

# **Review of the California Ambient Air Quality Standards for Particulate Matter and Sulfates**



**Air Resources Board**



**Office of Environmental  
Health Hazard Assessment**

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**California Environmental Protection Agency**

# INTRODUCTION

- **AQAC members**
- **Meeting Logistics**
- **Agenda**

# STAFF PRESENTATIONS

- **Overview**
- **Health effects and recommendations**
- **Monitoring methods**

# OVERVIEW

- **AAQS reviews - purpose and mandate**
- **PM and sulfate review document**
- **Standard setting process**
- **PM and sulfate review timeline**

# **PURPOSE OF STANDARD REVIEW**

- **Determine if each standard provides adequate protection of public health**
- **Address requirements of Children's Environmental Health Protection Act (SB25, Escutia, 1999)**

# **CHILDREN'S ENVIRONMENTAL HEALTH PROTECTION ACT REVIEW REQUIREMENTS**

- **Determine which standards not protective of public health**
- **Prioritize review of those standards determined inadequate**
- **Revise highest priority standard by Dec. 2002**

# RESULTS OF 2000 AAQS PRIORITIZATION PROCESS

## 1<sup>st</sup> Priority:

- **PM10 (including sulfates)**
- **Ozone**
- **Nitrogen dioxide**

## 2<sup>nd</sup> Priority:

- **Lead**
- **Hydrogen sulfide**
- **Sulfur dioxide**
- **Carbon monoxide**

Adapted from Staff Report Entitled “Adequacy of CA Ambient Air Quality Standards: Children’s Environmental Health Protection Act,” December 2000.

# **PM & SULFATE REVIEW DOCUMENT**

- **Physics and Chemistry**
- **Sources and Emissions**
- **Measurements**
- **Exposure**
- **Health Effects**
- **Welfare Effects**
- **Controls and Reduction Strategies**
- **Quantifying Adverse Health Effects**

# **AMBIENT AIR QUALITY STANDARDS**

- **Authority from CA Health & Safety Code**
- **Standards provide legal definitions of clean air**
- **Adopted through regulatory action**
- **Provide basis for preventing or abating adverse effects**

# ELEMENTS OF AN AAQS

- **Definition of the pollutant**
- **Averaging time**
- **Concentration**
- **Monitoring method**

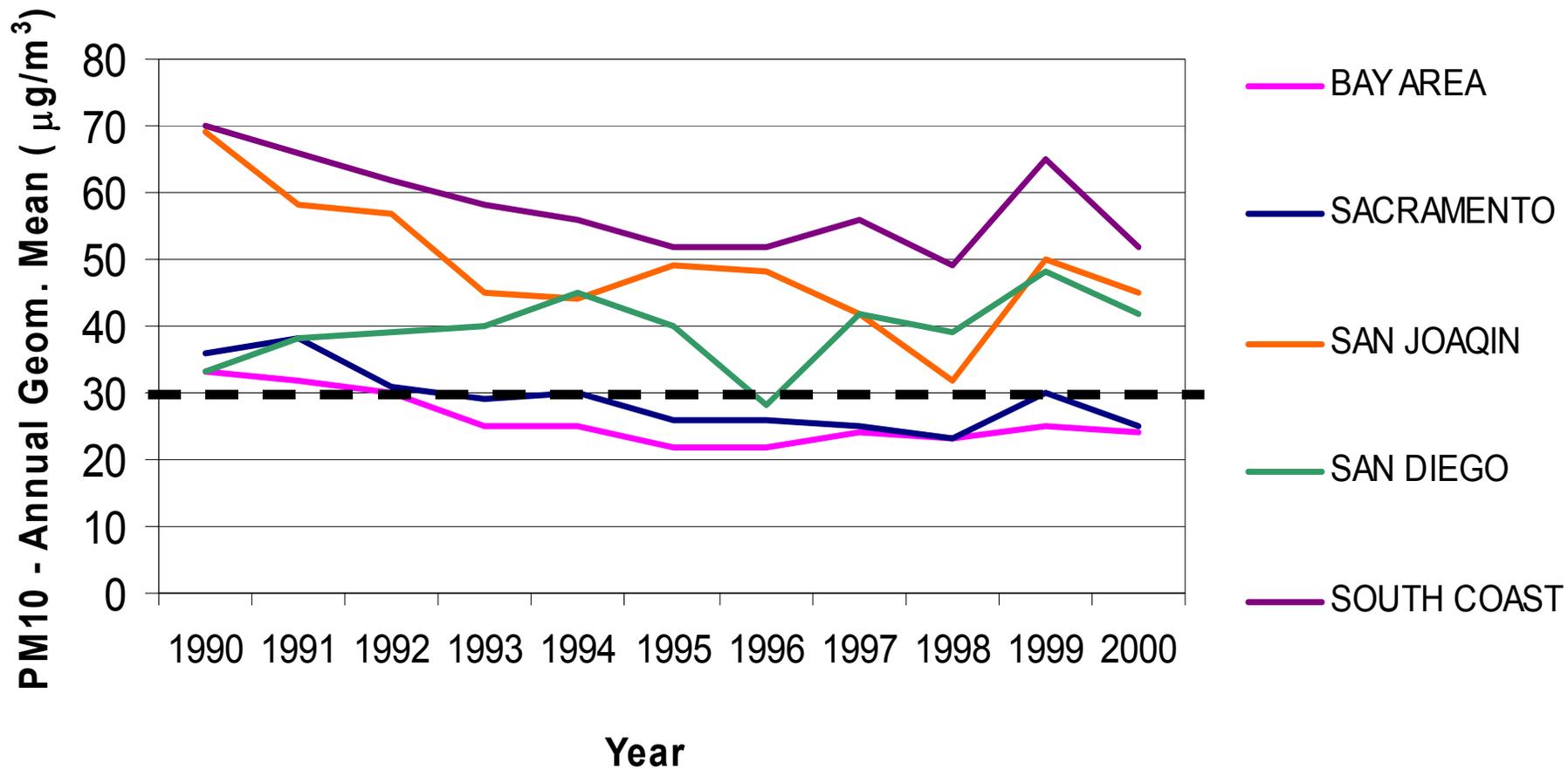
# **ROLE OF THE AIR QUALITY ADVISORY COMMITTEE**

- **HSC §39606(C) - Requires peer review of the scientific basis of method used and recommendations presented**
- **AQAC review process:**
  - **review recommendations**
  - **consider public comment**
  - **prepare a written evaluation of proposed standards**

# TIMELINE FOR PM & SULFATES REVIEW

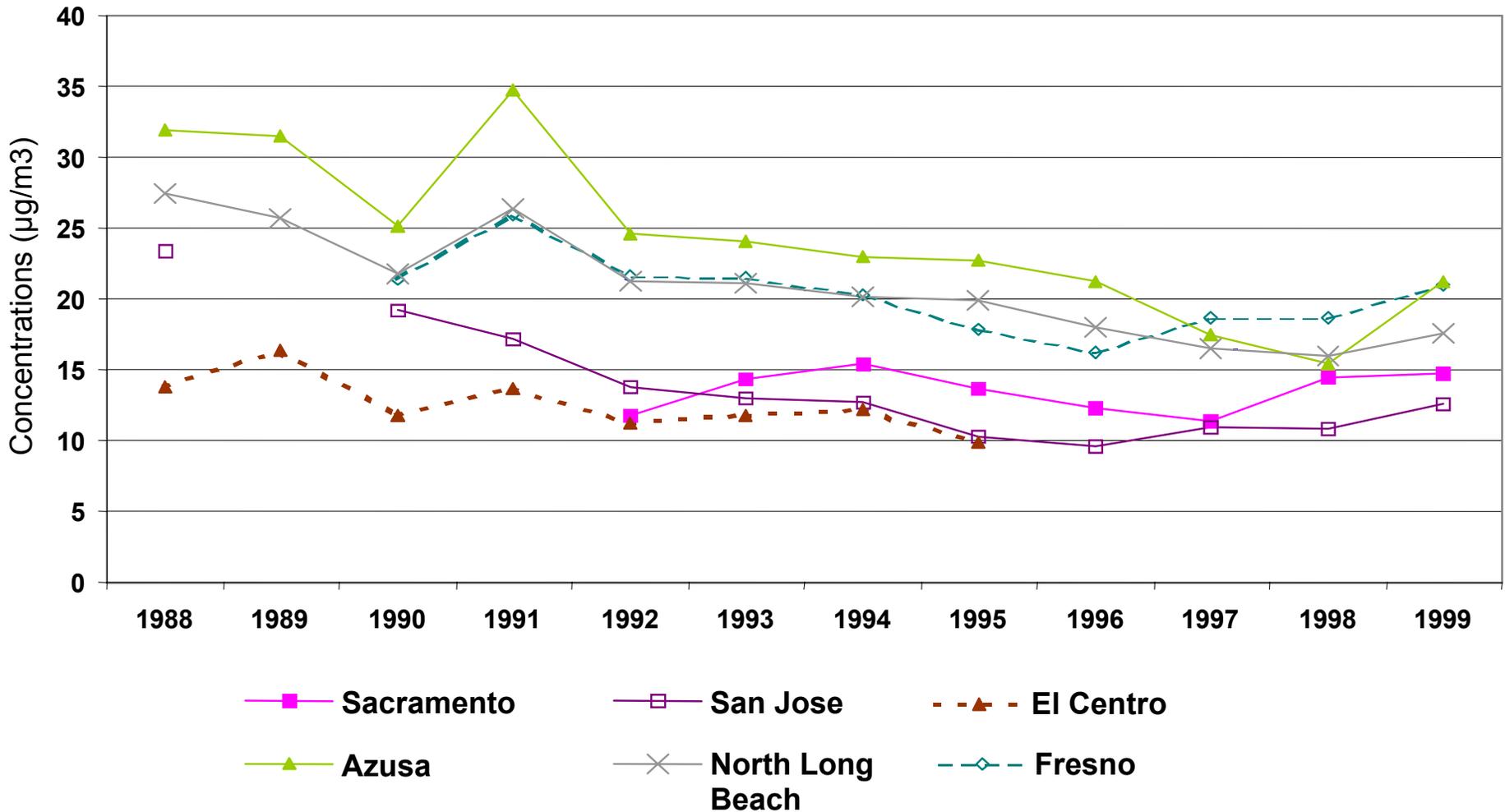
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|-------------------|---|
| <b>Nov. 2001</b>  | <b>Report released to AQAC &amp; Public</b>               |
| <b>Dec. 2001</b>  | <b>Public workshops</b>                                   |
| <b>Jan. 2002</b>  | <b>Air Quality Advisory Committee meeting</b>             |
| <b>March 2002</b> | <b>Draft Report released; begin 45 day comment period</b> |
| <b>April 2002</b> | <b>Public workshops</b>                                   |
| <b>May 2002</b>   | <b>Final recommendations presented at Board hearing</b>   |

# ANNUAL PM10 CONCENTRATIONS



# ANNUAL PM2.5 CONCENTRATIONS

## Dichot PM-Fine Mass Trends





# RECOMMENDATIONS FOR PM AMBIENT AIR QUALITY STANDARDS

**PM10** – Reduce annual average from 30 to 20  $\mu\text{g}/\text{m}^3$

– Retain 24-hour standard of 50  $\mu\text{g}/\text{m}^3$

**PM2.5** – Add an annual average standard of 12  $\mu\text{g}/\text{m}^3$

**Sulfates** – Retain 24-hour average standard of 25  $\mu\text{g}/\text{m}^3$ ; propose alternate monitoring method

# RECOMMENDATIONS FOR MONITORING METHODS

- **Adopt the existing Federal Reference Methods (FRMs) for PM10 (not Equivalent Methods)**
- **Adopt existing FRM for PM2.5**
- **Use ARB Method 007 for PM10 sulfate**
- **Possibly designate continuous methods as acceptable for PM10 and for PM2.5**
- **Retain provision for identification of other methods, acceptable to ARB**