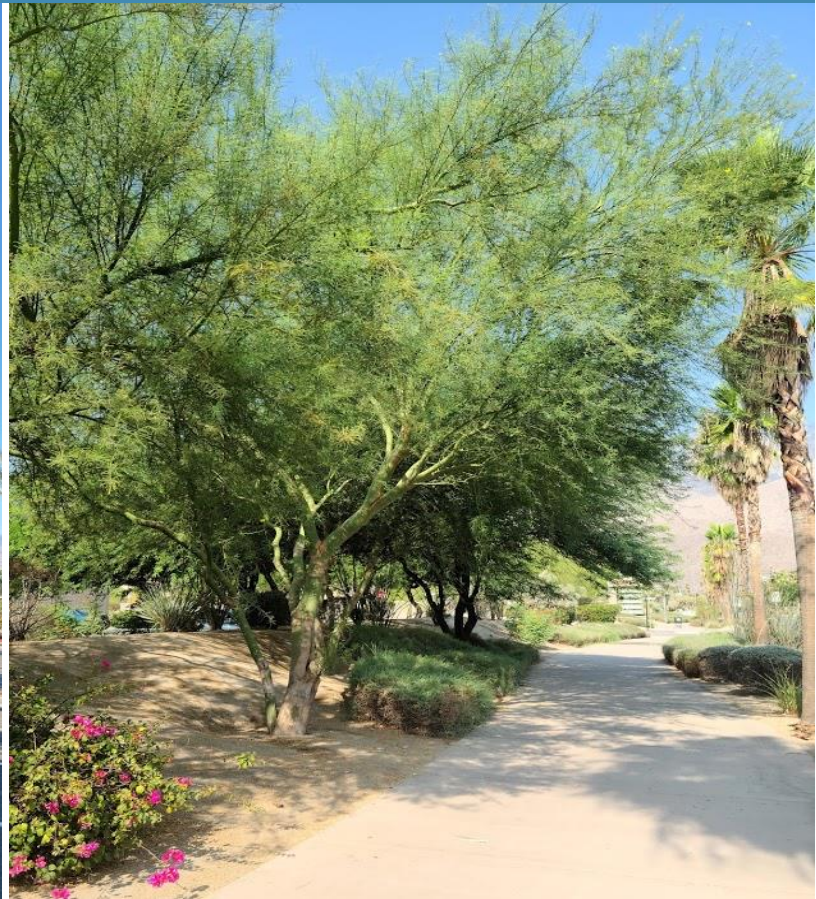
4.6 Impact and Anticipated Levels of Take and Habitat Loss

This section summarizes anticipated Take levels. The information is necessary to assess the Plan's impacts on the Covered Species and the conserved natural communities and to delineate the extent of Take authorized under the permits. A full discussion of the Plan's effects on the Covered Species and conserved natural communities is found in the EIR/EIS accompanying the Plan.

In the Plan, anticipated Take for Listed Species (animal species) for which Habitat distribution models have been developed is measured in terms of Habitat acres affected by the Covered Activities both outside and within the Conservation Areas. For purposes of this calculation, it is assumed that all non-federal lands outside the Conservation Areas may be subject to Take. This represents a worst-case scenario, and Take or Habitat loss at that level is not likely to occur within the 75-year term of the Take Permits. The acres of Take or Habitat loss were determined by overlaying Habitat maps with the Plan Area map, and

Urban Greening Guide

Urban Greening in the Southern California Desert



The best time to plant a tree was 20 years ago. The second-best time is now.

- Chinese proverb

**Coachella Valley Association of Governments
October 2021**



Introduction

The purpose of this guide is to share the benefits of sustainable tree planting with desert homeowners and local jurisdictions to promote urban greening. Urban greening refers to public landscaping and urban forestry projects that create mutually beneficial relationships between city dwellers and their environments. The guide highlights the benefits of trees for cooling, reducing energy consumption, enhancing climate resilience, and promoting wellness. Resources on urban tree planting include tree selection, proper placement for tree planting, and a tree palette.

The desert environment is changing, presenting challenges for growing and maintaining healthy trees. Within the last 20 years, the average yearly temperatures have exceeded the long-term average.¹ Mean temperatures recorded at Coachella Valley weather stations in Indio and Palm Springs have increased 5-6 degrees Fahrenheit over the last 40 years.² ([WesternRegionalClimateCenterIndioFireStation](#)). Other indicators of climate change affecting trees include drought, heatwaves, record-setting temperature extremes, and increases in damaging insects and disease. These indicators suggest that the desert region should make cooling services a priority, to build resilience to heat-related impacts. Trees offer many benefits to keep urban areas cool in the increasingly hot summers that lie ahead.

The information in this guide was compiled from Coachella Valley Association of Governments (CVAG) cities and other desert programs. Arborists, landscape architects, and other landscape professionals were consulted on tree selection and tips for keeping urban trees healthy and long-lived. maintenance practices. These experts provided insight on trees most suitable for the desert climate that helped in development of the tree palette.

Research done in the Coachella Valley found that areas shaded by trees or vegetation had a ground surface temperature more than 50 degrees F cooler in the summer compared to an exposed, paved parking lot.

- Janet Hartin,
Area Environmental Horticulture
Advisor with UC Extension

Trees, whether for a residential lot, a city park, or to shade a walking path, are an investment of time and money. And, under the best of circumstances, the desert is a challenging environment for trees to grow. Change in the desert climate is affecting the ability for trees to grow successfully and survive for their expected lifespan. Selecting the right tree and ensuring it has the best chance to survive will protect your investment, whether it is one tree for your home, or many trees for a public green space. There are many great local resources on desert landscaping and trees and this guide is not intended to replace these publications. Check the Resources section to find links to sources with detailed information about planting, irrigation, maintenance, and tree selection.

Acknowledgements

This guide was developed through a collaboration between CVAG and CivicSpark. CivicSpark is a program of the Local Government Commission and Americorps, dedicated to building capacity for local governments by implementing community resilience and sustainability projects. CivicSpark Fellow Tory Brewster developed and authored the guide during her CivicSpark year with CVAG. Energy and Environmental Resources Department staff assisted with the guide development and provided editorial support.

A special thanks to the CVAG Energy and Environmental Resources Committee for identifying urban greening as a priority for the desert region. The concepts for this guide were developed in response to discussions held at Energy and Environment Committee meetings beginning in 2019.

Lastly, thanks to the local experts consulted for the guide. These experts include:

- ✦ Jacob Alvarez, Assistant to the City Manager, City of Coachella, Integrated Climate Adaptation and Resiliency Program (ICARP) Technical Advisory Committee Member
- ✦ Kirk Anderson, Curator of Gardens, The Living Desert Zoo and Gardens
- ✦ Lori Gavitt, Horticulturist/Arborist, The Reserve
- ✦ Ron Gregory, Vice President and Director of Landscape Architecture, MSA Consulting, Inc.
- ✦ Janet Hartin, Area Environmental Horticulture Advisor, UC Cooperative Extension
- ✦ Chris Hermann, President/CEO, Hermann Design Group
- ✦ Darrell Jenerette, Landscape and Ecosystem Scientist, Professor of Botany and Plant Sciences and Director, Center for Conservation Biology at University of California, Riverside
- ✦ Randy Myers, Owner, Randy G. Myers Nursery
- ✦ Paul Ortega, Principal, Paul Ortega Landscape Design and Consulting
- ✦ Deanna Pressgrove, Environmental Conservation Manager, City of Cathedral City
- ✦ Chris Thompson, President, Green Desert Nursery

**Prepared by:
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CivicSpark Fellow
2020/2021**

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Section 1:

Benefits of Trees

NATURAL / ENVIRONMENTAL BENEFITS

Section 1: Benefits of Trees

The desert region is becoming increasingly urbanized. Green spaces in a community are of vital importance to the urban ecosystem. The benefits to humans from nature are known as ecosystem services, often defined as direct and indirect contributions of natural systems to human well-being. We depend on nature for local ecosystem services that have a substantial impact on the quality of life in our communities. Urban greening encourages communities to enhance urban green spaces including parks, street trees, urban trails, desert washes, and cultivated land.

Natural/Environmental Benefits:

Trees offer many environmental benefits in the urban environment. Trees will:

- ✦ Reduce energy use through cooling effects and shading buildings
- ✦ Improve air quality by absorbing and filtering pollutants
- ✦ Reduce urban heat island effect
- ✦ Provide habitat for wildlife and enhance biodiversity
- ✦ Manage stormwater, reduce flooding, and improve water quality
- ✦ Reduce greenhouse gases by carbon sequestration and avoided carbon emissions from reduced energy use
- ✦ Beautify a neighborhood
- ✦ Reduce exposure to harmful UV radiation³

Cooling Benefits of Trees

A significant benefit of urban trees is their ability to moderate temperature and microclimate. Planting the right tree in the right place is key to maximizing the energy-saving and other benefits that trees provide. When planted properly, a single tree can:

- ✦ save a homeowner up to 20% on energy costs.
- ✦ directly shade your home or buildings, decreasing the need for air conditioning and reducing your energy bill,
- ✦ make your home or office more comfortable
- ✦ protect your family's health by improving air quality, providing cooling shade for outdoor activities



Trees along the west facing side of buildings shade windows and walls from direct sun. Palm Desert City Hall

The cooling benefits of trees are enhanced by the tree's "canopy", the total amount of leaves and branches which intercept sunlight. Shade from tree canopies creates cool areas underneath by intercepting solar radiation and preventing the warming of the land surface. Selecting trees with broad canopies will provide more shade in parking lots and other urban spaces.

In urban heat islands, nighttime temperatures can be as much as 22° F higher as the heat is gradually released from buildings and pavement.

- Center for Climate Change and Health

Improve Air Quality

As urban temperatures increase, so too do airborne pollutants and smog.⁴ Trees benefit urban environments by removing significant amounts of major air pollutants, equal to removing the carbon dioxide emissions from 138,510 cars. The ecosystem service urban trees provide is valued at \$5.4 billion dollars. The value is based on avoided health care costs, productivity losses associated with adverse health events, and longer lifespans.⁵

Across an entire city, small changes in air temperature could be a huge benefit as it can slow the formation of smog. Just a couple of degrees can also reduce peak power demand, by reducing the energy load from air conditioning.

-Lawrence Berkeley National Laboratory

Provide Windbreaks

Trees also decrease the wind speed under their canopy and shield buildings from cold winter breezes.⁶ The more compact the foliage on the group of trees, the more effective the windbreak.⁷

To create windbreaks, plant trees north and northwest of a structure. Planting trees on the north and northwest of a building can reduce energy use in the winter.⁸ In an area with consistently strong winds like the Coachella Valley, this is yet another benefit of trees.

Enhance Wildlife Habitat and Biodiversity

Just as they provide benefits to humans, urban trees and green spaces provide habitat for wildlife. A lot of attention has been focused on the importance of bees and other pollinators to the ecosystem and the agricultural economy. Selecting specific trees that meet the needs of pollinators encourage these beneficial critters and increase their chance of reproduction. Green spaces and urban trees, especially native species also:



Desert willow flowers in a parking lot attract birds, bees, hummingbirds

- provide food for wildlife.
- offer nesting and roosting sites for many birds in an urban environment.
- serve as habitat corridors, providing pathways for wildlife to reach surrounding natural habitat.
- provide resources for urban animals, increase biodiversity in urban green spaces.

Within urban green spaces, enhancing biodiversity by planting a variety of tree species improves the quality and quantity of habitat for wildlife, reduces the risk of pest infestations, disease, and increase resilience.⁹ Sustainable ways of managing urban trees to attract wildlife include avoiding disturbance when pruning to nest sites during the nesting season and avoiding herbicide use. By managing urban trees sustainably, our communities will be enriched by the presence of birds, bats, bees, and other beneficial wildlife for years to come. New management options should be tested and incorporated into local plans to improve sustainable and biologically rich urban green areas.

Ultimately we need to recognize that while humans continue to build urban landscapes, we share these spaces with other species.

🌿 *David Suzuki*

Tree Inventory

Another way to promote biodiversity is to inventory the trees in a community to establish a baseline for setting management objectives. An inventory provides a way for a community to determine what trees they have and where they are planted. Tree inventories collect information on tree species, location, and overall health. Inventories can be conducted on all trees in a municipality, a sample of trees, or on select trees. Data can be used to identify management objectives, identify the diversity of species in an area, and provide information on tree age. Forest assessment tools include the American Forests' CITYgreens and the United States Forest Service's i-Tree (please see Resources section).

ECONOMIC BENEFITS & ENERGY SAVINGS

Economic Benefits:

Besides the beauty they add to urban green spaces, trees have many benefits, including economic benefits. For the United States, the total economic value of the natural benefits that trees provide, including cooling and reduced building energy use, pollution removal, carbon sequestration, and avoided pollutant emissions is \$18.3 billion annually or \$687 per acre of urban tree cover.¹⁰

Trees will:

- 🌿 Save energy and cut costs for summer cooling (shade) and winter heating (windbreak)
- 🌿 Increase property values, benefiting owners and increasing local tax revenues
- 🌿 Boost business/commercial district activity and appeal

- ✎ Support green industry jobs
- ✎ Reduce costs to taxpayers for traditional “grey” infrastructure
- ✎ Increase pavement life
- ✎ Provide recyclable material such as mulch

Energy Savings:

Another significant benefit of urban trees is their ability to moderate temperature and microclimate. Shade trees intercept sunlight before it warms a building. Numerous studies suggest they keep your home and property cooler and reduce energy and cooling needs by 20 percent or more. Urban trees also reduce stormwater runoff, minimize soil erosion, and improve urban air quality by reducing smog, which also results in cost savings.

Trees can help reduce the roughly 40% of all US energy consumption that is generated by residential and commercial buildings.

-Vibrant Cities Lab

SOCIAL AND WELLNESS BENEFITS: EQUITY IN URBAN GREENING

Social and Wellness Benefits: Equity in Urban Greening

Cities globally have incorporated sustainable development into their planning and led the way in responding to the world’s ecological crisis by “going green.” In addition to natural benefits and cost savings, urban greening provides social and health benefits. Urban green space accessibility is considered as the key to urban sustainability progress, not only environmentally, but also economically and socially.

Though not an exhaustive list, some of these social and equity benefits include:

- ✎ Promote public health and wellness
- ✎ Encourage physical activity and strengthen community engagement
- ✎ Offer safe places to gather
- ✎ Reduce crime
- ✎ Enhance neighborhoods by creating attractive, shaded outdoor spaces
- ✎ Promote social equity and environmental justice in underserved communities
- ✎ Create visual and sound buffers
- ✎ Create and enhance walkable streets

Health

An increase in the number and intensity of heatwaves has been linked with heatstroke, hypothermia, and increased death rates. The health benefits of pollution removal by trees have been shown to reduce incidences of human mortality and significantly reduce incidences of acute respiratory symptoms.



A relaxing green space at Cancer Survivors' Park, Rancho Mirage

These benefits increase as population density increases because more people receive the pollution removal benefits of trees. Vegetation cover, greenness, has been associated with other health effects such as childhood obesity rates. In addition, research shows that urban trees and vegetation can increase mental energy, improve worker attitudes on the job, and reduce stress, anger, depression, and anxiety.

Supporting Underserved Communities

Inequalities in the availability of urban greening enhancements and associated benefits can occur in areas with fewer homeowners and more rental housing. Renters do not own and control the property where they reside and so may be less able to plant and maintain trees. Renters also have a higher rate of mobility than homeowners. Trees require long-term maintenance, and renters may be less able to take on the responsibility. Therefore, areas dominated by rental housing are less likely to have tree cover and receive the natural benefits trees provide.

Equity assessments should be done to consider the current distribution of greening services in traditionally disadvantaged and marginalized communities.

When people have access to natural elements, they experience better health outcomes.¹¹ Public housing residents report that they can better cope with major life stressors such as poverty, the threat of violence, and raising children in impoverished conditions when green spaces are available.¹²

When planning an urban greening initiative, it is essential to incorporate principles of environmental justice and involve community members from underserved communities.

Growth is inevitable and desirable, but destruction of community character is not. The question is not whether your part of the world is going to change. The question is how.

-Edward T. McMahon



Section 2:

Best Locations for Tree Planting

GENERAL PLANTING CONSIDERATIONS

Section 2: Best Locations for Tree Planting

General Planting Considerations

Placement: Right Tree, Right Place

Proper tree placement can make a big difference in the benefits that tree provides for the urban ecosystem. Planting a tree that is too large for the space provided or in an area that is inadequate for the tree will reduce its success and likely reduce lifespan.¹³ One of the principles of selecting the right location to plant trees is using the "Right tree, Right place" method.¹⁴

Right Tree

In making a tree selection, think about the multiple benefits your tree will offer. A tree to provide shade can also support pollinators, provide nest sites for birds, and edible fruits for humans. Here are some suggestions to think about when selecting the right tree:



*These trees have enough space to grow to mature height and are well-placed to provide shade for park seating, creating a natural "cooling center."
Cathedral City Hall*

- ✦ The tree's full-grown size is suited for your site and the space available to plant the tree. The Tree Palette (please see Section 5) can be used to check the size of the tree.
- ✦ Only vigorous, healthy trees should be selected because unhealthy trees may present hazards, introduce disease, and unnecessarily increase costs.
- ✦ Native species should always be preferred when planting trees in urban areas.
- ✦ Native species are better adapted to the local environment, which means they will grow more efficiently and require less water and maintenance.
- ✦ Native species also provide better habitat resources for native bees, pollinators, birds, and other wildlife species.
- ✦ Cultivars and non-native species that are not invasive may also be selected. Make sure they are tree species that do well in the desert climate and are water efficient.
- ✦ When selecting plants for urban greening, think about future shifts in the range of native species due to climate change. As temperatures warm, the range of commonly used desert tree species and their natural boundaries will shift as well.¹⁵

- Other factors to consider are climate, soil, environmental conditions, planting space, existing vegetation, aesthetics, land ownership and regulations, social influences, and maintenance requirements.¹⁶

Right Place

Our experts emphasized the importance of planning and design considerations before planting trees. When considering the right place to plant a tree, here are some things to think about:

- Purpose for planting the tree.
- Soil, sun, and moisture conditions
- Tree location (the right place),
- Species growth and form (the right tree)
 - Height.** Will the tree bump into anything when it is fully grown? Size of a tree at maturity indicates how far away from pavement and powerlines trees should be planted.
 - Canopy spread.** How wide will the tree grow? Trees with a large canopy provide the most shade and reduce heat.
 - Form or shape.** Round and V-Shaped species offer the most shade. A columnar tree will grow in less space but may not offer as much shade.
 - Is the tree deciduous or evergreen?** Will it lose its leaves in the winter?
 - Growth rate.** How long will it take for your tree to reach its full height? Slow growing species typically live longer than fast growing species.
- Undesirable features. The type of litter a tree drops, such as flowers, berries, pods, sap, and thorns, should be considered for trees in parking lots and other public settings.
- Hardiness zone indicates the temperature extremes in which a tree can be expected to grow. To encourage longer tree life, plant trees in locations where they have enough space to grow. Depending on the mature size of the tree, suggested minimum widths of planting sites for trees are:
 - 3 to 4 feet for small trees,
 - 4 to 6 feet for medium trees, and
 - Greater than 6 feet for large trees



These trees provide shade at southwest corner of building. It is best to plant trees a minimum of 15-20 feet away from your foundation. Indio City Hall

A common theme in the comments from experts was that trees in this region don't live as long as they should, sometimes dying in 15 years or less. Factors that contribute to tree longevity include proper irrigation, permeable surfaces/pavements, quality of tree selected, space the tree needs to grow, and proper maintenance. Some of the challenges for urban trees in the desert region include:

- ✦ Improper maintenance and irrigation seem to be the most common issues affecting landscape trees in the desert region.
- ✦ Space needs to be big enough for tree to grow. Need larger planters, especially in parking lots.
- ✦ Use native species as much as possible.
- ✦ Select trees based on low water use.
- ✦ Good drainage is essential. Permeable pavers and other permeable materials allow some water to percolate.
- ✦ Irrigation is critical to success of trees. Trees need deep watering, not the same schedule as your lawn. Need more frequent watering at first, but over time more infrequent, longer duration (deeper) watering.
 - Drip irrigation allows water to slowly percolate into soil
 - Try an “ooze tube” – 25 ft soaker hose coiled around the base of the tree (less expensive too)
 - Smart timers help deliver water at best schedule
- ✦ Pruning and trimming practices need improvement. Don’t top trees as they are more likely to fail. Select trees that don’t interfere with powerlines.
- ✦ Allow trees to develop their own natural shape. Allow tree to develop with multiple trunks which better support the tree canopy at maturity and reduce branches breaking.
- ✦ Avoid monocultures – use a diversity of tree species.
- ✦ Plant palettes from ten years ago need to be updated. There’s a “new normal” affecting trees - extreme heat, climate change, new diseases, and problem insects.
- ✦ Plants with more leaves will absorb more CO₂.
- ✦ Trees that grow too fast can be weak, get too big, then branches snap.
- ✦ Prioritize shade for cooling benefits, reducing heat-related illness.
- ✦ Need to allocate money/resources to maintain trees. Avoid species that require too much maintenance.
- ✦ Use tree species that are “desert tested.” Our climate is very different from other regions; be cautious with “out of area” recommendations
- ✦ Incorporating water saving measures in urban greening projects reduces the cost of water. Creating natural drainage swales or basins that absorb water are two ways to save water.
- ✦ Education is needed about tree selection, maintenance, pruning, watering, trees that enhance biodiversity. Involve water agencies, master gardeners, others.



This multi-trunk tree provides shade for sidewalk and seating area and has enough space to grow into its mature height. Along Fred Waring, Palm Desert.

A local arborist or tree care professional, utility company, local nursery, or county extension office can help with proper tree placement.¹⁷

Shade

In the desert, shade is the first step to reduce energy consumption and save money. Placement of a tree is the key to energy savings. Shade trees do affect summertime electricity use, but the amount of the savings depends on the location of the tree. Strategically placed trees that shade roofs, walls, and walkways will block and dissipate the sun's rays, shielding buildings from unwanted heat.

So, determine the best location for tree planting to maximize the shade benefits of a tree. Trees planted on the south and west sides (or the southwest corner) of a building will create shade from the summer sun, especially in the afternoon, the hottest part of the day.¹⁸ Planting trees on the west side of your property can save as much as 35 percent off air-conditioning bills. Planting trees to shade windows and walls also adds comfort and value to homes and other buildings.

On the south side of a building, a medium size deciduous tree can reduce irradiance by 80% with leaves on it and 40% leafless, generating energy savings of 2 to 7%

- Vibrant Cities Lab



Trees planted along this south-facing wall provide shade for this building during the hottest part of the day.

SPECIFIC SITE GUIDELINES

Specific Site Guidelines

This section looks at some of the things to consider when planting trees in specific sites and provides some suggestions. Consider the opportunities to take advantage of multiple benefits of trees. For example, a parking lot with broad canopy trees offers a lot of shade and also nesting sites for birds. Can the tree be placed to provide shade for a parking lot, a sidewalk, a building at the same time?



Trees planted along a sidewalk on the west-facing side of this building provide multiple shade benefits



Desert willow in parking lot provide shade and produce showy flowers that attract pollinators.

Public Spaces

The size of the tree canopy is an important factor when it comes to selecting trees for parking lots, sidewalks, and other areas where maximum shade is desired. Using the cooling services trees provide is enhanced by placing them in areas where shade is most needed, around well-used park benches, bus stops, walkways, or to shade buildings.

Parking Lots

- ✦ Make shade the priority in parking lots
- ✦ Larger planters will give trees the room they need to grow and support larger trees which provide more shade.
- ✦ Some trees produce sticky substances or fruits, less desirable in parking lots
- ✦ How many trees? Suggestions include one tree for four parking spaces, 13 to 15 trees per 1,000 square feet.



Mature Palo verde trees create deep shade in this parking lot. Cathedral City

- ☛ Select for lower maintenance, water efficiency, heat tolerance
- ☛ Also consider cool pavements, lighter colored to reflect more heat from the sun. Cool pavements reflect as much as 30 to 50 percent of the sun's energy, compared to only 5 percent for new asphalt and 10 to 20 percent for aged asphalt.



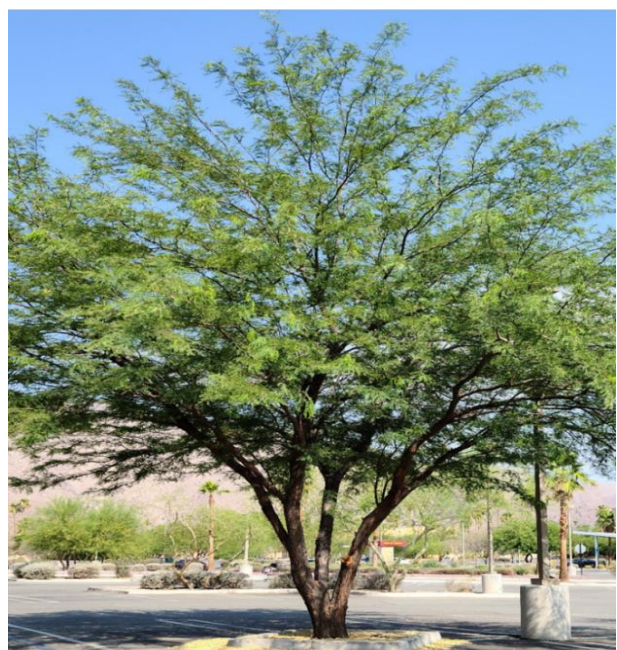
Tall slender trees offer limited shade in parking lots. Look for tree species with a broad canopy.



Date palm trees in a parking lot provide a visual statement but offer limited shade.



Trees with a broad canopy like these mesquite trees provide deep shade in a parking lot.

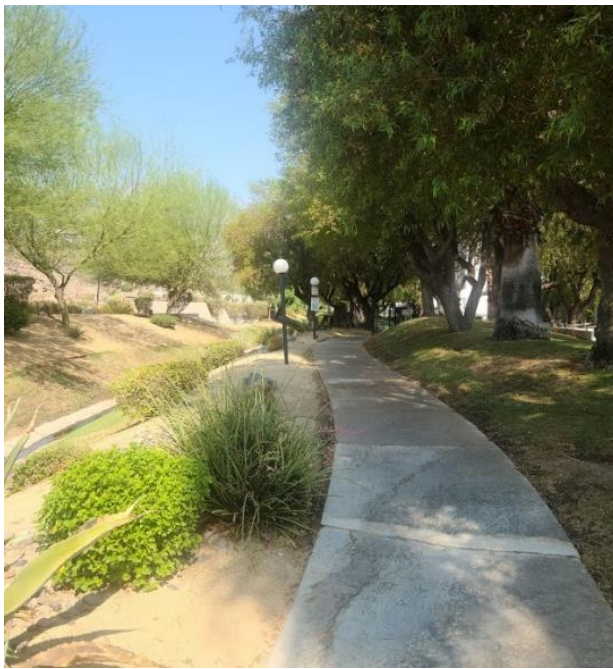


Allowing parking lot trees to develop multiple trunks helps support the canopy as the tree matures and creates more shade.

Sidewalks

Creating attractive sidewalks that offer shade and a welcoming environment are increasingly desirable as cities strive to make their streets and public areas more pedestrian and bicycle friendly. Sidewalk landscaping and street trees look attractive, provide habitat for birds and butterflies, and enhance community livability. Adding permeable paving and retention planters improve soil health and help reduce stormwater runoff.

- ✦ Planting strips for trees should be a minimum of 3 feet wide
- ✦ Use native and drought tolerant species
- ✦ Choose deep-rooted tree species which tolerate flooding or drought, need low or no irrigation when established.
- ✦ Look for trees that provide multiple benefits – shade, wildlife habitat, soil aeration
- ✦ If ongoing irrigation is needed, project should have access to metered water source



Trees provide shading to sidewalks along Highway 111 in Palm Springs.



Cluster of mesquites, palo verde, and palms increase biodiversity and provide deep shade.

Bringing nature back into the city is a way to deal with sprawl. If cities feel a little more natural, people like to live there rather than moving out and dividing up another piece of land that shouldn't be touched.

- Stone Gossard



Which sidewalk . . .



. . . Would you rather walk on?

Medians

Attractively landscaped street medians provide esthetic and environmental benefits in urban settings. Streets in urban areas are often wider than necessary and can be enhanced with trees and landscaping. Center medians or landscaped buffers along the edge of urban streets can help reduce traffic speeds while providing beneficial environmental services, such as stormwater retention and greenhouse gas reduction. Additionally, increased pedestrian and bicycle use can improve the overall health of the population and reduce dependence on fossil-fuel based transportation. Here are some suggestions for planting trees in medians:

- ✦ Trees may be planted in medians four feet or wider, including curbs.
- ✦ Median trees should have arching canopy structures for visibility; upright and columnar trees work well.
- ✦ Tree species selected for planting on median strips that are 4 to 6 feet wide should be expected to grow to trunk diameters no greater than 12 inches.
- ✦ On median strips greater than 6 feet wide, trees obtaining larger diameters may be used.
- ✦ Choose drought tolerant / water efficient, low maintenance species
- ✦ Trees with columnar form are appropriate for narrower planting spaces such as small streets, alleys, and narrow medians.



- ☛ Trees located in medians should have a vertical clearance of the lowest branch of 8 feet in height over the median, and 14 feet in height for any portion of the tree that overhangs the roadway.
- ☛ Landscaped medians reduce impervious space in the roadway, allowing stormwater infiltration or retention in the exposed soil. Medians can also be designed to retain, cleanse, and infiltrate stormwater runoff from the roadway. Where stormwater management is intended in the median, the street should be graded to drain toward the median.



Use tall columnar trees, such as palms, and smaller trees in medians. Use broad canopy trees, such as mesquite, along sidewalks for maximum shade. Palms provide very little shade as a sidewalk tree.

Safety

Once a site is identified, make sure that it is suitable for trees. Some important considerations include:

- ☛ Safety—trees should not be planted very close to buildings or in locations where they could impair driver visibility or otherwise cause traffic problems.
- ☛ Trees should not be grown in an area where they are likely to interfere with existing underground or overhead utility infrastructure.

Conduct a visual inspection and use PA One Call (pa1call.org/PA811/Public/) to ensure that the proposed site will not require tree planting in a utility right of way.



Consider utility lines, sidewalks, and driveways when choosing a location.

URBAN GREENING AT HOME

Use the principles of Right Tree, Right Place. Before you plant a tree around your home, determine the best location to maximize the shade benefits of a tree. Spend some time observing the path of the sun and where shade on your roof, walls and windows is most needed, especially in the afternoon, the hottest part of the day.¹⁹ Planting trees to shade windows and walls also adds comfort and value to your home.

Shade is the first step to reduce energy consumption and save money. Shade your:

- ✦ Walls & windows. Start on the south and west-facing walls
- ✦ Outdoor air conditioner – it will run cooler.²⁰
- ✦ Concrete (driveways, patios) to reduce glare
- ✦ Concrete to reduce radiated heat (heat island effect)

Plant some trees to save some green:

- ✦ Trees enhance the microclimate and are the first line of defense against unwanted heat.
- ✦ Trees and green spaces around your home provides shade on buildings and can decrease air conditionings costs by 20%
- ✦ Select trees that balance shade and water use. Some trees just gulp too much water
- ✦ Trees add value to your property



Mature palo verde trees planted on the southwest corner (left photo) and south-facing (right photo) of the home provide shade during the hottest part of the day.

Irrigation is critical to the success of trees.

- ✦ Trees need deep watering, not the same schedule as your lawn. More frequent watering at first, but over time more infrequent, longer duration (deeper) watering.
- ✦ Drip irrigation allows water to slowly percolate into soil
- ✦ Try an “ooze tube” – 25 ft soaker hose coiled around the base of the tree (less expensive too)
- ✦ Smart timers help deliver water at best and most efficient schedule. Check with your water district about smart timer rebate programs.



Section 3:

Tree Palette

Section 3: Tree Palette

The following tree palette includes native and water efficient trees that are suited to the desert climate. The tree palette includes recommendations from local landscape experts consulted during preparation of this guide. Information presented about each tree was gathered using sources found in the Resources appendix.

The use of local native species is strongly encouraged. Native species are highlighted in green, including cultivars of native species.

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
Scientific Name	Common Name	Evergreen (E) or Deciduous (D)	Height (Feet)	Width (Feet)	Longevity (Years)	Shade Low (L), Moderate (M), Dense (D) in Leaf	Maintenance Level High (H), Medium (M), Low (L)	Native	Litter	Pest & Diseases	Biodiversity	Health, Safety & Environmental Concerns	CO2 Sequestered (lbs.) Tree Lifetime	CO2 Sequestered (\$) Tree Lifetime
<i>Acacia aneura</i>	mulga	E	15-20	15-20	50-150	M			dry fruit	invasive shot hole borer, root rot	attracts birds, not deer palatable	branch strength medium, root damage potential low, allergy health hazard	65.4	1.52
<i>Acacia farnesiana</i>	sweet acacia	D	15-25	15-25	<50	M			dry fruit	resistant to Texas root rot, susceptible to invasive shot hole borer, caterpillars, root rot	attracts birds, not deer palatable	branch strength weak, root damage potential low, allergy health hazard, biogenic emissions moderate	20	0.40

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Acacia greggii</i> (now <i>Senegalia greggii</i>)	catclaw acacia	E	25	20-30		D		•			deer resistant			
<i>Acacia stenophylla</i>	shoestring acacia	E	20-30	10-20	<50	L			dry fruit	susceptible to invasive shot hole borer	attracts birds, not deer palatable	branch strength weak, allergy health hazard	558.3	12.99
<i>Albizia julibrissin</i>	silk tree, mimosa tree	D	20-35	20	<50	L	H		flowers, dry fruit	susceptible to invasive shot hole borer, caterpillars, armillaria, fusarium and root rot	attracts birds, not deer palatable	branch strength medium weak, root damage potential moderate, allergy health hazard, biogenic emissions moderate	56.3	1.31
<i>Bauhinia variegata</i>	purple orchid tree	D	20-35	20-35	40-150	M	M		dry fruit	susceptible to aphids	attracts birds	branch strength medium, root damage potential low, no known health hazard, biogenic emissions moderate	819.7	19.06
<i>Brahea armata</i>	Mexican blue palm	E	20-50	12-25	50-150	M	M		wet fruit	resistant to Texas root rot, susceptible to crown rot	attracts butterflies	branch strength medium, root damage potential low, no known health hazard	368.7	8.57
<i>Butia capitata</i>	pindo palm	E	25	10-12			M		edible fruit	susceptible to root rot and scales	deer resistant, attracts mammals			

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Callistemon viminalis</i>	weeping bottlebrush	E	15-20	15-20	40-150	M	M		dry fruit	susceptible to armillaria and root rot	wildlife use fruit, attracts birds and bees, not deer palatable	branch strength medium, root damage potential low, allergy health hazard, biogenic emissions high, fire resistance favorable	56	1.30
<i>Chamaerops humilis</i>	Mediterranean fan palm	E	10-15	10-15	<150	M	M		fruit	resistant to Texas root rot	not deer palatable	branch strength strong, root damage potential low, no known health hazards	80.8	1.88
<i>Chilopsis linearis</i>	desert willow	D	15-30	10-20	40-150	L	M	•	dry fruit	resistant to Texas root rot, susceptible to root rot	attracts birds, wildlife use fruit	branch strength medium, root damage potential low, allergy health hazard, biogenic emissions moderate	136.7	3.18
<i>Chorisia speciosa</i>	silk floss tree, kapok	D	35-50	40-55		M	M		dry fruit	no concerns	attracts birds			
<i>Cupressus arizonica</i>	Arizona cypress	E	40	40		D	L			susceptible to leaf blight	deer resistant			
<i>Eucalyptus microtheca</i>	coolibah	E	35-50	25	50-150	D	M		dry fruit	resistant to Texas root rot and verticillium, susceptible to beetle borers, armillaria and root rot		branch strength medium, root damage potential moderate, no known health hazards	228.5	5.31

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Eucalyptus spathulata</i>	swamp mallee	E	20-40	20	50-150	M	M		dry fruit	resistant to Texas root rot and verticillium, susceptible to beetle borers, armillaria, phytophthora and root rot	attracts birds, not deer palatable	branch strength medium, root damage potential low, no known health hazards		
<i>Eucalyptus papuana</i>	ghost gum	E	65	20-50		M	L		dry fruit	susceptible to armillaria, phytophthora, root rot and beetle borers, resistant to Texas root rot and verticillium	deer resistant, attracts birds	no known hazards		
<i>Fraxinus uhdei</i>	majestic beauty ash, evergreen ash	E	70-80	60	50-150	M	M		dry fruit	resistant to armillaria, susceptible to scales and white fly, root rot, sooty mold and verticillium	desirable wildlife plant	Branch strength medium, root damage potential moderate, allergy health hazard, fire resistance favorable	990	23.02
<i>Geijera parviflora</i>	Australian willow	E	25-35	20	50-150	M	M		dry fruit	resistant to armillaria	attracts bees, wildlife use fruit	branch strength medium, root damage potential low, no known health hazards, biogenic emissions moderate	7913.6	184.05

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Lagerstroemia indica</i>	crape myrtle	D	25	25	50-150	M	M		dry fruit	resistant to Texas root rot, susceptible to aphids, powdery mildew and sooty mold	attracts birds	branch strength medium, root damage potential low, no known health hazards, biogenic emissions low	1353	31.47
<i>Lysiloma watsonii</i> v. <i>thornberi</i>	feather tree	D	15	12-15	<50		M		dry fruit	resistant to Texas root rot	deer resistant, attracts birds	no known hazards		
<i>Melaleuca quinquenervia</i>	cajeput tree	E	20-40	15-25	50-150	M	M		dry fruit	susceptible to phytophthora and root rot	attracts birds and bees, wildlife use fruit	branch strength medium, root damage potential low, allergy and irritant health hazard, biogenic emissions high		
<i>Olneya tesota</i>	desert ironwood	E	15-30	15-30	50-150	L	L	•	dry fruit		desirable wildlife plant	branch strength strong, root damage potential low, no known health hazards, biogenic emissions moderate	227.1	5.28
<i>Parkinsonia</i> x 'Desert Museum'	desert museum palo verde	D	15-20	20-25	40-150	M	M	•	dry fruit		desirable wildlife plant, attracts bees	branch strength medium, root damage potential low, no known health hazards, biogenic emissions moderate		

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Parkinsonia florida</i>	blue palo verde	D	25	15-20	50-150	L	L	•	dry fruit		attracts birds and bees, wildlife use fruit	branch strength medium, root damage potential low, no known health hazard, biogenic emissions moderate	474.3	11.03
<i>Phoenix dactylifera</i>	date palm	E	80-100	20-40	50-150	M	M		dry fruit and leaves	resistant to Texas root rot	attracts birds, wildlife use fruit	branch strength strong, root damage potential moderate, allergy health hazard, biogenic emissions high	132.3	3.08
<i>Pinus eldarica</i>	Afghan pine, Mondale pine	E	30-80	15-25	50-150	D	L		dry fruit	resistant to verticillium, susceptible to aphids and armillaria	attracts birds and squirrels, not deer palatable, wildlife use fruit	branch strength medium strong, root damage potential moderate, allergy health hazard	2468.10	57.40
<i>Pinus pinea</i>	Italian stone pine	E	40-80	40-60	50-150	D	M		dry fruit	resistant to verticillium, susceptible to aphids, armillaria, phytophthora, root rot, pitch canker	attracts birds and squirrels, not deer palatable, wildlife use fruit	branch strength weak to medium weak, root damage potential moderate, allergy health hazard		
<i>Pistacia chinensis</i>	Chinese pistache	D	25-35	25-35	>150	M	M			resistant to armillaria, susceptible to verticillium and root rot	attracts birds	branch strength strong, root damage potential low, allergy health hazard, biogenic emissions moderate	1515.50	35.25

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Prosopis chilensis</i>	Chilean mesquite	D	30	30	50-150	L	L		dry fruit		attracts birds	branch strength medium, root damage potential low, no known health hazards	563.2	13.10
<i>Prosopis glandulosa v. glandulosa</i>	honey mesquite	E	25-35	25-35		L	L	•	fruit and leaves		attracts birds and mammals, wildlife use fruit	root damage potential low	774.8	18.02
<i>Prosopis hybrid phoenix</i>	phoenix mesquite	E	30	30		M	L				attracts bees			
<i>Prosopis pubescens</i>	screwbean mesquite	D	10-33				L	•	twisted seed pods		attracts a wide variety of animals, host to the marine blue and Leda ministreak, and Palmer's metalmark butterfly		1347.60	31.34
<i>Prosopis velutina</i>	velvet mesquite	D	30	30	50-100	L	L		dry fruit		attracts birds and bees	branch strength medium, root damage potential low, no known health hazards	55.4	1.29
<i>Prunus cerasifera</i>	thunder cloud, purple plum	D	20	20	<50	D	M		wet fruit	susceptible to caterpillars, armillaria, root rot, rust, sooty mold and verticillium	attracts birds	branch strength medium, root damage potential low, no known health hazards, fire resistance favorable	471.7	10.97

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Punica granatum</i>	pomegranate	D	20	15	50-100	D	M		wet fruit	resistant to Texas root rot, susceptible to plant bug, white fly, chlorosis and sooty mold	desirable wildlife plant	branch strength medium, root damage potential low, no known health hazards, fire resistance favorable		
<i>Quercus virginiana</i>	southern live oak	E	40-80	60-100	>150	M	M		dry fruit	resistant to verticillium, susceptible to insect galls, armillaria, phytophthora and root rot	attracts birds and squirrels	branch strength strong, root damage potential moderate, allergy and poisonous health hazard, biogenic emissions high	6717.10	156.22
<i>Rhapis excelsa</i>	slender lady palm	E	5-15	5-15	50-150	M	M		dry fruit	resistant to Texas root rot		branch strength medium, root damage potential low, no known health hazards, biogenic emissions low		
<i>Rhus lancea</i>	African sumac	E	20-30	20-35	50-150	M	M		dry fruit	susceptible to root rot and verticillium	attracts birds	branch strength medium, root damage potential low, no known health hazards, biogenic emissions low, fire resistance favorable	127.2	2.96
<i>Sophora secundiflora</i>	Texas mountain laurel	E	15-25	10-15	50-150	M	L		dry fruit		attracts bees	branch strength medium, root damage potential low, poisonous health hazards	117.5	2.73

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Syagrus romanzoffiana arecastrum romanzoffianum</i>	queen palm	E	50	25-30			M			susceptible to butt rot, armillaria, root rot, scales, and spider mites, resistant to Texas root rot	deer resistant, attracts birds		750.1	17.44
<i>Trachycarpus fortunei</i>	windmill palm	E	30	10	50-150	D	M		dry fruit	resistant to Texas root rot		branch strength medium		
<i>Ulmus parvifolia</i>	evergreen elm, little leaf elm	D	45	35-50			M		dry fruit	susceptible to Dutch elm disease, armillaria, phytophthora, root rot, aphids, beetle borers, beetle leaves, and caterpillars		allergy health hazards	5086	118.28
<i>Vitex agnus-castus</i>	chaste tree	D	10-15	15-20	50-150	M	L		dry fruit	resistant to armillaria	attracts bees	branch strength medium weak, root damage potential low, no known health hazard	31.6	0.73
<i>Washingtonia filifera</i>	California fan palm	E	50-70	10-20	50-150	D	M	•	dry fruit and leaves	resistant to Texas root rot, susceptible to armillaria		branch strength medium strong, root damage potential moderate, allergy health hazard, biogenic emissions moderate, fire resistance favorable	480.6	11.18

SCIENTIFIC NAME	COMMON NAME	DESCRIPTION					MAINTENANCE						EMISSIONS REDUCTION	
<i>Washingtonia robusta</i>	Mexican fan palm	E	80-100	5-10	50-100	D	M		dry fruit and leaves	resistant to Texas root rot, susceptible to beetle borers		branch strength medium strong, root damage potential moderate, allergy health hazard, biogenic emissions moderate, fire resistance favorable	489.5	11.38



Section 4: Planning

INITIAL PLANNING GUIDANCE

Section 4: Planning

Initial Planning Guidance

Urban greening initiatives require hard work, dedication, and advanced planning. Most urban greening grants require the completion of a project proposal (See Appendix I for more information on grants). This section describes how to create a project proposal that can be used for both grant applications and local funding greening initiatives.

In the initial planning stages, it is crucial to outline urban greening goals, consider whether the project is eligible for urban greening grants, and complete a basic plan overview. Afterward, use the project outline to complete the advanced planning steps.

Define Project Objectives

To begin planning, start by defining the purpose of the urban greening project. Describe who the beneficiaries will be and what the intended services are. Examples of project objectives include:

- ✦ Improve the environment
- ✦ Increase the value of your property
- ✦ Provide a shaded space for recreation
- ✦ Prevent soil erosion by wind or water
- ✦ Provide habitat and food for wildlife
- ✦ Conserve energy

Project Plan Overview

After project goals have been determined, create a project overview to specify how this project will be implemented. Consult local experts to aid in this process. A project plan overview should include:

- ✦ A description of your objectives
- ✦ A map of the property and a site description
- ✦ Detailed plans for site preparation
- ✦ The number of trees required by species
- ✦ Planting arrangement and tree spacing
- ✦ Plans to control unwanted vegetation



*Cathedral City Council plants trees at Cathedral City Elementary School for Clean Air Day
Desert Sun, 10/17/2019*

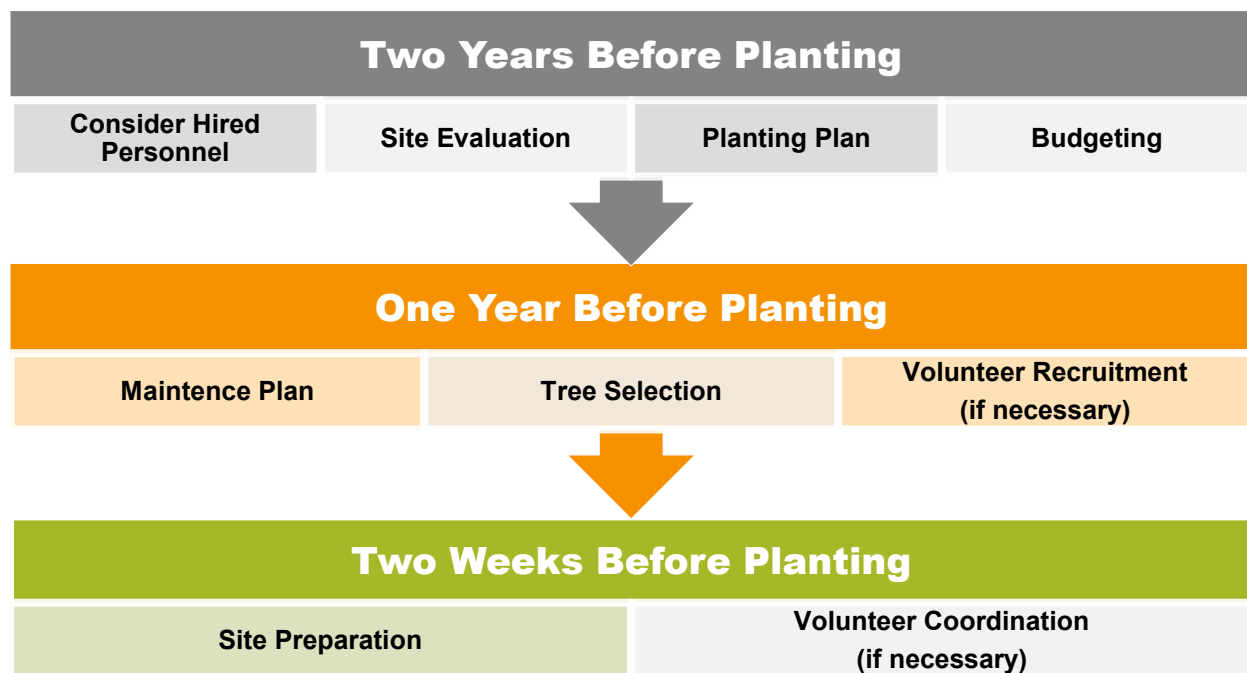
ADVANCED PLANNING

Advanced Planning

Outline Plan for Project

Foster long-term sustainability within the project by outlining objectives for a year, two years, and beyond the initial tree planting. The purpose of the outline is to plan specific tasks that need to be finished.

Consider the following timeline and corresponding planning steps when outlining a project plan. An example outline is included in Appendix II.



Consider Hired Personnel

Consider which contracts and consultants will be working on the projects. Define who the personnel will be and how they will be contributing to the project.

Site Evaluation

Several factors about a site will determine what tree species will do well and what type of planting stock will be the most successful.

These factors include:

- ☛ Soil type and level of compaction
- ☛ Soil moisture and average precipitation rates
- ☛ Light availability

- ☛ Slope
- ☛ Air quality
- ☛ Level of foot traffic
- ☛ Existing vegetative cover

It is best to have an arborist or other landscape professional assess the site before developing a planting plan. Low or no-cost services may be available through local master gardeners. In addition, certain landowners may have people on staff, such as grounds managers or landscape architects, who can also help. Once a site evaluation is completed, the next step is to develop a planting plan.

Planting Plan

Essential elements of a planting plan will be influenced by the site conditions, project goals, and available budget, and include the following:

- ☛ Size of area to be planted
- ☛ Recommended tree density
- ☛ Species selection and number of each species
- ☛ Location of various species and spacing on the site
- ☛ Recommended planting stock type (bare root vs. containerized vs. ball and burlap)
- ☛ Inventory of other supplies needed (e.g., tree shelters, stakes, support cables, or zip ties)



Coachella Grapefruit Blvd. Urban Greening and Connectivity Project. City of Coachella. February 2021

Site Selection

Network with community stakeholders and interest groups to help identify sites that would benefit from additional trees. These include:

- ☛ Municipal officials and employees (public works departments, park and recreation departments)
- ☛ School districts
- ☛ Local environmental, social justice, gardening groups or other grassroots organizations
- ☛ Holders of large tracts of private land (commercial, industrial, and agricultural)
- ☛ Holders of large tracts of public land (state or federal facilities)

Maintenance Plan

A long-term maintenance plan is a good idea for any tree planting. A maintenance plan should include an irrigation plan, vegetation clearance plan. As well as information on spot inspections, how invasive species will be monitored, and the replacement of dead trees.

Irrigation/watering Plan: Does the planting plan call for any watering in addition to average precipitation? If so, the maintenance plan should describe who will water the trees and how often.

Vegetation Clearing: Vegetation should be cleared from around the base of newly planted trees at least once per year to decrease cover for voles and other rodents that like to chew on small trees.

The mulched spot around the young tree should be 4- to 6-feet in diameter. The maintenance plan should identify who will clear the vegetation and what method will be used. Vegetation clearing can generally be stopped once the trees reach 4- to 5-inches in trunk diameter.

Unlike the urban development that I see taking over and swallowing up our precious soil, when we interact with our environment in a way that allows for regeneration and natural spaces, the outcome can be beautiful.

- Cory Trepanier

Spot Inspections: The planting site should be spot-inspected twice a year, preferably once after leaf-out in May and once in October or November. During the examination, any downed or leaning trees should be straightened. Any damage to shelters or cages used to protect trees from animals should also be noted and corrected, if possible.

Finally, any dead or unhealthy trees should be emphasized. The maintenance plan

should identify who will conduct these inspections and the person that will keep inspection notes from year to year.

Replacing Dead Trees: It is expected that some planted trees will die before maturity, and there is generally a strong relationship between the size of trees at planting and the rate of survivorship. Ball and burlapped trees and large containerized trees will survive significantly higher than tiny bare-root seedlings.

If there are project goals related to canopy cover or buffering a water body, replacing some or all the trees that perish may be necessary. The maintenance plan should identify who will make decisions about replacements and be responsible for coordinating replacements.

Invasive Species Monitoring: Invasive species are not native to a particular area and prone to establishing large numbers, out-competing, or otherwise harming native species. All newly planted tree sites should be monitored for new invasions with special

care to eliminate any species that are either known pests to trees or on the state noxious plant list.

Tree Selection (Year Before)

Most people aren't thinking too much about trees in the winter. But most large nurseries start collecting orders, substantial orders, during winter, several months in advance of planting. Ordering too late means you run the risk that nurseries will be out of trees in the species and sizes desired, requiring substitutions.

Orders should be planned for other supplies such as tree shelters or cages (the number and type should be specified in the planting plan), mulch, and stakes (numbers and lengths should be stated in the planting plan). Stakes made of white oak wood are the most rot-resistant and are recommended for wet sites. Drier upland sites will be fine with stakes made of other hardwoods, such as locusts.

Volunteers or Hired Labor

Tree planting is a great way to get people of all ages involved in bettering their local community. Engaging with various volunteer groups promotes community engagement.

The following types of groups may be ready and willing to supply volunteers.



Early on, agree on a planting date with each volunteer group, get a rough estimate of how many volunteers will be on-site, and obtain any government clearances that may be necessary to work with children or youth volunteers.

Site Preparation

Use the maintenance plan to prepare a site for tree planting. Consider the following site preparation steps when creating the maintenance plan:

- Remove any existing, unwanted plants through physical means (mowing or using a brush hog if necessary). Use lawn flags to mark the spots where trees should be planted according to the planting plan. Flags should be color-coded or otherwise labeled to indicate tree species.
- If the maintenance plan calls for mowing and herbicide to keep the vegetation around the base of trees, it is best to mow and conduct the first herbicide application before the trees are planted. Spray a spot roughly 4 to 6 feet in diameter around the space where the tree will be planted.

- The use of herbicide should always be done by a trained professional and strictly according to label instructions. If heavy equipment is used for digging holes, have the equipment dig the pits before the planting.
- Likewise, if the volunteer or labor pool for hand planting is too small for the project size, digging and planting should be broken into two different days.

Budgeting

Planning for a tree-planting program or applying for an urban greening grant will require a budget assessment. To estimate the cost of your project, consider the following expenses:

- ✦ Contractors for Construction and Site Preparation
 - Asphalt removal or related hardscaping where plantings involve the establishment of a new permanent planting site.
 - Hardscape cuts
 - Expansion of existing planting sites.
 - Up to 50% of soil testing costs to determine the needs for the site.
 - Other related construction costs.
- ✦ Trees and planting materials
 - Cost of trees
 - Stakes, ties, and root collars are proportional to the number of trees planted.
 - Wood chip surface mulch, soil amendments in areas of hard clay soil or sandy soil.
 - The soil was needed for backfill
 - Structural pruning stake adjustment and removal for newly planted trees.
 - Water-wise or hydro-zone irrigation and supplies.
 - Replacement costs for trees planted in the first two years of the project.
- ✦ Equipment
 - Purchased or rented materials and tools required for project purposes.
 - Pruning and gardening supplies.
 - Personal protective equipment.
 - Other related expenses.
- ✦ Acknowledgment signage
 - Construction and material costs
- ✦ Education/Outreach Component
 - Development of educational materials.
 - Outreach relevant to the scope of the proposed project.
- ✦ Administrative costs directly related to the implementation of the project
 - Mileage to and from the project site.
 - Liability insurance for project implementation.
 - Materials for personnel hired solely for this project.
- ✦ Indirect costs

Appendix I: Grants

Appendix I: Grants

Grant Eligibility

Grants significantly reduce the cost of urban greening projects. Urban greening grants typically have standards for eligible and ineligible projects. These standards must be followed when planning an urban greening project that requires financial support. Decide whether project objectives align with grant eligibility requirements. Eligibility may vary depending on the grant. Below are some examples of projects eligible for urban greening grants.

- ✦ Establishment, enhancement, and expansion of neighborhood parks and community spaces.
- ✦ Greening of public lands and structures, including schoolyards, may include incorporating riparian habitat for water capture and providing for other public and wildlife benefits.
- ✦ Green streets and alleyways.
- ✦ Non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools
- ✦ Urban heat island mitigation and energy conservation efforts. All eligible projects must result in GHG reductions by including at least one of the following activities:
 - ❖ Sequester and store carbon by planting trees
 - ❖ Reduce building energy use by strategically planting trees to shade buildings
 - ❖ Reduce commute vehicle miles traveled by constructing bicycle paths, bicycle lanes, or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools

Grant Resources

This is a list of some of the grant programs that focus on urban greening, tree planting, and urban forest resilience. It is not a comprehensive list and some grant programs may be pending future funding. It is anticipated that additional funding opportunities for urban greening programs will arise in the future as efforts to address climate change and urban community resilience increase.

Urban Greening Program. California Natural Resources Agency.

- ✦ Funds local green infrastructure projects to reduce emissions, expand green space, and create more sustainable communities. The program is part of "California Climate Investments," funded by the state's cap and trade auction revenues.
- ✦ Check the program website for funding availability and future updates. To find out more: <https://resources.ca.gov/grants/urban-greening>
- ✦ Some examples of local projects funded by this program:
 - ❖ Riverside County Transportation Dept. Mecca Neighborhood Park and Greening Project, \$1,093,708. 2021. The project will create two green street

corridors in the community of Mecca, including planting trees and developing a pocket park within a park-poor and tree-poor community.

http://rivcocob.org/proceeds/2021/p2021_02_09_files/03.29001.pdf

- ❖ City of Coachella. Grapefruit Boulevard Urban Greening and Connectivity Project. Project to plant 288 trees along Grapefruit Blvd, provide pedestrian facilities and bicycle lanes. \$3,189,153. 2018. Project broke ground in February 2021.
 - <http://www.caclimateinvestments.ca.gov/2020-profiles/urban-greening>;
 - <https://www.desertsun.com/story/news/2018/11/02/coachella-receives-3-19-m-state-grant-urban-greening/1860673002/>
 - <https://nbcpalmsprings.com/2021/02/05/officials-in-coachella-break-ground-for-grapefruit-blvd-urban-greening-and-connectivity-project/>

California ReLeaf

- California ReLeaf is a non-profit organization that works statewide with community-based groups, individuals, industry, and government agencies, to contribute to the livability of our cities and the protection of our environment by planting and caring for trees. They also increase access to urban forestry funding by providing sub-grants to community groups. They maintain a list of other public grant programs for urban forest or urban greening projects.
- To find out more: <https://californiareleaf.org/programs/grants/>

Urban and Community Forestry Challenge Cost Share Grant Program. USDA Forest Service

- Funds innovative proposals for programs to address urban and community forest resilience and planning disaster mitigation strategies for urban forests.
- The 2021 funding cycle closed on April 21, 2021.
- To find out more: <https://www.fs.usda.gov/managing-land/urban-forests/ucf>

Urban Flood Protection Grant Program. California Natural Resources Agency

- Funds stormwater capture and reuse, restoration of urban watersheds, and increasing permeable surfaces to help reduce flooding. Urban forestry example projects “retrofit/naturalize a stormwater detention basin by introducing trees, vegetation, and soils to slow, spread and filter runoff, increase infiltration, and create wildlife habitat.”
- Awards for current cycle anticipated in August 2021.
- To find out more: <https://resources.ca.gov/grants/ufp>



Appendix II: Resources

TREE SELECTION AND CARE

Appendix II: Resources

Tree Selection and Care

The following list of resources cover a diversity of topics related to tree selection and care. Many of these resources were recommended by the experts consulted in preparing this guide. This is not an exhaustive list but focuses on resources that are particularly relevant for desert landscapes.

University of California Resources

Master Gardener Helpline (specifically for addressing home horticulture issues in the Coachella Valley) - email: anrmgindio@ucanr.edu

Sustainable Landscaping in California: <https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8504>

Keeping Plants Alive Under Drought and Water Restrictions:
<https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8553>

Lawn Watering Guide for California: <https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8044>

Use of Graywater in CA Landscapes: <https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8536>

Univ. of CA ANR Landscape Publication:
<https://anrcatalog.ucanr.edu/Items.aspx?hierId=250000>

Univ. of CA ANR Pest Management Publication: <http://ipm.ucanr.edu/>

Univ. of CA IPM Diagnostic Tool for Identifying Diseases and Insect Pests:
<https://www2.ipm.ucanr.edu/diagnostics/>

Plant a Tree. Leave a Legacy! Janet Hartin's Blog: <https://ucanr.edu/b/~T4C>

Trees Come First Under the Drought, Janet Hartin's Blog: <https://ucanr.edu/b/~D6C>

Other Tree Maintenance Resources

Lush & Efficient: Desert-Friendly Landscaping in the Coachella Valley, Coachella Valley Water District: <https://www.cvwd.org/DocumentCenter/View/4916/2016-Lush--Efficient-New-Revised-Edition-PDF?bidId=>

Free and credible information from the International Society of Arboriculture:
<https://www.treesaregood.org>

Find a certified arborist: <https://www.treesaregood.org/findanarborist>

Educational fact sheets' on trees (proper planting, pruning, staking, benefits of trees, etc.):
<https://www.treesaregood.org/education>

SEARCHABLE TREE / PLANT FINDERS

Searchable Tree / Plant Finders

A great way to identify trees for your urban greening project or planting at home is to consult tree and plant finder websites. The following list includes some useful resources to help you with trees selection.

Be sure to look for trees that will grow in your climate zone.

Sunset magazine climate zones:

<https://www.sunset.com/garden/climate-zones/sunset-climate-zone-california-desert>

U.S. Department of Agriculture Plant Hardiness zones: <https://planthardiness.ars.usda.gov/>

Tree/Plant Finders

SelectTree: A Tree Selection Guide. Urban Forest Ecosystems Institute (UFEI), California State Polytechnic University: <https://selecttree.calpoly.edu>

- Select a tree by name or desirable characteristics. Includes tree photos, characteristics, planting considerations. Urban Tree Key helps you identify a tree.

Calscape: Restore Nature one Garden at a Time. California Native Plant Society (CNPS):

<http://www.calscape.org/>

- Find out which plants are really native to your area, figure out which plants you want to plant, where to buy them and how to grow them. Type in your address to get list of trees and other native plants that do well in your area.

Water Use Classification of Landscape Species (WUCOLS): <http://ucanr.edu/sites/WUCOLS>

- The University of California Agriculture and Natural Resources (UCANR) tool provides guidance in the selection and care of landscape plants relative to their water needs. WUCOLS helps estimate the amount of water and type of irrigation for a tree project.

i-Tree: Tools for Assessing and Managing Forest and Community Trees.

<https://www.itreetools.org/>

- i-Tree provides data that you can use to demonstrate value of trees, the environmental benefits that trees provide, and set priorities for more effective decision-making in your community. The i-Tree Planting tool can be used to estimate tree carbon storage, energy savings, and pollution reduction for trees to be planted.

The Sustainable Urban Forest: A Step-by-Step Guide.

[https://www.itreetools.org/documents/485/Sustainable Urban Forest Guide 14Nov2016 pw6 WcW0.pdf](https://www.itreetools.org/documents/485/Sustainable%20Urban%20Forest%20Guide%2014Nov2016%20pw6%20WcW0.pdf)

- Alliance for Community Trees. Arbor Day Foundation.

Other Resources

- Greening without Gentrification Guide

<https://www.ioes.ucla.edu/wp-content/uploads/Parks-Related-Anti-Displacement-Strategies-report-with-appendix.pdf>.

Allergy-Free Gardening

<http://www.allergyfree-gardening.com/>

- Allergy free Gardening Considerations for Asthmatic and Sensitive Residents

Urban Greening and Related Plans

The City of Indio's Transformative Climate Communities Plan. January 2021.

https://indiotccplan.com/wp-content/uploads/2021/01/IndioTCC-FINAL_150dpi.pdf.

City of Palm Springs Sustainability Plan. May 2016. Urban Forests and Natural Systems

(pages 47-51). <https://www.palmspringsca.gov/home/showdocument?id=44449>

City of Palm Springs Inventory of Public Trees and Urban Forest Management Report.

June 2015. [City of Palm Springs Inventory of Public Trees](#). City of Palm Springs GIS Based Tree Inventory and Urban Forest Management System powerpoint:

<https://www.palmspringsca.gov/home/showdocument?id=37335>

City of Palm Springs website: Sustainability & Recycling, Tree Programs.

<https://www.palmspringsca.gov/services/sustainability-and-recycling/urban-sustainability-mobility/urban-forestry-initiatives>

Imperial County Community Emissions Reduction Program: Project Plan Urban Greening Program for The El Centro-Heber-Calexico Corridor. Prepared for the El Centro-Heber-Calexico AB 617 Community Steering Committee, by Ramboll US Consulting, Inc. Los Angeles, CA.

February 2021. <https://apcd.imperialcounty.org/wp-content/uploads/2021/03/Urban-Greening-Project-Plan.pdf>.

City of Phoenix Tree and Shade Master Plan. 2010.

https://www.phoenix.gov/parkssite/Documents/PKS_Forestry/PKS_Forestry_Tree_and_Shade_Master_Plan.pdf

Cathedral City council plants tree at Cathedral City Elementary School for Clean Air Day

<https://www.desertsun.com/story/news/local/neighbors/2019/10/17/cathedral-city-council-plants-tree-elementary-school-clean-air-day/4015447002/>

Section 4: Advanced Planning Sample Outline

Year One -- Summer through early Fall	Year Two -- Late Winter through early spring	Year Two and Beyond
Determine your objectives for planting trees	Receive nursery invoice, confirmation of the order	Inspect your trees regularly.
Inspect your planting site	Arrange for equipment, volunteer help, or contract tree planters	Control vegetation and insect or disease problems promptly.
Prepare a planting plan	Receive your seedlings. Transport and handle with care!	
Prepare your site for planting	Store your trees properly on-site and plant your trees within two days	
Control competing vegetation	Monitor your seedlings and control vegetation if required	
Improve drainage if necessary		
Order your trees from MNR or a private nursery		



Appendix III:

References

Appendix III: References

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- 2 Western Regional Climate Center. Desert Research Institute. NOAA Cooperative Climatological Data Summaries. Indio Fire Station, Indio, CA. <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca4259>.
- 3 Sorensen, Mark, et al. 1997. "Good practices for urban greening." *Inter-American Development Bank*. <https://publications.iadb.org/publications/english/document/Good-Practices-for-Urban-Greening.pdf>.
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- 5 Nowak, David J; Greenfield, Eric J. 2018. US Urban Forest Statistics, Values, and Projections. *Journal of Forestry*. 116(2): 164-177. <https://doi.org/10.1093/jofore/fvx004>.
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- 8 Wua, Chunxia; Xiaoa, Qingfu; McPherson, Gregory E. 2008. A method for locating potential tree-planting sites in urban areas: a case study of Los Angeles, USA. *Urban Forestry & Urban Greening* 7 (2008) 65–76. https://www.fs.fed.us/psw/publications/mcpherson/psw_2008_mcpherson001.pdf.
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PLANT NATIVE

Your Guide To Growing
Native Plant Species
Of the Coachella Valley

PRODUCED BY



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Desert Mountains**

DESERTMOUNTAINS.ORG

Thank you for planting native plants, Coachella Valley.



People often think that the idea of land conservation and protecting native species and habitat is a monumental task. Planting native is an excellent way to start. It's better for the environment, saves water, encourages local flora and fauna to flourish ... and reduces invasive species.

We thank you for taking this small step on the journey to caring for our desert lands.



CONNECT TO THE LAND WITH FRIENDS!

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Thank You to Our Partners!



This project is funded by the Coachella Valley Mountains Conservancy's Climate, Resilience and Community Access Grant Program, administered by the Coachella Valley Mountains Conservancy, a state agency within the California Natural Resources Agency.



CALIFORNIA
NATIVE PLANT
SOCIETY



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Introduction to Native Plants



Native plants are plants that originated in a certain region and have evolved over many generations to survive in their local environment.

This planting guide contains information about native plants found throughout the Coachella Valley. These plants have adapted to their environment over thousands of years in order to survive our hot and dry desert conditions.



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Why should we plant native species?



Planting native plants can be a very effective and affordable way to help our local species thrive while they face the challenges of climate change and human development.



We hope this guide helps you learn more about Coachella Valley native plants so that you can join the movement to restore and protect our native species while helping to improve our environment and take care of our natural resources.



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Languages



Plants in this guide are listed
with 4 names:

English in Large Bold

Scientific name in italics

Spanish name in small letters

Cahuilla name in small bold



Example



HONEY
MESQUITE

Honey Mesquite

Neltuma glandulosa

Mesquite Dulce

ily



**SPANISH TRANSLATION PROVIDED BY EDELI REYES, TRANSLATION
SPECIALIST FOR FRIENDS OF THE DESERT MOUNTAINS**

**CAHUILLA TRANSLATION PROVIDED BY SIENNA THOMAS, BOARD
MEMBER AT FRIENDS OF THE DESERT MOUNTAINS**



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Symbols

Plants in this guide are also listed with symbols related to their benefits and traits

HABITAT

Bee Habitat 

Butterfly Habitat 

Hummingbird Habitat 

Bird Habitat 

WATER USAGE

Low Water Use 

Moderate Water Use 

High Water Use 

SUNLIGHT

Full Sun 

Part Shade 

CONSUMPTION/TOOLS

Food Source 

Medicinal 

Toxic** 

Tools 



**EVERY PERSON/PET REACTS DIFFERENTLY TO DIFFERENT PLANTS. ALWAYS USE CARE WHEN HANDLING NEW PLANTS THAT YOUR BODY HAS NOT BEEN EXPOSED TO IN THE PAST



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Benefits of Native Planting



1

Water Conservation



MANY OF OUR NATIVE PLANTS HAVE EVOLVED OVER THOUSANDS OF YEARS TO LIVE OFF OF MINIMAL WATER SUPPLIES IN THE DESERT.

USING THESE PLANTS IN OUR LANDSCAPING CAN HELP US DRASTICALLY REDUCE THE WATER USED IN OUR NEIGHBORHOODS.

2

Biodiversity



NATIVE PLANTS WILL HELP PROVIDE FOOD AND HABITAT FOR THE NATIVE WILDLIFE THAT THEY HAVE EVOLVED WITH FOR MANY GENERATIONS.

THESE HABITAT RELATIONSHIPS ARE IMPORTANT TO CONSERVE IN ORDER TO HAVE A HEALTHY ECOLOGY.



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Benefits of Native Planting



3

Urban Greening/ Climate Resilience



USING LARGE NATIVE TREES AND SHRUBS IN OUR NEIGHBORHOODS CAN BE AN INEXPENSIVE WAY OF BUILDING OUT THE GREEN INFRASTRUCTURE WE NEED TO BE CLIMATE RESILIENT.

NATIVE TREES AND SHRUBS CAN THRIVE WITH MINIMAL WATER AND CREATE SHADE THAT HAS COOLING EFFECTS ON OUR YARDS AND PAVEMENT.

4

Food Sources



MANY OF OUR NATIVE PLANTS HAVE BEEN A FOOD SOURCE FOR THOUSANDS OF YEARS TO THE LOCAL INDIGENOUS POPULATION, THE CAHUILLA.

SOME NATIVE FOODS IN THE COACHELLA VALLEY INCLUDE PRICKLY PEAR (FRUIT AND CACTUS ARE EDIBLE), PALO VERDE BEANS, AND MESQUITE FLOWER.



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Benefits of Native Planting

5

Medicine



THE LOCAL CAHUILLA TRIBES HAVE ALSO USED MANY OF OUR NATIVE PLANTS AS MEDICINE FOR MANY GENERATIONS

ONE PLANT THAT IS WIDELY USED IN BOTH THE CAHUILLA COMMUNITY AS WELL AS THE MEXICAN COMMUNITY IS THE CREOSOTE BUSH OR "LA GOBERNADORA"

THE CAHUILLA TRIBES HAVE MANY USES FOR THE DIFFERENT STEMS AND FIBERS OF OUR NATIVE PLANTS

MANY STRUCTURES WERE MADE OUT OF PALM FRONDS FROM THE CALIFORNIA FAN PALM, OR "MAUL" IN CAHUILLA. THEY ALSO USED THE FIBERS FROM THE YUCCA PLANT TO MAKE CLOTHING AND BASKETS

6

Tools and Resources



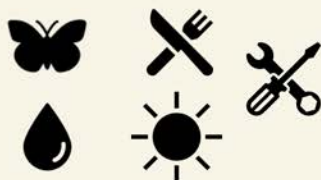
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Trees



DESERT
IRONWOOD



Desert Ironwood

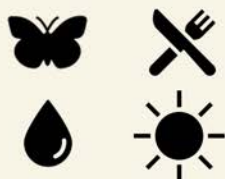
Olneya tesota

Palo Fierro

The Desert Ironwood is a rare, long-lived tree native to the Sonoran Desert, with some trees reaching around 800 years old. It serves as a nurse plant, providing shade for other flora and fauna. When incorporating a Desert Ironwood into your landscape, avoid overwatering and limit pruning to no more than 20% during the dormant season to prevent tree death.



BLUE PALO
VERDE



Blue Palo Verde

Parkinsonia florida

Palo Verde Azul

u'uwet/ankichem

The blue palo verde supports various insects, like native bees, and provides nesting for desert birds. Its name reflects its bluish-green bark, which allows for low-level photosynthesis, enabling the tree to drop leaves during dry seasons to conserve water. In landscaping, avoid overwatering, as it can cause root rot and reduce lifespan; infrequent deep watering every 3 to 4 weeks during dry periods is recommended.



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Trees



HONEY
MESQUITE



Honey Mesquite

Neltuma glandulosa
(Formerly *Prosopis glandulosa*)
Mesquite Dulce
ily

The honey mesquite is a rapidly growing tree that can reach heights of up to 50 feet, boasting a taproot that extends up to 160 feet underground to access water. This tree produces seed pods that are not only important for wildlife, but also hold significant value for indigenous tribes. To enhance wildlife habitat, consider allowing the tree to develop a thicket by reducing your pruning efforts.



SCREWBEAN
MESQUITE



Screwbean Mesquite

Strombocarpa pubescens
(Formerly *Prosopis pubescens*)
Tornillo
qwinyal

This species exhibits numerous similarities in flower type, color, and overall tree appearance with the honey mesquite. However, its seed pods are distinctly different, featuring tightly twisted shapes. Like other legumes, this tree modifies the soil composition beneath its canopy, enriching it with essential nutrients, including nitrogen.



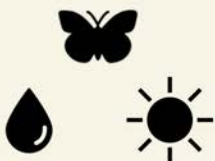
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Trees



SMOKE TREE



Smoke Tree

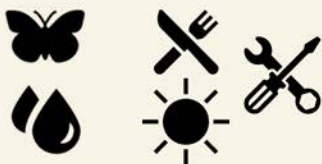
Psorodendron spinosum

Palo de Cenizo

The common name of this tree is derived from its unique appearance. From afar, it resembles a plume of smoke due to its shape and grayish hue. This species is vital for native bees and other pollinators, making it a fantastic accent in your garden or landscape. If you're looking to add summer-blooming plants to your garden, this is the perfect choice, as it produces a stunning display of purple flowers.



DESERT WILLOW



Desert Willow

Chilopsis linearis

Mimbre

qaankish

The Desert Willow resembles true willows in leaf shape but is not a true willow. Numerous cultivars exhibit various flower colors, leaf sizes, and seed pod quantities. It is visited by various pollinators from hummingbirds to butterflies while also supporting other wildlife. It is winter deciduous, so there's no need to be concerned if it seems to be lifeless as temperatures drop.



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Trees



CALIFORNIA FAN
PALM



California Fan Palm

Washingtonia filifera

Palma Abanico

maul

The California fan palm is the only palm species native to the Western United States. Once established, it doesn't need much water. Its dead leaves do not drop; instead, they droop down, creating a protective skirt around the trunk while also offering shelter for wildlife.



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Shrubs



CREOSOTE
BUSH



Creosote Bush

Larrea tridentata

Gobernadora

atukul

Creosote is a prominent shrub found throughout our desert region and other deserts in North America, including the Mojave. It supports a diverse range of pollinators, hosting over 120 native bee species, many of which are specialized in creosote pollen. This makes it an essential addition to any native plant garden.



DESERT
LAVENDER



Desert Lavender

Condea emoryi

Salvia del Desierto

nishxily

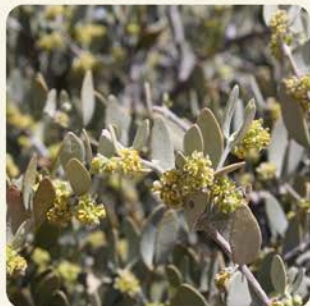
The white color of the plant reflects sunlight, aiding in temperature regulation. Its hairy leaves capture moisture, minimizing water loss. Being part of the mint family, it emits a delightful fragrance. With its tall, upright growth habit, it can serve as an informal hedge for privacy while requiring less upkeep compared to a traditional hedge.



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Shrubs



JOJOBA



Jojoba

Simmondsia chinensis

Jojoba

qawnaxal

The jojoba plant is dioecious, meaning that male and female flowers grow on separate plants. Female flowers will only produce seeds if there is a nearby male flower plant. Additionally, jojoba can be utilized to create attractive hedges around your home.



OCOTILLO



Ocotillo

Fouquieria splendens

Ocotillo

utush

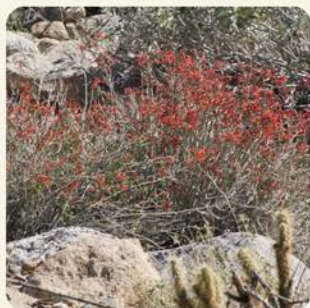
The Ocotillo boasts a distinctive appearance that makes it an excellent choice as an accent plant. However, due to its thorns, it's best to position it in low-traffic areas. Be cautious with watering, as overwatering can be detrimental to its health, and pruning is not advisable for this species.



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Shrubs



CHUPAROSA



Chuparosa

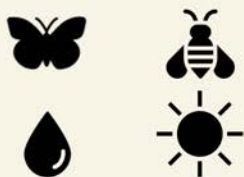
Justicia californica

Chuparosa
pisily

The name "chuparosa" translates to "hummingbird" due to its vibrant red tubular flowers that draw these delightful creatures in. If maintaining feeders seems too demanding, this native plant is an excellent choice for luring hummingbirds to your garden.



BRITTLEBUSH



Brittlebush

Encelia farinosa

Flor de Rocío
pa'akal

Brittle bush is a vital addition to native plant gardens. This small, rounded shrub can grow up to 5 feet tall and features grayish leaves along with vibrant yellow composite flowerheads which attract a variety of pollinators and wildlife that depend on its seeds. It requires minimal maintenance and resources. To achieve a lush appearance, simply provide supplemental water once a month.



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Shrubs



CHEESEBUSH



Cheesebush

Ambrosia salsola

Jecota

The cheesebush is a shrub that typically grows 4-5ft tall. Its foliage is known for having a cheese-like aroma, which is how it got its common name. The plant produces small cream-colored flowers that bloom in clusters and is also beneficial for native pollinators.



RUSH MILKWEED



Rush Milkweed

Asclepias subulata

Candelilla Bronca

kivat or kiyal

Rush milkweed belongs to the milkweed family and serves as a crucial host plant for the endangered monarch butterfly in desert environments. Adult monarchs exclusively lay their eggs on milkweed, while the caterpillars feed on its leaves. The milkweed contains cardenolides, which are consumed by the larvae, making the butterflies toxic and protecting them from predators.



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Shrubs



CALIFORNIA
BUCKWHEAT



California Buckwheat

Eriogonum fasciculatum

Flor de borrego

hulaqal

California buckwheat is prevalent throughout California, including our desert region. The evolution of this flower adds visual interest to your garden throughout the seasons. The blooms begin as white and gradually transform into a striking reddish-copper hue. Additionally, it provides support to various native insect and bird species.



CATCLAW
ACACIA



Catclaw Acacia

Senegalia greggii

Tepame/ Uña de gato

sichingily

Catclaw is a hardy and sizable shrub, typically ranging from 10 to 15 feet in height, distinguished by its hooked thorns, which inspire its common name. Due to the thorns, it is best planted in areas with low foot traffic. This shrub produces clusters of cream-yellow flowers that develop into bean pods resembling those of the honey mesquite.



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Shrubs



SWEETBUSH

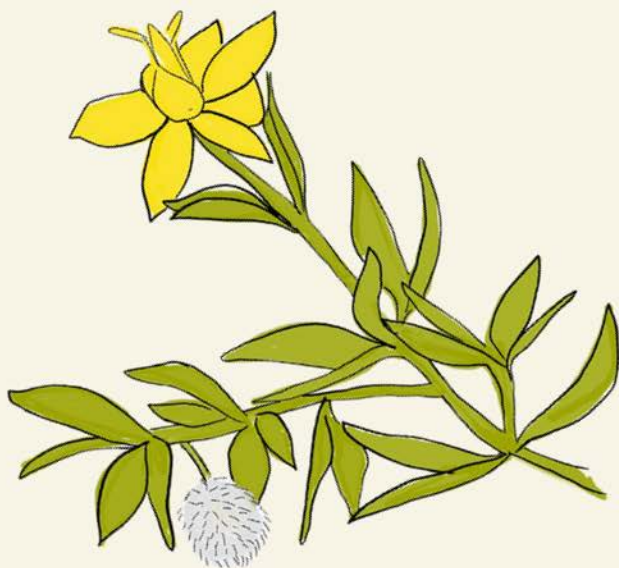


Sweetbush

Bebbia juncea

Palo dulce

Sweetbush is a smaller shrub that can grow up to 5 feet tall, typically featuring a few narrow leaves or none. It produces vibrant yellow discoid flowers that bloom during the spring and summer, attracting not only insect pollinators but also delighting the chuckwalla lizard.



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Succulents



SILVER CHOLLA



Silver Cholla

Cylindropuntia echinocarpa
Choya Plateada

The silver cholla features 1 to 2 inch long spines that provide a shield for birds like the cactus wren, which frequently nest among the chollas, ensuring protection from predators. Additionally, cholla cactus species support pollinators while contributing a unique aesthetic to your garden.



BARREL CACTUS



Barrel Cactus

Ferocactus cylindraceus
Biznaga barril de Baja California
kupash

This cylindrical cactus can grow up to 8 feet tall and adds a striking accent to any garden with its vibrant red spines. It is a slow-growing species featuring a floral crown that blooms in early summer. To thrive, it requires well-draining soil, as poor drainage can lead to root rot.



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Succulents



BEAVERTAIL
CACTUS



Beavertail Prickly Pear Cactus

Opuntia basilaris var *basilaris*
Nopal Del Castor
manal

The beavertail cactus is an excellent choice for pot cultivation, as it typically remains low in height but can spread up to 5 feet wide. Its pads resemble a beaver's tail, which is how it earned its common name. While the beavertail cactus is spineless, each pad features dense clusters of glochids that may cause irritation.



PRICKLY PEAR
CACTUS



Desert Prickly Pear Cactus

Opuntia phaeacantha
Nopal de Chihuahua
qexe'yily

The desert prickly pear features flat green pads adorned with spines that measure about 1 inch in length. Its flowers display a vibrant range of colors, including orange, pink, yellow, and red, blooming during the spring and summer months. This plant produces edible, red, fleshy fruit that not only adds visual appeal to your garden throughout the seasons but also offers resources for local wildlife.



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Grasses



DEER GRASS



Deer Grass

Muhlenbergia rigens

Liebrilla de venado

suul

Deergrass is a rapidly growing perennial bunchgrass that can reach heights of up to 4 feet, featuring tall spikes adorned with small yellow flowers. It thrives in a variety of soil types, from sandy to clay, and prefers full sun or partial shade. Additionally, it offers food and shelter for nesting or denning animals.



BIG GALLETA



Big Galleta

Pleuraphis rigida

Zacate galleta gigante

Big Galleta is a clumping bunchgrass that usually reaches a height of 3 feet and a width of 4 feet. Its flowering period varies by region, featuring small purple inflorescences. This grass primarily reproduces through rhizomes and can be cut back to the ground. Ecologically, it serves as a nurse plant, offering food and habitat for wildlife, including bighorn sheep.



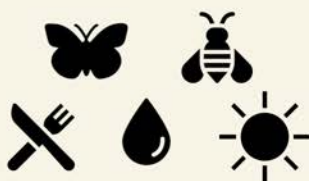
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Perennials



DESERT
MARIGOLD



Desert Marigold

Baileya multiradiata

Hierba Amarilla

This small perennial can reach a height of up to 2 feet. It features bright, daisy-like flowers alongside grayish leaves. This plant thrives in containers, making it ideal for a patio garden with limited space. While it has a lifespan of a few years, it is capable of reseeding itself effortlessly.



APRICOT
MALLOW



Apricot Mallow

Sphaeralcea ambigua

Malva del Desierto

Also known as the desert globe mallow, this perennial plant typically reaches an average height of 3 feet. While its most common color is a vibrant orange, it can also bloom in shades of lavender, red, or pink. This variety is another excellent choice for patio gardens, especially in spaces with limited room.



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Perennials



DESERT
TOBACCO



Desert Tobacco

Nicotiana obtusifolia

Tabaco de Coyote

pivat

Desert tobacco may be less frequently seen in landscaping, but it is a stunning perennial that can reach heights of up to 3 feet, showcasing small, funnel-shaped cream-colored flowers. This plant is usually found growing between rocks and boulders in the wild.



DESERT
MILKWEED



Desert Milkweed

Asclepias erosa

Algodoncillo del Desierto

kivat or kiyal

If you're short on space for a shrub but want to provide a habitat for monarch and queen caterpillars, consider the desert milkweed. This herbaceous perennial usually reaches a height of just 4 feet. Although it will die back as an annual herb, its roots will remain alive, enabling the plant to regrow in the following season.



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Invasive Species

Invasive species can spread widely into our natural lands and take up resources from our native plant species. They can also increase the risk of wildfire due to their fast-growing and fast-spreading nature.

Avoid using these plants in your garden to prevent them from spreading into our deserts and mountains!



FOUNTAIN
GRASS

Fountain Grass

Cenchrus setaceus

Fountain grass has very light seeds that float long distances in the wind, and they thrive in our desert environments. These plants can be hard to remove and are now easily found throughout our surrounding mountains.



SALT CEDAR/
TAMARISK

Salt Cedar/Tamarisk

Tamarix ramosissima

Salt Cedar, of the Tamarisk family, was often used in the past to build large barriers against wind and noise. Unfortunately, their seeds have spread all throughout our region. These plants can be very hard to manage with strong roots that can be hard to remove completely. They are very heavy water users pulling up to 200 gallons of water every day per plant from our local aquifer.



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Invasive Species



**Smallflower
Tamarisk**
Tamarix parviflora



Spanish Broom
Spartium junceum



**Himalayan
Blackberry**
Rubus armeniacus



Parrot's Feather
*Myriophyllum
aquaticum*



Purple Loosestrife
Lythrum salicaria



**Scotch Broom
(Common Broom)**
Cytisus scoparius



Pampas Grass
Cortaderia jubata



Giant Reed
Arundo donax



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Planting Techniques Provided by the Mojave Desert Land Trust



The Mojave Desert Land Trust acquires and permanently protects ecologically significant land throughout the California desert. We focus on parcels within national parks and preserves, wilderness areas, areas of critical environmental concern, and wildlife corridors. MDLT has conveyed more tracts of land to the National Park system nationwide than any other non-profit since 2006.

MDLT's plant conservation program includes a native plant nursery, a conservation seed bank, and a demonstration garden. We grow native plants for desert restoration projects and to empower locals to plant native plants at home. The Mojave Desert Seed Bank serves as an insurance policy for the desert's future.

For more information visit MDLT.org



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How to Take Care of Native Plants in the Coachella Valley

When to Plant

The best time to plant perennials, shrubs and trees is during the fall and early winter.



This gives plants time to establish a healthy root system and build energy for the growing season.

Annuals are best sown or planted from October to late November.





How to Take Care of Native Plants in the Coachella Valley

Choosing Your Soil

Most native plants perform better without fertilizer or actually respond negatively to fertilizer.

Desert native plants are adapted to soils that are low in nutrients, so adding extra nitrogen in the form of compost or fertilizer is not necessary.

In addition, nitrogen promotes foliar growth, and may actually delay root establishment.

Mulching with inorganic materials like rocks or gravel is recommended instead of organic materials like bark. Mulching in general can be helpful in retaining moisture, reducing erosion, and controlling weeds.





How to Take Care of Native Plants in the Coachella Valley

Planting Technique

Start by replacing the loosened backfill you removed while digging the hole.



Gently tamp it down so the plant is stable. You can add more water as you fill the hole or afterwards. Avoid burying the collar of the plant.

Build a berm with the extra soil around the outer dimensions of the hole to retain water.



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How to Take Care of Native Plants in the Coachella Valley

Planting Technique

Water the root ball and the planting area thoroughly after planting. Remove any nursery stakes, if present. If necessary, re-stake the plant loosely.



Avoid pruning at this time. A "nurse rock" should be placed on the south side of the plant to maintain soil moisture, but keep it a few inches away from the base of the plant.

Caging small plants with hardware cloth is recommended to protect them from hungry wildlife.



How to Take Care of Native Plants in the Coachella Valley



Watering.

Many native plants can survive with minimal supplemental water once they are established (after 2-5 years).



New plants, however, need to be watered more frequently than established plants.

Always water deeply. Light, frequent irrigations create shallow, weak root systems.

Deep, less frequent irrigations encourage deep strong root systems that can tolerate longer periods of drought.



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How to Take Care of Native Plants in the Coachella Valley

Basic Watering Schedule for new plants



Weeks 1-2: Water every 1-2 days in summer and 3-4 days fall through spring

Weeks 3-4: Water every 3-4 days in summer and 6-7 days fall through spring

Weeks 5-6: Water every 4-6 days in summer and 7-10 days fall through spring

Weeks 7-8: Water every 7 days in summer and every 10-14 days fall through spring

After week 8: Gradually extend the time between irrigation until the plants are established (2-5 years)



How to Take Care of Native Plants in the Coachella Valley



Basic Watering Schedule for new plants

After the first summer there is rarely a need to irrigate more than once a week.



Once established after the first couple of years, plants with the exception of annuals can be watered once every 1-3 weeks in summer and 2-4 weeks fall through spring.

***Keep in mind, this is just a suggestive guide. One must always pay attention to the plant and the weather.



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How to Take Care of Native Plants in the Coachella Valley

Staking and Pruning

When possible, remove stakes at the time of planting. If stakes are needed, make sure they are loose and allow the plant to sway without falling over.



This will allow the trunk of the plant to become stronger in response to the wind.

Never allow ties to become tight around the trunk. Remove or adjust stakes after one year.

Pruning will be dependent of the individual plant species. It is best to prune trees while they are still young, but wait until after the first year. Leave growth on the lower trunk for up to two years to allow the tree to grow strong.



How to Take Care of Native Plants in the Coachella Valley



Typical signs of plant stress: Underwatering.

- Soil in the lower portion of the root ball is dry
- Older leaves turn yellow/brown and drop off
- Leaves are wilted or drooping
- Leaves curl upward or inward
- Stems or branches die back



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How to Take Care of Native Plants in the Coachella Valley



Typical signs of plant stress: Overwatering.

- Soil is constantly damp, especially around the base of the main stem
- Leaves turn light green, yellow or become dull
- Young shoots are wilted or drooping
- Leaves are green yet brittle, or wilted but not dropping
- Algae and/or mushrooms are on or around plants



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How to Take Care of Native Plants in the Coachella Valley



What If I Can't Plant My New Plant Right Away

We recommend that you plant your new plant in the ground because it will be easier to maintain. Yet sometimes, that is not always possible right away.



If you will keep your plant in its container, please place it somewhere that gets plenty of indirect sunlight, but not direct full sun.

You will need to pay attention to the soil moisture and water when the soil becomes dry. During this phase, it is advantageous to use a cage to protect the plant from hungry animals.



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Local Nurseries with Native Plants

List provided by California Native Plant Society Riverside - San Bernardino Chapter

- 
- Bob Williams Nursey in Indio
 - Cactus Mart & Morongo Hardware in Morongo Valley
 - Desert Strawhouse Native Plant Nursery in Sky Valley
 - Mojave Desert Land Trust Native Plant Nursery in Joshua Tree
 - GDNC Cactus & Desert Plant Nursery in Desert Hot Springs
 - Green Desert Nursey in Indio
 - Moller's Garden Center, Inc in Palm Desert
 - Mariscal Cactus & Succulents in Desert Hot Springs
 - Moon Valley Nurseries in Coachella
 - Macias Nursey INC. in Thousand Palms and Mecca
- 



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Learn More

Visit the following websites and organizations to learn more about native planting!

- calscape.org
- calflora.org
- Mojave Desert Land Trust - mdlt.org
- deserthorticulturalsociety.org
- Lush & Efficient - Drought tolerant gardening publication by Coachella Valley Water District
- California Native Plant Society San Bernardino & Riverside Counties Chapters





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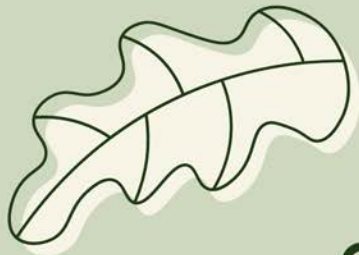
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ABOUT FRIENDS

AS FRIENDS OF THE DESERT MOUNTAINS, WE ARE DEDICATED TO BUILDING A COMMUNITY OF SUPPORT TO HELP PRESERVE THE UNIQUE WILDLIFE AND SCENIC BEAUTY OF THE COACHELLA VALLEY AND OUR DESERT MOUNTAINS. WE ACQUIRE AND PRESERVE WILDLANDS, PROMOTE STEWARDSHIP OF TRAILS, CONDUCT EDUCATIONAL PROGRAMS, AND SUPPORT ECOLOGICAL RESEARCH.

FRIENDS OF THE DESERT MOUNTAINS WORKS WITH BIOLOGISTS, CONSERVATIONISTS, AND GOVERNMENT AGENCIES TO IDENTIFY KEY LANDS FOR PROTECTION. WE SELECT LAND FOR ITS SCENIC, BIOLOGICAL, RECREATIONAL, OR CULTURAL SIGNIFICANCE, AND THEN OFFER TO PURCHASE IT FROM WILLING SELLERS AT FAIR MARKET VALUE. THROUGH THESE KEY ACQUISITIONS, WE GIVE PERMANENT PROTECTION TO THE BEAUTY, CHARACTER, AND DIVERSITY OF THE COACHELLA VALLEY.



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ABOUT FRIENDS



FRIENDS OF THE DESERT MOUNTAINS HAS WORKED IN LAND CONSERVATION SINCE 1987. WE UNDERSTAND THAT, WITHOUT THE SUPPORT OF FUTURE GENERATIONS, OUR PRESERVATION EFFORTS MAY BE IN VAIN. FOR THIS REASON, WE HAVE MADE IT OUR MISSION TO REACH OUT TO TOMORROW'S LEADERS.



WE STEWARD THE LAND, SUPPORT THE NATIONAL MONUMENT VISITOR CENTER, AND HELP TO EDUCATE OUR COMMUNITY. WE GO INTO THE FIELD WITH STUDENTS, LEAD HIKES, AND SHARE CLASSES FOR ALL AGES ON ENVIRONMENTAL EDUCATION. BY DOING SO, WE HOPE TO REVEAL THE WONDERS OF THE FRAGILE DESERT AND MOUNTAINS WE CALL HOME AND INSTILL AN ENVIRONMENTAL AWARENESS THAT WILL LAST A LIFETIME.



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CALIFORNIA**



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Coachella Valley Conservation Commission
November 13, 2025



STAFF REPORT

Subject: Managing the North Shore Ranch property

Contact: Billy Morrow, Program Specialist II (bmorrow@cvag.org) and
Kathleen Brundige, Director of Conservation (kbrundige@cvag.org)

Recommendation: Information

Background: At its February 2025 meeting, the CVCC approved purchasing the remainder of North Shore Ranch in the Coachella Valley Stormwater Channel and Delta Conservation area. The property is a unique acquisition. CVCC in 2017 had acquired 148 acres of land containing desert wetlands, saltbush scrub, and mesquite habitat at the North Shore Ranch. At the time, there was a lot split where the owner retained the subject property for a private duck hunting club. The purchase authorized in February includes a 2,635-square-foot house and the well and water infrastructure that fills the reserve pond on the CVCC property as part of a Cooperative Management Agreement the CVCC had with the seller.

At the time of the purchase, CVCC staff noted that the long-term vision is to reduce water consumption over time working in partnership with private duck clubs and state programs to increase established native vegetation including mesquite, as well as create a nursery for native plant restoration along with a conservation education training center for Urban Conservation Corps or College of the Desert students and ranger cadets. Restoration and activating the property will be a long-term goal.

Following additional negotiations over the acquisition, escrow closed on May 14, 2025. The previous caretaker, Josh Limon, was retained to continue maintaining the property, informing CVCC staff of any upkeep or emergency needs, and acting as a camp host when welcoming utilities, repair companies, or other visitors on the property. Mr. Limon has continued to work on the grounds, the ponds, the water system, and the entry gate within the scope of his knowledge and skills. Additionally, he has provided known and trusted contacts for any additional services that are needed for the property.

Since July 2025, the CVCC has authorized University of Idaho biologists to use the main house as research lodging during a lengthy study of burrowing owl DNA. This allows for the interior of the main house to maintain a level of oversight and usage that would prevent issues associated with unoccupied buildings. Basic amenities like hot water, air conditioning, and internet service have been provided and will continue with the intention of being able to support future guests and programs. The reaction from the researchers has been positive, especially in comparison to other agencies' provided housing.

On September 12, 2025, CVCC staff met with Patrick Lorch of the Southern Sierra Research Station to scout potential locations for the MOTUS towers that CVCC is installing under a grant. North Shore Ranch is among the four sites chosen, and the location provides a wide detection

range, is easily accessible for maintenance, secure, and presentable to be able to present the equipment and share the purpose of the MOTUS program with visitors and other interested parties.

CVCC staff continues to work on additional projects that are in various stages of planning, including but not limited to a native plant nursery and a conservation work training site.

Fiscal Analysis: The initial purchase price was \$1,280,000, with closing costs up to \$4,500. The renegotiated price was \$765,184, saving \$514,816. Funding came from CVCC's Land Acquisition Fund. The acquisition included several vehicles and assets that will continue to support and provide value for current and future CVCC projects, including two Kawasaki Mule utility off-highway vehicles, a Kubota tractor with front and rear attachments, an International 6388 tractor, and a Toro riding mower.

Under the Cooperative Management Agreement CVCC had with the previous owner, North Shore Ranch averaged approximately \$14,000 per year in utility costs over the last five years, as well as approximately \$10,000 per year for land management costs. The Management and Monitoring Fund for Fiscal Year 2025-26 Budget includes \$24,960 for the caretaker's contract and approximately \$40,000 for utilities including water, power and internet although staff are not expecting water costs to be as high this year due to keeping most of the ponds dry this fall that were previously flooded under the Cooperative Management Agreement.

Hosting the current research team is estimated to save CVCC \$75,600 in lodging costs it would have incurred based on providing the equivalent of two hotel rooms charged at \$225 per day over six months which is the duration of the contract for the current researchers. Due to the size of the home, CVCC has the ability to host more research teams in the future for additional savings.