

NEVADA REGIONAL HAZE PROGRESS REPORT FOR THE SECOND PLANNING PERIOD

Progress Report to
Section 308 (40 CFR § 51.308)
of the Regional Haze Rule
Second Implementation Period (2018-2028)



State of Nevada
Division of Environmental Protection
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January 31, 2025

Executive Summary

Introduction

In 1977, Congress amended the Clean Air Act (CAA) to establish a national goal to protect visibility in Class I federal areas – national parks, forests and wilderness areas. The amendments called for the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.” CAA § 169A. In Nevada, one area was designated: the Jarbidge Wilderness Area (Jarbidge WA) in the northeast corner of the state.

On July 1, 1999, the U.S. Environmental Protection Agency (USEPA) adopted the Regional Haze Rule (RHR). The RHR requires each affected state to develop and adopt an implementation plan that will improve the haziest days and protect the clearest days at each mandatory Class I area in the state with a goal of returning to natural visibility conditions by the year 2064. Each plan must provide a comprehensive analysis of natural and man-made sources of haze in each mandatory Class I area in the state and contain strategies to control anthropogenic emissions that contribute to haze. The plan must also address the transport of haze across state boundaries. The Nevada 2022 Regional Haze State Implementation Plan (2022 RH SIP), which addressed the second planning period in the federal rule (2018 to 2028), was submitted to the USEPA on August 12, 2022.

On July 13, 2023, NV Energy notified the Nevada Division of Environmental Protection (NDEP) of plans to file an Integrated Resource Plan (IRP) amendment with the Public Utilities Commission of Nevada (PUCN) seeking approval to pursue modifications and appropriate emissions controls at the Tracy and North Valmy Generating Stations. Since the Tracy and North Valmy Generating Stations were part of Nevada’s 2022 RH SIP, NDEP submitted a letter on July 27, 2023, informing the USEPA of its partial withdrawal of the Nevada 2022 RH SIP. NDEP is currently requesting comments on the revision to the second planning period SIP and will submit the revision to the USEPA once completed.

USEPA’s RHR also includes requirements to submit a 5-year progress report. These progress reports must provide an assessment of whether the approved State Implementation Plan (SIP) is being implemented and whether reasonable visibility progress is being achieved and is consistent with the projected visibility improvement in the SIP. Under the RHR, Nevada is required to submit a progress report by January 31, 2025, addressing the specific elements required by the RHR. This document serves as the State of Nevada’s progress report and will be submitted to the USEPA’s Region 9 headquarters to satisfy the rule requirements outlined in Title 40 of the Code of Federal Regulations (CFR) § 51.308 (g) and (h). This report updates regional haze progress during the period covering 2018 through 2024.

Status of Control Strategies in the Regional Haze SIP

Analysis conducted for Nevada’s 2022 RH SIP identified facilities where additional controls were necessary to make reasonable progress during the second implementation period. This analysis

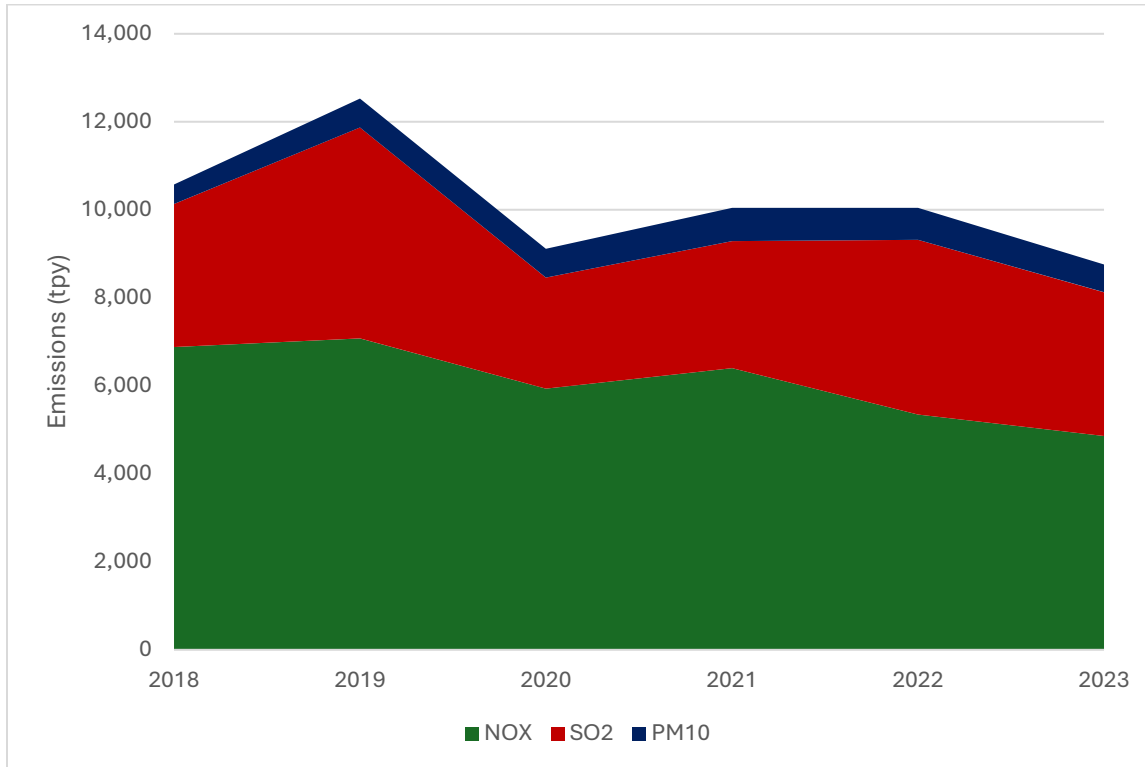
also identified where the continued use of existing controls was deemed necessary to maintain reasonable progress. Facilities selected for emission reductions were NV Energy's North Valmy Generating Station (North Valmy), NV Energy's Tracy Generating Station (Tracy), Lhoist Apex Plant (Apex), and Graymont Pilot Peak Plant (Pilot Peak). Existing controls at Tracy and Apex are still in place and part of their federally enforceable Title V permits. The existing controls at Pilot Peak have been added to their federally enforceable Title V permit as well. Nevada Cement's Fernley Plant (Nevada Cement) was identified and initially considered, though ongoing litigation and consent decrees necessitated that it be removed from the selection. Nevada Cement has been included in this progress report to provide continuity with the data tables and figures provided in Nevada's 2022 RH SIP. While Nevada's SIP has not yet been approved due to the revision referenced above it is expected that these controls will be implemented before the end of the second planning period, December 31, 2028. On November 10, 2023, the Sierra Club, National Parks Conservation Association, and the Environmental Integrity Project filed a complaint requesting that the USEPA take final action on the regional haze plans of 34 different states including the state of Nevada. As a result of a consent decree related to the complaint¹ the USEPA shall sign a notice of final rulemaking to take action on Nevada's Regional Haze Plan by December 15, 2025.

Emissions Reductions from Regional Haze SIP Strategies

The majority of the emission reductions required for reasonable progress have not yet been achieved since implementation of additional control measures are dependent on approval of Nevada's 2022 RH SIP. Emissions over the 2018-2023 period covered by this progress report for North Valmy, Tracy, Apex, Nevada Cement and Pilot Peak are discussed in Section 3, along with the projected emissions for 2028. Gradual reductions in emissions are observed between 2018 and 2023 at North Valmy and Tracy. Apex reported an increase in sulfur dioxide (SO₂) and coarse particulate matter (PM₁₀) emissions from 2018 to 2022, Nevada Cement reported an increase in SO₂ and PM₁₀ emissions, and Pilot Peak reported an increase in oxides of nitrogen (NO_x) and PM₁₀ emissions during the same period. Figure ES1 shows combined NO_x, SO₂, and PM₁₀ emissions from these facilities from 2018 through 2023. Total emission reductions from 2018-2023 are 1,818 tons per year (tpy) and are expected to decrease by another 3,192 tpy once emission controls required by Nevada's 2022 RH SIP are implemented.

¹ Sierra Club, et al. v. EPA, et al., No. 1:23-cv-01744-JDB

Figure ES1: Emissions from Facilities Selected During the Second Round 2018-2022 (tpy)



Visibility Progress

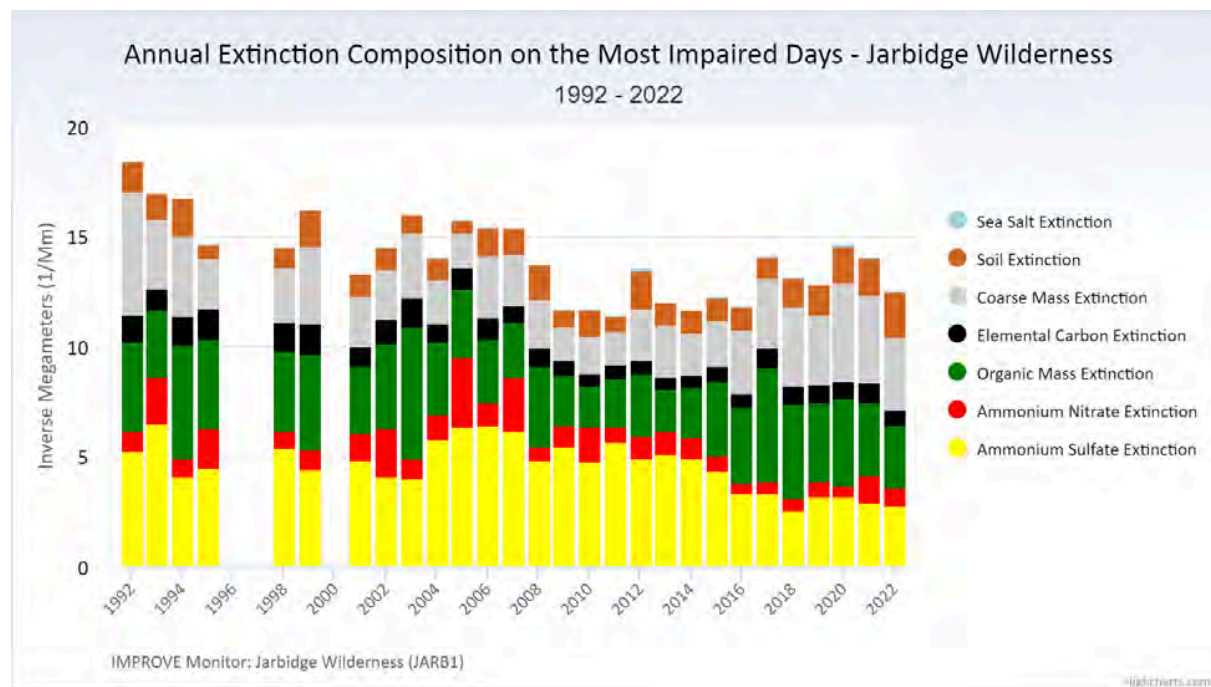
Visibility impairment for the most and least impaired days for this progress report is calculated using the annual average of the most recent five years of available data (2018-2022) from the Interagency Monitoring of Protected Visual Environments (IMPROVE). Jarbidge WA has experienced a slight decline in visibility since the second planning period but has seen an overall net improvement in visibility since the 2000-2004 baseline for both the most impaired and clearest days (Figure ES3).

Ammonium nitrate and ammonium sulfate extinction are primarily caused by emissions from anthropogenic sources (WRAP, 2020). Ammonium nitrate and ammonium sulfate are formed in the atmosphere by the reaction of ammonia with NO_x and SO_2 respectively. NO_x emissions are the result of fossil fuel combustion by point, area, on-road, and off-road mobile sources. SO_2 is emitted when sulfur-containing fuels, such as diesel or coal, are burned, when gasoline is extracted from oil or when metals are extracted from ore. IMPROVE monitoring data at Jarbidge WA shows that ammonium sulfate concentrations are decreasing with slight downward trends in light extinction beginning in 2012 and continuing through 2022 for the most impaired days as seen in Figure ES2. The relatively minor contribution of ammonium nitrate to reconstructed extinction at Jarbidge WA suggests that formation is limited by both the availability of ammonia and the paucity of NO_x sources in this rural setting (NDEP, 2022).

Organic mass and elemental carbon extinction indicate contributions from combustion and fire emissions (NDEP, 2022). Sources of organic mass emissions include combustion of fossil fuels, and wood burning. Common sources of elemental carbon emissions are fire, including agricultural burning, prescribed fire, and natural fire, as well as incomplete combustion of fossil fuels. Organic mass extinction has an upward long-term trend beginning in 2013 and continuing through 2022 (Figure ES2), suggesting a larger role of fire emissions in regional haze with time. This indicates that, although the “most impaired days” metric removes episodic fire events from the ambient air analyses, it does not accomplish this completely, and the effectiveness of the new metric appears to decrease as the intensity and occurrence of wildfires in the western U.S. continue to grow due to climate change.

Coarse matter, or particulate matter with diameters between 2.5 and 10 microns, and soil, or particulate matter with diameters less than 2.5 microns, are growing contributors to extinction for the most impaired days. Episodes of relatively high soil contribution coupled with relative high coarse matter contributions may be indicative of local and regional seasonal transport of particulate matter due to windblown dust events³. Coarse mass and soil extinction show annual variations and a clear upward trend in light extinction since 2014 (Figure ES2). This may be due to an increase in fugitive dust impacts as Nevada’s climate becomes drier (Kunkel, 2022).

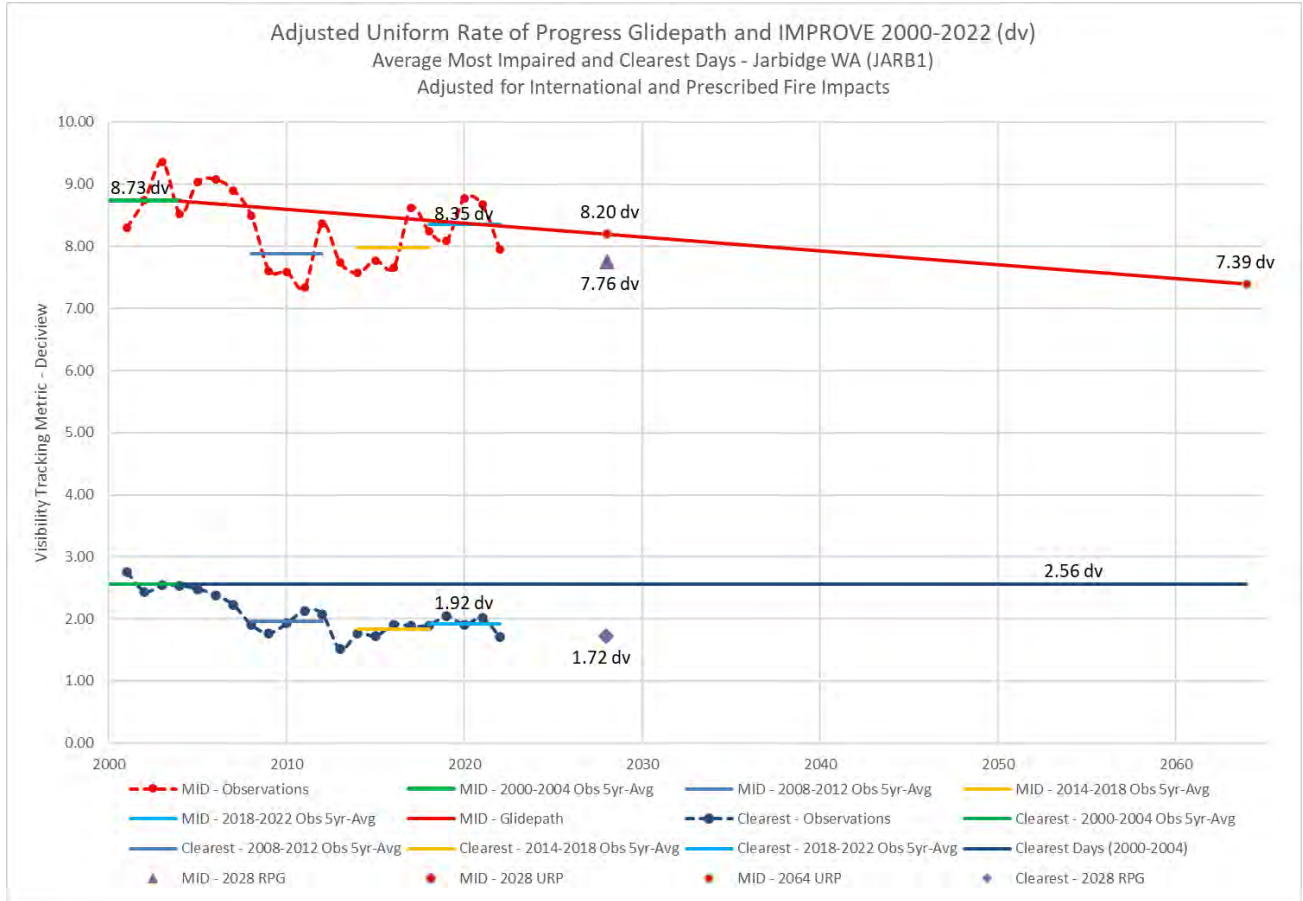
Figure ES2: Annual Extinction Composition on the Most Impaired Days - Jarbidge WA



Nevada’s 2022 RH SIP outlines the uniform rate of progress (URP) needed to attain natural visibility conditions for the Jarbidge WA. The URP includes an adjustment made to account for visibility impacts from prescribed fire and international emissions. To achieve natural conditions by 2064, the URP glidepath projects visibility during the 20 percent most impaired days must be 8.20 dv or below by 2028 (Figure ES3). NDEP’s 2028 reasonable progress goal (RPG), which includes proposed

controls in Nevada’s 2022 RH SIP, projects visibility conditions of 7.76 dv for the 20 percent most impaired days and confirms that visibility at Jarbidge WA is on track to achieve natural conditions by 2064. The lower half of Figure ES3 confirms that the anticipated visibility projection during the 20 percent clearest days in 2028 (1.72 deciviews) does not degrade beyond the visibility conditions during the 20 percent clearest days observed from the 2000-2004 baseline condition (2.56 deciviews).

Figure ES3: Adjusted Uniform Rate of Progress Glidepath and Improve 2000-2022



Emissions Progress

The RHR requires Nevada to provide an analysis tracking changes in emissions of visibility-impairing pollutants across the state's entire emissions inventory (USEPA, 2024). Nevada reviewed data from the National Emissions Inventory (NEI), Clean Air Markets Program Data (CAMPD), and the WESTAR-WRAP regional haze technical support system version 3 (TSSv3) to satisfy these requirements. Emission inventory data for the 2018-2022 RH SIP progress report period show that SO₂, and NO_x are the predominant anthropogenic pollutants in Nevada. Data collected by the NEI show a 21% reduction in SO₂ and a 28% reduction in NO_x for the state of Nevada (Figure ES4). While data collected by the CAMPD show reductions of 40% in SO₂ and 31% in NO_x (Figure ES5). The NEI is a complete statewide inventory of emissions in the state of Nevada while the CAMPD data set focuses on power plant emissions. Emission data in Section 5 show that the bulk of visibility impairing pollutants is made up of natural and non-point sources including dust, wildfires and agriculture.

Figure ES4: NEI Emissions in Nevada 2008-2020 (tpy)

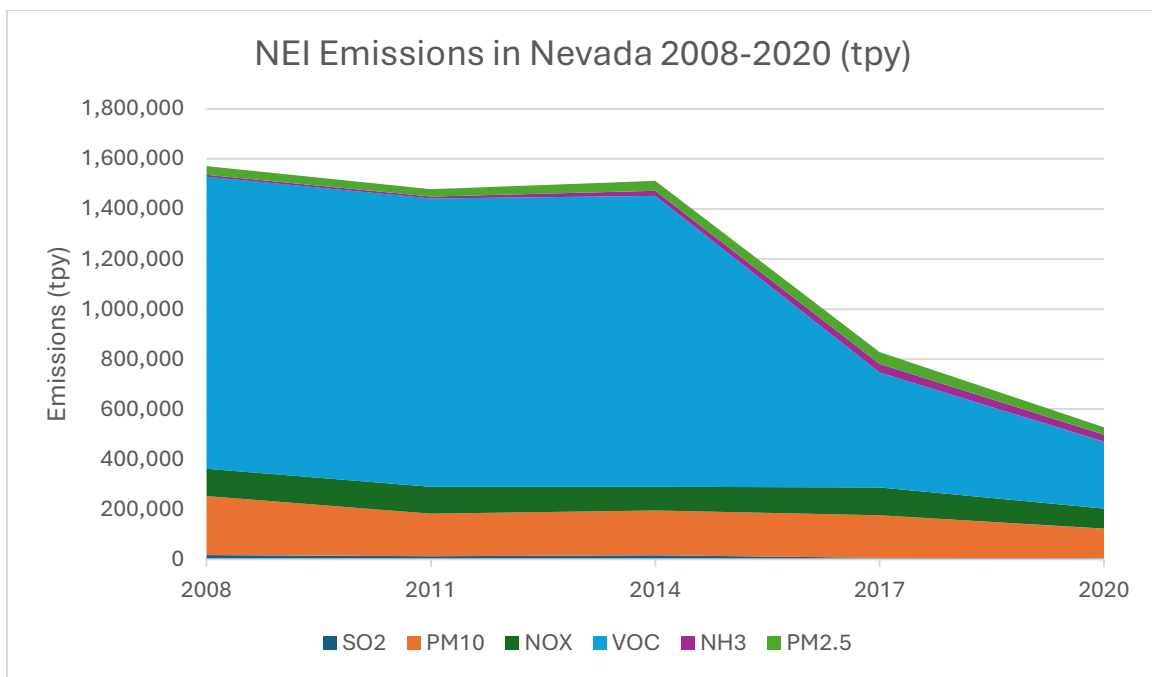
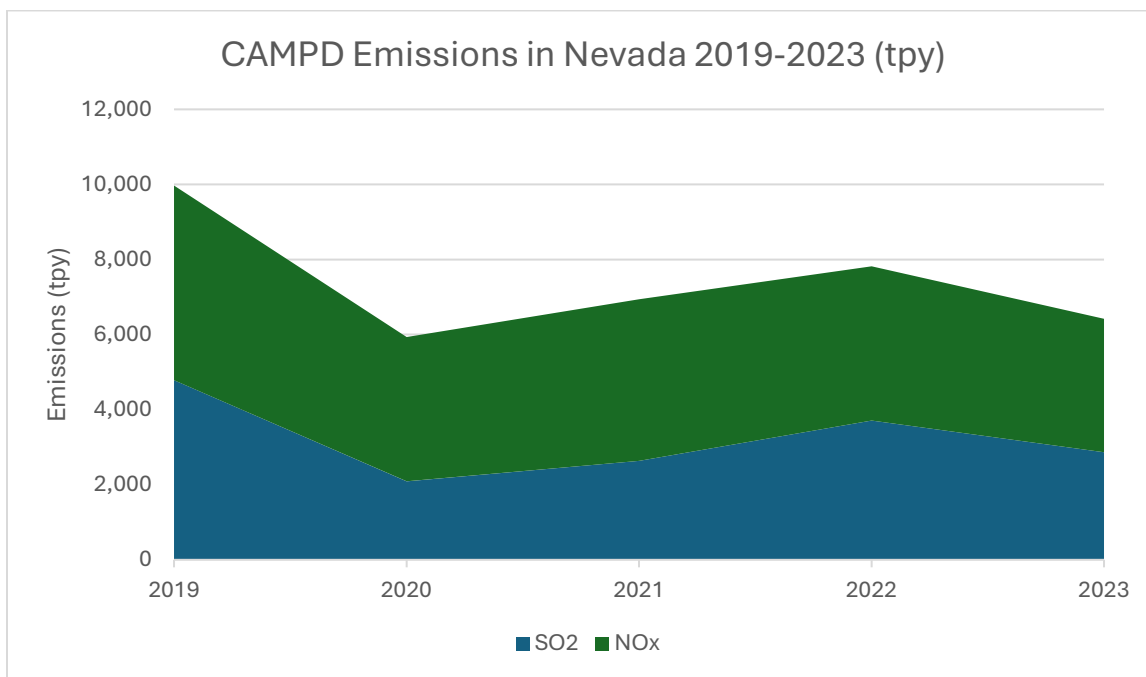


Figure ES5: CAMPD Emissions in Nevada 2019-2023 (tpy)



Despite reductions in point source emissions, as can be seen in the data from CAMPD, visibility at Jarbidge WA has declined slightly during the most impaired days while little to no change has been observed for the clearest days. Improvements in visibility impairment are likely not being realized in Nevada due to increased emissions from wildfire events and a drying climate (Kunkel, 2022).

Assessment of Changes Impeding Visibility Progress

The RHR requires an assessment of any significant changes in anthropogenic emissions within or outside the state since the period addressed in the most recent plan. On July 13, 2023, NV Energy notified NDEP of plans to file an IRP amendment with the PUCN. As part of this IRP the closure of North Valmy and Tracy Unit 4 Piñon Pine were removed from Nevada’s 2022 RH SIP. A four-factor analysis was completed for both facilities, and it was found that selective catalytic reduction (SCR) for Tracy Unit 4 Piñon Pine and the use of pipeline quality natural gas with either selective non-catalytic reduction (SNCR), flue gas recirculation (FGR), or selective catalytic reduction (SCR) at North Valmy were needed to make reasonable progress. The reasonable progress goals were revised resulting in 0.001 dv change in the 2028 reasonable progress goals (2028 RPG) for most impaired days and no change in the 2028 RPG for clearest days. This change in visibility is small and lost after rounding, remaining at 7.76 dv for most impaired days and 1.72 dv for clearest days. No other changes to anthropogenic emissions since the second planning period were identified in this assessment, though it is important to note that point source emissions within NDEP’s jurisdiction are trending down. Control measures and installation timelines are based on EPA approving the 2022 RH SIP and 2024 RH SIP Revision.

Assessment of Current Strategy and Determination of Adequacy

NDEP reviewed Nevada's Smoke Management Program and found it satisfactory for meeting reasonable progress goals for the second implementation period of the RHR. A screening of environmental justice impacts around facilities selected for regional haze analysis found that there is no significant impact on vulnerable communities. This analysis further provides evidence that no further controls are currently necessary to improve visibility.

Through these analyses NDEP concludes that no additional controls are necessary pursuant to this five-year progress evaluation. As evidenced by reductions in anthropogenic source emissions in Nevada the NDEP determines that Nevada is making reasonable progress overall in improving visibility due to reductions in emissions from the control measures included in the 2022 RH SIP and 2024 revision. Additional anticipated reductions in emissions from control measures that are not yet fully implemented and changes in source activity that were not included as part of Nevada's strategy further support this conclusion. NDEP hereby declares that no further revision of Nevada's 2022 RH SIP and 2024 RH SIP Revision is necessary to achieve 2028 reasonable progress goals for visibility improvement for mandatory Class I areas in Nevada and those outside the State that may be affected by Nevada emissions.

Conclusion

NDEP is currently revising Nevada's 2022 RH SIP with plans on submitting it in early 2025 so that the USEPA can take action on Nevada's SIP by December 15, 2025, as required by a consent decree². Many of the emission reductions required for reasonable progress have not yet been achieved since implementation of additional control measures are dependent on approval of Nevada's 2022 RH SIP. While emissions reductions from regional haze SIP strategies have not yet been realized emissions in the state of Nevada have decreased during the second planning period as reported by the NEI and CAMPD. Visibility at Jarbidge WA has experienced a slight decline since the second planning period but has seen an overall net improvement in visibility since the 2000-2004 baseline for both the most impaired and clearest days. This slight decline is likely associated with increases in wildfire and windblown dust events as evidenced by annual extinction compositions. After the consideration of visibility trends, emission data, and the expectation of additional emissions reductions from control measures, NDEP has determined that Nevada's 2022 RH SIP with the 2024 RH SIP Revision is adequate to achieve the 2028 reasonable progress goals and no further revision is necessary.

² Sierra Club, et al. v. EPA, et al., No. 1:23-cv-01744-JDB

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Acronyms, Abbreviations and Terms

2009 RH SIP	2009 Regional Haze State Implementation Plan
2014v2	2014 Emissions Inventory Version 2
2022 RH SIP	2022 Regional Haze State Implementation Plan
2028OTBa2	2028 On-the-Books/On-the-Way Emission Inventory Version 2
ATC	Authority to Construct
BACT	Best Available Control Technology
BLM	Bureau of Land Management
CAA	Clean Air Act
CAMPD	Clean Air Markets Program Data
CIA	Class I Area
CEM	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CM	Coarse Matter
dv	Deciview
EGU	Electrical Generating Unit
EIS	Emissions Inventory System
EJ	Environmental Justice
FGD	Flue Gas Desulfurization
FGR	Flue Gas Recirculation
FIP	Federal Implementation Plan
FLM	Federal Land Manager
FWS	Fish & Wildlife Service
GHG	Greenhouse Gas
HI	Haze Index
IMPROVE	Interagency Monitoring of Protected Visual Environments
IRP	Integrated Resource Plan
IWDW	Intermountain West Data Warehouse
JARB1	Jarbidge Wilderness Area IMPROVE Monitor
LNB	Low-NO _x Burner(s)
LTS	Long-Term Strategy
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standards
Mm ⁻¹	Inverse Megameter
MOU	Memorandum of Understanding
MW	Megawatts
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NC	Natural Conditions
NDEP	Nevada Division of Environmental Protection
NEI	National Emission Inventory
NG	Natural Gas
NPS	National Park Service
NRS	Nevada Revised Statutes
NSR	New Source Review
OFA	Over-Fired Air

PNG	Pipeline Natural Gas
PSAT	Particulate Source Apportionment Technology
PSD	Prevention of Significant Deterioration
PUCN	Public Utilities Commission of Nevada
RH	Regional Haze
RHPWG	Regional Haze Planning Work Group
RHR	Regional Haze Rule
RPG	Reasonable Progress Goal(s)
RPO	Regional Planning Organizations
SCR	Selective Catalytic Reduction
SEC	State Environmental Commission
SIP	State Implementation Plan
SLEIS	State & Local Emissions Inventory System
SNCR	Selective Non-Catalytic Reduction
tpy	Tons Per Year
TSS	Technical Support System
TSSv3	Technical Support System Version 3
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
URP	Uniform Rate of Progress
IEWS	Visibility Information Exchange Web System
WA	Wilderness Area
WAQS	Western Air Quality Study
WEP	Weighted Emissions Potential
WESTAR	Western States Air Resources Council
WGA	Western Governors Association
WRAP	Western Regional Air Partnership

Chemicals and Chemical Compounds

CO	Carbon Monoxide
EC	Elemental Carbon
HNO ₃	Nitric Acid
NH ₃	Ammonia
NH ₄	Ammonium
NH ₄ NO ₃	Ammonium Nitrate
(NH ₄) ₂ SO ₄	Ammonium Sulfate
NMHC	Non-Methane Hydrocarbons
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NO ₃	Nitrate
NO _x	Oxides of Nitrogen
OC	Organic Carbon
OMC	Organic Matter Carbon
PM _{2.5}	Fine Particulate Matter (2.5 micrometers and smaller in diameter)
PM ₁₀	Coarse Particulate Matter (10 micrometers and smaller in diameter)
POA	Primary Organic Aerosols
SO ₂	Sulfur Dioxide
SO ₄	Sulfate
VOC	Volatile Organic Compounds

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1. Introduction

In 1977, Congress amended the CAA, establishing a national goal to protect visibility in Class I federal areas – national parks, forests and wilderness areas. The amendments called for the “prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution” CAA § 169A. In 1979, the USEPA, in consultation with the Secretary of Interior, promulgated a list of 156 mandatory Class I areas in which visibility was determined to be an important factor. In Nevada, one area was designated: the Jarbidge WA in the northeast corner of the State. On July 1, 1999, USEPA issued the RHR, thereby establishing a comprehensive visibility protection program for Class I federal areas. The rule is codified in Title 40 of the Code of Federal Regulations (CFR) § 51.308. The intent of the RHR is to improve visibility over the long term in all 156 mandatory Class I areas across the country. It requires each affected state to develop and adopt an implementation plan that will improve the haziest days and protect the clearest days at each mandatory Class I area in the state, with a goal of returning to natural visibility conditions by the year 2064. Each plan must provide a comprehensive analysis of natural and man-made sources of haze in each mandatory Class I area in the state and contain strategies to control anthropogenic emissions that contribute to haze. The plan must also address the transport of haze across state boundaries. USEPA’s regional haze regulations also include requirements to submit a 5-year progress report. These progress reports must provide an assessment of whether the approved SIP is being implemented appropriately and whether reasonable visibility progress is being achieved consistent with the projected visibility improvement in the SIP.

1.1 Regional Haze Plan for the First Round

The 2009 Regional Haze State Implementation Plan (2009 RH SIP), prepared by the NDEP, was submitted to the USEPA on November 18, 2009. The 2009 RH SIP addressed the initial planning period of the RHR, 2008-2018 and is considered the foundational plan for subsequent planning periods. The 2014 RH progress report, prepared by the NDEP, was submitted to the USEPA on November 18, 2014. The 2014 RH progress report presented data analysis for the period 2008 through 2012 and 2018 Reasonable Progress Goals.

1.2 Regional Haze Plan for the Second Round

NDEP submitted the 2022 RH SIP for the Second Planning Period to the USEPA on August 12, 2022. This SIP addressed the second planning period of the RHR, 2018 through 2028. The USEPA found that Nevada’s SIP for the Second Planning Period meets the completeness criteria outlined in 40 CFR Part 51, Appendix V, and was reviewing its approvability. On July 13, 2023, NV Energy notified NDEP of plans to file an IRP amendment with the PUCN seeking approval to pursue modifications and appropriate emissions controls at Tracy and North Valmy. Since the Tracy and North Valmy were part of Nevada’s regional haze SIP, NDEP submitted a letter on July 27, 2023, informing the USEPA of its partial withdrawal of the Nevada State Implementation Plan for the RHR for the Second Planning Period as it pertains to Tracy and North Valmy.

NDEP has consulted with federal land managers and is requesting public comments on the revision to the second planning period SIP and will submit the revision to the USEPA once completed. On November 10, 2023, the Sierra Club, National Parks Conservation Association, and the Environmental Integrity Project filed a complaint requesting that the USEPA take final action on the regional haze plans of 34 different states including the state of Nevada. As a result of a consent decree related to the complaint¹ the USEPA shall sign a notice of final rulemaking to take action on Nevada's Regional Haze Plan by December 15, 2025.

1.3 Progress Report for the Second Round

The 2017 RHR adjusted the interim progress report submission deadlines so that second and subsequent progress reports will be due by January 31, 2025, July 31, 2033, and every 10 years thereafter. The progress reports must include:

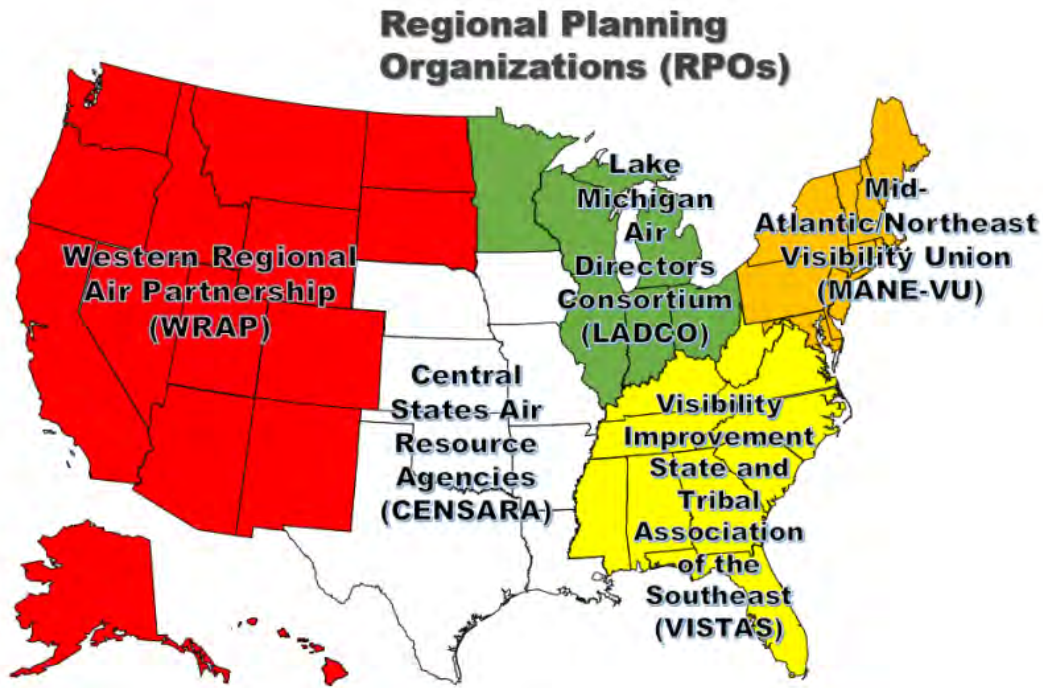
1. The status of implementation of control measures included in the original Regional Haze SIP;
2. A summary of emission reductions achieved through the implementation of control measures;
3. An assessment of visibility conditions;
4. An analysis of the changes in emissions of visibility-impairing pollutants;
5. An assessment of significant changes in anthropogenic emissions that may have limited or impeded progress in improving visibility;
6. An assessment of whether the current SIP elements and strategies are sufficient to meet reasonable progress goals; and
7. A review of the state's smoke management program.

At the same time the state submits its progress report, the state must also make a determination of the adequacy of the existing RH SIP. This report updates regional haze progress on the 2022 RH SIP during the period covering 2019 through 2024 and addresses each required element based on data that was available as of September 1, 2024. To assess progress, this report relies on emissions information from the NEI, CAMPD, Emissions Inventory System (EIS), Nevada State & Local Emissions Inventory System (SLEIS), and visibility data from the WRAP 2024 Regional Haze TSSv3. This document serves as the State of Nevada's progress report submittal provided to the USEPA Region 9 to satisfy the rule requirements outlined in 40 CFR 51.308 (g) and (h).

1.4 WESTAR-WRAP

The USEPA designated five Regional Planning Organizations (RPOs) to assist with the technical support, coordination and cooperation needed to address the visibility issue for the first regional haze SIPs (Figure 1). The multistate RPOs were established to perform the technical regional analyses for these SIPs. The RPO supporting the western states' regional haze effort is WRAP.

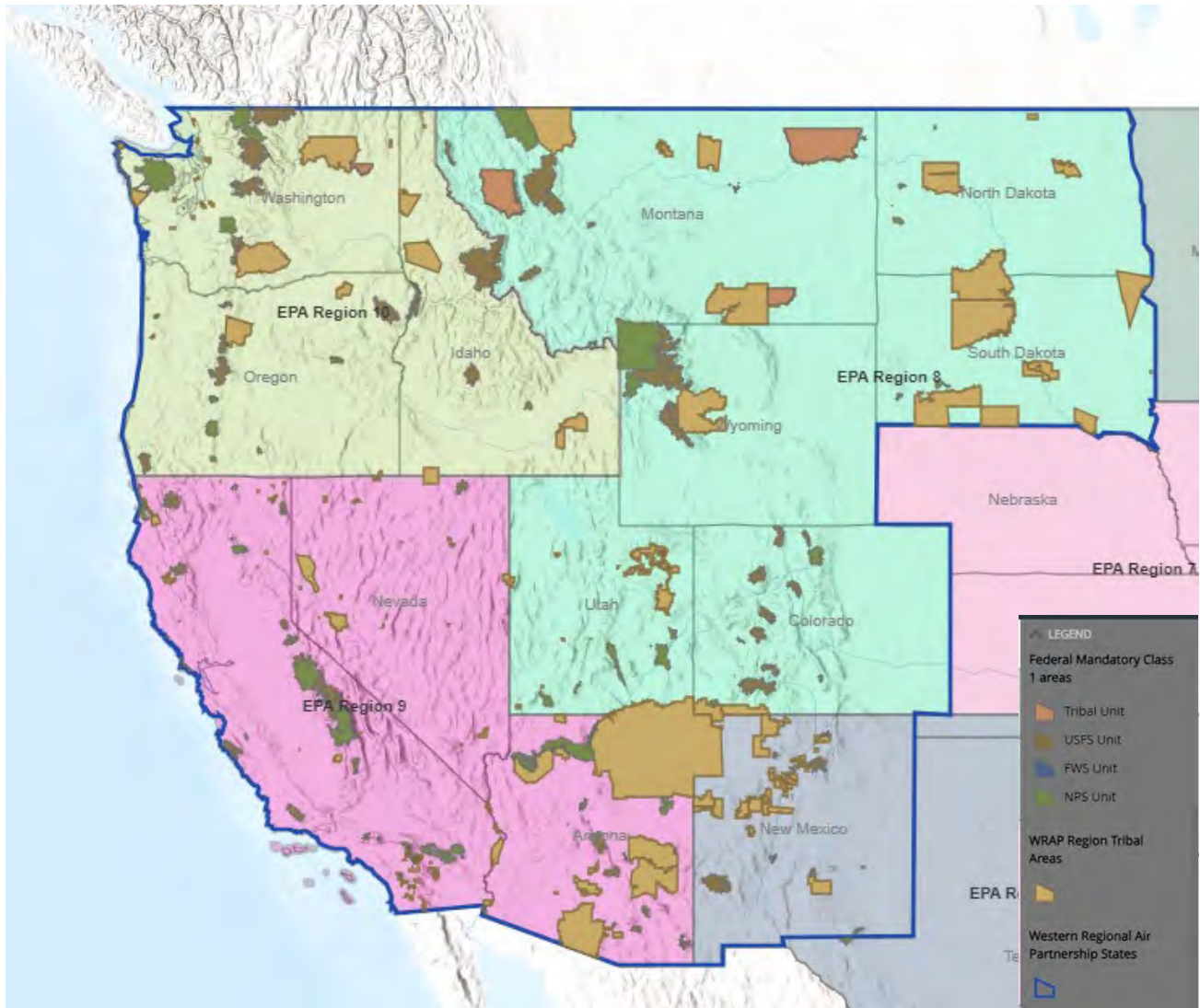
Figure 1: Regional Planning Organizations



WRAP is a voluntary partnership of state, tribes, FLMs, local air agencies, and the EPA whose purpose is to understand current and evolving regional air quality issues in the West. The regional planning process describes the process, goals, objectives, management and decision-making structure, and deadlines for completing significant technical analyses of the regional group.

Nevada is also a member of WESTAR, which is a partnership of 15 western states formed to promote the exchange of information, serve as a forum to discuss western regional air quality issues, and share resources for the common benefit of the member states. WESTAR was formed to promote the exchange of information between the States, serve as a forum to discuss western regional air quality issues of common concern, and share resources for the common benefit of the member states. A map of the WESTAR-WRAP region can be seen below (Figure 2).

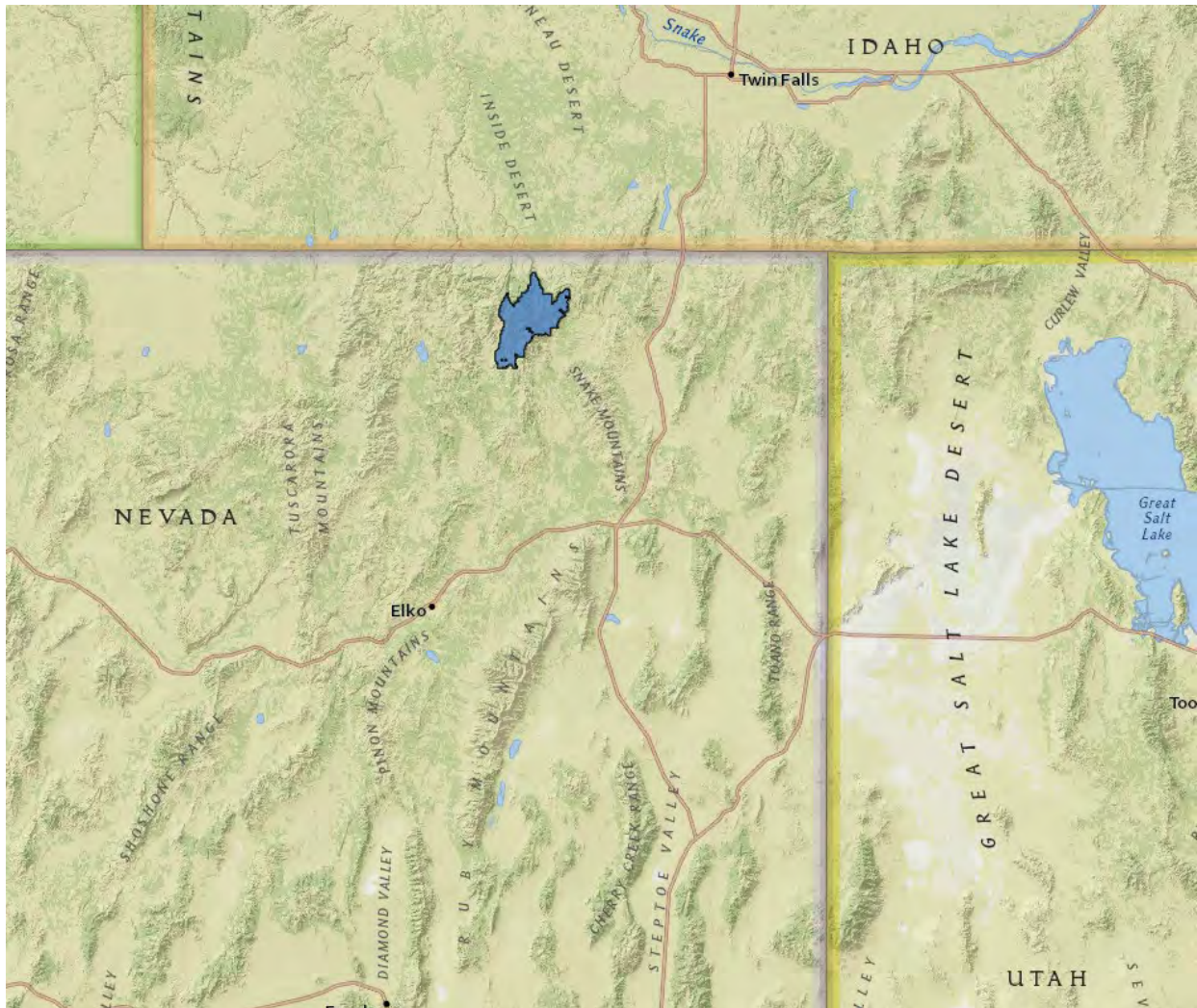
Figure 2: WESTAR/WRAP Region



1.5 Nevada’s Mandatory Class I Area – Jarbidge Wilderness Area

Nevada has one mandatory Class I Area, the 113,167-acre Jarbidge Wilderness Area (Jarbidge WA), located within the Humboldt National Forest in the northeastern portion of Nevada, as shown on Figure 3. Jarbidge WA lies near the Idaho border just north of the physical geographic boundary separating the Columbia Plateau region, including the Snake River Plain, and the Great Basin region to the south. It consists of the headwater’s basin of the Jarbidge River East Fork that flows north from the center of the wilderness area, and the headwaters basin of Marys River that flows south from the center of the wilderness area, part of the Columbia River/Great Basin hydrographic divide. The terrain encompassed by the wilderness area consists of deep canyons with steep slopes. The Jarbidge River Canyon, which comprises the upper main headwaters of the Jarbidge River proper, is oriented south to north, with its mouth several miles to the north where it drains into the Bruneau River.

Figure 3: Jarbidge Wilderness Area Location

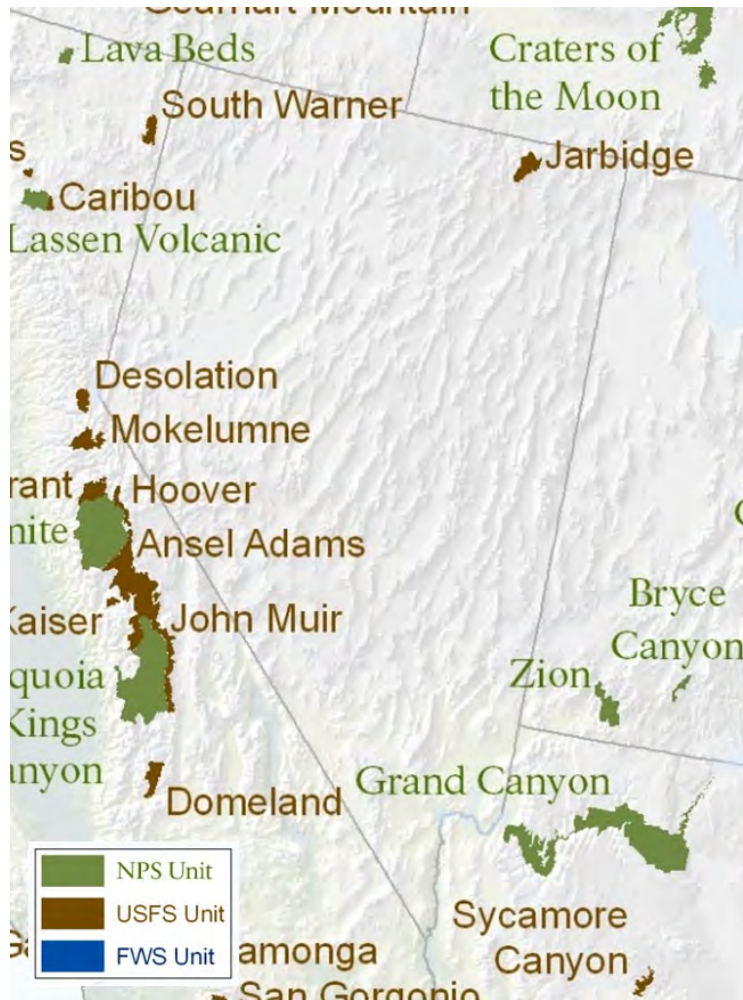


The area illustrates Nevada's typical basin and range topography with elevations ranging from 2,100 m (6,900 ft) where the Jarbidge River East Fork exits the wilderness into Idaho's Snake River Plains to eight peaks over 3,000 m (~10,000 ft) high along the Jarbidge Mountain crest, which includes the highest peak, Marys River Peak at 3,170 m (10,398 ft). Unlike the rest of the state, Jarbidge WA is unusually wet, with an average of 7-8 ft of total snowfall and 1-2 ft of total precipitation while the rest of Nevada averages 10.3 inches of precipitation per year. The varied terrain is cut by deep canyons with steep slopes and supports a range of vegetation zones from sagebrush flats to glaciated alpine basins.

1.6 Source Screening from the Second Implementation Period

As part of the 2022 RH SIP, NDEP and the air quality agencies of the WRAP used the Q/d method in identifying sources that are reasonably contributing to visibility impairment in Class I areas in and nearby Nevada (Figure 4). Although not as sophisticated as modeling, this surrogate for source visibility impacts is significantly less resource intensive, while still providing a reliable method in determining which in-state sources should conduct a four-factor analysis.

Figure 4: Class I Wilderness Areas Near Nevada



Q/d represents a source's annual emissions in tons (Q) divided by the distance in kilometers (d) between the source and the nearest Class I area. For regional haze purposes, only primary visibility-impairing pollutants were included in a source's total Q : NO_x , SO_2 , and PM_{10} . Emissions used to calculate a source's total Q were taken from the 2014v2 NEI. All sources, and their respective total Q , were inventoried and ranked by the largest total Q to least. A Q/d threshold of 5 was set, identifying 8 sources that contributed to approximately 77% of statewide total NO_x , SO_2 , and PM_{10} emissions. Table 1 outlines the sources identified by the Q/d analysis listed in order of potential visibility impacts based on the Q/d value.

Aside from the Reid Gardner Station and McCarran International Airport, additional Q/d values are provided in Table 1-1 for the second and third closest Class I areas. These sources provide geographic representation of the three primary industrial areas in the state: the greater Reno area, the Las Vegas area, and the Interstate 80 industrialized corridor. Having sources from a broad geographic cross section of the state provides confidence that the selected stationary sources include those most likely to impair visibility at Class I areas both in Nevada and in neighboring states.

Table 1: Sources Identified by Q/d Analysis to Conduct a Four-Factor Analysis

Nearest Class I areas	CIA State	Total Q (tpy)	Distance to CIA (km)	Q/d	Percent of Statewide Q	Running Total of Percent of Statewide Q
Reid Gardner Station Power Plant						
Grand Canyon NP	AZ	6,944	84	82.56	19.8%	19.8%
North Valmy Generating Station						
Jarbidge Wilderness Area	NV	12,173	162	75.10	34.6%	54.4%
South Warner Wilderness	CA		255	47.74		
Mokelumne Wilderness	CA		330	36.89		
McCarran International Airport						
Grand Canyon NP	AZ	2,770	107	25.97	7.9%	62.3%
Lhoist North America Apex Plant						
Grand Canyon NP	AZ	1,662	88	18.84	4.7%	67.0%
Zion NP	UT		195	8.52		
Bryce Canyon NP	UT		277	6.00		
Nevada Cement Fernley Plant						
Desolation Wilderness	CA	1,482	102	14.55	4.2%	71.2%
Mokelumne Wilderness	CA		136	10.90		
Emigrant Wilderness	CA		180	8.23		
Tracy Generating Station						
Desolation Wilderness	CA	683	82	8.33	1.9%	73.1%
Mokelumne Wilderness	CA		122	5.60		
Emigrant Wilderness	CA		167	4.09		
TS Power Plant						
Jarbidge Wilderness Area	NV	834	131	6.39	2.4%	75.5%
South Warner Wilderness	CA		309	2.70		
Craters of the Moon NM	ID		362	2.30		
Graymont Pilot Peak Plant						
Jarbidge Wilderness Area	NV	673	131	5.13	1.9%	77.4%
Craters of the Moon NM	ID		263	2.56		
Sawtooth Wilderness	ID		297	2.27		

Of the sources listed above, four were removed from consideration for further analysis. Reid Gardner Station Power Plant was identified using emissions data from the 2014v2 NEI, however, the entire facility ceased operation and was decommissioned in 2017 and has now been completely dismantled. TS Power Plant was determined as already operating BACT (best available control technology) for NO_x, SO₂, and PM₁₀ emissions. In NDEP’s “Reasonable Progress Control Determination” for TS Power, a robust weight-of-evidence demonstration is provided for existing NO_x, SO₂, and PM₁₀ control measures at the TS Power Plant to determine that these controls are not necessary to make reasonable progress. McCarran International Airport, now named the Harry Reid International Airport, was removed from consideration as most emissions are due to aircraft

takeoffs, landings and ground movement, falling outside of the state and local air agencies' scope of authority.

Nevada Cement is currently bound to the requirements of a USEPA Consent Decree to control NO_x and SO₂ emissions. NDEP is relying on the referenced Consent Decree to screen the facility out of further consideration of potential new control measures, as the outcome of the Consent Decree will inherently make both kilns BACT for NO_x, SO₂, and PM₁₀ emissions. NDEP concludes that the consent decree controls for NO_x and SO₂ are not necessary to achieve reasonable progress as these new consent decree controls, and associated limits, will be federally enforceable and permanent through the source's Title V operating permit, as required by the USEPA Consent Decree, regardless of whether they are included in Nevada's Long-Term Strategy for the second implementation period of Regional Haze as necessary to achieve reasonable progress. Furthermore, anticipated reductions from the implementation of NO_x controls and achievement of new SO₂ limits required by the consent decree were not included in the 2028 RPGs for Jarbidge WA. Nevada Cement has been included in the following sections of this progress report to provide continuity with the data tables and figures provided in Nevada's 2022 RH SIP.

The remaining four facilities, North Valmy, Tracy, Apex, and Pilot Peak were selected for further analysis.

2. Status of Control Strategies in the Regional Haze SIP

40 CFR 51.308(g)(1) requires "a description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the state". In its 2022 Regional Haze SIP and 2024 revision for the second implementation period, NDEP determined the following control measures, listed in Table 2, as necessary to make reasonable progress during the second implementation period.

Table 2: Control Measure Necessary to Make Reasonable Progress

Facility	Unit	Control	Controlled Pollutant	Existing/ New	Compliance Deadline
North Valmy Generating Station	Unit 1	Use of Pipeline Quality Natural Gas	PM ₁₀	New	June 1, 2027
		Use of Pipeline Quality Natural Gas	SO ₂	New	June 1, 2027
		LNB and SNCR, FGR, or SCR	NO _x	New	No Later than 36 months after SIP approval
	Unit 2	Use of Pipeline Quality Natural Gas	PM ₁₀	New	June 1, 2027
		Use of Pipeline Quality Natural Gas	SO ₂	New	June 1, 2027
		LNB and SNCR, FGR, or SCR	NO _x	New	No Later than 36 months after SIP approval
Tracy Generating Station	Unit 5	Dry Low NO _x Combustor	NO _x	Existing	Upon SIP approval
	Unit 6	Dry Low NO _x Combustor	NO _x	Existing	Upon SIP approval
	Unit 4 Piñon Pine	Steam Injection	NO _x	Existing	Upon SIP approval
		SCR	NO _x	New	No Later than 36 months after SIP approval
	Unit 32	Dry Low NO _x Combustor and SCR	NO _x	Existing	Upon SIP approval
	Unit 33	Dry Low NO _x Combustor and SCR	NO _x	Existing	Upon SIP approval
Lhoist Apex Plant	Kiln 1	LNB	NO _x	New	No later than two years after SIP approval
		SNCR	NO _x	New	
	Kiln 3	LNB	NO _x	Existing	
		SNCR	NO _x	New	
	Kiln 4	LNB	NO _x	Existing	
		SNCR	NO _x	New	
Graymont Pilot Peak Plant	Kiln 1	LNB	NO _x	Existing	Within 240 days of SIP submittal
	Kiln 2	LNB	NO _x	Existing	
	Kiln 3	LNB	NO _x	Existing	

These measures will be adopted into Nevada's long-term strategy (LTS) as permanent and enforceable measures. These measures and their original implementation are described in detail in Section 5 of Nevada's 2022 regional haze SIP for the second planning period.

2.1 NV Energy's North Valmy Generating Station

NV Energy's North Valmy Generating Station is an electric generating facility located at 23755 Treaty Hill Road in Valmy, NV, approximately 162 kilometers (km) southwest of the Jarbidge Wilderness Class I area in Elko County, NV. The electric generating units at the facility currently consist of two coal-fired boilers that provide high pressure steam to steam turbine generators used to produce electricity.

NV Energy had committed to cease operations and shutdown both electrical generating units at North Valmy by December 31, 2028. With this closure date, no additional controls on either unit were cost-effective or necessary to achieve reasonable progress. NDEP was relying on existing control measures at North Valmy to make reasonable progress. These measures included baghouse and air atomized ignitors to control PM₁₀ at both Units, low-NO_x burners (LNB)+over-fired air (OFA) to control NO_x for both Units, and a spray dryer with lime slurry to control SO₂ at Unit 2. NV Energy's four-factor analysis relied on an emissions baseline derived from the annual average of emissions reported in 2016 through 2018.

Changes in the energy landscape along with transmission system reliability considerations in Nevada necessitated reconsideration of the intent to retire North Valmy Units 1 and 2 by December 31, 2028. In August 2023, NV Energy filed its Joint Application for approval of the Fifth Amendment to the 2021 Joint IRP with the PUCN. In part, the Fifth Amendment sought approval to convert the existing coal fueled plant at North Valmy to a cleaner natural gas-fueled plant, and to continue operation of North Valmy to 2049. Based on this filing, the state of Nevada partially withdrew portions of the SIP for regional haze to re-evaluate emission control measures that may be necessary to achieve reasonable progress during the second implementation period of the RHR in Nevada. In March 2024, the PUCN approved proceeding with the project at North Valmy.

On July 27, 2023, NDEP submitted a letter informing the USEPA of its partial withdrawal of the Nevada State SIP for the RHR for the Second Planning Period. NDEP is currently consulting with federal land managers and requesting public comments on the 2024 revision to the second planning period SIP and will submit the revision to the USEPA once completed. Control measures necessary to make reasonable progress implemented at North Valmy as part of the 2024 revision are reflected in Table 2. NDEP is now relying on the installation LNB along with the use of SNCR, FGR, or SCR for the control of NO_x. NDEP is also relying on the use of pipeline quality natural gas for the control of SO₂ and PM₁₀. The compliance date for these controls has not yet been met as they are either dependent on the approval of Nevada's regional haze SIP or have not occurred yet.

2.2 NV Energy's Tracy Generating Station

NV Energy's Tracy Generating Station is an electric generating facility located at 1799 Waltham Way, exit 32, Sparks, Nevada approximately 81 kilometers (km) east of the Desolation Wilderness Class I area in El Dorado County, CA. Electric generating units considered in the 2022 RH SIP include; Unit 3 a conventional, pipeline natural gas-fired steam boiler, Unit 4 Piñon Pine a combustion turbine

heat recovery steam generator , Units 5 & 6 two pipeline natural gas and distillate-fired combustion turbines, and Units 32 & 33 two pipeline natural gas-fired combined cycle units.

Upon conclusion of the initial four-factor analysis included in the 2022 RH SIP and after discussions with NDEP, NV Energy committed to NDEP to cease operations at Unit 4 Piñon Pine by December 31, 2031. This new closure date reduced the remaining useful life of the unit and any potential additional controls down to 6 years, inflating the cost effectiveness value to \$10,064/ton for SCR and \$17,355/ton for LNB. NDEP does not consider controls above \$10,000/ton as cost-effective for the second implementation period of the RHR. Reductions from the closure of this unit were not expected to be observed during the second implementation period, ending in 2028, but would have been observed in Nevada's third implementation period of the RHR. Because of this, expected reductions were not quantified or assumed in Nevada's reasonable progress goals for the second implementation period.

Changes in the energy landscape along with transmission system reliability considerations in Nevada necessitated reconsideration of the intent to retire Unit 4 Piñon Pine by December 31, 2031. In August 2023, NV Energy filed its Joint Application for approval of the Fifth Amendment to the 2021 Joint IRP with the PUCN. In part, the Fifth Amendment sought approval to continue operation of Unit 4 Piñon Pine to 2049. Based on this filing, the state of Nevada partially withdrew portions of the SIP for regional haze to re-evaluate emission control measures that may be necessary to achieve reasonable progress during the second implementation period of the RHR in Nevada. In March 2024, the PUCN approved proceeding with the project at Tracy.

On July 27, 2023, NDEP submitted a letter informing the USEPA of its partial withdrawal of the Nevada SIP for the RHR for the Second Planning Period. NDEP is currently consulting with federal land managers and requesting public comments on the 2024 revision to the second planning period SIP and will submit the revision to the USEPA once completed. Control measures necessary to make reasonable progress implemented at Unit 4 Piñon Pine as part of the 2024 revision are reflected in Table 2. The compliance date for these controls has not yet been met as they are dependent on the approval of Nevada's 2022 RH SIP.

2.3 Lhoist North America Apex Plant

Apex is a lime production facility located in Clark County, NV just northeast of the Las Vegas metropolitan area and operates four horizontal rotary preheater lime kilns. On August 12, 2022, NDEP determined the implementation of LNBS at Kiln 1, and implementation of SNCR at Kilns 1, 3, and 4 as necessary to achieve reasonable progress during the second implementation period of Nevada's RH SIP. NDEP also considers the continued use of LNB on Kiln 3 and 4 as necessary to make reasonable progress as well. The requirements to achieve reasonable progress were established in the Apex Plant's Authority to Construct (ATC) Permit issued and enforced by the Clark County Department of Environment and Sustainability and incorporated by reference into Nevada's 2022 RH SIP.

Control measures necessary to make reasonable progress implemented at Apex as part of the 2024 revision are reflected in Table 2. The compliance date for these controls has not yet been met as they are dependent on the approval of Nevada's 2022 RH SIP. Apex's ATC Permit expired 18 months after its original issue date of August 3, 2022, and was reissued by the Clark County Department of

Environment and Sustainability on February 6, 2024. All referenced permit conditions remain the same as those in Nevada's SIP submitted on August 12, 2022. These conditions are incorporated by reference into Nevada's 2022 RH SIP LTS for the second implementation period.

2.4 Graymont Pilot Peak Plant

The Pilot Peak Plant is located in Elko County, Nevada, approximately 10 miles northwest of West Wendover. The facility operates three horizontal rotary preheater lime kilns. All three kilns use coal as a primary fuel source. Typical annual fuel usage rates for the three kilns combined are approximately 130,000 tons per year of coal (at approximately 11,600 Btu/lb).

While Pilot Peak was initially screened into a four-factor analysis requirement, Pilot Peak indicated that the emissions reported in the 2014 v2 NEI, particularly the NO_x emissions, did not agree with what was submitted for Pilot Peak's 2014 Annual Emission Inventory. As discussed in Section 5.8.1 of Nevada's RH SIP after further review NDEP found that it was not reasonable to screen the Pilot Peak source back into a four-factor analysis requirement. Although no new measures were formally considered to achieve reasonable progress at the Pilot Peak kilns, NDEP still evaluated whether any existing measures at the facility were necessary to achieve reasonable progress.

NDEP identified the continued use of existing LNBs at all three kilns as necessary to make reasonable progress. A compliance deadline of 240 days upon issuance of the updated permit was set to allow for continuous emissions monitoring system (CEMS) requirements. This compliance date has been met by Pilot Peak.

Although NO_x emission limits were reduced within the source's air quality operating permit, these levels have already been achieved in practice over the past several years, and beyond the scope of the second implementation period of the RHR for Nevada. Because the Pilot Peak Plant is already meeting the emissions reductions required for reasonable further progress, no further emissions reductions are expected.

3. Emissions Reductions from Regional Haze SIP Strategies

RHR 40 CFR 51.308(g)(2) requires "A summary of the emissions reductions achieved throughout the state through the implementation of the measures described in paragraph (g)(1) of this section." Most of the emission reductions outlined in Section 2 have not yet been achieved since implementation of control measures are dependent on approval of Nevada's 2022 RH SIP which is currently being revised. Therefore, this section of the progress report gives a description of the emissions reductions for the facilities referenced in Section 2 without the controls referenced in Table 2 being implemented.

Emissions over the 2018-2023 period covered by this progress report for North Valmy, Tracy, Apex, Nevada Cement and Pilot Peak are shown on Table 3, along with the projected emissions for 2028. Figures 5 through 8 summarize Table 3 for 2018 through 2023. Gradual reductions in NO_x, SO₂, and PM₁₀ emissions are observed between 2018 and 2023 at North Valmy and Tracy (Figures 5 through 8). Apex and Nevada Cement reported an increase in SO₂ and PM₁₀ emissions and a decrease in NO_x emissions from 2018 to 2023, while Pilot Peak reported an increase in NO_x and PM₁₀ emissions and a decrease in SO₂ emissions during the same period. Significant emission reductions are expected to achieve reasonable progress for the second implementation period of Nevada's RH SIP.

Emissions reported to SLEIS and EIS were used to create Table 3 and Figures 5 through 8. Emission reductions for all facilities conducting a four-factor analysis were estimated by both WRAP and NDEP. WRAP estimates were developed for modeling inventories, with 2028OTBa2 data using updated 2014 emissions. In NDEP's four-factor analyses calculations, baseline emissions were typically derived from more recent reporting years (e.g. average annual emissions from 2016 to 2018) and controlled emissions derived from the assumed control efficiency of any control that is cost-effective and necessary to achieve reasonable progress. Emission reductions calculated from NDEP's four-factor analyses are more accurate than what was estimated for WRAP modeling and provide a better image of achieved emission reductions as a result of Nevada's efforts during the second implementation period. Total emission reductions from 2018-2023 are 1,818 tons per year and are expected to decrease by another 3,192 tons per year once emission controls required by Nevada's 2022 RH SIP are implemented.

Table 3: Actual & Modeled Emissions During the Second Round (tpy)

Pollutant	Actual Emissions 2018	Actual Emissions 2019	Actual Emissions 2020	Actual Emissions 2021	Actual Emissions 2022	Actual Emissions 2023	Wrap Model 2028	NDEP 4FA 2028
North Valmy Generating Station								
NO _x	2,434	2,914	1,603	2,355	2,188	1,651	1,583	602
SO ₂	3,073	4,558	1,919	2,393	3,458	2,698	2,281	4
PM ₁₀	121	187	75	134	171	80	77	44
Tracy Generating Station								
NO _x	511	659	626	442	378	375	503	209
SO ₂	11	11	11	10	9	9	12	12
PM ₁₀	73	144	150	125	72	53	59	59
Lhoist - Apex								
NO _x	1,179	1,152	1,226	999	1,045	783	1,352	671
SO ₂	128	166	528	412	360	441	150	138
PM ₁₀	148	117	206	181	176	194	8	59
Nevada Cement - Fernley Plant								
NO _x	2,342	1,791	1,778	2,100	1,366	1,524	1,098	2,568
SO ₂	14	42	50	52	132	109	126	334
PM ₁₀	36	132	144	238	245	207	115	250
Graymont - Pilot Peak								
NO _x	418	562	700	507	368	526	523	515
SO ₂	18	19	18	15	11	12	23	6
PM ₁₀	68	77	80	82	64	94	54	93
Total Annual Emissions by Pollutant								
NO _x	6,884	7,077	5,933	6,403	5,346	4,859	5,059	4,565
SO ₂	3,244	4,795	2,526	2,882	3,969	3,269	2,592	494
PM ₁₀	446	656	654	760	729	628	313	505
Grand Total	10,574	12,528	9,114	10,045	10,043	8,756	7,964	5,564

Figure 5: NO_x Emissions from Facilities Selected During the Second Round 2018-2022 (tpy)

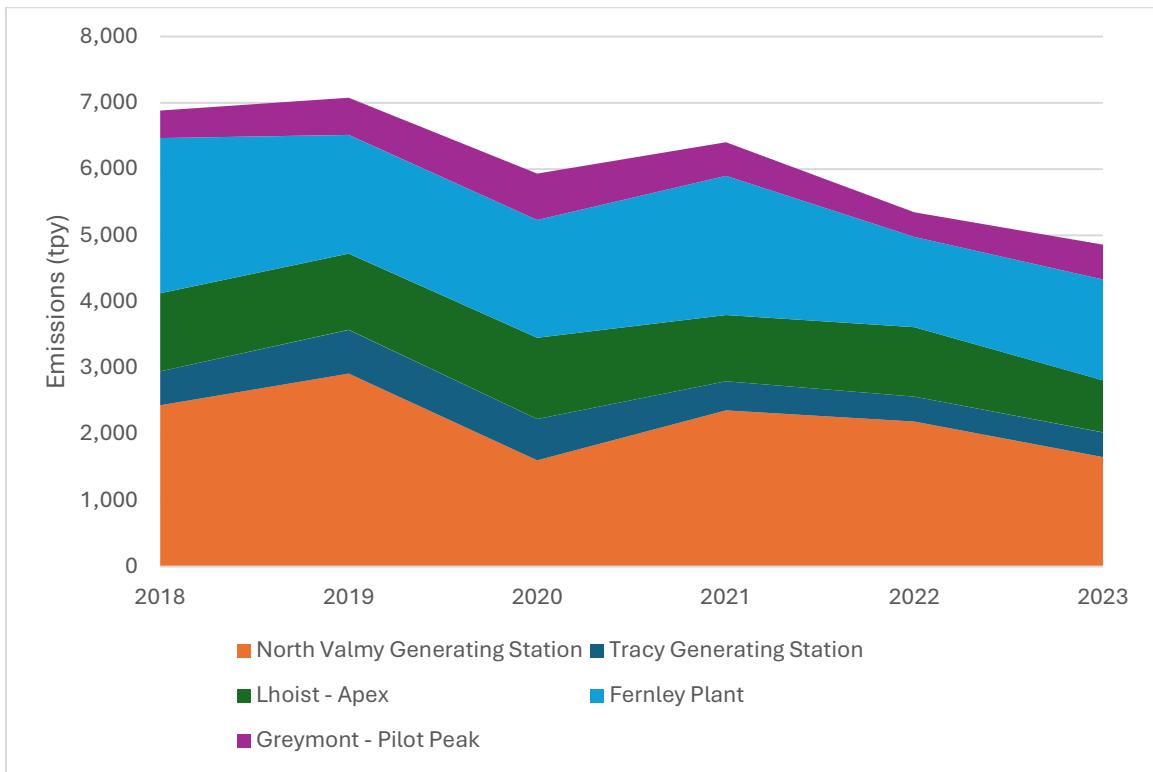


Figure 6: SO₂ Emissions from Facilities Selected During the Second Round 2018-2022 (tpy)

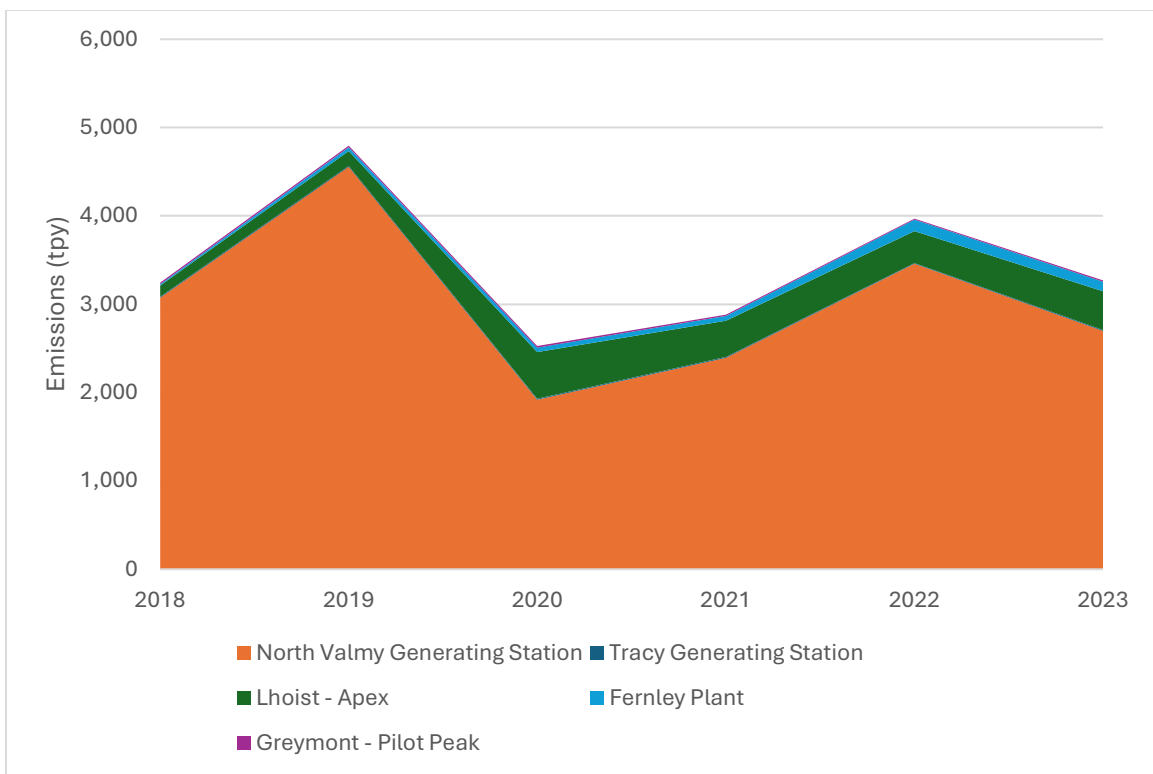


Figure 7: PM₁₀ Emissions from Facilities Selected During the Second Round 2018-2022 (tpy)

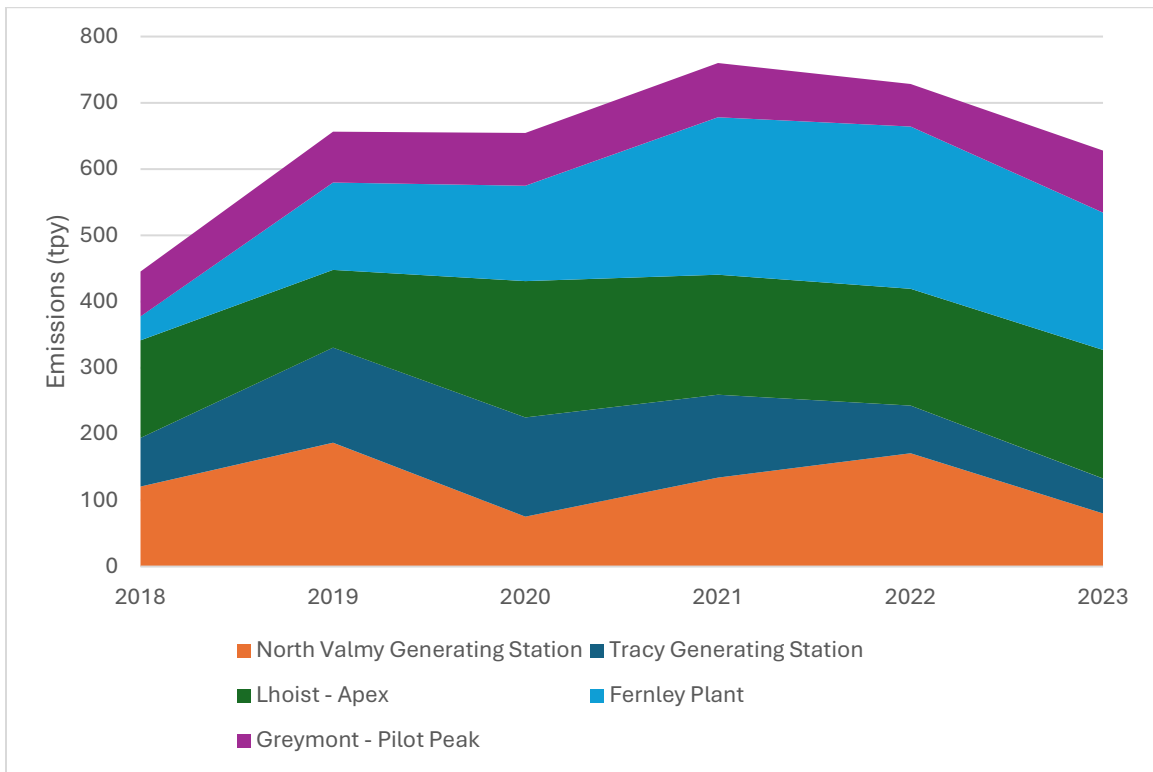
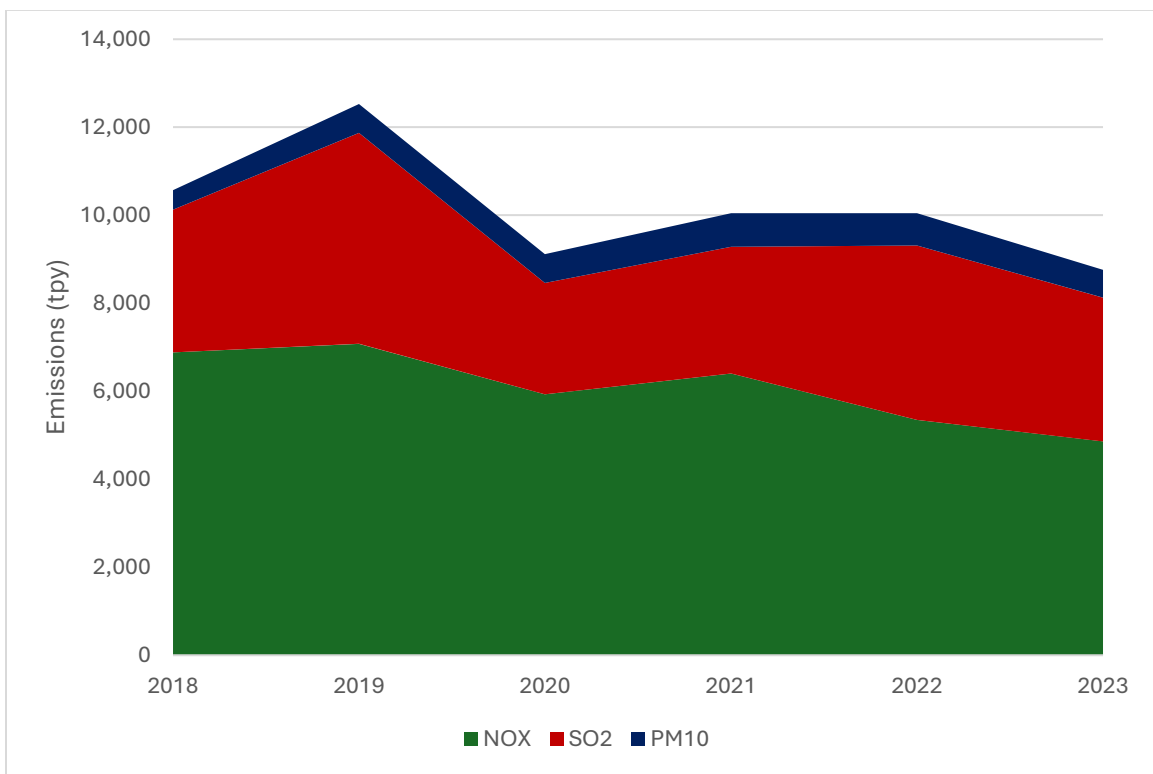


Figure 8: Total Emissions from Facilities Selected During the Second Round 2018-2022 (tpy)



4. Visibility Progress

Per RHR 40 CFR 51.308(g)(3), states with Class I areas must assess the visibility conditions and changes described in the following three items.

1. Current visibility conditions
2. The difference between current conditions and baseline conditions
3. The change in visibility impairment over the period since the period addressed in the most recent plan required under 51.308(f)

The applicable period to assess current conditions is the most recent five-year period preceding the required date of the progress report for which data are available six months preceding the required date of the progress report. Current visibility for this progress report is the annual average of the most recent five years of data and were calculated by the WRAP states using IMPROVE monitoring data for the clearest days and most impaired days for the years 2018 through 2022.

4.1 Visibility Trends

To satisfy items 1 through 3 above, visibility for the 2000-2004 baseline, most recent plan, and current conditions are shown in Table 4 for the 20% Most Impaired and the 20% Clearest days respectively. The change in visibility is calculated by the current visibility minus the baseline or most recent plan; therefore, negative differences indicate an improvement in visibility. All the data presented in this section is from the Regional Haze TSSv3 based on data that was measured and analyzed as part of the IMPROVE program (<https://views.cira.colostate.edu/tssv3/>).

Table 4: Baseline, Recent Plan, and Current Visibility Conditions for Jarbidge WA, Most Impaired and Clearest Days (deciviews)

Parameter	Baseline IMPROVE 2000-2004	Recent Plan IMPROVE 2014-2018	Current Conditions IMPROVE 2018-2022	Estimated Natural Conditions 2064	Change from Baseline	Change from Recent Plan
Most Impaired Days	8.7	8	8.3	5.2	-0.4	0.3
Clearest Days	2.6	1.8	1.9	1.1	-0.7	0.1

Jarbidge WA has seen a 0.4 dv net improvement in visibility since the baseline after accounting for the 0.3 dv decline in visibility since the most recent plan for the most impaired days. Some of the slight diminishment in visibility can be attributed to natural variability in the yearly patterns attributed to wildfires and drought conditions, emission sources are discussed further in section 5. Figure 9 shows a gradual decrease in deciview trends on the most impaired days, equating to an improvement in visibility, from 1992 through 2022 marked by variable yearly increases and decreases. It is also important to note that this progress report provides a description of visibility before the controls referred to in Table 2 have been implemented.

Jarbidge WA saw a 0.7 dv net improvement in visibility since the baseline after accounting for a 0.1 dv decline in visibility since the most recent plan for the clearest days. Figure 10 shows a decrease

in deciview trends on the clearest days, equating to an improvement in visibility, from 1992 through 2022 beginning to flatten in recent years as visibility nears natural conditions.

Figure 9: Deciview Trends on the Most Impaired Days - Jarbidge WA

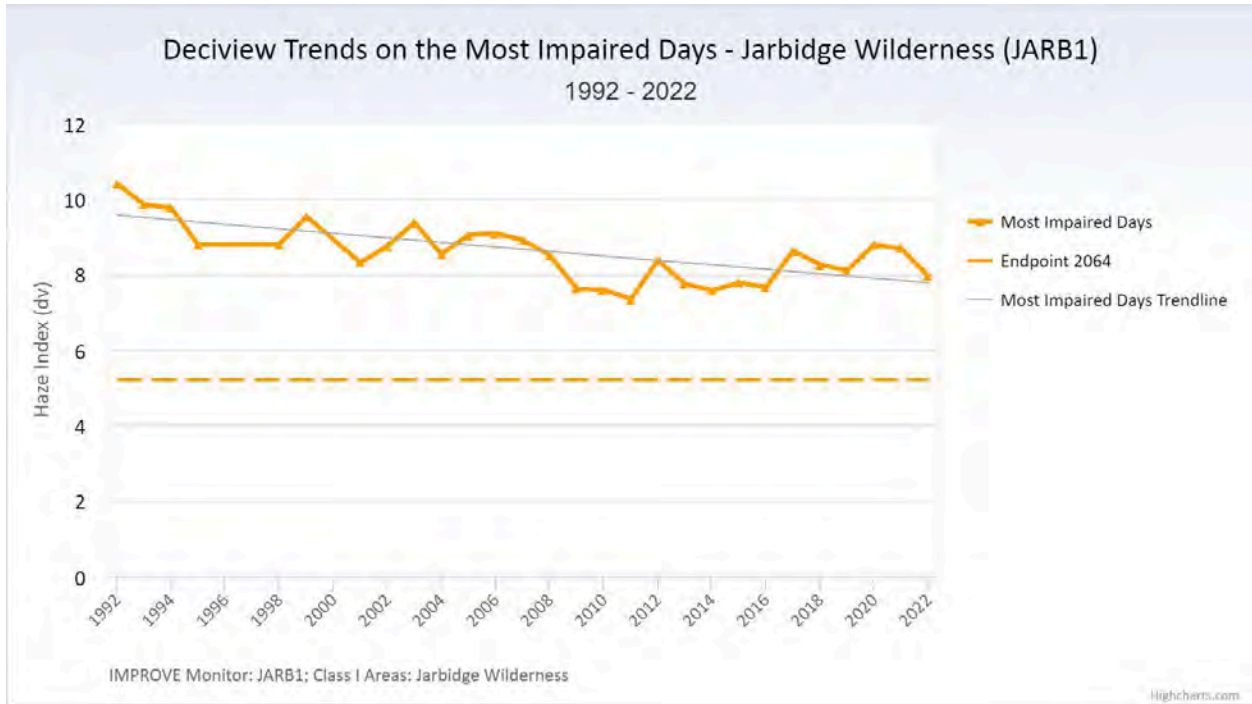
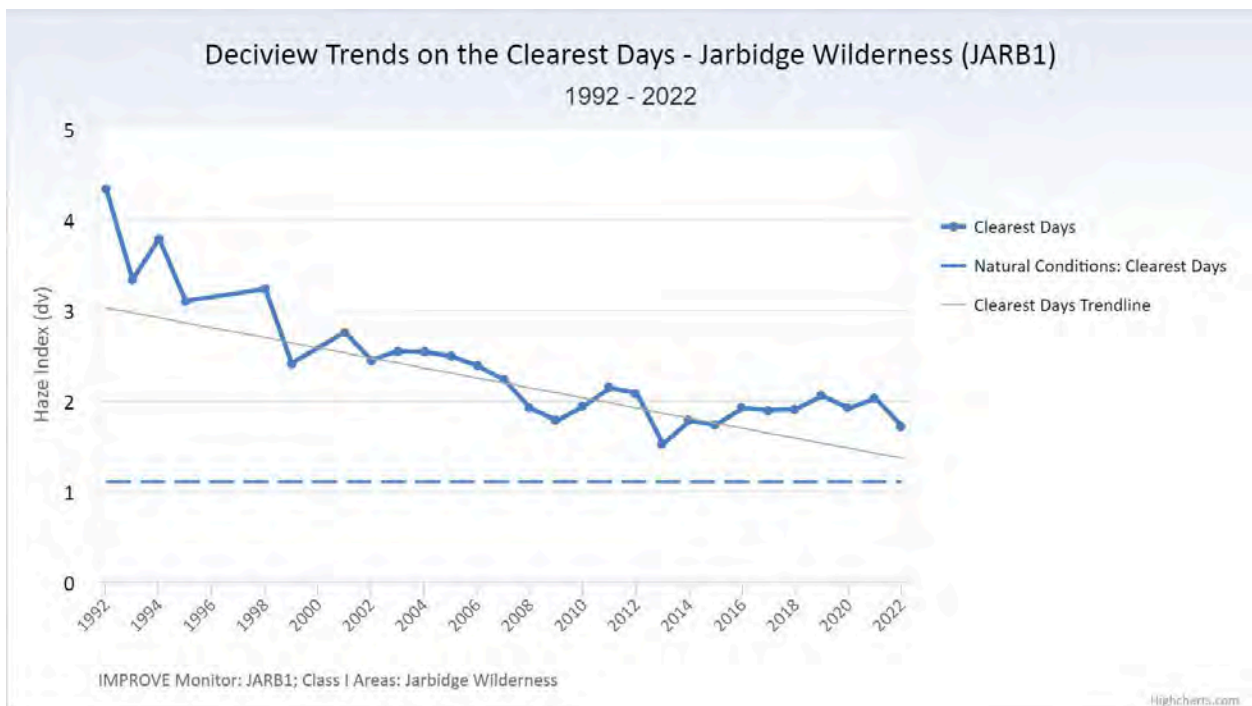


Figure 10: Deciview Trends on the Clearest Days - Jarbidge WA



4.2 Annual Extinction Trends

Figures 11 and 12 show the annual extinction data on the 20 percent most impaired and clearest days for the seven haze causing pollutants from Jarbidge WA for the years 1992 through 2022. The graphs represent all historical data including the baseline period and ending in the current period. Data from 1996, 1997, and 2000 did not meet the USEPA data completeness requirements (75 percent for the year and 50 percent for each quarter) and therefore do not have calculated annual concentrations. A slight increase in total annual extinction between the 5-year period covering the most recent plan (2014-2018) and the current period (2018-2022) for the most impaired days can be seen in Figure 11 while total annual extinction for the clearest days is relatively flat over the same period (Figure 12). Examination of the data provides insight into the long-term trends of haze causing pollutants at the Jarbidge Wilderness Area IMPROVE Monitor (JARB1).

Figure 11: Annual Extinction Composition on the Most Impaired Days - Jarbidge WA

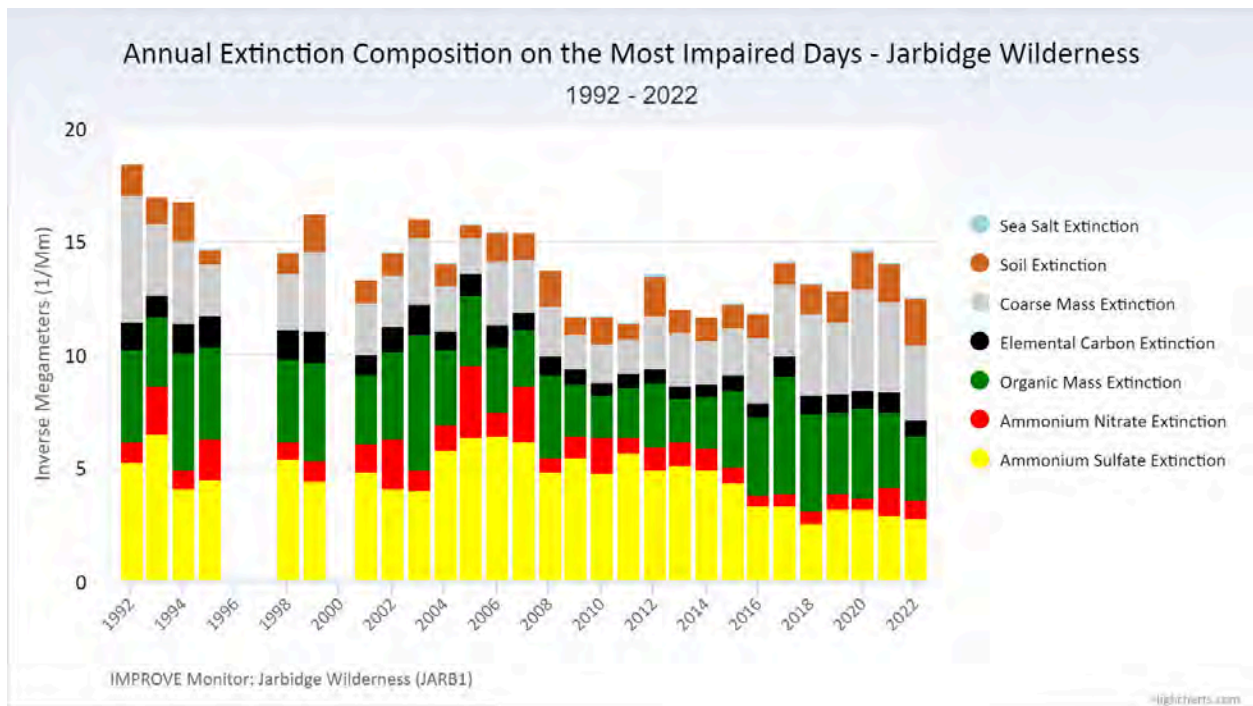
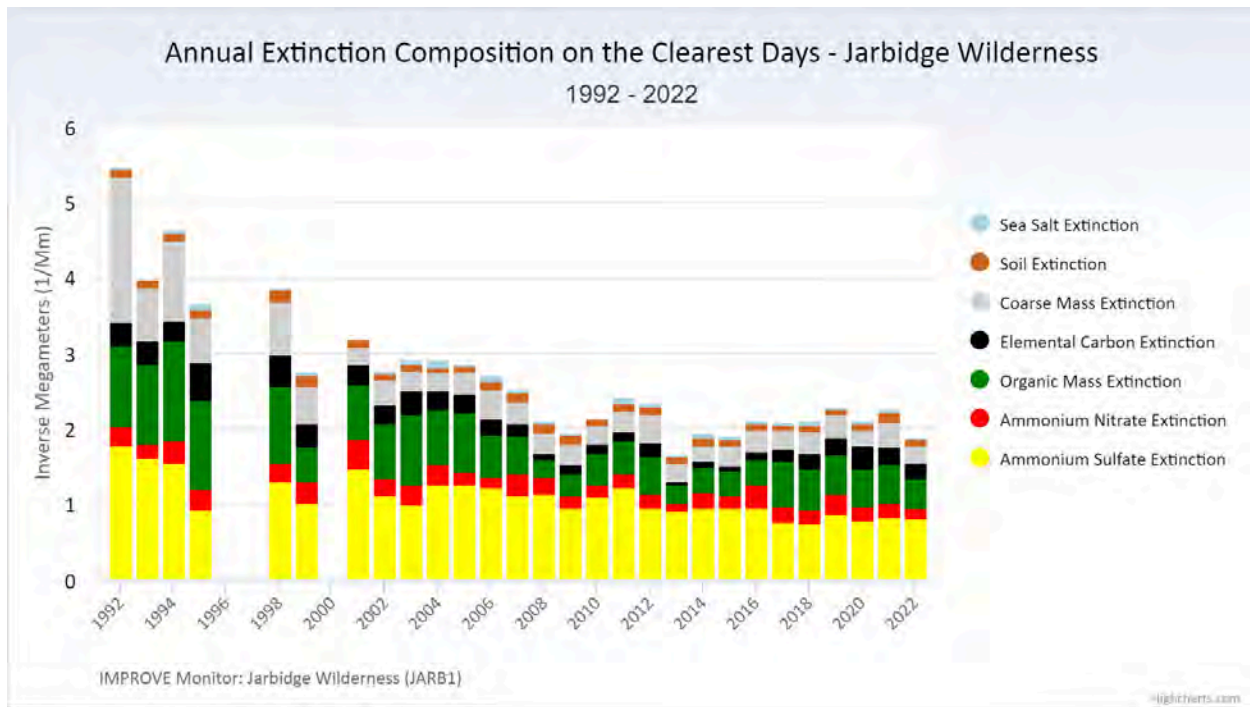


Figure 12: Annual Extinction Composition on the Clearest Days - Jarbidge WA



Ammonium nitrate and ammonium sulfate extinction, considered to be caused by mostly anthropogenic sources (WRAP, 2020). Ammonium nitrate is formed in the atmosphere by the reaction of ammonia and NO_x and is limited by the availability of ammonia and temperature. NO_x emissions are the result of fossil fuel combustion by point, area, on-road, and off-road mobile sources. Ammonium sulfate particles are formed in the atmosphere from SO_2 emissions and occur as hydrogen sulfate, ammonium bisulfate and ammonium sulfate, depending on the availability of ammonia in the atmosphere. SO_2 is formed when sulfur-containing fuels, such as diesel or coal, are burned, when gasoline is extracted from oil or when metals are extracted from ore. IMPROVE monitoring data at Jarbidge WA shows that ammonium sulfate has variations in light extinction with slight downward trends beginning in 2012 and continuing through 2022 for the most impaired days as seen in Figure 11. The relatively minor contribution of ammonium nitrate to reconstructed extinction at JARB1 suggests that formation is limited by both the availability of ammonia and the paucity of NO_x sources in this rural setting³. IMPROVE monitoring data for the clearest days at Jarbidge WA suggests slight improvement, largely due to emission reductions achieved from the initial implementation period Figure 12. Nevada is on track to reducing anthropogenic emissions, and corresponding visibility impairment contributions at Jarbidge WA, back to natural conditions by 2064.

Organic mass and elemental carbon extinction indicate contributions from combustion and fire emissions (NDEP, 2022). Sources of organic mass emissions include combustion of fossil fuels, and wood burning. Common sources of elemental carbon emissions are fire, including agricultural burning, prescribed fire, and natural fire, as well as incomplete combustion of fossil fuels. Organic mass has an upward long-term trend beginning in 2013 and continuing through 2022 for both most

impaired and clearest days (Figures 11 & 12), suggesting a larger role of fire emissions in regional haze with time. This indicates that, although the “most impaired days” metric removes episodic fire events from the ambient air analyses, it does not accomplish this completely, and the effectiveness of the new metric appears to decrease as the intensity and occurrence of wildfires in the western U.S. continue to grow due to climate change.

Coarse mass extinction, composed of particulate matter with diameters between 2.5 and 10 microns, and soil extinction, composed of particulate matter with diameters less than 2.5 microns, are growing contributors to extinction for the most impaired days. Episodes of relatively high soil contribution coupled with relative high coarse matter contributions may be indicative of local and regional seasonal transport of particulate matter due to windblown dust events (NDEP, 2022). Coarse mass and soil extinction show annual variations and a clear upward trend in light extinction since 2014. This may be due to an increase in fugitive dust impacts as Nevada’s climate trends towards being hotter and drier, as the NOAA State Summary for Nevada (Kunkle, 2022) shows in its data analysis, the average temperature has risen 2.4° Fahrenheit since the year 2000. Nevada is the driest state in the union, with many areas averaging approximately 4 inches of precipitation per year at the valley floor, with the state average being around 10 inches per year, typically found at higher elevations. With so little precipitation getting to the valley floor, which is typically dominated by extinct freshwater lake beds, the natural soil becomes more susceptible to disturbance. The NOAA State Summary projects a 0-5 or 5-10 percent reduction in precipitation for the majority of Nevada. Conversely, the Northeastern part is modelled at a potential 0-5 percent increase. Sea salt impacts at Jarbidge WA remain negligent, with annual light extinction never surpassing 0.15 Mm⁻¹.

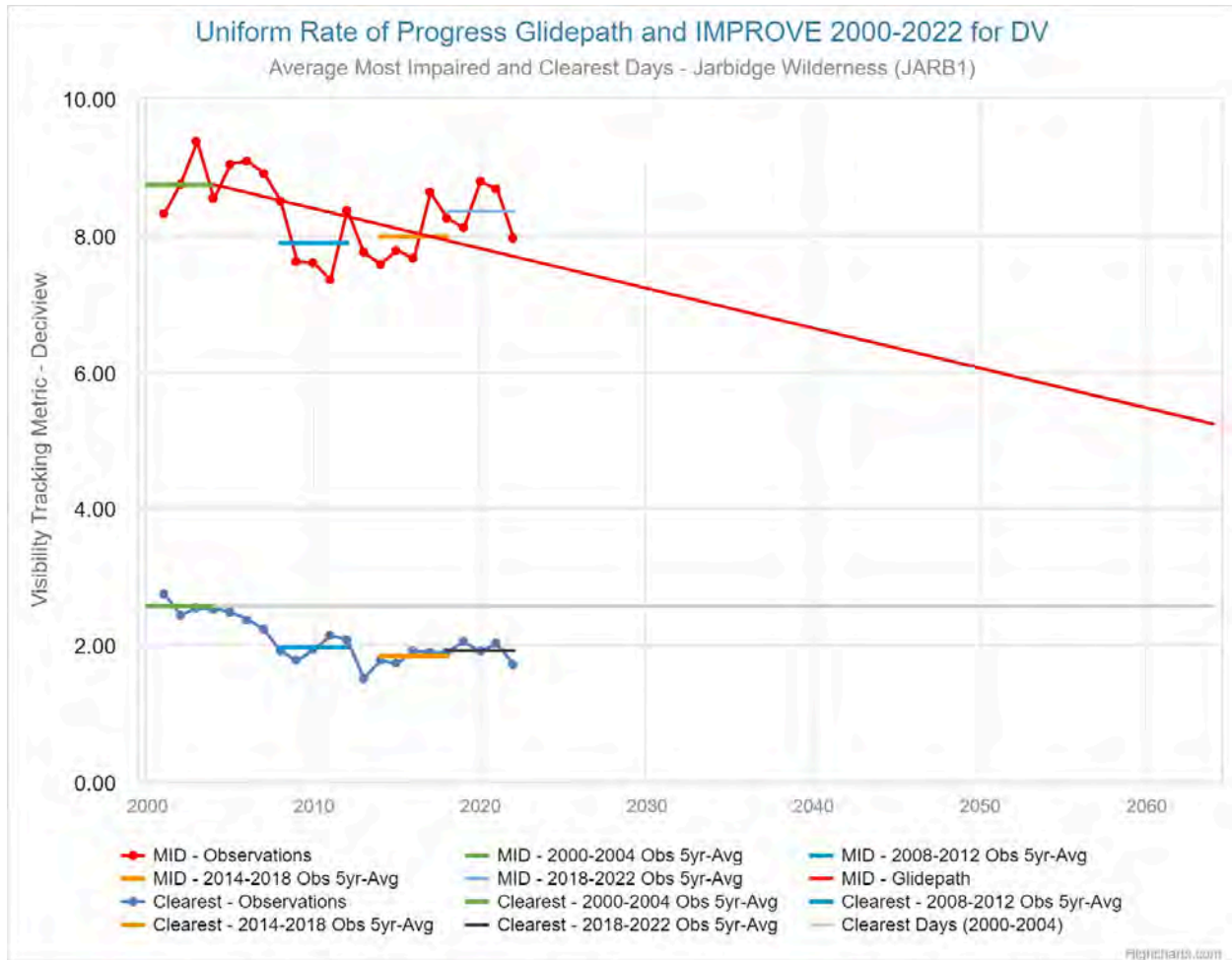
Continued improvements in regional sulfate and nitrate levels are expected in the western states as further controls are realized on major sources as the result of the initial and second round of regional haze planning, as well as compliance with ozone and PM_{2.5} standards. We expect these regional downward trends in SO₂, and NO_x emissions will provide continued visibility improvement. However, the trends in organic mass and soil extinction are not so encouraging. The wide variations in annual concentrations of the 20 percent most impaired days may be related to alternating drought and normal precipitation conditions with corresponding increases in carbon emissions due to wildfires and increases in dust emissions resulting from increasingly prevalent dry and dusty conditions.

After analyzing the JARB1 monitor data, NDEP determines that ammonium sulfate, organic mass, and coarse mass extinction contribute most of the visibility impairment on the most impaired days. This data suggests that visibility improvement due to emissions reductions of SO₂ and NO_x from anthropogenic sources may be overwhelmed by seasonally variable organic mass and coarse mass, as well as elemental carbon and soil, extinction contributions due to emissions from natural sources. This data suggests control of sources of organic mass, coarse mass, and SO₂ may be the most effective means of improving visibility impairment at the Jarbidge Wilderness Area.

4.3 Reasonable Progress

Nevada’s 2022 RH SIP outlines the uniform rate of progress (URP) needed to attain natural visibility conditions for the Jarbidge WA. Nevada compared the baseline visibility conditions to natural visibility conditions to identify the uniform rate of visibility improvement that would need to be maintained during each implementation period in order to attain natural visibility conditions by 2064. The URP glidepath, baseline, and current visibility conditions in deciviews, for Jarbidge WA, is shown in Figure 13.

Figure 13: Uniform Rate of Progress Glidepath and IMPROVE 2000-2022



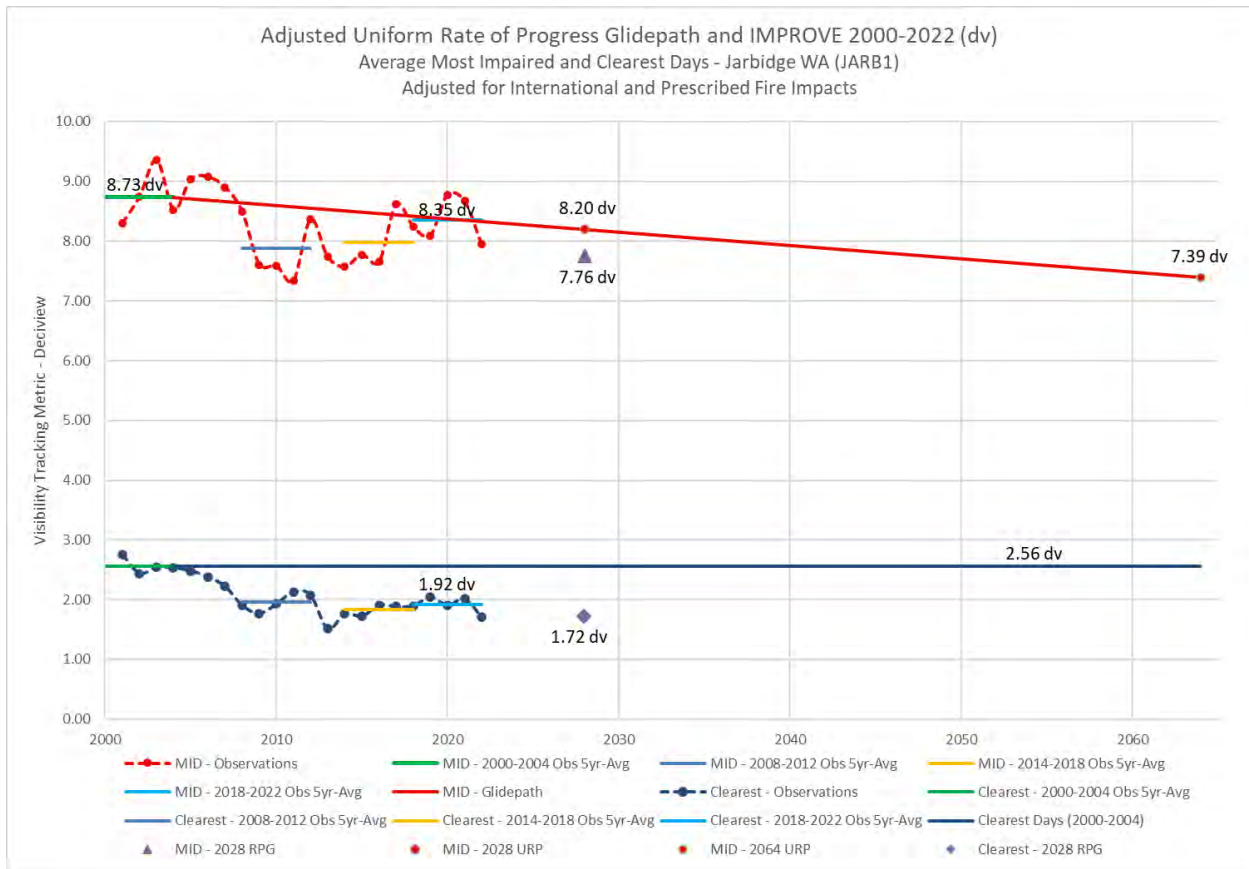
The final URP or glidepath for Jarbidge WA during the second implementation of the RHR is shown in Figure 14. This glidepath includes an adjustment made to account for visibility impacts from prescribed fire and international emissions. 40 CFR 51.308(f)(1)(vi)(B) allows states to propose an adjustment to the URP for a Class I area to account for impacts from anthropogenic sources outside the United States and/or impacts from wildland prescribed fire with the objective to establish, restore, and/or maintain sustainable and resilient wildland ecosystems. In establishing reasonable progress goals and tracking visibility improvement, Nevada will rely on the adjusted

glidepath, as this provides a more accurate tracking system of what visibility improvement, and emissions, are controllable under state and federal jurisdiction.

An unadjusted glidepath for Jarbidge WA that does not account for international and prescribed fire impacts assumes a natural visibility goal of 5.2 dv by 2064. Using data from WESTAR-WRAP 2028 source apportionment modeling, states are able to determine what visibility impairment in deciviews is contributed by international emissions (2.0 dv) and prescribed fire emissions (0.2 dv) and add these visibility impairments to the natural visibility conditions in 2064. This creates a glidepath that only requires visibility impairment achievable under the scope of state and federal regulatory authority. Adding 2.0 dv for international impacts increases the 2064 conditions from 5.2 dv to 7.2 dv. Adding an additional 0.2 dv for prescribed fire impacts results in a final 2064 natural visibility conditions of 7.4 dv, or 7.39 dv as referenced in Table 5.

For the final glidepath, the baseline visibility conditions for the 20 percent clearest days are shown by the short lower green line in Figure 14, while natural visibility conditions are shown by the long dark blue horizontal line. Baseline conditions for the 20 percent most impaired days are shown by the upper short green line while the URP glidepath is shown by the red sloping line starting at the baseline value of 8.73 dv and ending with 2064 natural conditions of 7.39 dv. To achieve natural conditions by 2064, the 2028 URP value for the Jarbidge WA is 8.20 dv.

Figure 14: Adjusted Uniform Rate of Progress Glidepath and Improve 2000-2022



2028OTBa2 modeling conducted by WESTAR-WRAP resulted in a 2028 reasonable progress goal of 7.76 dv for Jarbidge WA during the 20 percent most impaired days. Figure 14 confirms that a visibility improvement during the 20 percent most impaired days is anticipated in 2028 (7.76 dv) compared to the 2000-2004 baseline conditions (8.73 dv). It is also confirmed that the anticipated visibility projection during the 20 percent clearest days in 2028 (1.72 dv) does not degrade beyond the visibility conditions during the 20 percent clearest days observed from the 2000-2004 baseline condition (2.56 dv).

Table 5: Summary of Predicted Progress Toward 2028 Uniform Rate of Progress at JARB1 (deciviews)

Class I Area	20% Most Impaired Days					20% Clearest Days		
	MID Baseline	2018-2022 Observed 5 yr Avg	2028 Adjusted URP	Baseline 2028 Visibility	2028 RPG	Clearest Days Baseline	2018-2022 Observed 5 yr Avg	2028 RPG
Jarbidge WA	8.730	8.348	8.200	7.764	7.758	2.564	1.916	1.720

To achieve natural conditions by 2064, visibility projections during the 20 percent most impaired days must be 8.20 dv or below by 2028. NDEP's 2028 RPG for the 20 percent most impaired days of 7.76 dv confirms that visibility at Jarbidge WA is on track to achieve natural conditions by 2064.

5. Emissions Progress

40 CFR 51.308(g)(4) requires an analysis tracking the change in emissions of pollutants contributing to visibility impairment from all sources in the state over the period since the last RH plan. The emissions changes should be identified by source type or activity. The emissions analysis should cover the time frame since the previous regional haze SIP planning period. 40 CFR 51.308(g)(4) has two distinct requirements that revolve around two separate sets of emissions inventory data as described below:

1. Emissions from all sources and activities: The primary source of this data is the NEI, which is compiled and released on a triennial basis by the USEPA. The NEI is made up of emissions estimates submitted by state, local, and tribal air agencies supplemented with USEPA's own estimates. For the 51.308(g)(4) requirement, the analysis must extend at least through the most recent NEI year for which data is available six months prior to the required date of the progress report. Information and data for the NEI can be found at <https://www.epa.gov/air-emissions-inventories/national-emissions-inventory-nei>.

2. Emissions from sources that report to a centralized EPA database: There are many individual emissions sources that are required to report their emissions directly to EPA because of their participation in an air quality program such as Cross-State Air Pollution Rule, the Acid Rain Program, and the Regional Greenhouse Gas Initiative, to name a few. Most of the sources that report in this manner are large stationary sources such as electric generating units (EGUs) and large industrial facilities. This data is readily obtainable through EPA's Clean Air Markets Program Database (CAMPD, 2024) For purposes of 51.308(g)(4), the analysis must extend through the most recent year available six months prior to the required date of the progress report.

The first two subsections below detail the change in anthropogenic emissions since the time of the second planning period regional haze SIPs for all emissions sources and CAMPD emissions sources respectively. The following subsections report data collected from the WESTAR-WRAP regional haze technical support system v3. The following visibility impairing pollutants are covered in the summaries:

- NEI
- CAMPD
- Ammonia (NH₃)
- Nitrogen Oxides (NO_x)
- Particulate Matter < 10 microns (PM₁₀)
- Particulate Matter < 2.5 microns (PM_{2.5})
- Sulfur Dioxide (SO₂)
- Volatile Organic Compounds (VOC)

5.1 NEI Emissions Trends of Visibility Impairing Pollutants in the State of Nevada

As described above, the source of this data is EPA's NEI. The most recent NEI available six months prior to the due date of the second planning period progress reports (i.e., this submittal) is the 2020 NEI. The figures below compare emissions estimates from the 2020 NEI with those from the 2017 NEI, which was the most recently available NEI at the time of the second planning period regional haze SIPs. To provide a broader trend, emissions estimates from prior NEIs are also shown.

Gradual reductions among primary visibility-impairing pollutants (NO_x, SO₂, and PM₁₀) achieved through emission control measures, with some exceptions, are observed in Nevada during the implementation of the RHR from 2008 through 2023. Total annual emissions pulled from the NEI, as shown in Table 6, from 2008 through 2020 shows how the emissions have changed from the baseline through the initial implementation period and into the second planning period. The tonnage and percent difference between 2017 and 2020 represent the reductions achieved during the period since Nevada's 2022 RH SIP.

Table 6: NEI Emissions in Nevada 2008-2020 (tpy)

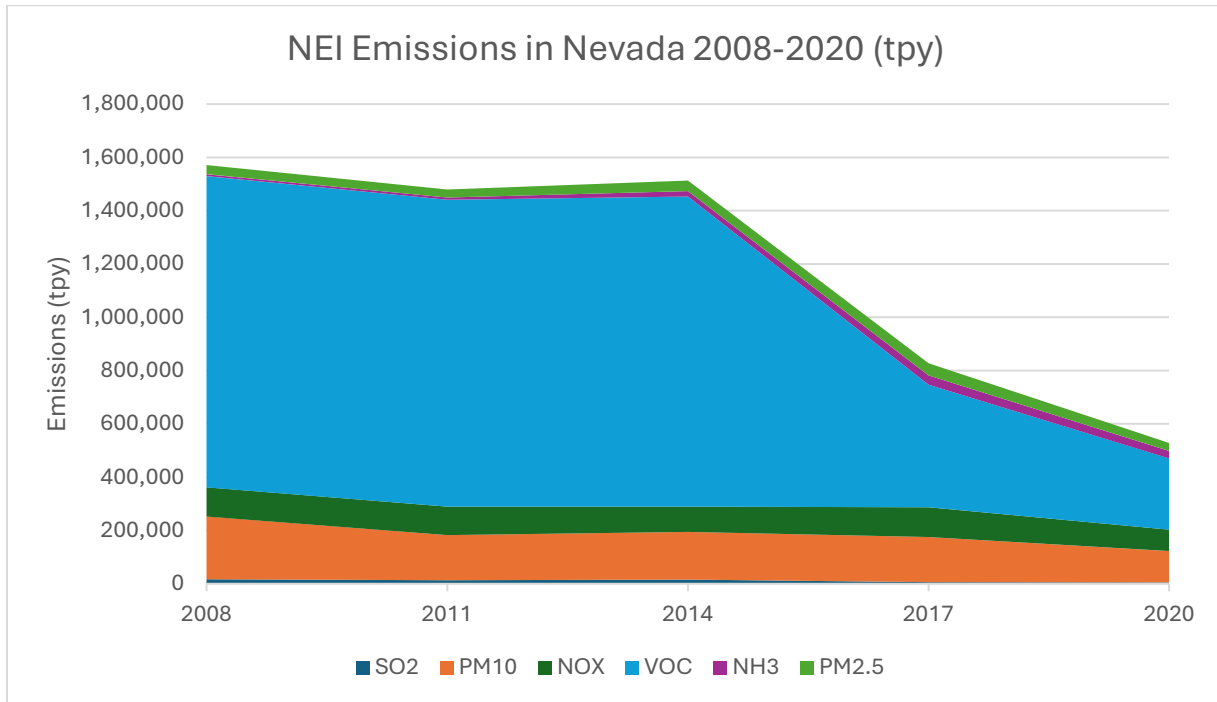
Pollutant	2008	2011	2014	2017	2020	Net Change (tpy) 2017-2020	Net Change (%) 2017-2020
SO ₂	16,975	12,698	16,178	6,087	4,828	-1,259	-21%
PM ₁₀	235,815	170,091	178,618	169,595	117,977	-51,618	-30%
NO _x	109,244	106,823	94,481	111,211	80,124	-31,087	-28%
VOC	1,167,550	1,151,802	1,163,238	459,862	267,410	-192,452	-42%
NH ₃	6,997	7,933	20,616	34,720	28,106	-6,614	-19%
PM _{2.5}	34,760	30,175	39,628	46,285	29,756	-16,529	-36%

Data compiled from the NEI Data Query Tool for all Sectors.

<https://www.epa.gov/air-emissions-inventories/2020-nei-supporting-data-and-summaries>

The NEI data shows a consistent reduction ranging between 19% and 42% among all the criteria pollutants from 2017 to 2020, with the largest decreases in VOC, PM₁₀ and PM_{2.5}. SO₂ emissions have decreased by 21%, PM₁₀ emissions decreased by 30%, and NO_x emissions decreased as well by 28% during the same period. This downward trend in primary visibility-impairing pollutants emissions (Figure 15) was anticipated in the LTS of Nevada's RH SIP and supports the State's progress in reducing visibility impairment at surrounding Class I areas.

Figure 15: NEI Emissions in Nevada 2008-2020 (tpy)



Although Nevada’s LTS in its initial RH SIP relied on control determinations that reduced NO_x, SO₂, and PM₁₀ emissions, NDEP is providing data for VOC, NH₃, and PM_{2.5} emissions in Table 6 to provide a complete assessment of all visibility impairing pollutants in the State. Between 2017 and 2020, total VOC emissions in Nevada decreased by 42% while NH₃ emissions decreased by 19% and PM_{2.5} emissions decreased by 36%. NDEP infers that these downward trends aided in reducing visibility impairment at Jarbidge WA and other surrounding Class I areas.

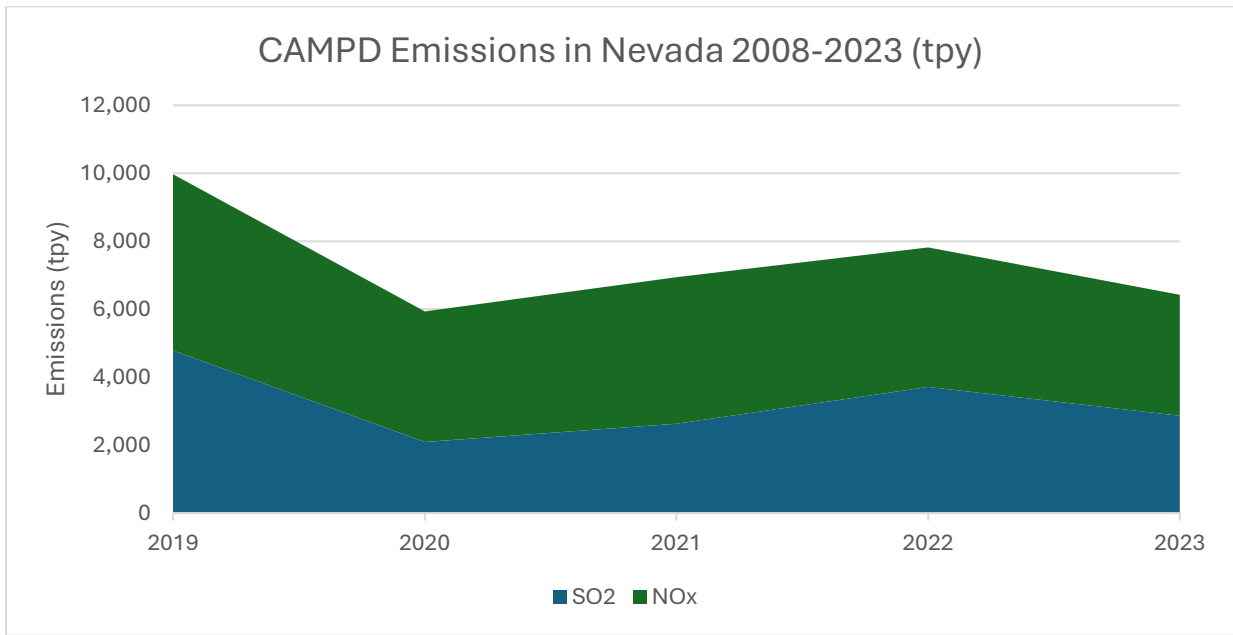
5.2 CAMPD Emissions Trends of Visibility Impairing Pollutants in the State of Nevada

Annual emissions of NO_x and SO₂ among CAMPD sources decreased by 31% and 40%, respectively, between 2019 and 2023 as seen in Table 7 and Figure 16. This data set shows a gradual reduction in NO_x and SO₂ emission levels with minor variation between years. This further indicates that Nevada’s RH efforts are meeting reasonable progress goals.

Table 7: CAMPD Emissions in Nevada 2019-2020 (tpy)

Pollutant	2019	2020	2021	2022	2023	Net Change (tpy) 2019-2023	Net Change (%) 2019-2023
NO _x	5,185	3,846	4,309	4,106	3,552	-1,633	-31%
SO ₂	4,785	2,092	2,632	3,713	2,867	-1,918	-40%

Figure 16: CAMPD Emissions in Nevada 2019-2020(tpy)

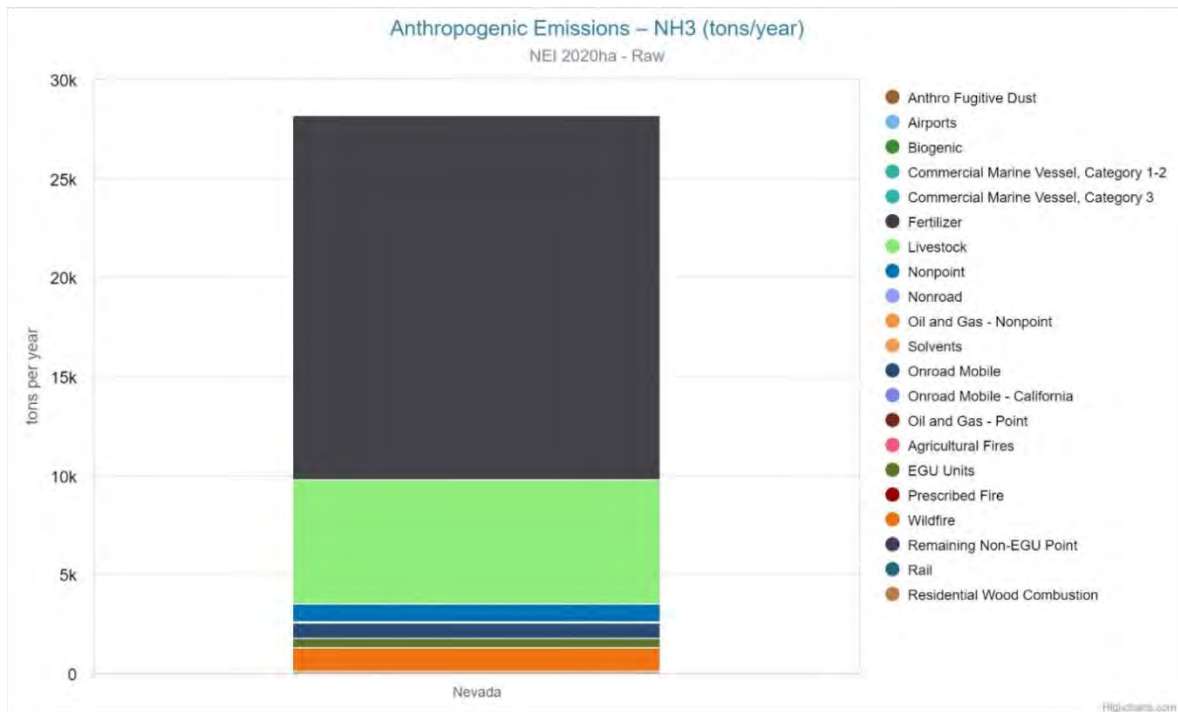


5.3 Ammonia

NH₃ emissions come from a variety of sources including wastewater treatment facilities, livestock operations, fertilizer applications and mobile sources. NH₃ is directly linked to the production of ammonium nitrate and ammonium sulfate particles in the atmosphere when SO₂ and NO_x eventually convert over to these forms of particles. Increases in NH₃ emissions from the base case year to 2018 are linked to population statistics and increased vehicular traffic.

Ammonia emissions in Nevada are dominated by the fertilizer category and other agricultural emissions. Ammonia emissions had been trending up due to the nonpoint sector and increased emissions from fertilizer application since the last progress report. Ammonia emissions for Nevada are shown in Figure 17 below. Figure 17 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 17: 2020 Ammonia Emissions for Nevada (tons/year)

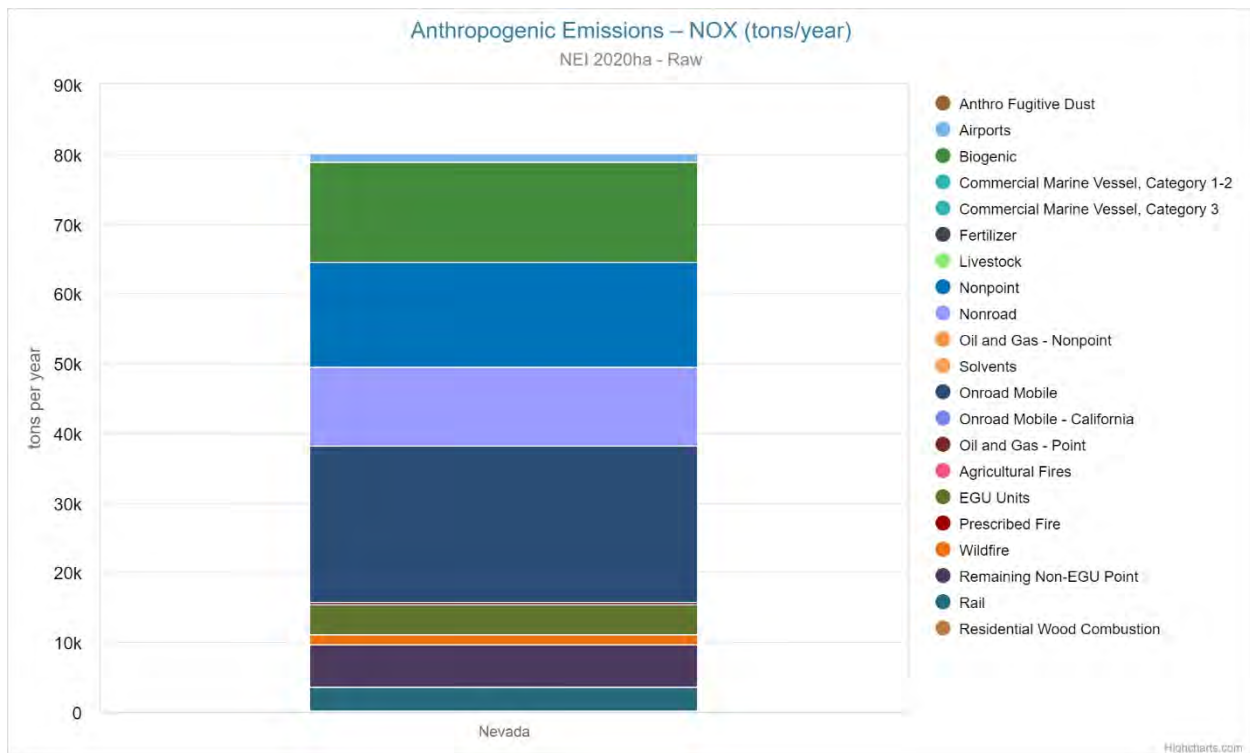


5.4 Nitrogen Oxides

NO_x is generated during any combustion process where nitrogen and oxygen from the atmosphere combine under high temperature to form nitric oxide and to a lesser degree nitrogen dioxide and in much smaller amounts, other odd oxides of nitrogen. NO_x particles have a slightly greater impact on visibility than do sulfate particles and are four to eight times more effective at scattering light than mineral dust particles. These compounds can scatter the transmission of light, contributing to visibility reduction on a regional scale.

Lightning NO_x accounts for the majority of NO_x emissions (Kang, 2018), while anthropogenic NO_x emissions in Nevada are primarily dominated by the onroad mobile category, followed by the nonpoint and biogenic categories. There has been a steep decline in onroad mobile NO_x emissions due to Federal control programs for diesel and gasoline vehicles. Onroad emissions decline as older, more polluting vehicles are retired and newer, cleaner vehicles are phased into the fleet. Some of the year-to-year variability in the NO_x emission trends are due to updated models and methodologies for estimating nonpoint and onroad emissions. Point source NO_x emissions have also been declining steadily due to initial regional haze planning as well as other state and federal programs aimed at maintaining the ozone National Ambient Air Quality Standards (NAAQS). Figure 18 below shows NO_x emissions in Nevada. Figure 18 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 18: 2020 NO_x Emissions for Nevada (tons/year)

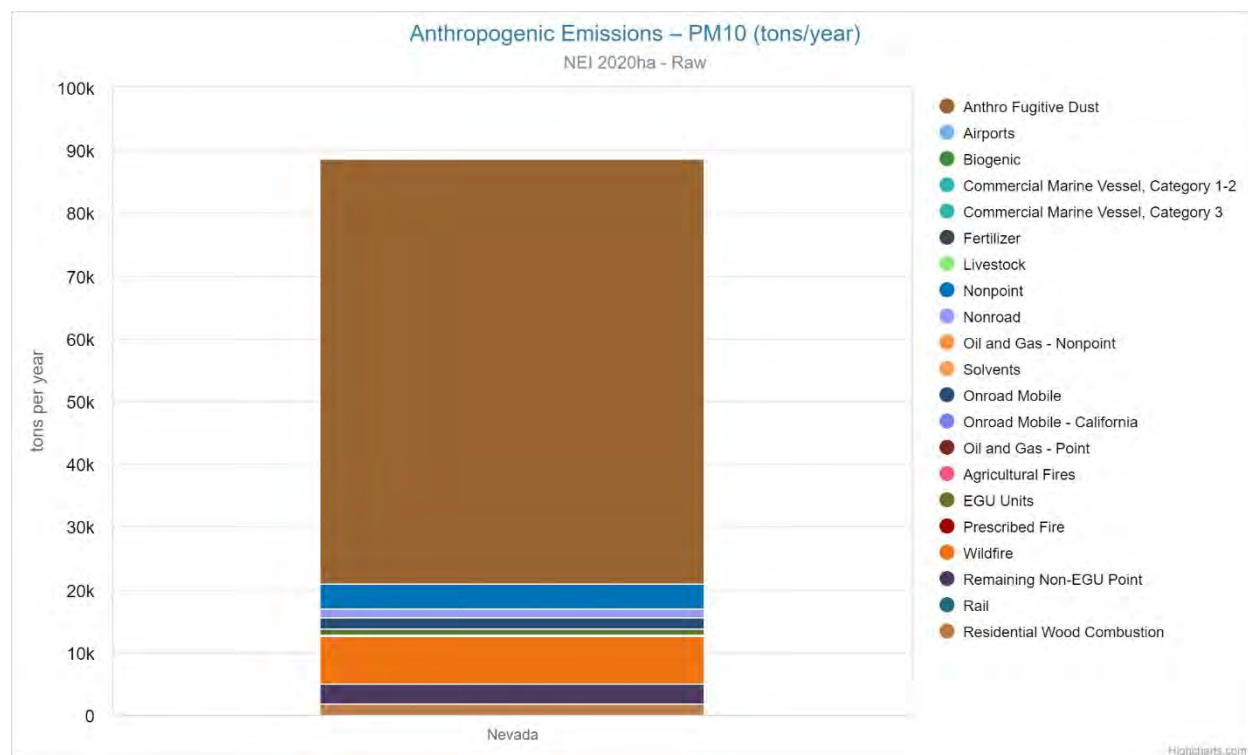


5.5 Particulate Matter <10 Microns

PM coarse emissions are closely related to the same sources as PM fine emissions but other activities like rock crushing and processing, material transfer, open pit mining and unpaved road emissions can be prominent sources. PM coarse emissions travel shorter distances in the atmosphere than other smaller particles but can remain in the atmosphere sufficiently long enough to play a role in regional haze. PM coarse emissions have the smallest direct impact on regional haze on a particle-by-particle basis where one particle of coarse mass has a relative visibility weight of 0.6 compared to a carbon particle having a weight of 10. Nevertheless, they are commonly present at all monitoring sites and are a greater contributor to regional haze than the PM fine component.

PM₁₀ emissions in Nevada are largely dominated by fugitive dust with the second most common being wildfire as seen in Figure 19. Both of these categories are driven by Nevada’s natural desert landscape. Figure 19 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 19: 2020 PM₁₀ Emissions for Nevada (tons/year)

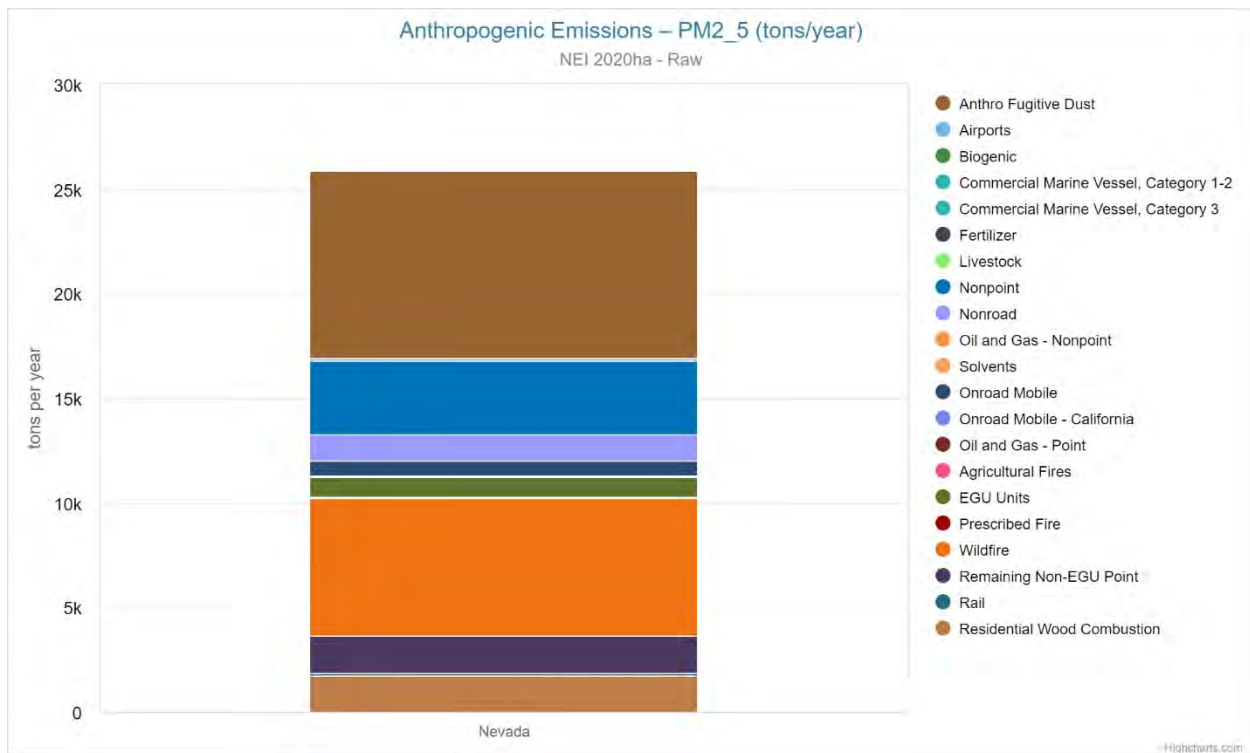


5.6 Particulate Matter <2.5 Microns

PM fine emissions are comprised of fine particulates under 2.5 microns that are generated mostly from area sources, road dust and fugitive dust, as observed at the Jarbidge Wilderness area. PM fine emissions are largely related to agricultural and mining activities, windblown dust from construction areas, and emissions from unpaved and paved roads. PM fine emissions are also generated from combustion sources. A particle of fine dust has a relative impact on visibility one-tenth as great as a particle of elemental carbon. For any given visibility event where poor visual air quality is present in a scene, the impact of dust can vary widely. Agricultural activities, dust from unpaved roads and construction are prevalent in this source category and changes in emissions are tied to population and vehicle miles traveled. Fine particulate matter can remain suspended in the atmosphere for long periods of time and travel long distances. Fine particulates can efficiently scatter the transmission of light that contributes to visibility reduction on a regional scale in Class I areas. For 2028 projected emissions windblown dust was held constant.

The emissions patterns and trends for PM_{2.5} are largely similar to those described above for PM₁₀ with the largest source being fugitive dust and wildfire making a larger contribution (Figure 20). Again, both categories are driven by Nevada’s natural desert landscape and fire season which are difficult to mitigate through RH planning. Figure 20 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 20: 2020 PM_{2.5} Emissions for Nevada (tons/year)



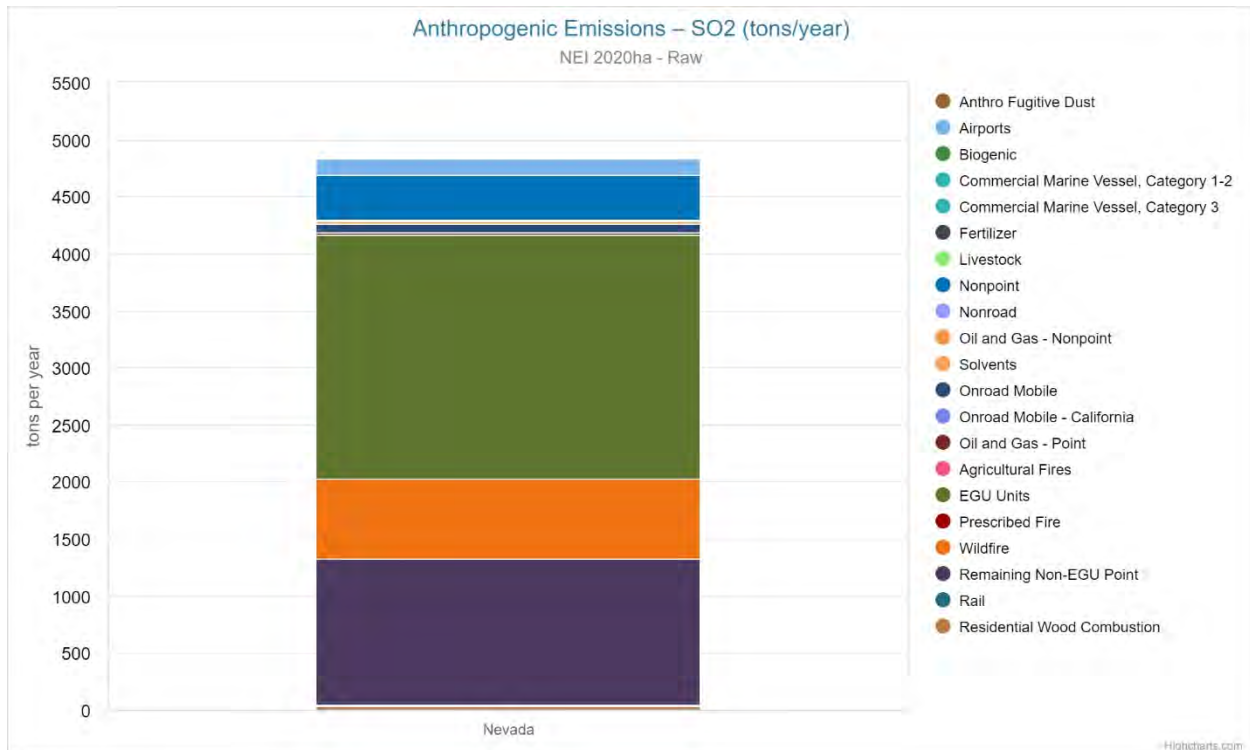
5.7 Sulfur Dioxide

Sulfur dioxide gases (SO₂) are formed when sulfur-containing fuels, such as diesel or coal, are burned, when gasoline is extracted from oil or when metals are extracted from ore. SO₂ dissolves in water vapor to form acid and contributes to the formation of sulfate compounds [e.g. (NH₄)₂SO₄] when ammonia is available. These compounds can scatter the transmission of light, thus contributing to visibility reduction on a regional scale in our Class 1 Area.

Sulfur dioxide emissions produce sulfate particles in the atmosphere. Ammonium sulfate particles have a significantly greater impact on visibility than other pollutants like dust from unpaved roads due to the physical characteristics causing greater light scattering from the particles. Sulfur dioxide emissions come primarily from coal combustion at electrical generation facilities, but smaller amounts come from natural gas combustion, mobile sources and even wood combustion.

As shown in Figure 21, SO₂ emissions in Nevada are dominated by the point source categories with EGU being the primary contributor followed by non-EGU point sources and then wildfire. In general, non-road and onroad sources are not major contributors to SO₂ emissions. A decrease in point source SO₂ emissions in Nevada is expected once North Valmy completes its conversion from coal to natural gas by 2028. Figure 21 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 21: 2020 SO₂ Emissions for Nevada (tons/year)



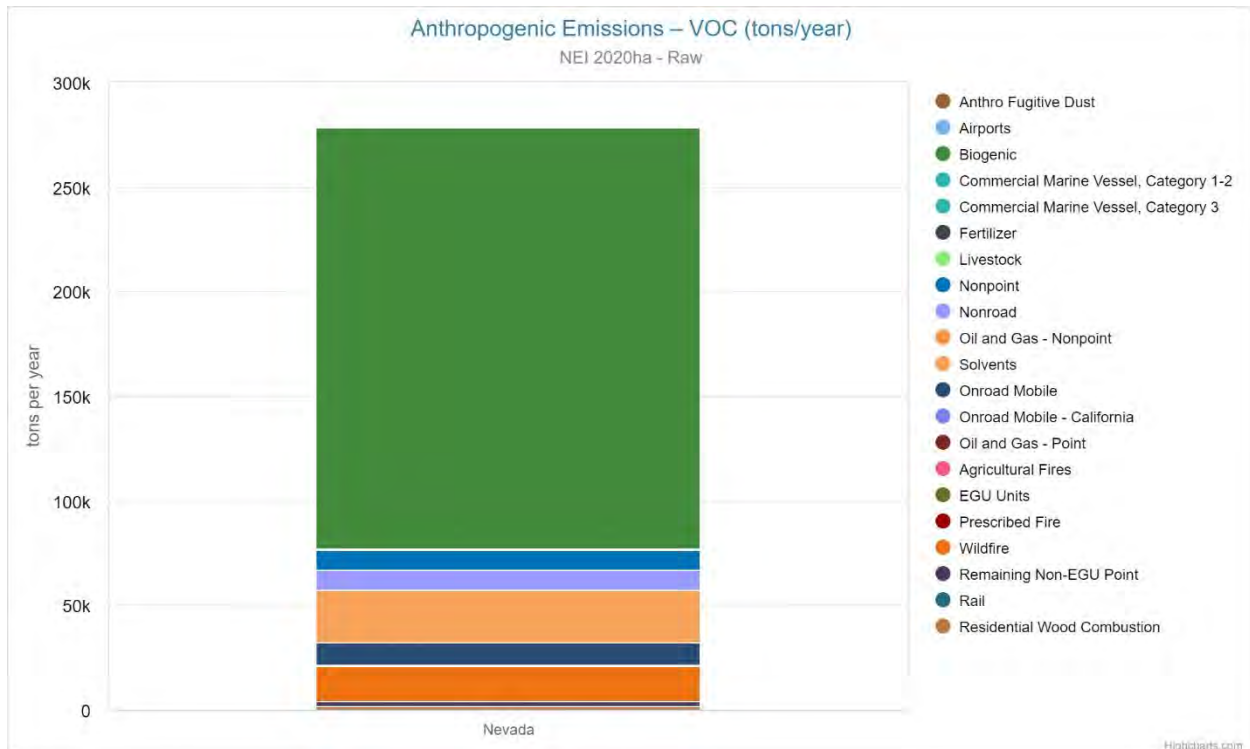
5.8 Volatile Organic Compounds

VOCs are emitted as gases from certain solids or liquids. VOCs are emitted by a wide array of products, numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, craft materials including glues and adhesives, permanent markers and photographic solutions. Automobiles, industrial and commercial facilities, and refueling of automobiles all contribute to VOC loading in the atmosphere. Substantial natural emissions of VOCs come from vegetation; these emissions are categorized as biogenic.

VOCs can directly impact visibility as emissions condense in the atmosphere to form an aerosol. Of more significance is the role VOCs play in the photochemical production of ozone in the troposphere. VOCs react with nitrogen oxides to produce nitrated organic particles that impact visibility in the same series of chemical events that lead to ozone. Thus, strategies to reduce ozone in the atmosphere often lead to visibility improvements. VOCs in Nevada are expected to decrease slightly (less than 1 percent) by 2028.

VOC emissions in Nevada are dominated by the biogenic category followed by wildfire. Overall, point sources are generally not a major contributor to VOC emissions (Figure 22). Figure 22 was generated by WRAP TSS v3 and emissions may vary slightly from data collected from the NEI query tool.

Figure 22: 2020 VOC Emissions for Nevada (tons/year)



6. Assessment of Changes Impeding Visibility Progress

RHR 40 CFR 51.308(g)(5) requires an assessment of any significant changes in anthropogenic emissions within or outside the state since the period addressed in the most recent plan (in this case, the regional haze SIPs for the second planning period), including whether those changes were anticipated in the most recent plan and whether they have limited or impeded in reducing pollutant emissions and improving visibility.

6.1 2024 Regional Haze SIP Revision

As mentioned in Section 1, on July 13, 2023, NV Energy notified NDEP of plans to file an IRP amendment with the PUCN seeking approval to pursue modifications and appropriate emissions controls at Tracy and North Valmy. Since Tracy and North Valmy were part of Nevada's RH SIP, NDEP submitted a letter on July 27, 2023, informing the USEPA of its partial withdrawal of the Nevada SIP for the RHR for the Second Planning Period. Having completed the four-factor re-analysis and establishing new reasonable progress requirements, NDEP is currently requesting public comment before resubmitting the withdrawn elements as a revision to Nevada's RH SIP.

6.1.1 North Valmy Generating Station 2022 Control Determinations

NV Energy had committed to cease operations and shutdown both electrical generating units at North Valmy by December 31, 2028. With this closure date, no additional controls on either unit were cost-effective or necessary to achieve reasonable progress. NDEP was relying on existing control measures at North Valmy to make reasonable progress. These measures included baghouse and air atomized ignitors to control PM₁₀ at both Units, LNB+OFA to control NO_x for both Units, and a spray dryer with lime slurry to control SO₂ at Unit 2. NV Energy's four-factor analysis relied on an emissions baseline derived from the annual average of emissions reported in 2016 through 2018. By the end of 2028, or the end of the second implementation period, 1,746 tpy of NO_x reductions, 2,313 tpy SO₂ reductions, and 60 tpy of PM₁₀ reductions were expected from the closure of both North Valmy units, amounting to a total of 4,119 tpy reductions of visibility impairing pollutants. WRAP emissions inventories underestimated the final reductions expected to be achieved at North Valmy. Emissions reported by North Valmy in 2016 were used to forecast North Valmy's emissions in the 2028OTBa2 modeling emission inventory, or 2028 baseline before the implementation of potential controls. Beyond the 2028OTBa2 model, the closure of North Valmy would have reduced NO_x emissions by an additional 1,583 tpy and SO₂ emissions by an additional 2,281 tpy by the end of the second implementation period.

6.1.2 North Valmy Generating Station 2024 Control Determination

Based on the four statutory factors applied to North Valmy after accounting for the facility's planned conversion to natural gas firing, NDEP concluded that control measures for the reduction of NO_x are necessary to make reasonable progress. As seen in Table 2, NDEP found that SNCR, and FGR, are both cost effective and below the \$10,000/ton threshold, SNCR being the most cost-effective, therefore SNCR and its associated NO_x limit are necessary to achieve reasonable progress. However, SCR and FGR are acceptable alternatives so long as the 0.1029 lb/MMBtu emission limit is met. NDEP also required the continued use of low NO_x burners on both Units as

being necessary to meet reasonable progress. The existing baghouse and air atomized ignitors used to control PM₁₀ for both Units and the spray dryer with lime slurry used to control SO₂ for Unit 2 were no longer deemed necessary since the conversion to pipeline quality natural gas will reduce PM₁₀ and SO₂ emissions so that those controls were no longer cost effective.

The emission reductions resulting from the conversion of both units to natural gas firing and the installation of SNCR or FGR are shown in Table 3 (NDEP 4FA 2028). By the end of 2028, or the end of the second implementation period, 1,144 tpy of NO_x reductions, 2,309 tpy SO₂ reductions, and 16.4 tpy of PM₁₀ reductions are expected from the conversion to natural gas firing and the installation of controls at both North Valmy units, amounting to a total of 3,469 tpy reductions of visibility impairing pollutants when compared to the 2018 baseline. The permitting process for conversion of North Valmy from coal to natural gas started in 2024 and construction is expected to be completed before June 1, 2027, while controls associated with the 2024 regional haze SIP revision will be installed no later than 36 months after SIP approval.

6.1.3 Tracy Generating Station 2022 Control Determinations

Upon conclusion of the initial four-factor analysis and after discussions with NDEP, NV Energy committed to NDEP to cease operations at Unit 4 Piñon Pine by December 31, 2031. This new closure date reduced the remaining useful life of the unit and any potential additional controls down to 6 years, inflating the cost effectiveness for Dry LNB. Reductions from the closure of this unit were not expected to be observed during the second implementation period, ending in 2028, but would be observed in Nevada's third implementation period of the Regional Haze Rule. Because of this, expected reductions were not quantified or assumed in Nevada's reasonable progress goals for the second implementation period.

Aside from the proposed closure of Unit 4 Piñon Pine unit by December 31, 2031, Nevada was also relying on existing controls, that effectively control visibility impairing pollutants. These controls target NO_x emissions only since Tracy primarily burns pipeline natural gas with negligible SO₂ and PM₁₀ emissions.

6.1.4 Tracy Generating Station 2024 Control Determination

Based on the four statutory factors, NDEP concluded that the SCR control measures evaluated for Unit 4 Piñon Pine was necessary to make reasonable progress. NDEP also relied on the continued use of existing NO_x controls at Units 3, 5, 6, 32, and 33 to make reasonable progress.

The emission reductions resulting from the installation of SCR are shown in Table 3 (NDP 4FA 2028). By the end of 2028, or the end of the second implementation period, 225 tpy of NO_x reductions are expected from the installation of controls at Unit 4 Piñon Pine.

Nevada also relied on existing controls, listed in Table 2, that effectively control visibility impairing pollutants. The continued use of these existing controls was included in Nevada's LTS for the second implementation period, along with the current corresponding NO_x emission limits for each unit listed in the facility's current operating permit. These listed controls target NO_x emissions as the Tracy facility primarily burns pipeline natural gas. Controls associated with the 2024 RH SIP revision will be installed no later than 36 months after SIP approval.

6.1.5 2024 Revised Reasonable Progress Goals

The baseline 2028 visibility conditions (2028OTBa2) are projected at 7.764 dv during the most impaired days and 1.724 dv during the clearest days. Applying referenced scaling method to these model outputs calculate RPGs for Jarbidge WA at 7.757 dv during the most impaired days and 1.720 dv during the clearest days under the 2022 closure of North Valmy and Unit 4 Piñon Pine conditions. Recalculating the referenced scaling method with the 2024 revised four-factor analysis data (SNCR controls at North Valmy and SCR controls at Unit 4 Piñon Pine result in 7.758 dv, a 0.001 dv increase, during the most impaired days and 1.720 dv, or no increase, during the clearest days. This change in visibility is small and lost after rounding, remaining at 7.76 dv for most impaired days and 1.72 dv for clearest days. A comparison of the two visibility projections for Jarbidge WA in 2028 are provided in Table 8, while the spreadsheet calculations are provided in Appendix A.

Table 8: 2028 Visibility vs. Proposed RPGs for Jarbidge WA (deciviews)

	2028OTBa2	2022 RPG	2024 RPG	Rounded
Most Impaired Days	7.764	7.757	7.758	7.76
Clearest Days	1.724	1.720	1.720	1.72

6.2 Natural Impediments to Visibility Progress

Although visibility at Jarbidge WA during the 20 most impaired days is generally improving toward the goal of natural conditions (NC) by 2064, IMPROVE monitoring data indicates that total aerosol light extinction observed during the current years 2018 through 2022 period slightly increased from the previous implementation period of 2014 through 2018. As shown in Table 9, this is primarily due to an increase in soil and coarse mass.

Table 9: Visibility Progress for the Most Impaired Days by Aerosol Species

Aerosol Species (Mm-1)	IMPROVE 2000-2004	IMPROVE 2008-2012	IMPROVE 2014-2018	IMPROVE 2018-2022	NC 1/1/2064
Ammonium Nitrate	1.36	0.98	0.66	0.78	1.03
Ammonium Sulfate	4.66	5.12	3.69	2.90	1.07
Coarse Mass	2.38	1.89	2.73	3.70	1.95
Elemental Carbon	1.03	0.66	0.72	0.82	0.31
Soil	0.95	1.19	1.07	1.61	0.65
Organic Mass	4.07	2.55	3.70	3.59	2.14
Sea Salt	0.03	0.06	0.04	0.07	0.05
Deciview (dv)	8.73 (dv)	7.88 (dv)	7.97 (dv)	8.35 (dv)	5.23 (dv)

Although the second implementation aims to remove episodic wildfire and windblown dust events from visibility analyses through use of the new most impaired days metric, this new method is not completely effective and still allows for episodic natural events to skew visibility data for regional haze purposes. Note that aerosol light extinction contributed by ammonium sulfate decreased from the previous implementation period, while ammonium nitrate increased slightly confirming an overall decrease in anthropogenic emissions from the initial round's efforts.

7. Assessment of Current Strategy

This progress report clearly demonstrates that the current implementation plan elements and strategies outlined in the 2022 RH SIP and 2024 revision for the second planning period are sufficient to enable Nevada to meet the reasonable progress goals for those extinction species that originate from anthropogenic sources. As shown in Sections 3 & 5, while there is annual variability in the current reporting period, emissions are gradually decreasing in Nevada for visibility impairing pollutants. Moreover, the expected future reductions in anthropogenic emissions based on further controls, and conversions to natural gas will serve to enhance this downward trend in the coming years as seen in Section 2.

Section 4 demonstrates that the visibility benefit from anthropogenic emission reductions is hidden due to contributions from natural sources. Nonetheless, there are improvements in light extinction for sulfate, and organic mass from the previous planning period to the current reporting period. Visibility conditions for the clearest days deciview trendline show improvement flattening as visibility approaches natural conditions. Light extinction on the clearest days held steady or increased slightly from the previous planning period to the current reporting period.

7.1 Requirements

40 CFR 51.308(g)(6) requires an assessment of whether the current SIP elements and strategies are sufficient to enable the state, or other Class I areas affected by emissions from the state, to meet all established reasonable progress goals. Because of the large contributions to visibility impairment due to natural source (non-anthropogenic) emissions, Nevada has focused its assessment of implementation plan elements and strategies on impairment due to sulfate and nitrate light extinction resulting from largely anthropogenic emissions of SO₂ and NO_x, although other visibility impairing pollutants are also assessed. The RHR uses the uniform rate of progress (glidepath), measured as a haze index, toward “natural conditions” as the metric for determining whether a state is making reasonable progress.

7.2 Emissions Analysis

An analysis of emission reductions in Nevada indicates that the state is trending towards achieving its emission reduction goals in 2028. Chapter Five presents visibility-impairing pollutant emission data for Nevada, which demonstrates a downward trend in emissions that affect visibility. Chapter Five compares sector-specific 2017 and 2020 NEI data, demonstrating further reductions in SO₂, PM₁₀, NO_x, VOC, NH₃, and PM_{2.5} emissions from Nevada point sources (Table 6). Notably, anthropogenic NO_x and SO₂ emissions, reported by the NEI, have reduced 28 percent and 21 percent respectively while NO_x and SO₂ emissions, reported by the NEI, have reduced 31 percent and 40 percent respectively. The expected future reductions in anthropogenic emissions based on further controls, and conversions to natural gas, (see Section 2) will serve to continue this downward trend in the coming years.

7.3 Visibility Analysis

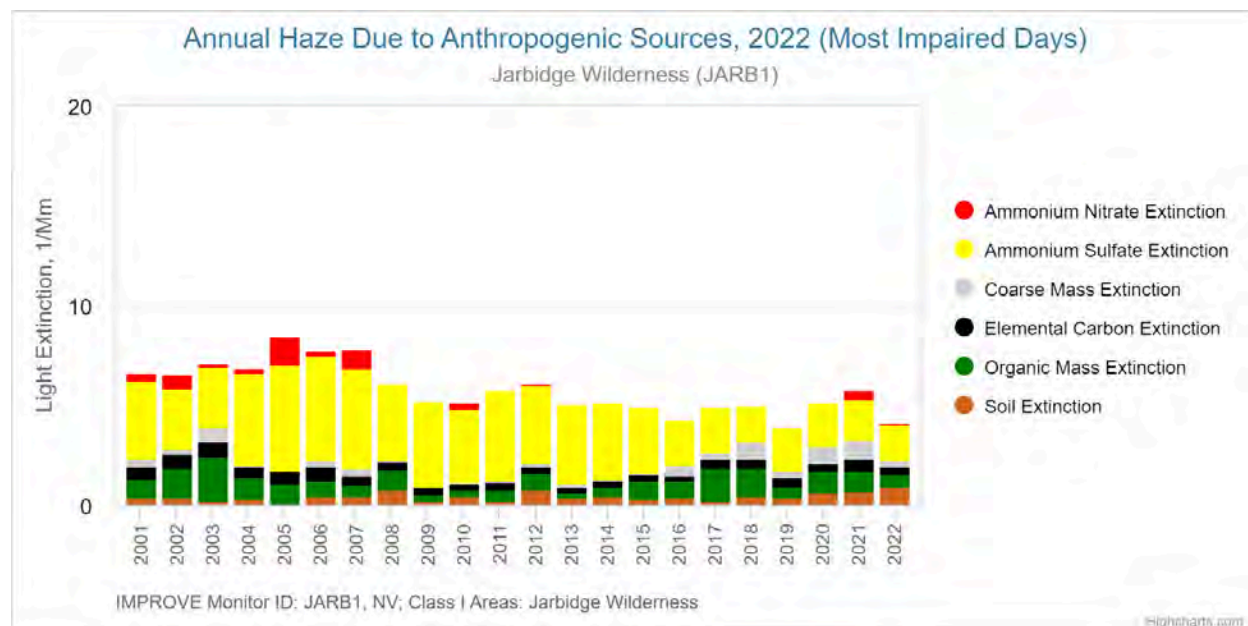
Improvement in visibility conditions at Jarbidge WA for the worst days has not kept pace with Nevada’s emissions reductions due to contributions from coarse mass and soil. Table 4 shows that

visibility conditions at Jarbidge WA have diminished by 0.3 dv since the most recent planning period while improving 0.4 dv since the baseline for most impaired days while Figure 9 shows the variability in yearly measurements. Visibility for clearest days is shown in Table 4 as well with visibility diminishing 0.1 dv since the most recent planning period and improving 0.7 dv since the baseline.

Figure 11 showed the large year-to-year variability of particulate organic matter and coarse mass extinction and its significant contribution and influence on the annual haze index, for the most impaired days. Ammonium sulfate and ammonium nitrate, indicators of anthropogenic sources, have decreased by a combined total of 0.67 Mm^{-1} since the previous planning period (Table 9). Over the same period increases are observed for coarse mass, elemental carbon, and soil. This data indicates that visibility impairment at JARB1 for the worst days is dominated by emissions from natural sources that form particulate organic matter, and coarse mass emissions that originate roughly equally from anthropogenic and natural sources.

Annual haze during the most impaired days due to anthropogenic sources have been trending down since 2005, with moderate annual variation, as seen in Figure 23 below. Ammonium sulfate extinction is consistently the lead contributor with soil and coarse mass contributing larger amount in recent years. Nitrates originating from anthropogenic sources have only a small contribution to visibility impairment on the most impaired days. The annual monitored sulfate and nitrate values are expected to improve visibility conditions in the coming years as control measures from the second planning period and other federal programs are implemented throughout the western United States.

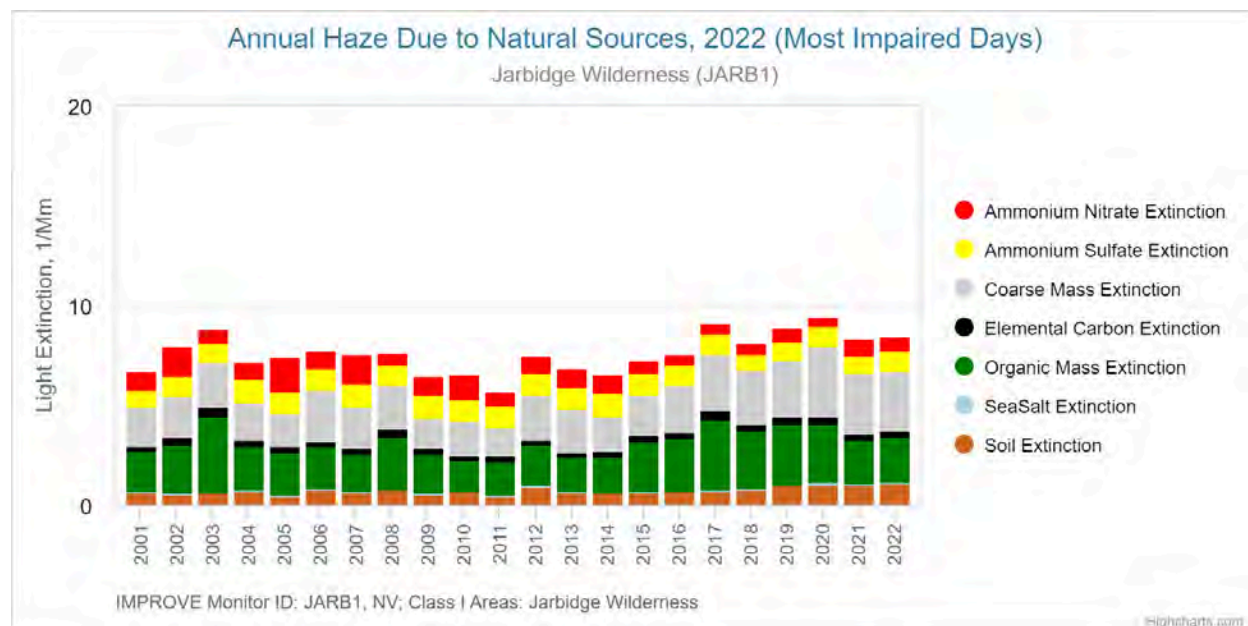
Figure 23: Annual Haze Due to Anthropogenic Sources 2001-2022



Annual haze during the most impaired days due to natural sources over the same time period have been trending up slightly, while also exhibiting some annual variation, as seen in Figure 24. Soil,

organic mass, elemental carbon, and coarse mass extinction are all seen to be increasing slightly while sea salt, ammonium sulfate and ammonium nitrate extinction remain relatively constant. Overall natural sources of haze are greater than anthropogenic in every category except ammonium sulfate extinction.

Figure 24: Annual Haze Due to Natural Sources 2001-2022



A review of the most impaired and haziest days compiled by the WESTAR-WRAP TSSv3 for the 2018-2022 review period, shows that on average 24 days a year make up each of these categories. Over the same period NDEP has identified 166 smoke impacted days including 62 in 2021. While some of these days are included in the haziest days category others are counted with the most impaired days and others are not included in either category. This along with the upward trend shown in Figure 24 confirms NDEP's assertion that episodic natural events are skewing visibility data for regional haze purposes.

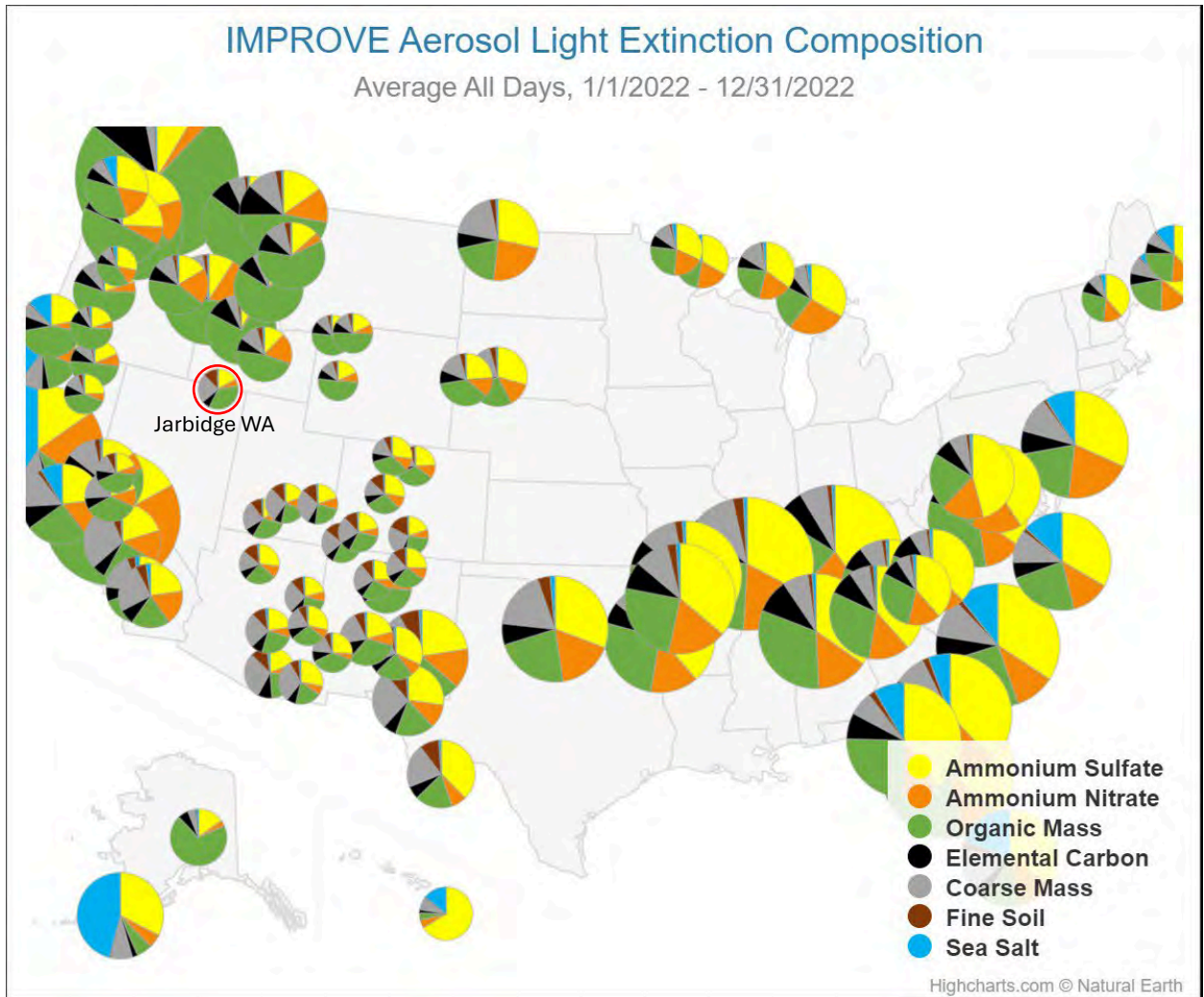
7.4 Conclusions

Nevada concludes that the current implementation plan elements and strategies outlined in the 2022 RH SIP and 2024 revision are sufficient to enable Nevada and other neighboring states to meet the reasonable progress goals for those extinction species that originate from anthropogenic sources given the following observations:

- Nevada has achieved emissions reductions in the second progress period.
- Emissions from natural sources play a more dominant role in visibility impairment at JARB1 than emissions from anthropogenic sources.
- Reasonable progress controls have not yet been fully implemented, and the corresponding emission reductions have not yet been fully realized. Therefore, the corresponding monitor results were not expected for this progress report.

Visibility conditions at Jarbidge WA are expected to continue to improve through the end of the second planning period. Figure 25 shows the average light extinction for all days at Jarbidge WA in 2022 compared to other Class I areas throughout the United States for a comparison of haze conditions.

Figure 25: National IMPROVE Aerosol Light Extinction Composition, Averaging All days 2018-2022 (Mm^{-1})



8. Review of Smoke Management Program

In Nevada, preventing and managing emissions from smoke are achieved through implementation of two separate elements of the air quality program. Open burning is controlled through a comprehensive set of open burning regulations. Prescribed fires used specifically for land management purposes are controlled through implementation of the Nevada Smoke Management Program.

Open burning regulations are found in NAC 445B.22067. The regulations apply to federal, state, and private lands equally and prohibit open burning of combustible refuse, waste, garbage, oil or open burning for any salvage operation. Exemptions are granted for open burning conducted for the purposes of weed abatement, conservation, disease control, game or forest management and fire training. Burning for agricultural purposes is exempt, as is the burning of yard waste and untreated wood at single-family residences. Small fires used for cooking, recreation, education, or ceremonial purposes are also exempt.

The Nevada Smoke Management Program was developed to coordinate and facilitate the statewide management of prescribed outdoor burning. This program is designed to meet the requirements of Nevada's air quality statutes listed in Nevada Revised Statutes (NRS) 445B.100 through 445B.845, inclusive, and the requirements of the USEPA Interim Air Quality Policy on Wildland and Prescribed Fires (EPA OAQPS, April 23, 1998). It supports the visibility protection goals for Federal class I areas in Section 169A of the CAA. The program does not, however, supersede the authority of local governments to regulate and control smoke and air pollution under NRS 244.361 and NRS 268.410 or the authority of the state forester to regulate controlled fires under NRS 527.122 through 527.128.

The Nevada Smoke Management Program is administered by NDEP, and compliance is achieved through a Memorandum of Understanding (MOU) between the various state and federal agencies that conduct prescribed burning, including the U.S. Bureau of Land Management, the U.S. Forest Service, the U.S. National Park Service, the U.S. Fish and Wildlife Service and Nevada state land management agencies. The MOU lists the objectives as well as both the mutual and individual responsibilities of the signatory parties. The MOU was last renewed in 2011. Land managers recognize the importance of the Nevada Smoke Management Program and provide fiscal support for its continuation through various financial assistance agreements.

The Smoke Management Plan (<https://ndep.nv.gov/uploads/air-pollutants-docs/smp-2013-final.pdf>) is a collaborative document, written by the signers of the MOU, and is the guiding document of the program. It details the applicability of the program and responsibilities of affected parties. It provides information on open burn authorization requirements for those land managers using prescribed fire and wildland fires for land management purposes. It also includes information on air quality monitoring at prescribed fires, burner qualifications and emission reduction methods.

The Smoke Management Plan applies to all areas of Nevada except Clark County, Washoe County and Bureau of Indian Affairs trust lands, which have their own open burn policies, regulations and permit requirements. Applications for open burn permits are processed by NDEP. Applicants must estimate the prescribed fire's PM₁₀ emissions. For larger fires, additional information is needed, and

stricter requirements are imposed. For fires emitting greater than 1 ton but less than 10 tons PM₁₀ and located greater than 15 miles from a Class I area, a smoke sensitive area or a nonattainment area, the application must include an estimate of emissions from a model predicting the impact of smoke on smoke-sensitive receptors. For prescribed fire projects emitting greater than 25 tons, or more than 10 tons if the burn area is within 15 miles of a Class I area, a smoke sensitive area or a nonattainment area, the application must also include a smoke management plan that lists smoke minimization methods to be used, and the model or calculations used to make emission estimates. The plan must have a list of safety and contingency measures, identification of smoke sensitive areas that may potentially be affected, a list of air regulators to be notified and air monitoring to be conducted.

Permit conditions intended to mitigate smoke impacts apply to open burn permits issued by NDEP. Conditions include: permits will be invalid during declared air pollution emergencies and alerts in affected areas; pre-ignition notification and approval is required; best smoke management and emission reduction techniques shall be practiced; and permits are issued with provisions related to supervision, inspection and availability of the permit. Additional restrictions and requirements apply where wildland fires are used to achieve land management objectives including a burn plan, applicable maps, a list of conditions under which burning will be suppressed and a stipulation requiring daily fire evaluation. Burn managers are expected to assess meteorological conditions, obtain a burn day forecast and not proceed to ignition unless conditions are favorable. All personnel conducting prescribed burns must meet burner qualifications.

Agencies conducting prescribed fires with emissions in excess of 10 tons of PM₁₀ annually are required to supply NDEP with an annual fire activity report. This report provides a summary of fire activities including a listing of: permit number, acreage burned, fuel type, emissions estimates and emission factors used. In the time since the first regional haze planning period, NDEP has reassessed its fire emission data collection procedures and future data needs. The Smoke Management Program recently launched an interactive web map that displays the location of active permits for prescribed burns and current active prescribed burns. As permit applications and burn notifications are received, the map is updated on a daily basis. This tool assists land managers in making informed decisions on the location and timing of prescribed fire operations to better limit smoke impacts.

NDEP's website includes additional information on the Nevada Smoke Management Program and can be found at <https://ndep.nv.gov/air/air-pollutants/smoke-management>. An online open burn permit application, an instruction sheet, links to applicable statutes and regulations and contact information are provided.

9. Environmental Justice Considerations

The RHR requires that states consider non-air quality environmental impacts as one of the four statutory factors when evaluating potential additional controls. Consideration of Environmental Justice (EJ) and the impact control decisions may have on potentially vulnerable communities falls within this category. In NDEP’s RH EJ analysis, communities within a 3-mile and 10-mile radius of each source identified by NDEP’s Q/d source screening method were examined for any patterns of disproportionate burden of environmental pollution on vulnerable communities using the EPA’s EJSCREEN (Version 2.3) tool, results can be found in Appendix D.

This version of EJSCREEN uses the 2018-2022 five-year American Community Survey data for demographic indicators:

- People of Color Population (%)
- Low Income Population (%)
- Limited English-Speaking Households (%)
- Population With Less Than High School Education (%)
- Population Under 5 Years of Age (%)
- Population Over 64 Years of Age (%)

These indicators are standard demographic indicators commonly used by EPA and other state agencies when considering EJ impacts. Each indicator is represented in percentage of the total recorded population within the designated radius around each facility.

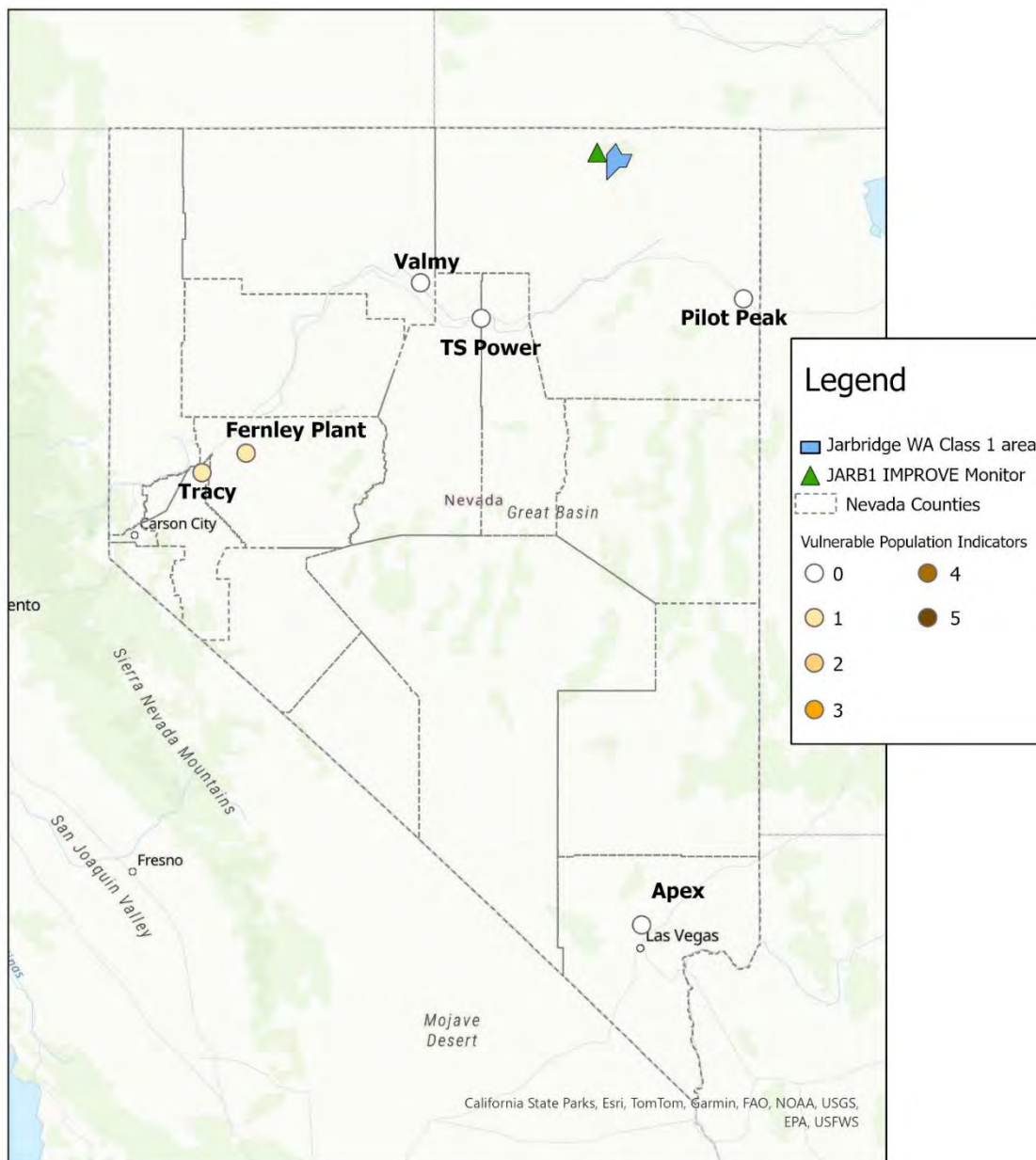
For each facility, NDEP tallied a “1” if the value of that indicator was above the statewide average, or a “0” if the value was below the statewide average. Figures 26 and 27 below show the number of indicators for which the community within a facility was above the statewide average, achieving a maximum of 6 and a minimum of 0. An outline of the demographic indicator values recorded within the radius of each facility is included in Tables 10 and 11 below, and compared to the statewide average. Indicators that are above the statewide average are highlighted and represent a tally of “1.” An “N/A” value indicates a census population of 0 in that facility’s radius. A facility with a vulnerability score of 4 or more would indicate a significant impact on vulnerable communities and would require consideration in deciding if further controls at a facility may be necessary for reasonable progress in Nevada’s second implementation period of the RHR.

Table 10: Demographic Indicators for Each Facility Compared to Statewide Averages Using a 3-mile Radius

Demographic Indicator	North Valmy	Tracy	TS Power Plant	Statewide Ave.
Population Count	0	12	3	3,178,00
People of Color	N/A	39%	29%	51%
Low Income	N/A	24%	18%	32%
Limited English Households	N/A	3%	0%	4%
< High School Education	N/A	12%	4%	14%
< 5 Years of Age	N/A	3%	3%	5%
> 64 Years of Age	N/A	42%	28%	18%

Demographic Indicator	Nevada Cement	Apex	Pilot Peak	Statewide Ave.
Population Count	13,825	0	0	3,178,00
People of Color	35%	N/A	N/A	51%
Low Income	28%	N/A	N/A	32%
Limited English Households	2%	N/A	N/A	4%
< High School Education	11%	N/A	N/A	14%
< 5 Years of Age	6%	N/A	N/A	5%
> 64 Years of Age	15%	N/A	N/A	18%

Figure 26: Number of Socioeconomic Indicators for Communities within 3 miles of a Four-Factor Facility



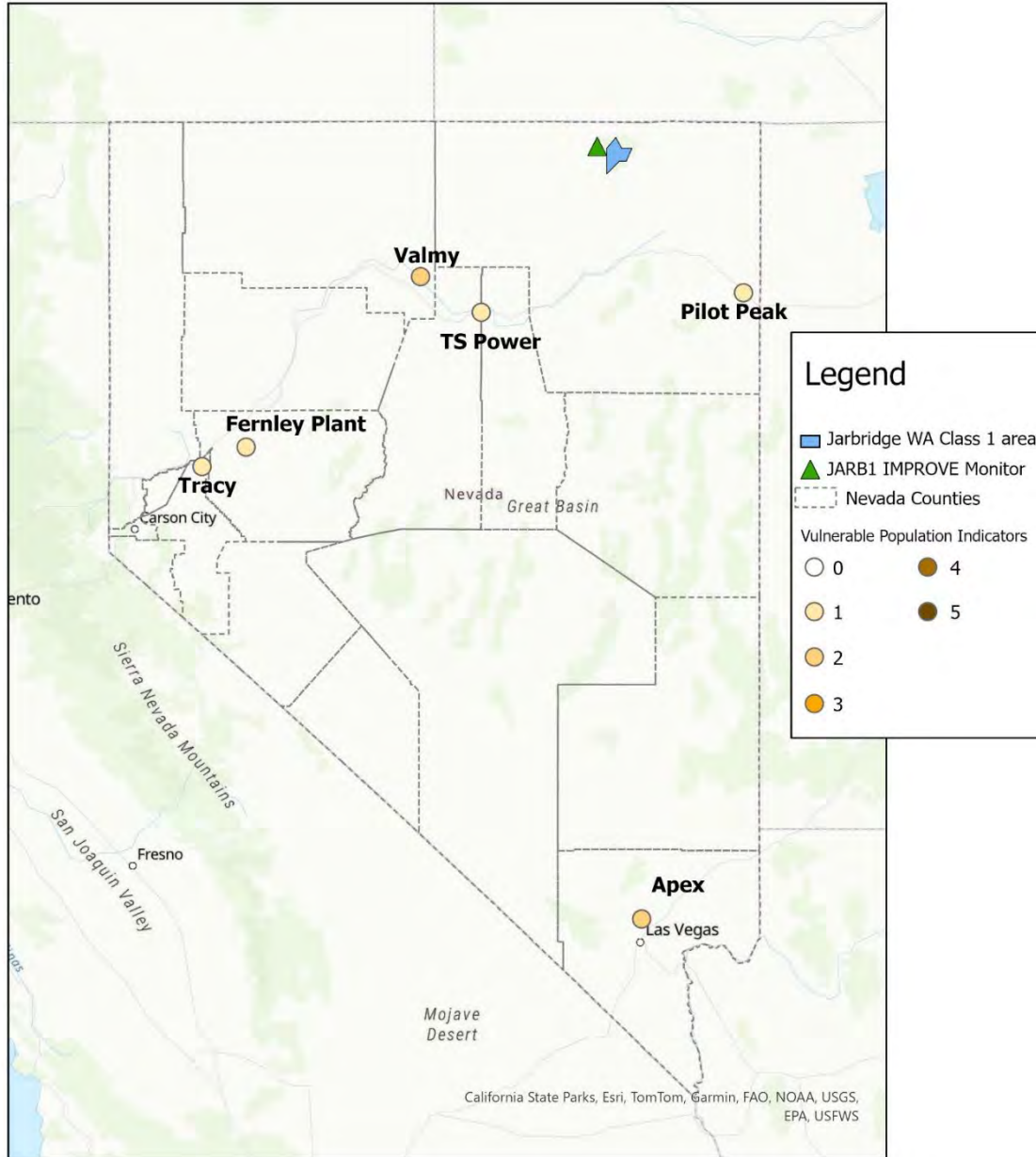
The six facilities that underwent the four-factor review are generally located in sparsely populated rural areas. Among the six sources, only Nevada Cement has a significantly large population within a 3-mile radius. Three sources, North Valmy, Pilot Peak, and Apex have no population. TS Power has a population of three people in a 3-mile radius while Tracy near the Reno/Sparks area is situated where there are few residents. Of the three sources that have a reported population, a maximum of one indicator was recorded above the statewide average.

Table 11: Demographic Indicators for Each Facility Compared to Statewide Averages Using a 10-mile Radius

Demographic Indicator	North Valmy	Tracy	TS Power Plant	Statewide Ave.
Population Count	58	30,143	32	3,178,00
People of Color	25%	30%	29%	51%
Low Income	41%	10%	18%	32%
Limited English Households	0%	1%	0%	4%
< High School Education	12%	5%	4%	14%
< 5 Years of Age	6%	6%	3%	5%
> 64 Years of Age	19%	22%	28%	18%
Demographic Indicator	Nevada Cement	Apex	Pilot Peak	Statewide Ave.
Population Count	24,666	41	444	3,178,00
People of Color	31%	83%	21%	51%
Low Income	25%	15%	18%	32%
Limited English Households	1%	4%	0%	4%
< High School Education	11%	11%	0%	14%
< 5 Years of Age	6%	8%	13%	5%
> 64 Years of Age	15%	14%	7%	18%

When evaluating the same facilities at a 10-mile radius, the conclusion remains relatively the same, with a few changes. All six facilities now have a population value with corresponding EJSCREEN Tool data. With this, both North Valmy and Apex show two indicators that are above the statewide average. Tracy’s population increased by 30,000 people and demonstrates the benefit of evaluating larger distances around facilities, however, the sole indicator of concern remains the same. Of all six sources, a maximum of two indicators were recorded above the statewide average, which was the same maximum number of indicators found in the environmental justice review completed for Nevada’s 2022 RH SIP.

Figure 27: Number of Socioeconomic Indicators for Communities within 10 miles of a Four-Factor Facility



In considering the communities within a 3-mile and 10-mile radius of Nevada’s RH sources, NDEP concludes that there is no significant impact on vulnerable communities that would further provide evidence that a control currently not being considered as “necessary for reasonable progress” should be installed.

10. Determination of Adequacy

40 CFR 51.308(h) requires a state to make a determination of the adequacy of the current implementation plan as part of its five-year progress report. Based on the findings of the five-year progress report, the state must take one or more of the actions summarized below at the same time the state submits its five-year progress report.

1. If the state finds that no substantive SIP revisions are required to meet established visibility goals, the state shall provide a negative declaration that no implementation plan revision is needed.
2. If the state finds that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another state that participated in a regional planning process, the state shall notify USEPA and the other contributing state(s). The plan deficiency shall be addressed through a regional planning process to develop additional strategies through the planning efforts described in the progress report(s).
3. If the state finds that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from another country, the state shall notify USEPA and provide the available supporting information.
4. If the state finds that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from within the state, the state shall revise its implementation plan to address the plan's deficiencies within one year.

Many of the control measures included in the second round of regional haze planning were not fully implemented during the period covered by this 5-year progress review. Additional emissions reductions from full implementation of these controls and emission reductions from other federal programs, will occur in the period between this review and 2028. Therefore, monitoring data at JARB1 for this progress period does not reflect emissions reductions resulting from the implementation of these controls. Visibility conditions at Nevada's only Class I Area, Jarbidge WA, have decreased slightly with annual variability driven by wildfires and fugitive dust for the worst days with a maintaining of visibility conditions shown for the best days, based on the rolling 5-year annual average haze index. Progress for the worst days is impeded by large contributions to visibility impairment from natural sources.

Through these analyses NDEP concludes that no additional controls are necessary pursuant to this five-year progress evaluation. As evidenced by reductions in anthropogenic source emissions in Nevada the NDEP determines that Nevada is making reasonable progress overall in improving visibility due to reductions in emissions from the control measures included in the 2022 RH SIP and 2024 revision. Additional anticipated reductions in emissions from control measures that are not yet fully implemented and changes in source activity that were not included as part of Nevada's strategy further support this conclusion. NDEP hereby declares that no further revision of Nevada's 2022 RH SIP and 2024 RH SIP Revision is necessary to achieve the 2028 reasonable progress goals for visibility improvement for mandatory Class I areas in Nevada and those outside the State that may be affected by Nevada emissions.

11. Consultation with Federal Land Managers and Public Comment

11.1 Federal Land Manager Consultation

A draft version of this progress report was submitted to the FLMs (National Parks Service, U.S. Fish and Wildlife Service, U.S. Forest Service, and the Bureau of Land Management) on October 11, 2024, for a 60-day review and comment period. Replies were received from the National Parks Service on October 11th, the U.S. Forest Service October 11th, November 21st, and December 10th, the Fish and Wildlife Service on December 11th and the Bureau of Land Management December 13th, 2024. All three agencies thanked NDEP for the opportunity to review the draft but did not provide formal comments on the progress report. Since no formal comments were received NDEP concludes that no further action is needed to meet the requirements of 40 CFR 51.308(i). Evidence of Federal Land Manager consultation is provided in Appendix B.

11.2 Public Comment

A draft version of this progress report, including evidence of FLM consultation, was made available for a 30-day public comment period, during which no comments were received. NDEP held a public hearing January 21, 2025, at which it presented a brief overview of the Regional Haze program and solicited comments on the Regional Haze Progress Report for the Second Planning Period. Three people outside attended the hearing, however none provided comments or asked questions regarding the Progress Report. Since no formal comments were received NDEP concludes that no further action is needed to meet the requirements of 40 CFR 51.308(g). Evidence of public notice and participation is provided in Appendix C.

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Appendix A: Calculations for Nevada's Reasonable Progress Goals

This workbook outlines the calculations to estimate new RPGs for the 20% most impaired days and 20% clearest days at Class I areas in Nevada accounting for controls under 4 factors analysis (4FA) developed in the 2nd round of Regional HNVe Rule planning

Methodology Description

- 1) Download 2028 WRAP CAMx PSAT results for Nevada source sectors for sulfate and nitrate light extinction as well as total light extinction at each Nevada Class I area from WRAP's Technical Support System (TSS) tool
- 2) Modeled Nevada EGU ammonium sulfate (oil and gas ammonium nitrate) light extinction values are scaled by the ratios of (2028 WRAP Nevada EGU (Oil&Gas)source emissions minus reduction due to 4FA controls) divided by 2028 WRAP Nevada EGU (Oil&Gas) source emissions for SO₂(NO_x)
- 3) Total light extinction at each Nevada Class I Area from 2028 WRAP CAMx modeling is adjusted to reflect the scaled down contributions from EGU sulfate and Oil&Gas nitrate
- 4) Total light extinction is converted to Deciviews (dv), and scaled by a factor to reflect average after vs. before dv calc.

Descriptions of the worksheets

Modeled_Extinction_2028

Light extinction by PM species on 20% most impaired days and clearest days (Column C to I) and Rayleigh constant (Column J) at class I areas in NV

Column K: total light extinction from all sources without contribution from sulfate and nitrate at class I areas in NV

Column L: total light extinction from all sources and species ($b_{ext} = \text{Sum}(b_{species}) + b_{Rayleigh}$) at class I areas in NV

Column M: Calculated visibility degradation in dv ($dv = 10 * \ln(b_{ext}/10)$) at class I areas in NV

Column N: Visibility degradation from WRAP TSS tool at class I areas in NV

Column O: visibility degradation correction factor at class I areas in NV

Since the scaling factors are applied to average extinction (average over MIDs or clearest days), whereas we really want average deciviews (average of deciviews computed for each individual MID or clearest day), to account for the difference between $dv = \text{average}(10 * \log(b_{ext}/10))$ and $dv = 10 * \log(\text{average } b_{ext})/10$, an additional factor is applied, dv_{TSS} / dv_{Calc} from b_{ext} to get dv corrected for averaging ("dv corr. for avg.")

Scaled_Extinction_NV_MID

Lines 4-11: 4FA scaling factor calculations

Line 8: Scaling factor for EGU sector

Line 11: Scaling factor for O&G sector

Lines 13-24: NV anthropogenic extinction on most impaired days at class I areas

Column C to L: Ammonium sulfate and nitrate light extinction by anthropogenic emission sectors in NV at class I areas

Column M: total ammonium sulfate and nitrate light extinction from anthropogenic sources in NV at class I areas

Column N: total light extinction without extinction from anthropogenic ammonium sulfate and nitrate at class I areas in NV

Column O: Column M + Column N

Lines 27-38: Scaled NV anthropogenic extinction on most impaired days at class I areas

Column C to L: Ammonium sulfate and nitrate light extinction by anthropogenic emission sectors in NV at class I areas

Column G: scaled ammonium sulfate from EGU sector in NV at class I area((G16 :G24)*C\$8)

Column I: scaled ammonium nitrate from oil and gas sector in NV at class I area((I16 :I24)*C\$8)

Column M: total scaled ammonium sulfate and nitrate light extinction from anthropogenic sources in NV at class I areas

Column N: total scaled light extinction in without NV extinction from anthropogenic ammonium sulfate and nitrate in NV at class I areas

Column O: Column M + Column N

Column P: Calculated scaled visibility degradation at class I area in NV ($dv=10*\ln(bext/10)$)
 Column Q: scaled visibility degradation with correction for averaging
 Column R: 4FA Impact on light extinction
 Column S: 4FA Impact on visibility degradation

Scaled_Extinction_NV_Clearest

Lines 12-23: light extinction from ammonium sulfate and nitrate on most impaired days at class I areas in NV
 Column C and D: Light extinction from ammonium sulfate and nitrate from all sources in NV
 Column E: Ammonium sulfate light extinction from EGU sector in NV
 Column F: Ammonium nitrate light extinction from oil and gas sector in NV
 Column G: Scaled ammonium sulfate light extinction from EGU sector in NV
 Column H: Scaled ammonium nitrate light extinction from oil and gas sector in NV
 Column I and J: Scaled light extinction from ammonium sulfate and nitrate from all sources in NV
 Lines 26-37: light extinction from ammonium sulfate and nitrate on clearest days at class I areas in NV
 Column C and D: Light extinction from ammonium sulfate and nitrate from all sources in NV
 Column I: Scaled light extinction from ammonium sulfate from all sources in NV (used column I/ Column C as a scaling factor)
 Column J: Scaled light extinction from ammonium nitrate from all sources in NV (used column J/ Column D as a scaling factor)
 Lines 43-54: Scaled extinction on clearest days at class I areas in NV
 Column C: Scaled total ammonium sulfate at class I areas in NV (see "Scaled_Extinction_NV_Clearest E32-E40 for methodology used for scaling)
 Column D: Scaled total ammonium nitrate at class I areas in NV (see "Scaled_Extinction_NV_Clearest E32-E40 for methodology used for scaling)
 Column E to I: Light extinction by PM species (other than ammonium sulfate and nitrate) at class I areas in NV
 Column J: Rayleigh constant
 Column K: total scaled light extinction at class I areas in NV
 Column L: Calculated scaled visibility degradation at class I area in NV ($dv=10*\ln(bext/10)$)
 Column M: Scaled visibility degradation with correction for averaging
 Column N: 4FA Impact on light extinction
 Column O: Impact on visibility degradation

RPG Tables

Lines 5-13
 Column C Baseline visibility degradation at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column D Current visibility degradation at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column E Projected natural conditions visibility degradation at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column F Adjusted projected natural conditions visibility degradation at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column G Calculated 2028 Uniform Rate of Progress using URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column H Adjusted calculated 2028 Uniform Rate Progress using URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column I Projected Reasonable Progress Goals at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column J Calculated impact of four factor analysis controls at Nevada class I areas on most impaired days taken from "Scaled_Extinction_NV_MID" sheet of this workbook
 Column K Calculated Reasonable Progress Goals after incorporating the four factor analysis controls at Nevada class I areas on most impaired days
 Column M Baseline visibility degradation at Nevada class I areas on clearest days taken from WRAP's TSS tool
 Column N Current visibility degradation at Nevada class I areas on clearest days taken from WRAP's TSS tool

Column O Projected natural conditions visibility degradation at Nevada class I areas on clearest days taken from WRAP's TSS tool
 Column P Adjusted projected natural conditions visibility degradation at Nevada class I areas on clearest days taken from WRAP's TSS tool
 Column Q Calculated 2028 Uniform Rate of Progress using URP Glidepath at Nevada class I areas on clearest days taken from WRAP's TSS tool
 Column R Projected Reasonable Progress Goals at Nevada class I areas on clearest days taken from WRAP's TSS tool
 Column S Calculated impact of four factor analysis controls at Nevada class I areas on clearest days taken from "Scaled_Exinction_NV_Clearest" sheet of this workbook
 Column T Calculated Reasonable Progress Goals after incorporating the four factor analysis controls at Nevada class I areas on clearest days
 Lines 18-20 Column C Slope of the URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column E Y Intercept of the URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column F Calculated 2028 Uniform Rate of Progress at Nevada class I areas on most impaired days
 Lines 31-33 Column C Slope of the adjusted URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column E Y Intercept of the adjusted URP Glidepath at Nevada class I areas on most impaired days taken from WRAP's TSS tool
 Column F Calculated adjusted 2028 Uniform Rate of Progress at Nevada class I areas on most impaired days

2028 Projected Extinction (bext) on 20% most impaired and clearest days default EPA projection method

Nevada Class I areas IMPROVE Monitors

From WRAP TSS. Retrieved March 2022.

CAMx scenario: 2014-2018 Baseline & 2028OTBa2

Column C through I retrieved from WRAP TSS Modeling Express Tool #3

Column T retrieved from WRAP TSS Modeling Express Tool #4

Column J (Rayleigh Constant) = Column_T-Sum(Column_J:Column_J)

Column K (b_other) = Sum(Column_E:Column_J)

Column M (dv) = $10^{\text{natural_log}(\text{Column_L}/10)}$

Column N (from TSS dv) retrieved from WRAP TSS Modeling Express Tool #4

Column O (dvTSS/dvCalc) = Column_N/Column_M

20% Most Impaired Days

Site	Year	bSO4	bNO3	bOMC	bEC	bSsp	bCM	bSs
JARB1	2028	3.63	0.55	3.55	0.62	1.04	2.7	0.04

b_other = b_total less b_SO4 and b_NO3
 dvTSS/dvCalc = scale correction for avg.{dv(bext)} / dv(avg.{bext})

bRay	calculated from b's			from TSS		dvTSS/dvC
	b_other	b_total	dv	dv	alc	
10	17.9443	22.1243	7.94	7.76397	0.978	

TSS b_total
22.1243

20% Clearest Days

Site	Year	bSO4	bNO3	bOMC	bEC	bSsp	bCM	bSs
JARB1	2028	0.81	0.2	0.4	0.09	0.08	0.26	0.05

bRay	calculated from b's			from TSS		dvTSS/dvC
	b_other	b_total	dv	dv	alc	
10	10.8814	11.8914	1.73	1.72446	0.995	

TSS b_total
11.8914

2028 Projected Extinction (bext) on 20% Most Impaired and 20% Clearest days, Nevada IMPROVE monitors
 Scale SO4 and NO3 bext from NV sectors by emissions scaling factor

NV EGU 4 Factor Analysis

Pollutant		SO2 (tpv)	NOx (tpv)	
4FA Red.	North Valmy	2309	1144	change from 4 factor analysis controls relative to the modeled inventory (see Chapter 6 of SIP)
	Tracy	0	225	
	CAMx	2556	3869	NV modeled 2028OT6a2 EGU emissions (WRAP TSS Emissions Express Tool #4)
	scaling factor	0.096635368	0.6461618	ratio of change to total

NV Non-EGU 4 Factor Analysis

4FA Red.	Apex Plant	0	493	change from 4 factor analysis controls relative to the modeled inventory (see Chapter 6 of SIP)
Increase	Ferrey Plant	-206	-1463	increase (negative value) of emissions relative to the modeled inventory (see Chapter 6 of SIP)
	Total Change	-206	-970	
	CAMx	1321	8129	NV modeled 2028 industrial non-EGU point emissions (WRAP TSS Emissions Express Tool #2)
	scaling factor	1.155942468	1.1193259	ratio of change to total

20% Most Impaired Days

		NV Anthropogenic extinction												
Site	Year	b_SO4					b_NO3					b_tot_NV	b_non_NV	b_total
		Remainder	Anthro	NonEGU	EGU	EGU scaled	Remainder	Anthro	NonEGU	EGU	EGU scaled			
JARB1	2028	0.00282	0.00007	0.00285	0.00039	0.02081	0.00042	0.00006	0.00175	0.00536	0.00337	0.0379	22.0864	22.1243

20% Most Impaired Days

		NV Anthropogenic extinction scaled										Calculated from b's			dy corr for change relative to CAMx 2028			
Site	Year	b_SO4					b_NO3					b_tot_NV	b_non_NV	b_total	dv	avg	chg_b_total	change dv
		Remainder	Anthro	NonEGU scaled	EGU scaled	EGU scaled	Remainder	Anthro	NonEGU scaled	EGU scaled	EGU scaled							
JARB1	2028	0.00282	0.00007	0.003294436	0.00039	0.002011	0.00042	0.00006	0.00195882	0.00536	0.00217757	0.018562	22.0864	22.104962	7.93217	7.757662	-0.0193382	0.00631

7.76

This worksheet uses the impact of 4FA on light extinction on most impaired days to estimate the 4FA impact on light extinction on clearest days.
 WRAP source apportionment study did not provide light extinction values by source sectors on clearest days
 A new approach is needed for 4FA impact on visibility degradation on clearest days
 Scale available Clearest Day extinction for the total of all sources, according to change in total extinction derived from scaling of individual NV sectors.
 Calculate the ratio of total contribution of ammonium sulfate (nitrate) to light extinction at each Class I area in Nevada on most impaired days after 4FA implementation over total contribution before 4FA implementation
 Apply the ratios to the total contribution of ammonium sulfate (nitrate) to light extinction at each Class I area in Nevada on clearest days.
 Calculate a new total light extinction at each Class I area on clearest days and the new visibility degradation values in deciviews.
 Apply the visibility degradation correction factor

20% Most Impaired Days			Anthropogenic best				Scaled Anthropogenic best				All sources scaled best		
Site	Year	All sources best		EGU		Non EGU		EGU scaled		Non EGU scaled		bSO4	eNO3
		bSO4	eNO3	bSO4	eNO3	bSO4	eNO3	bSO4	eNO3	bSO4	eNO3	bSO4	eNO3
JARB1	2028	3.63	0.55	0.02081	0.00337	0.00285	0.00175	0.002011	0.002178	0.003294	0.0019588	3.611201	0.55020882

20% Clearest Days			All sources best		All sources scaled best	
Site	Year	bSO4	eNO3	bSO4	eNO3	
JARB1	2028	0.81	0.2	0.8058052	0.2000759	

20% Clearest Days			NV extinction at Class I areas							Other extinction values		dv corr for change relative to CAMx 2028		
Site	Year	NV Scaled extinction		Other extinction values							b_total	dv	avg.	chg. b_totz change dv
		bSO4 scaled	eNO3 scaled	bOMC	bEC	bSOx	bCM	bSs	bRay					
JARB1	2028	0.80580518	0.20007593	0.4	0.09	0.08	0.26	0.05	10	11.88588111	1.7276614	1.719839	-0.00552 0.00462	

1.72

Appendix B: Evidence of Federal Land Manager Consultation

B1: National Park Service

B2: U.S. Forest Service

B3: U.S. Fish and Wildlife Service

B4: Bureau of Land Management

B1: National Park Service

From: [Peters, Melanie](#)
To: [Nicholas Schlafer](#); [Mcneel, Pleasant - FS](#); [Allen, Tim](#); [Giles, Franklin E](#); [Withey, Charlotte \(she/her/hers\)](#); [kay.rynda@epa.gov](#); [Salazer, Holly](#); [Cummings, Jalyn C](#)
Cc: [Danilo Dragoni](#); [Andrew Tucker](#); [Ken McIntyre](#)
Subject: Re: [EXTERNAL] Nevada Regional Haze Progress Report
Date: Friday, October 11, 2024 12:08:48 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

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Hello Nick,

The NPS appreciates this opportunity to participate in FLM consultation on Nevada's Regional Haze Progress Report for the Second Planning Period. However, due to competing workload priorities the NPS does not plan to provide consultation feedback on this progress report. Thank you for understanding. We look forward to continued work with Nevada for clean air and clear views in the future.

Best,
Melanie

--
Melanie V. Peters
NPS, Air Resources Division

Office: 303-969-2315
Cell: 720-644-7632



From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Friday, October 11, 2024 12:57 PM
To: Peters, Melanie <Melanie_Peters@nps.gov>; Mcneel, Pleasant - FS <pleasant.mcneel@usda.gov>; Allen, Tim <tim_allen@fws.gov>; Giles, Franklin E <fgiles@blm.gov>; Withey, Charlotte (she/her/hers) <Withey.Charlotte@epa.gov>; kay.rynda@epa.gov <Kay.Rynda@epa.gov>
Cc: Danilo Dragoni <ddragon@ndep.nv.gov>; Andrew Tucker <atucker@ndep.nv.gov>; Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: [EXTERNAL] Nevada Regional Haze Progress Report

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Good morning,

This email serves as the State of Nevada's, Division of Environmental Protection, official request for Federal Land Manager consultation on Nevada's Regional Haze Progress Report for the Second Planning Period. Please accept this email as the commencement of the 60-day review period, and we respectfully ask that you submit your comments by no later than December 10, 2024. If you would like to discuss the progress report in person, please let us know and we would be happy to set up a meeting.

If you could please confirm that you received this email and let us know if there is anyone else you would like to be included, we would greatly appreciate it. Please let us know if you have any questions.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@nwdp.nv.gov
775-687-9354

B2: U.S. Forest Service

From: [Nicholas Schlafer](#)
To: [Mcneel, Pleasant - FS, UT](#)
Cc: [Ken McIntyre](#)
Subject: RE: Nevada Regional Haze Progress Report
Date: Wednesday, December 11, 2024 8:03:00 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

Pleas,

Thank you for reviewing Nevada's Regional Haze Progress Report. We are still finalizing our Round 2 Regional Haze SIP revision for public comment, but it is NDEP opinion that SCR is above the \$10,000 threshold and therefore not cost effective. We included the option of SCR in proposed state regulations to allow Valmy flexibility in planning for future federal regulations. Please let us know if you have any other questions. It is a pleasure working with you as well.

Best,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354



From: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Sent: Tuesday, December 10, 2024 5:03 PM
To: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Subject: RE:Nevada Regional Haze Progress Report

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Nick,

I have reviewed the Nevada Regional Haze Progress Report, and it looks good. The USFS will not be submitting formal comments.

One quick question: It is not clear from the progress report whether NDEQ agrees with the NPS recommendation that SCR is a cost-effective NOx control for North Valmy (from their comments dated September 15, 2023). The progress report notes that "NDEP is now relying on the installation LNB along with the use of SNCR, FGR, or SCR for the control of NOX."

Is this still under consideration? Was there a reply to NPS?

Thank you for your great work and Federal Land Manager Regional Haze consultation. It is always a pleasure working with you!

Cheers,
Pleas



Pleasant J McNeel IV, PE
Regional Air Program Manager

Forest Service
Intermountain Region (R4)

cell: 801.247.8892
pleasant.mcneel@usda.gov

www.fs.fed.us
  

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From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Tuesday, December 10, 2024 4:34 PM
To: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Subject: RE: [External Email] Nevada Regional Haze Progress Report

Pleas,

We have not yet received any formal comments from the Forest Service regarding our draft Regional Haze Round 2 Progress Report. You had mentioned you might review the progress report, were you still planning on submitting comments or can you confirm that you do not have any for us at this time?

Thank you,

Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
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775-687-9354



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NATURAL RESOURCES**
Connect with us:   

From: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Sent: Thursday, November 21, 2024 12:42 PM
To: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

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Mcneel, Pleasant - FS, UT reacted to your message:

From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Thursday, November 21, 2024 5:05:46 PM
To: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

Pleas,

Thank you for the update, we understand the workload that regional haze generates on top of all the other air programs. As our Regional Haze SIP has not been approved yet and we are currently working on a revision, the progress report is primarily a review of the revision and an update of the states emissions data. We look forward to any comments you may have.

Best,
Nick

Nicholas Schlafer
Environmental Scientist

Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
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775-687-9354



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**CONSERVATION &
NATURAL RESOURCES**
Connect with us:   

From: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Sent: Thursday, November 21, 2024 8:16 AM
To: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

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Nick,

I have been buried in large mining NEPA and PSD projects in ID and WY for the past weeks. I am hoping to do you the courtesy of a review next week, prior to the 10Dec24 deadline. I do not expect to have substantial comments, however, as your work has always been great in the past and Round 3 is practically here already.

Cheers,
Pleas



Pleasant J McNeel IV, PE
Regional Air Program Manager
Forest Service
Intermountain Region (R4)
cell: 801.247.8892
pleasant.mcneel@usda.gov
www.fs.fed.us
  
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From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Thursday, November 21, 2024 8:37 AM

To: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

Good Morning Pleas,

I wanted to check in and see if you had any questions regarding Nevada's Regional Haze Progress Report and if we should be expecting comments from the US Forest Service.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354



From: Nicholas Schlafer
Sent: Monday, October 14, 2024 7:47 AM
To: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

Good Morning Pleas,

Thank you for the quick reply, please let us know if you need any other information for your review.

Best,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701

n.schlafer@ndep.nv.gov
775-687-9354



From: Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>
Sent: Friday, October 11, 2024 1:43 PM
To: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Subject: RE: [External Email]Nevada Regional Haze Progress Report

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Thanks Nick, Got it!

I'll take a look at it but may not be until the end of the comment period. Pretty swamped right now.

Cheers,
Pleas



Pleasant J McNeel IV, PE
Regional Air Program Manager
Forest Service
Intermountain Region (R4)
cell: 801.247.8892
pleasant.mcneel@usda.gov
www.fs.fed.us
 USDA
Caring for the land and serving people

From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Friday, October 11, 2024 12:58 PM
To: Peters, Melanie <Melanie_Peters@nps.gov>; Mcneel, Pleasant - FS, UT <pleasant.mcneel@usda.gov>; Tim Allen (Tim_allen@fws.gov) <tim_allen@fws.gov>; Giles, Franklin E <fgiles@blm.gov>; Withey, Charlotte (she/her/hers) <Withey.Charlotte@epa.gov>; kay.rvnda@epa.gov
Cc: Danilo Dragoni <ddragon@ndep.nv.gov>; Andrew Tucker <atucker@ndep.nv.gov>; Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: [External Email]Nevada Regional Haze Progress Report

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Good morning,

This email serves as the State of Nevada's, Division of Environmental Protection, official request for Federal Land Manager consultation on Nevada's Regional Haze Progress Report for the Second Planning Period. Please accept this email as the commencement of the 60-day review period, and we respectfully ask that you submit your comments by no later than December 10, 2024. If you would like to discuss the progress report in person, please let us know and we would be happy to set up a meeting.

If you could please confirm that you received this email and let us know if there is anyone else you would like to be included, we would greatly appreciate it. Please let us know if you have any questions.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
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901 S. Stewart Street, Suite 4001
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B3: U.S. Fish and Wildlife Service

From: [Allen, Tim](#)
To: [Nicholas Schlafer](#)
Cc: [Ken McIntyre](#)
Subject: Re: [EXTERNAL] RE: Nevada Regional Haze Progress Report
Date: Wednesday, December 11, 2024 5:30:30 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

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Hi Nick,

I should have sent a message earlier. I am not commenting on 2nd Round Progress reports. I do appreciate the efforts of the State in documenting and reporting progress. I don't have the resources to include formal comments to these documents at this time.

Thank you,
Tim

From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Tuesday, December 10, 2024 4:26 PM
To: Allen, Tim <tim_allen@fws.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: [EXTERNAL] RE: Nevada Regional Haze Progress Report

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Tim,

We did not receive any formal comments from Fish & Wildlife regarding our draft Regional Haze Round 2 Progress Report. Did you plan on submitting comments on the progress report, or can you confirm that you do not have any for us?

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection

Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354



From: Nicholas Schlafer
Sent: Thursday, November 21, 2024 7:39 AM
To: Tim Allen (Tim_allen@fws.gov) <tim_allen@fws.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: Nevada Regional Haze Progress Report

Good Morning Tim,

I wanted to check in and see if you had any questions regarding Nevada's Regional Haze Progress Report and if we should be expecting comments from the U.S. Fish and Wildlife Service?

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354



From: Nicholas Schlafer
Sent: Friday, October 11, 2024 11:58 AM
To: Peters, Melanie <Melanie_Peters@nps.gov>; pleasant.mcneel@usda.gov; Tim Allen (Tim_allen@fws.gov) <tim_allen@fws.gov>; Giles, Franklin E <fgiles@blm.gov>; Withey, Charlotte (she/her/hers) <Withey.Charlotte@epa.gov>; kay.rynda@epa.gov

Cc: Danilo Dragoni <ddragon1@ndep.nv.gov>; Andrew Tucker <atucker@ndep.nv.gov>; Ken McIntyre <kmcintyre@ndep.nv.gov>

Subject: Nevada Regional Haze Progress Report

Good morning,

This email serves as the State of Nevada's, Division of Environmental Protection, official request for Federal Land Manager consultation on Nevada's Regional Haze Progress Report for the Second Planning Period. Please accept this email as the commencement of the 60-day review period, and we respectfully ask that you submit your comments by no later than December 10, 2024. If you would like to discuss the progress report in person, please let us know and we would be happy to set up a meeting.

If you could please confirm that you received this email and let us know if there is anyone else you would like to be included, we would greatly appreciate it. Please let us know if you have any questions.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
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901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@nopp.nv.gov
775-687-9354

B4: U.S. Bureau of Land Management

From: [Giles, Franklin E](#)
To: [Nicholas Schlafer](#)
Subject: Re: [EXTERNAL] RE: Nevada Regional Haze Progress Report
Date: Friday, December 13, 2024 3:06:29 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)

WARNING - This email originated from outside the State of Nevada. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Nick,

Thanks for your email. BLM KV does not have any comments at this time.

Best Regards,

Frank

Frank Giles

Air Resource Specialist, California & Nevada
Diversity Change Agent
Resources Division, Bureau of Land Management
U.S. Department of the Interior, Regions 8 & 10
279-200-2861 cell

From: Nicholas Schlafer <n.schlafer@ndep.nv.gov>
Sent: Tuesday, December 10, 2024 3:25 PM
To: Giles, Franklin E <fgiles@blm.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: [EXTERNAL] RE: Nevada Regional Haze Progress Report

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Frank,

We did not receive any formal comments from the Bureau of Land Management regarding our draft Regional Haze Round 2 Progress Report. Did you plan on submitting comments on the

progress report, or can you confirm that you do not have any for us?

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354



From: Nicholas Schlafer
Sent: Thursday, November 21, 2024 7:41 AM
To: Giles, Franklin E <fgiles@blm.gov>
Cc: Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: RE: Nevada Regional Haze Progress Report

Good Morning Frank,

I wanted to check in and see if you had any questions regarding Nevada's Regional Haze Progress Report and if we should be expecting comments from the U. S. Bureau of Land Management.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354

From: Nicholas Schlafer
Sent: Friday, October 11, 2024 11:58 AM
To: Peters, Melanie <Melanie_Peters@nps.gov>; pleasant mcneal@usda.gov; Tim Allen (Tim_allen@fws.gov) <tim_allen@fws.gov>; Gilles, Franklin E <fgilles@bim.gov>; Withey, Charlotte (she/her/hers) <Withey.Charlotte@epa.gov>; kay.rynda@epa.gov
Cc: Danilo Dragoni <ddragon1@ndep.nv.gov>; Andrew Tucker <atucker@ndep.nv.gov>; Ken McIntyre <kmcintyre@ndep.nv.gov>
Subject: Nevada Regional Haze Progress Report

Good morning,

This email serves as the State of Nevada's, Division of Environmental Protection, official request for Federal Land Manager consultation on Nevada's Regional Haze Progress Report for the Second Planning Period. Please accept this email as the commencement of the 60-day review period, and we respectfully ask that you submit your comments by no later than December 10, 2024. If you would like to discuss the progress report in person, please let us know and we would be happy to set up a meeting.

If you could please confirm that you received this email and let us know if there is anyone else you would like to be included, we would greatly appreciate it. Please let us know if you have any questions.

Thank you,
Nick

Nicholas Schlafer
Environmental Scientist
Planning/Data Management Branch, Bureau of Air Quality Planning
Nevada Division of Environmental Protection
Department of Conservation and Natural Resources
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
n.schlafer@ndep.nv.gov
775-687-9354

Appendix C: Evidence of Public Notice and Participation

C1: Public Hearing Notice and Agenda

C2: Proof of Publication

C3: Public Hearing Documents

C1: Public Hearing Notice and Agenda



**Notice of Public Comment Period Beginning December 18, 2024,
and a Public Hearing on January 21, 2025, If Requested**

Pursuant to the public hearing requirements in Title 40 of the Code of Federal Regulations Part 51 Section 102, the Nevada Division of Environmental Protection (NDEP) is issuing the following notice and is taking comment on the proposed *Nevada Regional Haze Progress Report for the Second Planning Period*.

40 CFR Part 51 Section 308 requires that states submit periodic reports describing progress towards the reasonable progress goals. The proposed Progress Report demonstrates that the State of Nevada has met the requirements of the Regional Haze Program for the Second Planning Period and is on track to meet reasonable progress goals. NDEP will submit the final version of the proposed Progress Report to USEPA by January 31, 2025, requesting approval.

NDEP's Regional Haze Progress Report for the Second Planning Period is available on the NDEP website at <https://ndep.nv.gov/posts>. Hard copies are available at NDEP Suite 4001, 901 S. Stewart Street, Carson City, NV 89701; NDEP Suite 200, 375 East Warm Springs Road, Las Vegas, NV 89119; and the Churchill County Library 553 S Maine St, Fallon, NV 89406. Access to the draft document may also be obtained by contacting Nicholas Schlafer at NDEP, 901 S. Stewart Street, Suite 4001, Carson City, NV 89701; (775) 687-9354; or e-mail to n.schlafer@ndep.nv.gov.

Persons wishing to comment on the proposed Regional Haze Progress Report submittal or to request a public hearing should submit their comments or request **in writing** either by mail or email to Nicholas Schlafer at the above address. **A request for a hearing must be received by January 17, 2025. Written comments will be received by the NDEP until 5:00 PM PST, January 17, 2025, and will be retained and considered.**

Upon receipt of a valid written request, the NDEP will hold a public hearing on:

**January 21, 2025
10:00 AM – 12:00 PM**

<p>Bonnie B. Bryan Boardroom 1st Floor 901 S. Stewart Street Carson City, NV 89701</p>	<p>Warm Springs Conference Room Suite 200 375 East Warm Springs Road Las Vegas, NV 89119</p>
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Virtual Meeting Information via Microsoft Teams

**Join on your computer or mobile app: [Click here to join the meeting](#)
Call In (audio only): +1 (775) 321-6111, Conference ID: 752 038 006#**

Oral comments will be received at the Hearing. If no request for a public hearing is received by January 16, 2025, the hearing will be cancelled. Persons may check on the status of the hearing on the NDEP web site at <https://ndep.nv.gov/posts> or you may call the NDEP Bureau of Air Quality Planning at (775) 687-9354.

Members of the public who are disabled and require special accommodations or assistance at the meeting are requested to notify Ken McIntyre, (775) 687-9493; or e-mail kmcintyre@ndep.nv.gov no later than 3 working days before the workshop. This notice has been posted on the official State website, the Nevada Legislature website and the NDEP website, at the NDEP offices in Carson City and Las Vegas, at the State Library in Carson City and at County libraries throughout Nevada.



Public Hearing to Solicit Comments on Proposed Nevada Regional Haze Progress Report for the Second Planning Period

Upon receipt of a valid written request, the NDEP will hold a public hearing on:

**January 21, 2024
10:00 AM – 12:00 PM**

Bonnie B. Bryan Boardroom 1st Floor 901 S. Stewart Street Carson City, NV 89701	Warm Springs Conference Room Suite 200 375 East Warm Springs Road Las Vegas, NV 89119
---	--

Virtual Meeting Information via Microsoft Teams

Join on your computer or mobile app: [Click here to join the meeting](#)
Call In (audio only): +1 (775) 321-6111, Conference ID: 752 038 006#

If receiving this document as a hard copy, you can access the meeting information at <https://ndep.nv.gov/posts> and search for the BAQP Hearing Notice

AGENDA

(No action items)

1. Welcome, introductions.
2. Review of agenda.
3. Presentation of proposed Progress Report, including background information of the Regional Haze Rule, Round 2 State Implementation Plan, and timeline.
4. Public comments and questions on proposed Progress Report.*
5. Adjourn

If no request for a public hearing is received by January 16, 2025, the hearing will be cancelled. Persons may check on the status of the hearing on the NDEP web site at <https://ndep.nv.gov/posts> or you may call the NDEP Bureau of Air Quality Planning at (775) 687-9354.

* Public comment may be limited to five minutes per person at the discretion of the chairperson. The chair reserves the right to dispense with repetitive comments on a given topic.

Members of the public who are disabled and require special accommodations or assistance at the meeting are requested to notify Ken McIntyre, (775) 687-9493; or e-mail kmcintyre@ndep.nv.gov no later than 3 working days before the workshop. This notice has been posted on the official State website, the Nevada Legislature website and the NDEP website, at the NDEP offices in Carson City and Las Vegas, at the State Library in Carson City and at County libraries throughout Nevada.

C2: Proof of Publication



Public Notice

Memorandum

To: File
From: Shantell Davis, BAPC
Date: 12/17/2024
Re: Website Update – Public Notice

This memorandum is to serve as an official record demonstrating the publication of a public notice on the Nevada Division of Environmental Protection Website. A screenshot of the public notice webpage is attached. The publication details of the public notice is as follows:

Proposed Action: Notice of Public Comment Period on Nevada’s Regional Haze Progress Report

Publication URL: <https://ndep.nv.gov/posts/notice-of-public-comment-period-on-nevadas-regional-haze-progress-report>

Date of Publication: 12/17/2024 **Time of Publication:** 3:43 pm PM

Beginning of Public Comment Period: 12/17/2024

End of Public Comment Period: 1/21/2025

Publication Expiration Date: 1/21/2025 **Time of Expiration:** 11:59 PM

Screenshot of Public Notice:

The screenshot shows the website for the Nevada Division of Environmental Protection. The header includes the agency name and navigation links for Land, Water, Air, Environmental Cleanup, Recycle, and About. A search bar is located below the header. The main content area features a title: "Notice of Public Comment Period on Nevada's Regional Haze Progress Report". Below the title is a date stamp: "December 13, 2024". The text of the notice states: "The Nevada Division of Environmental Protection is taking comment on the proposed Nevada Regional Haze Progress Report for the Second Planning Period. Public comment period begins December 17, 2024 and a public hearing is scheduled on January 21, 2025, if requested. If requested, the public hearing will be held from 10:00 am to 12:00 pm at the following locations:" followed by two addresses: "Bernie B. Bryan Boardroom, 1st Floor, 901 S. Stewart Street, Carson City, Nevada 89701" and "Red Rock Conference Room, Suite 200, 375 East Warm Springs Road, Las Vegas, Nevada 89119". At the bottom of the notice, there are two download links: "Download Regional Haze Public Notice and Agenda" and "Download Nevada Regional Haze Progress Report". On the right side of the page, there are sections for "See All News and Updates" and "You May Be Interested In..." with several links to related news items.

From: AdminRegNotices@lcb.state.nv.us
To: [Nicholas Schlafer](#)
Subject: LCB Administrative Regulation Notice New Submittal
Date: Tuesday, December 17, 2024 4:08:12 PM

Thank you for submitting a *Regulation Notice* to post on the Nevada Legislature's website.

You can view your submittal on our [Regulation Notices](#) website after we review and post the information you provided.

You can reply to this email, or contact the LCB at (775) 684-6800 with questions or concerns.

Meeting Date: **1/21/2025**

Meeting Time: **10:00 AM**

Agency: **Nevada Division of Environmental Protection - Bureau of Air Quality Planning**

Agency Website URL: <https://ndep.nv.gov/>

Meeting Title: **Notice of Public Comment Period on Nevada's Regional Haze Progress Report**

Meeting Location: **901 S. Stewart St. Carson City, NV 89701 (Bonnie Conference Room 1st Floor)**

Uploaded Document: **Regional_Haze_Public_Notice_and_Agenda.01212025.584.pdf**

Contact Name: **Nicholas Schlafer**

Contact Phone: **7756879354**

Contact Email: **n.schlafer@ndep.nv.gov**

Note to LCB Staff:

Administrative Regulation Notices

Meetings and Workshops

NRS 233B.0601 (/NRS/NRS-233B.html#NRS233BSec0601) (Added by AB 252 of the 77th (2013) Session)

Add a New Notice (/App/Notice/A/Submit)

Today is Wednesday, December 18, 2024

12/18/2024 10:00AM

Meeting Notice

(http://www.leg.state.nv.us/App/Notice/Doc/SBE_Workshop_Agenda_packet_combined.12182024.171.pdf)

Nevada Department of Education (<https://doe.nv.gov/boards-commissions-councils/regulation-workshops-and-public-hearings/2024-regulation-workshops-and-public-hearings-meeting-materials>)

State Board of Education Workshop

Department of Education: 2080 E. Flamingo Rd, Suite 114 Las Vegas, NV and 700 E. Fifth St. Carson City, NV

12/19/2024 10:00AM

Meeting Notice

(<http://www.leg.state.nv.us/App/Notice/Doc/NGCAMENDEDNoticeLCBFileR06324P.12192024.181.pdf>)

Nevada Gaming Commission (<https://gaming.nv.gov/>)

AMENDED Notice of Intent to Act Upon A Regulation - LCB File No. R063-24P

401 California Avenue, Boulder City NV 89005

12/19/2024 1:00PM

Meeting Notice (<http://www.leg.state.nv.us/App/Notice/Doc/NoticeWorkshop.12192024.268.pdf>)

Department of Business and Industry Division of Industrial Relations

NOTICE OF PUBLIC WORKSHOP TO SOLICIT COMMENTS ON PROPOSED TEMPORARY REGULATIONS REGARDING EXEMPTIONS FOR BRAZED PLATE HEAT EXCHANGERS

12/20/2024 10:00AM

Meeting Notice (http://www.leg.state.nv.us/App/Notice/Doc/Notice_of_Intent_to_Act.12202024.892.pdf)

Nevada Department of Public Safety Records, Communications and Compliance Division

([https://rccd.nv.gov/Resources/Notice_of_Workshop/Notice_of_Workshop_Page\(2\)](https://rccd.nv.gov/Resources/Notice_of_Workshop/Notice_of_Workshop_Page(2)))

Notice of Intent to Act Upon a Regulation

333 W. Nye Lane, Carson City, NV 89706



12/20/2024 11:00AM

Meeting Notice (<http://www.leg.state.nv.us/App/Notice/Doc/HearingNoticePacket.12202024.465.pdf>)

Sagebrush Ecosystem Council (<https://sagebrusheco.nv.gov/>)

Public Hearing for the Amendment of Regulations of the Sagebrush Ecosystem Program

Virtual and 201 S Roop St. Suite 101, Carson City, NV, 89701

12/24/2024 11:00AM

Meeting Notice (<http://www.leg.state.nv.us/App/Notice/Doc/DMVWorkshop122424.12242024.254.pdf>)

Department of Motor Vehicles (<https://dmv.nv.gov/publicmeetings.htm>)

DMV Regulations Workshop on NAC Chapter 483

555 Wright Way, Carson City NV 89711, 1st Fl. Training Rm, and Webex

01/08/2025 9:00AM

Meeting Notice (<http://www.leg.state.nv.us/App/Notice/Doc/NoticeIntentToActTempRegulation.01082025.306.pdf>)

Nevada State Board of Massage Therapy

Notice of Intent to Act Upon a Temporary Regulation

01/16/2025 9:00AM

Meeting Notice (<http://www.leg.state.nv.us/App/Notice/Doc/R113-24.PublicHearingNoticeUpdated.01162025.546.pdf>)

12/18/24, 7:14 AM

Meeting Notice

Nevada State Board of Pharmacy (<https://bop.nv.gov/Board/BoardMtgs/>)

Notice of Public Hearing (LCB File No. R113-24)

The meeting can be listened to or viewed live over Zoom remotely or at: Hilton Garden Inn 7830 S Las Vegas Boulevard, Las Vegas, NV Videoconference at Zoom: <https://zoom.us/j/5886256671> Teleconference at 1(669) 900-6833 Meeting ID: 5886256671

01/17/2025 9:00AM

Meeting Notice

(<http://www.leg.state.nv.us/App/Notice/Doc/NoticeofPublicHearingNaprapathyJan2025.01172025,918.pdf>)

DPBH – Division of Public and Behavioral Health (<https://dpbh.nv.gov/>)

Notice of Public Hearing (LCB File No. R108-24)



01/21/2025 10:00AM

Meeting Notice

(http://www.leg.state.nv.us/App/Notice/Doc/Regional_Haze_Public_Notice_and_Agenda.01212025,584.pdf)

Nevada Division of Environmental Protection – Bureau of Air Quality Planning (<https://ndep.nv.gov/>)

Notice of Public Comment Period on Nevada's Regional Haze Progress Report
901 S. Stewart St. Carson City, NV 89701 (Bonnie Conference Room 1st Floor)

<https://www.leg.state.nv.us/App/Notice/A/>

2/2

Nevada Public Notice Website

Government

State

City

County

K-12

Higher Education

Special Districts

Entity

Department of Business and Industry

Department of Conservation and Natural Resources

Department of Corrections

Department of Education

Department of Employment Training and Rehabilitation

Department of Health and Human Services

Department of Industrial & Economic Development

Public Body

Division of Environmental Protection

Division of Forestry

Results for Division of Environmental Protection

Results are limited to the last 7 days and for all dates in the future.

Notice	Date Posted	Event Date	Time	Status	Type
2024 Triennial Review of Surface Water Quality Standards (https://ndep.nv.gov/water/rivers-streams-lakes/water-quality-standards/triennial-review)	10/31/2024	12/16/2024	2:00 PM	Scheduled	Meeting
Notice of Public Comment Period on Nevada Regional Haze Progress Report (https://ndep.nv.gov/posts/notice-of-public-comment-period-on-nevadas-regional-haze-progress-report)	12/17/2024	1/21/2025	10:00 AM	Scheduled	Hearing

📅 Today's Meetings

- 07:30 AM [DEMOCRACY PREP AT THE AGASSI CAMPUS](https://democracyprep.box.com/s/izxpuy) (https://democracyprep.box.com/s/izxpuy)
- 09:00 AM [Clark County Commission](https://clark.legistar.com/Calendar.aspx) (https://clark.legistar.com/Calendar.aspx)
- 09:00 AM [Clark County Water Reclamation District](https://clark.legistar.com/View.aspx?M=A&ID=124) (https://clark.legistar.com/View.aspx?M=A&ID=124)

✉ Email Address, No Website | 🔗 Link to Website

C3: Public Hearing Documents

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION Hearing to Solicit Comments on Nevada’s Regional Haze Progress Report

January 21, 2025
10:00 AM

Bonnie B. Bryan Boardroom 1st
Floor
901 South Stewart Street Carson City,
NV 89701

Warm Springs Conference Room
Suite 200
375 East Warm Springs Road Las
Vegas, NV 89119

The Hearing was also held virtually and was
publicly accessible by video conference and phone

MEETING NOTES

ATTENDEES:

Workshop Chair:

Ken McIntyre, Supervisor, BAQP

NDEP Staff:

Nicholas Schlafer, Environmental Scientist, BAQP

Patricia Bobo, Environmental Scientist, BAQP

Katherine Hanson, Environmental Scientist, BAQP

Public:

*Virtual*³:

Joshua Legrande, Universal Engineering Sciences

Nicki McKenzie, Universal Engineering Sciences

John Betz, Montrose Environmental

³ Participants are listed using their online registration. Last name and/or affiliation may not have been provided.

CALL TO ORDER

Mr. McIntyre called the meeting to order at 10:01 AM, explained the purpose of the Public Hearing, and introduced the staff present. Mr. McIntyre explained that the names of attendees would be collected for the record and that the meeting was being recorded. Mr. McIntyre reviewed the workshop agenda. There were no questions or changes to the agenda. Mr. Schlafer explained that virtual attendees would be muted by the moderator and how they could signal to the moderator that they had a question or comment so they could be unmuted. Mr. Schlafer explained that a copy of the progress Report could be found on the Nevada Division on Environmental Protection's (NDEP) website.

There being no questions, Mr. Schlafer moved on to present a background of Nevada's Regional Haze program.

Nevada's Regional Haze Program

[Slide 3]

In 1999, the U.S. Environmental Protection Agency announced a major effort to improve air quality in national parks and wilderness areas. The Regional Haze Rule calls for state and federal agencies to work together to improve visibility in 156 national parks and wilderness areas.

In Nevada, there is one designated Class I area, the Jarbidge Wilderness Area in the northeast corner of the State.

Visibility and sources of impairment at each Class I area are reviewed as part of the RHR. The primary visibility impairing pollutants are oxides of nitrogen (NO_x), sulfur dioxide (SO₂), ammonia (NH₃), volatile organic compounds (VOC), coarse particulate matter 10 micrometers and smaller in diameter (PM₁₀) and fine particulate matter 2.5 micrometers and smaller in diameter (PM_{2.5}).

[Slide 4]

NDEP has coordinated with, and requested input from, the U.S. Environmental Protection Agency, National Park Service, U.S. Fish and Wildlife Service, the U.S. Forest Service, Bureau of Land Management, Local Governments, NV Energy, other facilities impacted by the RHR, conservation groups, and the public, through meetings like this one. The development of Nevada's Regional Haze SIP, along with other air pollution control plans managed by NDEP, reduces pollution that causes visibility impairment in the State of Nevada.

[Next slide 5]

All states are required to submit periodic updates to their Regional Haze SIP for the second planning period. Nevada submitted its Regional Haze SIP for the second planning period in August of 2022. As part of this process NDEP worked with affected facilities to complete a four-factor analysis and determine how they could reduce emissions and comply with the RHR. Facilities selected to complete a four-factor analysis included North Valmy Generating Station, Tracy Generating Station, Lhoist North America Apex Plant, Graymont Pilot Peak Plant and the Nevada Cement Fernley Plant.

[Next slide 6]

Tracy Generating Station is approximately 17 miles west of Reno on I-80, North Valmy Generating Station is approximately 38 miles west of Winnemucca on I-80, Nevada Cement is located in Fernley on I-80, the Pilot Peak Plant is approximately 15 miles West of the Utah border on I-80, and the Apex Plant

is on the northeast edge of Las Vegas on I-15 as can be seen on this map. Jarbidge wilderness area can be found north of Elko just below the Idaho border.

[Next slide 7]

To achieve reasonable progress during the second planning period the following controls were required in Nevada's 2022 Regional Haze State Implementation Plan. For the North Valmy Generating Station; existing use of current controls and permanent closure of both units by December 31, 2028. For the Tracy Generating Station; existing use of current controls and permanent closure of Tracy Unit 4 Piñon Pine by December 31, 2031. For the Lhoist North America Apex Plant; existing use of current controls and installation of Low NO_x Burners and Selective Non-Catalytic Reduction. For the Graymont Pilot Peak Plant; existing use of current controls.

Nevada Cement's Fernley Plant was identified and initially considered for additional controls during planning, though ongoing litigation and consent decrees necessitated that it be removed from the selection. Nevada Cement has been included in this progress report to provide continuity with the data tables and figures provided in Nevada's 2022 RH SIP.

[Next slide 8]

NV Energy notified NDEP of plans to amend its Integrated Resource Plan (IRP) July 13, 2023. Due to changes in the energy landscape along with transmission system reliability considerations the reassessment of the intent to retire North Valmy Units 1 and 2 by December 31, 2028, and Tracy Unit 4 Piñon Pine by December 31, 2031, was necessary. These new plans included the removed closure of North Valmy and Tracy Unit 4 Piñon Pine, conversion of North Valmy to natural gas firing, and included funding to pursue modifications and appropriate emissions controls at these units. Nevada's 2022 Regional Haze SIP was partially withdrawn on July 27, 2023, so that NDEP could further evaluate the new conditions at North Valmy and Tracy Generating Stations and NV Energy's IRP was approved by Nevada's Public Utilities Commission March 1, 2024.

[Next slide 9]

A four-factor analysis was updated for both units at the Valmy Generating Station to include the fuel conversion to natural gas. SO₂ and PM₁₀ emissions were found to be effectively controlled by conversion to natural gas. The installation and operating costs of selective non-catalytic reduction (SNCR) and flue gas recirculation (FGR) were below the \$10,000 per ton threshold set by NDEP and therefore cost effective.

Selective catalytic reduction (SCR) was above the \$10,000 cost per ton threshold but is being included in the regulation to provide flexibility with current and future national regulations that affect electricity generating units.

Since the controls at North Valmy Generating Station are dependent on the conversion of the facility to natural gas, a compliance date of June 1, 2027, is being set for completion of the conversion.

Controls will be installed and operating no later than 36 months after approval by the United States Environmental Protection Agency (USEPA) of Nevada's determination of reasonable progress towards achieving natural visibility conditions.

[Next slide 10]

A four-factor analysis was updated for Tracy Unit 4 Piñon Pine to reflect the removal of closure. This analysis found that the installation and operating cost of SCR was below the \$10,000 per ton threshold set by NDEP and therefore cost effective.

Pipeline quality natural gas and steam injection are currently used at Tracy Unit 4 Piñon Pine and have been included in this regulation since continued use will control SO₂ and NO_x emissions respectively. These controls have been determined necessary to achieve reasonable progress under the Regional Haze Rule.

Controls will be installed and operating no later than 36 months after approval by the USEPA of Nevada's determination of reasonable progress towards achieving natural visibility conditions.

[Next slide 11]

NDEP Will request public comment on Nevada's 2024 SIP revision in the next month while submittal of the final revision to the USEPA is expected this spring. This submittal date will give the USEPA time to act on Nevada's Regional Haze SIP by December 15, 2025, as required by a consent decree.

[Next slide 12]

Most of the emission reductions expected from Nevada's 2022 Regional Haze State Implementation Plan have not yet been achieved since implementation of additional control measures are dependent on approval of Nevada's 2022 Regional Haze SIP. However, combined NO_x, SO₂, and PM₁₀ emissions from these facilities from 2018 through 2023 show a reduction of 1,818 tpy and are expected to decrease by another 3,192 tpy once emission controls required by Nevada's 2022 RH SIP are implemented.

[Next slide 13]

The RHR requires Nevada to provide an analysis, tracking changes in emissions of visibility-impairing pollutants across the state's entire emissions inventory. Nevada reviewed data from the National Emissions Inventory (NEI), Clean Air Markets Program Data (CAMPD), and the WESTAR-WRAP regional haze technical support system version 3 (TSSv3) to satisfy these requirements. Emission inventory data for the 2018-2022 RH SIP progress report period show that SO₂, and NO_x are the predominant anthropogenic pollutants in Nevada. Data collected by the NEI, seen here, shows a 21% reduction in SO₂ and a 28% reduction in NO_x for the state of Nevada.

[Next slide 14]

Clean Air Markets Program Data shows reductions of 40% in SO₂ and 31% in NO_x. The NEI is a complete statewide inventory of emissions in the state of Nevada while the CAMPD data set focuses on power plant emissions. NDEP found that the bulk of visibility impairing pollutants is made up of natural and non-point sources including dust, wildfires and agriculture.

[Next slide 15]

Visibility impairment for the most and least impaired days for this progress report is calculated using the annual average of the most recent five years of available data (2018-2022) from the Interagency Monitoring of Protected Visual Environments (IMPROVE) network. Jarbidge WA has experienced a slight decline in visibility since the second planning period but has seen an overall net improvement in visibility from the 2000-2004 baseline for both the most impaired and clearest days.

[Next slide 16]

Nevada's 2022 RH SIP outlines the uniform rate of progress (URP) needed to attain natural visibility conditions for the Jarbidge wilderness area. The URP includes an adjustment made to account for visibility impacts from prescribed fire and international emissions. To achieve natural conditions by 2064, the URP glidepath projects visibility during the 20 percent most impaired days must be 8.20 dv or below by 2028. NDEP's 2028 reasonable progress goal (RPG), which includes proposed controls in Nevada's 2022 RH SIP, projects visibility conditions of 7.76 dv for the 20 percent most impaired days and confirms that visibility at Jarbidge WA is on track to achieve natural conditions by 2064. The bottom of this graph confirms that the anticipated visibility projection during the 20 percent clearest days in 2028, of 1.72 deciviews, does not degrade beyond the 2000-2004 observed baseline condition of 2.56 deciviews.

[Next slide 17]

NDEP is currently revising Nevada's 2022 RH SIP with plans on submitting it in early 2025 so that the USEPA can take action on Nevada's SIP by December 15, 2025, as required by a consent decree. Many of the emission reductions required for reasonable progress have not yet been achieved since implementation of additional control measures are dependent on approval of Nevada's 2022 RH SIP. While emissions reductions from regional haze SIP strategies have not yet been realized emissions in the state of Nevada have decreased during the second planning period as reported by the NEI and CAMPD. Visibility at Jarbidge WA has experienced a slight decline since the second planning period but has seen an overall net improvement in visibility since the 2000-2004 baseline for both the most impaired and clearest days. This slight decline is likely associated with increases in wildfire and windblown dust events as evidenced by annual extinction compositions. After the consideration of visibility trends, emission data, and the expectation of additional emissions reductions from control measures, NDEP has determined that Nevada's 2022 RH SIP with the 2024 RH SIP Revision is adequate to achieve the 2028 reasonable progress goals and no further revision is necessary.

[Next slide 18]

At this time, I would like to open the meeting to questions and public comments on Nevada's Regional Haze Progress Report. If you have a question or wish to make a comment, please raise your hand and we will call on you one at a time. Those joining remotely you can type your question or comment into the chat, or you can raise your hand by clicking on the hand icon or if you are calling in by phone you can raise your hand by pressing *5.

COMMENTS AND QUESTIONS

There were no questions or comments regarding Nevada's Regional Haze Progress Report for the Second Planning Period.

CLOSING REMARKS AND ADJOURMENT

Mr. McIntyre asked if there were any other comments or questions, there being none, Mr. McIntyre thanked everyone for their time and participation in the public workshop and the meeting was adjourned at 10:18 AM.



NEVADA DIVISION OF
**ENVIRONMENTAL
PROTECTION**



Nevada Department of
**CONSERVATION &
NATURAL RESOURCES**

Public Hearing

Hearing to Solicit Comments on Nevada's
Regional Haze Progress Report for the
Second Planning Period

January 21st, 2025

Presented by

Ken McIntyre
Nicholas Schlafer

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AGENDA

1. Welcome, introductions.
2. Review of the Regional Haze Rule.
3. Nevada's 2022 Regional Haze State Implementation Plan (SIP).
4. Status of Nevada's SIP revision.
5. Nevada's Regional Haze Progress Report.
6. Public comments and questions on Nevada's Progress Report.
7. Adjourn

THE REGIONAL HAZE RULE

- In 1999, the USEPA announced a major effort to improve air quality in national parks and wilderness areas. The Regional Haze Rule (RHR) calls for state and federal agencies to work together to improve visibility in 156 national parks and wilderness areas.
- In Nevada, there is one designated Class I area, the Jarbidge Wilderness Area (WA) in the northeast corner of the State.
- Visibility and sources of impairment at each Class I area are reviewed as part of the RHR. The primary visibility impairing pollutants are:
 - Oxides of Nitrogen (NO_x)
 - Volatile Organic Compounds (VOC)
 - Sulfur Dioxide (SO₂)
 - Course Particulate Matter (PM₁₀)
 - Ammonia (NH₃)
 - Fine Particulate Matter (PM_{2.5})

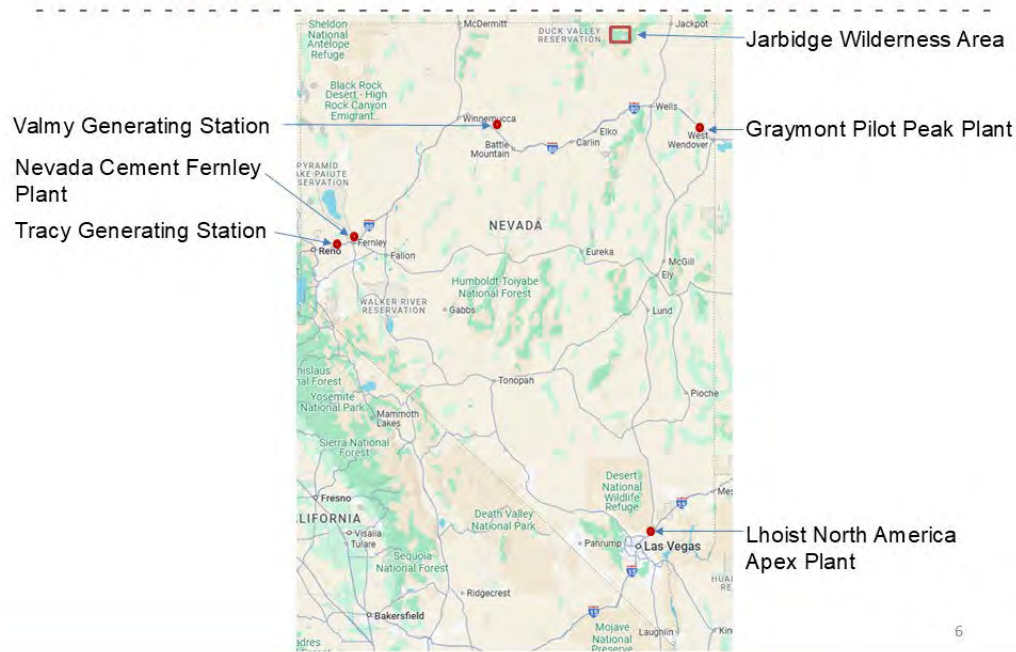
NEVADA'S 2022 REGIONAL HAZE SIP

- NDEP coordinated with, and requested input from, many interested parties to develop the 2022 Regional Haze (RH) SIP and reduce visibility impairment.
 - USEPA
 - National Park Service
 - U.S. Fish and Wildlife Service
 - U.S. Forest Service
 - Bureau of Land Management
 - Local governments
 - NV Energy
 - Other facilities impacted by the RHR
 - Conservation groups
 - The public

NEVADA'S 2022 REGIONAL HAZE SIP

- All states are required to submit periodic updates to their Regional Haze SIP.
 - Nevada submitted its Regional Haze SIP for the 2nd planning period in August 2022.
- As part of this process NDEP worked with affected facilities to complete a four-factor analysis and analyze how they could reduce emissions and comply with the RHR.
 - North Valmy Generating Station
 - Tracy Generating Station
 - Lhoist North America Apex Plant
 - Graymont Pilot Peak Plant
 - Nevada Cement Fernley Plant

NEVADA'S 2022 REGIONAL HAZE SIP



NEVADA'S 2022 REGIONAL HAZE SIP

To achieve reasonable progress, the following controls were required

- North Valmy Generating Station
 - Existing use of current controls
 - Permanent closure by December 31, 2028 (both units)
- Tracy Generating Station
 - Existing use of current controls
 - Permanent closure of Tracy Unit 4 Piñon Pine by December 31, 2031
- Lhoist North America Apex Plant
 - Existing use of current controls
 - Installation of Low NO_x Burners and Selective Non-Catalytic Reduction
- Graymont Pilot Peak Plant
 - Existing use of current controls

CHANGES TO NEVADA'S 2022 REGIONAL HAZE SIP

- NV Energy notified NDEP of plans to amend its Integrated Resource Plan (IRP) July 13, 2023.
 - Removed closure of North Valmy and Tracy Unit 4 Piñon Pine.
 - Convert North Valmy to be powered by natural gas instead of coal.
 - Pursue modifications and appropriate emissions controls at these units.
- Nevada's 2022 Regional Haze SIP partially withdrawn July 27, 2023.
- NV Energy's IRP was approved by Nevada's Public Utilities Commission March 1, 2024.

CHANGES TO NORTH VALMY GENERATING STATION

- A four-factor analysis was updated for both units.
- SO₂ and PM₁₀ emissions effectively controlled by conversion to natural gas.
- Selective non-catalytic reduction (SNCR) and flue gas recirculation (FGR) were found to be cost effective emission controls for Nitrogen Oxides (NO_x).
- Selective catalytic reduction (SCR) was above the \$10,000 cost per ton.
- A compliance date of June 1, 2027, set for completion of the conversion to natural gas.
- Controls must be installed and operating no later than 36 months after SIP approval by the United States Environmental Protection Agency (USEPA).

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CHANGES TO TRACY GENERATING STATION

- A four-factor analysis was updated for Unit 4 Piñon Pine.
- SCR was found to be cost effective emission control NO_x.
- Existing controls required for reasonable progress.
 - Pipeline quality natural gas for control of SO₂ and PM₁₀ emissions.
 - Steam injection for control of NO_x emissions.
- Controls must be installed and operating no later than 36 months after SIP approval by the United States Environmental Protection Agency (USEPA).

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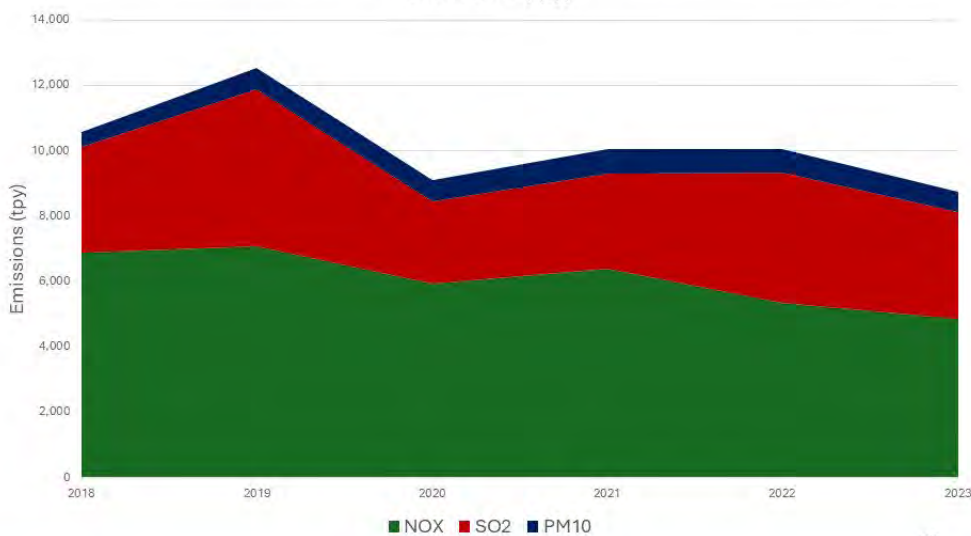
NEVADA'S 2024 REGIONAL HAZE SIP REVISION

- NDEP will request public comment on Nevada's 2024 SIP revision in the next month.
- Submittal of the revision to the USEPA is expected this spring.
- The USEPA must act on Nevada's Regional Haze SIP by December 15, 2025, as required by a consent decree.

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NEVADA'S PROGRESS REPORT

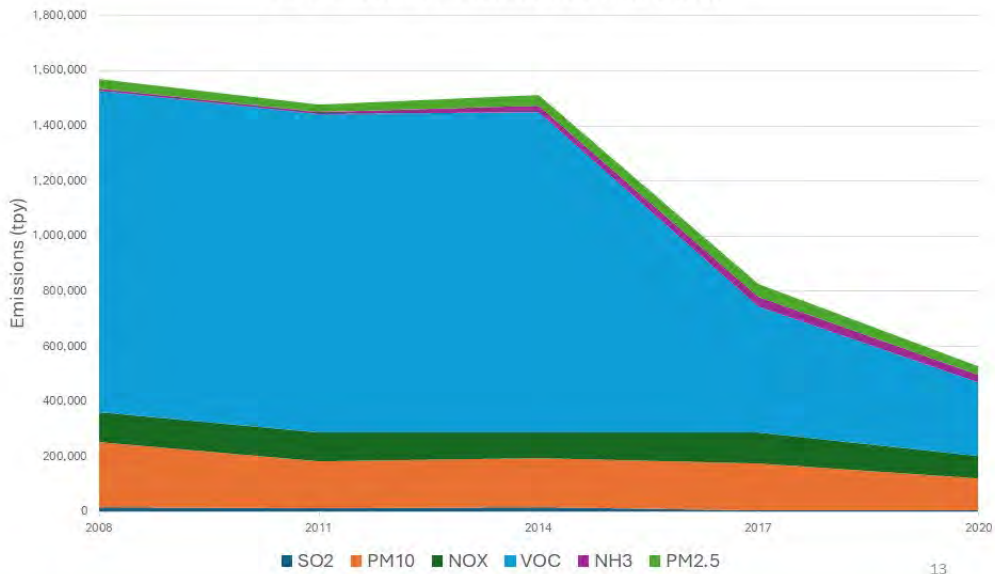
Emissions from Facilities Selected During the Second Planning Period
2018-2022 (tpy)



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NEVADA'S PROGRESS REPORT

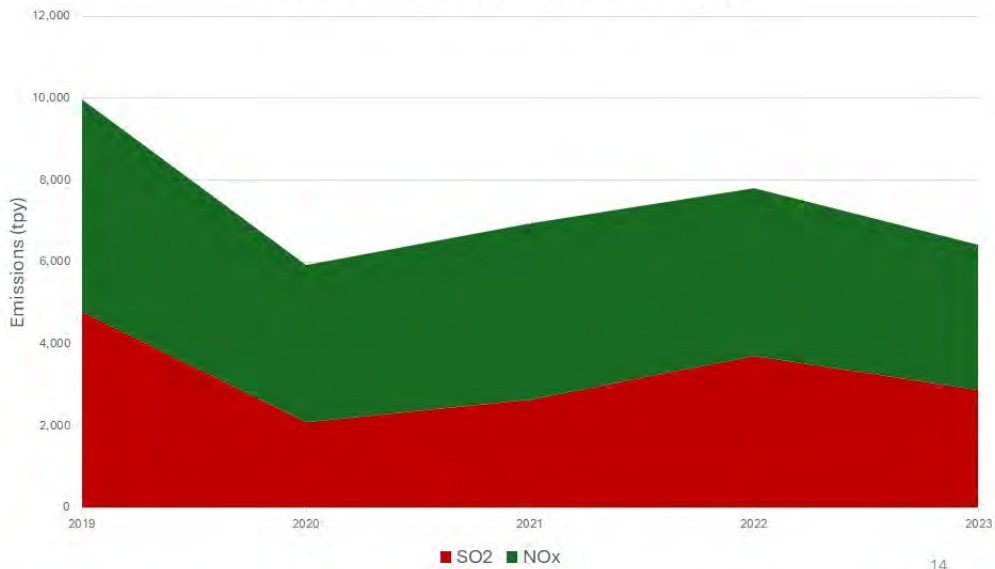
NEI Emissions in Nevada 2008-2020 (tpy)



13

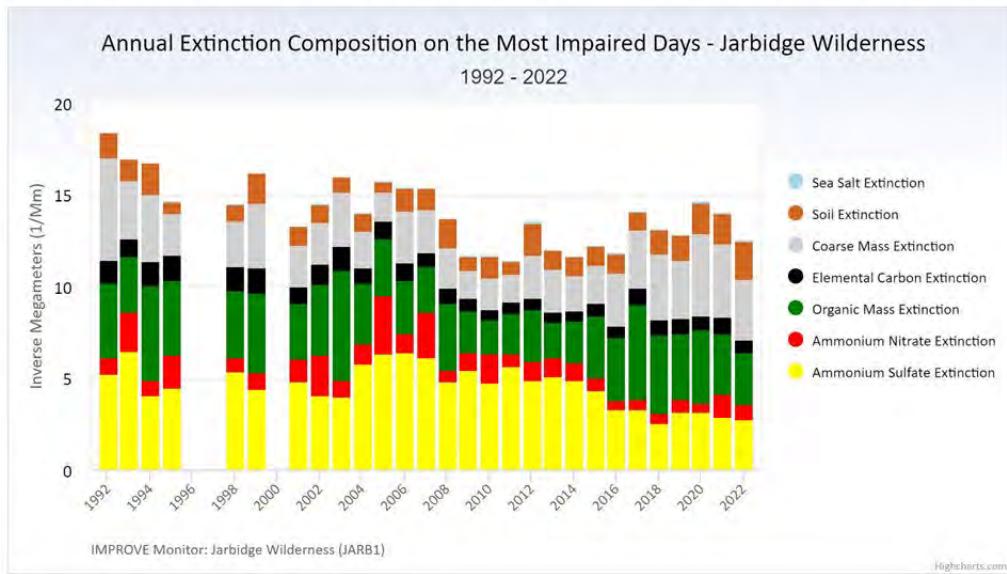
NEVADA'S PROGRESS REPORT

CAMPD Emissions in Nevada 2019-2023 (tpy)

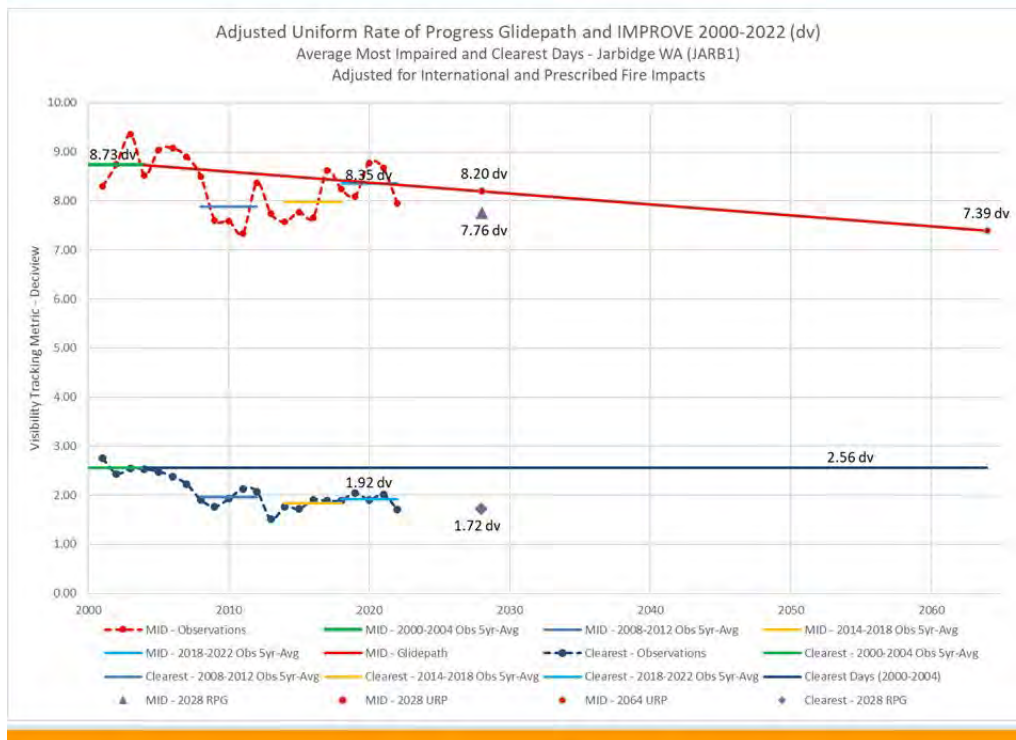


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NEVADA'S PROGRESS REPORT



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CONCLUSION



- Currently Revising Nevada's 2022 Regional Haze SIP.
- Emissions reductions from regional haze SIP strategies have not yet been fully realized.
- Emissions in Nevada have decreased during the second planning period as reported by the NEI and CAMPD.
- Visibility at Jarbidge WA has experienced a slight decline since the second planning period but has seen an overall net improvement in visibility since the 2000-2004 baseline
- Nevada is on track to meet visibility goals by 2028 and natural conditions by 2064.

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NEVADA'S REGIONAL HAZE PROGRESS REPORT FOR THE SECOND PLANNING PERIOD

Public Comments and Questions
on Nevada's Regional Haze
Progress Report



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Questions?



Contact

Andrew Tucker

Chief, Bureau of Air Quality Planning

Phone: 775-687-9340

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Appendix D: Environmental Justice Screening Tool Reports

D1: Tracy Generating Station

D2: North Valmy Generating Station

D3: Nevada Cement Fernley Plant

D4: Lhoist North America Apex Plant

D5: TS Power Plant

D6: Graymont Pilot Peak Plant

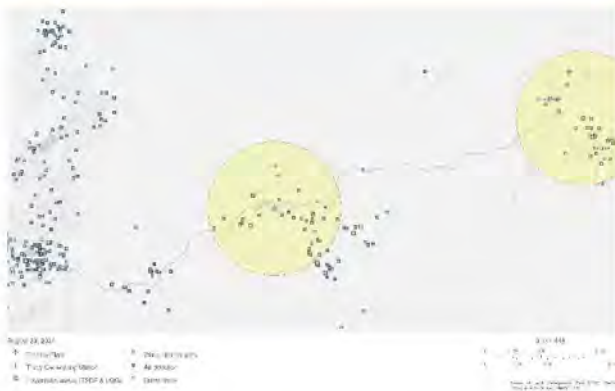


EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Tracy Generating Station

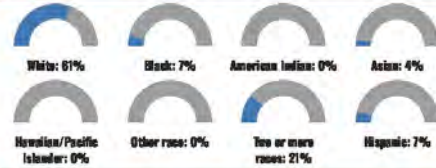
3 miles Ring Centered at 39.561236,-119.522324
 Population: 12
 Area in square miles: 28.27



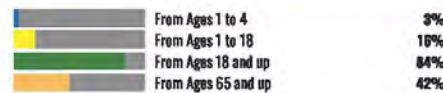
COMMUNITY INFORMATION



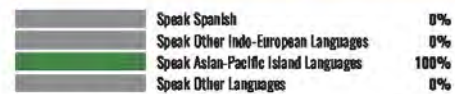
BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Note: Number may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 3 miles Ring Centered at 39.561236,-119.522324
 Report produced August 29, 2024 using EJScreen Version 2.3

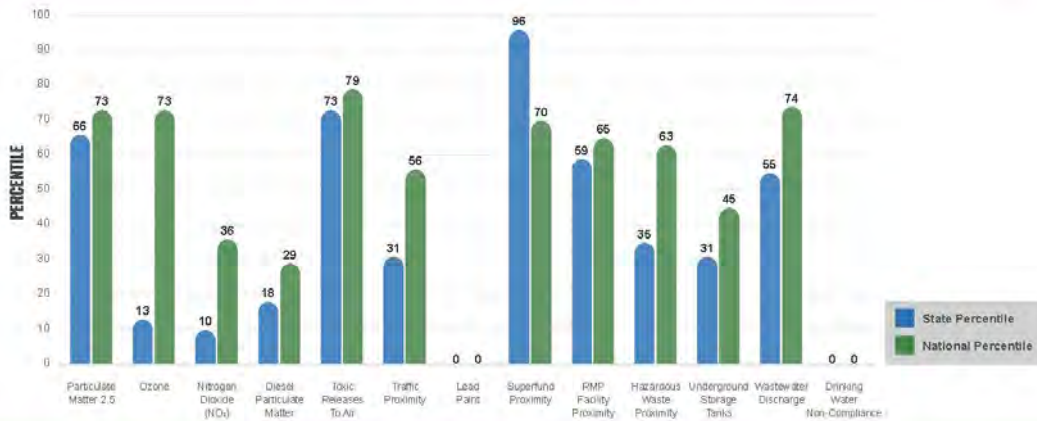
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

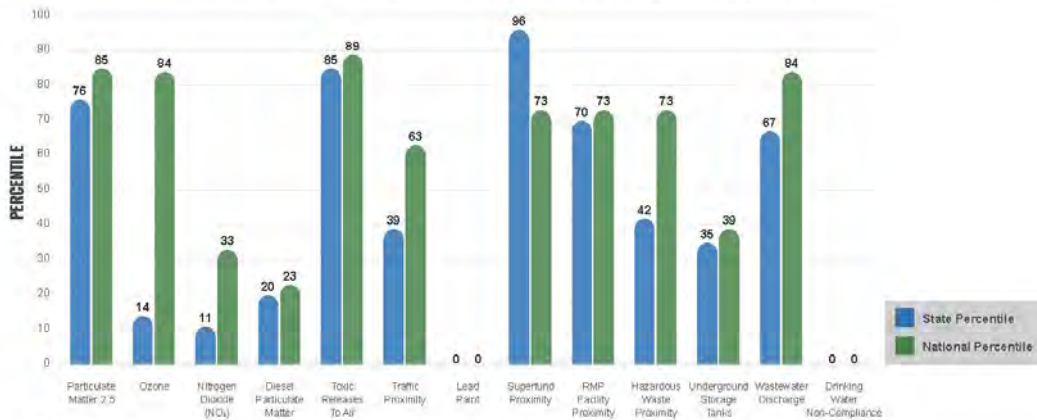
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 3 miles Ring Centered at 39.561236, -119.522324
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.6	8.15	84	8.45	84
Ozone (ppb)	66.9	69.2	9	61.8	78
Nitrogen Dioxide (NO ₂) (ppbv)	5.1	10	6	7.8	24
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0743	0.388	13	0.191	18
Toxic Releases to Air (toxicity-weighted concentration)	13,000	1,400	97	4,600	94
Traffic Proximity (daily traffic count/distance to road)	830,000	1,800,000	28	1,700,000	50
Lead Paint (% Pre-1960 Housing)	0	0.063	0	0.3	0
Superfund Proximity (site count/km distance)	0.057	0.11	90	0.39	56
RMP Facility Proximity (facility count/km distance)	0.53	0.4	70	0.57	65
Hazardous Waste Proximity (facility count/km distance)	2.3	3.3	32	3.5	62
Underground Storage Tanks (count/km ²)	0.03	3.2	24	3.6	29
Wastewater Discharge (toxicity-weighted concentration/m distance)	3200	30000	68	700000	82
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.19	N/A	N/A	1.34	51
Supplemental Demographic Index USA	1.76	N/A	N/A	1.64	62
Demographic Index State	1.36	1.81	35	N/A	N/A
Supplemental Demographic Index State	1.42	1.44	54	N/A	N/A
People of Color	39%	51%	35	40%	57
Low Income	24%	32%	41	30%	45
Unemployment Rate	0%	7%	0	6%	0
Limited English Speaking Households	3%	6%	56	5%	68
Less Than High School Education	12%	14%	56	11%	66
Under Age 5	3%	5%	35	5%	33
Over Age 64	42%	18%	94	18%	96

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-quality/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	1
Water Dischargers	50
Air Pollution	7
Brownfields	0
Toxic Release Inventory	7

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST) disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 3 miles Ring Centered at 39.561236, -119.522324
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	20%	18	20%	30
Heart Disease	6.6	5.7	78	5.8	69
Asthma	9.7	10.1	37	10.3	34
Cancer	8.3	6	88	6.4	88
Persons with Disabilities	22.9%	13.7%	92	13.7%	92

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	28%	6%	97	12%	90
Wildfire Risk	80%	33%	69	14%	89

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	15%	12%	66	13%	65
Lack of Health Insurance	7%	12%	28	9%	51
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 3 miles Ring Centered at 39.561236, -119.522324

Report produced August 29, 2024 using EJScreen Version 2.3

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

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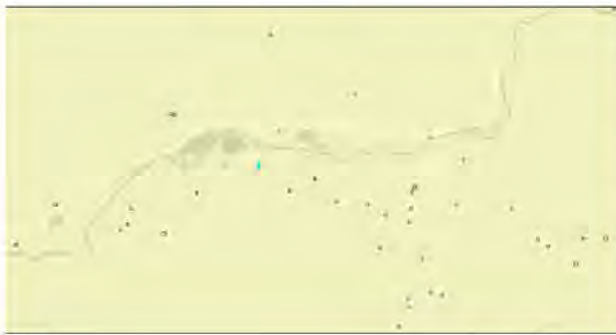


EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Tracy Generating Station

10 miles Ring Centered at 39.561238,-119.522442
Population: 30,143
Area in square miles: 314.03

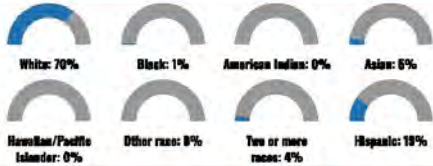


August 28, 2024
Tracy Generating Station
10-mile ring centered at 39.561238, -119.522442
Map scale: 1:100,000
Map data: © OpenStreetMap contributors, Imagery © Mapbox

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS), 2018-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	85%
Spanish	9%
Chinese (including Mandarin, Cantonese)	1%
Vietnamese	1%
Tagalog (including Filipino)	2%
Other and Unspecified	1%
Total Non-English	15%

Report for 10 miles Ring Centered at 39.561238,-119.522442
Report produced August 29, 2024 using EJScreen Version 2.3

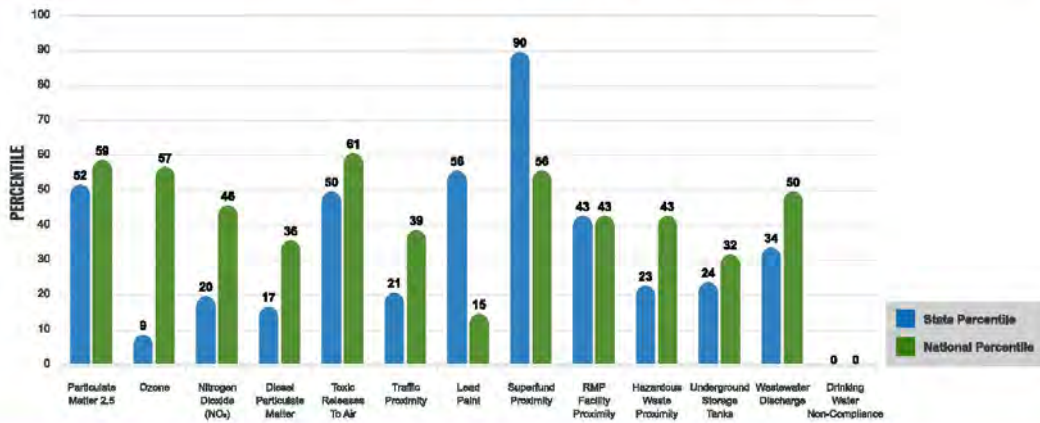
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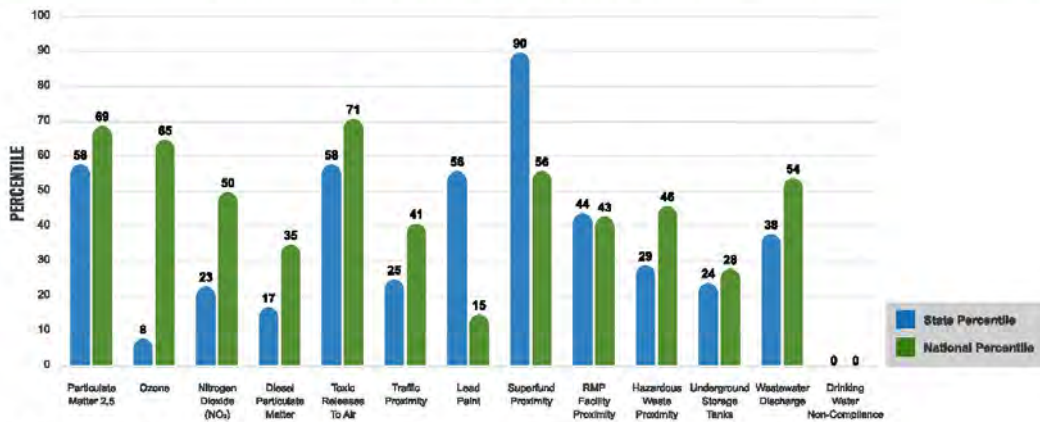
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 39.561238,-119.522442
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	10.2	8.15	94	8.45	88
Ozone (ppb)	67	69.2	9	61.8	78
Nitrogen Dioxide (NO ₂) (ppbv)	8.4	10	17	7.8	58
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.128	0.388	19	0.191	39
Toxic Releases to Air (toxicity-weighted concentration)	7,600	1,400	95	4,600	90
Traffic Proximity (daily traffic count/distance to road)	710,000	1,800,000	25	1,700,000	47
Lead Paint (% Pre-1960 Housing)	0.0057	0.063	57	0.3	15
Superfund Proximity (site count/km distance)	0.0021	0.11	90	0.39	56
RMP Facility Proximity (facility count/km distance)	0.33	0.4	60	0.57	54
Hazardous Waste Proximity (facility count/km distance)	1.8	3.3	26	3.5	56
Underground Storage Tanks (count/km ²)	0.62	3.2	34	3.6	46
Wastewater Discharge (toxicity-weighted concentration/m distance)	1300	30000	60	700000	75
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	0.72	N/A	N/A	1.34	27
Supplemental Demographic Index USA	1.18	N/A	N/A	1.64	27
Demographic Index State	0.85	1.81	14	N/A	N/A
Supplemental Demographic Index State	0.81	1.44	17	N/A	N/A
People of Color	30%	51%	23	40%	48
Low Income	10%	32%	12	30%	18
Unemployment Rate	4%	7%	36	6%	50
Limited English Speaking Households	1%	6%	42	5%	59
Less Than High School Education	5%	14%	30	11%	39
Under Age 5	6%	5%	62	5%	61
Over Age 64	22%	18%	73	18%	70

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	6
Water Dischargers	133
Air Pollution	12
Brownfields	2
Toxic Release Inventory	18

Other community features within defined area:

Schools	5
Hospitals	5
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 10 miles Ring Centered at 39.581238,-119.522442
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	18%	20%	25	20%	39
Heart Disease	4.4	5.7	23	5.8	24
Asthma	9.6	10.1	36	10.3	33
Cancer	6.5	6	66	6.4	49
Persons with Disabilities	12.4%	13.7%	45	13.7%	47

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	6%	70	12%	45
Wildfire Risk	93%	33%	75	14%	91

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	4%	12%	26	13%	25
Lack of Health Insurance	4%	12%	10	9%	30
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

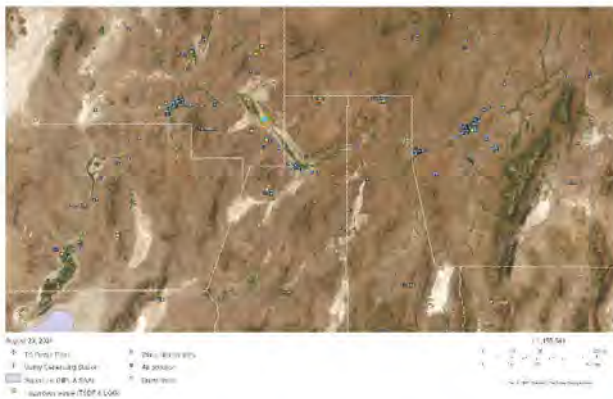
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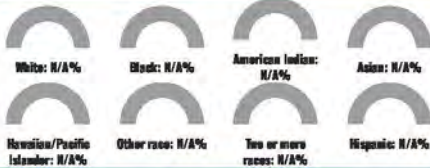
The area is too small or sparsely populated, or these data are not available in the national dataset. Cannot generate an EJScreen chart or report.



COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Note: Number may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 3 miles Ring Centered at 40.882371,-117.152710
 Report produced August 29, 2024 using EJScreen Version 2.3

Environmental Justice & Supplemental Indexes

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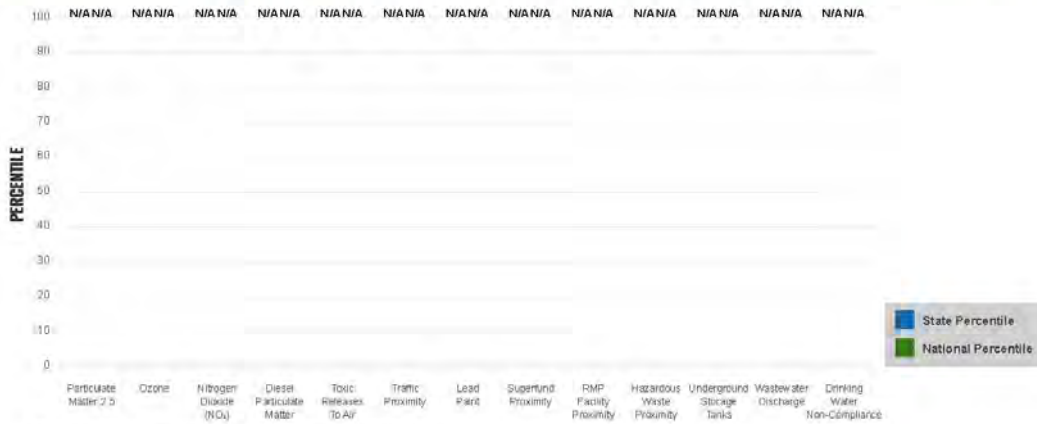
EJ INDEXES FOR THE SELECTED LOCATION



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SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



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EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m³)	XX	XX	XX	XX	XX
Ozone (ppb)	XX	XX	XX	XX	XX
Nitrogen Dioxide (NO ₂) (ppbv)	XX	XX	XX	XX	XX
Diesel Particulate Matter (µg/m³)	XX	XX	XX	XX	XX
Toxic Releases to Air (toxicity-weighted concentration)	XX	XX	XX	XX	XX
Traffic Proximity (daily traffic count/distance to road)	XX	XX	XX	XX	XX
Lead Paint (% Pre-1960 Housing)	XX	XX	XX	XX	XX
Superfund Proximity (site count/km distance)	XX	XX	XX	XX	XX
RMP Facility Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Hazardous Waste Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Underground Storage Tanks (count/km²)	XX	XX	XX	XX	XX
Wastewater Discharge (toxicity-weighted concentration/m distance)	XX	XX	XX	XX	XX
Drinking Water Non-Compliance (points)	XX	XX	XX	XX	XX
SOCIOECONOMIC INDICATORS					
Demographic Index USA	XX%	N/A	N/A	XX%	XX
Supplemental Demographic Index USA	XX%	N/A	N/A	XX%	XX
Demographic Index State	XX%	XX%	XX	N/A	N/A
Supplemental Demographic Index State	XX%	XX%	XX	N/A	N/A
People of Color	N/A	XX%	XX	XX%	XX
Low Income	XX%	XX%	XX	XX%	XX
Unemployment Rate	XX%	XX%	XX	XX%	XX
Limited English Speaking Households	XX%	XX%	XX	XX%	XX
Less Than High School Education	XX%	XX%	XX	XX%	XX
Under Age 5	XX%	XX%	XX	XX%	XX
Over Age 64	XX%	XX%	XX	XX%	XX

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	XX
Hazardous Waste, Treatment, Storage, and Disposal Facilities	XX
Water Dischargers	XX
Air Pollution	XX
Brownfields	XX
Toxic Release Inventory	XX

Other community features within defined area:

Schools	XX
Hospitals	XX
Places of Worship	XX

Other environmental data:

Air Non-attainment	XX
Impaired Waters	XX

Selected location contains American Indian Reservation Lands*	XX
Selected location contains a "Justice40 (CEJST)" disadvantaged community	XX
Selected location contains an EPA IRA disadvantaged community	XX

Report for 3 miles Ring Centered at 40.882371, -117.152710
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	XX	XX	XX	XX	XX
Heart Disease	XX	XX	XX	XX	XX
Asthma	XX	XX	XX	XX	XX
Cancer	XX	XX	XX	XX	XX
Persons with Disabilities	XX	XX	XX	XX	XX

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	XX	XX	XX	XX	XX
Wildfire Risk	XX	XX	XX	XX	XX

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	XX	XX	XX	XX	XX
Lack of Health Insurance	XX	XX	XX	XX	XX
Housing Burden	XX	N/A	N/A	N/A	N/A
Transportation Access Burden	XX	N/A	N/A	N/A	N/A
Food Desert	XX	N/A	N/A	N/A	N/A

*Report for 3 miles Ring Centered at 40.882371,-117.152710
 Report produced August 29, 2024 using EJScreen Version 2.3*

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

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EJScreen Community Report

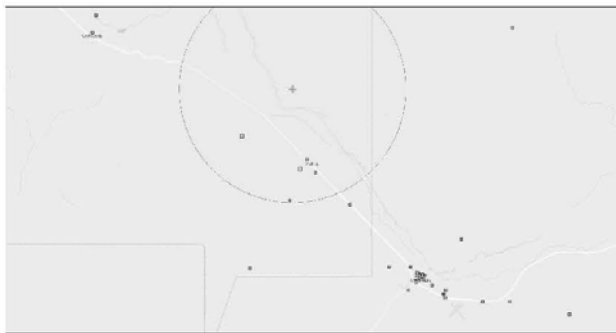
This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

North Valmy GS

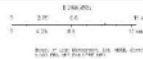
10 miles Ring Centered at 40.881600,-117.152100

Population: 58

Area in square miles: 314.03



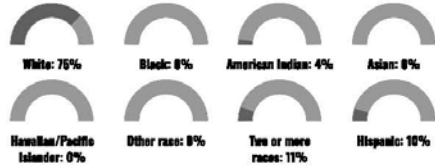
- August 29, 2024
- North Valmy GS
- 10-mile ring centered at 40.881600, -117.152100
- Water discharge
- Air pollution
- Recreation



COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2016-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 10 miles Ring Centered at 40.881600,-117.152100
Report produced August 29, 2024 using EJScreen Version 2.3

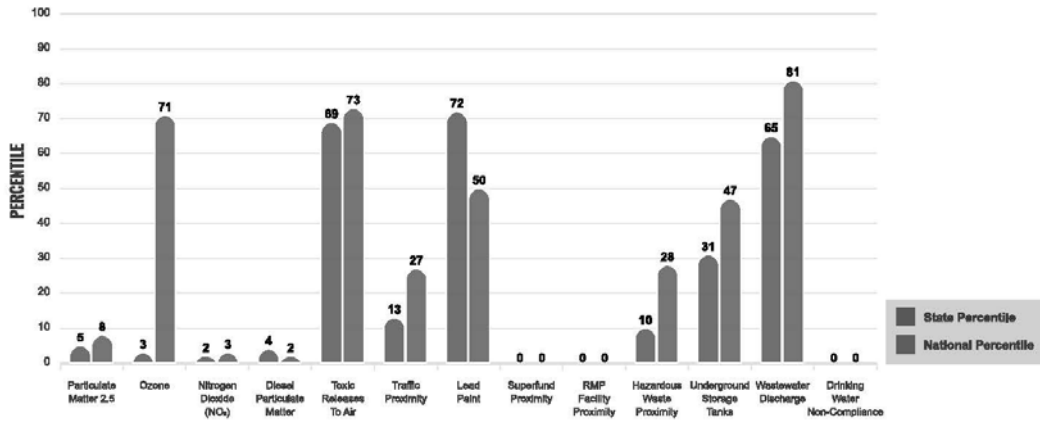
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The Indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

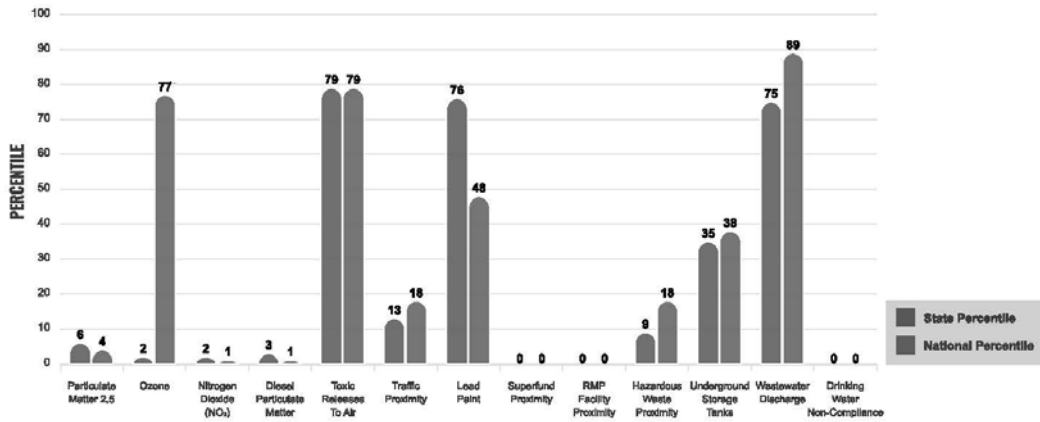
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 40.881800,-117.152100
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m³)	5.71	8.15	4	8.45	3
Ozone (ppb)	63.5	69.2	1	61.8	64
Nitrogen Dioxide (NO ₂) (ppbv)	1.8	10	1	7.8	1
Diesel Particulate Matter (µg/m³)	0.018	0.388	2	0.191	0
Toxic Releases to Air (toxicity-weighted concentration)	7,500	1,400	95	4,600	90
Traffic Proximity (daily traffic count/distance to road)	69,000	1,800,000	7	1,700,000	14
Lead Paint (% Pre-1960 Housing)	0.14	0.063	87	0.3	41
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0	0.4	0	0.57	0
Hazardous Waste Proximity (facility count/km distance)	0.075	3.3	6	3.5	16
Underground Storage Tanks (count/km ²)	0.013	3.2	23	3.6	28
Wastewater Discharge (toxicity-weighted concentration/m distance)	21000	30000	81	700000	91
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.36	N/A	N/A	1.34	58
Supplemental Demographic Index USA	1.81	N/A	N/A	1.64	65
Demographic Index State	1.5	1.81	40	N/A	N/A
Supplemental Demographic Index State	1.47	1.44	56	N/A	N/A
People of Color	25%	51%	17	40%	43
Low Income	41%	32%	68	30%	71
Unemployment Rate	7%	7%	59	6%	71
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	12%	14%	55	11%	65
Under Age 5	6%	5%	60	5%	60
Over Age 64	19%	18%	67	18%	62

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	2
Water Dischargers	5
Air Pollution	2
Brownfields	0
Toxic Release Inventory	3

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 10 miles Ring Centered at 40.881600,-117.152100
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	20%	59	20%	67
Heart Disease	6.9	5.7	82	5.8	75
Asthma	10.7	10.1	77	10.3	64
Cancer	6.5	6	66	6.4	49
Persons with Disabilities	16.7%	13.7%	74	13.7%	73

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	7%	6%	76	12%	53
Wildfire Risk	92%	33%	74	14%	91

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	5%	12%	33	13%	32
Lack of Health Insurance	12%	12%	59	9%	77
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 10 miles Ring Centered at 40.881600,-117.152100
 Report produced August 29, 2024 using EJScreen Version 2.3



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Fernley Plant

3 miles Ring Centered at 39.619840,-119.262175
 Population: 13,825
 Area in square miles: 28.27

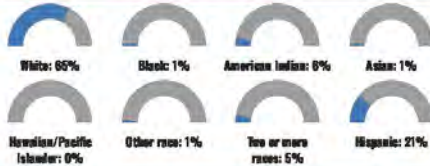


Map ID: 28.27
 39.619840, -119.262175
 28.27
 13,825
 28.27
 39.619840, -119.262175

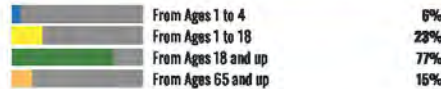
COMMUNITY INFORMATION



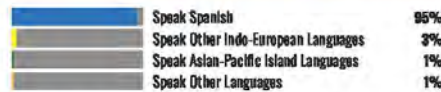
BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Note: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	89%
Spanish	9%
Other and Unspecified	1%
Total Non-English	11%

Report for 3 miles Ring Centered at 39.619840,-119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3

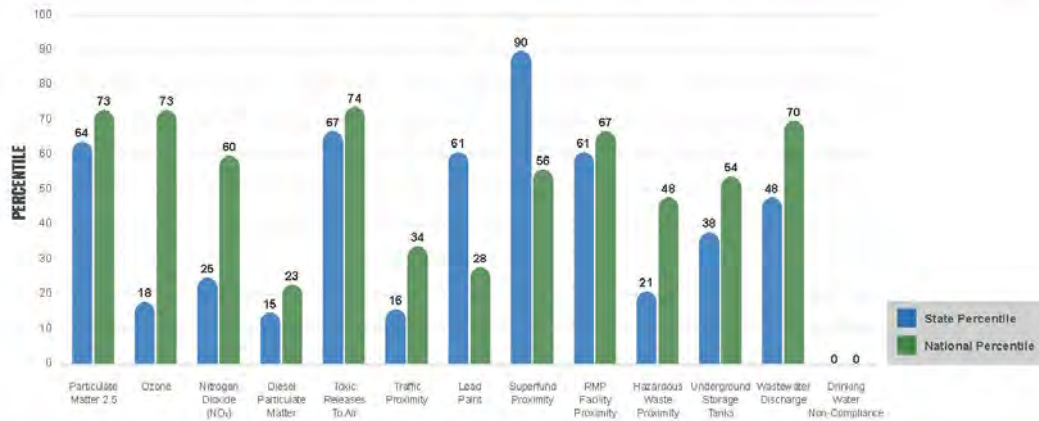
Environmental Justice & Supplemental Indexes

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EJ INDEXES

The EJ Indexes help users screen for potential EJ concerns. To do this, the EJ Index combines data on low income and people of color populations with a single environmental indicator.

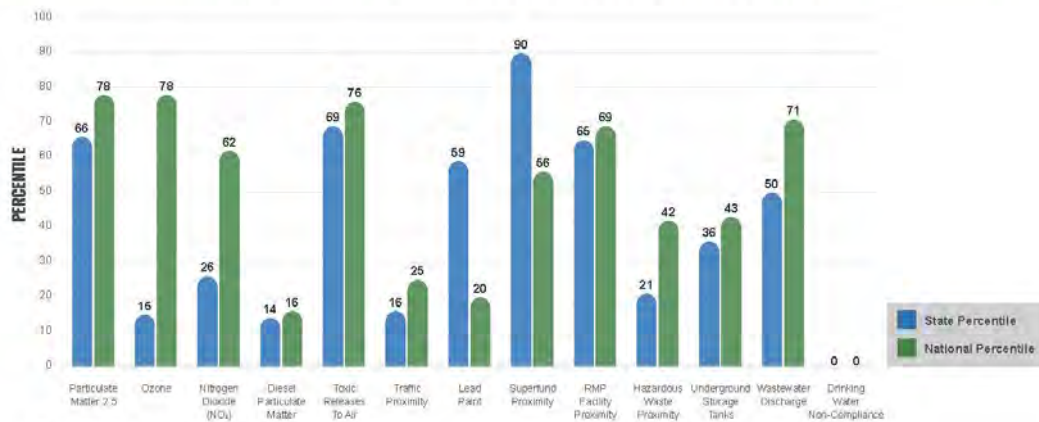
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 3 miles Ring Centered at 39.619840,-119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.53	8.15	82	8.45	83
Ozone (ppb)	67.1	69.2	10	61.8	78
Nitrogen Dioxide (NO ₂) (ppbv)	8.5	10	18	7.8	60
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.067	0.388	12	0.191	15
Toxic Releases to Air (toxicity-weighted concentration)	3,500	1,400	85	4,600	81
Traffic Proximity (daily traffic count/distance to road)	170,000	1,800,000	12	1,700,000	23
Lead Paint (% Pre-1960 Housing)	0.04	0.063	73	0.3	24
Superfund Proximity (site count/km distance)	0.0026	0.11	90	0.39	56
RMP Facility Proximity (facility count/km distance)	0.69	0.4	79	0.57	71
Hazardous Waste Proximity (facility count/km distance)	0.65	3.3	16	3.5	37
Underground Storage Tanks (count/km ²)	1.1	3.2	41	3.6	53
Wastewater Discharge (toxicity-weighted concentration/m distance)	700	30000	54	700000	71
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.2	N/A	N/A	1.34	52
Supplemental Demographic Index USA	1.51	N/A	N/A	1.64	48
Demographic Index State	1.36	1.81	35	N/A	N/A
Supplemental Demographic Index State	1.15	1.44	40	N/A	N/A
People of Color	35%	51%	29	40%	53
Low Income	28%	32%	48	30%	51
Unemployment Rate	7%	7%	61	6%	73
Limited English Speaking Households	2%	6%	47	5%	63
Less Than High School Education	11%	14%	52	11%	61
Under Age 5	6%	5%	65	5%	65
Over Age 64	15%	18%	55	18%	47

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-quality/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	1
Water Dischargers	36
Air Pollution	3
Brownfields	27
Toxic Release Inventory	6

Other community features within defined area:

Schools	5
Hospitals	1
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a "Justice40 (CEJST) disadvantaged community"	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 3 miles Ring Centered at 39.619840, -119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	16%	20%	10	20%	19
Heart Disease	6	5.7	64	5.8	56
Asthma	10.6	10.1	73	10.3	61
Cancer	6.5	6	70	6.4	51
Persons with Disabilities	12.5%	13.7%	46	13.7%	47

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	4%	6%	65	12%	38
Wildfire Risk	95%	33%	77	14%	92

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	13%	12%	63	13%	61
Lack of Health Insurance	11%	12%	50	9%	70
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 3 miles Ring Centered at 39.619840, -119.262175

Report produced August 29, 2024 using EJScreen Version 2.3

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

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EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Fernley Plant

10 miles Ring Centered at 39.619840,-119.262175

Population: 24,666

Area in square miles: 314.03



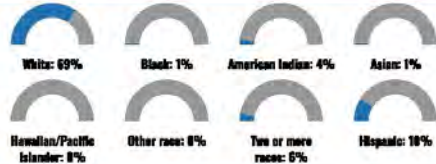
August 28, 2024
Fernley Plant
10 miles ring centered at 39.619840, -119.262175
Map data © OpenStreetMap contributors, Imagery © Mapbox

Scale: 1:100,000
Map data © OpenStreetMap contributors, Imagery © Mapbox

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS), 2018-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	87%
Spanish	11%
Other Indo-European	1%
Total Non-English	13%

Report for 10 miles Ring Centered at 39.619840,-119.262175
Report produced August 29, 2024 using EJScreen Version 2.3

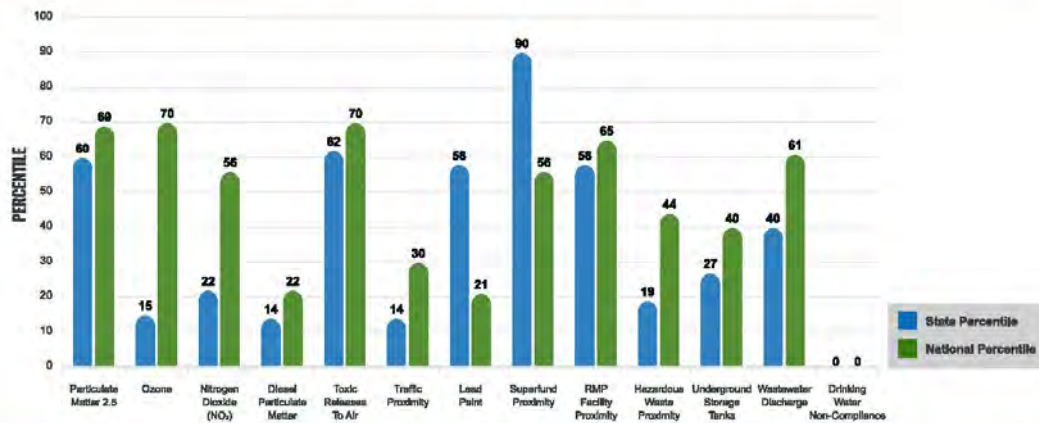
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EJ INDEXES

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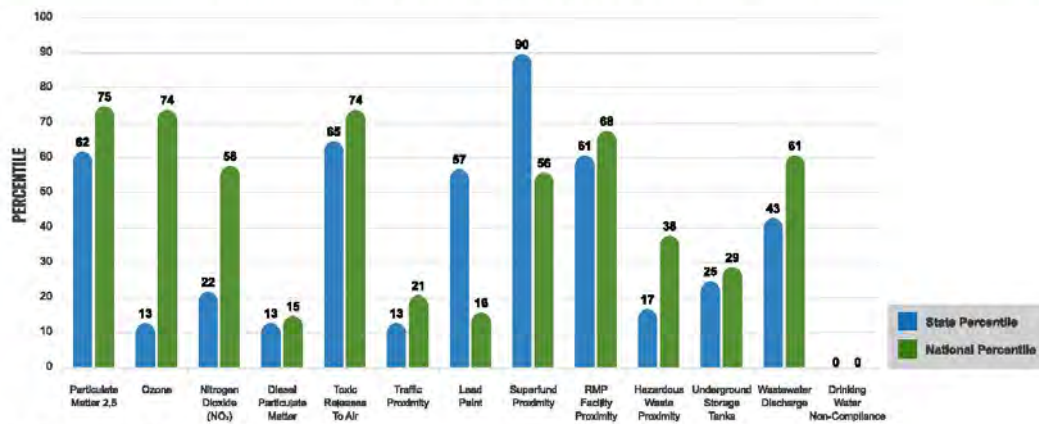
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 39.619840,-119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	9.53	8.15	82	8.45	83
Ozone (ppb)	67	69.2	10	61.8	78
Nitrogen Dioxide (NO ₂) (ppbv)	8.3	10	17	7.8	58
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0685	0.388	12	0.191	15
Toxic Releases to Air (toxicity-weighted concentration)	3,400	1,400	85	4,600	81
Traffic Proximity (daily traffic count/distance to road)	140,000	1,800,000	11	1,700,000	21
Lead Paint (% Pre-1960 Housing)	0.024	0.063	66	0.3	20
Superfund Proximity (site count/km distance)	0.007	0.11	90	0.39	56
RMP Facility Proximity (facility count/km distance)	0.81	0.4	83	0.57	76
Hazardous Waste Proximity (facility count/km distance)	0.58	3.3	15	3.5	36
Underground Storage Tanks (count/km ²)	0.6	3.2	33	3.6	46
Wastewater Discharge (toxicity-weighted concentration/m distance)	520	30000	53	700000	69
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.08	N/A	N/A	1.34	46
Supplemental Demographic Index USA	1.41	N/A	N/A	1.64	41
Demographic Index State	1.22	1.81	29	N/A	N/A
Supplemental Demographic Index State	1.03	1.44	32	N/A	N/A
People of Color	31%	51%	24	40%	50
Low Income	25%	32%	42	30%	46
Unemployment Rate	6%	7%	49	6%	64
Limited English Speaking Households	1%	6%	43	5%	59
Less Than High School Education	11%	14%	52	11%	61
Under Age 5	6%	5%	60	5%	60
Over Age 64	15%	18%	53	18%	46

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	2
Water Dischargers	61
Air Pollution	8
Brownfields	38
Toxic Release Inventory	16

Other community features within defined area:

Schools	8
Hospitals	1
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 10 miles Ring Centered at 39.619840,-119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	16%	20%	10	20%	19
Heart Disease	5.6	5.7	56	5.8	50
Asthma	10.3	10.1	68	10.3	55
Cancer	6.5	6	70	6.4	51
Persons with Disabilities	12.7%	13.7%	47	13.7%	49

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	3%	6%	60	12%	32
Wildfire Risk	92%	33%	74	14%	91

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	12%	12%	60	13%	58
Lack of Health Insurance	10%	12%	47	9%	68
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 10 miles Ring Centered at 39.619840,-119.262175
 Report produced August 29, 2024 using EJScreen Version 2.3



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

The area is too small or sparsely populated, or these data are not available in the national dataset. Cannot generate an EJScreen chart or report.



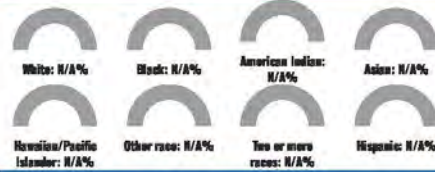
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 User: [unreadable]
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Scale: 1:1000
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COMMUNITY INFORMATION



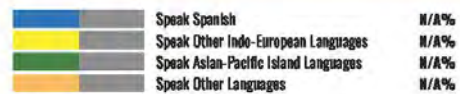
BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Note: Number may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 3 miles Ring Centered at 36.357707,-114.910754
 Report produced August 29, 2024 using EJScreen Version 2.3

Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

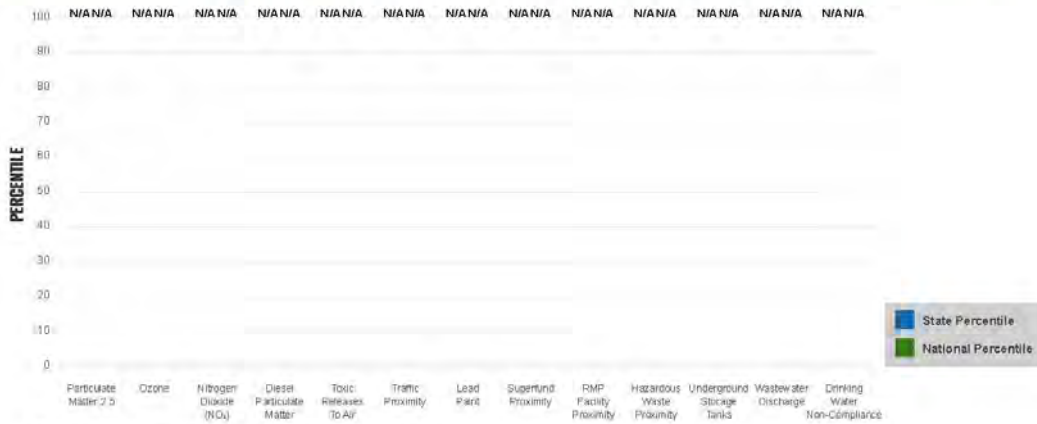
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 3 miles Ring Centered at 36.357707,-114.910754
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Ozone (ppb)	XX	XX	XX	XX	XX
Nitrogen Dioxide (NO ₂) (ppbv)	XX	XX	XX	XX	XX
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Toxic Releases to Air (toxicity-weighted concentration)	XX	XX	XX	XX	XX
Traffic Proximity (daily traffic count/distance to road)	XX	XX	XX	XX	XX
Lead Paint (% Pre-1960 Housing)	XX	XX	XX	XX	XX
Superfund Proximity (site count/km distance)	XX	XX	XX	XX	XX
RMP Facility Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Hazardous Waste Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Underground Storage Tanks (count/km ²)	XX	XX	XX	XX	XX
Wastewater Discharge (toxicity-weighted concentration/m distance)	XX	XX	XX	XX	XX
Drinking Water Non-Compliance (points)	XX	XX	XX	XX	XX
SOCIOECONOMIC INDICATORS					
Demographic Index USA	XX%	N/A	N/A	XX%	XX
Supplemental Demographic Index USA	XX%	N/A	N/A	XX%	XX
Demographic Index State	XX%	XX%	XX	N/A	N/A
Supplemental Demographic Index State	XX%	XX%	XX	N/A	N/A
People of Color	N/A	XX%	XX	XX%	XX
Low Income	XX%	XX%	XX	XX%	XX
Unemployment Rate	XX%	XX%	XX	XX%	XX
Limited English Speaking Households	XX%	XX%	XX	XX%	XX
Less Than High School Education	XX%	XX%	XX	XX%	XX
Under Age 5	XX%	XX%	XX	XX%	XX
Over Age 64	XX%	XX%	XX	XX%	XX

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-quality/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	XX
Hazardous Waste, Treatment, Storage, and Disposal Facilities	XX
Water Dischargers	XX
Air Pollution	XX
Brownfields	XX
Toxic Release Inventory	XX

Other community features within defined area:

Schools	XX
Hospitals	XX
Places of Worship	XX

Other environmental data:

Air Non-attainment	XX
Impaired Waters	XX

Selected location contains American Indian Reservation Lands*	XX
Selected location contains a "Justice40 (CEJST)" disadvantaged community	XX
Selected location contains an EPA IRA disadvantaged community	XX

Report for 3 miles Ring Centered at 36.357707, -114.910754
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	XX	XX	XX	XX	XX
Heart Disease	XX	XX	XX	XX	XX
Asthma	XX	XX	XX	XX	XX
Cancer	XX	XX	XX	XX	XX
Persons with Disabilities	XX	XX	XX	XX	XX

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	XX	XX	XX	XX	XX
Wildfire Risk	XX	XX	XX	XX	XX

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	XX	XX	XX	XX	XX
Lack of Health Insurance	XX	XX	XX	XX	XX
Housing Burden	XX	N/A	N/A	N/A	N/A
Transportation Access Burden	XX	N/A	N/A	N/A	N/A
Food Desert	XX	N/A	N/A	N/A	N/A

*Report for 3 miles Ring Centered at 36.357707,-114.910754
 Report produced August 29, 2024 using EJScreen Version 2.3*

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

4/4



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Apex Plant

10 miles Ring Centered at 36.353750,-114.908650

Population: 41

Area in square miles: 314.03



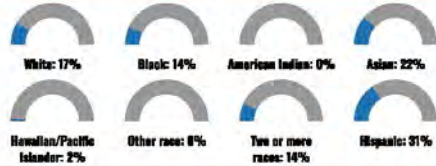
August 28, 2024
Apex Plant
Apex Plant
Apex Plant

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EPA/600/R-22/001

COMMUNITY INFORMATION



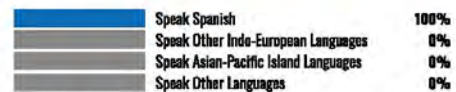
BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS), 2016-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	58%
Spanish	25%
Tagalog (including Filipino)	3%
Other Asian and Pacific Island	14%
Total Non-English	42%

Report for 10 miles Ring Centered at 36.353750,-114.908650
Report produced August 29, 2024 using EJScreen Version 2.3

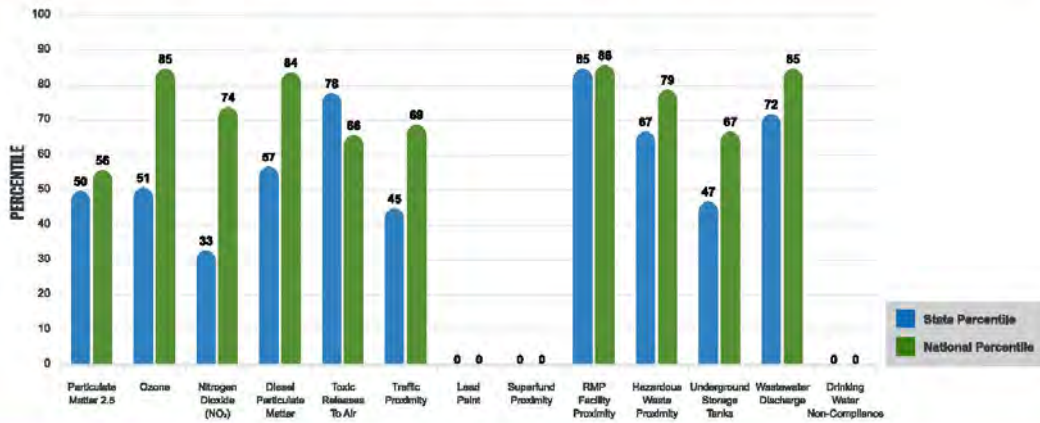
Environmental Justice & Supplemental Indexes

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EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

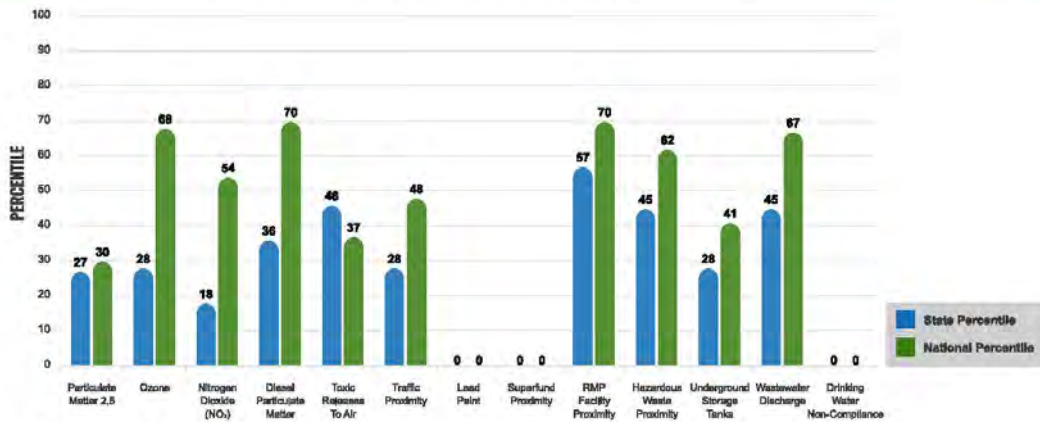
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 38.353750,-114.908650
Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	7.71	8.15	37	8.45	35
Ozone (ppb)	69.2	69.2	42	61.8	84
Nitrogen Dioxide (NO ₂) (ppbv)	9	10	22	7.8	65
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.349	0.388	48	0.191	88
Toxic Releases to Air (toxicity-weighted concentration)	430	1,400	74	4,600	44
Traffic Proximity (daily traffic count/distance to road)	1,000,000	1,800,000	33	1,700,000	55
Lead Paint (% Pre-1960 Housing)	0	0.063	0	0.3	0
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	2	0.4	98	0.57	94
Hazardous Waste Proximity (facility count/km distance)	4.5	3.3	66	3.5	76
Underground Storage Tanks (count/km ²)	0.68	3.2	34	3.6	47
Wastewater Discharge (toxicity-weighted concentration/m distance)	6900	30000	71	700000	86
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.67	N/A	N/A	1.34	69
Supplemental Demographic Index USA	1.15	N/A	N/A	1.64	25
Demographic Index State	2.01	1.81	61	N/A	N/A
Supplemental Demographic Index State	0.75	1.44	15	N/A	N/A
People of Color	83%	51%	87	40%	85
Low Income	15%	32%	22	30%	28
Unemployment Rate	15%	7%	89	6%	92
Limited English Speaking Households	4%	6%	59	5%	72
Less Than High School Education	11%	14%	52	11%	61
Under Age 5	8%	5%	78	5%	78
Over Age 64	14%	18%	48	18%	41

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	3
Water Dischargers	74
Air Pollution	8
Brownfields	0
Toxic Release Inventory	9

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 10 miles Ring Centered at 36.353750,-114.908650
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	18%	20%	19	20%	32
Heart Disease	3.2	5.7	6	5.8	6
Asthma	10.1	10.1	54	10.3	46
Cancer	3.6	6	6	6.4	5
Persons with Disabilities	6.5%	13.7%	5	13.7%	9

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	0%	6%	26	12%	12
Wildfire Risk	0%	33%	0	14%	0

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	4%	12%	26	13%	26
Lack of Health Insurance	5%	12%	17	9%	39
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access Burden	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Report for 10 miles Ring Centered at 36.353750,-114.908650
 Report produced August 29, 2024 using EJScreen Version 2.3



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

TS Power Plant

3 miles Ring Centered at 40.747127,-116.529880

Population: 3

Area in square miles: 28.27

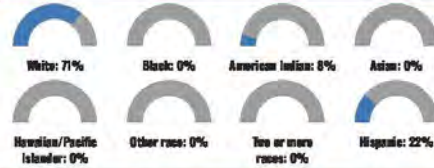


Report for 3 miles Ring Centered at 40.747127,-116.529880
Report produced August 29, 2024 using EJScreen Version 2.3

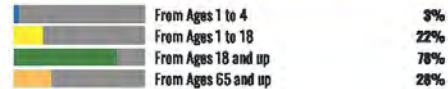
COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 3 miles Ring Centered at 40.747127,-116.529880
Report produced August 29, 2024 using EJScreen Version 2.3

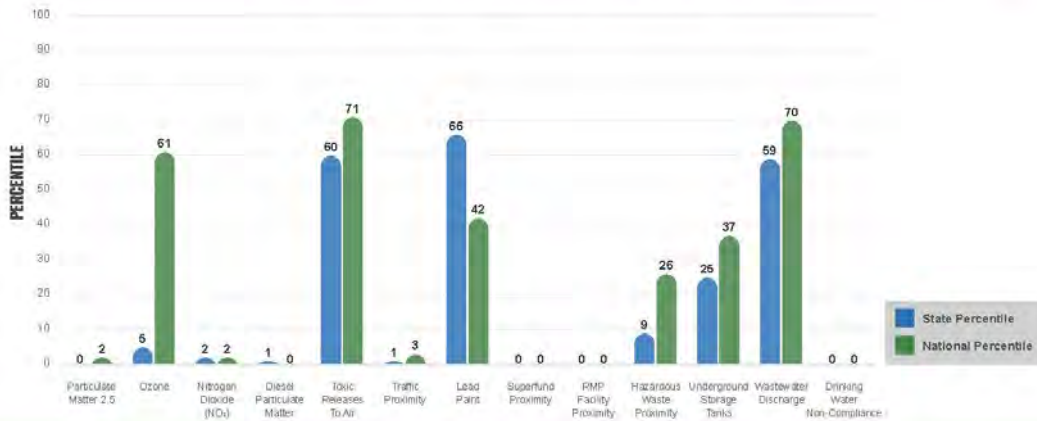
Environmental Justice & Supplemental Indexes

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EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

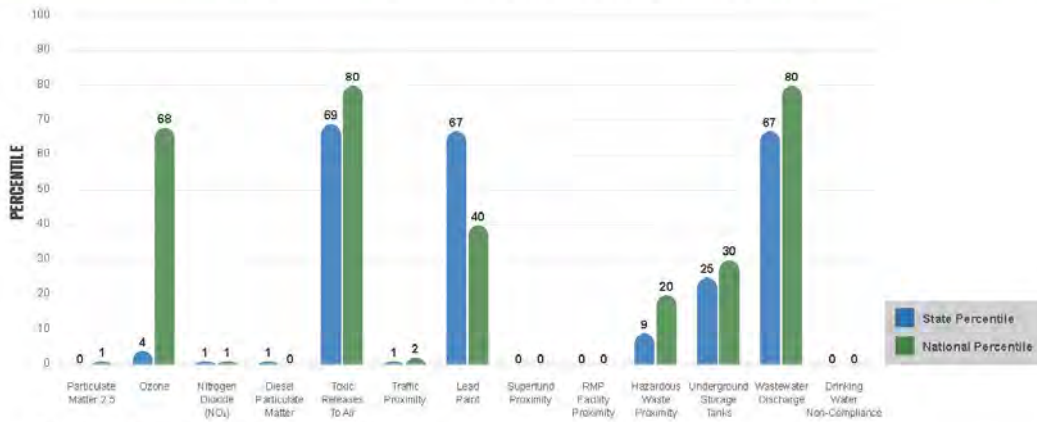
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 3 miles Ring Centered at 40.747127,-116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m ³)	4.89	8.15	0	8.45	1
Ozone (ppb)	65.7	69.2	4	61.8	73
Nitrogen Dioxide (NO ₂) (ppbv)	1.9	10	1	7.8	1
Diesel Particulate Matter (µg/m ³)	0.0136	0.388	1	0.191	0
Toxic Releases to Air (toxicity-weighted concentration)	32,000	1,400	99	4,600	97
Traffic Proximity (daily traffic count/distance to road)	3,900	1,800,000	1	1,700,000	2
Lead Paint (% Pre-1960 Housing)	0.16	0.063	88	0.3	43
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0	0.4	0	0.57	0
Hazardous Waste Proximity (facility count/km distance)	0.13	3.3	8	3.5	20
Underground Storage Tanks (count/km ²)	0.0015	3.2	22	3.6	27
Wastewater Discharge (toxicity-weighted concentration/m distance)	1100000	30000	99	700000	99
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	0.88	N/A	N/A	1.34	36
Supplemental Demographic Index USA	1.32	N/A	N/A	1.64	36
Demographic Index State	1.02	1.81	20	N/A	N/A
Supplemental Demographic Index State	0.97	1.44	27	N/A	N/A
People of Color	29%	51%	22	40%	48
Low Income	18%	32%	27	30%	33
Unemployment Rate	0%	7%	0	6%	0
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	4%	14%	21	11%	30
Under Age 5	3%	5%	36	5%	33
Over Age 64	28%	18%	85	18%	85

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	1
Air Pollution	1
Brownfields	0
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST) disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for 3 miles Ring Centered at 40.747127, -116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	20%	13	20%	22
Heart Disease	6.3	5.7	72	5.8	63
Asthma	9.8	10.1	41	10.3	37
Cancer	7	6	77	6.4	61
Persons with Disabilities	18.9%	13.7%	84	13.7%	82

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	8%	6%	79	12%	58
Wildfire Risk	89%	33%	73	14%	90

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	3%	12%	22	13%	23
Lack of Health Insurance	10%	12%	45	9%	68
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 3 miles Ring Centered at 40.747127,-116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

4/4



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

TS Power

10 miles Ring Centered at 40.747142,-116.529880

Population: 32

Area in square miles: 314.03

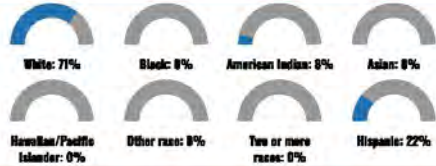


Map controls: Zoom in, Zoom out, Full screen, etc.

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS), 2016-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 10 miles Ring Centered at 40.747142,-116.529880
Report produced August 29, 2024 using EJScreen Version 2.3

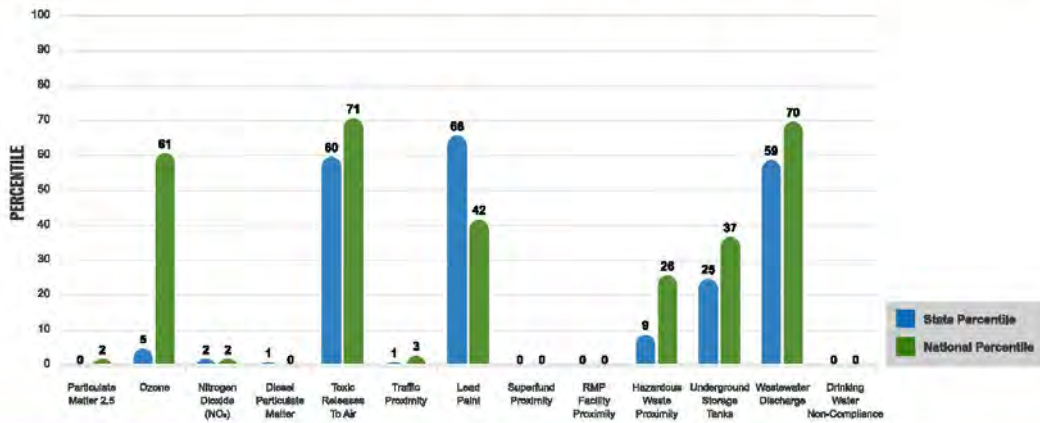
Environmental Justice & Supplemental Indexes

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EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

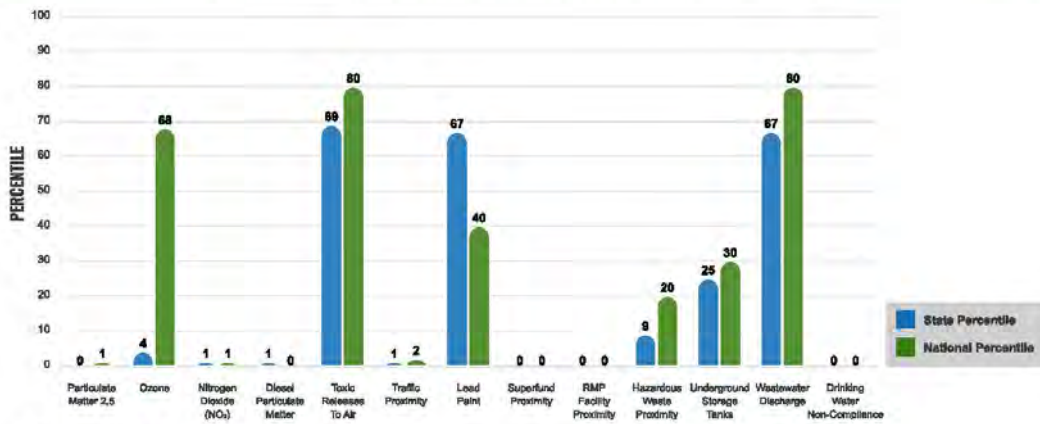
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 40.747142,-116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m ³)	4.89	8.15	0	8.45	1
Ozone (ppb)	65.7	69.2	4	61.8	73
Nitrogen Dioxide (NO ₂) (ppbv)	1.9	10	1	7.8	1
Diesel Particulate Matter (µg/m ³)	0.0136	0.388	1	0.191	0
Toxic Releases to Air (toxicity-weighted concentration)	32,000	1,400	99	4,600	97
Traffic Proximity (daily traffic count/distance to road)	3,900	1,800,000	1	1,700,000	2
Lead Paint (% Pre-1960 Housing)	0.16	0.063	88	0.3	43
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0	0.4	0	0.57	0
Hazardous Waste Proximity (facility count/km distance)	0.13	3.3	8	3.5	20
Underground Storage Tanks (count/km ²)	0.0015	3.2	22	3.6	27
Wastewater Discharge (toxicity-weighted concentration/m distance)	1100000	30000	99	700000	99
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	0.88	N/A	N/A	1.34	36
Supplemental Demographic Index USA	1.32	N/A	N/A	1.64	36
Demographic Index State	1.02	1.81	20	N/A	N/A
Supplemental Demographic Index State	0.97	1.44	27	N/A	N/A
People of Color	29%	51%	22	40%	48
Low Income	18%	32%	27	30%	33
Unemployment Rate	0%	7%	0	6%	0
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	4%	14%	21	11%	30
Under Age 5	3%	5%	36	5%	33
Over Age 64	28%	18%	85	18%	85

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	1
Air Pollution	1
Brownfields	0
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 10 miles Ring Centered at 40.747142,-116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	17%	20%	13	20%	22
Heart Disease	6.3	5.7	72	5.8	63
Asthma	9.8	10.1	41	10.3	37
Cancer	7	6	77	6.4	61
Persons with Disabilities	18.9%	13.7%	84	13.7%	82

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	8%	6%	79	12%	58
Wildfire Risk	89%	33%	73	14%	90

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	3%	12%	22	13%	23
Lack of Health Insurance	10%	12%	45	9%	68
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 10 miles Ring Centered at 40.747142,-116.529880
 Report produced August 29, 2024 using EJScreen Version 2.3



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

The area is too small or sparsely populated, or these data are not available in the national dataset. Cannot generate an EJScreen chart or report.



Report ZA 2021
 3-Mile Ring
 Water discharge
 Air monitor

40.821260
 -114.250199
 U.S. Environmental Protection Agency

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2019-2022. Life expectancy data comes from the Centers for Disease Control.

Report for 3 miles Ring Centered at 40.821260,-114.250199
 Report produced August 29, 2024 using EJScreen Version 2.3

Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

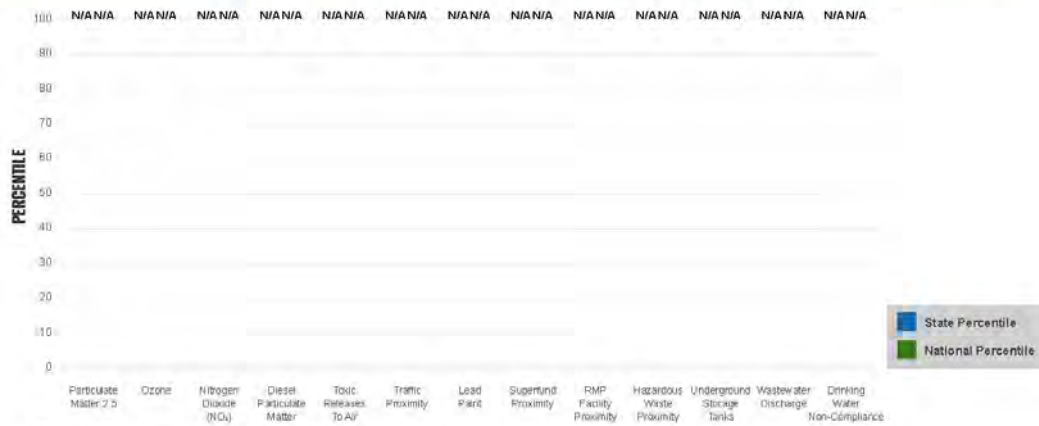
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 3 miles Ring Centered at 40.821260, -114.250199
Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Ozone (ppb)	XX	XX	XX	XX	XX
Nitrogen Dioxide (NO ₂) (ppbv)	XX	XX	XX	XX	XX
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	XX	XX	XX	XX	XX
Toxic Releases to Air (toxicity-weighted concentration)	XX	XX	XX	XX	XX
Traffic Proximity (daily traffic count/distance to road)	XX	XX	XX	XX	XX
Lead Paint (% Pre-1960 Housing)	XX	XX	XX	XX	XX
Superfund Proximity (site count/km distance)	XX	XX	XX	XX	XX
RMP Facility Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Hazardous Waste Proximity (facility count/km distance)	XX	XX	XX	XX	XX
Underground Storage Tanks (count/km ²)	XX	XX	XX	XX	XX
Wastewater Discharge (toxicity-weighted concentration/m distance)	XX	XX	XX	XX	XX
Drinking Water Non-Compliance (points)	XX	XX	XX	XX	XX
SOCIOECONOMIC INDICATORS					
Demographic Index USA	XX%	N/A	N/A	XX%	XX
Supplemental Demographic Index USA	XX%	N/A	N/A	XX%	XX
Demographic Index State	XX%	XX%	XX	N/A	N/A
Supplemental Demographic Index State	XX%	XX%	XX	N/A	N/A
People of Color	N/A	XX%	XX	XX%	XX
Low Income	XX%	XX%	XX	XX%	XX
Unemployment Rate	XX%	XX%	XX	XX%	XX
Limited English Speaking Households	XX%	XX%	XX	XX%	XX
Less Than High School Education	XX%	XX%	XX	XX%	XX
Under Age 5	XX%	XX%	XX	XX%	XX
Over Age 64	XX%	XX%	XX	XX%	XX

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-quality/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	XX
Hazardous Waste, Treatment, Storage, and Disposal Facilities	XX
Water Dischargers	XX
Air Pollution	XX
Brownfields	XX
Toxic Release Inventory	XX

Other community features within defined area:

Schools	XX
Hospitals	XX
Places of Worship	XX

Other environmental data:

Air Non-attainment	XX
Impaired Waters	XX

Selected location contains American Indian Reservation Lands*	XX
Selected location contains a "Justice40 (CEJST)" disadvantaged community	XX
Selected location contains an EPA IRA disadvantaged community	XX

Report for 3 miles Ring Centered at 40.821260, -114.250199
Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	XX	XX	XX	XX	XX
Heart Disease	XX	XX	XX	XX	XX
Asthma	XX	XX	XX	XX	XX
Cancer	XX	XX	XX	XX	XX
Persons with Disabilities	XX	XX	XX	XX	XX

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	XX	XX	XX	XX	XX
Wildfire Risk	XX	XX	XX	XX	XX

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	XX	XX	XX	XX	XX
Lack of Health Insurance	XX	XX	XX	XX	XX
Housing Burden	XX	N/A	N/A	N/A	N/A
Transportation Access Burden	XX	N/A	N/A	N/A	N/A
Food Desert	XX	N/A	N/A	N/A	N/A

*Report for 3 miles Ring Centered at 40.821260,-114.250199
 Report produced August 29, 2024 using EJScreen Version 2.3*

www.epa.gov/ejscreen

https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

4/4



EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Pilot Peak

10 miles Ring Centered at 40.821260,-114.250199

Population: 444

Area in square miles: 314.03



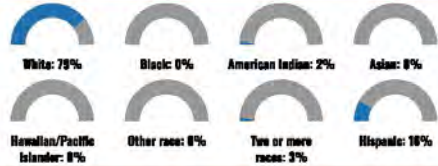
August 29, 2024
Pilot Peak
10-mile ring
40.821260, -114.250199

0 0.5 1 1.5 2 Miles
Environmental Justice Center

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS), 2016-2022. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

Report for 10 miles Ring Centered at 40.821260,-114.250199
Report produced August 29, 2024 using EJScreen Version 2.3

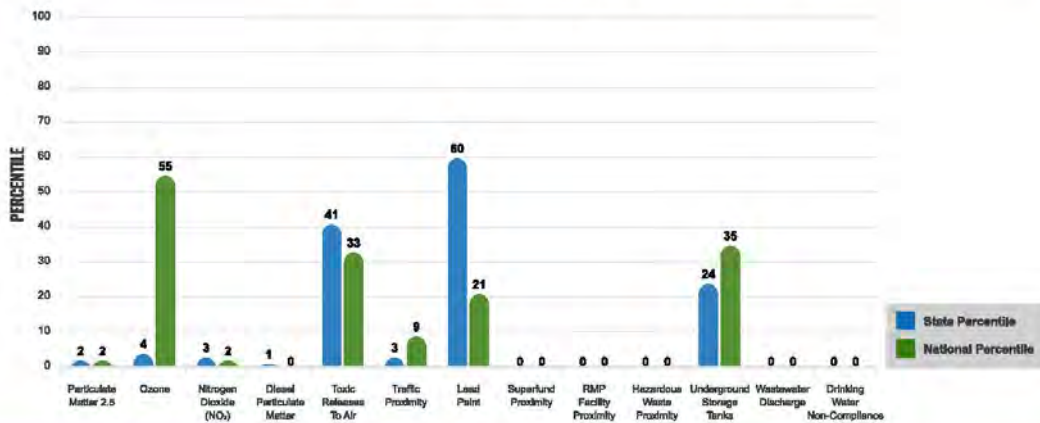
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ Indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

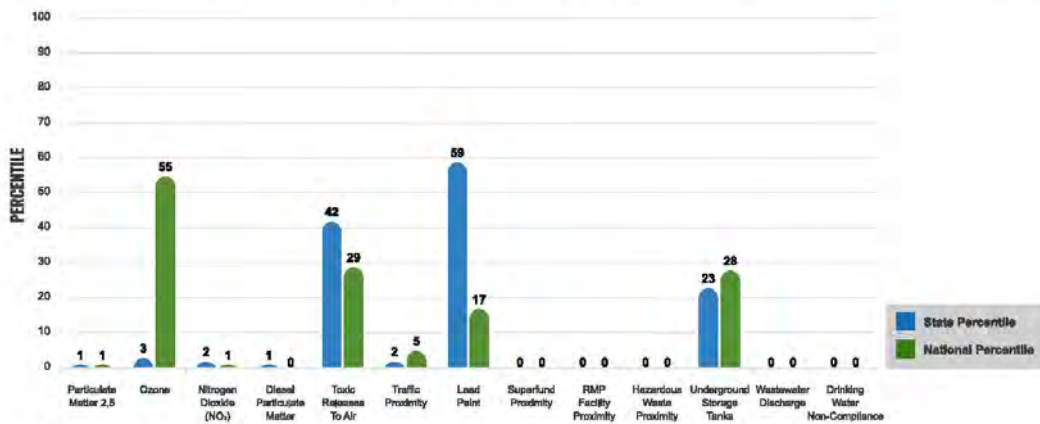
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low income, percent persons with disabilities, percent less than high school education, percent limited English speaking, and percent low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



Report for 10 miles Ring Centered at 40.821260,-114.250199
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m ³)	5.2	8.15	1	8.45	1
Ozone (ppb)	65.4	69.2	4	61.8	72
Nitrogen Dioxide (NO ₂) (ppbv)	2	10	2	7.8	1
Diesel Particulate Matter (µg/m ³)	0.0132	0.388	1	0.191	0
Toxic Releases to Air (toxicity-weighted concentration)	290	1,400	71	4,600	37
Traffic Proximity (daily traffic count/distance to road)	25,000	1,800,000	3	1,700,000	8
Lead Paint (% Pre-1960 Housing)	0.017	0.063	63	0.3	18
Superfund Proximity (site count/km distance)	0	0.11	0	0.39	0
RMP Facility Proximity (facility count/km distance)	0	0.4	0	0.57	0
Hazardous Waste Proximity (facility count/km distance)	0	3.3	0	3.5	0
Underground Storage Tanks (count/km ²)	0.0034	3.2	22	3.6	27
Wastewater Discharge (toxicity-weighted concentration/m distance)	0	30000	0	700000	0
Drinking Water Non-Compliance (points)	0	0.39	0	2.2	0
SOCIOECONOMIC INDICATORS					
Demographic Index USA	0.75	N/A	N/A	1.34	28
Supplemental Demographic Index USA	1.05	N/A	N/A	1.64	19
Demographic Index State	0.85	1.81	14	N/A	N/A
Supplemental Demographic Index State	0.69	1.44	12	N/A	N/A
People of Color	21%	51%	12	40%	38
Low Income	18%	32%	28	30%	33
Unemployment Rate	0%	7%	0	6%	0
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	0%	14%	0	11%	0
Under Age 5	13%	5%	94	5%	93
Over Age 64	7%	18%	16	18%	14

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	0
Air Pollution	1
Brownfields	0
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a 'Justice40 (CEJST)' disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for 10 miles Ring Centered at 40.821260,-114.250199
 Report produced August 29, 2024 using EJScreen Version 2.3

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	20%	20%	47	20%	58
Heart Disease	4.6	5.7	26	5.8	27
Asthma	10	10.1	49	10.3	43
Cancer	4.6	6	23	6.4	16
Persons with Disabilities	6.8%	13.7%	6	13.7%	10

CLIMATE INDICATORS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	8%	6%	78	12%	56
Wildfire Risk	94%	33%	76	14%	92

CRITICAL SERVICE GAPS					
INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	14%	12%	64	13%	62
Lack of Health Insurance	14%	12%	66	9%	82
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access Burden	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 10 miles Ring Centered at 40.821260,-114.250199
 Report produced August 29, 2024 using EJScreen Version 2.3