

Technical Support Document for 2008 Ozone NAAQS Designations

California Area Designations for the 2008 Ozone National Ambient Air Quality Standards

Technical Analysis for San Joaquin Valley

Figure 1 is a map of the San Joaquin Valley, CA nonattainment area. The map provides other relevant information including the locations and design values of air quality monitors, county and other jurisdictional boundaries. Also shown is the boundary of the existing area that is designated nonattainment for the 1997 ozone NAAQS.

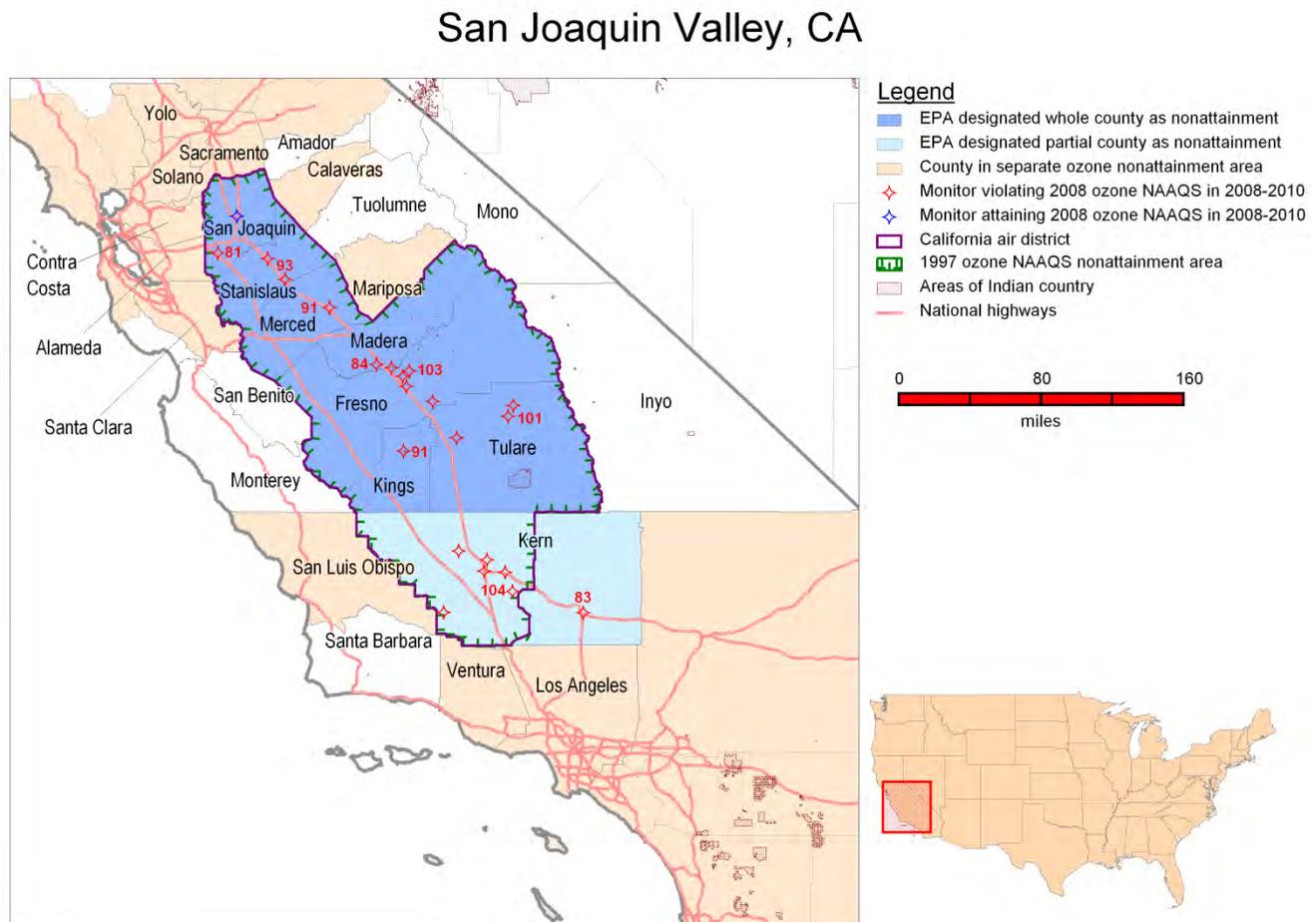


Figure 1

Note: The map shown in Figure 1 provides 8-hour ozone design values in parts per billion (ppb) based on data from 2008-2010 (i.e., the 2010 design value, or DV), which are the most recent years with fully-certified air quality data. For each particular area, Factor 1 and Appendix 3 describe the air quality data relevant for our nonattainment decisions.

For purposes of the 1997 8-hour ozone NAAQS, this area was designated nonattainment. The boundary for the nonattainment area for the 1997 ozone NAAQS included the entire counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings and Tulare and part of Kern County (western part). Areas of Indian country of several federally recognized tribes were included in the nonattainment area. These are the same tribes that are listed in Table 1, below.

In March 2009, California recommended that the same counties or parts of counties be designated as nonattainment for the 2008 ozone NAAQS based on air quality data from 2006-2008 (letter from James Goldstene, Executive Officer, California Air Resources Board, to Laura Yoshii, Acting Regional Administrator, U.S. EPA Region IX, dated March 11, 2009). California provided an update to the original recommendation in October 2011 based on air quality data from 2008-2010 and preliminary 2009-2011 data, but did not revise its recommendation for San Joaquin Valley. These 2009 and 2011 recommendations are based on data from Federal Equivalent Method (FEM) monitors sited and operated in accordance with 40 CFR Part 58 (letter from Lynn Terry, Deputy Executive Officer, California Air Resources Board, to Deborah Jordan, Director, U.S. EPA Region IX Air Division, dated October 12, 2011).

In November 2011, the Picayune Rancheria of the Chukchansi Indians of California recommended designation of their Indian country as “unclassifiable” for the 2008 ozone NAAQS (letter from Nancy Ayala, Tribal Council Vice Chairwoman, Picayune Rancheria of the Chukchansi Indians of California, to Jared Blumenfeld, Regional Administrator, U.S. EPA Region IX, November 14, 2011).

In February 2012, in response to EPA’s 120-day letter, the Table Mountain Rancheria of California recommended designation of their Indian country as “unclassifiable” for the 2008 ozone NAAQS (letter from Leanne-Walker Grant, Tribal Chairperson, Table Mountain Rancheria of California, to Jared Blumenfeld, Regional Administrator, U.S EPA Region IX, February, 29 2012).

After considering these recommendations and based on EPA's technical analysis described below, EPA is designating seven counties and one partial county in California, and areas of Indian country (identified in Table 1 below) nonattainment for the 2008 ozone NAAQS as part of the San Joaquin Valley multi-jurisdictional nonattainment area.

Table 1. State or Tribe’s Recommended and EPA’s 2008 ozone NAAQS Nonattainment Counties or Areas of Indian country for San Joaquin Valley.

San Joaquin Valley	State or Tribe-Recommended Nonattainment Counties or Areas of Indian country	EPA Nonattainment Counties or Areas of Indian country
San Joaquin County	San Joaquin County	San Joaquin County
Stanislaus County	Stanislaus County	Stanislaus County
Merced County	Merced County	Merced County
Madera County	Madera County	Madera County
Fresno County	Fresno County	Fresno County
Kings County	Kings County	Kings County
Tulare County	Tulare County	Tulare County
Kern County	Kern County (p)	Kern County (p)
Big Sandy Rancheria of Mono Indians of California	N/A	Big Sandy Rancheria of Mono Indians of California
Cold Springs Rancheria of Mono Indians of California	N/A	Cold Springs Rancheria of Mono Indians of California
North Fork Rancheria of Mono Indians of California	N/A	North Fork Rancheria of Mono Indians of California
Picayune Rancheria of Chuckchansi Indians of California	Unclassifiable	Picayune Rancheria of Chuckchansi Indians of California
Santa Rosa Indian Community of the Santa Rosa Rancheria	N/A	Santa Rosa Indian Community of the Santa Rosa Rancheria
Table Mountain Rancheria of California	Unclassifiable ¹	Table Mountain Rancheria of California¹
Tule River Indian Tribe of the Tule River Reservation	N/A	Tule River Indian Tribe of the Tule River Reservation

p = partial

N/A = Tribe did not submit a recommendation.

EPA modifications to state or tribe recommendations are shown in **bold**.

¹The Table Mountain Rancheria of California recommended designation of their Indian country as “unclassifiable” for the 2008 ozone NAAQS as part of their response to EPA’s 120-day letter. (Letter from Leanne-Walker Grant, Tribal Chairperson, Table Mountain Rancheria, to Jared Blumenfeld, Regional Administrator, U.S EPA Region IX, February, 29 2012.)

Factor Assessment

Factor 1: Air Quality Data

For this factor, we considered 8-hour ozone design values for air quality monitors in counties in the existing San Joaquin Valley nonattainment area, based on data from the 2008-2010 period (i.e., the 2010 design value, or DV), which are the most recent years with fully-certified air quality data. A monitor’s DV is the metric or statistic that indicates whether that monitor attains a specified air quality standard. The 2008 ozone NAAQS are met at a monitor when the annual fourth-highest daily maximum 8-hour average concentration, averaged over 3 years, is 0.075 parts per million (ppm) (75 parts per billion (ppb)) or less. A DV is only valid if minimum data completeness criteria are met (see 40 CFR part 50

Appendix P). Where several monitors are located in a county (or a designated nonattainment area or maintenance area), the DV for the county or area is determined by the monitor with the highest level.

[Note: Monitors that are eligible for providing design value data generally include State and Local Air Monitoring Stations (SLAMS) that are sited in accordance with 40 CFR Part 58, Appendix D (Section 4.1) and operating with a federal reference method (FRM) or federal equivalent method (FEM) monitor that meets the requirements of 40 CFR part 58, Appendix A. All data from a special purpose monitor (SPM) using an FRM or FEM which has operated for more than 24 months is eligible for comparison to the NAAQS unless the monitoring agency demonstrates that the data came from a particular period during which the requirements of Appendix A (quality assurance requirements) or Appendix E (probe and monitoring path siting criteria) were not met.]

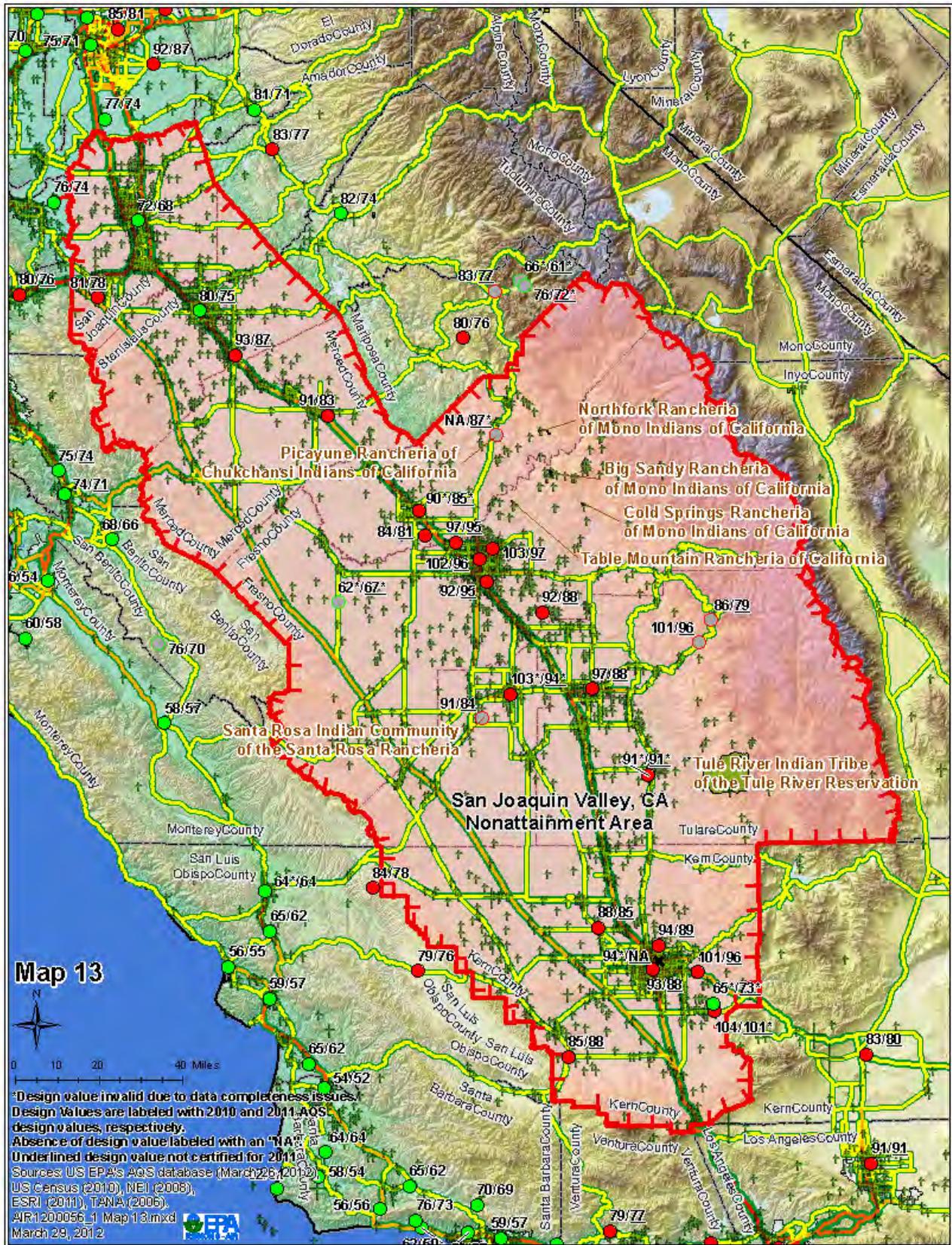
The existing San Joaquin Valley nonattainment area comprises San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings and Tulare counties, and the western portion of Kern County (see Map 13a in Appendix 2). The 2010 DVs for the ozone NAAQS for counties in the existing San Joaquin Valley nonattainment area are shown in Table 2.

Table 2. Air Quality Data.

County	State Recommended Nonattainment?	2008-2010 Design Value (ppb)
Fresno, CA	Yes	103
Kern, CA	Yes (partial)	104
Kings, CA	Yes	91
Madera, CA	Yes	84
Merced, CA	Yes	91
San Joaquin, CA	Yes	81
Stanislaus, CA	Yes	93
Tulare, CA	Yes	101

Ozone monitors relevant for comparison to the NAAQS and information from additional data sources within the existing San Joaquin Valley nonattainment area are shown in Appendix 1, Map 13. California’s ozone season encompasses the entire year. Certified, quality assured data are available in EPA’s Air Quality System (AQS) for all areas through calendar year 2010. Map 13 in Appendix 1 includes preliminary 2011 DVs for the existing San Joaquin Valley nonattainment area for informational purposes only. For each monitor, Appendix 1 lists the monitor, the 2008-2010 DV (certified and quality assured in AQS) and the 2009-2011 DV (data that are not yet certified and quality assured in AQS are denoted with an underline). Absence of a DV is symbolized with an “x”.

Appendix 3 lists the DVs for monitors in the existing San Joaquin Valley nonattainment area. Monitors shown in bold are the DV monitors (i.e., the monitor with the highest DV) for each individual county. Monitors shown in red font are the DV monitor for the nonattainment area. Values with an asterisk do not meet data completeness, and therefore those DVs are not relevant for comparison to the NAAQS and are solely provided for informational purposes.



From Appendix 1, Map 13: For map legend describing monitors, emissions, traffic, population, and boundaries, see Appendix 1.

Monitors in every county listed above in Table 1 show a violation of the 2008 8-hour ozone standard based on 2008-2010 data. Therefore, these areas are included in the San Joaquin Valley 2008 ozone nonattainment area. A county (or partial county) must also be designated nonattainment if it contributes to a violation in a nearby area. Each county without a violating monitor that is located near a county with a violating monitor has been evaluated based on the weight of evidence of the five factors to determine whether it contributes to the nearby violation.

Factor 2: Emissions and Emissions-Related Data

EPA evaluated emissions of ozone precursors, nitrogen oxides (NO_x) and volatile organic compounds (VOC), and other emissions-related data that provide information on areas contributing to violating monitors.

Emissions data

EPA evaluated county-level emission data for NO_x and VOC derived from the 2008 National Emissions Inventory (NEI), version 1.5. This is the most recently available NEI. (See <http://www.epa.gov/ttn/chief/net/2008inventory.html>) Emissions in a nearby area indicate the potential for the area to contribute to observed violations. Table 3 shows emissions of NO_x and VOC (given in tons per year) for violating and nearby counties that we considered for inclusion in the San Joaquin Valley area.

Table 3. Total 2008 NO_x and VOC Emissions.

County	State Recommended Nonattainment?	NO _x (tpy)	VOC (tpy)
Fresno, CA	Yes	37,561	27,617
Kern, CA	Yes (partial)	70,256	32,300
Kings, CA	Yes	9,139	5,230
Madera, CA	Yes	10,006	6,398
Merced, CA	Yes	17,857	10,223
San Joaquin, CA	Yes	31,674	16,587
Stanislaus, CA	Yes	16,769	15,394
Tulare, CA	Yes	15,411	16,273
Areawide:		208,673	130,022

The ozone precursor emissions listed for these eight counties contribute to monitored violations in the San Joaquin Valley. Emissions in the San Joaquin Valley of NO_x and VOCs are approximately half of the NO_x and VOC emissions in the Los Angeles-South Coast Air Basin nonattainment area, and are substantially greater than emissions within the Sacramento Metro nonattainment area (70,578 and 56,819 tons per year of NO_x and VOC, respectively). San Joaquin Valley’s total NO_x emissions are higher and VOC emissions are slightly lower than emissions within the San Francisco Bay Area nonattainment area (172,116 and 140,546 tons per year of NO_x and VOC, respectively). Stationary source emissions of ozone precursors are clustered along the major roadways that run northwest-southeast through the center of the valley (see Map 13 in Appendix 1). Kern County, located in the southern portion of the San Joaquin Valley is the largest source of NO_x and VOC emissions in the San Joaquin Valley. The majority of sources in Kern County are in the western portion of the county, which is the portion included in the San Joaquin Valley nonattainment area. The majority of the eastern portion of Kern County is being designated as a separate nonattainment area, the Kern County (Eastern

Kern) nonattainment area. San Joaquin County, in the northern portion of the San Joaquin Valley, and Fresno County, in the central portion of the San Joaquin Valley, are the second and third highest sources of NO_x and VOCs, indicating that sources of ozone precursor emissions are distributed throughout the San Joaquin Valley.

Population density and degree of urbanization

EPA evaluated the population and vehicle use characteristics and trends of the area as indicators of the probable location and magnitude of non-point source emissions. These include ozone-creating emissions from on-road and off-road vehicles and engines, consumer products, residential fuel combustion, and consumer services. Areas of dense population or commercial development are an indicator of area source and mobile source NO_x and VOC emissions, which contribute to ozone formation. Rapid population or growth in vehicle miles traveled (VMT) (see below) in a county on the urban perimeter signifies increasing integration with the core urban area, and indicates that it may be appropriate to include the area associated with area source and mobile source emissions as part of the nonattainment area. Table 4 shows the population, population density, and population growth information for each county in the area.

Table 4. Population and Growth.

County	State Recommended Nonattainment?	2010 Population	2010 Population Density (1000 pop/sq mi)	Absolute change in population (2000-2010)	Population % change (2000-2010)
Fresno, CA	Yes	930,450	0.15	128,327	+16%
Kern, CA	Yes (partial)	839,631	0.10	176,121	+27%
Kings, CA	Yes	152,982	0.11	23,206	+18%
Madera, CA	Yes	150,865	0.07	27,293	+22%
Merced, CA	Yes	255,793	0.13	44,241	+21%
San Joaquin, CA	Yes	685,306	0.48	117,283	+21%
Stanislaus, CA	Yes	514,453	0.34	64,745	+14%
Tulare, CA	Yes	442,179	0.09	73,484	+20%
Areawide:		3,971,659	0.14	654,700	+20%

Sources: U.S. Census Bureau population estimates for 2010 as of August 4, 2011

(http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_PL_GCTP_L2.STO5&prodType=table)

During the 2000 - 2010 period, population in the eight counties that comprise the San Joaquin Valley nonattainment area exhibited among the strongest growth of all nonattainment areas in California. Although the total population in San Joaquin Valley (nearly 4 million people) is small compared to the population of Los Angeles-South Coast Air Basin (17 million), the absolute change in population over this period in San Joaquin Valley is similar to the absolute change in population in the Sacramento Metro and San Francisco Bay Area nonattainment areas (located upwind of the San Joaquin Valley) combined. Population growth is associated with even greater growth in VMT, which are themselves associated with emissions of ozone precursors (see next section).

Traffic (VMT) data

EPA evaluated the commuting patterns of residents in the area, as well as the total VMT for each county. In combination with the population/population density data and the location of main transportation arteries (see above), this information helps identify the probable location of non-point source emissions. A county with high VMT indicates the presence of motor vehicle emissions that may contribute to ozone formation that contributes to nonattainment in the area. Rapid population or VMT growth in a county on the urban perimeter signifies increasing integration with the core urban area, and indicates that the associated area source and mobile source emissions may be appropriate to include in the nonattainment area. Table 5 shows total 2008 VMT.

Table 5. Traffic (VMT) data.

County	State Recommended Nonattainment?	2008 VMT* (million miles)
Fresno, CA	Yes	8,307
Kern, CA	Yes (partial)	8,578
Kings, CA	Yes	1,101
Madera, CA	Yes	1,763
Merced, CA	Yes	2,231
San Joaquin, CA	Yes	5,261
Stanislaus, CA	Yes	3,773
Tulare, CA	Yes	4,357
Areawide:		35,372

*MOBILE model VMTs are those inputs into the NEI version 1.5.

Total VMT in the San Joaquin Valley is lower than VMT in the South Coast Air Basin (nearly 143 billion VMT in 2008) and the upwind nonattainment area of the San Francisco Bay Area (nearly 58 billion VMT in 2008). Highest truck and non-truck traffic volumes occur along the major roadways that run north-south through the San Joaquin Valley (see Map 13 in Appendix 1), with relatively lighter traffic on roadways that run east-west to other nonattainment counties or counties in attainment with the 2008 ozone NAAQS.

Factor 3: Meteorology (weather/transport patterns)

EPA evaluated available meteorological data to help determine how meteorological conditions, such as weather, transport patterns and stagnation conditions, would affect the fate and transport of precursor emissions contributing to ozone formation.

Wind flow most frequently comes from the west-northwest, as shown by the 30-year average of National Weather Service summer wind direction frequencies computed by EPA and depicted in the “radar”-style wind rose diagram below (Figure 2). This is consistent with the geographic orientation of the San Joaquin Valley and its relationship to the Golden Gate (at the mouth of San Francisco Bay), the key route for air flow between the Pacific Ocean and the Central Valley of California. San Joaquin and Stanislaus, the northernmost two counties, have an additional southerly component more than the other counties, which may reflect their locations closer to the Sacramento Valley, the northern half of California’s Central Valley.

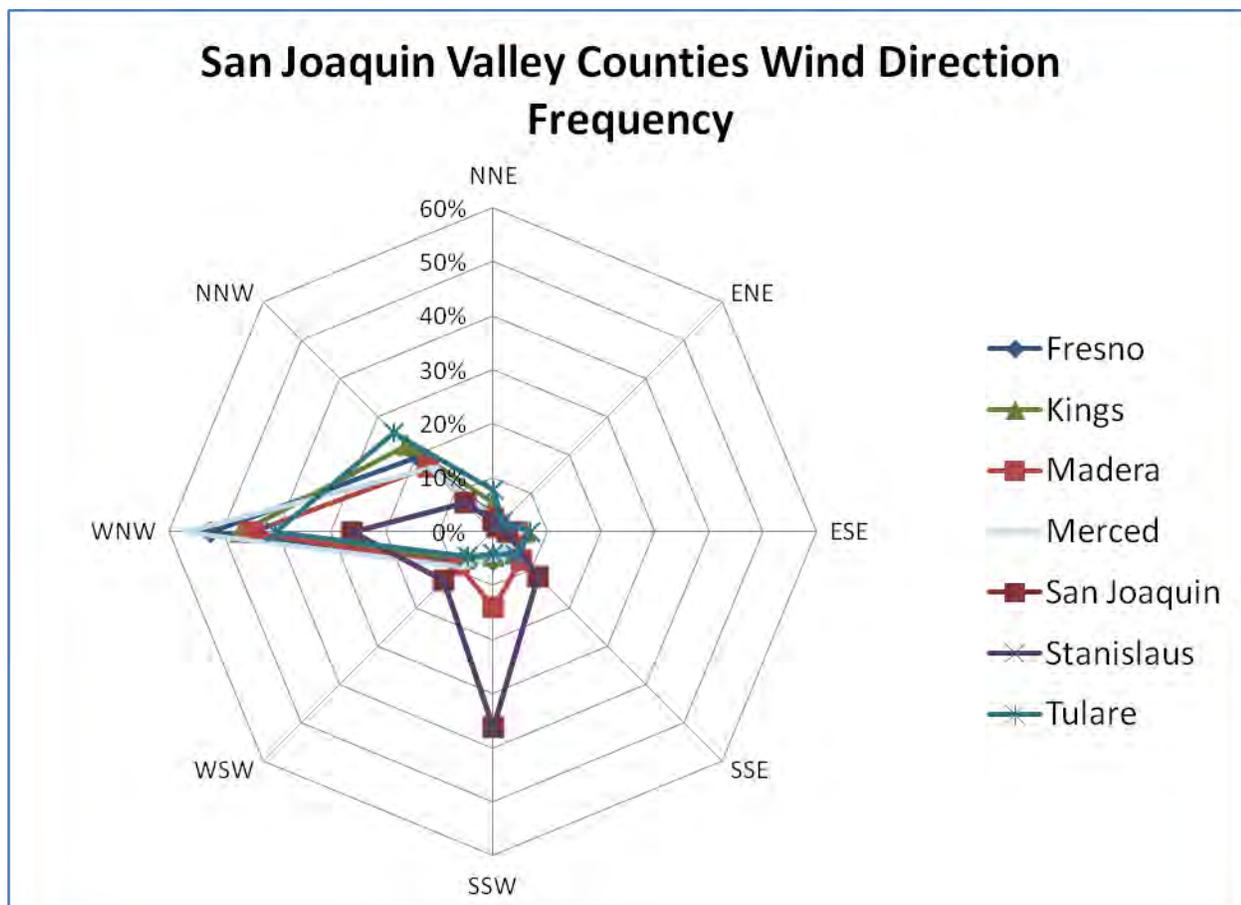


Figure 2

The San Joaquin Valley 2007 Ozone Plan¹ includes a conceptual description of ozone formation in the area. It notes phenomena conducive to high ozone concentrations in the San Joaquin Valley. These include the Sierra Nevada, Tehachapi, and South Coast mountain ranges that surround the San Joaquin Valley on the east, south, and west, and which restrict air flow and ventilation. The summers are hot with little rainfall or cloud cover (Fresno averages 36 days per year with temperatures 100°F or hotter), and with frequent inversions that trap pollutants below them. Sea breezes (or “marine flows”) may bring pollutants from coastal areas into the San Joaquin Valley from the northwest. Recirculation of San Joaquin Valley pollutants can occur via nighttime drainage winds (“slope flows”), which return pollutants that were transported up into mountain valleys during the day. Recirculation can also occur via the “Fresno eddy”, a counterclockwise flow that returns polluted air that would otherwise escape through southern mountain passes. All of these contribute to the buildup of ozone and precursors, due to enhanced photochemical formation and to restricted dispersion. Also noted are various flow patterns, including transport between the San Joaquin Valley and both the Sacramento Valley to the north and the San Francisco Bay Area to the northwest. While there is interchange of air between San Joaquin Valley and these nearby areas, its unique flow patterns make it meteorologically distinct from those areas.

While there is no topographic barrier between the San Joaquin Valley and the Sacramento Valley to the north, and at times there can be transport between them, generally the air flow from the Pacific Ocean

¹ “Photochemical Modeling Protocol for Developing Strategies to Attain the Federal 8-hour Ozone Air Quality Standard in Central California,” California Air Resources Board, May 22, 2007; included as Appendix C to the ARB Staff Report. See especially pp.6-8. Available at <http://www.arb.ca.gov/planning/sip/2007sip/sjv8hr/sjvozone.htm>

through the Golden Gate toward the east tends to bifurcate where the two valleys meet, providing some degree of separation much of the time.

EPA notes that the San Joaquin Valley may influence ozone concentrations in the Southern Mountain Counties nonattainment area and perhaps counties within the “Mountain Counties Air Basin”, namely Amador, Calaveras, Mariposa, and Tuolumne counties. The western portions of these counties are likely also subject to the meteorology of the San Joaquin Valley, but even at their western ends those counties are in the foothills of the Sierra Nevada mountain range, rather than in the flats of San Joaquin Valley, and on the whole those counties are more rural and largely mountainous.

Factor 4: Geography/topography (mountain ranges or other air basin boundaries)

The geography/topography analysis evaluates the physical features of the land that might affect the airshed and, therefore, the distribution of ozone over the area.

The San Joaquin Valley is the southern half of the large, flat, Central Valley of California. Except to the north, it is surrounded on all sides by tall mountains. These include the Sierra Nevadas to the east, the Tehachapis to the south and southwest, and South Coast ranges to the west. These ranges tend to restrict air flow and ventilation.

While there is no topographic barrier between the San Joaquin Valley and the Sacramento Valley to the north, and at times there can be transport between them, generally the air flow from the Pacific Ocean through the Golden Gate toward the east tends to bifurcate where the two valleys meet, providing some degree of separation much of the time.

Factor 5: Jurisdictional boundaries

For each potential nonattainment area, we considered existing jurisdictional boundaries to provide a clearly defined legal boundary and to help identify the areas appropriate for carrying out the air quality planning and enforcement functions for nonattainment areas. Examples of jurisdictional boundaries include existing/prior nonattainment area boundaries for ozone or other urban-scale pollutants, county lines, air district boundaries, township boundaries, areas covered by a metropolitan planning organization, state lines, areas of Indian country, and urban growth boundary. Where existing jurisdictional boundaries were not adequate or appropriate to describe the nonattainment area, other clearly defined and permanent landmarks or geographic coordinates were considered.

The San Joaquin Valley nonattainment area has previously established boundaries associated with both the 1-hour and the 1997 8-hour ozone NAAQS. The state recommended the same boundary for the 2008 ozone NAAQS.

The state recommended the same boundary for the San Joaquin Valley as the San Joaquin Valley Air Pollution Control District’s (SJVAPCD’s) jurisdictional boundary. This large district manages one of the only extreme nonattainment areas in the nation. It contains seven whole counties (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings and Tulare) and part of Kern County (western part). The boundary between west and east Kern County is a generally north-south line bisecting the county along the Sierra Nevada mountain range. This line is also the boundary between the jurisdictions of the SJVAPCD and the Eastern Kern Air Pollution Control District (Eastern Kern APCD). The boundary of the SJVAPCD in Kern County is also the boundary of the San Joaquin Valley Air Basin. The eastern

portion of Kern County lies to the east of the Sierra Nevada mountain range and lies in the Mojave Desert Air Basin.

The San Joaquin Valley nonattainment area includes the Fresno-Madera Combined Statistical Area (CSA) comprising the Fresno and Madera-Chowchilla Metropolitan Statistical Areas (MSA), and the entireties of the Stockton, Modesto, Merced, Hanford-Corcoran, and Visalia-Porterville MSAs. The entirety of Kern County forms the Bakersfield-Delano MSA, which is split between the San Joaquin Valley and the East Kern County nonattainment areas.

The San Joaquin Valley area also includes areas of Indian country. As defined at 18 U.S.C. 1151, “Indian country” refers to: “(a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.” EPA recognizes the sovereignty of tribal governments, and has attempted to take the desires of the tribes into account in establishing appropriate nonattainment area boundaries.

Evaluation of Recommendation from Picayune Rancheria of Chuckchansi Indians of California

Pursuant to section 107(d) of the Clean Air Act, EPA must designate as “nonattainment” those areas that violate the NAAQS and those areas that contribute to violations. EPA has evaluated the recommendation of the Picayune Rancheria of Chuckchansi Indians of California (Picayune) based on currently available information.

Picayune is a federally recognized tribe located in the central portion of the Madera-Chowchilla MSA, in Madera County. Map 13a in Appendix 2 shows the locations of the areas of Indian country within the San Joaquin Valley nonattainment area.

In 2004, EPA previously established the San Joaquin Valley nonattainment area boundaries for the 1997 ozone NAAQS that included Madera County which encompasses Picayune.

In a letter dated November 14, 2011, Picayune recommended designation of their Indian country as “unclassifiable” for the 2008 ozone NAAQS (letter from Nancy Ayala, Tribal Council Vice Chairwoman, Picayune Rancheria of the Chukchansi Indians of California, to Jared Blumenfeld, Regional Administrator, U.S. EPA Region IX, November 14, 2011). Based on the factors discussed below, EPA is designating Picayune’s area of Indian country nonattainment as part of the San Joaquin Valley nonattainment area for the 2008 ozone NAAQS.

Air Quality Data

Currently, Picayune operates one ozone monitor within its tribal boundaries. Map 13 in Appendix 1 shows monitor locations for the San Joaquin Valley nonattainment area. For each monitor, Appendix 1 lists the monitor, the 2008-2010 DV (certified and quality assured in AQS) and the 2009-2011 DV (data that are not yet certified and quality assured in AQS are denoted with an underline).

The typical pattern for ozone concentrations in the San Joaquin Valley is an increase in concentration to the south and the east. Ozone concentrations tend to increase with elevation in the Sierra Nevada Mountains as a result of transport of precursors and ozone by the upslope flow discussed in Factor 3 above. The Picayune monitor started reporting data to AQS in August of 2011, and therefore does not have three years of data necessary for calculating a valid design value. Picayune's currently available data for August 2011 shows eight days in that month with 8-hour ozone concentrations exceeding the standard. Surrounding monitors in Madera and other neighboring counties show violations of the 2008 8-hour ozone standard based on 2008-2010 data. We believe that these air monitoring data are representative of the air quality on Picayune's area of Indian country.

Emissions and Emissions-Related Data

Picayune consists of 820.89 acres of Indian country, which is home to approximately 1,000 tribal members. Picayune does not have any major stationary sources within the tribal boundaries. Sources of emissions include a casino and hotel, several restaurants, a gas station, and a wastewater treatment plant. Also, California State Route Highway 41 passes through Picayune.

General information on emissions, population density and degree of urbanization, traffic and commuting patterns for the San Joaquin Valley nonattainment area can be found in Factor 2 of the San Joaquin Valley nonattainment area technical analysis, above.

Meteorology (Weather/Transport Patterns)

Picayune is in the foothills on the eastern side of the San Joaquin Valley and is similar to other eastern parts of the central and southern San Joaquin Valley. Therefore, the information for the San Joaquin Valley nonattainment area discussed in Factor 3 of the San Joaquin Valley nonattainment area technical analysis, above, adequately characterizes meteorology and transport patterns for the tribe.

Geography/Topography

Although the terrain is complex, Picayune does not have any geographical or topographical barriers that would prevent air pollution transport from the San Joaquin Valley nonattainment area from the west. Therefore, geography and topography support including Picayune's area of Indian country with the surrounding area.

Jurisdictional Boundaries

Picayune is a federally recognized tribe located in the central portion of the Madera-Chowchilla MSA, in Madera County. Map 13a in Appendix 2 shows the locations of the areas of Indian country within the San Joaquin Valley nonattainment area.

Conclusion for Picayune Rancheria

Picayune recommended that designation of their area of Indian country as "unclassifiable", based on the lack of complete monitoring data from their monitor. However, due to available representative data from surrounding monitors and indications of exceedances from the limited data available from the tribe's monitor, EPA is designating Picayune's Indian country

nonattainment, as part of the San Joaquin Valley nonattainment area for the 2008 ozone NAAQS.

Evaluation of Recommendation from Table Mountain Rancheria of California

Pursuant to section 107(d) of the Clean Air Act, EPA must designate as “nonattainment” those areas that violate the NAAQS and those areas that contribute to violations. EPA has evaluated the recommendation of the Table Mountain Rancheria of California (Table Mountain) based on currently available information.

Table Mountain is a federally recognized tribe located in the central portion of Fresno County. Map 13a in Appendix 2 shows the locations of the areas of Indian country within the San Joaquin Valley nonattainment area.

In 2004, EPA previously established the San Joaquin Valley nonattainment area boundaries for the 1997 ozone NAAQS that included Fresno County which encompasses Table Mountain.

In a letter dated February 29, 2012, in response to EPA’s December 2011 letter conveying our preliminary designations (letter from Jared Blumenfeld, Regional Administrator, U.S. EPA Region, to Leanne-Walker Grant, Tribal Chairperson, Table Mountain Rancheria of California, December 9, 2011), Table Mountain recommended that the tribe’s area of Indian country be designated as “unclassifiable” for the 2008 ozone NAAQS (letter from Leanne-Walker Grant, Tribal Chairperson, Table Mountain Rancheria of California, to Jared Blumenfeld, Regional Administrator, U.S EPA Region IX, February, 29 2012). Based on the factors discussed below, EPA is designating Table Mountain’s Indian country as “nonattainment” as part of the San Joaquin Valley nonattainment area for the 2008 ozone NAAQS.

Air Quality Data

Currently, Table Mountain does not operate any ozone monitors within the tribal boundaries. Map 13 in Appendix 1 shows monitor locations for the San Joaquin Valley nonattainment area. For each monitor, Appendix 1 lists the monitor, the 2008-2010 DV (certified and quality assured in AQS) and the 2009-2011 DV (data that are not yet certified and quality assured in AQS are denoted with an underline).

The typical pattern for ozone concentrations in the San Joaquin Valley is an increase in concentration to the south and the east. Ozone concentrations tend to increase with elevation in the Sierra Nevada Mountains as a result of transport of precursors and ozone by the upslope flow discussed in Factor 3 above. Surrounding monitors in Fresno and other neighboring counties show violations of the 2008 8-hour standard based on 2008-2010 and preliminary 2009-2011 data. The closest ozone monitoring site to Table Mountain is located 12 miles to the south-southwest in Clovis. Operated by the San Joaquin Valley APCD, the Clovis monitor measures some of the highest ozone levels in the nation. The 2008-2010 and preliminary 2009-2011 design values for the Clovis monitoring site are 0.103 and 0.099 ppm, respectively. Based on the lack of topographic barriers, similarities in meteorology and transport patterns with the surrounding area, and the high levels of ozone in the area, EPA has determined that monitors in Fresno County, including the Clovis monitor, adequately represent the air quality in the area, specifically including the area surrounding Table Mountain.

Emissions and Emissions-Related Data

Table Mountain does not have any major stationary sources within the tribal boundaries. Minor sources include a few gas stations. There are also mobile source emissions from Millerton and Auberry Roads.

General information on emissions, population density and degree of urbanization, traffic and commuting patterns for the San Joaquin Valley nonattainment area can be found in Factor 2 of the San Joaquin Valley nonattainment area technical analysis, above.

Meteorology (Weather/Transport Patterns)

Table Mountain is in the foothills on the eastern side of the San Joaquin Valley and is similar to other eastern parts of the central and southern San Joaquin Valley. Therefore, the information for the San Joaquin Valley nonattainment area discussed in Factor 3 of the San Joaquin Valley nonattainment area technical analysis, above, adequately characterizes meteorology and transport patterns for the tribe.

Geography/Topography

Although the terrain is complex, Table Mountain does not have any geographical or topographical barriers that would prevent air pollution transport from the San Joaquin Valley nonattainment area to Table Mountain. Therefore, geography and topography support including Table Mountain's area of Indian country with the surrounding area.

Jurisdictional Boundaries

Table Mountain is a federally recognized tribe located in Fresno County. Map 13a in Appendix 2 shows the locations of the areas of Indian country within the San Joaquin Valley nonattainment area.

EPA's assessment of the jurisdictional factor was performed in accordance with EPA's 2011 "Policy for Establishing Separate Air Quality Designations for Areas of Indian Country." The policy stresses the importance of recognizing tribal sovereignty and the jurisdictional status of Indian country in the decision-making process. The policy articulates specific examples and associated designations that may be appropriate in these circumstances. Explicitly included in the policy is an example stating that Indian country could be designated unclassifiable if it is lacking a regulatory monitor, and is located within a multi-jurisdictional area with a violating regulatory monitor that is not representative of the Indian country. As discussed in Factor 1, EPA has determined that other nearby monitors in Fresno County, including the Clovis monitor, adequately represent the air quality in the area, specifically including the area surrounding Table Mountain. Therefore, the policy indicates that an unclassifiable designation is not appropriate.

Conclusion for Table Mountain

Table Mountain recommended designation of their Indian country as “unclassifiable” based on the lack of monitoring data in the immediate area surrounding their lands. However, due to available representative data from surrounding monitors, similarities in meteorology and transport patterns to the surrounding area, the high levels of ozone in the area, and the lack of geographical or topographical barriers that would prevent transport from the San Joaquin Valley, EPA is designating Table Mountain’s Indian country as “nonattainment” for the 2008 ozone NAAQS, as part of the San Joaquin Valley nonattainment area.

Conclusion

Based on the assessment of factors described above, EPA is designating the following counties as part of the San Joaquin Valley, CA nonattainment area because they are violating the 2008 ozone NAAQS: San Joaquin County, Stanislaus County, Merced County, Madera County, Fresno County, Kings County, Tulare County, and Kern County (partial). EPA’s boundary for San Joaquin Valley also includes seven federally recognized tribes, as listed in Table 1.

The Clean Air Act requires EPA to designate any area as nonattainment if it violates a NAAQS or if it contributes to a violation in a nearby area. Air quality data (Factor 1) show that monitors in each of the counties of the existing San Joaquin Valley nonattainment area (which includes counties as listed above in Table 1) show a violation of the 2008 8-hour ozone standard based on 2008-2010 data. Therefore, Factor 1 supports designating these areas as “nonattainment.”

EPA’s review of emissions and emission related data (Factor 2), as well as meteorology and weather or transport patterns (Factor 3), geography and topography (Factor 4), and jurisdictional boundaries (Factor 5) support the nonattainment boundaries recommended by the state. The state’s recommendation for the San Joaquin Valley nonattainment area for the 2008 ozone standard is consistent with the existing nonattainment area under the 1997 8-hour ozone NAAQS. The area has its own air pollution control district and this district is one of the largest in the nation. The area also is coterminous with the entirety of the San Joaquin Valley Air Basin. The area contains major population centers and other sources of ozone precursor emissions that contribute to violations in the air basin.

The split of Kern County between the San Joaquin Valley and the East Kern County nonattainment areas is consistent with current ozone designations, the state’s recommendations for these areas, and with the factors that EPA applies to setting nonattainment area boundaries. EPA is designating the western portion of the county as nonattainment with San Joaquin Valley and the eastern portion with the East Kern County nonattainment area. The county is bisected in a north-south direction in the central part of the county by the southern end of the Sierra Nevada mountain range, which results in different meteorology in the two portions of the county. The Eastern Kern APCD separates the eastern portion of the county from the San Joaquin Valley APCD portion.

Given the preceding analysis, EPA is designating the same area as nonattainment for the 2008 ozone NAAQS that is currently nonattainment for the 1997 ozone NAAQS.

EPA’s nonattainment area boundary for San Joaquin Valley also includes seven different areas of Indian country. EPA received a recommendation from Picayune for their area of Indian country to be designated as “unclassifiable” based on the lack of complete monitoring data from its monitor. Based on available information from surrounding monitors, the limited, available data from the tribe’s monitor,

and the analysis described above, EPA has concluded that Picayune's Indian country should be designated "nonattainment" as part of the San Joaquin Valley nonattainment area for the 2008 ozone NAAQS. Table Mountain recommended that the tribe's area of Indian country be designated as "unclassifiable" based on the lack of monitoring data in the immediate area surrounding their lands. However, due to available representative data from surrounding monitors, similarities in meteorology and transport patterns to the surrounding area, the high levels of ozone in the area, and the lack of geographical or topographical barriers that would prevent transport from the San Joaquin Valley, EPA is designating Table Mountain's Indian country as "nonattainment" for the 2008 ozone NAAQS, as part of the San Joaquin Valley nonattainment area. Areas of Indian country of the seven tribes listed in Table 1 are included in the 2008 ozone NAAQS San Joaquin Valley, CA nonattainment area.