

State of California

AIR RESOURCES BOARD



**RECOMMENDED AREA DESIGNATIONS
FOR THE FEDERAL
EIGHT-HOUR OZONE STANDARD**

STAFF REPORT

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California Environmental Protection Agency



Air Resources Board

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FOR THE
FEDERAL EIGHT-HOUR OZONE STANDARD**

To be considered by the Air Resources Board

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EXECUTIVE SUMMARY

What is staff proposing for Board approval?

We are proposing recommendations for area designations under the federal eight-hour ozone standard to the U.S. Environmental Protection Agency (U.S. EPA). We are proposing fifteen nonattainment areas. Eleven of these areas (South Coast Air Basin, San Joaquin Valley, Sacramento Region, San Francisco Bay Area, Ventura County, San Diego County, Eastern Kern County, Antelope Valley, Western Mojave Desert, Coachella Valley, and Imperial County) are already nonattainment for the federal one-hour ozone standard. Only minor boundary changes are recommended for these areas. The four new nonattainment areas are Shasta County, Tehama County, Western Nevada County and the Southern Mountain Counties (Amador, Calaveras, Tuolumne, and Mariposa).

We recommend that the Board approve these proposed area designations and boundaries, and direct staff to transmit the recommendations to U.S. EPA.

What is the status of the federal eight-hour ozone standard?

In 1992, U.S. EPA began reviewing the existing one-hour ozone standard out of concern that it did not offer adequate health protection against day-long exposures at levels just below the standard. More recent human health studies indicated that longer ozone exposures at lower levels also resulted in adverse health effects – including coughing, increased asthma attacks, chronic lung inflammation, decreased lung function, and decreased lung defenses against bacterial respiratory infections. In response, U.S. EPA established the new eight-hour standard for ozone in July 1997. This standard does not replace the existing one-hour standard. Both federal ozone standards now apply, along with California's own one-hour ozone standard.

In May 1999, an appeals court placed the eight-hour ozone standard on hold, pending further clarification from U.S. EPA on how it selected the specific level of the standard. U.S. EPA cannot implement the standard, but the court did note that U.S. EPA can make designations to fulfill its statutory obligations.

How does the eight-hour federal standard compare to California's State ozone standard?

The eight-hour federal standard provides approximately the same health protection as California's own one-hour ozone standard. The eight-hour standard provides greater protection against longer exposures at lower levels – the kind of air pollution often seen in the transport-impacted communities of the California foothills. The State one-hour ozone standard provides more protection against the high peak levels typically seen in California's urban areas. To provide adequate public health

protection in the State, both harmful one-hour and eight-hour ozone exposures need to be addressed.

What is the federal process for new area designations?

The federal Clean Air Act (as amended by the Transportation Equity Act for the 21st Century or “TEA-21”) establishes timeframes for states to recommend and U.S. EPA to finalize area designations for the eight-hour ozone standard. States were to recommend nonattainment area boundaries in July 1999, with U.S. EPA finalizing designations by July 2000. However, in response to the appeals court decision, U.S. EPA asked states to submit only monitoring data. In an August 1999 letter to U.S. EPA, we provided these data and indicated that we would follow with recommendations on area boundaries. To ensure that California’s views are considered when U.S. EPA proceeds with designations, we are proposing area designation recommendations now.

When will the area designations become effective?

It is uncertain when the designations will be effective. U.S. EPA has stated their intention to finalize designations this year. Under the Clean Air Act, three programs are triggered upon designation:

- State Implementation Plan (SIP). In Section 110, the Act requires each nonattainment area to develop a SIP describing how and when it will attain the standard. States have up to three years after final designation to submit SIPs. If U.S. EPA finalizes designations this year, we expect eight-hour ozone SIPs to be due in 2003. Transport of pollutants between nonattainment areas is a statewide concern. As with existing, approved federal ozone plans, ARB will be responsible for integrating local elements to ensure that the statewide SIP shows attainment in both upwind and downwind areas.
- New Source Review (NSR). Each area must adopt and implement programs to ensure that new and modified sources are as clean as possible. Major stationary sources wishing to site in these areas must comply with the lowest-achievable emission rates and obtain offsetting emission reductions to ensure that emissions from stationary sources in the region are lower than before the new source was constructed. Existing one-hour nonattainment areas already have NSR programs in place. New nonattainment areas will need to adopt NSR regulations, within a timeframe to be determined by U.S. EPA.
- Transportation Conformity. In addition, nonattainment areas must verify that transportation plans “conform” to the SIP – growth in the transportation system cannot interfere with an area’s efforts to attain the standard. Although the conformity regulations used to provide a grace period after area designations, a 1999 court decision found that the grace period was not allowed. The Federal Highways Administration (FHWA) is currently amending their regulation to remove the grace

period. Because of this, nonattainment areas are subject to transportation conformity requirements upon designation and must immediately make a conformity showing to continue receiving federal transportation funding. U.S. EPA and FHWA are developing guidance describing how local transportation agencies in areas designated nonattainment under the eight-hour standard can show conformity before a SIP is developed.

In response to the court order barring implementation, it is possible U.S. EPA may delay the final designations, or postpone the effective date. SIP development, NSR and transportation conformity will not apply until the designations are final.

Why are rural areas designated nonattainment in cases where much of the pollution comes from upwind urban areas?

Many of the new nonattainment areas in the State are small, predominantly rural counties, which are significantly affected by pollutant transport from upwind urban areas. But the primary purpose of area designations is to let the public know whether the air quality in their area meets health-based standards. Determining which areas are responsible for the emissions that cause unhealthy air (and controlling those emissions) is a separate process. Under the Clean Air Act, all nonattainment areas must implement NSR and conformity programs. Beyond those programs, the State must work with upwind and downwind areas to determine their relative control responsibilities and ensure the combined plans demonstrate attainment throughout California. The Summer 2000 Central California Ozone Study will provide key information on pollutant transport to support these efforts. If the majority of the emissions responsible for nonattainment are transported from upwind, the majority of the reductions must come from the upwind area as well. All local areas must, however, evaluate how they can reduce local emissions to meet the ozone standard as expeditiously as possible.

In response to California's persistent efforts on this issue, the most recent draft of U.S. EPA's implementation guidance would allow the rural areas impacted by intrastate transport to rely on a combination of statewide regulations for mobile sources, consumer products and pesticides; emission reductions from upwind areas; and strong local programs to mitigate the impacts of growth to meet the new standard. We also expect that these rural areas will need considerable technical support from ARB to develop and implement their SIPs – we intend to provide this assistance.

I. BACKGROUND

The purpose of ambient air quality standards is to protect public health and welfare. Air quality standards consist of four elements – the pollutant; the averaging time; the level or concentration not to be exceeded; and the form of the standard or attainment test. On any given day, when the measured pollutant concentration over the specific averaging time is above the level of the standard, the area experiences an “exceedance” of the standard. Whether or not the area records a “violation” must be determined through the form of the standard.

Both the U.S. Environmental Protection Agency (U.S. EPA) and the Air Resources Board (ARB) have adopted standards covering a variety of pollutants including ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. The federal government set its existing one-hour ozone standard in 1979, followed by California with its own, more stringent standard in 1987. In July 1997, U.S. EPA established a new eight-hour standard for ozone (*Federal Register*, Vol. 62, No. 138, July 18, 1997). Table 1 shows each of the ozone standards, with the level expressed as the parts of ozone per million parts of air (ppm).

Table 1
Comparison of Ozone Standards

Standard	Federal One-Hour	Federal Eight-Hour	State One-Hour
Averaging time	1 hour	8 hours	1 hour
Level	0.12 ppm	0.08 ppm	0.09 ppm
Form (attainment test)	Three exceedances allowed in a three-year period, fourth is a violation.	Calculate the three-year average of the annual fourth highest eight-hour concentration and compare to the level of the standard.	Statistical calculation intended to allow no more than one expected exceedance per year.

In 1992, U.S. EPA began reviewing the existing one-hour ozone standard out of concern that it did not offer adequate health protection against multi-hour exposures at levels below the standard. Studies of both healthy and asthmatic people show adverse effects in the lung after one to three hour exposures to ozone at levels as low as 0.12 ppm (the pre-existing federal standard). These effects include changes in lung function, respiratory symptoms (including more frequent and more severe attacks in asthmatics), and decreased exercise performance. Community health (epidemiological) studies also link ozone exposure to an increase in symptoms, aggravation of asthma,

and increased hospital admissions for respiratory illness. Clinical studies on exposure to lower ozone levels of 0.08 ppm to 0.12 ppm, for six to eight hours, show health effects including: decreased lung function and respiratory symptoms like coughing and lung/airway inflammation.

The new standard provides greater protection against longer exposure at lower levels – the type of air pollution often seen in transport impacted areas on the East Coast and in the foothill communities of California. In California, urban areas generally experience more pronounced peak ozone levels (during the day), while many downwind rural areas record slightly lower levels but for a more prolonged period (at night). To provide adequate public health protection in the State, both harmful one-hour and multi-hour ozone exposures need to be addressed.

The promulgation of the eight-hour ozone standard did not eliminate the federal one-hour standard. Both federal standards plus the State standard apply. In 1998, U.S. EPA had revoked the federal one-hour ozone standard in areas that attained the standard. But, after the court ruling preventing U.S. EPA from enforcing the eight-hour standard, U.S. EPA proposed to reinstate the one-hour standard across the country on October 20, 1999.

A. Court Action

Section 109(b)(1) of the Clean Air act requires U.S. EPA to set an air quality standard at a level that protects public health with an adequate margin of safety. Based on health studies, U.S. EPA relied on a risk assessment approach for the eight-hour ozone standard and chose a level to protect against most, but not all, harmful effects.

On May 14, 1999, a three-judge panel of the U.S. Court of Appeals for the District of Columbia put the eight-hour ozone standard on hold pending further clarification from U.S. EPA on how it selected the specific level of the standard. The Court stated that the factors U.S. EPA used to determine the degree of public health concern associated with different levels of ozone were reasonable, but found U.S. EPA did not clearly articulate the rationale for selecting a level for the standard. The Court left the eight-hour standard in place, but prevented U.S. EPA from enforcing it. The Court did, however, note that the Clean Air Act requires U.S. EPA to finalize designations within a specified time period (three years after the standard was established for ozone). U.S. EPA and the U.S. Department of Justice have since requested a review of the case before the U.S. Supreme Court. That request is still pending.

Because the Court of Appeals questioned only the process of setting the standard, not the health science upon which it was based, we expect that the eight-hour ozone standard will ultimately be implemented - either because it is upheld on appeal or because U.S. EPA provides the clarification requested by the court. U.S. EPA has indicated it intends to proceed with area designations this year.

II. AREA DESIGNATION REQUIREMENTS AND PROCESS

The Clean Air Act states that the establishment of a new standard starts the process to identify areas that violate the standard (Section 107), followed by development of plans (Section 110) and strategies to improve air quality (Section 171). Designations indicate which areas do not attain a standard, while classifications are tied to the severity of air pollution in each area.

A. Designations

Air quality designations are intended to notify the public about air quality in the areas where they live, work, or travel. This is accomplished by designating areas as nonattainment, attainment, and unclassifiable. The nonattainment label has traditionally identified a region with unhealthy air. However, the Clean Air Act also allows areas with clean air to be included in a nonattainment area if they contain emission sources that contribute to unhealthy air elsewhere in the region. Areas that meet the ozone standard are considered to have healthful air and are designated attainment. Areas without adequate ozone monitoring data are designated unclassifiable.

There are 208 ozone monitors across California. ARB and district monitors are located to measure air quality in communities and in areas with air quality problems. U.S. EPA is considering consolidating attainment and unclassified into a single designation.

B. Classifications

Section 172(a)(1) of the Clean Air Act specifies that areas that have been designated nonattainment will be classified for the purpose of applying control requirements and an attainment date, based on the severity of nonattainment. It is not clear what framework will be used to classify areas that violate the eight-hour ozone standard. U.S. EPA was developing an approach different than the one used for the federal one-hour ozone standard, but the Court decision appears to remove that option. We remain committed to work with U.S. EPA to ensure that whatever approach is used, the provisions are workable for California and treat areas impacted by intrastate transport appropriately. We describe the current situation further below.

For the federal one-hour ozone standard, nonattainment areas are classified from marginal to extreme based on measured air quality in the area. This classification scheme is specifically prescribed in Subpart 2 of the Clean Air Act, which governs states' efforts to comply with the one-hour ozone standard. This subpart also ties classifications to planning requirements and mandatory measures that must be implemented in each nonattainment area (like Smog Check and vapor recovery for service stations).

For the eight-hour standard, U.S. EPA had previously proposed implementation under Subpart 1 of the Act, which contains more general requirements for all

nonattainment areas and all pollutants. U.S. EPA identified three potential classifications for areas that violate the eight-hour standard – transitional, traditional, and international transport. Transitional areas were expected to attain the standard largely as a result of regional controls from upwind sources, with minimal local controls. Although the transitional classification was originally designed for Eastern states impacted by interstate transport, U.S. EPA later extended eligibility to areas affected by intrastate transport (including many in California). All other areas not affected by international transport would have been classified as traditional.

In its decision, the Court of Appeals held that U.S. EPA must implement the eight-hour standard under Subpart 2, with the same marginal to extreme classifications used for the one-hour standard. U.S. EPA has not revisited its guidance since the Court ruling, and is challenging this finding.

C. Requirement for State Recommendations

The Clean Air Act, as amended by TEA-21, requires states to submit recommendations on initial area designations and boundaries for the new federal eight-hour ozone standard to U.S. EPA by July 1999. In June 1999, responding to the Court of Appeals decision, U.S. EPA instead asked states to simply submit data indicating which monitors violated the eight-hour ozone standard from 1996 through 1998. In an August 1999 letter to U.S. EPA, we provided these data and indicated we would follow with recommendations on area boundaries. To ensure that California's views are considered when U.S. EPA proceeds with designations, we are proposing area designation recommendations now.

This staff report contains California's recommendations for area designations and the most appropriate nonattainment area boundaries based on currently available monitoring data. If U.S. EPA delays proposing or finalizing these designations and boundaries, we intend to update our recommendations as appropriate, based on more current information.

D. Process to Identify Nonattainment Areas

Area designations are based on air quality data. To determine which air quality monitors do not attain the eight-hour ozone standard, we followed three basic steps:

1. We used district- and ARB-collected data on daily ambient ozone concentrations from 1997 to 1999 from each of the 208 ozone monitoring stations across California. We evaluated the data for completeness as specified in U.S. EPA's Guideline on Data Handling Conventions for the 8-Hour Ozone NAAQS (*U. S. EPA, December 1998*).
2. For each monitor we calculated the daily maximum eight-hour average ozone concentration from 1997 to 1999, identifying the fourth highest values for each year, and then calculating the arithmetic three-year

average of these values. This is the design value. Appendix A lists the annual fourth highest eight-hour ozone concentrations from 1997 to 1999 and the calculated design value for all ozone monitoring stations with ARB and local district data reported by February 4, 2000.

3. We compared the design value of each monitor to the standard. U.S. EPA rounding convention specifies that monitors having design values that are equal to or higher than 0.085 ppm violate the standard. Monitors with design values that are less than 0.085 ppm meet the standard.

Regions with either no monitoring data or for which the available monitoring data do not meet completeness criteria established by U.S. EPA will be considered unclassifiable at the current time.

Because ARB and local air districts are not required to submit data to the national air quality database (known as the Aerometric Information Retrieval System or AIRS) until ninety days after the end of the quarterly reporting period, not all data from the 1999 ozone season have been submitted to the database. Consequently, some of the design values listed in this report are based on preliminary data. We intend to provide an update to U.S. EPA once the complete, quality-assured 1999 ozone season data are available. Although some design values may change slightly, we do not anticipate the need to revise the designation recommendations.

E. Criteria for Establishing Boundaries for Nonattainment Areas

Section 107(d)(1)(A) of the Clean Air Act defines a nonattainment area as any area that does not meet or that contributes to nearby areas not meeting the ambient air quality standard. The Act allows states to consider factors such as population density, traffic congestion, commercial development, industrial development, meteorological conditions and pollutant transport in determining nonattainment area boundaries (Section 107 (d)(4)(v)). U.S. EPA's draft guidance echoes the opportunity for states to consider these factors (*U.S. EPA, November 17, 1998, Draft Implementation Guidance for the Revised Ozone and Particulate Matter National Ambient Air Quality Standards and the Regional Haze Program*). Some of the proposed nonattainment areas contain tribal lands. We expect U.S. EPA to address tribal areas when they propose or finalize the area designations.

Our recommendations considered geography and meteorology, metropolitan areas, transportation corridors, the location of emission sources and existing political jurisdictions. Although every nonattainment area is unique, these recommendations were guided by several broad principles:

- In existing one-hour ozone nonattainment areas, we attempted to retain the same nonattainment area boundaries for the eight-hour ozone standard. There were a few exceptions based on special circumstances.

- For new nonattainment areas, one monitor that violates the eight-hour ozone standard would place the county into nonattainment status. This is consistent with the nonattainment area boundaries for the federal one-hour ozone standard. Although we made exceptions for counties transected by distinct geographic barriers (for example, the Sierra Nevada Mountains), the smallest nonattainment areas recommended are generally counties.
- Some adjoining counties are combined into multi-county nonattainment areas because of similarities in the types of emission sources, commute patterns, the population density of the counties, and/or the types of controls likely to be considered in the future.

F. Process for Developing Recommendations

In developing the boundary recommendations presented in this report, we worked with the local air districts, as well as regional and state transportation agencies. We sought public input through a workshop held on May 13, 1999, providing the opportunity to present both oral and written comments. We have also met with districts through individual meetings and conference calls, as well as monthly meetings or conference calls with the California Air Pollution Control Officers Association planning managers. In addition, we have participated in workshops sponsored by the Federal Highway Administration to discuss nonattainment area recommendations and the impacts on transportation conformity with potential new nonattainment areas. We also met with U.S. EPA Region IX staff to develop support for this proposal and will continue working with them to reflect our recommendations in the final designations.

III. PROPOSED AREA DESIGNATIONS

As shown in Figure 1, most of California will be nonattainment for the eight-hour ozone standard. We are proposing to split this very large region into fifteen distinct nonattainment areas. We are also proposing that seventeen areas be designated attainment. Table 2 presents a summary of the proposed area designations and corresponding boundaries. Following the figure and table, we discuss each of the designation recommendations, including the status of ozone air quality plans for the federal one-hour standard in the proposed eight-hour ozone nonattainment areas.

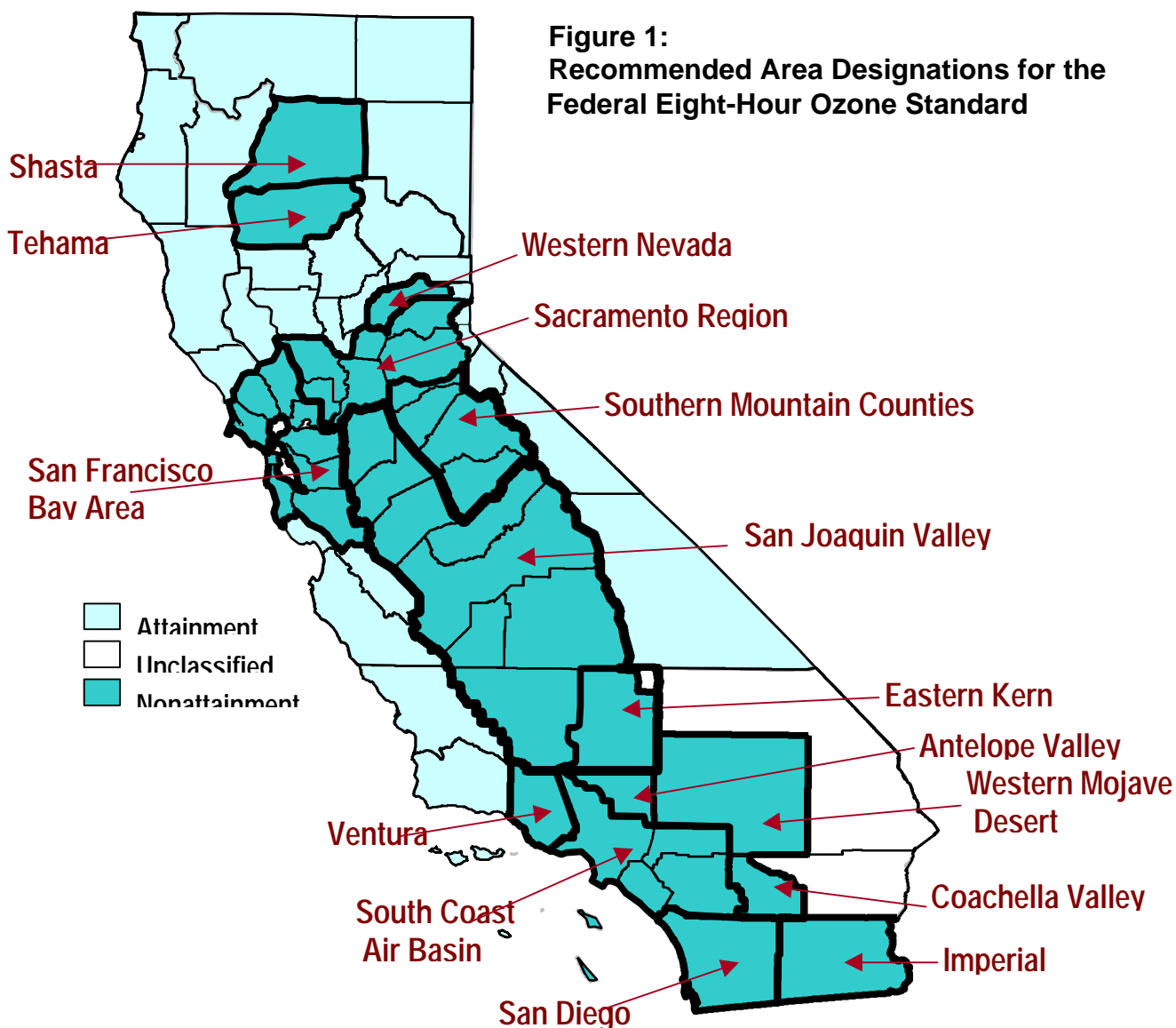


Table 2
Recommended Nonattainment Areas in California
for the Federal Eight-Hour Ozone Standard
(based on 1997-1999 air quality data)

	Nonattainment Area	Design Value¹ (ppm)	Area Included
Existing Areas	South Coast Air Basin	0.147	Western Los Angeles (including Catalina and San Clemente Islands), Orange, Southwestern San Bernardino, and Western Riverside Counties
	San Joaquin Valley	0.113	San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Western Kern Counties
	Eastern Kern County	0.096	Portion of Kern County east of the Tehachapi Mountains except the Indian Wells Valley
	Sacramento Region	0.102	Sacramento, Yolo, Eastern Solano, western portions of El Dorado and Placer
	San Francisco Bay Area	0.085	Marin, Southern Sonoma, Napa, Western Solano, Contra Costa, Alameda, Santa Clara, San Francisco, San Mateo Counties
	Ventura	0.106	Continental portion of Ventura County (excludes Anacapa and San Nicolas Islands)
	Western Mojave Desert	0.118	Central San Bernardino County
	Antelope Valley	0.088	Northeastern Los Angeles County
	Coachella Valley	0.100	Central Riverside County
	San Diego County	0.099	San Diego County
	Imperial County	0.091	Imperial County
New Areas	Shasta County	0.091	Shasta County
	Tehama County	0.087	Tehama County
	Western Nevada County	0.096 ²	Portion of Nevada County west of the crest of the Sierra Nevada
	Southern Mountain Counties	0.096	Amador, Calaveras, Tuolumne and Mariposa Counties

¹The design value is the three-year average of the annual fourth highest eight-hour ozone concentration at the highest monitor (if less than 0.085 = attainment, if 0.085 ppm or greater = nonattainment)

²This design value is based on 1996-1997 data, the two most recent, consecutive years that have complete, quality assured data available for the Grass Valley monitor in Nevada County. For both 1998 and 1999, the data are incomplete and quality assurance issues have been raised. More complete data are available for the White Cloud monitor in the same county, but that station typically records lower ozone levels than Grass Valley. When more recent data for Grass Valley are available and quality assured, we will update the design value.

A. Nonattainment

1. *South Coast Air Basin*

The South Coast Air Basin nonattainment area would include Western Los Angeles (including Catalina and San Clemente Islands, which are not part of the Channel Islands), Orange, Southwestern San Bernardino, and Western Riverside Counties. This nonattainment area is under the jurisdiction of the South Coast Air Quality Management District. In 1996, ARB extended the boundary of the South Coast Air Basin in northwestern Riverside County to include the 75 square mile Banning Pass area already under the same jurisdiction, due to similarities in geography and meteorology (*ARB, 1996, Proposed Amendments to Divide the Southeastern Desert Air Basin and to Modify the Boundary of the South Coast Air Basin*). Except for this minor modification, the proposed eight-hour ozone nonattainment area would correspond to the federal one-hour ozone nonattainment area. The formal description of this new boundary is included in Appendix B.

The South Coast violates the federal one-hour ozone standard (with an attainment date of 2010), as well as the State standard. This area adopted a 1999 SIP since approved by ARB, and U.S. EPA has recently proposed approval of this revision.

2. *San Joaquin Valley*

The San Joaquin Valley nonattainment area would consist of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and Western Kern Counties. The area is under the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District. The boundaries for this area would coincide with the current air basin/district boundaries and would not include Eastern Kern (unlike the existing nonattainment area for the federal one-hour standard). The 1994 Ozone SIP includes the San Joaquin Valley, which had a 1999 attainment date. Because the San Joaquin Valley did not attain the one-hour ozone standard, U.S. EPA is planning to “bump-up” the area from a serious classification to severe – requiring additional controls while extending the attainment date to 2005. We expect that the area will need to revise its SIP to attain the one-hour standard for submittal to U.S. EPA in late 2001. San Joaquin Valley also violates the State ozone standard.

3. *Eastern Kern County*

Kern County is located in two different air basins, the San Joaquin Valley Air Basin and the Mojave Desert Air Basin. The Tehachapi and Sierra Nevada Mountains separate the eastern and western portions of the County. Western Kern is part of the San Joaquin Valley Unified Air Pollution Control District while Eastern Kern is under the jurisdiction of the Kern County Air Pollution Control District (Kern County APCD). We recommend that Western Kern remain part of the San Joaquin Valley nonattainment area, while Eastern Kern (with the exception of the Indian Wells Valley area) becomes

its own nonattainment area. The Indian Wells Valley is discussed further in the Unclassifiable Areas section of the report.

ARB and Kern County APCD are currently pursuing a consistent boundary change for Eastern Kern under the one-hour ozone standard as well. If U.S. EPA concurs, Eastern Kern (which now attains the federal one-hour ozone standard) would not be “bumped up” with the rest of the Valley. Eastern Kern prepared its own local strategy, separate from the San Joaquin Valley, as part of the 1994 Ozone SIP. Eastern Kern currently violates the State standard.

4. *Sacramento Region*

The Sacramento Region nonattainment area boundary would generally correspond to the one-hour ozone nonattainment area, which also violates the State ozone standard. The proposed eight-hour nonattainment area would include portions of two different air basins (Sacramento Valley and Mountain Counties) and five counties (Sacramento, Yolo, Eastern Solano, Western Placer, and Western El Dorado). These areas are all covered by a single transportation planning agency. Placer County is split into two air basins, Sacramento Valley and Mountain Counties. We are proposing not to incorporate the southern tip of Sutter County (which is included in the one-hour nonattainment area) because the growth expected in Southern Sutter County when the one-hour nonattainment areas were finalized has not materialized. The formal definition of the Sacramento Region boundary is included in Appendix B.

The 1994 SIP includes the one-hour ozone nonattainment area (known as the Sacramento Metropolitan Nonattainment Area), which has a 2005 attainment date. The air districts within this area adopted a regional plan as part of the 1994 Ozone SIP and have been coordinating their implementation efforts. The Sacramento Region violates the State standard.

5. *San Francisco Bay Area*

The San Francisco Bay Area is under the jurisdiction of the Bay Area Air Quality Management District and includes Marin, Southern Sonoma, Napa, Western Solano, Contra Costa, Alameda, Santa Clara, San Francisco, and San Mateo Counties. Sonoma and Solano Counties are each split into two air basins; part of each county is in the San Francisco Bay Area and would be included in this nonattainment area. The eastern portion of Solano would be included in the Sacramento Region nonattainment area. The San Francisco Bay Area is currently nonattainment for the federal one-hour ozone standard (with an attainment date of 2000), as well as the State standard. The entire district would be nonattainment for the eight-hour standard with the same boundary as the one-hour ozone nonattainment area. On July 22, 1999, ARB approved the Bay Area’s 1999 SIP. U.S. EPA has not yet acted on this plan.

6. *Ventura*

Like the existing one-hour ozone nonattainment area, the Ventura eight-hour nonattainment area would include the continental portion of Ventura County, excluding Anacapa and San Nicolas Islands (two of the Channel Islands). The Channel Islands are attainment for the eight-hour ozone standard, as shown by the monitor located on Santa Rosa Island. Ventura is under the jurisdiction of the Ventura County Air Pollution Control District. Ventura violates the federal one-hour standard and the State standard. The 1994 Ozone SIP includes Ventura County, which has a 2005 attainment date.

7. *Western Mojave Desert*

The existing Southeast Desert Modified Air Quality Management Area (Southeast Desert Modified AQMA) is designated nonattainment for the one-hour ozone standard and covers a patchwork of counties, districts and air basins. Because of jurisdictional and air basin changes made after 1995, we propose to split this region into three nonattainment areas for the eight-hour standard – Coachella Valley, Antelope Valley, and Western Mojave Desert. We have proposed no changes to the overall territory covered in the one-hour nonattainment area boundary – the area would simply be split along geographic and jurisdictional lines.

The Western Mojave Desert nonattainment area would consist of the San Bernardino County portion of the Southeast Desert Modified AQMA. It is located in the Mojave Desert Air Basin, a geographically distinct area from the Coachella Valley, and is under the jurisdiction of the Mojave Desert Air Pollution Control District. The formal definition of this area is included in Appendix B. Western Mojave violates both federal and State one-hour ozone standards. The 1994 Ozone SIP includes Western Mojave as part of the Southeast Desert Modified AQMA, with an attainment date of 2007.

8. *Antelope Valley*

The Antelope Valley nonattainment area would cover Northern Los Angeles County. Antelope Valley is located in the Mojave Desert Air Basin and is now under the jurisdiction of the Antelope Valley Air Pollution Control District. The Antelope Valley split from the South Coast Air Quality Management District and was established as a separate air pollution control district in 1997. The formal definition of this area is included in Appendix B. The 1994 Ozone SIP includes Antelope Valley as part of the Southeast Desert Modified AQMA, with an attainment date of 2007. Antelope Valley also violates the State ozone standard.

9. *Coachella Valley*

The Coachella Valley area is in Riverside County in the Salton Sea Air Basin, under the jurisdiction of the South Coast AQMD. The formal definition of this proposed Coachella Valley nonattainment area is included in Appendix B. Coachella Valley also

violates the State ozone standard. Coachella Valley is also part of the Southeast Desert nonattainment area for the federal one-hour ozone standard.

10. *San Diego County*

Like the existing federal one-hour ozone nonattainment area, the eight-hour area would include all of San Diego County, under the jurisdiction of the San Diego Air Pollution Control District. The 1994 Ozone SIP covered San Diego, with an attainment date of 1999. San Diego achieved one year of “clean data” for the federal one-hour ozone standard in 1999, and plans to apply for an extension of the attainment date as provided by the Clean Air Act. San Diego also violates the State ozone standard.

11. *Imperial County*

The Imperial County nonattainment area would correspond to the existing federal one-hour ozone nonattainment area. Imperial County is under the jurisdiction of Imperial County Air Pollution Control District. The SIP to meet the federal one-hour ozone standard in Imperial has been deferred, pending development of a comprehensive, multi-pollutant California-Mexico border plan to improve air quality throughout the region. Extensive technical work to support the border plan is underway. Imperial also violates the State ozone standard.

12. *Shasta County*

The first new nonattainment area would consist of Shasta County, in the northern portion of the Sacramento Valley. Shasta County is under the jurisdiction of the Shasta County Air Quality Management District. Shasta currently attains the federal one-hour standard, but violates the State standard.

13. *Tehama County*

Also in the Sacramento Valley, Tehama is under the jurisdiction of the Tehama County Air Pollution Control District. This area attains the federal one-hour standard, but violates the State standard.

14. *Western Nevada County*

This new nonattainment area would include the western portion of Nevada County, up to the crest of the Sierra Nevada. We propose to split Nevada County into eastern and western portions. These two areas are separated by a major mountain range. In addition, two monitors located in western Nevada violate the eight-hour standard, while the monitor located in eastern Nevada attains. The formal definition of the boundary between eastern and western Nevada is included in Appendix B. Western Nevada County is under the jurisdiction of the Northern Sierra Air Quality Management District. Nevada County also violates the State standard.

15. Southern Mountain Counties

The Southern Mountain Counties nonattainment area would cover all of Amador, Calaveras, Tuolumne, and Mariposa Counties. Each county has a local air district with jurisdiction in that county. Each county is also designated attainment for the federal one-hour standard, although Amador and Calaveras have experienced some exceedances of that standard in recent years. The Southern Mountain Counties violate the State ozone standard.

B. Attainment Areas

The following areas have ozone monitoring data that meet or are expected to meet the eight-hour standard according to the criteria established by U.S. EPA when complete 1999 data become available (*U.S. EPA, December 1998, Guideline on Data Handling Conventions for the 8-Hour Ozone NAAQS*). We recommend that these areas be designated attainment (listed from north to south):

- **Northeast Plateau Air Basin**
(includes Siskiyou, Modoc, and Lassen Counties)
- **North Coast Air Basin**
(includes Del Norte, Humboldt, Trinity, Mendocino, and Northern Sonoma Counties)
- **Glenn County**
- **Butte County**
- **Lake County**
- **Colusa County**
- **Sutter County**
- **Yuba County**
- **Northern Mountain Counties**
(includes Plumas and Sierra Counties)
- **Eastern Nevada County**
(the portion east of the crest of the Sierras -- see Appendix B for detail)
- **Eastern Placer County**
(the portion located in the Lake Tahoe Air Basin)
- **Eastern El Dorado County**
(the portion located in the Lake Tahoe Air Basin)
- **North Central Coast Air Basin**
(includes Monterey, San Benito, and Santa Cruz Counties)
- **Great Basin Valleys Air Basin**
(includes Alpine, Mono, and Inyo Counties)
- **San Luis Obispo County**
- **Santa Barbara**
(includes the continental portion of Santa Barbara County only)

- **Northern Channel Islands**
(the islands located in the South Central Coast Air Basin, including San Miguel, Santa Rosa, Santa Cruz, Anacapa, San Nicolas, and Santa Barbara)

C. Unclassifiable Areas

These regions have either no monitoring data or the available monitoring data do not meet completeness criteria established by U.S. EPA, and will be considered unclassifiable at the current time.

1. *Indian Wells Valley*

The Indian Wells Valley is a desert region in northeastern Kern County that includes the China Lake Naval Air Weapons Station and the town of Ridgecrest. This area is under the jurisdiction of the Kern County APCD. Because the El Paso Mountains separate the Indian Wells Valley from the remainder of Eastern Kern County, we are proposing a separate area. The Indian Wells Valley has one year of clean monitoring data using a Federal Reference Monitor. We have proposed designating the Indian Wells Valley an unclassifiable area until three years of complete data are available. The formal definition is not included in this report, but will be provided at the Board meeting.

2. *Eastern Riverside and Eastern San Bernardino Counties*

Riverside and San Bernardino Counties are two of the largest counties in the country. The far western portion of each county is urbanized and part of the South Coast nonattainment area, while the middle portions of the counties are less populated and more impacted by transport from the upwind urban area. The middle portion of the counties are part of the Southeast Desert nonattainment area under the one-hour federal standard, and we have proposed designating these areas nonattainment under the eight-hour standard, retaining identical boundaries.

There are little data in the far eastern portion of Riverside and San Bernardino Counties to indicate the extent to which unhealthy air is transported into the desert. At the current time, there are no Federal Reference Method (FRM) ozone monitors operating east of Twenty-Nine Palms. We understand that proponents of a landfill project in the Eagle Mountain area outside the southeastern border of Joshua Tree National Park will install a FRM ozone monitor before the end of this year. In conjunction with the affected districts, ARB will also initiate special purpose monitoring in the eastern desert to determine the extent of ozone pollution in the area. If these air quality data indicate that the eastern desert does record violations of the eight-hour ozone standard, we will work with the Park, the affected air districts, and U.S. EPA to expand the nonattainment areas appropriately.

D. Issues

1. *Sutter-Yuba Area*

ARB and local air district staff agree that the Sutter-Yuba Area (under the jurisdiction of the Feather River Air Quality Management District) should be considered attainment for the eight-hour standard. Air quality monitors intended to measure population exposure in Sutter and Yuba Counties are located in Pleasant Grove and Yuba City (at elevations of 160 feet and 60 feet respectively). These monitors show attainment of the eight-hour ozone standard. However, a special purpose monitor located at the top of Sutter Buttes to detect pollutant transport at high elevations, measures ozone levels aloft that exceed the standard. This monitor is located at over 2,000 feet, on top of an isolated mountain on private property in the middle of the Sacramento Valley. We believe this situation is no different than installing a monitor on top of an elevated tower to measure transport aloft. U.S. EPA currently excludes monitors atop towers from designations. (The Tuscan Buttes monitor in Tehama County has the same issue, but the monitor intended to measure population exposure in that county also violates the standard, so we have included Tehama as a nonattainment area.)

We believe, and have recommended, that all of Sutter and Yuba Counties should be designated attainment. However, U.S. EPA maintains that data from the Sutter Buttes monitor must be used for area designations. In discussions with U.S. EPA management in Region IX, they have been receptive to limiting the size of the nonattainment area to just the 2,000 foot elevation represented by the Sutter Buttes monitor. This limited nonattainment area would not be subject to control requirements, and the local area would not be required to prepare a SIP. Instead, the SIP for the upwind area would include a regional modeling demonstration showing that this elevated site will attain the standard as a result of upwind controls and the comprehensive statewide program.

2. *Central Nevada County*

The Northern Sierra AQMD requested that we split Nevada County into Eastern and Western portions. Based on air quality data, and geographic considerations, we agreed to split the County at the crest of the Sierra Nevada. The Northern Sierra AQMD also asked that we move the proposed nonattainment boundary further west to below the Sierra crest, based on extrapolated ozone concentrations from the White Cloud monitor in Central Nevada. We did not concur with this request. There is no geographic barrier separating Central Nevada, and we do not have meteorological data that would rule out the possibility that violations may extend further east. In fact, under up-slope transport conditions, high ozone concentrations could occur east of White Cloud.

3. *Joshua Tree National Park*

The National Park Service has requested that all of Joshua Tree National Park (located east of Coachella Valley) be included in a nonattainment area. The Park bases this request on its use of passive oxidant monitors within the Park boundary. The passive oxidant monitor is not designed to measure ozone over an eight-hour period. The monitor is not ozone specific, is usually left in place for a week, and air flow is not controlled (which is needed to determine ambient air concentrations). Passive oxidant monitoring results cannot be compared to the federal ozone standard, and are not appropriate for designations. The special purpose ozone monitoring for eastern Riverside and eastern San Bernardino Counties discussed above will also determine whether violations of the eight-hour standard are occurring in the easternmost portions of the Park.

IV. IMPLEMENTING THE EIGHT-HOUR OZONE STANDARD

The primary goal of ambient air quality standards is to protect public health. These standards establish the air quality goals and are different from the emission standards that we use to control individual pollution sources like power plants or automobiles. In order to ensure steady progress toward attainment of air quality standards, states need to develop and implement clean air plans and control measures.

To implement the eight-hour standard, California will build on our existing clean air plans. In 1994, we prepared and submitted to U.S. EPA a comprehensive and far-reaching SIP to achieve the one-hour federal ozone standard. Areas covered in the 1994 SIP include: South Coast Air Basin, Southeast Desert Modified AQMA, Sacramento Metropolitan Area, Ventura County, San Joaquin Valley, and San Diego County. The 1994 Ozone SIP relies on emission reductions from a broad range of federal and state control measures – both already adopted and expected in the future. These statewide strategies are complemented by local rules to reduce emissions primarily from stationary and area sources. The rules and commitments needed to attain the federal one-hour ozone standard by the statutory attainment date are included in the 1994 ozone SIP.

Additional ozone SIPs address the San Francisco Bay Area, Santa Barbara County, Monterey Bay Area, Yuba City Area (Sutter and Yuba Counties) and the Chico Area (Butte County).

We intend to update the State's strategy for reducing emissions from mobile sources, consumer products, and pesticides in 2001, based on the most current air quality data, emission inventories, and modeling. We will include this new statewide strategy in a revision to the South Coast's one-hour ozone SIP in 2001, a new one-hour ozone SIP for the San Joaquin Valley in 2001, and local California Clean Air Act plans in 2003 – as well as in the eight-hour ozone SIPs.

A. Implementation Guidance

Since before the eight-hour standard was finalized, ARB and California air districts have worked with U.S. EPA to develop policies to sensibly implement the eight-hour ozone standard. In 1998, U.S. EPA staff distributed draft guidance discussing the Agency's expectations for a variety of implementation issues including area boundaries, attainment dates, and control requirements (*U.S. EPA, 1998, Draft Implementation Guidance for the Revised Ground-Level Ozone and Particulate Matter National Ambient Air Quality Standards and a Regional Haze Program*). Although the finalization of this guidance has been placed on hold pending the outcome of the legal proceedings, we believe the principles outlined continue to be sound and should guide the eventual implementation of the eight-hour ozone standard.

As discussed in Chapter II, Section B (Classifications), U.S. EPA proposed to implement the eight-hour ozone standard under the more flexible provisions of

Subpart 1 of the Act. However, the Court questioned this interpretation, contending that any ozone standard must be implemented under the more prescriptive Subpart 2. Because the classification scheme in Subpart 2 is designed specifically for the pre-existing federal one-hour ozone standard, it is unclear how U.S. EPA would implement the eight-hour standard under that Subpart. U.S. EPA included this issue in its petition to the Supreme Court.

The key issues we raised in the development of U.S. EPA's implementation guidance are summarized below.

1. *Attainment Dates*

The ability to establish appropriate attainment dates for the eight-hour ozone standard, based on area-specific factors, has been the most critical implementation issue for California. U.S. EPA's draft guidance allows states to link the attainment dates for downwind areas to the attainment dates for the upwind pollution contributors (even if both areas are in the same state) – acknowledging that it is impractical to expect transport-impacted areas to attain air quality standards before the emissions are significantly reduced in the upwind area. The other key issue is the need for additional time for areas to attain the eight-hour standard, beyond the attainment date for the one-hour standard. In the last draft of the guidance, U.S. EPA indicated that the agency would formally establish attainment dates for each area, in the rulemaking on the area's SIP, based on the facts and circumstances specific to each area. We supported this case-by-case approach and urged U.S. EPA to consider the following factors in evaluating attainment dates in SIPs:

- the severity of an area's pollution problem;
- the existing level of control and the time needed to realize the full benefits of previously adopted programs;
- the availability of technically feasible, cost-effective control strategies;
- the need for advanced technologies; and
- the need to make expeditious and steady progress toward clean air.

2. *Simplified NSR and Conformity for Small, Predominantly Rural Areas Significantly Affected by Pollutant Transport*

Many of the new nonattainment areas in the State are small, predominantly rural counties, which are significantly affected by pollutant transport from upwind urban areas. These areas do not currently have NSR or conformity programs in place. U.S. EPA recognized the need to provide some relief from the full traditional programs for Eastern states in similar situations. We have previously urged U.S. EPA to establish low hurdle NSR provisions for these new areas, based on the requirements for marginal one-hour nonattainment areas -- a major source threshold of 100 tons per year, the Lowest Achievable Emissions Rates; and offsets at a 1:1 ratio. For transportation conformity, U.S. EPA was developing a simplified program for transitional

nonattainment areas -- we emphasized the need for predominantly rural areas in California to be able to take advantage of that same program.

3. *Credit for Upwind Reductions*

The draft guidance specifically permits downwind areas to take credit for emission reductions in upwind areas when assessing progress toward meeting the standard and in attainment demonstrations. California used this approach in developing the attainment strategy for the Southeast Desert in the 1994 Ozone SIP. Because this sparsely populated desert region is significantly affected by transport from the South Coast, the Desert's attainment and progress demonstrations for the one-hour ozone standard rely heavily on emission reductions in the South Coast. We expect the same relationship to exist for the small, predominantly rural counties in California that are impacted by transport.

4. *Mandatory Measures*

For the one-hour ozone standard, the Clean Air Act requires implementation of specific mandatory control measures, based on the classification of the nonattainment area. We have two issues with using the same approach for the eight-hour standard. First, the one-size-fits-all solution never does fit California well -- the success of our air quality program depends on being able to pursue the most efficient strategies to reduce emissions and air pollution in California. Second, this approach does not appropriately deal with areas where the overwhelming cause of air pollution is transport from upwind regions. U.S. EPA's draft guidance concurs with California's recommendations that each area specify the most appropriate mix of strategies, with mandatory measures defined as whatever controls the area needs to attain.

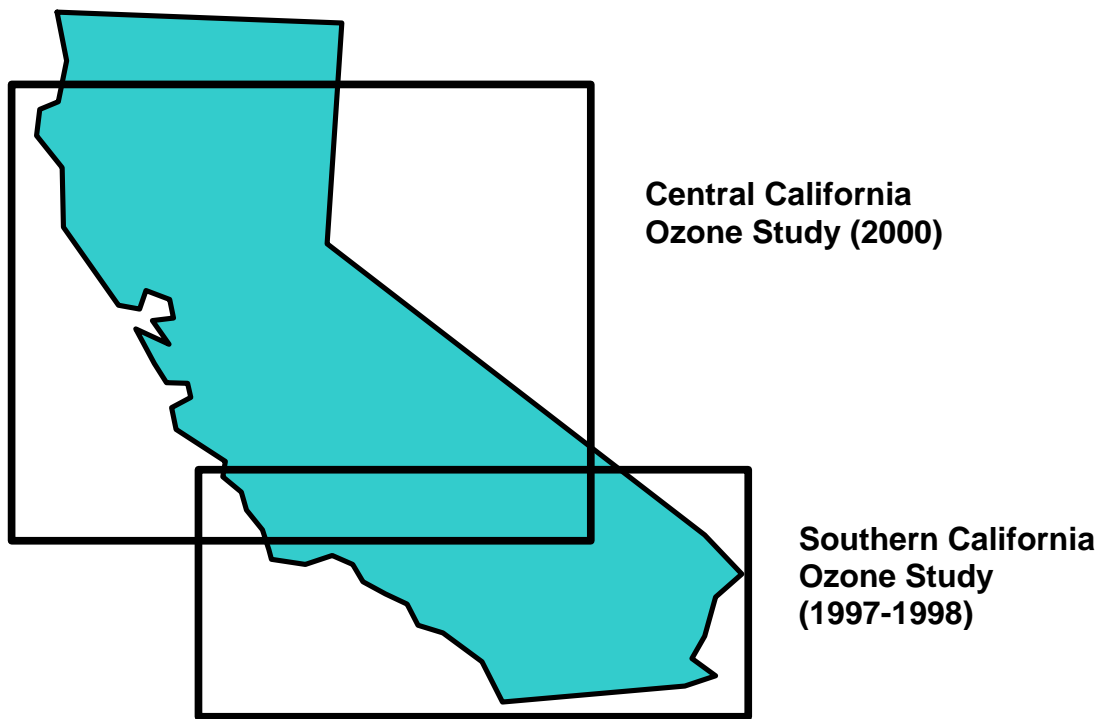
B. Major Regional Ozone Studies in California

We will rely on two new air quality field studies to provide the technical underpinnings of the eight-hour ozone SIP. The Southern California Ozone Study (SCOS) and the Central California Ozone Study (CCOS) will supply abundant new data to significantly increase our understanding of pollutant transport throughout the State. The data from these field studies will be used to refine our photochemical ozone models and expand the modeling domains to cover virtually the entire State within two modeling domains (see Figure 2). The modeling will be used to develop California Clean Air Act plans with attainment demonstrations in 2003, as well as the eight-hour ozone SIPs. We expect the new SIPs to link together the local plans within each of these two regions in California.

- The CCOS modeling domain spans an area from north of Redding to south of the Tehachapi Mountains. The domain covers the entire Central California area and portions of Nevada and the Pacific Ocean. This field study is scheduled for Summer 2000, with measurements focused in Central and Northern California.

- The SCOS modeling domain goes from just north of Kern and San Luis Obispo Counties to Rosarito in Mexico. The intensive field measurements focused on the South Coast Air Basin, in Summer 1997 with some monitoring continuing through 1998.

Figure 2
Modeling Domains for Regional Ozone Studies in California



APPENDIX A

1997 TO 1999 EIGHT-HOUR OZONE DATA BY SITE

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
Great Basin Valleys	Inyo	Death Valley Natl. Monument	4th Max	0.077	0.082	0.079	0.079
			Valid Days	330	332	202	
	Mono	Mammoth Lakes-Gateway HC	4th Max	0.074	0.068		0.071
			Valid Days	207	110		
Lake County	Lake	Lakeport-Lakeport Blvd	4th Max	0.058	0.055	0.070	0.061
			Valid Days	293	359	302	
Lake Tahoe	El Dorado	South Lake Tahoe-Sandy Way	4th Max	0.066	0.072	0.068	0.068
			Valid Days	358	354	240	
Mojave Desert	Kern	Mojave-923 Poole Street	4th Max	0.092	0.102	0.096	0.096
			Valid Days	350	358	239	
	Los Angeles	Lancaster-W Pondera Street	4th Max	0.09	0.103	0.073	0.088
			Valid Days	332	353	328	
	San Bernardino	Barstow	4th Max	0.091	0.086	0.093	0.090
			Valid Days	324	316	322	
		Hesperia-Olive Street	4th Max	0.110	0.121	0.102	0.111
			Valid Days	363	354	317	
		Joshua Tree-National Monument	4th Max	0.117	0.11	0.101	0.109
			Valid Days	357	344	212	
		Phelan-Beekley Road & Phelan Road	4th Max	0.118	0.131	0.106	0.118
			Valid Days	363	363	323	
		Trona-Athol	4th Max	0.063			0.063
			Valid Days	83			
		Trona-Athol and Telegraph	4th Max	0.077	0.085	0.082	0.081
			Valid Days	263	339	325	
		Twentynine Palms-Adobe Road #2	4th Max	0.092	0.094	0.091	0.092
			Valid Days	330	360	330	
		Victorville-Armagosa Road	4th Max	0.104	0.124	0.094	0.107
			Valid Days	345	350	309	
Mountain Counties	Amador	Jackson-Clinton Road	4th Max	0.084	0.107	0.097	0.096
			Valid Days	350	323	241	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
Mountain Counties (cont.)	Calaveras	San Andreas-Gold Strike Road	4th Max	0.085	0.105	0.099	0.096
			Valid Days	358	361	242	
	El Dorado	Cool-Highway 193	4th Max	0.092	0.115	0.1	0.102
			Valid Days	182	177	137	
		Placerville-Gold Nugget Way	4th Max	0.09	0.102	0.096	0.096
			Valid Days	362	357	238	
	Mariposa	Jerseydale - 6440 Jerseydale	4th Max	0.093	0.097	0.083	0.091
			Valid Days	182	184	119	
		Yosemite Natl. Park-Turtleback Dome	4th Max	0.081	0.094	0.085	0.086
			Valid Days	342	341	208	
	Nevada	Grass Valley-Litton Building ¹	4th Max	0.096	0.061		0.096
			Valid Days	360	139		
		Truckee-Fire Station	4th Max	0.073	0.063	0.062	0.066
			Valid Days	349	291	76	
		White Cloud Mountain	4th Max	0.083	0.093	0.09	0.088
			Valid Days	179	173	129	
	Placer	Colfax-City Hall	4th Max	0.077	0.093	0.047	0.072
			Valid Days	363	354	90	
	Plumas	Quincy-N Church Street	4th Max	0.041	0.069	0.071	0.060
			Valid Days	47	313	208	
	Tuolumne	Five Mile Learning Center	4th Max	0.085	0.097	0.094	0.092
			Valid Days	332	183	149	
		Sonora-Barretta Street	4th Max	0.086	0.1	0.086	0.090
			Valid Days	361	350	239	
North Central Coast	Monterey	Carmel Valley-Ford Road	4th Max	0.061	0.057	0.063	0.060
			Valid Days	363	348	240	
		King City-750 Metz Road	4th Max	0.059	0.067	0.051	0.059
			Valid Days	364	341	151	
		Monterey-Silver Cloud Court	4th Max	0.059	0.052	0.052	0.054
			Valid Days	355	345	235	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
North Central Coast (cont.)	Monterey (cont.)	Salinas-Natividad Road #2	4th Max	0.045	0.046	0.048	0.046
			Valid Days	333	361	241	
	San Benito	Hollister-Fairview Road	4th Max	0.066	0.077	0.067	0.070
			Valid Days	363	363	224	
		Pinnacles National Monument ²	4th Max	0.076	0.088	0.082	0.082
			Valid Days	350	338		
	Santa Cruz	Davenport	4th Max	0.051	0.049	0.051	0.050
			Valid Days	354	342	230	
		Santa Cruz-2544 Soquel Avenue	4th Max	0.056	0.058	0.055	0.056
			Valid Days	358	353	232	
		Scotts Valley-Scotts Valley Drive	4th Max	0.063	0.068	0.062	0.064
			Valid Days	362	359	239	
		Watsonville-Airport Boulevard	4th Max	0.056	0.056	0.053	0.055
			Valid Days	361	350	238	
North Coast	Mendocino	Ukiah-E Gobbi Street	4th Max	0.054	0.06	0.061	0.058
			Valid Days	354	358	269	
		Willits-899 S Main Street	4th Max	0.044	0.052	0.046	0.047
			Valid Days	352	357	271	
	Sonoma	Healdsburg-Municipal Airport ³	4th Max	0.081	0.086	0.078	0.082
Northeast Plateau	Siskiyou	Yreka-Foothill Drive	4th Max	0.059	0.066	0.062	0.062
			Valid Days	267	342	273	
Sacramento Valley	Butte	Chico-Manzanita Avenue	4th Max	0.066	0.078	0.086	0.076
			Valid Days	361	359	238	
		Colusa-Sunrise Blvd	4th Max	0.073	0.078	0.076	0.075
	Glenn	Willows-E Laurel Street	4th Max	0.076	0.074	0.078	0.076
			Valid Days	307	357	242	
	Placer	Auburn-Dewitt-C Avenue	4th Max	0.083	0.106	0.029	0.072
			Valid Days	329	168	32	
		Rocklin-Rocklin Road	4th Max	0.085	0.098	0.093	0.092
			Valid Days	354	360	240	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
Sacramento Valley (cont.)	Placer (cont.)	Roseville-N Sunrise Blvd	4th Max	0.079	0.099	0.088	0.088
			Valid Days	360	363	234	
	Sacramento	Elk Grove-Bruceville Road	4th Max	0.084	0.086	0.095	0.088
			Valid Days	340	319	290	
		Folsom-Natoma Street	4th Max	0.091	0.113	0.101	0.101
			Valid Days	349	354	297	
		North Highlands-Blackfoot Way	4th Max	0.082	0.095	0.085	0.087
			Valid Days	324	349	289	
		Sacramento-3801 Airport Road	4th Max		0.088	0.082	0.085
			Valid Days		183	289	
		Sacramento-Del Paso Manor	4th Max	0.083	0.098	0.094	0.091
			Valid Days	329	336	277	
		Sacramento-Earhart Drive	4th Max	0.076			0.076
			Valid Days	288			
		Sacramento-T Street	4th Max	0.069	0.085	0.086	0.080
			Valid Days	356	364	238	
		Sloughhouse	4th Max	0.084	0.111	0.106	0.100
			Valid Days	92	213	213	
	Shasta	Anderson-North Street	4th Max	0.081	0.092	0.068	0.080
			Valid Days	181	244	174	
		Lassen Volcanic Natl Park- Manzanita Lake	4th Max	0.067	0.078	0.074	0.073
			Valid Days	342	355	183	
	Solano	Redding-Health Dept Roof	4th Max	0.086	0.105	0.083	0.091
			Valid Days	181	243	149	
		Vacaville-Elmira Road	4th Max	0.071	0.096	0.088	0.085
			Valid Days	363	335	292	
	Sutter	Pleasant Grove-4 miles SW ⁴	4th Max	0.074	0.085	0.084	0.081
			Valid Days	357	359		
		Yuba City-Almond Street ⁴	4th Max	0.072	0.088	0.083	0.081
			Valid Days	357	360		

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
Sacramento Valley (cont.)	Tehama	Red Bluff-Oak Street ⁵	4th Max	0.076	0.098	0.086	0.087
			Valid Days	345	346		
	Yolo	Davis-UCD Campus	4th Max	0.068	0.087	0.087	0.080
			Valid Days	359	357	242	
		Woodland-Gibson Road	4th Max		0.087	0.086	0.086
			Valid Days		210	302	
		Woodland-Sutter Street	4th Max	0.071			0.071
			Valid Days	356			
Salton Sea	Imperial	Calexico-East	4th Max	0.079	0.098	0.084	0.087
			Valid Days	322	349	240	
		Calexico-Ethel Street	4th Max	0.093	0.092	0.089	0.091
			Valid Days	361	362	242	
		Calexico-Grant Street	4th Max	0.105	0.051		0.078
			Valid Days	322	101		
		El Centro-9th Street	4th Max	0.096	0.08		0.088
			Valid Days	353	327		
		Niland-English Road	4th Max	0.067	0.088		0.077
			Valid Days	37	307		
		Westmorland-W 1st Street	4th Max		0.091		0.091
			Valid Days		214		
	Riverside	Indio-Jackson Street	4th Max	0.075	0.095	0.088	0.086
			Valid Days	282	363	272	
		Palm Springs-Fire Station	4th Max	0.1	0.107	0.094	0.100
			Valid Days	336	345	258	
San Diego	San Diego	Alpine-Victoria Drive	4th Max	0.093	0.114	0.092	0.099
			Valid Days	353	346	261	
		Camp Pendleton	4th Max	0.083	0.088	0.076	0.082
			Valid Days	267	350	269	
		Chula Vista	4th Max	0.081	0.075	0.07	0.075
			Valid Days	354	359	255	
		Del Mar-Mira Costa College	4th Max	0.073	0.073	0.07	0.072
			Valid Days	350	361	264	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
San Diego (cont.)	San Diego (cont.)	El Cajon-Redwood Avenue	4th Max	0.076	0.086	0.069	0.077
			Valid Days	346	353	258	
		Escondido-E Valley Parkway	4th Max	0.083	0.087	0.07	0.080
			Valid Days	356	299	261	
		Oceanside-Mission Avenue	4th Max	0.073	0.075	0.07	0.072
			Valid Days	364	357	261	
		Otay Mesa-Paseo International	4th Max	0.079	0.067	0.061	0.069
			Valid Days	358	355	258	
		San Diego-12th Avenue	4th Max	0.072	0.065	0.064	0.067
			Valid Days	362	335	256	
		San Diego-Overland Avenue	4th Max	0.074	0.073	0.071	0.072
			Valid Days	354	357	253	
San Francisco Bay Area	Alameda	Fremont-Chapel Way	4th Max	0.057	0.069	0.06	0.062
			Valid Days	354	354	270	
		Hayward-La Mesa	4th Max	0.062	0.069	0.075	0.068
			Valid Days	344	242	183	
		Livermore-Old 1st Street	4th Max	0.07	0.096	0.089	0.085
			Valid Days	355	358	269	
		Oakland-Alice Street	4th Max	0.039	0.036	0.041	0.038
			Valid Days	364	284	271	
		San Leandro-County Hospital	4th Max	0.062	0.054	0.064	0.060
			Valid Days	348	244	180	
	Contra Costa	Bethel Island Road	4th Max	0.065	0.086	0.089	0.080
			Valid Days	361	361	268	
		Concord-2975 Treat Blvd	4th Max	0.072	0.088	0.085	0.081
			Valid Days	361	359	266	
		Pittsburg-10th Street	4th Max	0.059	0.071	0.074	0.068
			Valid Days	361	359	270	
		Richmond-13th Street	4th Max	0.043			0.043
			Valid Days	122			

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
San Francisco Bay Area (cont.)	Contra Costa (cont.)	San Pablo-El Portal	4th Max	0.056	0.05	0.052	0.052
			Valid Days	227	356	262	
	Marin	San Rafael	4th Max	0.048	0.047	0.053	0.049
			Valid Days	359	357	262	
	Napa	Napa-Jefferson Avenue	4th Max	0.052	0.069	0.076	0.065
			Valid Days	357	355	261	
	San Francisco	San Francisco-Arkansas Street	4th Max	0.042	0.042	0.043	0.042
			Valid Days	360	362	265	
	San Mateo	Redwood City	4th Max	0.053	0.047	0.044	0.048
			Valid Days	358	348	268	
	Santa Clara	Gilroy-9th Street	4th Max	0.07	0.085	0.073	0.076
			Valid Days	339	237	179	
		Los Gatos	4th Max	0.062	0.078	0.071	0.070
			Valid Days	348	242	179	
		Mountain View-Cuesta	4th Max	0.06	0.06	0.067	0.062
			Valid Days	341	236	179	
		San Jose-4th Street	4th Max	0.057	0.07	0.068	0.065
			Valid Days	357	348	264	
		San Jose-935 Piedmont Road	4th Max	0.053	0.065	0.065	0.061
			Valid Days	334	244	183	
		San Martin-Murphy Avenue	4th Max	0.07	0.094	0.078	0.080
			Valid Days	338	244	183	
	Solano	Fairfield-Bay Area AQMD	4th Max	0.069	0.083	0.083	0.078
			Valid Days	333	244	182	
		Vallejo-304 Tuolumne Street	4th Max	0.056	0.059	0.063	0.059
			Valid Days	361	354	270	
	Sonoma	Santa Rosa-5th Street	4th Max	0.047	0.051	0.062	0.053
			Valid Days	348	341	266	
San Joaquin Valley	Fresno	Clovis-N Villa Avenue	4th Max	0.115	0.121	0.104	0.113
			Valid Days	348	355	261	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
San Joaquin Valley (cont.)	Fresno (cont.)	Fresno-1st Street	4th Max	0.098	0.117	0.101	0.105
			Valid Days	357	361	240	
		Fresno-Drummond Street	4th Max	0.092	0.113	0.102	0.102
			Valid Days	361	351	271	
		Fresno-Sierra Skypark #2	4th Max	0.097	0.122	0.099	0.106
			Valid Days	360	361	261	
		Parlier	4th Max	0.106	0.108	0.105	0.106
			Valid Days	352	358	259	
		Shaver Lake - Perimeter Road	4th Max	0.092	0.092	0.086	0.090
			Valid Days	181	177	119	
	Kern	Arvin-Bear Mountain Blvd	4th Max	0.105	0.114	0.106	0.108
			Valid Days	360	359	241	
		Bakersfield-5558 California Avenue	4th Max	0.097	0.103	0.097	0.099
			Valid Days	355	347	236	
		Bakersfield-Golden State Highway	4th Max	0.09	0.105		0.097
			Valid Days	357	325		
		Edison	4th Max	0.105	0.124	0.098	0.109
			Valid Days	358	359	241	
		Maricopa-Stanislaus Street	4th Max	0.097	0.123		0.110
			Valid Days	349	340		
		Oildale-3311 Manor Street	4th Max	0.088	0.109	0.092	0.096
			Valid Days	343	347	238	
		Shafter-Walker Street	4th Max	0.085	0.101	0.093	0.093
			Valid Days	353	350	240	
	Kings	Hanford-S Irwin Street	4th Max	0.097	0.104	0.098	0.099
			Valid Days	362	354	266	
		Madera-Pump Yard	4th Max	0.07	0.094	0.088	0.084
			Valid Days	102	361	262	
	Merced	Merced-S Coffee Avenue	4th Max	0.074	0.112	0.105	0.097
			Valid Days	360	347	272	
	San Joaquin	Stockton-E Mariposa	4th Max	0.074	0.083	0.08	0.079
			Valid Days	358	358	241	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
San Joaquin Valley (cont.)	San Joaquin (cont.)	Stockton-Hazelton Street	4th Max	0.071	0.086	0.082	0.079
			Valid Days	361	361	239	
		Tracy-24371 Patterson Pass Road	4th Max	0.079	0.089	0.089	0.085
			Valid Days	348	354	268	
	Stanislaus	Modesto-14th Street	4th Max	0.082	0.098	0.087	0.089
			Valid Days	362	212	239	
		Modesto-Rover 14th Street	4th Max		0.061		0.061
			Valid Days		134		
		Turlock-S Minaret Street	4th Max	0.089	0.107	0.09	0.095
			Valid Days	329	360	266	
	Tulare	Kings Canyon NP	4th Max			0.103	0.103
			Valid Days			23	
		Sequoia National Park-Lookout Point	4th Max	0.101	0.099	0.108	0.102
			Valid Days	252	238	144	
		Sequoia Natl Park-Lower Kaweah	4th Max	0.097	0.094	0.097	0.096
			Valid Days	349	274	118	
		Visalia-N Church Street	4th Max	0.095	0.109	0.096	0.100
			Valid Days	359	359	210	
South Central Coast	San Luis Obispo	Atascadero-Lewis Avenue	4th Max	0.069	0.078	0.075	0.074
			Valid Days	357	362	266	
		Grover City-Lesage Drive	4th Max	0.06	0.054	0.055	0.056
			Valid Days	356	343	255	
		Morro Bay	4th Max	0.052	0.052	0.05	0.051
			Valid Days	361	364	272	
		Nipomo-Guadalupe Road	4th Max	0.056	0.058	0.058	0.057
			Valid Days	359	346	268	
		Nipomo-Teft & Pomeroy Streets	4th Max		0.046	0.057	0.051
			Valid Days		61	258	
		Paso Robles-Santa Fe Avenue ⁵	4th Max	0.073	0.098	0.077	0.082
			Valid Days	358	340		

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
South Central Coast (cont.)	San Luis Obispo (cont.)	San Luis Obispo-Marsh Street	4th Max	0.056	0.053	0.053	0.054
			Valid Days	363	361	238	
	Santa Barbara	Carpinteria-Gobernador Road	4th Max	0.073	0.069	0.065	0.069
			Valid Days	361	356	272	
		El Capitan Beach	4th Max	0.068	0.062	0.059	0.063
			Valid Days	359	350	297	
		Exxon Site 10-UCSB West Campus	4th Max	0.076	0.061		0.068
			Valid Days	343	191		
		Gaviota-East	4th Max	0.069	0.051		0.060
			Valid Days	360	87		
		Gaviota-GTC Site B	4th Max	0.063	0.063	0.06	0.062
			Valid Days	356	354	262	
		Gaviota-GTC Site C	4th Max	0.072	0.058		0.065
			Valid Days	363	114		
		Gaviota-West	4th Max	0.069	0.048		0.058
			Valid Days	356	80		
		Goleta-Fairview	4th Max	0.074	0.063	0.061	0.066
			Valid Days	359	346	299	
		Las Flores Canyon #1	4th Max	0.08	0.082	0.074	0.078
			Valid Days	308	325	235	
		Lompoc-HS&P	4th Max	0.071	0.068	0.067	0.068
			Valid Days	361	350	268	
		Lompoc-S H Street	4th Max	0.064	0.057	0.062	0.061
			Valid Days	353	359	298	
		Paradise Road- Los Padres National Forest	4th Max	0.081	0.086	0.078	0.081
			Valid Days	363	362	270	
		Point Conception-Lighthouse	4th Max	0.06	0.05		0.055
			Valid Days	322	74		
		Santa Barbara-W Carillo Street	4th Max	0.066	0.062	0.059	0.062
			Valid Days	351	361	241	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
South Central Coast (cont.)	Santa Barbara (cont.)	Santa Maria-Broadway	4th Max	0.058	0.049	0.05	0.052
			Valid Days	329	359	216	
		Santa Rosa Island	4th Max	0.063	0.066	0.067	0.065
			Valid Days	354	351	278	
		Santa Ynez-Airport Road	4th Max	0.07	0.067	0.066	0.067
			Valid Days	357	347	300	
		Vandenberg Air Force Base-STS Power	4th Max	0.063	0.066	0.055	0.061
			Valid Days	336	361	271	
		Vandenberg Air Force Base-Watt Road	4th Max	0.043			0.043
			Valid Days	59			
	Ventura	El Rio-Rio Mesa School #2	4th Max	0.074	0.072	0.065	0.070
			Valid Days	358	348	291	
		Ojai-Ojai Avenue	4th Max	0.089	0.091	0.085	0.088
			Valid Days	362	360	297	
		Piru-2 miles SW	4th Max	0.086	0.091	0.076	0.084
			Valid Days	359	359	301	
		Simi Valley-Cochran Street	4th Max	0.105	0.113	0.102	0.106
			Valid Days	363	364	302	
		Thousand Oaks-Moorpark Road	4th Max	0.087	0.095	0.087	0.089
			Valid Days	362	358	292	
		Ventura County-W Casitas Pass Road	4th Max	0.085	0.081	0.077	0.081
			Valid Days	357	355	242	
		Ventura-Emma Wood State Beach	4th Max	0.075	0.071	0.063	0.069
			Valid Days	351	357	276	
South Coast	Los Angeles	Azusa	4th Max	0.112	0.124	0.095	0.110
			Valid Days	351	347	245	
		Burbank-W Palm Avenue	4th Max	0.095	0.101	0.082	0.092
			Valid Days	350	353	267	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
South Coast (cont.)	Los Angeles (cont.)	Glendora-Laurel	4th Max	0.12	0.14	0.095	0.118
			Valid Days	364	349	270	
		Hawthorne	4th Max	0.083	0.063	0.064	0.070
			Valid Days	356	360	269	
		Los Angeles-North Main Street	4th Max	0.081	0.095	0.076	0.084
			Valid Days	361	359	268	
		Lynwood	4th Max	0.052	0.051	0.04	0.047
			Valid Days	323	352	272	
		North Long Beach	4th Max	0.066	0.063	0.065	0.064
			Valid Days	363	355	270	
		Pasadena-S Wilson Avenue	4th Max	0.099	0.115	0.084	0.099
			Valid Days	363	349	270	
		Pico Rivera	4th Max	0.096	0.104	0.079	0.093
			Valid Days	350	357	270	
		Pomona	4th Max	0.095	0.119	0.089	0.101
			Valid Days	363	363	263	
		Reseda	4th Max	0.084	0.098	0.08	0.087
			Valid Days	363	362	272	
		Santa Clarita-County Fire Station	4th Max	0.116	0.128	0.094	0.112
			Valid Days	362	349	272	
		West Los Angeles-VA Hospital	4th Max	0.079	0.07	0.066	0.071
			Valid Days	362	364	271	
	Orange	Anaheim-Harbor Blvd	4th Max	0.07	0.085	0.059	0.071
			Valid Days	362	358	150	
		Costa Mesa-Mesa Verde Drive	4th Max	0.063	0.074	0.067	0.068
			Valid Days	148	352	251	
		El Toro	4th Max	0.077	0.083	0.071	0.077
			Valid Days	365	353	267	
		La Habra	4th Max	0.082	0.093	0.077	0.084
			Valid Days	363	365	272	

Basin Name	County Name	Site Name		1997	1998	1999	Avg.
South Coast (cont.)	Riverside	Banning-Alessandro	4th Max	0.096	0.079		0.087
			Valid Days	361	180		
		Banning-South Hathaway Street	4th Max	0.135	0.123	0.115	0.124
			Valid Days	283	326	266	
		Lake Elsinore-W Flint Street	4th Max	0.063	0.127	0.106	0.098
			Valid Days	101	346	271	
		Perris	4th Max	0.055	0.113	0.09	0.086
			Valid Days	135	362	273	
		Riverside-Rubidoux	4th Max	0.117	0.135	0.103	0.118
			Valid Days	328	357	270	
	San Bernardino	Fontana-Arrow Highway	4th Max	0.117	0.131	0.095	0.114
			Valid Days	362	360	268	
		Lake Gregory	4th Max	0.125	0.183	0.133	0.147
			Valid Days	350	360	270	
		Mount Baldy, Mount Baldy Road	4th Max	0.104			0.104
			Valid Days	87			
		Redlands-Dearborn	4th Max	0.127	0.148	0.113	0.129
			Valid Days	360	364	271	
		San Bernardino-4th Street	4th Max	0.126	0.144	0.114	0.128
			Valid Days	365	351	264	
		Upland	4th Max	0.112	0.137	0.1	0.116
			Valid Days	357	353	269	

1. Due to 1998 and 1999 data incompleteness and QA/QC issues, the design value is based on 1996 and 1997 data. The 1996 4th max value is 0.096 with 333 valid days.
2. Park Service provided preliminary 1999 data. Data have not undergone QA/QC and have not been entered into AIRS.
3. Includes 1998 data that had been flagged as affected by a forest fire. As requested by the district, ARB evaluated these data and found they should be included as data for record.
4. Preliminary ARB data that have not undergone complete QA/QC and have not been entered into AIRS.
5. District provided preliminary 1999 data. Data have not undergone QA/QC and have not been entered into AIRS.

APPENDIX B

NEW BOUNDARY DEFINITIONS

Sacramento Region

El Dorado County (part) - All portions of the county except that portion of El Dorado County within the drainage area naturally tributary to Lake Tahoe including said Lake.

Placer County (part) - All portions of the county except that portion of Placer County within the drainage area naturally tributary to Lake Tahoe including said Lake, plus that area in the vicinity of the head of the Truckee River described as follows: commencing at the point common to the aforementioned drainage area crestline and the line common to Townships 15 North and 16 North, Mount Diablo Base and Meridian (M.D.B.&M.), and following that line in a westerly direction to the northwest corner of Section 3, Township 15 North, Range 16 East, M.D.B.&M., thence south along the west line of Sections 3 and 10, Township 15 North, Range 16 East, M.D.B.&M., to the intersection with the said drainage area crestline, thence following the said drainage area boundary in a southeasterly, then northeasterly direction to and along the Lake Tahoe Dam, thence following the said drainage area crestline in a northeasterly, then northwesterly direction to the point of beginning.

Sacramento County

Solano County (part) - That portion of Solano County which lies north and east of a line described as follows: description of boundary in Solano county between San Francisco and Sacramento: beginning at the intersection of the westerly boundary of Solano County and the 1/4 section line running east and west through the center of Section 34; Township 6 North, Range 2 West, M.D.B.&M., thence east along said 1/4 section line to the east boundary of Section 36, Township 6 North, Range 2 West, thence south 1/2 mile and east 2.0 miles, more or less, along the west and south boundary of Los Potos Rancho to the northwest corner of Section 4, Township 5 North, Range 1 West, thence east along a line common to Township 5 North and Township 6 North to the northeast corner of Section 3, Township 5 North, Range 1 East, thence south along section lines to the southeast corner of Section 10, Township 3 North, Range 1 East, thence east along section lines to the south 1/4 corner of Section 8, Township 3 North, Range 2 East, thence east to the boundary between Solano and Sacramento Counties.

Western Nevada County

Nevada County (part) - that portion of Nevada County, which lies west of a line, described as follows: beginning at the Nevada-Placer County boundary and running north along the western boundaries of Sections 24, 13, 12, 1, Township 17 North, Range 14 East, Mount Diablo Base and Meridian, and Sections 36, 25, 24, 13, 12, Township 18 North, Range 14 East to the Nevada-Sierra County boundary.

Eastern Kern County

Kern County (part) - that portion of Kern County (with the exception of the Indian Wells Valley) east and south of a line described as follows:

Beginning at the Kern – Los Angeles County boundary and running north and east along the northwest boundary of the Rancho La Liebre Land Grant to the point of intersection with the range line common to Range 16 West and Range 17 West, San Bernardino Base and Meridian; north along the range line to the point of intersection with the Rancho El Tejon Land Grant boundary; then southeast, northeast, and northwest along the boundary of the Rancho El Tejon Grant to the northwest corner of Section 3, Township 11 North, Range 17 West; then west 1.2 miles; then north to the Rancho El Tejon Land Grant boundary; then northwest along the Rancho El Tejon line to the southeast corner of Section 34, Township 32 South, Range 30 East, Mount Diablo Base and Meridian; then north to the northwest corner of Section 35, Township 31 South, Range 30 East; then northeast along the boundary of the Rancho El Tejon Land Grant to the southwest corner of Section 18, Township 31 South, Range 31 East; then east to the southeast corner of Section 13, Township 31 South, Range 31 East; then north along the range line common to Range 31 East and Range 32 East, Mount Diablo Base and Meridian, to the northwest corner of Section 6, Township 29 South, Range 32 East; then east to the southwest corner of Section 31, Township 28 South, Range 32 East; then north along the range line common to Range 31 East and Range 32 East to the northwest corner of Section 6, Township 28 South, Range 32 East, then west to the southeast corner of Section 36, Township 27 South, Range 31 East, then north along the range line common to Range 31 East and Range 32 East to the Kern – Tulare County boundary.

The formal definition of Indian Wells Valley is not included in this report, but will be provided at the Board meeting.

South Coast Air Basin

Los Angeles County (part) - that portion of Los Angeles County which lies south and west of a line described as follows:

Beginning at the Los Angeles – San Bernardino County boundary and running west along the Township line common to Township 3 North and Township 2 North, San Bernardino Base and Meridian; then north along the range line common to Range 8 West and Range 9 West; then west along the Township line common to Township 4 North and Township 3 North; then north along the range line common to Range 12 West and Range 13 West to the southeast corner of Section 12, Township 5 North and Range 13 West; then west along the south boundaries of Sections 12, 11, 10, 9, 8, and 7, Township 5 North and Range 13 West to the boundary of the Angeles National Forest which is collinear with the range line common to Range 13 West and Range 14 West; then north and west along the Angeles National Forest boundary to the point of intersection with the Township line common to Township 7 North and Township 6 North (point is at the northwest corner of Section 4 in Township 6 North and Range 14 West); then west along the Township line common to Township 7 North and Township 6 North; then north along the range line common to Range 15 West and Range 16

West to the southeast corner of Section 13, Township 7 North and Range 16 West; then along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 7 North and Range 16 West; then north along the range line common to Range 16 West and Range 17 West to the north boundary of the Angeles National Forest (collinear with the Township line common to Township 8 North and Township 7 North); then west along the Angeles National Forest boundary to the point of intersection with the south boundary of the Rancho La Liebre Land Grant; then west and north along this land grant boundary to the Los Angeles-Kern County boundary.

Orange County

Riverside County (part) - that portion of Riverside County which lies to the west of a line described as follows:

Beginning at the Riverside - San Diego County boundary and running north along the range line common to Range 4 East and Range 3 East, San Bernardino Base and Meridian; then east along the Township line common to Township 8 South and Township 7 South; then north along the range line common to Range 5 East and Range 4 East; then west along the Township line common to Township 6 South and Township 7 South to the southwest corner of Section 34, Township 6 South, Range 4 East; then north along the west boundaries of Sections 34, 27, 22, 15, 10, and 3, Township 6 South, Range 4 East; then west along the Township line common to Township 5 South and Township 6 South; then north along the range line common to Range 4 East and Range 3 East; then west along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 5 South, Range 3 East; then north along the range line common to Range 2 East and Range 3 East; to the Riverside - San Bernardino County line.

San Bernardino County (part) - that portion of San Bernardino County which lies south and west of a line described as follows:

Beginning at the San Bernardino - Riverside County boundary and running north along the range line common to Range 3 East and Range 2 East, San Bernardino Base and Meridian; then west along the Township line common to Township 3 North and Township 2 North to the San Bernardino - Los Angeles County boundary.

Antelope Valley

Los Angeles County (part) - that portion of Los Angeles County which lies north and east of a line described as follows:

Beginning at the Los Angeles - San Bernardino County boundary and running west along the Township line common to Township 3 North and Township 2 North, San Bernardino Base and Meridian; then north along the range line common to Range 8 West and Range 9 West; then west along the Township line common to Township 4 North and Township 3 North; then north along the range line common to Range 12 West and Range 13 West to the southeast corner of Section 12, Township 5 North and Range 13 West; then west along the south boundaries of Sections 12, 11, 10, 9, 8, and 7, Township 5 North and Range 13 West to the boundary of the Angeles National Forest which is collinear with the range line common to Range 13 West and Range 14 West; then north and west along the Angeles National Forest boundary to

the point of intersection with the Township line common to Township 7 North and Township 6 North (point is at the northwest corner of Section 4 in Township 6 North and Range 14 West); then west along the Township line common to Township 7 North and Township 6 North; then north along the range line common to Range 15 West and Range 16 West to the southeast corner of Section 13, Township 7 North and Range 16 West; then along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 7 North and Range 16 West; then north along the range line common to Range 16 West and Range 17 West to the north boundary of the Angeles National Forest (collinear with the Township line common to Township 8 North and Township 7 North); then west along the Angeles National Forest boundary to the point of intersection with the south boundary of the Rancho La Liebre Land Grant; then west and north along this land grant boundary to the Los Angeles-Kern County boundary.

Western Mojave Desert

San Bernardino County (part) - that portion of San Bernardino County which lies north and east of a line described as follows:

Beginning at the San Bernardino - Riverside County boundary and running north along the range line common to Range 3 East and Range 2 East, San Bernardino Base and Meridian; then west along the Township line common to Township 3 North and Township 2 North to the San Bernardino - Los Angeles County boundary; and that portion of San Bernardino County which lies south and west of a line described as follows: latitude 35 degrees, 10 minutes north and longitude 115 degrees, 45 minutes west.

Coachella Valley

Riverside County (part) - that portion of Riverside County which lies to the east of a line described as follows:

Beginning at the Riverside - San Diego County boundary and running north along the range line common to Range 4 East and Range 3 East, San Bernardino Base and Meridian; then east along the Township line common to Township 8 South and Township 7 South; then north along the range line common to Range 5 East and Range 4 East; then west along the Township line common to Township 6 South and Township 7 South to the southwest corner of Section 34, Township 6 South, Range 4 East; then north along the west boundaries of Sections 34, 27, 22, 15, 10, and 3, Township 6 South, Range 4 East; then west along the Township line common to Township 5 South and Township 6 South; then north along the range line common to Range 4 East and Range 3 East; then west along the south boundaries of Sections 13, 14, 15, 16, 17, and 18, Township 5 South, Range 3 East; then north along the range line common to Range 2 East and Range 3 East; then west along the Township line common to Township 4 South and Township 3 South to the intersection of the southwest boundary of partial Section 31, Township 3 South, Range 1 West; then northwest along that line to the intersection with the range line common to Range 2 West and Range 1 West; then north to the Riverside-San

Bernardino County line, and that portion of Riverside County which lies to the west of a line described as follows: beginning at the northeast corner of Section 4, Township 2 South, Range 5 East, a point on the boundary line common to Riverside and San Bernardino Counties; then southerly along section lines to the centerline of the Colorado River Aqueduct; then southeasterly along the centerline of said Colorado River Aqueduct to the southerly line of Section 36, Township 3 South, Range 7 East; then easterly along the Township line to the northeast corner of Section 6, Township 4 South, Range 9 East; then southerly along the easterly line of Section 6 to the southeast corner thereof; then easterly along section lines to the northeast corner of Section 10, Township 4 South, Range 9 East; then southerly along section lines to the southeast corner of Section 15, Township 4 South, Range 9 East; then easterly along the section lines to the northeast corner of Section 21, Township 4 South, Range 10 East; then southerly along the easterly line of Section 21 to the southeast corner thereof; then easterly along the northerly line of Section 27 to the northeast corner thereof; then southerly along section lines to the southeast corner of Section 34, Township 4 South, Range 10 East; then easterly along the Township line to the northeast corner of Section 2, Township 5 South, Range 10 East; then southerly along the easterly line of Section 2, to the southeast corner thereof; then easterly along the northerly line of Section 12 to the northeast corner thereof; then southerly along the range line to the southwest corner of Section 18, Township 5 South, Range 11 East; then easterly along section lines to the northeast corner of Section 24, Township 5 South, Range 11 East; then southerly along the range line to the southeast corner of Section 36, Township 8 South, Range 11 East, a point on the boundary line common to Riverside and San Diego Counties.