

Attachment E

Recommendations for Improvements to the Oregon Visibility Protection Plan

Oregon Visibility Advisory Committee July 2001

Overview

The Oregon Visibility Protection Plan was adopted in 1986 to protect Crater Lake National Park and 11 national wilderness areas from air pollution that degrades the visual experience in these scenic Class I areas. The Plan was developed to comply with the Environmental Protection Agency's Phase I visibility program addressing human-caused sources that can be identified as causing direct impacts (i.e., reasonably attributable) in Class I areas. The current Plan contains both seasonal and annual control strategies to reduce and prevent visibility impairment in Oregon's Class I areas. The primary components of the Plan include: (1) a seasonal strategy focused on large area sources such as forest slash burning and agricultural field burning during the summer Visibility Protection Period when the vast majority of Class I area visitation occurs; (2) a year-round strategy which includes preventing significant visibility impacts in Class I areas from new and modified major stationary sources using the State's New Source Review permitting program, and reliance on other measures such as controls on existing industrial sources, residential woodstoves, and motor vehicles to reduce pollution in populated areas; and (3) a visibility monitoring strategy that includes utilizing data from State and Federal agencies' monitoring sites in or adjacent to Oregon's Class I areas.

One of the requirements in the Plan calls for a periodic review of the effectiveness of the visibility protection strategies, to be conducted by the Oregon Visibility Advisory Committee.¹ The Committee convened on June 7, 2000 to begin this periodic review, holding monthly meetings that concluded on June 21, 2001. As a result of these meetings, there was agreement that while the Visibility Plan has been successful in controlling Phase I sources and reducing "man-made visibility impairment", improvements are needed to ensure reasonable progress continues to be made.

Committee Recommendations

The Oregon Visibility Advisory Committee identified 10 recommendations for improvements to the Visibility Protection Plan, which are described below. Full consensus was reached on all recommendations except #8, which two committee members did not support.² In addition,

¹ Committee members are identified on the Signature Page attached to these recommendations.

² Opposing Recommendation 8 were Tim Wigley, Oregon Forest Industries Council, and Dave Nelson, Oregon Seed Council.

one committee member favored developing a new emission reduction goal for Western Oregon; a recommendation not supported by the rest of the committee.³

1. Temporarily suspend the summer prohibition on prescribed burning in NW Oregon.

Recommendation: *The Oregon Visibility Advisory Committee recommends that the current prohibition on prescribed burning in NW Oregon during the visibility protection period be suspended temporarily and re-evaluated in three years, relying instead on the current Oregon Smoke Management Program administered by the Oregon Department of Forestry to protect visibility in Cascade Class I areas.*

One of the primary elements in the Oregon Visibility Protection Plan is a strategy to protect visibility during the Visibility Protection Period, which is from July 1 to September 15, when peak visitation occurs in Cascade Class I areas. During this period, prescribed burning is prohibited in the central and northern Cascades.⁴ This visibility protection strategy applies only to northwestern Oregon, and is designed to protect the 5 Class I areas in the central and northern Cascades.⁵

The Visibility Advisory Committee recommends dropping this strategy and instead relying on the current Oregon Department of Forestry (ODF) Smoke Management Program to protect visibility during this period. Prescribed burning has been declining steadily in Western Oregon over the last 20 years, and very little burning now occurs during this period. The Committee believes this prohibition may no longer be needed and that the current smoke management program is capable of protecting visibility. However, before permanently eliminating this prohibition, the Committee recommends proceeding on a trial basis for three years, during which time smoke management protection will be relied upon and visibility monitoring data reviewed. A joint evaluation will be made by DEQ and ODF of the effectiveness of this approach and examined at the next Visibility Plan periodic review.⁶ In addition, an update on the effectiveness of this approach shall be provided to the Visibility Advisory Committee at the annual meeting specified in Recommendation #10.

2. Improve smoke management coordination statewide and expand where needed.

Recommendation: *The Oregon Visibility Advisory Committee recommends DEQ work with state and federal agencies to improve coordination between existing smoke management programs in the state, as well as explore the possibility of expanding smoke management controls elsewhere in the state where needed to protect visibility.*

There are currently several smoke management programs that operate in Oregon. Summer open field burning is controlled through smoke management programs in the Willamette Valley, Union County, and Jefferson County. Annual prescribed burning is controlled through

³ Supporting a new emission reduction goal was Bob Palzer, Oregon Chapter Sierra Club. Brian Mitchell, National Park Service, abstained from voting on this recommendation.

⁴ Prohibited except when “natural visibility impairment” exists, such as fog, clouds, rain, etc.

⁵ Mt. Hood, Mt. Jefferson, Mt. Washington, Three Sisters, and Diamond Peak Class I areas.

⁶ In 2004, assuming the periodic plan review is changed from 5 to 3 years, as recommended by the Visibility Advisory Committee under #6.

the ODF Smoke Management Program. Seasonal open burning in Umatilla County is controlled through a local county ordinance. These programs operate independently of each other, with minimal overlaps and limited coordination between them. There is coordination between the Oregon Department of Agriculture (ODA) and Oregon Department of Forestry related to Willamette Valley open field burning and western Oregon prescribed burning.

The Visibility Advisory Committee believes better coordination is needed between these programs to avoid causing or contributing to smoke impacts in Class I areas, and recommends DEQ assume a leadership role and work with ODF and ODA to establish a formal process for evaluating and improving coordination. It is envisioned that this coordination would take the form of sharing information on (1) planned and current burning activity, (2) current meteorological data and forecasts to make better burn decisions, and (3) observed and/or monitored smoke impacts, including wildfire. Such coordination will also serve to test systems and procedures that could be used as Oregon and other States begin to develop and adopt regional haze control programs in the upcoming years.

Additionally, in order to provide more comprehensive visibility protection in Oregon Class I areas, the Committee recommends that DEQ identify other areas of the state where significant open burning is occurring during the visibility protection period (July 1-September 15), such as rangeland burning in Central Oregon, and where smoke management controls or improvements are needed to protect visibility.

3. Expand the Visibility Monitoring Network.

Recommendation: *The Oregon Visibility Advisory Committee recommends the current visibility monitoring network be expanded beyond the Oregon Cascades, and where possible efforts be made to conduct monitoring on a year-round basis. It is also recommended that monitoring should include nephelometer and aerosol composition data gathering above and beyond the existing and planned IMPROVE network.*

Historically, visibility monitoring in Oregon has consisted of three DEQ-operated nephelometers located in the Oregon Cascades.⁷ Two IMPROVE monitors operated by the USFS and National Park Service have also been used for visibility monitoring, also located in the Cascades.⁸ Recently, four new IMPROVE sites were established in Oregon: one at Mt. Hood, one in the southern Coast Range near the Kalmiopsis Wilderness Area, and two in eastern Oregon near the Eagle Cap, Strawberry Mountain, and Hells Canyon wilderness areas.

Monitoring data from the DEQ nephelometer sites has been essential for evaluating visibility conditions in Cascade Class I areas. These nephelometers operate every day during the summer months and provide “real-time” data for identifying short-term smoke impacts and daily fluctuations that occur in visibility conditions. Conversely, monitoring data from the IMPROVE sites has been of limited value, due to the fact that the samplers do not operate every day and do not provide real-time data. Although IMPROVE sites are run year-round, they are more suitable for regional haze monitoring; that is, identifying cumulative impacts and

⁷ Mt Hood Wilderness Area (Multitorpor), Central Cascades (Big Lake), and Crater Lake National Park (Rim Village).

⁸ Three Sisters Wilderness Area, Crater Lake National Park, respectively.

long-range transport from multiple sources, as opposed to identifying direct plume impacts from nearby individual sources, which is the current focus of the Visibility Protection Plan.⁹

The Visibility Advisory Committee believes there is a need to expand visibility monitoring in the state, especially near Class I areas in eastern and southwestern Oregon.¹⁰ This monitoring should continue to utilize nephelometers, but should also include some aerosol monitoring where possible to identify different contributing sources. In addition to expanding the monitoring network, efforts should be made to pursue year-round monitoring in order to determine visibility trends during other times of year in addition to the summer. If year-round monitoring is not possible, first priority should be summer, followed by spring and fall, and then winter. Funding for monitoring expansion should not rely exclusively on DEQ, but instead be a collaborative effort involving other agencies and organizations.

4. Expand the counting period for “daylight hour” impacts.

Recommendation: *The Oregon Visibility Advisory Committee recommends that the current counting period for measuring “daylight” visibility impacts be changed from 9 a.m.-9 p.m. to 6 a.m.-9 p.m. to better reflect actual daylight hours.*

Current summertime visibility impairment as measured by nephelometers only counts daylight hour impacts. Nephelometer monitoring, as described above, provides “real-time” data that allows impacts to be tracked in hourly averages. The counting period for daylight impacts during the summer months has historically been 9 a.m. to 9 p.m.¹¹ This counting period excludes approximately 3 hours of daylight in the early morning.

The Visibility Advisory Committee believes that since visitors to Class I areas would be able to see any visibility impairment during this time, it is important to count these hours, and recommends changing the counting hours to 6 a.m. to 9 p.m. Should visibility protection be extended to a year-round effort, per Recommendation #8, this counting period will have to be revised to reflect actual daylight hours during other times of year.

5. Develop and implement an Emissions Tracking System.

Recommendation: *The Oregon Visibility Advisory Committee recommends that an Emissions Tracking System be developed and implemented for all major open burning sources in the state.*

The Visibility Advisory Committee believes it is important when evaluating visibility trends to have both current monitoring data and current emissions data. This is especially beneficial when conducting the periodic review of the Visibility Plan. However, for sources like agricultural, forest, and rangeland burning, there is no coordinated system in place for tracking

⁹ The Oregon Visibility Plan is based on EPA’s “Phase I” visibility rules, and will be revised in upcoming years to incorporate EPA’s “Phase II” rules on regional haze.

¹⁰ In eastern Oregon, the Strawberry Mountain, Eagle Cap, Hells Canyon Class I areas; and in southwestern Oregon, the Kalmiopsis Class I area.

¹¹ An “official” visibility impact is any hourly average nephelometer reading over .60 Bscat. A reading of .60 Bscat is considered the lowest level of what is humanly perceptible.

all of these emissions. The open field burning and prescribed burning smoke management programs track their own burning and prepare annual reports that include burn data, with submittal of these reports to DEQ. There are differences between these programs in terms of those required by statute to calculate and track emissions (ODF and ODA) and those programs required by ordinance (Jefferson and Union County).

The Oregon Visibility Advisory Committee recommends that DEQ should work with ODF, ODA, federal land managers, grass seed growers associations and others to determine specific data needs, reporting periods, format, and timing for coordinated submittal of this information to DEQ. In addition to obtaining emissions data from existing smoke management programs, DEQ should survey other areas of the state where significant open burning may be occurring, such as rangeland burning, and develop ways to track emissions in these areas.

6. Change the periodic plan review from 5 to 3 years.

Recommendation: *The Oregon Visibility Advisory Committee recommends that the periodic plan review provision in the Visibility Protection Plan be changed from five years to three years in order to be consistent with federal requirements.*

The Visibility Protection Plan contains a requirement for conducting a periodic plan review every 5 years to assess the effectiveness of the visibility protection strategies. EPA's visibility rules require periodic reviews take place every 3 years.¹² The Visibility Advisory Committee recommends the periodic plan review be changed to 3 years to be consistent with federal requirements. While changing the review period is recommended, the Committee also recognizes that trends need to be established over periods longer than three years.

7. Encourage alternatives to burning.

Recommendation: *The Oregon Visibility Advisory Committee recommends the maximum effort be made to increase use of non-burning alternatives as a means of improving visibility in Oregon Class I areas, to the extent possible consistent with fire protection and prevention programs applicable on forest land.*

The Oregon Visibility Advisory Committee strongly supports finding new ways to increase the use of non-burning alternatives for all types of open burning. As major increases in prescribed burning on federal land are expected in many areas of the state in the near future, increasing the use of non-burning alternatives is essential. Efforts should be made to identify grants or subsidies available for utilization projects, and research into potential new biomass markets.

The Visibility Advisory Committee also recommends that the Oregon Department of Forestry make this a high priority in its upcoming review of the Oregon Smoke Management Program. In addition to prescribed burning, alternatives to agricultural open field burning throughout the state should continue to be actively pursued.

8. Evaluate changing to year-round visibility protection from open burning.

¹² 40 CFR 51.306(c)

Recommendation: *The Oregon Visibility Advisory Committee recommends DEQ evaluate year-round visibility protection from open burning for all Oregon Class I areas, and that this evaluation be reviewed at the next Visibility Plan periodic review.*

Currently under the Visibility Plan, prescribed burning is prohibited during the Visibility Protection Period (July 1 to September 15) in the central and northern Cascades. Outside of this summer period, the Plan does not impose any restrictions on any open burning.

There was much discussion by the committee on whether to change the focus in the Visibility Plan from protecting visibility during the summer to year-round visibility protection. Such a change would primarily effect prescribed burning, but also rangeland burning and general open burning in certain areas of the state.¹³ Year-round protection would make the Oregon Visibility Plan more consistent with the new Regional Haze Rule. High priority would need to be given to expanding the state visibility monitoring network, as identified in Recommendation #3, in order to determine where open burning is causing visibility impacts and protection is needed.

Changing to year-round visibility protection for all Class I areas in the state could have a significant effect on the way open burning is currently managed in Oregon.¹⁴ It could require major revisions to the ODF Smoke Management Program in terms of adding special criteria for burning. There could be increased costs associated with additional forecasting and staff to do this work. This change could also reduce the number of prescribed burning opportunities in many areas of the state.

In evaluating the need for year-round visibility protection, the Visibility Advisory Committee believes it is important to first ascertain whether prescribed burning is causing or likely to cause visibility impairment in Oregon Class I areas on a year-round basis. In order to make this assessment, expanding the visibility monitoring network is needed (Recommendation #3), as well as up-to-date information on emissions trends (Recommendation #5). The Visibility Advisory Committee recommends that DEQ, ODF and Oregon Department of Agriculture prepare an evaluation of areas of the state where prescribed burning, rangeland burning, residential burning, or any other burning activity may be causing visibility impairment, based on available monitoring and emissions data, as well as areas where significant increases in burning are expected. The Visibility Advisory Committee will review this evaluation as it considers the need for year-round visibility protection at the next periodic plan review.

9. Take steps to address Phase II sources.

Recommendation: *The Oregon Visibility Advisory Committee recommends that implementation of Regional Haze Rule in Oregon be accelerated where possible to address visibility impacts caused by “Phase II sources”; i.e., sources that contribute to regional haze not currently addressed under the Visibility Protection Plan.*

¹³ Since open field burning is essentially a summertime activity, and other agricultural burning is exempt by state statute from regulation, these sources would not be effected by year-round visibility protection.

¹⁴ The Visibility Advisory Committee recognizes that there is a statutory exemption for regulating agricultural burning in the state.

The current Visibility Protection Plan addresses “Phase I” sources, which are mostly single sources like a prescribed burn, open field burn, or a new industrial facility that can directly impact visibility in a Class I area. “Phase II” sources tend to be smaller sources or sources more distant from Class I areas, which as a group collectively contribute to “regional haze” over a broad geographic area. Examples of Phase II sources are motor vehicles, woodstoves, and general open burning (such as domestic burning). When EPA adopted its Regional Haze rules in 1999, they allowed considerable lead-time for implementation due to the coordination needed between states, and the comprehensive nature of these strategies. Some of the first Phase II regional haze strategies need to be adopted by states in 2003, with the majority of strategies not needed until 2008.

The Visibility Advisory Committee is aware that visibility impairment in Oregon Class I areas is currently caused by both Phase I and Phase II sources. However, in conducting its review of the Visibility Protection Plan, the Committee evaluated Phase I visibility strategies without the benefit of knowing the contribution of Phase II sources to visibility impairment. The current expansion of IMPROVE monitoring network in Oregon will help identify regional haze impacts and Phase II source contributions. DEQ is also actively involved in the Western Regional Air Partnership, which is coordinating regional haze rule implementation for all western states. Where appropriate DEQ should take steps to accelerate the adoption of Phase II controls in Oregon. This effort should begin with a phase in to evaluate and address regional haze sources and issues. DEQ needs to become proactive in addressing open burning issues and other sources creating programs that are equitable with controls and programs required of field burning and prescribed burning.

10. Require annual Visibility Advisory Committee meetings.

Recommendation: *The Oregon Visibility Advisory Committee recommends that the Committee meet on an annual basis each year to review visibility trends and discuss the effectiveness of visibility strategies.*

Under the Visibility Protection Plan, the Visibility Advisory Committee is required to meet every 5 years for the periodic plan review. Under recommendation #6 the Committee supports changing this to 3 years. Even with this change, it would be helpful for the Committee to have one regularly scheduled meeting each year. This would allow the Committee to review visibility trends, discuss the effectiveness of visibility strategies, and be better prepared for the periodic plan review process.