Lake Tahoe: Nitrogen, Phosphorus and Particulates

February 9, 2006
presentation to ARB-SWRCB
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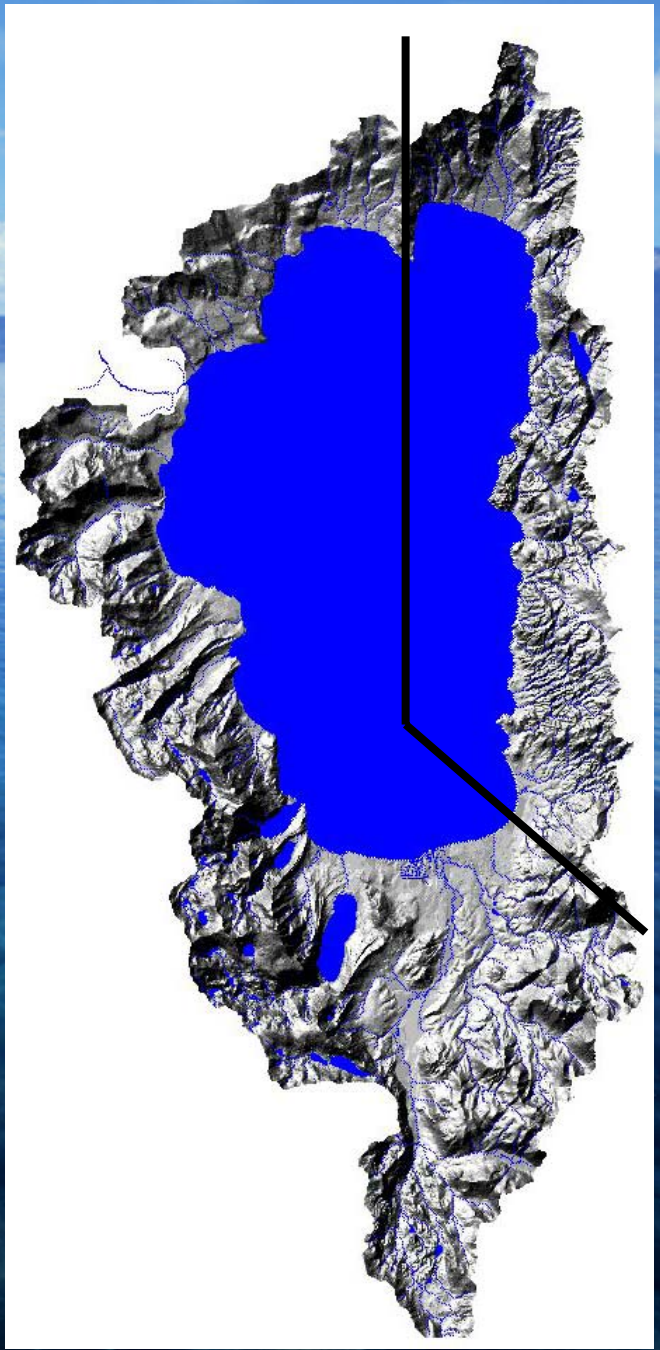
Outline

1. Significance of Atmospheric Deposition on Lake Tahoe Clarity
2. Partnerships & Collaboration
3. Recommendations

Lake Tahoe Basin

- 191 mi^2 Lake Area
- 314 mi^2 Watershed Area
- 650 yr Hydraulic Residence
- 1/3 in NV and 2/3 in CA



Lake Tahoe Basin AQ-WQ Health Standards

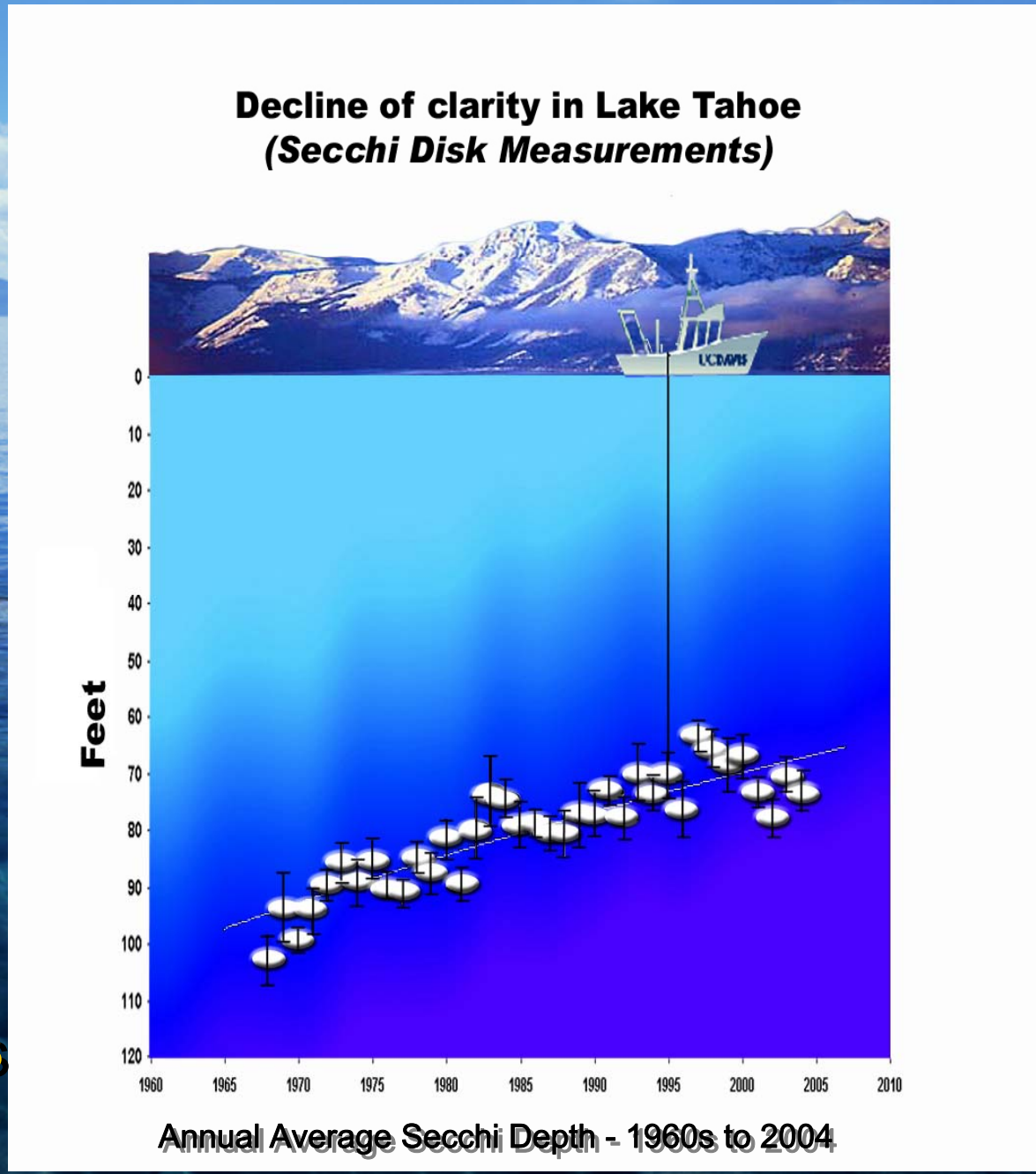
AQ is improving in Tahoe Basin: CO & O_3 levels slightly exceed standards; PM_{10} decreased but wildfires, road dust, and wood heating causes temporal increases, $PM_{2.5}$ meets standard.

WQ: Drinking water standards typically met.

Lake Tahoe TMDL

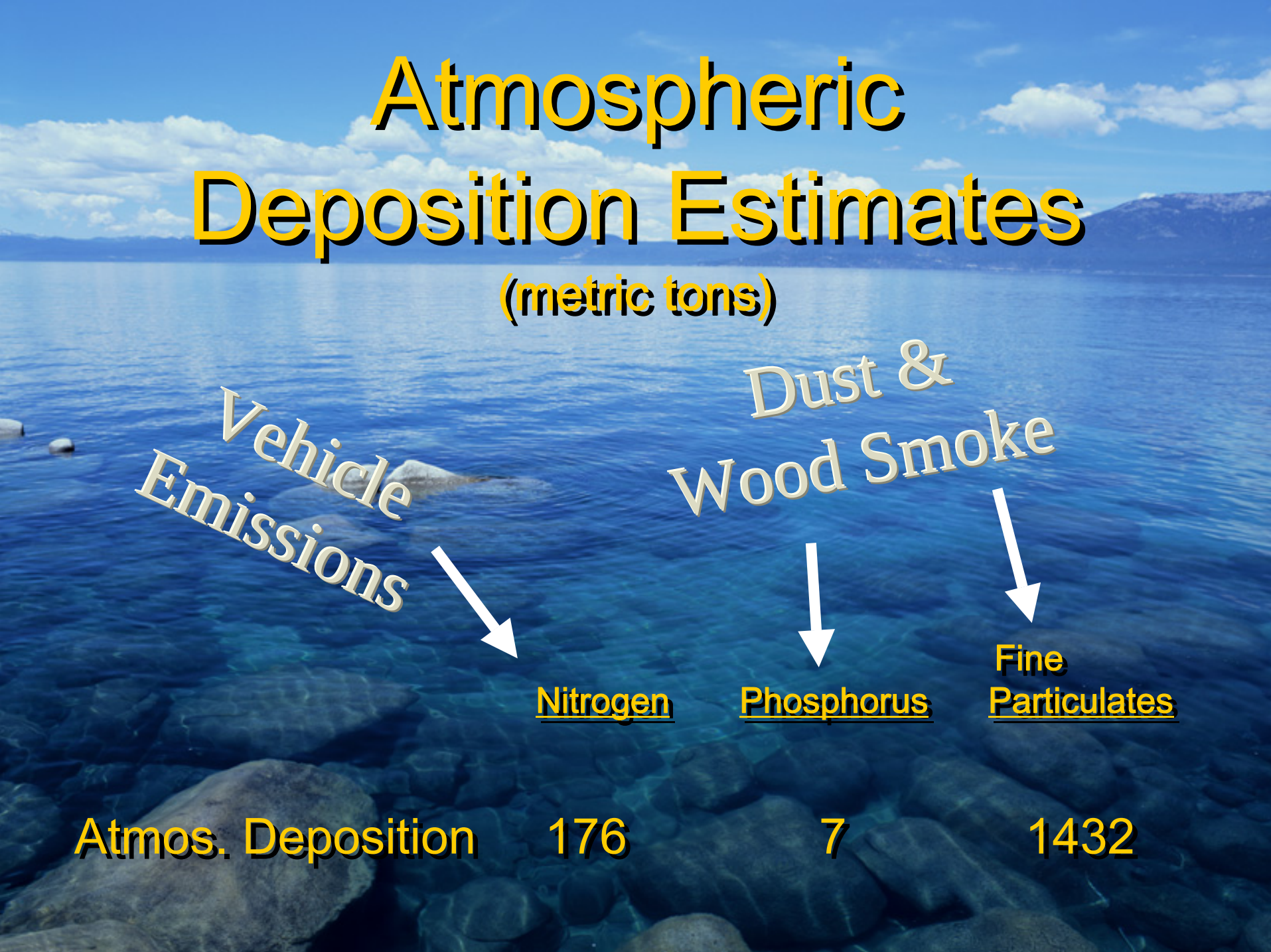
Lake clarity is sensitive to N, P, and particulates

Research to quantify input and model needed reductions



Atmospheric Deposition Estimates

(metric tons)



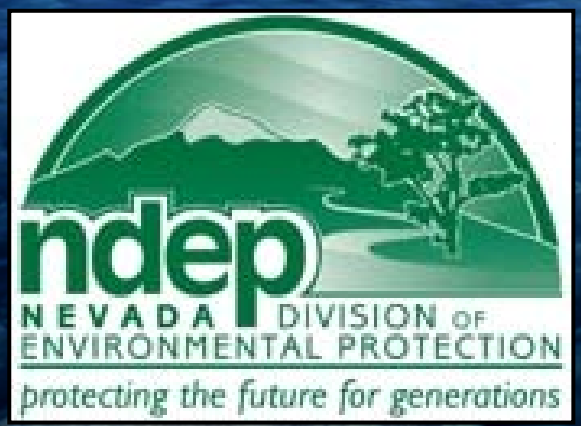
	Nitrogen	Phosphorus	Fine Particulates
Atmos. Deposition	176	7	1432

Preliminary Annual Load Estimates

(metric tons)

	N	P	Particulates
Shoreline Erosion	2	2	550
Groundwater	55	5	0
Stream Channel Erosion	104	26	1300
Upland Sources			3900+
Atmospheric Deposition	176	7	1432

Lake Tahoe TMDL Collaboration



Pollutant Reduction Targets in Technical TMDL

Summer 2006

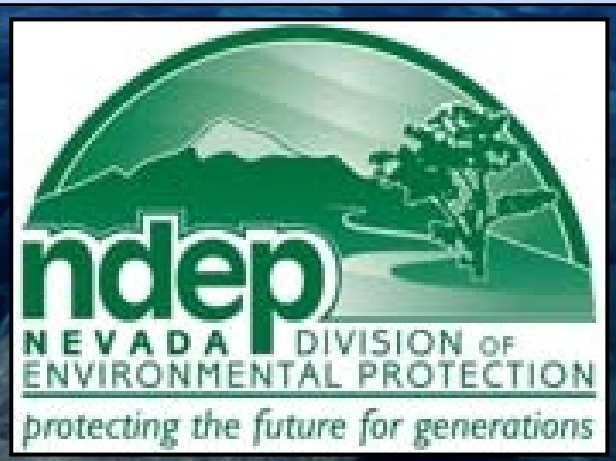
Implementation Plan in Final TMDL

Fall 2008

Partnerships & Collaboration

Lake Tahoe TMDL

Forest Plan



Regional Plan

Recommendations

1. Research needed to quantify emission sources and linkage of atmospheric deposition to Lake Tahoe
2. Evaluate control strategies
3. Local & State implementers to coordinate on air pollutant-reducing projects
4. Provide ARB the opportunity/resources to address adverse environmental effects associated with air pollution
5. Improve ARB and Water Board coordination to better regulate atmospheric pollutants consistent with TMDL needs