

SECTION 6 - GROWTH PROJECTIONS AND DESIGN DAY SOURCE CONTRIBUTIONS

**POPULATION GROWTH PROJECTION
EMISSIONS INCREASE PROJECTION
EFFECT OF GROWTH ON THE 24-HOUR DESIGN DAY
PM-10 EMISSIONS**

6.1 Population Growth Projection

Estimates by the Mono County Planning Department indicate that the number of permanent residents in Mono County, and hence the Mono Basin Planning Area, will increase over the next 50 years. As per the 1990 Census, the population of the Mono Basin Planning Area was 2,599 residents. [The Planning Area is considered the Mono Vista Census Designated Place (CDP)]. The following tables summarize the 1990 Census population distribution.

Table 6-1	
MONO COUNTY POPULATION (1990 Census)	
AREA	POPULATION
Unincorporated Population	5,171
Town of Mammoth Lakes	4,785
TOTAL MONO COUNTY	9,956

Table 6-2	
MONO BASIN PLANNING AREA POPULATION MONO VISTA CDP (1990 Census)	
AREA	POPULATION
Lee Vining/Mono City	398
June Lake	581
Other	1,620
TOTAL MONO BASIN PLANNING AREA	2,599

Section 6 - Growth Projections and Design Day Source Contributions

The Mono County Planning Department has developed population projections for Mono County through the year 2040. These projection factors are applied to the Mono Basin Planning Area in order to estimate the future population in 10-year increments. These estimates are shown in Table 6-3.

Table 6-3						
MONO COUNTY & MONO BASIN PLANNING AREA POPULATION PROJECTION						
AREA	YEAR					
	1992	2000	2010	2020	2030	2040
Mono County	10,526	12,200	15,300	18,700	22,200	25,800
Mono Basin Planning Area	2,788	3,260	3,978	4,807	5,596	6,462
Lee Vining/Mono City	411	487	612	748	887	1,031
June Lake	600	712	893	1,091	1,296	1,506
Other	1,777	2,061	2,473	2,968	3,413	3,925

6.2 Emissions Increase Projection

The projections of annual average PM-10 emissions in the following table are based on the assumption that population-related air pollution sources will increase in direct proportion to population growth.

Table 6-4						
ANNUAL AVERAGE PM-10 EMISSIONS INVENTORY PROJECTION						
(6,375' Source Elevation)						
(Tons/Year)						
SOURCES	YEAR					
	1992	2000	2010	2020	2030	2040
Unpaved Roads	149	159	182	199	211	219
Vehicle Tail Pipe & Tire Wear	31	32	37	41	43	45
Residential Wood Burning	18	19	21	23	25	26
Road Cinders	455	503	577	629	668	694
Wildfires & Prescribed Burning	229	229	229	229	229	229
Landfill Burning	25	27	31	34	36	37
Lake Shore Windblown Dust	5,665	5,665	5,665	5,665	5,665	5,665
Total	6,572	6,634	6,742	6,820	6,877	6,915

6.3 Effect of Growth on the 24-Hour Design Day PM-10 Emissions

The same calculations used to produce the emissions inventory estimates in Section 4 are applied to compute the effect of population growth on the 24-hour design day PM-10 emissions. The calculations are based on the assumption that there is no change in water elevation and that no control measures are implemented. The design day emissions by source, projected over 50 years, are shown in Table 6-5.

Table 6-5						
PEAK 24-HOUR PM-10 EMISSIONS INVENTORY PROJECTION						
Design Day: May 8, 1991 (Tons/Day)						
SOURCES	YEAR					
	1992	2000	2010	2020	2030	2040
Unpaved Roads	.42	.49	.56	.61	.64	.67
Vehicle Tail Pipe & Tire Wear	.08	.10	.11	.12	.13	.14
Residential Wood Burning	0	0	0	0	0	0
Road Cinders	0	0	0	0	0	0
Wildfires & Prescribed Burning	0	0	0	0	0	0
Landfill Burning	0	0	0	0	0	0
Lake Shore Windblown Dust	588	588	588	588	588	588
Total	588.50	588.59	588.67	588.73	588.77	588.81
<p>NOTE: Normally on May 8th (due to time of year and burn day scheduling), no residential wood burning, road cinders, wildfires/prescribed burning, or landfill burning would be present and ambient emissions from these sources is unlikely.</p>						

The table displays two important facts: (1) Lake shore windblown dust remains the predominant source of emissions impacting air quality; and (2) PM-10 emissions that result from eroding efflorescent salt deposits along the exposed lake shore are independent of any population increase or decrease in the Mono Basin Planning Area.