

---

## CHAPTER 3 • RESOURCES

### A. AGRICULTURE

Agricultural land is a renewable natural resource. Consumption of this resource is considered to be an irreversible environmental impact. Conversion of prime agricultural land to non-agricultural uses or impairment of its productivity is considered a significant environmental impact under CEQA.

The economy of the Kerman area is very dependent upon agriculture and agriculturally-related industries. An analysis of land use within the planning area reflects this reliance. Almost three-quarters (3,919 acres) of the 5,736 acres in Kerman's Sphere of Influence is currently used for agricultural purposes (permanent crops and irrigated field crops). Most of the agricultural land within the planning area is considered "prime" farmland or farmland of "statewide significance" by California Department of Conservation (see Map 4).

Prime farmland is defined as land having the best combination of soil quality, growing season, and water supply. Prime farmland is generally characterized as agricultural land having soils with a Capability Class of I or II, and a Storie Index greater than 85. Farmland of statewide importance is land other than prime farmland with a good combination of physical and chemical characteristics for the production of crops. Within the planning area, agricultural land overlying soils of the Hanford and Hesperia series are considered to be prime farmland. Agricultural land overlying soils of the Tujunga and Traver series is considered to be farmland of statewide importance. A discussion of the characteristics of these soils and their locations is presented in Chapter 2, Physical Environment.

Water supply is the other key factor in rating the quality of farmland. Prime farmland and farmland of statewide importance must have a constant, reliable source of water. Most of the agricultural land within the planning area is within the Fresno Irrigation District (FID) delivery area. The FID delivers approximately 500,000 acre feet of water per year to the 195,000 acres of irrigated land within the district. Approximately 85 percent of this water comes from the Kings River and the remaining 15 percent comes from the Friant Unit of the Central Valley Project.

The primary crops grown in the Kerman area include raisin grapes, almonds, cotton, and alfalfa. Vineyards and orchards are the principal crops found north and east of Kerman, while row crops are predominant in the south and west.

Since 1970, growth in Kerman has removed about ten acres of farmland from production each year. Most of this growth has consumed land that is under row crop or vineyard production.

A recent report released by the State Department of Conservation indicated that between the years 2002 to 2004, Fresno County lost 17,748 acres of prime, unique and statewide-important farmland removed from agricultural production, or about 8,800 acres annually. On a regional scale, the American Farmland Trust has estimated that in the 1990's alone, the ten-county Central Valley, which includes Fresno County, has urbanized near 100,000 acres of agricultural land. On a statewide scale, between 1992-1997, California has urbanized agricultural land at an average rate of 82,660 acres per year.

#### Williamson Act

The Williamson Act was legislated by the State of California in 1967 in an effort to slow the loss of prime agricultural land to urban land uses. The Act provides property tax incentives for landowners who make a commitment to maintain their land in agricultural preserve contracts for a period of ten years. Williamson Act contracts are automatically renewed on an annual basis unless a Notice of Non-renewal is filed with the Fresno County Assessor. After filing a Notice of Non-renewal, a landowner must still wait a period of ten years before converting the land to non-agricultural uses.

City and County governments may immediately cancel Williamson Act Contracts only after making mandatory findings concerning the availability of alternate lands, the effect on adjacent agricultural lands, and the public need for the land. These findings are set forth in Section 51282 of the Government Code. Government Code Section 51284 states that no contract may be canceled without holding a duly noticed public hearing on the matter.

Approximately 410 acres within the planning area are in agricultural preserves under Williamson Act contracts (see Map 1). Most of the parcels have been under Williamson Act contracts for more than 30 years. Almost all of the annexations within the City of Kerman over the last 20 years have been contiguous to existing urban development and only on an "as needed" basis to provide land for additional urban growth. If necessary, Williamson Act contracts have been canceled during the annexation process as to provide additional land for urban development.

## C. BIOTIC RESOURCES

### Natural Communities

Associations of plant species that grow in assemblages under similar ecological conditions are called communities. Generally, they are named for the dominant species found in the association. Definition of natural communities is important, not only because it identifies the types of plants that are present, but also because it indicates the habitat types and animal species that may be found in the community. Only two natural communities were found near the Kerman planning area: Valley Sink Scrub and Non-Native Grassland. The community descriptions listed below follow Holland's 1986 report for the California Department of Fish and Game (CDFG) and the State's Natural Diversity Data Base.

**COMMUNITY:** Valley Sink Scrub **ELEMENT CODE:** 3621

**DESCRIPTION:** Low, open to dense succulent shrub lands dominated by alkali-tolerant Chenopodiaceae, especially *Allenrolfea occidentalis* or several *Sueda* species. Understories usually are lacking, though sparse herbaceous cover dominated by *Bromus rubens* develop occasionally. The annuals are most active from January to April; the perennials from March to September.

**SITE FACTORS:** Heavy, saline and/or alkaline clays of lakebeds or playas. High ground water supplies provide capillary water for the perennials. Soil surfaces often have a brilliant white salty crust over dark, sticky clay. Hot, dry summers, damp winters with long periods of tule fog.

**CHARACTERISTIC SPECIES:** *Allenrolfea occidentalis*, *Delphinium recurvatum*, *Distichlis spicata*, *Kochia californica*, *Lasthenia chrysantha*, *L. ferrisae*, *Nitrophilia occidentalis*, *Salicornia subterminalis*, *Sporobolus airoides*, *Sueda fruticosa*, *S. torreyana*.

**DISTRIBUTION:** Formerly surrounded the large San Joaquin Valley lakes (Kern, Buena Vista, Tulare, Goose) and north along the trough of the San Joaquin Valley through Merced County to the gooselands of the Sacramento Valley (Solano to Glenn County, west of the Sacramento River); but now essentially extirpated due to flood control, agricultural development, and ground water pumping.

**COMMUNITY:** Non-Native Grassland **ELEMENT CODE:** 42200

**DESCRIPTION:** A dense to sparse cover of annual grasses with flowering culms .2 to .5 meters high. Often associated with numerous species of showy-flowered, native annual forbs (wildflowers), especially in years of favorable rainfall. Germination occurs with the onset of the late fall rains; growth, flowering, and seed-set occur from winter through spring. With a few exceptions, the plants are dead through the summer-fall dry season, persisting as seeds.

SITE FACTORS: On fine-textured, usually clay soils, moist or even waterlogged during the winter rainy season and very dry during the summer and fall. Oak Woodland is often adjacent on moister, better drained soils.

#### Rare, Threatened, and Endangered Species

The Natural Diversity Database (CNDDDB) was consulted for a report of occurrences of any rare, threatened, endangered, or sensitive plants, animals or natural communities within the Kerman Quad. The NDDDB is a computerized inventory available through the California Department of Fish and Game, Natural Heritage Division.

Two plant species occurrences were reported: one occurrence of *Eriastrum hooveri* (Hoover's woolly star) and one occurrence of *Cordylanthus palmatus* (Palmate-bracted bird's beak). A brief description of each species and its occurrence record, as well as its presumed current status within the Kerman planning area, is included below.

*Eriastrum hooveri* (Jepson) Mason. "Hoover's eriastrum", "Hoover's woolly star"

Family: Polemoniaceae

Status: CNPS - List 1B (Rare, Threatened or Endangered in California and Elsewhere)  
Federal - Threatened; State - None

Flowering period: April - June

Habitat: Saltbush scrub, Alkaline playas

Historic Range: Fresno, Kings, Kern, San Luis Obispo and Tulare Counties

Occurrence: 1979; Fresno Co., "4.7 mi. S of Kerman RR Station along Hwy. 145 (Madera Ave.)"

#### Discussion:

This small cyclical, ephemeral annual, of the family Polemoniaceae (Phlox family), was once fairly widespread throughout the alkaline soils of the San Joaquin Valley. This plant is often found in openings in *Atriplex* scrub where cryptogamic crusts have developed on the soil surface (Stebbins et al., 1992). Much of its native habitat has been converted to agriculture. It was known to be extant at 23 sites throughout the San Joaquin Valley in 1986 (Taylor and Davilla).

The Fresno County occurrence of *Eriastrum hooveri* described above, lies approximately 3 3/4 miles south of the Kerman Urban Area Boundary, "on slight hummocks (where less alkaline) in alkaline plain". The habitat that supported this population of *E. hooveri* has probably been eliminated due to agricultural conversion. No habitat capable of supporting this species is expected to be found within the Kerman General Plan Update

Planning Area, although habitat may exist on the KMJ (radio tower) property (2/3 mile south of UAB).

*Cordylanthus palmatus* (Ferris) J. F. Macbride. "Palmate-bracted bird's beak"

Family: Scrophulariaceae

Status: CNPS - List 1B (Rare, Threatened or Endangered in California and Elsewhere);  
Federal - Endangered; State - Endangered

Flowering period: June - July

Habitat: Alkaline scrub in seasonally flooded lowlands

Historic Range: Fresno, Madera, Alameda, Colusa and Yolo Counties

Occurrence: 1965; Fresno Co., "6 Mi. S of Kerman (on Madera Ave.)"

Discussion:

Palmate-bracted birds-beak (*Cordylanthus palmatus*) is a hemiparasitic species in the family Scrophulariaceae (Figwort family) that has been severely impacted by the conversion of its native habitat (alkaline playas) to agriculture (Heckard 1977). The Madera Avenue site south of Kerman was last visited in 1983 and plants were not observed. It was reported that the habitat was lost due to soil reclamation and the area was under cultivation.

Suitable habitat may exist for this species on the KMJ property approximately 2/3 mile south of the Kerman Sphere of Influence.

#### Other Species of Concern

Another species, not reported by NDDDB, that is likely to occur in the general area is the San Joaquin Kit Fox (SJKF), a federally endangered species (J. Stebbins, pers. comm. 1993). It is known to occur on the KMJ property within one mile of the Kerman Urban Area Boundary. If the KMJ property supports SJKF dens, it is likely that San Joaquin Kit Fox could forage at times within the UAB. This, however, has not been previously documented.

San Joaquin Kit Fox - The kit fox is endemic to central California and was once common in the southern San Joaquin Valley. Their population has declined dramatically due to habitat loss caused by urbanization and cultivation of their native habitat. The kit fox is listed as "threatened" by the State of California and "endangered" by the Federal government.

The San Joaquin kit fox is a burrow dweller and is known to occur in both of the natural communities found within the planning area. It is an opportunistic feeder, eating whatever prey species are locally abundant. Prey can include insects, birds, rodents and other small mammals.

Burrowing owl - This owl is a state-listed "Species of Special Concern" and is also known to occur at the KMJ property (J. Stebbins, pers. comm. 1993).

#### D. CULTURAL AND HISTORICAL RESOURCES

Human presence in the southern San Joaquin Valley probably dates back as far as 10,000 - 12,000 years. Artifacts found along the southern shore of Tulare Lake are similar to the Clovis points associated with the big game hunters of the Great Plains. Excavations of a site at Buena Vista Lake indicate that it may have been continuously occupied for more than 8,000 years. These cultures may represent the penetration of Penutian speaking people into Central California.

The Yokuts Indians occupied the entire San Joaquin Valley at the time of European contact. The Tachi tribe of the Southern Valley Yokuts occupied the northern and western shores of Tulare Lake and probably ranged as far as the eastern edge of the coast ranges. The Southern Valley Yokuts subsisted on fish, waterfowl, and mollusk gathered in the wetlands formed by Tulare, Buena Vista and Kern Lakes.

A search of the California Archaeological Inventory database revealed that no known archaeological sites are located within the planning area or on adjacent properties. Two linear archaeological investigations have been conducted near the planning area. In 1988, Noble and Weigel conducted a 4.5 mile survey along Madera Avenue, south of the city limits. A second, smaller survey north of the planning area was also conducted but did not reveal any archaeological finds.

Charles L. Palmer writes in his book *The Story of the Kings River*, that in May of 1871, the Fresno Canal and Irrigation Company was formed. Palmer wrote:

"with this additional water and with the enlarged canal, more and more land was broken for cultivation. Land was leveled and cross-checked with miniature dikes to contain the water; grain was planted and water turned on the land. . . . "For those dry land farmers outside the development area served by the Fresno Canal and Irrigation Company, water became imperative. New ditch companies were formed and Kings River water was transported as much as twenty to thirty miles, even to the banks of the San Joaquin River to the north."

This development of irrigation water was probably the precursor to agricultural development in the Kerman area. It enabled farmers to transition from dry land grain farming to more permanent crops.

Railroad development was the next significant development in Kerman. In 1892, the Southern Pacific Railroad completed a line that started in Tracy and passed through Newman, Los Banos, Kerman and Fresno. Originally, the railroad station that was located in Kerman was called "Collis", named after Collis P. Huntington, president of the Southern Pacific Railroad.

In 1900, William G. Kerckhoff and Jacob Mansar of Los Angeles purchased 3,027 acres of land from the Bank of California, which had become insolvent and was required to liquidate its land holdings.

In 1906, Collis was renamed Kerman. It was the Fresno Irrigated Farms Company that began to employ persons in the Kerman area. This company utilized water from the Enterprise Canal, which diverted water from the Kings River to the Kerman area, to enhance the viability of agriculture in the Kerman area. The Kerman News, which open its doors in 1908, advertised the following:

"Kerman vineyards and orchards - - pay from \$100 per acre, never had a crop failure, finest irrigation system on earth, unlimited water supply, small tracts 10-20 acres; 10,000 acres of fine fruit land."

Three churches were established in the Kerman area between 1905 and 1910. These churches provided the spiritual support for the farming families that had settled in the Kerman area. They were: Bethany Swedish Lutheran Church, Presbyterian Church, and the Beulah United Brethren Church. In 1909, the Presbyterian Church was replaced by the Methodist Episcopal Church, which built the first church in Kerman.

By 1910, Kerman had developed from a railroad station into a thriving community of about 400 persons. Kerman was economically supported by the local agricultural economy that had prospered as a result of water for irrigation being diverted from the Kings River. Dairies and the raising of alfalfa, grapes, wheat and deciduous fruit crops were the primary agricultural operations that surrounded Kerman.

A glimpse of Kerman around 1910 was best described in an article in Sunset magazine and by the advertising section of the Kerman News. A writer for Sunset described Kerman as follows:

"Kerman is a 25,000 acre tract with no sticks or stones. It is watered by the Kings River. This is a land where, not too long ago, cattle grazed, then came the wheat fields of vast acreage and yield. It is on the Southern Pacific line, is a young town and growing rapidly. The town has a waterworks and a sewer system and a \$25,000 business block, \$15,000 hotel, lumber yards, alfalfa mill, creamery, fine school house, cement sidewalks, electric power station, weekly newspaper, band and baseball team. Ten acres will make a man independent and twenty acres will support him luxuriously!"

Businesses that were advertising in the Kerman News during this time were: California Stock Feed Company, Kerman Lumber Company, Kerman Telephone Company, Dr. Crenshaw, Kerman Drug Company, Lewis and McNight, carpenters; Smith and Neeley, builders; W.W. Edwards Merchandise and Hardware Company; Tipton Well Digging; Edwards and Graham, real estate; Kerman Mercantile Company; First National Bank; S.P. Barber Shop; Bank Barber Shop; Hotel Walley; Kerman Machine Works; Kerman Livery Stables; Brainard Smith, dairyman; Kerman Poultry Farms; Kerman Inn; Kerman Tract, Kerman Melon Growers Association; Kerman Garage; San Joaquin Light and Power Company; and Fresno Irrigated Farms.

By 1910, Kerman was beginning to develop consistent with the original townsite laid out by the Southern Pacific Railroad - Madera Avenue and Kearney Drive had been established as major roadways, the parkway on Madera Avenue had been constructed, commercial buildings lined both sides of Madera Avenue, and residential neighborhoods existed on the east and west sides of Madera.

From 1910 to the present, numerous milestones have occurred in the community. Some of the more prominent events are as follows:

- 1911 - Precursor to Chamber of Commerce was formed.
- 1912 - Kerman Union High School was constructed.
- 1916 - Drilling for oil occurred south of town.
- 1921 - Madera Avenue was paved from the Southern Pacific tracks to the San Joaquin River; street lights were installed from the tracks to Whitesbridge Avenue.
- 1934 - Two cotton gins were constructed.
- 1936 - The Kerckhoff Land Company gave 27 lots to the Athletic Park Association for an athletic park (it later became Kerckhoff Park).
- 1941 - Shell Oil discovered a large gas field south of the City.
- 1944 - Kerman Theatre was opened.
- 1946 - A vote for incorporation was defeated; later that year citizens approved incorporation, 107 to 70. Madera Avenue's commercial identity was apparent with the existence of a restaurant, drive-in, electric shop, theatre, automobile agency, dry goods store and others.
- 1950 - Census established population at 1,544 persons. The City acquired the water and sewer system from the Kerman Water and Sewer Company.
- 1953 - The old elementary school was transformed into the Kerman Senior Center
- 1955 - Kerman conducted a special census that indicated the City had a population of 1,784. That year Kerman benefited from the construction of the city's first supermarket.
- 1958 - A bond issue provided for the construction of curbs and gutters throughout the city.
- 1964 - The present day junior high school was constructed.
- 1967 - The present day Kerman High School was constructed.
- 1979 - Kerman welcomed its first auto dealership - H&J Chevrolet - and its first shopping center - Kerman Plaza Shopping Center.
- 1993 - Rotary Park was built

- 1995 - Median was installed in Madera Avenue
- 1997 - Lions Park was built
- 2000 - Swimming Pool at Kerman High School was built
- 2001 - Vineyard Medical Center opened
- 2001 - Hall Ag Enterprises moved to Kerman
- 2001 - Kiwanis Park ("B" & 16<sup>th</sup> Street)
- 2001 - Kerman Telephone Company opened an office in downtown Kerman
- 2002 - Liberty Intermediate School was constructed
- 2002 - I-5 Social Service Day Care opened
- 2002 - City purchased 80 acres for expansion of Wastewater Treatment Plant
- 2002 - City Hall was remodeled
- 2003 - Panoche Creek Packing Co. added 250,000 square feet of industry and 100 employees
- 2004 - United Health Center opened
- 2004 - Kerman Teen Community Center and Library opened in downtown Kerman
- 2004 - St. Patrick's Catholic Church was built
- 2007 - Cross Roads Shopping Center was developed
- 2007 - Kearney Palms Senior Apartments opened
- 2007 - Kerman Agricultural Resources opened
- 2007 - Green Valley Development Downtown office complex opened
- 2007 - Soroptomist Park was built
- 2007 - Kerman celebrated its 100-year anniversary
- 2007 - Central Valley Community Bank was built

#### E. AIR QUALITY

The planning area lies within the San Joaquin Valley Air Basin. This air basin has been designated as a non-attainment area for failing to meet National Ambient Air Quality Standards (NAAQS) for two pollutants: ozone and particulates. Table No. 28 shows State and federal ambient air quality standards for these and other pollutants.

**TABLE 29**  
**AMBIENT AIR QUALITY STANDARDS**

<u>Pollutant</u>	<u>Averaging Time</u>	<u>State Standards</u>	<u>National Standards</u>
<i>Ozone</i>	1-hour .	10 parts per million	.12 parts per million
<i>Carbon Monoxide</i>			
	8-hour (10 mg/m3)	9.0 ppm (9 ppm)	10 mg/m3
	1-hour	20 ppm	40 mg/m3
<i>Nitrogen Dioxide</i>			
	annual average	100 ug/m3	(.05 ppm)
	1-hour .	25 ppm	(470 ug/m3)
<i>Sulfur Dioxide</i>			
	24-hour (131 ug/m3)	.05 ppmg (.14 ppm)	365 ug/m3
	1-hour .	25 ppm	
<i>PM10</i>			
	24-hour	50 ug/m3	150 ug/m3

Source: Air Resources Board, California Air Quality Data Summary

Accumulation of high concentrations of these pollutants has been attributed to the basin-like topography of the Southern San Joaquin Valley and the presence of a low level inversion layer for much of the year.

The Valley is a non-attainment area for carbon monoxide (CO), however, in localized conditions - along freeways or major intersections, traffic generated by development projects can contribute significantly to air quality impacts associated with excessive CO levels. Significant levels of CO can cause respiratory problems among humans.

Ozone is the product of the reaction of nitrogen oxides and reactive organic gases with sunlight. The major source of these gases is motor vehicle emissions. Ozone is a highly reactive oxidant which has been shown to damage vegetation and rubber products, and cause respiratory problems among humans, especially younger children and seniors who have respiratory problems. Studies have shown that crop losses due to ozone damage may be as high as 10 to 25 percent.

Particulates are fine particles of soot, dust, fumes and mist that are suspended in the air. Airborne particulates measuring less than 10 microns in diameter (PM-10) are capable of

causing respiratory irritation because they enter the lungs and can become trapped. Major sources of particulate pollution in Fresno County are agricultural practices, road dust, construction activities, wood burning stoves, and forest fires.

Fresno County does not have an air monitoring station in Kerman, however, California Air Resources Board (CARB) has four stations in Fresno, about 20 miles east of Kerman. Measurements generated from the Fresno station located on First Street are displayed in Table 29.

The national air emission standard for ozone is 0.08 ppm while the California standard is 0.07 ppm. In 2005, data gathered at the First Street air quality monitoring station in Fresno showed that the National standard was exceeded on 27 days and the State standard was exceeded on 31 days.

Particulate pollution is measured as PM-10. The national air emission standard for PM-10 is an annual average level of 150 micrograms per cubic meter. The California standard is 50 micrograms. Measurements of PM-10 at the First Street station showed that the National standard was exceeded 32 days in 2005 while the State standard was exceeded 33 days.

Both the national standard and the California standard for CO is 9 ppm. Measurements of CO at the First Street station showed that, between 2000-2005, the National standard and California standard have never been exceeded.

Ozone levels which exceed State and federal standards occur most frequently from July to October. The NAAQS was exceeded on 3 days. The NAAQS for ozone is .12 ppm averaged over a one hour sampling period. The State standard of .09 ppm was exceeded on 31 days for a total of 86 hours.

**TABLE 30**  
**EXCEEDENCE OF AIR QUALITY STANDARDS, First Street Station, Fresno, CA**

Year	Ozone		PM10	
	State	National	State	National
2000	48 days	41 days	12 days	0 days
2001	51	40	16	1
2002	45	41	15	0
2003	56	47	13	0
2004	23	18	5	0
2005	31	30	10	0

Note: Days in which state and national air emission standards were exceeded at the Hanford monitoring station. The PM10 counts have been annualized. Source: Kings County Health Department

#### F. WATER QUALITY

The aquifer underlying Kerman has been plagued with a number of contaminants, which render certain stratas of the aquifer unuseable for domestic purposes. The primary contaminant has been uranium. The presence of this element has caused the City of Kerman to drill four new deep wells, one 750,000 gallon storage tank and a booster station.