

# Technical Support Document for 2008 Ozone NAAQS Designations

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

### Technical Analysis for Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation

Figure 1 is a map of the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation nonattainment area (Pechanga nonattainment area). The map provides other relevant information including the location and design value of the air quality monitor on the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation's (Pechanga's) Indian country, county boundaries, and indicates EPA's nonattainment designation. See Map 18 in Appendix 1, and included below in the Factor 1 section, for a more detailed map.

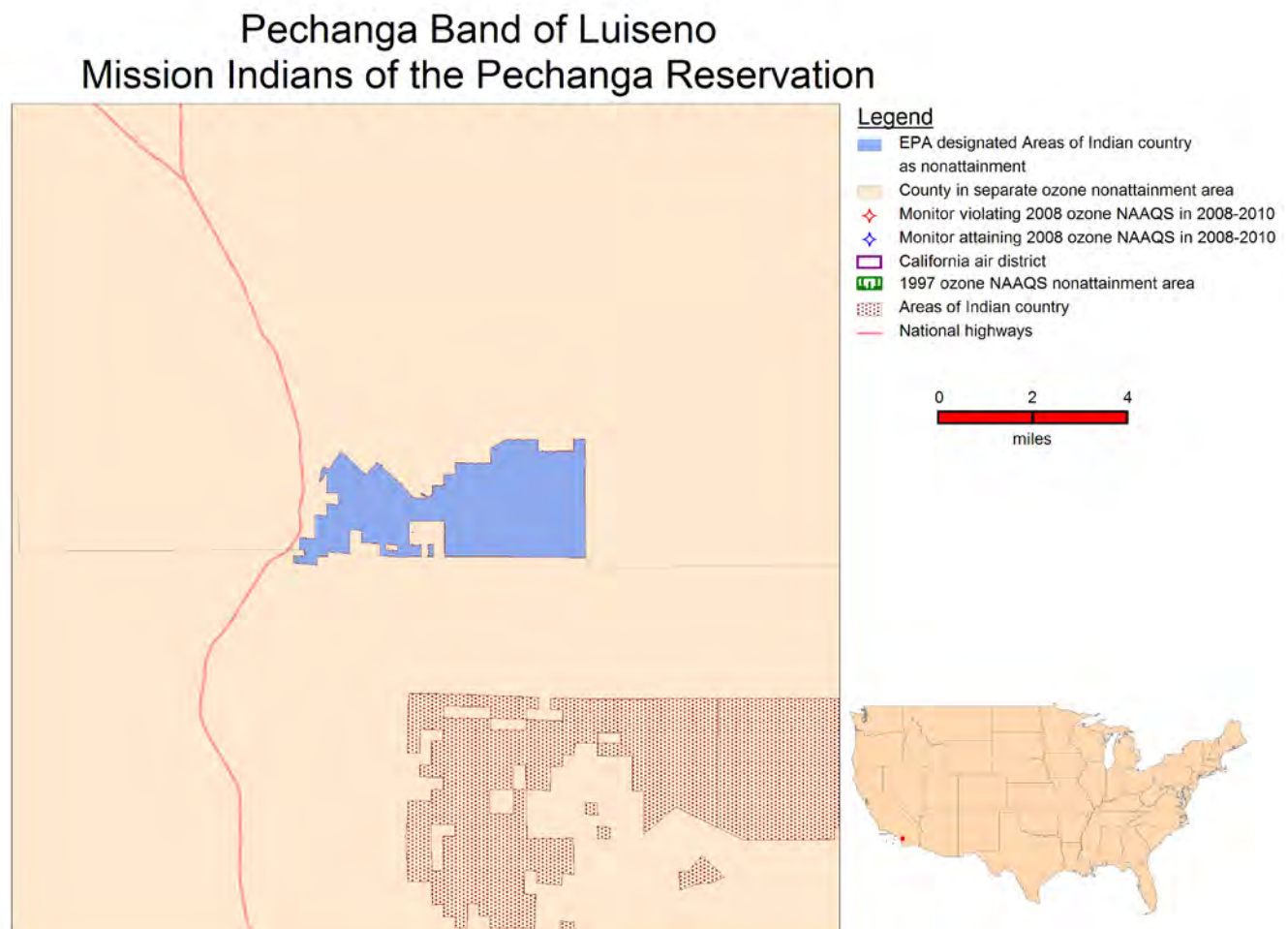


Figure 1

The Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation (Pechanga) is a federally recognized tribe whose Indian country is located primarily in the southern part of the Los Angeles-Long Beach-Santa Ana Metropolitan Statistical Area (MSA), with some land in the northern portion of the San Diego-Carlsbad-San Marcos MSA. Map 18a in Appendix 2 shows the location of the areas of Indian country.

In 2004, EPA established the Los Angeles-South Coast Air Basin nonattainment boundaries for the 1997 ozone NAAQS. The Los Angeles-South Coast Air Basin nonattainment area included the entirety of Orange County, the southwestern portion of Los Angeles County, the southwest portion of San Bernardino County, and the western portion of Riverside County (see Map 6 in Appendix 1). In 2004, all of Pechanga’s reservation lands were in the southwestern portion of Riverside County, and Pechanga’s Indian country was included in the Los Angeles-South Coast Air Basin nonattainment area. Since the previous designation, Pechanga has acquired lands that extend into San Diego County.

In June 2009, Pechanga recommended that the portions of Pechanga’s lands in Riverside and San Diego counties be designated as “nonattainment” for the 2008 ozone NAAQS and as a separate area, or that they be designated as “nonattainment” as part of the San Diego nonattainment area, for the 2008 ozone NAAQS (letter from Mark Macarro, Tribal Chairman, Pechanga Band of Luiseño Indians, to Deborah Jordan, Director, U.S. EPA Region IX Air Division, June 23, 2009). In February 2012, in response to EPA’s December 2011 letter conveying our preliminary designations (letter from Jared Blumenfeld, Regional Administrator, U.S. EPA Region IX, to Mark A. Macarro, Tribal Chairman, Pechanga Band of Luiseño Indians, December 9, 2011), Pechanga recommended that their reservation lands be designated as “nonattainment” as a separate area or as “attainment” as a separate area for the 2008 ozone NAAQS (letter from Mark Macarro, Tribal Chairman, Pechanga Band of Luiseño Indians, to Jared Blumenfeld, Regional Administrator, U.S. EPA Region IX, February 23, 2012).

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 in nearby areas. EPA has evaluated the 2009 and 2012 recommendations, including the multi-factor analysis, from the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation (Pechanga) based on currently available information. EPA’s assessment of the Tribe’s separate nonattainment area recommendation and other information was performed in accordance with EPA’s December 20, 2011 “Policy for Establishing Separate Air Quality Designations for Areas of Indian Country”<sup>1</sup>.

Based on the factors discussed below, EPA is designating Pechanga’s Indian country as the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation nonattainment area (Pechanga nonattainment area) for the 2008 ozone NAAQS.

Table 1. Tribe’s Recommended and EPA’s 2008 ozone NAAQS Nonattainment Designation.

Tribe-Recommended Nonattainment Area of Indian country	EPA’s Designated Nonattainment Area of Indian Country
Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation	Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation

<sup>1</sup> The Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation (Pechanga) has reservation lands that span across two areas designated nonattainment for the 1997 ozone NAAQS: the San Diego County, CA nonattainment area and the Los Angeles-South Coast Air Basin, CA nonattainment area. EPA is designating all of Pechanga’s Indian country as the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation nonattainment area for the 2008 ozone NAAQS, separate from the surrounding state areas.

<sup>1</sup> <http://www.epa.gov/ttn/oarpg/t1/memoranda/20120117indiancountry.pdf>

## **Factor Assessment**

### ***Factor 1: Air Quality Data***

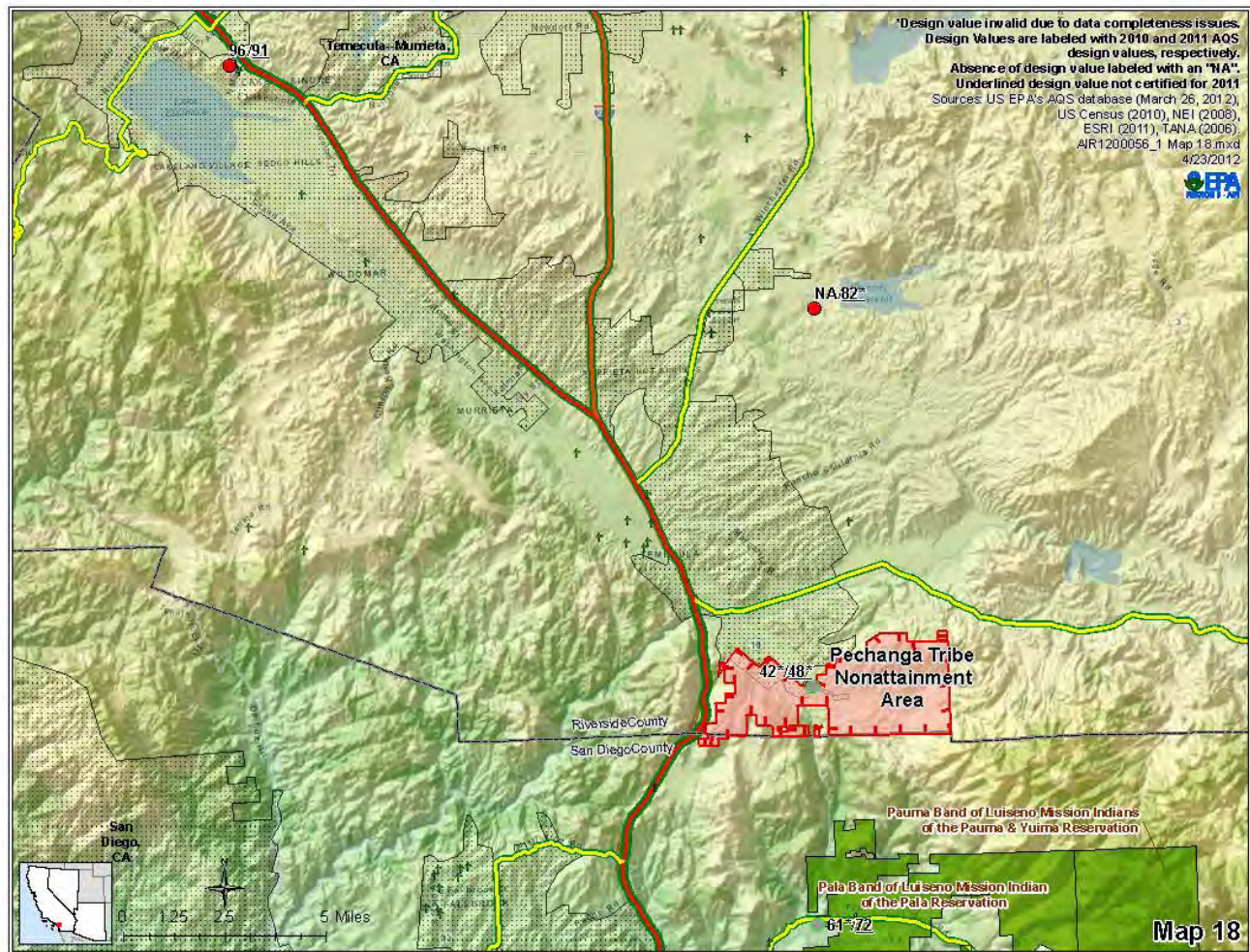
For this factor, we considered 8-hour ozone design values for air quality monitors in and near Pechanga, based on data from the 2008-2010 period (i.e., the 2010 design value, or DV) and preliminary data from the 2009-2011 period (i.e., the preliminary 2011 DV). A monitor's DV is the metric or statistic 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.

Monitors that are eligible for providing design value data include monitors that are sited in accordance with 40 CFR Part 58, Appendix D (Section 4.1), are federal reference method (FRM) or federal equivalent method (FEM) monitors, and meet the requirements of 40 CFR part 58, Appendix A.

Map 18 in Appendix 1 shows ozone monitors in, and surrounding, Pechanga's areas of Indian country. For each monitor, Appendix 1 lists the monitor, the 2008-2010 DV (certified and quality assured in EPA's Air Quality System (AQS) database) and the 2009-2011 DV (data that are not yet certified and quality assured in AQS are underlined). Currently, Pechanga operates one ozone monitor within its Indian country. An issue with this monitor was identified and resolved in the summer of 2011. EPA has analyzed the accuracy of the ozone data from this monitor and has determined that data collected prior to resolution of the issue cannot be used for the current ozone designations. The limited accurate air quality monitoring data available from the Pechanga monitor after the issue was resolved suggest that ozone concentrations at Pechanga are reasonably similar in magnitude and timing to a nearby monitor located north of Temecula. Although only one year of data from the Temecula monitor is available, its 4th maximum 8-hour ozone value for 2011 is 0.082 ppm, which is above the level of the 2008 ozone NAAQS. While data from the Temecula monitor indicates that the area is exceeding the 2008 ozone NAAQS, data are not sufficiently complete to be used for a valid DV. The next closest violating monitor with valid data is Lake Elsinore (AQS ID 060659001), which has a 2008-2010 DV of 0.096 ppm. The Lake Elsinore monitor is approximately 20 miles to the north-northeast from Pechanga's Indian country.

The typical pattern for ozone levels along the southwest coast of California is low ozone levels along the coast from clean coastal air with increasing levels inland as precursors and temperatures increase. At times, ozone and its precursors can be transported along the coast, as described in Factor 3, below. Air monitoring stations show this pattern with coastal monitors in Southern California attaining the 2008 ozone NAAQS (e.g., monitor numbers 060731008, 060592022, and 060591003) and inland monitors in Southern California violating (e.g., monitor numbers 060656001 and 060659001). See Appendix 3. This area is also subject to inland transport from the South Coast Air Basin along the Interstate 15 freeway when winds are from the north. The violating monitor at Lake Elsinore is approximately 25 miles inland, as is Pechanga's Indian country. Therefore, the Lake Elsinore monitor is considered the design value monitor for the purpose of designating Pechanga's areas of Indian country.

The analysis of available air quality data from Pechanga and proximate monitors suggest that Pechanga's areas of Indian country experience similar poor air quality to the surrounding nonattainment areas.



From Appendix 1, Map 18: For map legend describing monitors, emissions, traffic, population, and boundaries, see Appendix 1.

## ***Factor 2: Emissions and Emissions-Related Data***

EPA evaluated emissions of ozone precursors, nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC), and other emissions-related data that provide information on areas contributing to violating monitors.

Pechanga's areas of Indian country consist of 6,700 acres, and are home to approximately 800 tribal members. Pechanga has one major stationary source of ozone precursor emissions, the Pechanga Casino and Resort, within the tribal boundaries. Other sources of ozone precursor emissions include local traffic to and from the casino/resort, parking structures, golf course, gas station, and a recreational vehicle (RV) park. In its June 23, 2009 letter to EPA, Pechanga provided emission inventories for stationary sources, area sources, and on-road mobile sources. Pechanga estimated the stationary source emissions of NO<sub>x</sub> to be 0.012 tons per day and VOC to be 0.0015 tons per day in 2007. Actual emissions from the Pechanga Casino and Resort (a current Clean Air Act Title V major source) reported to EPA were 6.5 tons per year of NO<sub>x</sub> in 2010 and less than 1 ton per year of VOC in 2010.<sup>2</sup> In contrast, emissions from the adjacent Los Angeles-South Coast nonattainment area were over 240,000 tons per year of NO<sub>x</sub> and over 200,000 tons per year of VOC with a population of over 17 million people, and emissions from the

<sup>2</sup> See letter from Syndi Smallwood to Deborah Jordan, November 4, 2011.

adjacent San Diego County nonattainment area were over 59,000 tons per year of NO<sub>x</sub> and over 54,000 tons per year of VOC with a population of over 3 million people. See Technical Analyses for the Los Angeles-South Coast Air Basin and San Diego County in the California Technical Support Document.

### ***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. Pechanga is located about 25 miles inland and experiences similar complex meteorology and transport patterns as inland parts of western San Diego County. Transport of ozone and its precursors to Pechanga is prevalent from San Diego County, and from the South Coast Air Basin. EPA also reviewed other sources of information that reaffirm that high levels of ozone can occur in inland areas such as Pechanga as a result of transport from the San Diego metropolitan area and the South Coast Air Basin.<sup>3</sup> Transport patterns and meteorology suggest that Pechanga's areas of Indian country experience similar poor air quality to the surrounding nonattainment areas.

### ***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 Pechanga reservation consists of 6,700 acres located in northwestern portion of the Cleveland National Forest, ranging between 1,100 and 2,600 feet in elevation. It is located in the northern portion of the San Diego-Carlsbad-San Marcos MSA and the southern part of the Los Angeles-Long Beach-Santa Ana MSA. The Pechanga's lands do not have any geographical or topographical barriers that would prevent air pollution transport from the surrounding San Diego County or Los Angeles-South Coast Air Basin nonattainment areas. Although the terrain is complex, there are no topographic barriers, suggesting that Pechanga's areas of Indian country may experience similar air quality to the surrounding nonattainment areas.

### ***Factor 5: Jurisdictional boundaries***

For each potential nonattainment area, we considered existing jurisdictional boundaries to provide a clearly defined 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, Indian country boundaries, 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.

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

---

<sup>3</sup> Bigler-Engler, V, 1995: Analysis of an Ozone Episode during the San Diego Air Quality Study: The Significance of Transport Aloft. *Journal of Applied Meteorology*, 34, 1863-1875). Luria, M, 2005: Local and Transported pollution of San Diego, California. *Atmospheric Environment*, 39, 6765-6776. Boucouvala, D, 2003: Analysis of transport patterns during an SCOS97-NARSTO episode. *Atmospheric Environment*, 37 Supplement No. 2, S73-S94. Meteorological and Photochemical Modeling for the San Diego County 2007, 8 Hour Ozone State Implementation Plan.

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 Pechanga into account in establishing an appropriate designation for its Indian country.

Pechanga is a federally recognized tribe located in the northern portion of the San Diego-Carlsbad-San Marcos MSA and the southern part of the Los Angeles-Long Beach-Santa Ana MSA. Map 18a in Appendix 2 shows the location of areas of Indian country.

EPA’s assessment of the jurisdictional factor was performed in accordance with the Tribal Designations Policy. The policy stresses the importance of recognizing tribal sovereignty and the jurisdictional status of Indian country in the decision-making process. It also articulates circumstances under which the jurisdictional boundaries factor could bear the most weight when evaluating a tribe's multi-factor analysis.

The policy states that it may be appropriate to apply the most weight to the jurisdiction factor in a situation where a Tribe recommends being designated as a separate attainment area from an adjacent nonattainment area when a regulatory monitor in Indian country demonstrates that the NAAQS is being met, and there are no sources in Indian country contributing to nonattainment in the adjacent area based on an analysis of factors. As Pechanga does not currently have a regulatory monitor in its areas of Indian country that demonstrates the NAAQS is being met, EPA does not believe a separate attainment area designation is appropriate.

The policy also states that it may be appropriate to apply the most weight to the jurisdiction factor in a situation where a Tribe recommends being designated as a separate nonattainment area from an adjacent nonattainment area when an analysis of the factors indicates that there are no sources in Indian country contributing to nonattainment in the adjacent area. Although Pechanga's areas of Indian country do contain stationary and mobile sources of ozone precursors, the magnitude of ozone precursor emissions is very small compared to emissions from the adjacent Los Angeles-South Coast Air Basin and San Diego County nonattainment areas. Because the analysis of factors does not conclusively indicate that the sources located in Pechanga's areas of Indian country contribute to nonattainment in the surrounding areas, EPA is assigning more weight to Factor 5: Jurisdiction.

## **Conclusion**

Based on the assessment of factors described above, EPA is designating Pechanga’s Indian country as nonattainment for the 2008 ozone NAAQS as the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation nonattainment area.

In February 2012, Pechanga requested designation of its Indian country as “nonattainment” for the 2008 ozone NAAQS as a separate area or as “attainment” for the 2008 ozone NAAQS as a separate area. Because Pechanga does not currently have a regulatory monitor in its areas of Indian country demonstrating that the NAAQS is being met, consistent with the EPA Tribal Designations Policy, EPA disagrees that Pechanga’s Indian country should be designated as a separate attainment area. Air quality data, meteorology and topography indicate that Pechanga's areas of Indian country experience similar poor air quality to the surrounding nonattainment areas. Under EPA’s Tribal Designations Policy, an area of Indian country may be designated a separate nonattainment area from the adjacent nonattainment area if the area of Indian country has no sources that contribute to nonattainment in the adjacent area.

Although Pechanga's areas of Indian country do contain stationary and mobile sources of ozone precursors, the magnitude of ozone precursor emissions is very small compared to emissions from the adjacent Los Angeles-South Coast Air Basin, CA and San Diego County, CA nonattainment areas. Because the analysis of factors does not conclusively indicate that the sources located in Pechanga's areas of Indian country contribute to nonattainment in the surrounding areas, EPA is assigning more weight to Factor 5: Jurisdiction and designating Pechanga's areas of Indian country a separate nonattainment area from the adjacent nonattainment areas, as the Pechanga Band of Luiseño Mission Indians of the Pechanga Reservation nonattainment area.