



Overview of Regional Haze Program



Denis Lohman
EPA Region III



•
•
•

Today's Discussion

April 19, 2000

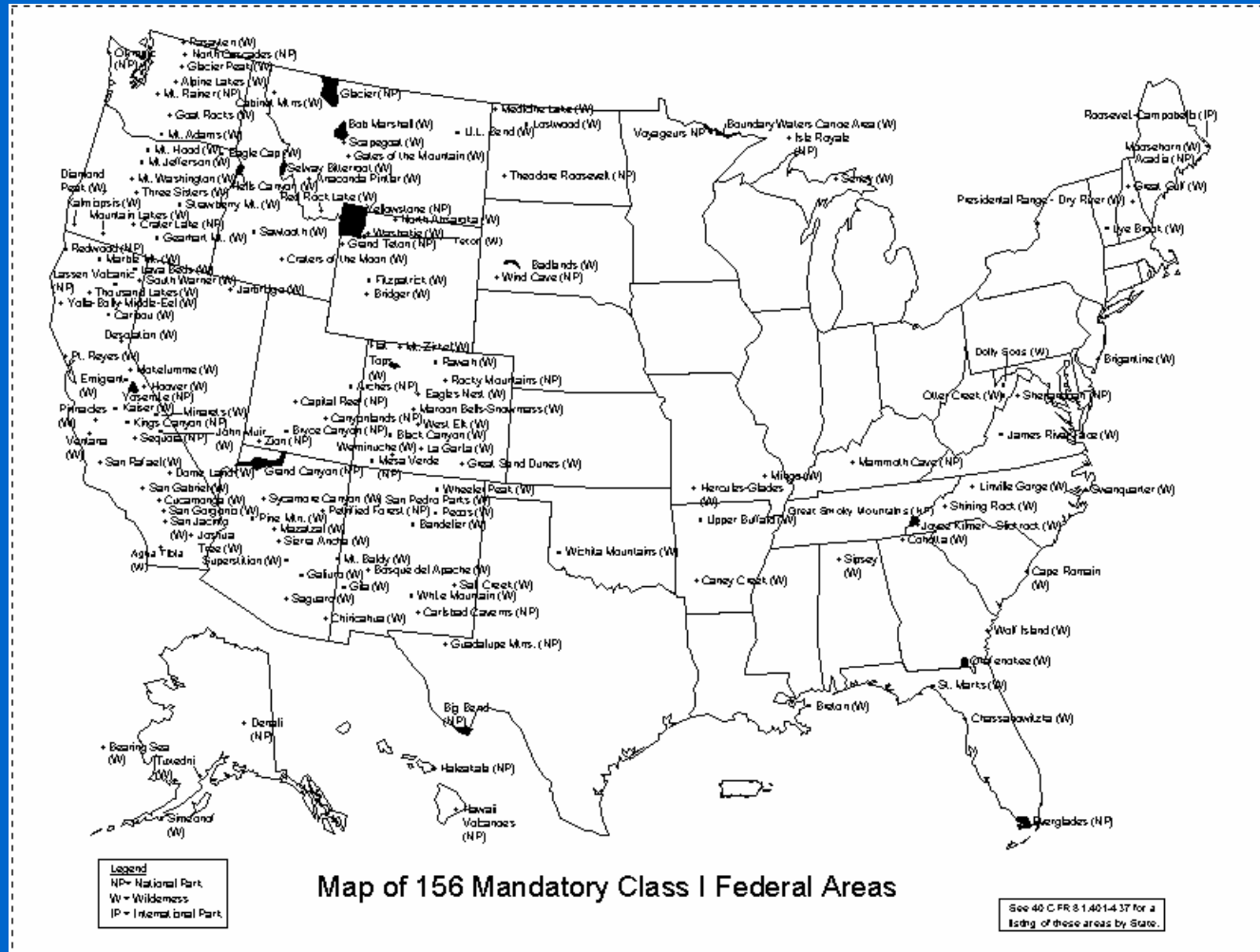
- Background on Regional Haze
- Overview of National Rule Requirements
- Overview of States' Responsibilities
- Future Actions

-
-
-

Overview

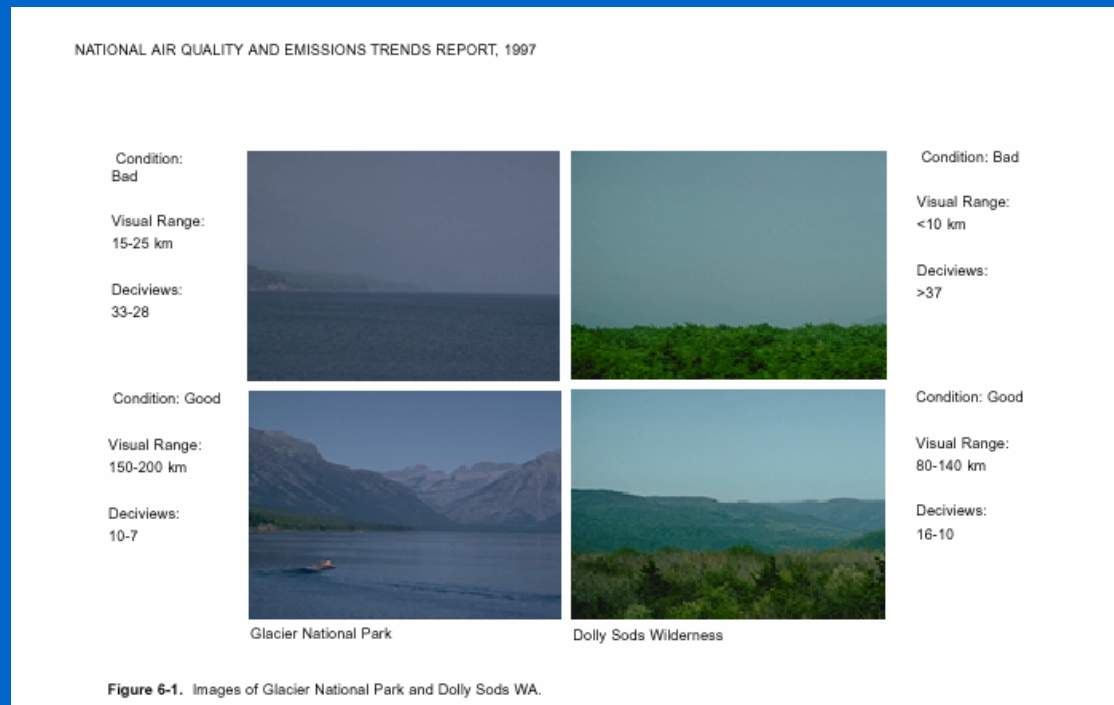
- National goal in CAA - remedy existing impairment and prevent future impairment resulting from human-caused emissions
- Regional Haze impairment in Class I national parks and wilderness areas is well documented nationally

Class I Areas



Background

- RH caused by cumulative effects of many sources
 - Fine particles
 - Sulfate, nitrate, organics, carbon, dust
- Multi-state issue
 - Transported 100's of miles



Regional Differences

- West: better visibility
- East: poorer visibility
- Estimated natural visibility
 - West: 150 miles (5 dv)
 - East: 90 miles (10 dv)

Visibility Impairment in Class I Areas

<u>Location</u>	Worst (mi.)	Days (dv)	Best (mi.)	Days (dv)
Rocky Mtn	64	13	143	5.3
Yosemite	41	18	132	6.1
Yellowstone	72	12	128	6.4
Grand Cyn	68	12	128	6.4
Gr. Smokies	15	28	55	15
Shenandoah	11	31	48	16
Acadia	19	25	74	12
Lye Brook	27	27	87	10

•
•
•

Regional Haze Program

- Applicability
- Program Timing
- Regional Planning
- Reasonable Progress Goals
- Long Term Strategy
- Best Available Retrofit Technology
- Tracking Progress

•
•
•

Regional Haze Applicability

- §169A: State develops implementation plan if sources have emissions which “may reasonably be anticipated to cause or contribute to any impairment of visibility” in any Class I area
- Program applies to all States
 - Time for analysis and strategy evaluation
 - Regional planning encouraged

•
•
•

Program Timeline

No Regional Planning

- Timing of Haze SIPs linked to PM-2.5 designations
- ~2003-6: Haze SIP* due 1 year after designation of PM-2.5 attainment area
- ~2006-8: Haze SIP* due at same time for nonattainment area (3 yrs after designation)
- *Haze SIP includes progress goals, long-term strategy, BART, etc.

•
•
•

Program Timeline

Optional Regional Planning

- ~2004: SIPs committing to planning
- 2007-2008: Control strategy SIPs, including progress goals, long-term strategy, and BART
- Avoids multiple SIPs for states with both attainment and nonattainment areas
- 5 year progress reports and 10 year comprehensive revisions

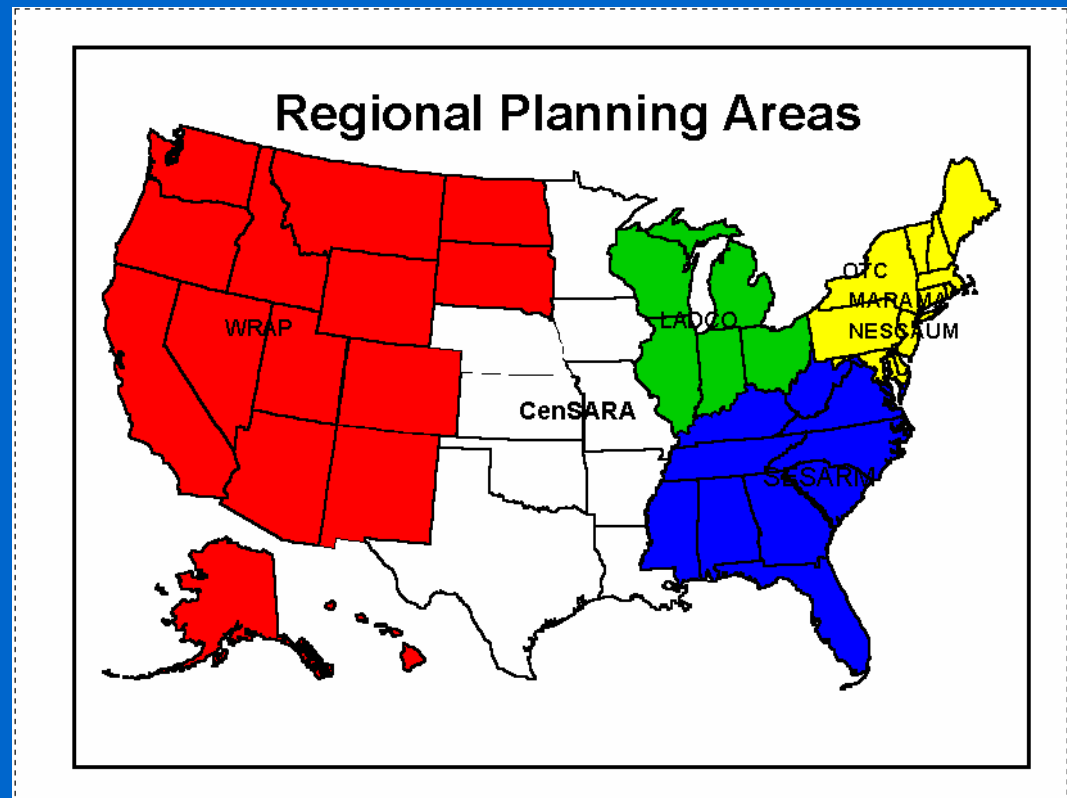
•
•
•

Regional Planning SIP

- Description of regional planning process
 - Goals, structure, schedule for work products
- Agreement to continue participation
- A showing that emissions from State contribute to impairment in a Class I area outside the state
- List of BART-eligible sources
- Commitment to SIP no later than 2008

Regional Planning for Haze/PM

- 5 Areas defined based on States' input
- EPA funding: \$4 million for FY'99
- Must develop detailed work plans and schedules



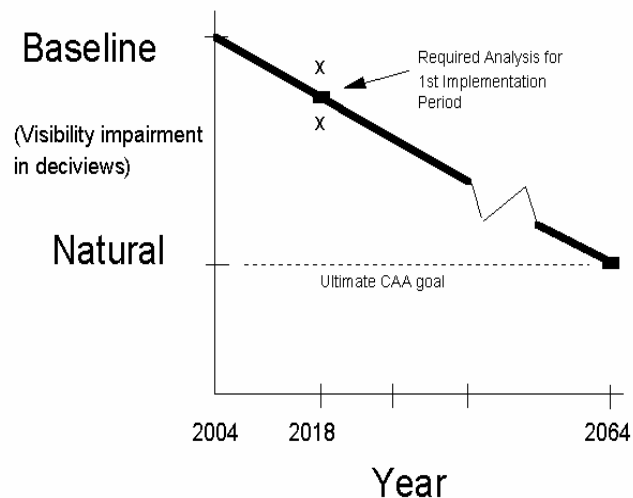
•
•
•

Reasonable Progress Goals

- Requires goal (deciviews) for each Class I area
- Goal for planning period (2018)
- Must improve worst days, maintain best days
- Must analyze and consider rate of progress on “60-year glide path” to reach natural conditions by 2064

Goals (continued)

Example: Rate that Would Achieve Natural Conditions in 60 Years



- Must be reasonable in light of:
 - Costs
 - Time to comply
 - Energy & nonair impacts
 - Remaining useful life of sources
- Consider other CAA programs

Goals (continued)

- Common metrics of haze: visual range, light extinction coef., deciview
- All measures mathematically related
- Deciview: uniform perceived incremental changes in haziness

Visibility Metrics

Deciviews	Visual Range (mi.)	Light Extinction (Mm-1)
0	243	10
5	147	17
10	90	27
15	54	45
20	33	74
25	20	121
30	12	202
35	7	332

-
-
-

Long-Term Strategy

- Address stationary (major and minor), mobile and area sources
- Include measures needed to address State's contribution to reasonable progress goals for Class I areas both within and outside the State
 - State must consult with other States
 - EPA encourages regional planning

•
•
•

Best Available Retrofit Technology (BART)

- BART-Eligible Sources
 - Major stationary sources
 - In 26 categories
 - Placed in operation: 1962-1977
 - Potential to emit 250 tons of any pollutant reasonably anticipated to contribute to regional haze in any Class I area

-
-
-

BART (cont.)

- Factors To Consider
 - Control technology available
 - Pollution control equipment in use at source
 - Costs of compliance
 - Energy and nonair environmental impacts
 - Degree of visibility improvement from use of such technology

-
-
-

BART (cont.)

- Two Approaches
 - Source specific
 - Trading program or alternative measures to achieve greater reasonable progress than source-specific BART
- Consider degree of visibility improvement factor cumulatively for all BART sources

-
-
-

Tracking Progress

- Baseline visibility conditions based on monitoring for 2000-2004
 - For most impaired days
 - For least impaired days
 - May use “representative” data
- Review progress every 5 years
 - Visibility improvement
 - Emission reductions

-
-
-

Progress Reviews

- Evaluate visibility improvement and emissions reductions
 - Visibility change
 - From baseline
 - Over past five years
 - Five-year emissions reductions
- “Negative declaration” if on track
- Replanning and/or SIP revision (1 year)

•
•
•

Comprehensive SIP Revision

- Due in 2018 and every 10 years thereafter
- Revise Class I progress goals, based on rate to attain natural conditions by 2064, statutory factors, & past visibility change
- Revise long-term strategy
- No further BART obligation

•
•
•

States' Responsibilities

- Assist with IMPROVE (VA, WV)
- By 11/29/99 notify FLMs (VA, WV)
- Develop list of BART-Eligible sources
- Develop emission inventory

•
•
•

Guidance and Activities

- PM-2.5 emissions inventories
 - Coordination with PM-2.5 NAAQS
- Regional modeling tools
- Guidance on BART/alternatives to BART
- Guidance on visibility monitoring
- Guidance: Calculating visibility
- Guidance: Natural conditions

-
-
-

Acknowledgements

- Rich Damberg
- MARAMA

