State Implementation Plan Revision
Adoption of Regional Haze Strategies in Oregon

Oregon Regional Haze Plan for Implementing Section 308 (40CFR 51.308) of the Regional Haze Rule

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Oregon DEQ Information and Documents

Available at the DEQ Regional Haze website:
http://www.deq.state.or.us/aq/haze/index.htm
See other documentation in the Appendices Section of this document

Applicable Western Regional Air Partnership (WRAP) Reports and Documents

Available at the WRAP website:
http://www.wrapair.org/
or at the WRAP TSS website:
http://vista.cira.colostate.edu/tss/

Other Reference

1. EPA's Regional Haze Regulations (64 Federal Register 35714), July 1, 1999.
2. EPA's Regional Haze Regulations and Guideli
(BART) Determinations: Final Rule (70 Federal Register 39104), July 6, 2005.

ACKNOWLEDGEMENTS AND SUMMARY

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This document comprises the State of Oregon's State Implementation Plan submittal to EPA under Section 308 of the Regional Haze Rule (40 CFR 51.308). Adoption of the Oregon Section 308 Regional Haze Plan (herein referred to as the Oregon Regional Haze Plan) amends the State of Oregon Clean Air Act Implementation Plan, OAR 340-200-0040. See Appendix H for the complete citation of this rule. Other appendices at the end of this document provide additional information related to the strategies, including Oregon administrative rules associated with this plan, reference material (technical analysis and reports) prepared by the WRAP, and other documentation.

Executive Summary

Regional haze is air pollution that travels long distances and reduces visibility in scenic areas. The haze that affects visibility in Oregon comes from motor vehicles, power plants, industrial and manufacturing processes, forestry, agricultural and other open burning, as well as natural sources such as wildfire and windblown dust. The federal Clean Air Act contains requirements to protect and improve visibility in national parks and wilderness areas in the country. In 1977 Congress designated certain national parks and wilderness areas as "Class 1 areas," where visibility was identified as an important value. Currently there are 156 Class 1 areas in the country. Oregon has 12 Class 1 areas, including Crater Lake National Park and 11 wilderness areas.

To address the problem of regional haze the Environmental Protection Agency (EPA) adopted the *Regional Haze Rule* in 1999. This rule requires states to adopt regional haze plans to incrementally improve visibility in all Class 1 areas, including Oregon, over the next 60 years. It focuses on improving Class 1 area visibility on the haziest days (the worst 20 percent) and ensuring no degradation on the clearest days (the best 20 percent). The first regional haze plan must include "Reasonable Progress Goals" (RPGs) for each Class I known as the "2018 RPGs" are interim goals that represent incremental visibility improvements, based on a calculation of the "unifo P). The first regional haze plan describes the progress anticipated in reaching the 2018 URP milestone for each Class I area, for the 20 percent worst and best days, based on projections of emission reductions and visibility improvements from regional haze control strategies during this first planning period.

Best Available Retrofit Technology (BART) is a key part of the federal Regional Haze Rule, and the central focus of regional haze plans that states are developing. It applies to certain older industrial facilities that began operating before 1977 when federal Prevention of Significant Deterioration (PSD) rules were adopted to protect visibility in Class I areas when permitting new industrial facilities. Under BART, these older facilities must now evaluate their visibility impact in Class I areas, and if found to be significant, conduct an evaluation of new pollution controls, and install them within five years.

This document is Oregon's Regional Haze Plan plan are as follows:

- History and regulatory background of the Regional Haze Rule, and geographical description of each of Oregon's 12 Class

- A comprehensive review and technical assessment of visibility conditions in each of Oregon's 12 Class I areas, showing major pollutants and source categories in Oregon and other states causing haze, and a proj date of 2018. See Chapters 6 through 9.

- DEQ's evaluation of BART-eligible ... proposal requires retrofit and controls on the power plant, and reduce emissions at four other facilities to below the visibility impact level considered to be significant. See Chapter 10.

- "Reasonable Progress Goals" established by ... I area, which show improvements in visibility for the haziest or worst days (but less than the first URP milestone for 2018) and no visibility degradation for the clearest or best days. See Chapter 11.

- A “Long-Term Strategy” that [illegible] what actions DEQ will take to address major sources of haze over the next 10 years, and commitments for future plan updates and revisions.

- Summary of the efforts by DEQ to consult and coordinate with other States, Tribes, and Federal Land Managers on the regional haze strategies contained in this plan. See Chapter 13.

The major elements of this plan are the BART evaluation, Reasonable Progress Goals, and the Long-Term Strategy.

<u>Best Available Retrofit Technology evaluation</u>

The primary result of the BART evaluation in Chapter 10 was the outcome of the BART determination for the PGE Boardman coal-fired power plant. DEQ evaluated 10 BART-eligible sources, and found that the PGE Boardman plant had by far the greatest visibility impact in Oregon’s Class I areas, as well as several of Washington’s Class I areas. As a result, DEQ adopted BART requirements for the PGE Boardman plant that contain a 2020 closure date for the plant, at the request of PGE. Prior to this date, PGE would install BART controls, and meet emission limits in 2011, 2014, and 2018, that will reduce total emissions by 48%. After 2020, all emissions from the plant, or approximately 25,500 tons per year of primarily sulfur dioxide (SO_2) and nitrogen oxide (NO_x), would be eliminated. Both the emission reductions from the interim BART controls and from plant closure would provide significant visibility benefits to 14 Class I areas impacted by the Boardman plant, including the Columbia Gorge National Scenic Area. In addition, the complete elimination of all emissions after 2020 would greatly contribute to meeting regional haze “reasonable progress” goals. For a full description of DEQ’s BART determination, see Chapter 10.

Also as part of the BART evaluation, DEQ found four other BART-eligible sources that had visibility impacts that were just over the “significance” [illegible] BART sources. DEQ determined these sources could take a federally enforceable permit limit to lower their emissions below the significance level. Sources that take an enforceable permit limit are not subject to further evaluation for BART controls, however as BART-eligible sources, they can be re-evaluated as part of a more comprehensive review of industrial emissions under the reasonable progress requirements for making visibility improvements. This re-evaluation of all BART-eligible sources is part of the Long-Term Strategy described below.

<u>Reasonable Progress Goals</u>

In establishing RPGs for each Class I area, DEQ relied upon emission projections and regional modeling work conducted by the Western Regional Air Partnership (WRAP). The WRAP *Technical Support System* or TSS website provided considerable technical information in determining the RPGs, and is referenced in the Appendices section of the plan. The RPGs described in Chapter 11 represent future visibility in 2018, based on the URP calculated for each Class I area (see Chapter 6) that represents a “presumptive goal” for the first regional haze plan. In cases where the RPGs do not meet the

URP goal for 2018, States are required to explain the reasons for the slower progress, additional controls that were considered for this first plan, and what future actions that will be taken to ensure the 60-year objective of the Regional Haze Rule will be met.

While the RPGs for Oregonôs Class I areas me clearest or best days, they do show a slower rate of progress for the haziest or worst visibility days, and do not meet the 2018 URP milestones in most areas. The reasons for this, as described in Chapter 11, are summarized below:

- DEQôs analysis of emissions data, source a supports the finding that the contribution of natural sources, such as wildfire and windblown dust, is the primary reason for slower progress in achieving the 2018 milestone in Oregonôs Class I areas.

- Similar to the contribution of natural sources, DEQ believes marine vessel emissions are also affecting progress in making visibility improvements. These emissions are estimated to be currently half of the statewide SO_2 emissions and one-third the statewide NO_x emissions. This contribution to visibility impairment is significant, especially in Western Oregon Class I areas. Current DEQ authority to regulate offshore shipping emissions is limited. The plan identifies future work that is needed to address this significant source of emissions.

- DEQôs analysis of projected visibility improvements from sulfate and nitrate impacts in Oregon Class I areas shows about a 20 percent reduction in these pollutants by the 2018 milestone. Given the strong association of these pollutant species to anthropogenic sources, DEQ believes this is a more realistic indicator of reasonable progress. If natural sources are excluded, this 20 percent reduction in sulfates and nitrates corresponds to the same percent reduction that is represented by the 2018 milestone.

- Mobile sources (mostly cars and trucks) are the largest anthropogenic source of emissions in Oregon. By 2018 more than half of these emissions are projected to decrease due to numerous federal emission standards that are already ñon the booksò, in Oregon that will reduce these emissions. DEQ believes this major reduction supports the demonstration that RPGs are reasonable based on the considerable progress being made reducing this large source of emissions.

- DEQ conducted a ñFour-Factor Analysisò as required und evaluate other large sources of emissions (non-BART sources) that could be reduced or controlled to improve visibility by 2018. Using this analysis DEQ did not find any controls that were reasonable to pursue at this time. However, as noted above, the BART controls for the PGE Boardman power plant will result in a 48% reduction in emissions prior to 2018, followed by the complete elimination all emissions after 2020. Overall, this represents a total emission reduction of approximately 25,500 tons per year. Although not a direct result of the four-factor analysis, this does rep emission reduction that is significant, and will provide noticeable visibility improvements in 14 different Class I areas. Based on the preliminary information obtained from the four-factor analysis, DEQ has proposed in the Long-Term Strategy of the plan to further evaluate non-BART industrial sources for possible new controls in the next five years to make additional visibility improvements by 2018.

Long-Term Strategy

Chapter 12 of this plan is the Long-Term Strategy, which describes on-going rules and programs that are expected to provide visibility improvements, and identifies new measures that DEQ has committed to evaluate by the next plan update in 2013. The two primary commitments are to evaluate possible visibility improvements from non-BART industrial sources not included in the BART review, and Class I area smoke impacts from forestry burning. These represent the two greatest areas where potentially significant visibility benefits could be realized.

The evaluation of non-BART sources will include a re-evaluation of the BART-eligible sources. Starting in 2009, DEQ will develop a comprehensive guidance document through a stakeholder process for evaluating visibility impacts from non-BART industrial sources. A DEQ report will be prepared by 2013 that summarizes (1) the development of this guidance; (2) results of applying the guidance to non-BART sources and BART-eligible sources; (3) any potential new controls for sources, (4) proposed rulemaking needed and schedule for adopting new rules, (5) estimated timeline for installing any new controls; and (6) estimate of the expected visibility benefits.

The evaluation of forestry burning will consist of an analysis of smoke impacts from forestry burning on visibility, for the haziest or worst days at each Class I area in Oregon. Where this burning it is found to cause significant visibility impacts, DEQ plans to work with state forestry and federal land managers to identify new smoke management controls to protect visibility.

Other new measures in the Long-Term Strategy included an evaluation of the contribution from residential open burning and rangeland burning, and further assessment on the contribution of marine vessels and possible regulatory actions that could be taken.

Columbia River Gorge National Scenic Area Visibility

The Columbia River Gorge National Scenic Area was created by Congress in 1986. While it was not designated as a Class I area, it will receive significant visibility benefit under the Oregon Regional Haze Plan due to itsô proxim
Wilderness in Oregon. The Gorge was included with other Class I areas in the visibility modeling analysis of BART sources, and the requirement for five-year updates to Oregon Regional Haze Plan will include similar analysis and tracking of visibility improvements for the Gorge.

The National Scenic Area Act of 1986 requires the protection and enhancement of the scenic, natural, cultural, and recreational resources of the Gorge, while at the same time supporting the local economy. The Columbia River Gorge Commission (CRGC) has responsibility to administer the National Scenic Area Act. In 2001, the CRGC determined that in order to protect air quality in the Gorge, the CRGC would rely on Oregon DEQ and the Washington Southwest Clean Air Agency to develop an air quality strategy for the Scenic Area. The state agencies studied air quality and visibility and the emission sources that contribute to haze in the Gorge. Because many of the same problems that affected haze in the Gorge are the same problems that affect haze across the western region, much of the visibility efforts under the regional haze program will ultimately benefit the Gorge. Therefore, as part of the federally mandated five-year regional haze plan update, DEQ will track visibility conditions in the area and provide a separate follow up with the CRGC to provide a progress report on conditions in the Gorge. See Section 1.6.2 of this plan for more information.

CHAPTER 1: INTRODUCTION

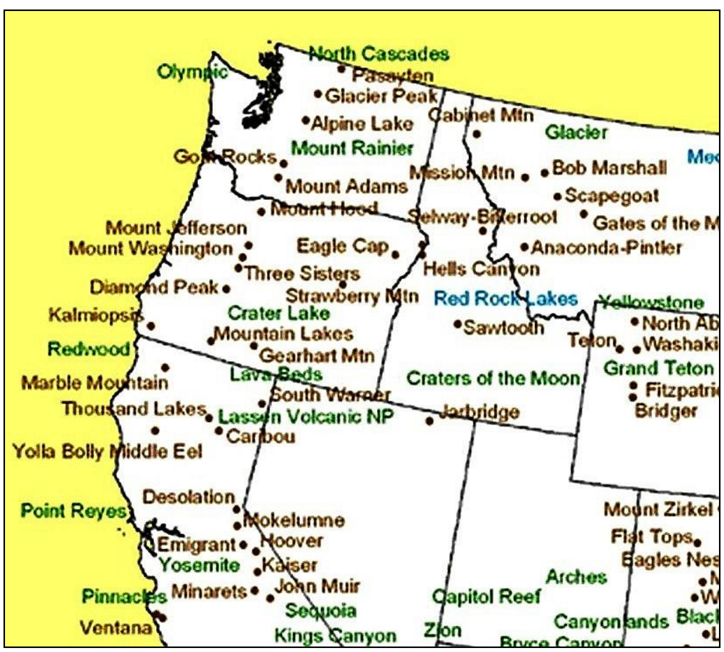
1.1 Overview of Visibility and Regional Haze

Good visibility is essential to the enjoyment of national parks and scenic areas. Visibility impairment occurs as a result of the scattering and absorption of light by particles and gases in the atmosphere. This affects the clarity and color of what we see. Without the effects of air pollution, natural visual range is approximately 140 miles in the West and 90 miles in the East. However, over the years, air pollution in many parts of the United States has significantly reduced the range that people can see. In the West, the current range is 35-90 miles, and in the East, only 15-25 miles.

Regional haze is air pollution that is transported long distances and reduces visibility in national parks and wilderness areas. The pollutants that create this haze are sulfates, nitrates, organic carbon, elemental carbon, and soil dust. Human-caused haze sources include industry, motor vehicles, agricultural and forestry burning, and windblown dust from roads and farming practices.

The federal Regional Raze Rule requires states to improve visibility over the next 60 years in 156 national parks and wilderness areas in the country. In 1977, Congress designated all wilderness areas over 5,000 acres and all national parks over 6,000 acres as ñmandatory federal Class I areasò (or ñClass I areasò for short). These protection under the Clean Air Act. Figure 1.1-1 shows the Class I areas located in Oregon and Northwest.

Figure 1.1-1 Class I Areas in Pacific Northwest



1.2 Oregon Class I Areas

Oregon has 12 specially designated Class I areas, including Crater Lake National Park and 11 wilderness areas. These areas are listed in Table 1.2-1, and are the focus of this Regional Haze Plan. A description of each Class I area is provided in Chapter 3 of this report.

Table 1.2-1 Oregon Class I Areas

Class I Area	Acreage
Mt. Hood Wilderness	47,160
Mt. Jefferson Wilderness	107,008
Mt. Washington Wilderness	52,516
Three Sisters Wilderness	285,202
Diamond Peak Wilderness	52,337
Crater Lake	183,315
Mountain Lakes Wilderness	23,071
Gearhart Mtn. Wilderness	22,809
Kalmiopsis Wilderness	179,700
Strawberry Mtn. Wilderness	69,350
Eagle Cap Wilderness	360,275
Hells Canyon Wilderness	131,133*

* Oregon portion only. Total acreage is 214,944

1.3 Background on the Regional Haze Rule

In 1977, Congress amended the Clean Air Act to include provisions to protect the scenic vistas of the nationôs nati In these amendments, Congress declared as derness a national visibility goal:

> *The prevention of any future, and the remedying of any existing impairment of visibility in mandatory class I Federal areas which impairment results from man-made air pollution.* (Section 169A)

To address this goal, in 1980 EPA adopted regulations to a visibility impairme caused by one or a small group of man-made impairm sources generally located in close proximity to a specific Class I area. These became known as EPAôs ñPhase Iò visibility rules. At that ti address regional haze, because they lacked the needed scientific information and research needed to understand the long-range transport and formation of regional haze.

In response to EPAôs Phase I visibility rules Protection Plan in October 1986 (see Section 1.5.2). The 1990 amendments to the Clean Air Act established requirements to study regional haze. They gave EPA the authority to establish visibility transport commissions and promulgate regulations to address regional haze. The 1990 amendments also established a visibility transport commission to investigate and report on regional haze visibility impairment in the Grand Canyon National Park and nearby Class I areas. A summary of the work of the Grand Canyon Visibility Transport Commission is provided in Section 1.5.4.

1.4 Summary of the Regional Haze Rule

To address the problem of long range transport of regional haze and to meet the national goal of reducing man-made visibility impairment in all Clas visibility rules in 1999, to be known as the Regional Haze Rules. These rules can be found in 40 Code of Federal Regulations, Volume 64, July 1, 1999, pages 35714-35774.

The objective of the rules was to improve visibility over the next 60 years (by 2064) in all 156 Class I areas in the country. The rules require States to adopt a regional haze State Implementation Plan (SIP) that focuses on improving the haziest days (the worst 20%) and protecting the clearest days (the best 20%). Each SIP will provide a comprehensive analysis of natural and human-caused sources of haze in each Class I area, and contain strategies to control sources and reduce emissions that contribute to haze. The SIP must also address the transport of haze across state boundaries.

The Regional Haze Rule provides two paths for adopting regional haze SIPs. The submittal of this regional haze SIP meets the "Section 308" 40 CFR 51.308. The other part of the rule is "Section 309" (40 CFR 51.309), and is an option for nine western states - Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Wyoming. These states can choose to follow Section 309 and adopt specific regional haze strategies related for the 16 Class I areas of the Colorado Plateau, based on recommendations developed by the Grand Canyon Visibility Transport Commission (see Section 1.5.4 below). Section 309 applies only until 2018, after which Section 308. Since Oregonô Colorado Plateau Class I areas, Oregon choose not submit a Section 309 plan for this SIP submittal.[1]

Two of the primary components of the Regional Haze Rule are requirements to address Best Available Retrofit Technology (BART) and demo reasonable progress in improving visibility by a 2018 milestone for each Class I area. The BART requirements address certain larger industrial sources that began operation before the adoption of the 1977 Prevention of Significant Deterioration Rules (see Section 1.5.1). Chapter 10 of this Plan describes the BART review and evaluation in detail. The demonstration of reasonable progress requires setting goals for the 20% worst and best days in each Class I area, based on an evaluation of how BART and other regional haze strategies will reduce emissions and improve or protect visibility. Chapter 11 of this Plan describes the Reasonable Progress Demonstration in detail.

[1] In 2003, Oregon did submit to EPA a Section 309 Regional Haze Plan, to primarily address the contribution of Oregon emissions to visibility impacts in the Colorado Plateau. This plan, along with other 4 other state plans submitted under Section 309, were disapproved by EPA due to a lawsuit regarding the BART requirements in Section 309. [For more information see *Center for Energy and Economic Development v. EPA*, no. 03-1222, (D.C. Cir. 2005) (*CEED v. EPA*)]. The four states chose to resubmit their 309 plans. The Department decided not to resubmit the plan, due to the optional nature of Section 309, the fact that Oregon is only a minor contributor to visibility impacts in the Colorado Plateau, and that a Section 308 plan is required in 2008 regardless under the Regional Haze Rule.

The Regional Haze Rule is in addition to ñPha
The Department developed the Oregon Visibility Protection Plan in 1986, in response to EPAôs
Phase I rules, as described in Section 1.5.2 below.

Additional information on the Regional Haze Rule can be found on the Depa
at http://www.deq.state.or.us/aq/haze/index.htm.

1.5 Other Programs to Address Visibility Impairment

1.5.1 Prevention of Significant Deterioration for New Sources

The 1977 Clean Air Act Amendments established Prevention of Significant Deterioration (PSD) requirements, which protect air quality (and visibility) from air pollution from new major industrial sources, and major modifications of existing sources. Included in the PSD rules were requirements to protect visibility in national parks, national wilderness areas, national monuments and national seashores. The PSD program sets specific increments or limits on the maximum allowable increase in air pollution in certain airsheds, and a preconstruction permit review process for new or modifying major sources that allows for careful consideration of control technology, consultation with FLMs on visibility impacts and public participation in permitting decisions.

1.5.2 Phase I Visibility Rules ïthe Oregon Visibility Protection Plan

In response to EPAôs Ph ents adopted the Oregon Visibility ity rules
Protection Plan in October 1986. This visibility plan contains short and long-term strategies for making reasonable progress toward the national goal, related to addressing reasonably attributable im Class I areas through visibility monitoring and control ôs strategies. This plan incorporates PSD requirements for visibility protection from new or modified major stationary sources, and if necessary, applying BART to existing stationary sources if certified as causing reasonably attributable visibility impairment. The plan includes (a) the mitigation of visibility impairment within the Mt. Hood and Central Oregon Cascade wilderness areas through short and long-term control strategies for forest prescribed burning and Willamette Valley agricultural field burning, and (b) mitigation of impairment in the Eagle Cap Wilderness and Central Oregon Cascades resulting from agricultural field burning.

1.5.3 Best Available Retrofit Technology (BART)

Under Section 169A(b)(A) of the Clean Air Act, Congress established Best Available Retrofit Technology (BART) requirements for major stationary sources in operation within a 15-year period before adoption of the 1977 PSD rules. Under EPAôs TñPhase
could be required for sources that were certified by the Federal Land Manager as causing reasonably attributable visibility impairment in a Class I area. Under EPAôs ñPhase I
haze rules, new BART rules were included that automatically triggered a review process for all pre-1977 sources. The review process included criteria for determine BART eligibility, modeling of visibility impacts, and evaluating the need for controls. (The BART review process is described in detail in Chapter 10 of this Plan.) In evaluating controls, the BART rules

require taking into consideration the costs of compliance, the energy and non-air quality environmental impacts of compliance, any existing pollution control technology in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology.

1.5.4 The Grand Canyon Visibility Transport Commission

The 1990 Clean Air Act Amendments created the Grand Canyon Visibility Transport Commission (GCVTC). The GCVTC was given the charge to assess the currently available scientific information pertaining to adverse impacts on visibility from potential growth in the region, identify clean air corridors, and recommend long-range strategies for addressing regional haze for Class I areas on the Colorado Plateau. The GCVTC completed significant technical analyses and developed recommendations to improve visibility in the 16 Class I areas on the Colorado Plateau. These 16 Class I areas are as follows: Arches National Park, Black Canyon of the Gunnison Wilderness, Bryce Canyon National Park, Canyonlands National Park, Capital Reef National Park, Flat Tops Wilderness, Grand Canyon National Park, Maroon Bells Wilderness, Mesa Verde National Park, Mt. Baldy Wilderness, Petrified Forest National Park, San Pedro Parks Wilderness, Sycamore Canyon Wilderness, Weminuche Wilderness, West Elk Wilderness, Zion National Park.

The GCVTC found that visibility impairment on the Colorado Plateau was caused by a wide variety of sources and pollutants. A comprehensive strategy was needed to address all of the causes of regional haze. The GCVTC submitted these recommendations to EPA in a report dated June 1996 for consideration in rule development. These recommendations were:

Air Pollution Prevention. Air pollution prevention and reduction of per capita pollution was a high priority for the Commission. The Commission recommended policies based on energy conservation, increased energy efficiency and promotion of the use of renewable resources for energy production.

Clean Air Corridors. Clean air corridors are geographic areas that provide a source of clean air to the 16 Class I areas of the Colorado Plateau. For these areas, the Commission primarily recommended careful tracking of emissions growth that may affect air quality in these corridors, and ultimately the 16 Class I areas.

Stationary Sources. For stationary sources, the Commission recommended closely monitoring the impacts of current requirements under the Clean Air Act and ongoing studies. It also recommended regional targets for SO_2 emissions from stationary sources, starting in 2000. If these targets are exceeded, a regional cap and market-based emission trading program should be implemented.

Areas In and Near Parks. The Commission's research and modeling showed that a host of sources adjacent to parks and wilderness areas, including large urban areas, have significant visibility impacts. However, the Commission lacked sufficient data regarding the visibility impacts of emissions from some areas in and near parks and wilderness areas. In general, the models used by the Commission were not readily applicable to such areas. Pending further studies of these areas, the Commission recommended that local, state, tribal, federal, and private parties cooperatively develop strategies, expand data collection, and improve modeling for reducing or preventing visibility impairment in areas within and adjacent to parks and wilderness areas.

Mobile Sources. The Commission recognized that mobile source emissions are projected to decrease through about 2005 due to improved control technologies. The Commission recommended capping emissions at the lowest level achieved and establishing a regional emissions budget, and also endorsed national strategies aimed at further reducing tailpipe emissions, including the so-called 49-state low emission vehicle, or 49-state LEV.

Road Dust. The Commission's technical assessment indicated that road dust is a large contributor to visibility impairment on the Colorado Plateau. As such, it requires urgent attention. However, due to considerable skepticism regarding the modeled contribution of road dust to visibility impairment, the Commission recommended further study in order to resolve the uncertainties regarding both near-field and distant effects of road dust, prior to taking remedial action. Since this emissions source is potentially such a significant contributor, the Commission felt that it deserved high priority attention and, if warranted, additional emissions management actions.

Emissions from Mexico. Mexican sources are also shown to be significant contributors, particularly of SO_2 emissions. However, data gaps and jurisdictional issues made this a difficult issue for the Commission to address directly. The Commission recommendations called for continued bi-national collaboration to work on this problem, as well as additional efforts to complete emissions inventories and increase monitoring capacities. These matters should receive high priority for regional and national action.

Fire. The Commission recognized that fire plays a significant role in visibility on the Plateau. In fact, land managers propose aggressive prescribed fire programs aimed at correcting the buildup of biomass due to decades of fire suppression. Therefore, prescribed fire and wildfire levels are projected to increase significantly during the studied period. The Commission recommended the implementation of programs to minimize emissions and visibility impacts from prescribed fire, as well as to educate the public.

Future Regional Coordinating Entity. Finally, the Commission believed there was a need for an entity like the Commission to oversee, promote, and support many of the recommendations in their report. To support that entity, the Commission developed a set of recommendations addressing the future administrative, technical and funding needs of the Commission or a new regional entity. The Commission strongly urged the EPA and Congress to provide funding for these vital functions and give them a priority reflective of the national importance of the Class I areas on the Colorado Plateau.

1.5.5 The Western Regional Air Partnership

The GCVTC recognized the need for a long-term organization to address the policy and technical studies needed to address regional haze. The Western Regional Air Partnership

(WRAP) was formed in September 1997 as the successor organization to the GCVTC. The WRAP is made up of western states, tribes and federal agencies. The states are Alaska, Arizona, California, Colorado, Idaho, Montana, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. The WRAP is assisting these states by developing the policy and technical work products needed for their regional haze SIPs. The WRAP established stakeholder-based technical and policy oversight committees to assist in managing the development of regional haze work products. See Section 4.1 of this plan for more information on the WRAP. See also WRAP web site at http://www.wrapair.org.

1.6 Purpose of this Document

The Oregon Regional Haze Plan has been prepared to meet the requirements of the Federal Regional Haze Rule, Section 40 CFR, Part 51, Section 308. It contains strategies and elements related to each requirement of this federal rule. The appendices (citation) at the end of this document provide additional information related to the strategies, including citations of new Oregon administrative rules associated with this plan, and the reference material (technical analysis and reports) prepared by the WRAP.

Relation to the WRAPôs Regional Technical Su

The WRAPôs Technical Support System (TSS) was the source for the majority of key technical information and data used in the Oregon Regional Haze Plan. The WRAP TSS can be found at http://vista.cira.colostate.edu/tss/. See Chapter 12, Section 12.2, for more information on specific WRAP reports and project. Appendix C has additional information on the WRAP TSS.

1.6.1 Mandatory Federal Class I Areas Addressed in this SIP

The Regional Haze Rule under 40 CFR 51.308 requires states to address visibility protection for regional haze in Oregonôs Class I Areas. These areas
depicted in Figure 1.2-1.

1.6.2 Columbia River Gorge National Scenic Area

As mentioned earlier, the Regional Haze Rule is applicable to federal Class I areas only. While the Columbia River Gorge National Scenic Area is not a Class I area, it was designated a National Scenic Area by Congress in 1986. The National Scenic Area Act of 1986 requires the protection and enhancement of the scenic, natural, cultural, and recreational resources of the Gorge, while at the same time supporting the local economy.

The Columbia River Gorge Commission (CRGC) has responsibility to administer the National Scenic Area Act. As part of an amendment to the National Scenic Area Management Plan, the CRGC recognized that a Class I designation is not appropriate for the Gorge. However, the CRGC did recognize that air quality degradation can jeopardize those resources, and that in order to protect air quality in the Gorge, the CRGC would rely on state air quality agencies to develop an air quality strategy for the Scenic Area.

Oregon DEQ and the Washington Southwest Clean Air Agency (SWCAA) have been working with the CRGC since 2001 to study air quality and visibility in the Gorge, and the emission sources that contribute to haze in the Gorge. The study also included a projection of future visibility conditions in the Scenic Area. The study results identified that haze in the Gorge was caused by many different sources and haze reduction would need to result from the cumulative effect of numerous emission reduction activities.

Because many of the same problems that affected haze in the Gorge are the same problems that affect haze across the western region, much of the visibility efforts under the regional haze program will ultimately benefit the Gorge. The Columbia River Gorge Scenic Area is situated between two Class I areas (Mt. Hood and Mt. Adams) and the Gorge will benefit from Oregon and Washingtonôs long term regional haze pro not a Class I area and will not be expected to be on the same reasonable progress glide path as the Class I areas, visibility in the Gorge can be measured against the nearby Class I areas. This comparison will allow DEQ to track the Gorgeôs progress for continued visibility improvement.

Additionally, as part of the federally mandated five-year regional haze plan update, DEQ will include in these updates a description of visibility benefits to the Gorge, as the result of the effort to make reasonable progress in improving Class I area visibility over the next 60 years. Once this Regional Haze Plan SIP is submitted to EPA, DEQ will follow up with the CRGC to provide a progress report on conditions in the Gorge. DEQ will identify whether Gorge visibility conditions are showing continued improvement, similar to but not on the same glide path as conditions in the Class I areas. If visibility in the Gorge is not improving or showing a downward trend, then DEQ will reassess its Gorge strategy and potentially identify new strategies to ensure continued visibility improvement in the Gorge.

CHAPTER 2: OREGON REGIONAL HAZE SIP DEVELOPMENT AND CONSULTATION PROCESS

The Oregon Regional Haze Plan was developed through a process of consultation with other States, Tribes, state and federal natural resource agencies, EPA, and major stakeholders and the general public. The following is a brief summary of the consultation requirements under the Regional Haze Rule. Chapters 13 and Appendix G contains a full description of the consultation process identified below, in developing the Oregon Regional Haze Plan.

2.1 Federal Land Manager Consultation

The Regional Haze Rule requires consultation between the State and FLMs related to development and implementation of regional haze plans. States need to provide FLMs and opportunity to comment at least 60 days prior to holding a public hearing on a proposed plan or plan revision. This includes c assessment of visibility impairment in the State each Class I area, and providing recommendations on the reasonable progress goals and visibility control strategies the State has proposed. States also need to provide the FLM an opportunity to comment on the five-year progress reports and other developing programs that may contribute to Class I visibility impairment.

2.2 State Consultation

Also required under the Regional Haze Rule is state-to-state consultation to develop coordinated regional haze strategies. Regional haze by definition is the long-range transport of air pollution, and as such includes identifying interstate transport issues. This requirement directs States to reasonably anticipated to contribute to visibility that are impairment in a Class I area in another State or States.

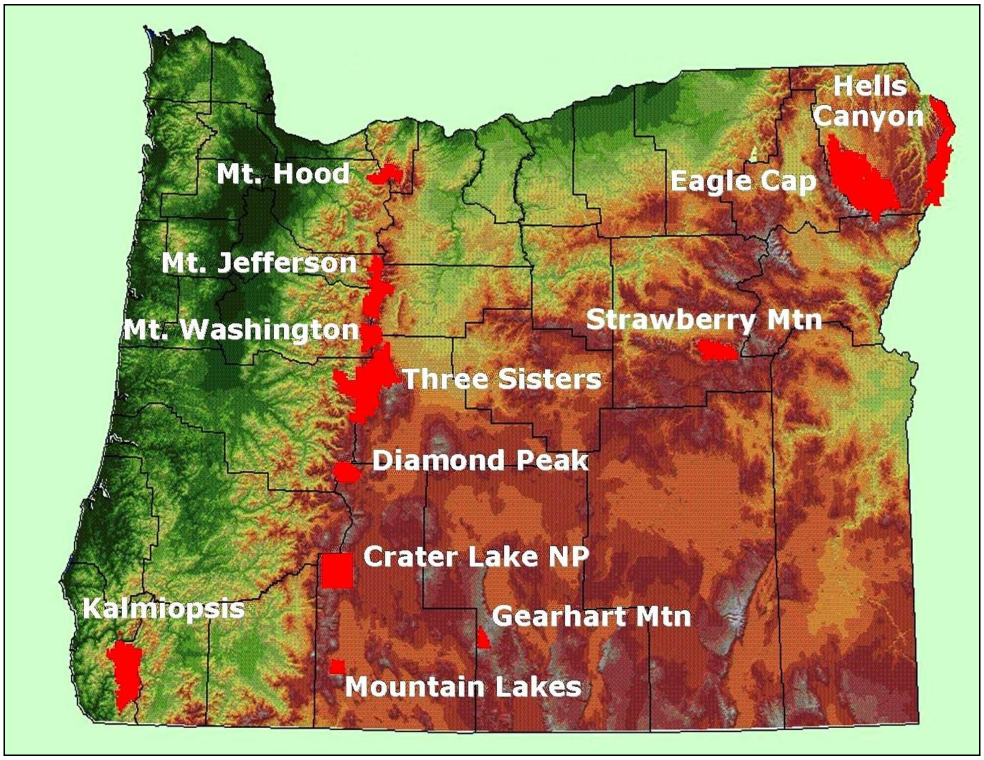
2.3 Tribal Consultation

Although tribal consultation is not required under the Regional Haze Rule, the Department views this as an important part of the consultation process, and actively pursued this during the development of the regional haze plan. Like the State consultation process above, consultation with Tribes involved reviewing major emission sources and regional haze strategies to address visibility issues.

CHAPTER 3: INTRODUCTION TO OREGON CLASS I AREAS

This chapter provides a map and description of the size, elevation, location, and other features of O r e g o n ô s 12 C l a s s I a r e a s .

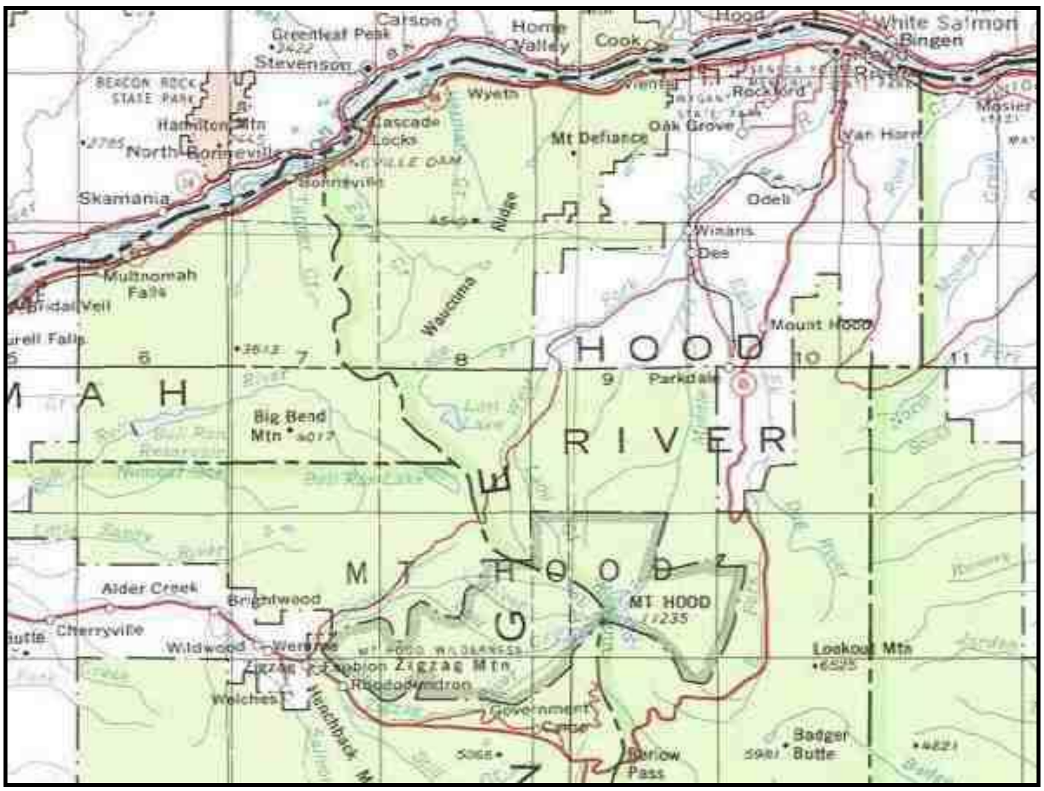
Figure 3-1 Map of Oregon Class I Areas



3.1 Mt. Hood Wilderness Area

Figure 3.1-1 presents a map of the Mt Hood Wilderness, which spans 47,160 acres on the slopes of Mt Hood in the northern Oregon Cascades. Wilderness elevations range from 3,426 m (11,237 ft) on the summit of Mt Hood down to almost 600 m (2,000 ft) at the western boundary. It is almost adjacent to the Portland Oregon metropolitan area; the westernmost boundary is about 20 km east of the Portland Oregon suburb of Sandy and 40 km from the heavily populated metropolitan center, elevation 100 m (300 ft). Visitation to the Mt. Hood Wilderness Area is approximately 50,000 visitors a year, primarily between May and October. Most visitors come from the Portland/Vancouver area that has a population of approximately 2 million.

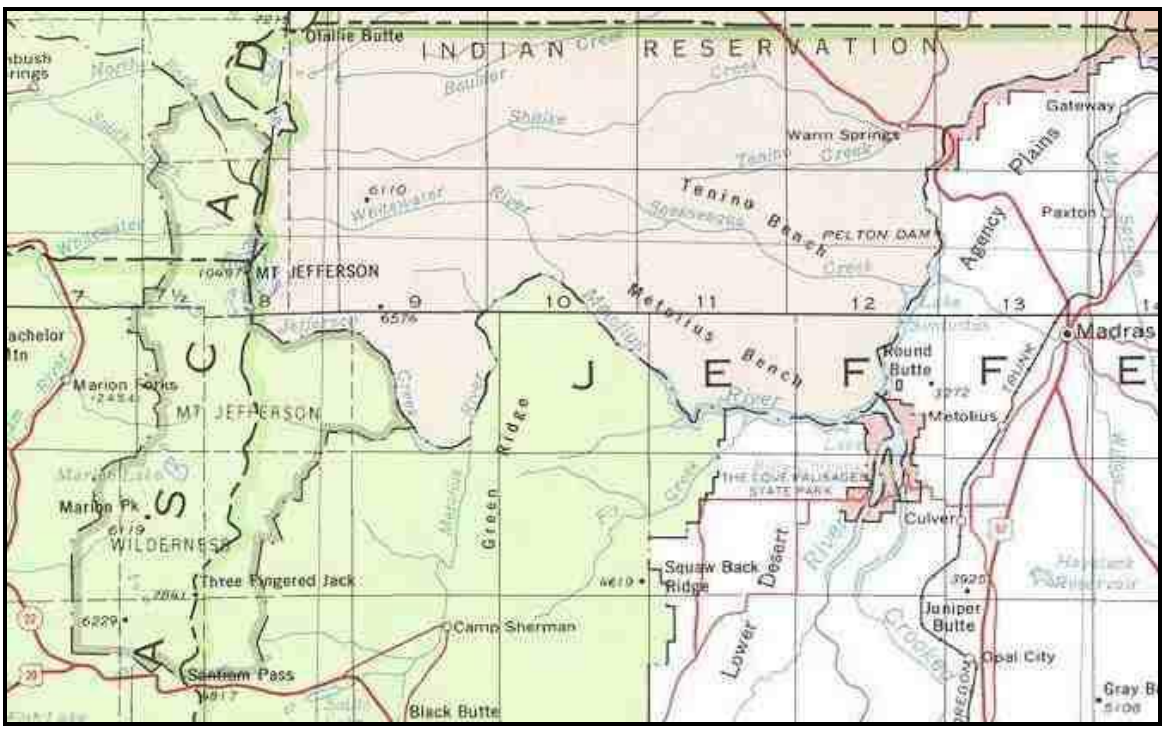
Figure 3.1-1 Map of Mt. Hood Wilderness Area



3.2 Mt. Jefferson Wilderness Area

Figure 3.2-1 presents a map of the Mt. Jefferson Wilderness Area, which occupies 107,008 acres on the crest of the Cascade Range in central Oregon. Its southern boundary is a few km north of the northern boundary of the Mt Washington Wilderness and it extends 40 to 50 km north along the Cascade crest. West of the crest, it consists primarily of the eastern side of the North Santiam River headwaters basin that connects to the Willamette Valley source region near Salem Oregon, 100 km (60 mi) to the west. East of the crest it occupies the western slopes of the Metolius River drainage that connects eastern slopes with Deschutes River in eastern Oregon. The highest Wilderness elevation is 3,200 m (10,497 ft) at the summit of Mt Jefferson in the northern part of the Wilderness. Lowest Wilderness elevations are near 1,000 m (3,000 ft) along the western boundary in the North Santiam headwaters basin and along the eastern boundary in the Metolius River basin.

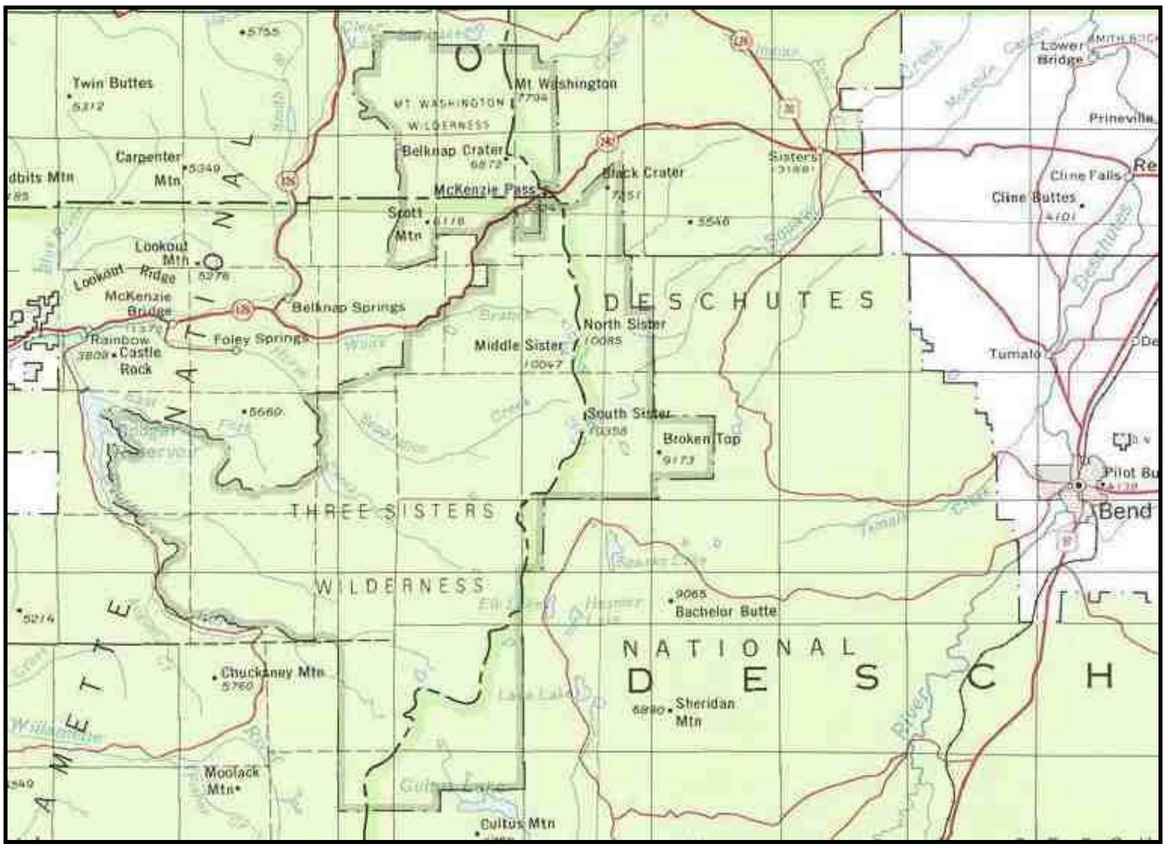
Figure 3.2-1 Map of Mt. Jefferson Wilderness Area



3.3 Mt. Washington Wilderness Area

Figure 3.3-1 presents a map of the Mt. Washington Wilderness Area, which occupies 52,516 acres on the crest of the Cascade Range in central Oregon. Like the Three Sisters Wilderness that it borders to the south, it includes headwaters tributaries of the McKenzie River that flow west into the Willamette Valley near Eugene and connect the Wilderness with that source region. On the east side eastern slopes of the Cascades descend to the Deschutes River near Bend. The highest Wilderness elevation is 2,376 m (7,794 ft) at the summit of Mt Washington. Lowest elevations are near 900 m (3,000 ft) in the upper headwaters basin of the McKenzie River.

Figure 3.3-1 Map of Mt. Washington Wilderness Area



3.4 Three Sisters Wilderness Area

Figure 3.4-1 presents a map of the Three Sisters Wilderness Area, which consists of 285,202 acres abreast the crest of the Cascade Range in central Oregon. It includes headwaters tributaries of the McKenzie River that flow west into the Willamette Valley near Eugene and connect the Wilderness with that source region. On the east side streams flow east to the Deschutes River near Bend. The highest crest elevation is 3,158 m (10,358 ft) at the summit of the South Sister. Lowest elevations are near 600 m (2,000 ft) where the South Fork of the McKenzie River exits the Wilderness on the west boundary. This is about 500 m (1,600 ft) above the Willamette Valley at Eugene 70 km (40 mi) west.

Figure 3.4-1 Map of Three Sisters Wilderness Area