



Columbia Gorge Science Day


Regional Haze and BART

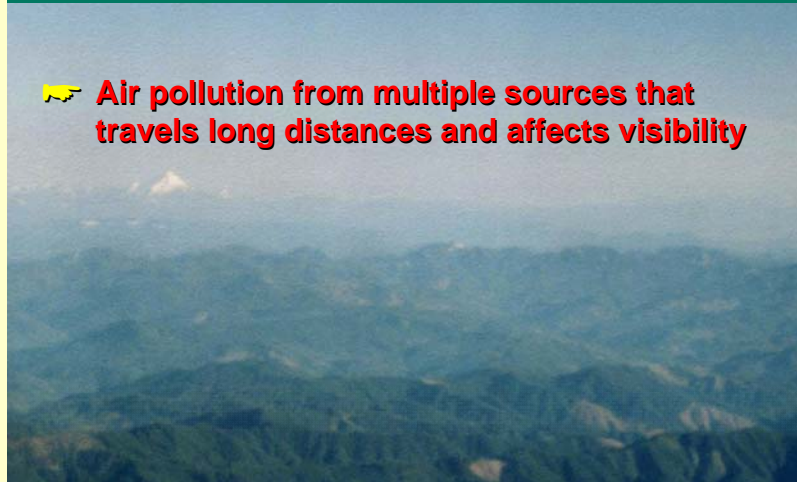
Brian Finneran
DEQ Regional Haze Coordinator

September 25, 2007



What is Regional Haze?

 **Air pollution from multiple sources that travels long distances and affects visibility**





Regional Haze in Crater Lake



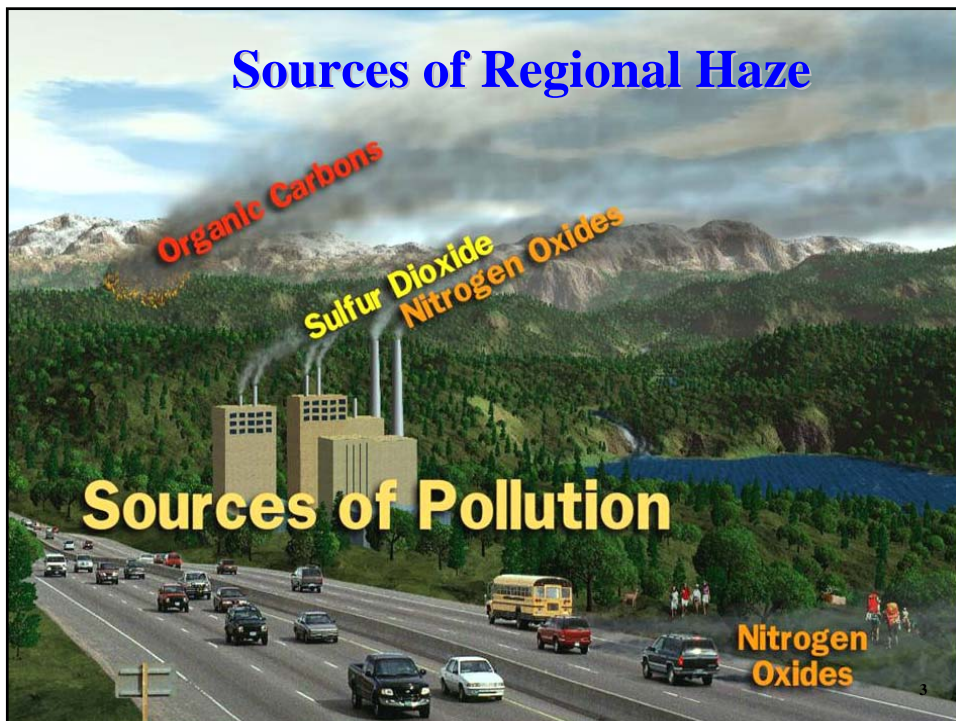
Good Visibility
100 to 150 miles



Impaired Visibility
10 to 25 miles

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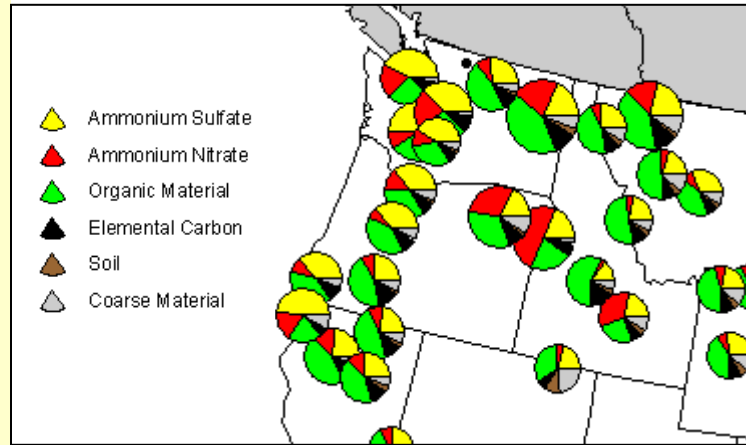
Sources of Regional Haze





Composition of Regional Haze in the Northwest

(2000-2004) Worst Visibility Days



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Regulation of Regional Haze

- EPA adopted “Regional Haze Rule” July 1999
- Focus is exclusively on federal “Class I Areas”
 - = National Parks & Wilderness Areas designated by Congress in 1977
 - ✓ national parks >6,000 acres
 - ✓ wilderness areas >5,000 acres
 - 156 Class I areas in the country
 - 12 Class I areas in Oregon
 - 8 Class I areas in Washington

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Oregon's 12 Class I Areas

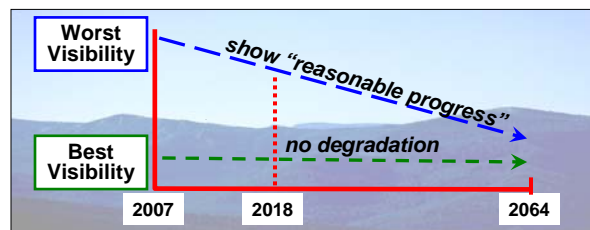


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EPA's Regional Haze Rule

- Must improve Class I area visibility on WORST (haziest) days and no degradation of the BEST days by 2064 (60 years).



- OR and WA must adopt Regional Haze Plans and show "reasonable progress" improving worst days.
- Will have SECONDARY BENEFITS on Columbia Gorge and other Non-Class I Areas.

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A typical Regional Haze Plan

1. Description of “IMPROVE” monitoring network
2. Analysis of current visibility impairment in each Class I area
3. Statewide Emission Inventory of major pollutants
4. Industrial source contribution and control
5. Demonstration of Reasonable Progress by 2018
6. A “Long-Term Strategy” to ensure progress
7. Description of consultation efforts with other States, FLMs, and Tribes
8. Commitment for future SIP updates

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EPA’s Regional Haze Rule

- Oregon Regional Haze SIP expected completion mid-2008.
- On-going 60-year process – SIP updates every 5 yrs, major SIP revision in 2018, and beyond.
- Comprehensive analysis of current impairment, and improvement expected from “on-the-books” regulations.
- Primary focus on **BART – Best Available Retrofit Technology** – applies to certain larger Industrial Sources built before 1977, when PSD rules were adopted to protect Class I area visibility.

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BART vs. PSD

- PSD (Prevention of Significant Deterioration) adopted 1977 for all new major sources.
- BART is pre-PSD – retroactive look at visibility impacts from existing major sources built 1962-1977.
- PSD addresses NAAQS, Increment consumption, and Visibility.
- BART only addresses Visibility.
- Both PSD and BART protect Class I area visibility in the same way.

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How BART is applied

- Three applicability criteria:
 1. Emissions >250 tons per year of any visibility impairing pollutant
 2. Sources built 1962-1977
 3. In any of 26 source categories - includes power plants, industrial boilers, kraft pulp mills, and refineries
- **Four-step process** for applying BART (next slide).

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Four-step BART process

Step 1: Is the source “BART eligible”?

- Does it meet the 3 applicability criteria?

Step 2: Does it contribute to regional haze?

- Is there modeled impact over threshold of 0.5 deciview in any Class I area?

Step 3: If contributing, evaluate cost, feasibility, and visibility improvement by adding new controls*

Step 4: Up to 5 years to install new controls.

* Source can lower emissions through an enforceable permit limit to get below the visibility threshold

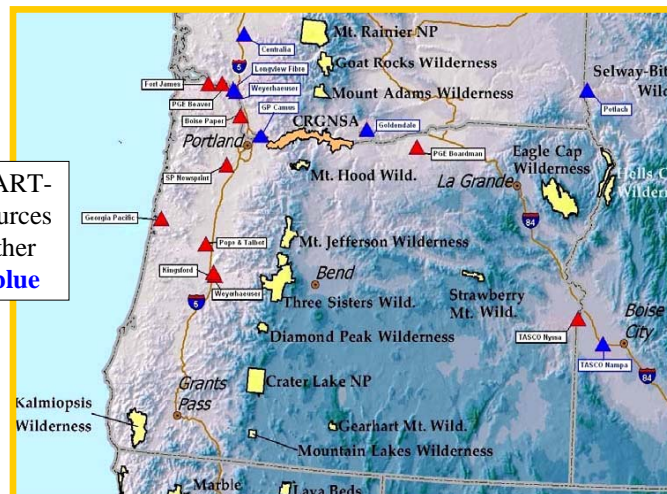
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Oregon BART Process

- DEQ found 10 BART-eligible sources.

Oregon BART-eligible sources in **red**, other states in **blue**



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Oregon BART Process

- DEQ modeled 10 BART-eligible sources. Initial findings showed 7 sources over threshold, 3 under:
 - 6 of 7 were low impacts, in 0.5 dv to 1 dv range.
 - 1 source (PGE Boardman) was significant, 1 dv to 5 dv range, in 15 Class I areas. Mt. Hood Class I area was the highest impact.
- Several sources considering reducing emissions and taking enforceable permit limit. Others are being remodeled to confirm initial findings.
- Preliminary review of BART controls for PGE Boardman available (<http://www.deq.state.or.us/aq/haze/index.htm>). Final decision on controls later this year.

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PGE Boardman BART

- Major reductions in SO₂ and NO_x expected. Types of SO₂/NO_x controls being considered:
 - Low NO_x burners with Overfire Air
 - Selective Catalytic Reduction
 - Semi-dry flue gas desulfurization
 - Wet flue gas desulfurization
- DEQ to hire independent contractor to review PGE analysis of BART controls.
- Final determination expected by end of year.
- DEQ will seek BART controls installed as quickly as possible.

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More on BART

- Receptors added in the Columbia Gorge for BART modeling informational purposes.
- PGE Boardman has significant impact in the Gorge. Other BART sources (including those in WA) may have impact once analysis is complete.
- Next SIP update in 2012 – will address in greater detail impacts of non-BART sources, and area sources (such as forestry burning) near Class I areas.

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Update on Washington and Idaho BART Process

Washington:

- 15 BART eligible sources = 9 modeled over 0.5 dv haze threshold, 6 under.
- Completion of BART work on similar schedule as Oregon.

Idaho:

- 8 BART eligible sources = 1 modeled over 0.5 dv haze threshold, 6 under. 1 skipped modeling and submitted analysis to show already has BART controls.
- BART work near completion.

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Upcoming BART & Regional Haze SIP Timelines

- End of 2007 – Completion of BART work and draft Regional Haze SIP.
- Early 2008 – DEQ holds public workshop on BART. Propose BART rules and Regional Haze SIP.
- Spring 2008 – Public Hearings on above.
- Summer 2008 – EQC adoption of above.
- BART requirements and Regional Haze plan submitted to EPA after EQC adoption.
- BART requirements become effective upon EPA approval.
 - EPA allows a 5 year BART compliance schedule from date of approval.
 - DEQ will require controls to be installed as soon as realistically possible.

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What does all this mean for the Columbia Gorge?

- BART for PGE Boardman may have quantifiable visibility benefits in the Gorge.
- New special smoke management protection for the Gorge being adopted by Oregon Department of Forestry – and included in RH SIP – will reduce smoke impacts and improve visibility.
- Oregon & Washington Regional Haze long-term strategies to improve Class I area visibility expected to provide some visibility benefit to Gorge.
- 5-year SIP updates by Oregon & Washington will provide gradual improvements in haze, and also some benefits to Gorge.

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Questions?



For more information contact:

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See also DEQ Regional Haze webpage:

<http://www.deq.state.or.us/aq/haze/index.htm>

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