

2.0 Plan Area Profile

This section describes the Plan Area's regional setting and boundaries, population and land use trends, general biological resources, and existing conservation areas. Specific information on natural communities and species addressed in the Plan is presented in Section 4 and in Sections 9 (species) and 10 (natural communities).

2.1 Plan Area Boundaries and Regional Setting

The Coachella Valley is a broad, low elevation, northwest-southeast trending valley comprising the westernmost limits of the Sonoran Desert. It is located in the eastern portion of Riverside County, approximately 100 miles east of Los Angeles. Riverside County as a whole covers over 4,700,000 acres (7,310 square miles), making it California's fourth largest county and roughly equal in size to Connecticut. (See Figure 1-1, Regional Context Map.)

The Plan Area boundaries were chosen to maximize inclusion of the Coachella Valley watershed. Portions of the watershed outside Riverside County or outside the jurisdictional boundaries of CVAG were not included in order to avoid institutional and administrative complexity. The western boundary of the Plan Area is the eastern boundary of the Western Riverside County MSHCP.

The external boundaries of the Plan Area encompass approximately 1.2 million acres, or approximately 1,850 square miles, encompassing the Coachella Valley and the surrounding mountains up to the ridgeline. (See Figure 1-2, Plan Area Map.) Indian reservation lands within the Plan Area, however, are not covered by the Plan; therefore, the actual area covered by the Plan is approximately 1.1 million acres. The Plan Area extends westward to Cabazon where it is bounded by the range line common to Range 1 East and Range 2 East. This is approximately the limit of the Sonoran or Colorado Desert in the San Gorgonio Pass area. The easternmost extent of the Plan Area is the range line common to Range 13 East and Range 14 East. Either the ridgeline of the Little San Bernardino Mountains or the boundary line with San Bernardino County where the ridgeline extends north of the county line bound the Plan Area on the north. On the south, either the ridgeline of the San Jacinto and Santa Rosa Mountains or the boundary line with San Diego and Imperial Counties forms the southern Plan Area boundary.

2.2 Population Trends

Table 2-1 shows the general growth trends in the Plan Area since 1970. Table 2-2 presents historic and projected population information for each city and the unincorporated portion of the Plan Area.

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Table 2-1: Growth Trends

<i>Year</i>	Plan Area Population²	Increase From Previous Period²	<i>Percent Change</i>	Cumulative Change
1970	86,900	-----	-----	-----
1980	130,500	43,600	50.0%	50.0%
1990	230,900	100,400	77.0%	166.0%
2000	332,800	101,900	44.0%	283.0%
2010 ¹	418,300	85,500	26.0%	381.0%
2020 ¹	518,500	100,200	24.0%	497.0%

¹ Projected growth based on forecasts prepared by the Southern California Association of Governments (SCAG). SCAG's growth forecast is generally more conservative than the forecast prepared by the California Department of Finance.

² Population figures are rounded to the nearest one hundred persons.

Table 2-2: Historic and Projected Population¹

Jurisdiction	1970	1980	1990	2000	2010	2020
Cathedral City	N/A ²	N/A ²	30,085	38,070	45,219	52,373
Coachella	8,353	9,129	16,896	22,127	24,894	29,283
Desert Hot Springs	2,378	5,941	11,668	16,064	19,180	22,714
Indian Wells	760	1,394	2,647	3,394	4,003	4,669
Indio	14,459	21,611	36,793	46,606	56,330	65,797
La Quinta	N/A ²	N/A ²	11,215	21,490	29,697	41,508
Palm Desert	N/A ²	11,801	23,252	37,087	43,543	48,821
Palm Springs	20,936	32,359	40,181	45,332	51,514	53,825
Rancho Mirage	N/A ²	6,281	9,778	11,671	14,985	19,308
Unincorporated	39,980	42,000	48,350	90,953	128,917	180,183
TOTAL	86,866	130,516	230,865	332,794	418,282	518,481

¹ 1970 - 2000 data are from U.S. Census; 2010 and 2020 data are from SCAG 2001 Regional Transportation Plan Growth Forecast. Population figures are rounded to the nearest 100 persons and include Indian reservation land even though it is not part of the Plan.

² City not yet incorporated; census data not available.

Based on census data, the average annual growth rate in the 1970s in the Plan Area was just over 4.1%. This rose to over 5.8% in the 1980s. The annual growth rate between 1990 and 2000 was approximately 3.8%. The rate is projected to decline thereafter to less than 3% per year according to SCAG's Regional Transportation Plan Growth Forecast. It should be noted, however, that the actual increase in population remains significant after the year 2000, with approximately 185,700 people added between 2000 and 2020. That is more than the total population of the Plan Area in 1980.

2.3 Land Use

The cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage lie within the Plan Area, principally on the floor of the Coachella Valley. Together their jurisdictions make up approximately 16% of the Plan Area. (See Table 2-3.) The remaining 84% of the Plan Area is unincorporated. Approximately 45% of the land covered by the Plan is privately held. Though not included in the Plan, Indian reservations within the Plan Area include the Morongo, Agua Caliente, Santa Rosa, Cabazon, Twenty-Nine Palms, Torres-Martinez Band, and Augustine. The balance of the Plan Area is public land managed by various local, state, and federal agencies, including the BLM, USFS, NPS, USFWS, Bureau of Reclamation (BOR), U.S. Army Corps of Engineers (ACOE), CDFG, State Parks, UC, the CVMC, water districts, and open space lands owned by the cities of Palm Springs, Rancho Mirage, Palm Desert, Indian Wells, and La Quinta. State and federal areas are described in Section 2.4.

Table 2-3: Area of Cities

City	Acres¹	Percent of Plan Area
Cathedral City	12,530	1.00%
Coachella	32,150	3.00%
Desert Hot Springs	14,790	1.00%
Indian Wells	9,320	1.00%
Indio	16,770	1.00%
La Quinta	20,420	2.00%
Palm Desert	15,930	1.00%
Palm Springs	60,340	5.00%
Rancho Mirage	15,760	1.00%

¹ Acreage is rounded to the nearest 10 acres and is reported as of June 30, 2002.

As shown in Table 2-4, approximately 6.0% of the Plan Area is currently urbanized, 1.0% is in rural development, 7.5% of the land is under agriculture, 0.5% has wind energy development on it, and 28.0% is vacant land under private or public non-conservation ownership. Of the remaining land in the Plan Area, 4.0% is covered by the Salton Sea, and 53.0% is public or Private Conservation Land. Land ownership is shown in Table 2-5. Figure 2-1 shows current land ownership in the Plan Area. Figure 2-2 shows land status as of June 1, 2003. Figure 2-3 shows projected future land use in the Plan Area without the Plan (based on general plans).

Table 2-4: Existing Land Use

Use	Total Acres	Percent of Plan Area
Urban	67,400	6.00%
Rural, Rural Residential	12,500	1.00%
Agriculture	84,900	7.50%
Lake (includes the Salton Sea) ¹	43,500	4.00%
Reservoir ²	800	.00% ³
Wind Energy Uses	4,400	.50%
Quarry	900	.00% ³
Landfill	400	.00% ³
Public and Private Non-Conservation Lands ⁴	320,600	28.00%
Open Space-Public and Private Conservation Lands ⁵	601,000	53.00%
TOTAL AREA COVERED BY PLAN	1,136,400	100.00%
Indian Reservation Lands - Not Part of Plan	69,600	
TOTAL OF ALL ACRES IN PLAN AREA	1,206,000	

The data source for this table is the Natural Communities Map prepared for the Plan, which includes eight non-vegetation types. Delineation of the eight non-vegetation types for the Natural Communities Map was done using September 1998 aerial photographs at a scale of 1:1000, provided by CVWD. These eight types include all lands considered as “developed” for purposes of the Plan; the remainder of the lands were assigned to either lands used for conservation purposes or lands used for non-conservation purposes. Acreage is rounded to the nearest 100 acres. The total acreage in the Plan Area in this table differs with the acreage in Table 2-5 by approximately 0.6%. Such statistically insignificant differences result from the use of different data sources for deriving the statistics in each table.

¹ Includes the Salton Sea and other natural water bodies. Approximately 19,200 acres of land under the Salton Sea are Indian reservation lands. These are not included in the total of Indian reservation lands reported in the second to the last line of the table.

² Includes Lake Cahuilla, Whitewater River recharge ponds, and other artificial water bodies.

³ The total is statistically insignificant.

⁴ Includes private lands which are primarily undeveloped and public lands owned by Riverside County, County Flood Control, Metropolitan Water District, the State Lands Commission, cities, CVWD, and the military, which are used for non-conservation purposes.

⁵ Includes public lands dedicated to open space and conservation purposes and private lands owned by land trusts or conservation organizations, or protected by a conservation easement or deed restriction.

Table 2-5: Land Ownership in Plan Area¹

Land Ownership²	Total Acres	Percent of Total
Bureau of Land Management	296,600	27%
Bureau of Reclamation	2,000	0%
California Department of Fish and Game	29,300	3%
California State Parks	18,700	2%
Caltrans	500	0%
Cities	6,200	1%
Coachella Valley Association of Governments	1,600	0%
Coachella Valley Mountains Conservancy	2,700	0%
Coachella Valley Water District	8,400	1%
Private Conservation	28,300	3%

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Land Ownership²	Total Acres	Percent of Total
Imperial Irrigation District	1,200	0%
Mission Springs Water District	100	0%
National Park Service	166,000	15%
Non-Permittee Public & Quasi-Public Entities	10,900	1%
Private, non-conservation	428,800	39%
Riverside County	2,700	0%
Riverside County Flood	400	0%
Riverside County Park and Open Space District	400	0%
State Lands Commission	4,800	0%
The Nature Conservancy	900	0%
U.S. Fish and Wildlife Service	3,700	0%
U.S. Forest Service	92,400	8%
University of California (Natural Reserve System)	6,400	1%
TOTAL AREA COVERED BY PLAN	1,113,000	100%
Indian Reservation Lands - Not Part of Plan ³	69,400	
TOTAL AREA WITHIN PLAN BOUNDARY	1,182,400	

¹ The baseline year is 2006. Acreage is rounded to the nearest 100 acres.

² Information on land ownership is from the Plan land ownership database maintained by CVAG.

³ Includes all reservation lands, including Tribal trust, allotted lands, and fee (privately owned) lands other than the approximately 19,200 acres that are under the Salton Sea.

The Plan Area is diverse in character. The westernmost portion of the Plan Area is the San Gorgonio Pass (Pass), which is the westernmost extension of the Sonoran Desert (also referred to as the Colorado Desert) and is a transition area between natural communities of the desert and those of the less arid interior valleys of southern California. The Pass is a narrow corridor between the San Jacinto Mountains and the San Bernardino Mountains. The I-10 freeway and a major rail line run through the Pass, and some regional commercial development occurs along the freeway. The area is entirely unincorporated, but does contain the small rural community of Cabazon. Portions of this area are within the Morongo Indian Reservation, and are not part of the Plan.

The Pass opens into the Coachella Valley itself, a broad and long valley trending northwest to southeast between the San Jacinto and Santa Rosa Mountains on the southerly side and the Little San Bernardino Mountains on the northerly side. The Indio Hills run parallel to the Little San Bernardino Mountains on the north side of the valley and north of I-10, which bisects the Coachella Valley.

The western portion of the Plan Area consists of the San Jacinto and Santa Rosa Mountains, where elevations range up to 10,804 feet. In 2000, this area was designated as the Santa Rosa and San Jacinto Mountains National Monument. The majority of the mountains are in public ownership, principally USFS land, BLM land, State Park land, CDFG land, and UC land. There are also significant Indian reservation lands in the mountains belonging to the Agua Caliente Band of Cahuilla Indians and the Santa Rosa Band of Cahuilla Indians. A small, rural residential community occurs off Highway 74 in the Santa Rosa Mountains. Much of the mountains are in

Wilderness or Ecological Reserve status, although there are areas where there is a significant checkerboard of privately owned lands. The San Jacinto and Santa Rosa Mountains contain only a few acres above the toe of slope that may be considered urban. Most of the alluvial fans below the toe of slope in the cities along the San Jacinto and Santa Rosa Mountains have been developed or development is proposed on portions of the remaining alluvial fans.

On the south side of the valley, the cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, and La Quinta generally occupy the area between the base of the San Jacinto and Santa Rosa Mountains and the I-10 freeway. The City of Desert Hot Springs lies well north of I-10 near the northwest edge of the valley at the foot of the Little San Bernardino Mountains. Also north of the freeway is the unincorporated community of Thousand Palms, and several other areas of scattered rural residential development, especially north of the Indio Hills in an alluvial plain between the Indio Hills and the Little San Bernardino Mountains, which form the northern border of the Plan Area. Most of the Little San Bernardino Mountains are within Joshua Tree National Park. To the northeast of Thousand Palms lies the Coachella Valley Fringe-toed Lizard Preserve (CVFTL Preserve), established in 1986. It includes portions of the Indio Hills and a sand dune system south of the Indio Hills.

The cities of Indio and Coachella lie in the central portion of the Coachella Valley east of all the other cities. Southeast of these cities lies an extensive agricultural area. Major agricultural crops include grapes, citrus, and dates. Portions of this area are within the Torres-Martinez, Cabazon, Twenty-Nine Palms, and Augustine Indian Reservations. At the southern edge of the agricultural area is the northernmost part of the Salton Sea, which was created in 1905 and 1906 when Colorado River floodwaters broke through levees to inundate an ancient lakebed in Imperial and Riverside Counties. On the east side of the Salton Sea are the Salton Sea State Recreation Area and the Dos Palmas ACEC, bounded on the north by the Coachella Valley Canal. North of the canal are the Mecca Hills and Orocopia Mountains Wilderness Areas and farther north is Joshua Tree National Park. The area north of the canal is also within the Northern and Eastern Colorado Desert Plan (NECO Plan) area. The NECO Plan area extends well beyond the MSHCP area to the east, southeast, and north. It is a multiple agency plan for federal lands. The MSHCP is being coordinated with the NECO Plan.

2.4 Public and Private Conservation Lands

Approximately 53% of the Plan Area is either public land with some level of conservation management or Private Conservation Land (in the baseline year of 1996). While public and Private Conservation Lands in some areas constitute large blocks of Habitat, in other areas the Habitat on public lands is fragmented by the checkerboard pattern of public and Private Conservation Lands with non-conservation private lands. The Conservation lands are not distributed in such a way as to provide adequate protection for all types of Habitat, or to protect Essential Ecological Processes for some Habitats and Linkages for wildlife movement between major open space areas.

Figure 2-4 identifies the existing public and Private Conservation Lands. Lands owned by public and private conservation organizations that are not part of the MSHCP Reserve System may not be shown due to the map scale. Table 2-5 lists land ownership and acreage. The public lands and Private Conservation Lands in the Plan Area are described in detail in Section 8.2.3.

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For Plan analysis and development purposes, Existing Conservation Lands were classified into three levels based upon levels of disturbance and existing uses. The Conservation level classification of lands is as follows:

LEVEL 1. Level 1 consists of state and federal Wilderness Areas. All Development is precluded. Conservation Level 1 lands in the Plan Area are:

Joshua Tree National Park Wilderness
Joshua Tree National Park Wilderness Study Areas
Joshua Tree National Park Backcountry Areas
Mecca Hills Wilderness
Mt. San Jacinto State Park Wilderness
Orocochia Mountains Wilderness
San Gorgonio Wilderness (BLM)
San Gorgonio Wilderness (USFS)
San Jacinto Wilderness (USFS)
Santa Rosa Mountains Wilderness (BLM)
Santa Rosa Wilderness (USFS)

LEVEL 2. The primary management objective for Level 2 lands is maintenance of natural values, but some existing uses that impact natural qualities occur. Conservation Level 2 lands in the Plan Area are:

Big Morongo Canyon Preserve/ACEC
Carrizo Canyon Ecological Reserve
Chuckwalla Desert Wildlife Management Area/ACEC
City of Cathedral City (open space with deed restriction)
City of Indian Wells/Living Desert (Eisenhower Mountain)
City of La Quinta (open space with deed restriction)
City of Palm Desert (open space with deed restriction)
City of Palm Springs (open space with deed restriction)
City of Rancho Mirage/CVMC conservation easement
CVFTL Preserve (Includes BLM, CDFG, State Parks, CNLM, and TNC lands)
CVAG lands
CVMC lands
Coachella Valley National Wildlife Refuge System (USFWS portion of CVFTL Preserve)
Dos Palmas Preserve/ ACEC (Includes BLM, CDFG, and CNLM lands)

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Friends of the Desert Mountains lands
Hidden Palms Ecological Reserve
Indio Hills Palms unit of the State Parks system
Joshua Tree National Park (non-wilderness)
Magnesia Springs Ecological Reserve
Mt. San Jacinto State Park (non-wilderness)
Oasis Springs Ecological Reserve
Santa Rosa and San Jacinto Mountains National Monument (federal lands portion only)
Sky Valley Ecological Reserve
UC Deep Canyon Desert Research Center
UC Oasis de los Osos
Whitewater Canyon ACEC
Whitewater Floodplain Preserve (part of CVFTL Preserve system - owned by CVWD)
Wildlands Conservancy lands
Willow Hole-Edom Hill Preserve/ACEC

LEVEL 3. Management objectives for Level 3 lands are for multiple use while providing significant Conservation value. Conservation Level 3 lands in the Plan Area are:

BLM multiple use land
BOR land (Take is not authorized under the Plan on federal land.)
Living Desert (Shumway Ranch)
Riverside County Regional Park and Open Space District - Devils Garden
Riverside County Regional Park and Open Space District - Fish Traps County Park
Salton Sea State Recreation Area
San Bernardino National Forest (non-wilderness)

2.5 Non-Conservation Lands

For Plan analysis and development purposes, lands not included in Levels 1 – 3 were designated as Level 4. These are private or public lands without mandates to protect natural qualities. Level 4 lands in the Plan Area are:

City of Desert Hot Springs unrestricted land
City of La Quinta unrestricted land
City of Palm Springs unrestricted land
CVWD land (except as conserved under the CVFTL HCP)

IID land

Lake Cahuilla County Park

MSWD land

Non-Permittee public and quasi-public lands

Private land (except deed restricted and non-profit conservation organization lands)

County land

County Flood Control land

State Lands Commission lands (except in Joshua Tree National Park, which is protected by agreement)

2.6 Description of General Biological Resources in the Plan Area

The desert floor of the Coachella Valley ranges in elevation from more than 150 feet below sea level at the southeast end to nearly 2,000 feet at the northwest end of the valley on the alluvial fans. The mountains surrounding the Coachella Valley range in elevation up to 10,804 feet, with elevations on the southern side of the valley substantially higher than those on the north side. This range of elevations and accompanying differences in temperature, precipitation, and other environmental variables are significant factors contributing to the area's high biological diversity.

Many canyons in the mountains support riparian areas not typical of a desert environment. Streams and seeps also support many desert fan palm oases, especially in the Santa Rosa Mountains. Where the water drains into the sands, desert dry wash woodlands result. The alluvial fans associated with the canyon mouths provide still another major land form and distinctive biological community.

Another feature contributing to the biological diversity are the strong winds that funnel through the San Gorgonio Pass from the west through areas of sand deposition from the San Gorgonio and Whitewater rivers and create an aeolian dune system. Historically, this dune system occupied much of the center of the valley.

The San Andreas Fault zone has created a unique corridor of desert fan palm oases stretching along the southern side of the Indio Hills where water is forced to or near the surface by the damming action of the fault. Mesquite hummocks and mesquite bosques are also associated with the fault in some areas. The Salton Sea also contributes to biological diversity through the creation of marsh, mudflat, and other wetland habitats. The low elevation of the Salton Sea trough creates an arid, hot environment, which, combined with the salinity of the soils, produces an uncommon desert sink scrub community.

California is noted as an area especially rich in native plant species, with approximately 5,057 species. This is more than are present in the entire central and northeastern United States and adjacent areas of Canada, an area ten times larger in size. According to Peter Raven, writing in Terrestrial Vegetation of California, "California contains the most remarkable assemblage of

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native plant species in all of temperate and northern North America." One of the two highest centers of endemism in California for relict species (those that have persisted from earlier geologic periods in California) is the northern and western margin of the Colorado Desert, from the Little San Bernardino Mountains along the east slope of the San Jacinto and Santa Rosa Mountains, the Borrego Valley area, and southward into Baja California.