WRAP Policy on Clean Air Corridors

Approved by WRAP Board
November 13, 2002

I. Summary of WRAP Policy

1. *Pursuant to 40 CFR 51.309(d)(3), the WRAP directs its Technical Oversight Committee (TOC) to track emissions and to describe the tracking process in such a way that can be included in state and tribal implementation plans. At a minimum, using the most recent state emission inventories available, the TOC should produce a report for each five-year implementation plan revision on the current and projected emissions in the clean air corridor and in areas outside the corridor and compare these emissions to a 1996 baseline for purposes of this section.*

2. *Pursuant to 40 CFR 51.309(d)(3)(i), the WRAP identifies one clean air corridor as shown in **Figure 1**. The counties within the corridor are listed in **Table 1**. For ease of administration, the corridor's boundary follows county lines.*

3. *Pursuant to 40 CFR 51.309(d)(3)(ii), the WRAP has examined patterns of growth in the corridor and finds that they are not causing significant emission increases that could have or are having visibility impacts at one or more of the 16 Class I areas. Nor, at this time, are such emission increases expected during the first planning period (2003-2018). Analyses performed by the Grand Canyon Visibility Transport Commission found that an increase of 25% in weighted emissions would result in a 0.7 dv reduction in visibility, whereas the weighted emission increase expected by 2018 is only 4%.*

4. *Pursuant to 40 CFR 51.309(d)(3)(iii), the WRAP has examined emissions growth in areas outside the corridor and finds that significant emissions growth is not occurring that could begin or is beginning to impair the quality of the air in the corridor and thereby lead to visibility degradation for the least impaired days in one or more of the 16 Class I areas.*

5. *Since impairment of air quality in clean air corridors has not been identified pursuant to 40 CFR 51.309(d)(3)(ii) and (iii), the WRAP finds no requirement under 40 CFR 51.309(d)(3)(iv) for further visibility impact analysis or additional emission reduction measures until at least the next SIP revision (2008). However, the WRAP encourages its appropriate technical activities – such as the Causes of Haze report – to take into account the assessment and protection of clean air corridors.*

6. *Pursuant to 40 CFR 51.309(d)(3)(v), the WRAP finds no other clean air corridors beyond the corridor identified in **Figure 1**.*

II. Clean Air Corridors, The Clean Air Act, And The Regional Haze Rule

The Clean Air Act Amendments of 1990 specifically require that visibility transport commissions, including the Grand Canyon Visibility Transport Commission ("Commission"), address "the establishment of clean air corridors, in which additional restrictions on increases in emissions may be appropriate to protect visibility in affected class I areas."[1] The Clean Air Act also requires protection of clean air corridors in a less direct way. The Act establishes as a national goal the prevention of any future impairment of visibility in mandatory Class I areas. As a measure of progress towards this goal, the U.S. Environmental Protection Agency (EPA) has established a criteria of no degradation on the 20% cleanest days. Such days on the Colorado Plateau are usually dominated by northwest winds, hence defining a corridor to the northwest that must be protected to meet the broader visibility goal of the Clean Air Act.

In its regional haze rule, the EPA provides more specificity on the requirements to protect clean air corridors, based largely on the recommendations of the Commission. The preamble of the rule defines a clean air corridor as "a region that generally brings clean air to a receptor region" The preamble also says, "the requirement to track emissions will enable states to quickly determine if changes in patterns of emissions will reduce the number of clean air days (defined as the average of the 20% clearest days) in any of the 16 Class I areas." The actual requirements of the rule are found in 40 CFR 51.309(d)(3):

> The [state implementation] plan must describe and provide for implementation of comprehensive emission tracking strategies for clean-air corridors to ensure that the visibility does not degrade on the least-impaired days at any of the 16 Class I areas. The strategy must include:
>
> (i) An identification of clean-air corridors. The EPA will evaluate the State's identification of such corridors based upon the reports of the Commission's Meteorology Subcommittee and any future updates by a successor organization.
>
> (ii) Within areas that are clean-air corridors, an identification of patterns of growth or specific sites of growth that could cause, or are causing, significant emissions increases that could have, or are having, visibility impairment at one or more of the 16 Class I areas.
>
> (iii) In areas outside of clean-air corridors, an identification of significant emissions growth that could begin, or is beginning, to impair the quality of air in the corridor and thereby lead to visibility degradation for the least-impaired days in one or more of the 16 Class I areas.
>
> (iv) If impairment of air quality in clean air corridors is identified pursuant to §§51.309(d)(3)(ii) and (iii), an analysis of the effects of increased emissions, including provisions for the identification of the need for additional emission reductions measures, and implementation of the additional measures where necessary.

[1] 42 U.S.C. 2169B(d)(2)(A).

(v) A determination of whether other clean air corridors exist for any of the 16 Class I areas. For any such clean air corridors, an identification of the necessary measures to protect against future degradation of air quality in any of the 16 Class I areas.

These requirements do not apply to states submitting state implementation plans (SIPs) under §308 of the rule. However, such states should provide the data necessary for other states to comply and should make a good faith effort to protect the integrity of clean air corridors.

III. The Commission's Findings and Recommendations

The Commission found that clean air corridors exist and that, generally, clean air comes to the Colorado Plateau from the northwest.[2] The Commission determined that one such corridor covers southern Utah, eastern Oregon, southwestern Idaho, and major portions of Nevada. This corridor was identified by the Commission's Meteorology Subcommittee, which examined the size and boundaries of the corridor under varying assumptions about the number of days defined as clean and the amount of protection to be afforded.[3]

Related work by Green et. al.[4] identifies three factors that explain why air from the northwest is clean when it arrives at the Colorado Plateau: low emissions of air pollutants, enhanced dispersion of the air pollutants due to higher average ventilation (wind speed multiplied by mixing depth), and increased removal of pollutants due to precipitation. Although the corridor is mostly arid, the cleanest days occur most frequently in the winter, when there is more precipitation than average. Green et al., nonetheless, conclude that the most important factor at the south rim of the Grand Canyon for most weather conditions is the low emissions of pollutants in the area to the northwest.

In addition to identifying a clean air corridor, the Commission projected emissions growth within the corridor through 2040 and found that growth is not expected to have a perceptible negative impact on the cleanest days on the Colorado Plateau. Specifically, a working group within the Meteorology Subcommittee used results from the IAS model (the model used to project visibility impacts in other Commission work) to estimate the emissions increase from 1990 that would be necessary to cause a perceptible decrease in visibility on the Plateau.[5] The working group found that increasing emissions by 25% within the corridor would result in an average change of 0.7 deciviews (dv), which would be imperceptible to most people under most conditions, while a 100% increase in emissions within the corridor would result in a change of 2.5 dv.[6] This

[2] Grand Canyon Visibility Transport Commission. Recommendations for Improving Western Vistas. Western Governors' Association. Denver, CO. June 1996.
[3] Meteorological Subcommittee, Grand Canyon Visibility Transport Commission. Clean Air Corridors: A Framework for Identifying Regions that Influence Clean Air on the Colorado Plateau. Denver, CO. August 1995.
[4] Green, M. C.; Pitchford, M. L.; and Ashbaugh, L.L. Identification of Candidate Clean Air Corridors for the Colorado Plateau. *J. Air & Waste Manage. Assoc. 1996. 46(5),* 446.
[5] Marc Pitchford. Oral communication. October 3, 2002. Participants on the working group included Dr. Pitchford, Dr. William Malm, and Dr. Ivar Tombach.
[6] BBC Research & Consulting, Inc., for the Operations Committee of the Grand Canyon Visibility Transport Commission. Clean Air Corridor: An Economic Perspective. Denver, CO. November 1995. Page III-2:6.

estimate was not based on a specific boundary for the corridor but rather on the general understanding of a corridor to the northwest of the Plateau. The implication, nonetheless, is that a 25% increase in emissions within the corridor could be considered a level of growth that would not impact visibility.

Using one of the proposed corridor alignments examined by the Meteorology Subcommittee – a corridor that would protect the 30% cleanest days on the Colorado Plateau, adjusted to account for emissions density and IAS region boundaries – BBC Research & Consulting conducted an economic and demographic assessment of the corridor to determine whether emissions would increase 25% by 2040. The assessment found that emissions are not expected to increase 25% by 2040.[7] Specifically, BBC used a weighting scheme defined in the IAS model to account for the varying effects of different pollutants on visibility. Total weighted emissions of elemental carbon, nitrogen oxides, organic carbon, particulate matter, reactive organic gases, and sulfur oxides in 1990 were 52,073 VEEU tons.[8] A 25% increase would yield 65,092 VEEU tons. BBC projected that emissions in the corridor would increase to 55,047 VEEU tons by 2040, thus leaving an ample margin of safety of 10,054 VEEU tons.[9]

As a result of these analyses, the Commission recommended that no targeted policies or regulatory programs to control emissions growth were needed at that time, but that a regional tracking and accounting system be implemented to make sure that the frequency of clear days does not decrease at the 16 Class I areas and that the Commission's assumptions about increased emissions are proven reliable. The Commission recommended that, within areas that are sources of clean air, the tracking and accounting system should identify patterns of growth that have a negative impact on visibility and that, in areas outside the clean air corridors, the tracking and accounting system should identify significant emissions growth that begins to impair the quality of air in the corridor.

IV. WRAP Policy

A. EMISSIONS TRACKING – §309(d)(3)

> *The WRAP directs its Technical Oversight Committee (TOC) to track emissions and to describe the tracking process in such a way that can be included in state and tribal implementation plans. At a minimum, using the most recent state emission inventories available, the TOC should produce a report for each five-year implementation plan revision on the current and projected emissions in the clean air corridor and in areas outside the corridor and compare these emissions to a 1996 baseline for purposes of this section.*

The tracking described above is intended to ensure that any unexpected changes are identified. This tracking would coincide with the periodic SIP revisions required in 2008, 2013, and 2018. States and tribes already prepare inventories at least every three years to meet federal

[7] BBC report, page III-5
[8] Visibility Equivalency Emission Units
[9] BBC report, page III-6.

requirements and will prepare detailed inventories annually for sources of sulfur dioxide of 100 tons per year or greater for compliance with the stationary source provisions of §309.[10] The WRAP will use these state and tribal data for tracking emissions in general and can summarize emissions for the counties and tribal lands within the corridor and for areas outside the corridor for use by states and tribes as they revise their regional haze SIPs every five years. Further information on tracking point sources and area sources is provided below.

POINT SOURCES. Any new, large source will be required to undergo a Prevention of Significant Deterioration review and an Air Quality Related Values analysis before receiving an air quality permit and will also be subject to New Source Performance Standards and other requirements, giving the public, states, tribes, and federal land managers ample opportunity to evaluate any possible visibility impacts on the 16 Class I areas. Thus, it is unlikely that point sources will lead to a 25% increase and even less likely that a trend in that direction would go unnoticed.

AREA AND MOBILE SOURCES. Population and economic growth is expected to be slow in the corridor, holding down emissions from area and mobile sources within the corridor. Federal standards recently promulgated for on-road sources and additional ones pending for non-road sources are expected to reduce emissions from both of these source categories during the first planning period of the implementation plans (2018). However, emissions from prescribed burning are expected to increase and, depending on the location of the burns, could affect visibility in the 16 Class I areas. It is hard to predict how great the effect will be on clean days, but it is not expected to be severe. For one, prescribed fires generally occur in the spring and fall, whereas most clear days occur in the winter. In addition, prescribed fires are much less intense than wild fires. Nonetheless, careful fire emissions tracking is warranted and is being developed under separate WRAP policy and technical efforts.

B. BOUNDARY OF THE CLEAN AIR CORRIDOR – §309(d)(3)(i)

> *The WRAP identifies one clean air corridor as shown in **Figure 1**. The counties within the corridor are listed in **Table 1**. For ease of administration, the corridor's boundary follows county lines.*

The WRAP adopts this boundary based on a balancing of demographic, economic, and air quality impact analyses performed on this corridor and their subsequent review and consensus-based approval by the Commission. The boundary identified is a slight modification of the boundary defined in the BBC report described above. The grid cells in the air quality analyses did not follow state or county boundaries, and for ease of administration the WRAP has removed small areas of southern Washington and southwestern Montana from the corridor. These small areas are far from the Colorado Plateau and unlikely to affect the Class I areas on the Plateau. In contrast, counties have been added to the corridor that were not originally included in the boundary defined in the BBC report. These include Box Elder, Tooele, and Grand Counties in Utah, Wasco and Sherman Counties in Oregon, and Cassia and Lemhi Counties in Idaho.

[10] Also see Western Regional Air Partnership. Voluntary Emissions Reduction Program for Major Industrial Sources of Sulfur Dioxide in Nine Western States and a Backstop Market Trading Program, An Annex to the Report of the Grand Canyon Visibility Transport Commission. Denver, CO. September 29, 2000.

C. IDENTIFICATION OF EMISSIONS INCREASES – §309(d)(3)(ii) and (iii)

> *Pursuant to 40 CFR 51.309(d)(3)(ii), the WRAP has examined patterns of growth in the corridor and finds that they are not causing significant emission increases that could have or are having visibility impacts at one or more of the 16 Class I areas. Nor, at this time, are such emission increases expected during the first planning period (2003-2018). Analyses performed by the Grand Canyon Visibility Transport Commission found that an increase of 25% in weighted emissions would result in a 0.7 dv reduction in visibility, whereas the weighted emission increase expected by 2018 is only 4%.*

Patterns of growth in the corridor are first examined by comparing 1990 emissions (those used in the Commission's final report) to 1996 emissions (the most recent comprehensive data set). This comparison is not easily made because emissions were aggregated into different categories. Nonetheless, it appears that emissions in 1996 were only slightly higher than in 1990. In the clean air corridor 73,637 tons of SO_2 were emitted in 1990 and 73,756 were emitted in 1996; 232,704 tons of NO_x were emitted in 1990 and 256,762 were emitted in 1996. In addition, the WRAP examined data from IMPROVE monitors and found that none of the seven long-term sites showed any significant decrease in visibility on the cleanest days for the period from 1988 through 1998.[11]

The WRAP is recommending, as part of this policy, that future clean air corridor analyses use a baseline year of 1996 to quantify emission increases. The first reason for this recommendation is that the 1996 inventory has been more carefully assembled than the 1990 inventory. The second reason is that future inventories are more likely to be structured like the 1996 inventory, thereby facilitating comparison. In addition, the most recent and comprehensive projection of emissions (discussed below) is based on the 1996 inventory, not the 1990 inventory.

The WRAP also examined emission projections. These are used as a means to identify potential future increases that should be more carefully tracked and to identify preventive measures that could be implemented in a timely fashion. **Table 2** summarizes the projected change in emissions between 1996 and 2018. PM_{10} and $PM_{2.5}$ emissions are expected to increase about 7% and 18%, respectively. NOx and VOC emissions, however, are expected to decrease about 15% and 26%, respectively. SO_2 emissions are expected to increase about 5% within the corridor, even with the declining milestones of the backstop emissions trading program. Overall, SO_2 emissions are expected to decline by 17% in the 13-state contiguous WRAP region by 2018, [12] and the fact that the projections show a 5% increase in SO_2 within the clean air corridor is a result of non-road mobile sources using high-sulfur diesel fuel. This source of sulfur dioxide is expected to be drastically reduced (e.g., from a fuel sulfur content of 3,000 ppm to 15 ppm) before 2018 according to announcements by EPA to develop new engine certification and fuel standards for non-road vehicles and equipment. Thus, 5% should be viewed as an upper bound on the possible increase of SO_2.

[11] EPA. Visibility in Mandatory Federal Class I Areas (1994-1998), A Report to Congress. EPA-452/R-01-008.
[12] WRAP Emissions Inventory Forum. 2018-1996 Difference: Actual to Control Spreadsheet. WRAP Web Site. September 25, 2002.

Since different pollutants have different impacts on visibility, the WRAP estimated a weighted emissions increase according to the VEEU system used by the Commission. As shown in **Table 3**, the weighted increase is expected to be 4%, substantially less than the 25% increase thought to be necessary to achieve an impact that may be perceptible. It is also worth noting the safety margins included within this analysis – the fact that the BBC corridor protects 30% of the clean days, not 20%; the benefits of new non-road mobile source standards; and the uncertainty in where additional electricity generating capacity will be located.

> *Pursuant to 40 CFR 51.309(d)(3)(iii), the WRAP has examined emissions growth in areas outside the corridor and finds that significant emissions growth is not occurring that could begin or is beginning to impair the quality of the air in the corridor and thereby lead to visibility degradation for the least impaired days in one or more of the 16 Class I areas.*

The WRAP sees two purposes for emissions tracking in areas outside the corridor: first, to determine if such emissions are degrading visibility in the corridor, which may potentially affect one or more of the 16 Class I areas; and second, to compensate for any uncertainties in establishing the boundary of the corridor, such as those relating to computed airmass trajectories or introduced by aligning the corridor with county boundaries. Again, SO_2 emissions are expected to decline throughout the WRAP region. Emissions of other pollutants are also expected to decline. All visibility-impairing pollutants from on-road mobile sources, with the exception of some minor ammonia emissions, are expected to decline substantially. And all visibility impairing pollutants from non-road mobile sources are expected to decline, especially in areas upwind of the corridor. This decline would be greatly enhanced if the EPA promulgates stricter standards for non-road engines and fuel, as it has announced to do. Also, NOx and PM from existing stationary sources remains to be addressed in future implementation plans by 2008 under Sections 308 and 309 of the regional haze rule. Finally, all states will have to implement measures to achieve reasonable progress in other Class I areas by 2008. Such measures are likely to "overlap" the clean air corridor and areas outside the corridor in such a way that provide further protection to the 16 Class I areas on the 20% cleanest days.

D. IF IMPAIRMENT OF AIR QUALITY IN THE CORRIDOR IS IDENTIFIED – §309(d)(3)(iv)

> *Since impairment of air quality in clean air corridors has not been identified pursuant to 40 CFR 51.309(d)(3)(ii) and (iii), the WRAP finds no requirement under 40 CFR 51.309(d)(3)(iv) for further visibility impact analysis or additional emission reduction measures until at least the next SIP revision (2008). However, the WRAP encourages its appropriate technical activities – such as the Causes of Haze report – to take into account the assessment and protection of clean air corridors.*

The rule specifies that if impairment of air quality in the clean air corridor is identified, the plan must include "an analysis of the effects of increased emissions, including provisions for the identification of the need for additional emission reduction measures, and implementation of the

additional measures if necessary." For reasons stated above, the WRAP finds no need at this time for additional emission reduction measures.

The periodic WRAP inventories to be produced by the TOC, as instructed above, will identify growth in emissions, and the periodic updates to the WRAP Causes of Haze report will help identify any effect on visibility that may result from such emissions increases. Should any effects be identified, the WRAP will conduct an analysis to determine the sources of impairment within six months of completion of the inventory indicating the increase. Additional control measures that may be warranted would be developed within another six months. The criteria the states and tribes would follow in making this determination are (a) the location of the significant emissions growth, (b) type of source activity causing the emissions growth, and (c) the appropriate control measure for the source(s) based on feasibility, cost, and anticipated visibility benefits. Any necessary additional control measures would be added in the next five-year SIP revision.

E. DO OTHER CORRIDORS EXIST? – §309(d)(3)(v)

*The WRAP finds no other clean air corridors beyond the corridor identified in **Figure 1**.*

The regional haze rule requires that implementation plans identify whether any other clean air corridors exist for any of the 16 Class I areas. The WRAP finds no such areas other than the corridor to the northwest of the Colorado Plateau identified in **Figure 1**. The WRAP recognizes, however, that additional work to identify clean air corridors may be needed. For example, several monitors have recently been installed at Class I areas on the Plateau which were not previously monitored. These may generate a slightly different set of 20% cleanest days and a slightly different set of back trajectories on those days, especially at sites furthest to the north and east. This may result in a broader or separate corridor. Such analysis should be performed when sufficient data are available. Adequate monitoring data could be available by 2004, and analysis of those data could be published by the WRAP as part of its Causes of Haze report.

V. Conclusion

The bottom line is that, while the area to the northwest of the Colorado Plateau delivers clean air to the Plateau on the cleanest days, emissions from throughout much of the region affect the Class I areas on the Plateau. Thus, emissions throughout the WRAP region will be tracked carefully. Ongoing WRAP efforts to improve the quality of inventories and the models used to make projections, and to produce a periodic Causes of Haze report, will bring increased understanding of the role that clean air corridors play in protecting the cleanest days. In the final analysis, the indicator of success or failure will be whether the measured light extinction at the Class I areas on the Colorado Plateau improves or declines on the cleanest days. Any indication of deterioration on the cleanest days should trigger an immediate investigation of the cause, as well as efforts to correct the problem.

Figure 1. Clean Air Corridor Endorsed by the WRAP.

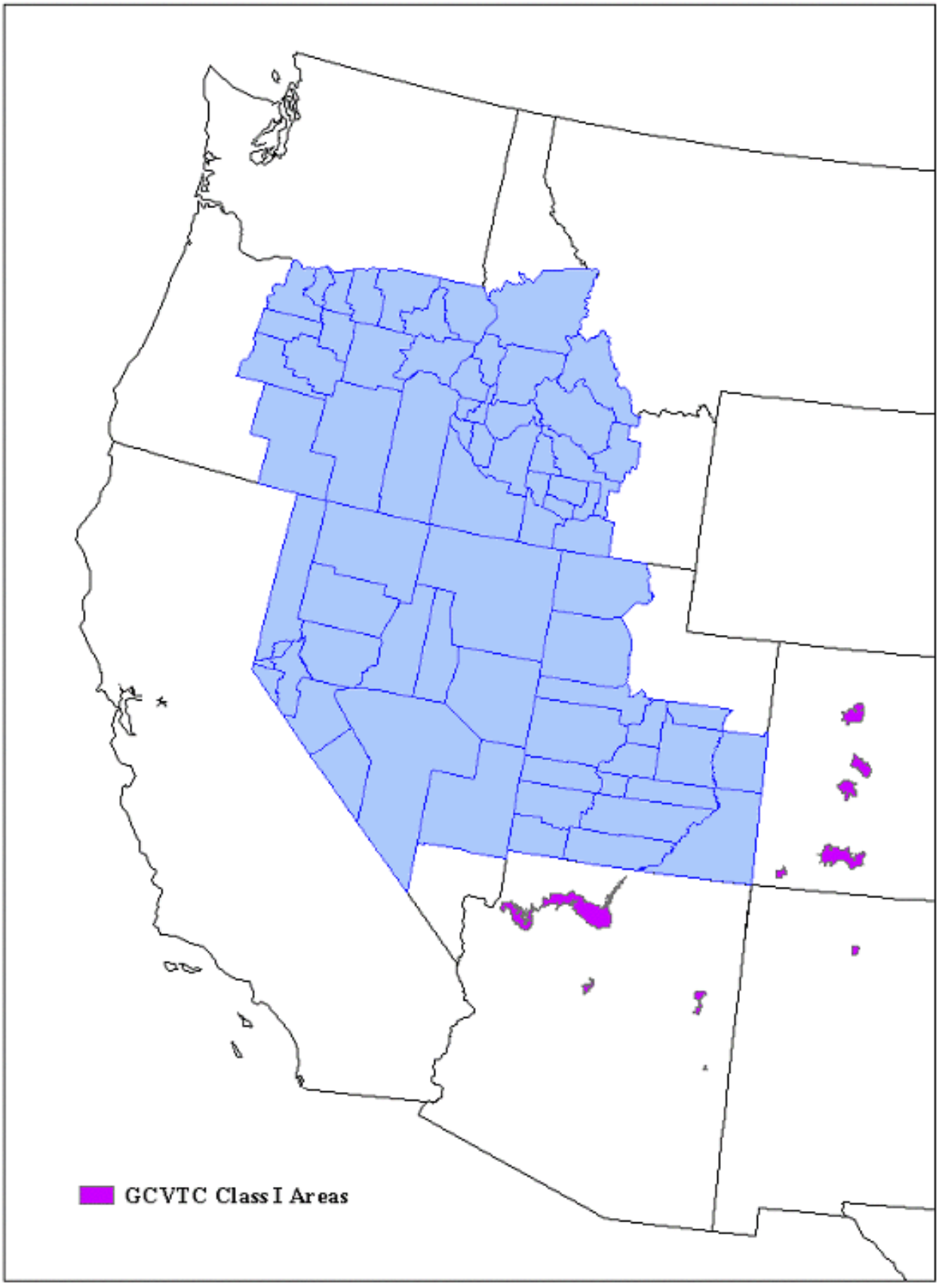

Table 1. Counties Within the Clean Air Corridor Endorsed by the WRAP.

State	County
Idaho	Ada
Idaho	Adams
Idaho	Blaine
Idaho	Boise
Idaho	Butte
Idaho	Camas
Idaho	Canyon
Idaho	Cassia
Idaho	Custer
Idaho	Elmore
Idaho	Gem
Idaho	Gooding
Idaho	Idaho
Idaho	Jerome
Idaho	Lemhi
Idaho	Lincoln
Idaho	Minidoka
Idaho	Owyhee
Idaho	Payette
Idaho	Twin Falls
Idaho	Valley
Idaho	Washington
Nevada	Churchill
Nevada	Douglas
Nevada	Elko
Nevada	Esmeralda
Nevada	Eureka
Nevada	Humboldt
Nevada	Lander
Nevada	Lincoln
Nevada	Lyon
Nevada	Mineral
Nevada	Nye
Nevada	Pershing
Nevada	Storey
Nevada	Washoe
Nevada	White Pine
Nevada	Carson City
Oregon	Baker
Oregon	Crook
Oregon	Deschutes
Oregon	Gilliam
Oregon	Grant
Oregon	Harney
Oregon	Jefferson
Oregon	Lake
Oregon	Malheur
Oregon	Morrow
Oregon	Sherman
Oregon	Umatilla
Oregon	Union
Oregon	Wallowa
Oregon	Wasco
Oregon	Wheeler
Utah	Beaver
Utah	Box Elder
Utah	Carbon
Utah	Emery
Utah	Garfield
Utah	Grand
Utah	Iron
Utah	Juab
Utah	Kane
Utah	Millard
Utah	Piute
Utah	San Juan
Utah	Sanpete
Utah	Sevier
Utah	Tooele
Utah	Washington
Utah	Wayne

Table 2. Changes in Clean Air Corridor Emissions (Assuming SO_2 Milestones Are Met).

		Point	Area	On Road	Non Road	Paved	Unpaved	Total
SO_2	1996	51,413	9,260	2,065	10,838	0	0	73,576
	2018	45,330	10,614	413	21,596	0	0	77,954
	2018-1996	-6,082	1,354	-1,652	10,758	0	0	4,378
NOx	1996	85,782	12,935	93,581	64,462	0	0	256,762
	2018	109,863	17,576	28,692	62,557	0	0	218,689
	2018-1996	24,080	4,641	-64,889	-1,905	0	0	-38,072
PM_{10}	1996	27,055	142,776	3,872	5,952	5,740	47,733	233,128
	2018	32,748	154,966	2,640	6,763	12,402	38,828	248,347
	2018-1996	5,692	12,190	-1,232	811	6,662	-8,904	15,219
$PM_{2.5}$	1996	11,987	41,595	3,495	5,487	1,435	7,160	71,160
	2018	14,583	52,069	2,058	6,228	3,101	5,824	83,863
	2018-1996	2,595	10,474	-1,438	740	1,665	-1,336	12,702
VOC	1996	5,993	95,921	69,899	38,535	0	0	210,349
	2018	7,921	95,515	22,651	29,233	0	0	155,321
	2018-1996	1,927	-406	-47,248	-9,301	0	0	-55,029

Table 3. Total Change in Emissions Weighted to Reflect Relative Impact on Visibility.

	SO2	NOx	PM10	PM2.5	VOC	EC*	OC*	Total	Change
1996 VEEU	5,445	1,746	1,958	932	294	902	856	12,133	--
2018 VEEU	5,769	1,487	2,086	1,099	217	985	935	12,578	4%

* Estimates of elemental and organic carbon, EC and OC, were not available to the CAC Work Group for the 1996 and 2018 emission inventories. Values for this analysis were derived from the estimates of EC and OC for the 1990 inventory of the 9 GCVTC states. The method used was to take the proportion of EC to fine and coarse particulates (PM2.5 + PM10) in the 1990 inventory and use that same proportion to calculate an EC value for the 1996, 2018, and 2018 milestone inventories. The same method was used for OC.

**** VEEU – Visibility Equivalency Emission Units** (Used in the GCVTC IAS Model.)
VEEU weights

PM2.5	PM10	NOx	VOC	SO2	EC	OC
0.0131	0.0084	0.0068	0.0014	0.0740	0.6497	0.2466

Each category in the inventory is multiplied by these factors to create the VEEU-weighted inventory.