

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**



**FLORIDA REGIONAL HAZE PLAN
PROGRESS REPORT FOR THE
SECOND PLANNING PERIOD**

January xx, 2025

Executive Summary

The Clean Air Act (CAA) includes visibility protection requirements. In 1999, the United States Environmental Protection Agency (EPA) finalized the Regional Haze Rule (RHR) (64 FR 35714). The RHR calls for state, tribal, and federal agencies to work together to improve visibility in 156 national parks and wilderness areas identified as mandatory Class I Federal areas under 40 CFR Part 81.400.

States are required to develop and implement air quality protection plans (State Implementation Plans, or SIPs) to reduce the pollution that contributes to visibility impairment. These SIPs establish goals and emission reduction strategies based on trends from various sources including area source emissions, mobile source emissions (both on-road and non-road), biogenic emissions, and wildfire and agricultural emissions.

In Florida's Regional Haze SIP (submitted to EPA on October 8, 2021, and supplemented on June 14, 2024 and October 28, 2024), the Florida Department of Environmental Protection (Department) set forth a long-term strategy to attain reasonable progress goals (RPGs) for visibility impairing pollutants in Florida's Class I areas, which include the Chassahowitzka National Wilderness Area, the Everglades National Park, and the St. Marks National Wilderness Area. The predicted reductions in visibility impairment were expected to result from the implementation of a combination of existing emissions control activities and planned emission control programs. Florida's Regional Haze Progress Report is intended to address the requirements of 40 CFR 51.308(g), which requires that states develop and submit to EPA periodic reports evaluating the state's progress goals toward the RPGs applicable to Class I areas within their jurisdictions.

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Acronyms and Abbreviations

| <u>Acronym/Abbreviation</u> | <u>Meaning</u> |
|-------------------------------|--|
| CAA | Clean Air Act |
| CAIR | Clean Air Interstate Rule |
| CAMD | Clean Air Markets Division |
| CAMPD | Clean Air Markets Program data |
| CenSARA | Central State Air Resource Agencies |
| CFR | Code of Federal Regulations |
| d | distance (kilometers) |
| dv | deciview |
| EGU | Electric Utility Generating Unit |
| EPA | United States Environmental Protection Agency |
| FLM | federal land manager |
| FR | Federal Register |
| FS | Forest Service |
| FSL | Forecast Systems Laboratory |
| FWS | Fish and Wildlife Service |
| LAC | light absorbing carbon |
| LADCO | Lake Michigan Air Directors Consortium |
| MANE-VU | Mid-Atlantic/Northeast Visibility Union |
| NEI | National Emissions Inventory |
| NH ₃ | ammonia |
| NO | nitric oxide |
| NO ₃ ⁻ | nitrate ion |
| NO _x | nitrogen oxides |
| NPS | National Park Service |
| PM | particulate matter |
| PM ₁₀ | coarse particulate matter |
| PM _{2.5} | fine particles with a diameter smaller than or equal to 2.5 micrometers (µm) |
| RHR | Regional Haze Rule |
| RPG | reasonable progress goal |
| RPO | regional planning organization |
| SCC | source category code |
| SESARM | Southeastern States Air Resource Managers, Inc. |
| SIP | state implementation plan |
| SO ₂ | sulfur dioxide |
| SO ₄ ⁻² | sulfate ion |
| tpy | tons per year |

Acronym/Abbreviation

Meaning

| | |
|--------|--|
| URP | uniform rate of progress |
| USDA | United States Department of Agriculture |
| USDI | United States Department of the Interior |
| VISTAS | Visibility Improvement State and Tribal Association of the Southeast |

1. Introduction

Section 169A of the Clean Air Act (CAA) “declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.” Mandatory Class I Federal Areas (Class I Areas) consist of National Parks greater than 6,000 acres, wilderness areas and national memorial parks greater than 5,000 acres, and international parks, all of which were in existence as of August 7, 1977. The Clean Air Act recognizes visibility as an important value in these areas.

The CAA directed the U.S. Environmental Protection Agency (EPA) to promulgate regulations aimed at meeting the goals of Section 169A. EPA originally finalized the Regional Haze Rule (RHR) in 1999. EPA amended and revised the RHR in 2005 and 2017, and the RHR is now codified under 40 CFR 51.300-309. The overarching goal of the RHR is to achieve natural visibility conditions at Class I areas. The RHR requires that states submit two types of regional haze planning documents: regional haze state implementation plans (SIPs), each covering a 10-year planning period, and progress reports, which are typically submitted at the mid-point of each planning period. The regional haze SIPs themselves must include specified information such that they also serve as progress reports. Mid-course progress reports, such as this one, are stand-alone documents.

Florida’s Regional Haze Plan Progress Report is intended to fulfill the requirements of paragraphs 51.308(g), (h), and (i) of the RHR and to serve as a progress report for the second regional haze planning period, from 2019 to 2028. In this progress report, the Department affirms that the combined elements of Florida’s approved regional haze SIP for the first planning period (78 FR 53250) and pending regional haze SIP for the second planning period are adequate for making reasonable progress towards the RHR goal of achieving natural visibility conditions at Class I areas.

The Department has made this progress report available for public review prior to its submittal to EPA. The Department offered review opportunity to the Federal Land Managers (FLMs) on October 30, 2024, and each of the three FLM agencies responded by waiving its review with respect to 40 CFR 58 on October 31, 2024, November 7, 2024, and December 4, 2024, respectively. Documentation of the Department’s outreach and the FLMs’ responses are included in **Appendix A**. Per revisions made to the RHR in 2017 (82 FR 3078), Florida’s Regional Haze Progress Report is not, however, being submitted to EPA as a formal SIP revision.

The RHR addressed the combined visibility effects of various pollution sources over a wide geographic region. Many states – even those without mandatory federal Class I areas – are required to participate in haze reduction efforts. Five regional planning organizations (RPOs) were formed to assist with the coordination and cooperation needed to address visibility issues. These five RPOs are illustrated in **Figure 1-1**.¹ EPA has designated the Southeastern States Air Resource Managers, Inc. (SESARM) as the entity responsible for coordinating regional haze evaluations for the ten Southeastern states (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia), local air pollution control agencies, and tribal authorities. These parties collaborated through the organization known as Visibility Improvement – State and Tribal Association of the Southeast (VISTAS) to prepare the technical analyses and planning activities associated with visibility and related regional air quality issues supporting development of regional haze SIPs for the first and second planning periods. For the second planning period, local air pollution control agencies were represented by the Knox County, Tennessee local air pollution control agency, and tribal authorities were represented by the Eastern Band of Cherokee Indians. **Figure 1-2** shows the location of the 18 Class I areas within the VISTAS states.

¹ URL: <https://www.epa.gov/visibility/visibility-regional-planning-organizations>

Table 1-1 shows the FLM responsible for each of these Class I areas. Agencies acting as FLMs for Class I areas within the VISTAS region include the United States Department of Agriculture Forest Service (USDA-FS), the United States Department of the Interior Fish and Wildlife Service (USDI-FWS), and the United States Department of the Interior National Park Service (USDI-NPS).



Figure 1-1. Geographical Areas of Regional Planning Organizations



Figure 1-2. Mandatory Federal Class I Areas in the VISTAS Region

Table 1-1. Mandatory Federal Class I Areas in the VISTAS Region

| State | Area Name | Acreage | Federal Land Manager |
|----------------|---|-----------|----------------------|
| Alabama | Sipsey National Wilderness Area | 12,646 | USDA-FS |
| Florida | Chassahowitzka National Wilderness Area | 23,360 | USDI-FWS |
| Florida | Everglades National Park | 1,397,429 | USDI-NPS |
| Florida | St. Marks National Wilderness Area | 17,745 | USDI-FWS |
| Georgia | Cohutta National Wilderness Area | 33,776 | USDA-FS |
| Georgia | Okefenokee National Wilderness Area | 343,850 | USDI-FWS |
| Georgia | Wolf Island National Wilderness Area | 5,126 | USDI-FWS |
| Kentucky | Mammoth Cave National Park | 51,303 | USDI-NPS |
| North Carolina | Great Smoky Mountains National Park | 273,551 | USDI-NPS |
| North Carolina | Joyce Kilmer-Slickrock National Wilderness Area | 10,201 | USDA-FS |
| North Carolina | Linville Gorge National Wilderness Area | 7,575 | USDA-FS |
| North Carolina | Shining Rock National Wilderness Area | 13,350 | USDA-FS |
| North Carolina | Swanquarter National Wilderness Area | 9,000 | USDI-FWS |
| South Carolina | Cape Romain National Wilderness Area | 28,000 | USDI-FWS |
| Tennessee | Great Smoky Mountains National Park | 241,207 | USDI-NPS |
| Tennessee | Joyce Kilmer-Slickrock National Wilderness Area | 3,832 | USDA-FS |
| Virginia | James River Face National Wilderness Area | 8,703 | USDA-FS |
| Virginia | Shenandoah National Park | 190,535 | USDI-NPS |
| West Virginia | Dolly Sods National Wilderness Area | 10,215 | USDA-FS |
| West Virginia | Otter Creek National Wilderness Area | 20,000 | USDA-FS |

As required by 40 CFR 51.308(g), Florida’s Regional Haze Plan Progress Report for the Second Planning Period contains the following elements:

- **(g)(1)** Status of implementation of all measures included in the State’s second period Regional Haze Plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State;
- **(g)(2)** Summary of the emissions reductions achieved throughout the State through the implementation of the control measures in the State’s second period Regional Haze Plan;
- **(g)(3)** For each mandatory Class I Federal area within the State, an assessment of the following visibility conditions and changes, with values for most impaired, least impaired and/or clearest days as applicable expressed in terms of 5-year averages of these annual values. The period for calculating current visibility conditions is the most recent 5-year period preceding the required date of the progress report for which data are available as of a date 6 months preceding the required date of the progress report.
 - **(i)(B)** Progress reports due on and after January 31, 2025. The current visibility conditions for the most impaired and clearest days;

- **(ii)(B)** Progress reports due on and after January 31, 2025. The difference between current visibility conditions for the most impaired and clearest days and baseline visibility conditions.
- **(iii)(B)** Progress reports due on and after January 31, 2025. The change in visibility impairment for the most impaired and clearest days over the period since the period addressed in the most recent plan required under [paragraph \(f\)](#) of this section.
- **(g)(4)** Analysis tracking the change over the past five years in emissions of pollutants contributing to visibility impairment from all sources and activities within Florida; and emissions changes should be identified by type of source or activity. With respect to all sources and activities, the analysis must extend at least through the most recent year for which the state has submitted emission inventory information to the Administrator in compliance with the triennial reporting requirements of [subpart A of this part](#) as of a date 6 months preceding the required date of the progress report. With respect to sources that report directly to a centralized emissions data system operated by the Administrator, the analysis must extend through the most recent year for which the Administrator has provided a State-level summary of such reported data or an internet-based tool by which the State may obtain such a summary as of a date 6 months preceding the required date of the progress report. The State is not required to backcast previously reported emissions to be consistent with more recent emissions estimation procedures and may draw attention to actual or possible inconsistencies created by changes in estimation procedures.
- **(g)(5)** Assessment of any significant changes in anthropogenic emissions within or outside the State within the past five years including whether or not these changes in anthropogenic emissions were anticipated in that most recent plan and whether they have limited or impeded progress in reducing pollutant emissions and improving visibility.
- **(g)(6)** An assessment of whether the current implementation plan elements and strategies are sufficient to enable the State, or other States with mandatory Class I Federal areas affected by emissions from the State, to meet all established reasonable progress goals for the period covered by the most recent plan.
- **(g)(8)** For a state with a long-term strategy that includes a smoke management program for prescribed fires on wildland that conducts a periodic program assessment, a summary of the most recent periodic assessment of the smoke management program including conclusions if any that were reached in the assessment as to whether the program is meeting its goals regarding improving ecosystem health and reducing the damaging effects of catastrophic wildfires.

Pursuant to 40 CFR 51.308(h), Florida's Progress Report also includes a determination of the adequacy of the State's existing implementation plan. Consistent with CFR 51.308(h)(1),

Florida has determined that the State's existing implementation plan requires no further substantive revision at this time in order to achieve established goals for visibility improvement and emissions reductions.

2. Long-Term Strategy for Visibility Improvement

As shown in **Table 1-1 and Figure 1-2**, the Class I areas located in Florida include the Chassahowitzka National Wilderness Area, the Everglades National Park and the St. Marks National Wilderness Area. In the Department's second Regional Haze Plan, atmospheric ammonium sulfate was identified as the largest contributor to visibility impairment in Class I areas throughout the southeastern United States during the baseline period. Emissions sensitivity modeling performed for VISTAS determined that the most effective ways to reduce ammonium sulfate were to reduce SO₂ emissions from EGUs and, with an important but smaller impact, to reduce SO₂ emissions from non-utility industrial point sources. Reductions in SO₂ from point sources were therefore identified as the focus of the Department's long-term strategy for visibility improvement.

Florida's Regional Haze Plan for the second planning period included the review of ammonium nitrate. Industrial and EGU point source contributions to ammonium nitrate visibility impairment at Class I areas within the VISTAS states generally did not meet thresholds that were used to select sources for four factor analyses and thus, the Department did not require any four-factor analyses for NO_x controls in the second period for selected sources.

2.1. 2028 Reasonable Progress Goals for Florida's Class I Areas

The following charts provide the observed and predicted visibility improvement for each of Florida's Class I areas and compares these to the Uniform Rate of Progress, the line which connects baseline visibility conditions in 2000-2004 to natural visibility conditions in 2064. **Table 2-1** and **Table 2-2** show the 2028 reasonable progress goals (RPGs) for Florida's Class I areas on the 20% most impaired and 20% clearest visibility days, respectively. All three charts include the VISTAS model projection. The Everglades National Park chart also includes EPA's model projection, which the Department relied upon for demonstrating reasonable progress as EPA's model corrected some Everglades-specific deficiencies in the VISTAS model. As seen in these tables, Florida's Class I areas have met or are on track to meeting the 2028 RPGs.

These goals are based upon predicted visibility response to the expected emissions reductions of visibility-impairing pollutants using air quality models and represent Florida's best estimate at this time. The VISTAS modeling analyzed the regional, national, and global contributions to visibility in each Class I area. The VISTAS modeling included emissions of visibility-impairing pollutants from all known source sectors and locations, including boundary conditions derived from a global model. The VISTAS modeling evaluated current visibility conditions using data

from public and private monitoring networks, and these and other associated data were used to validate model performance. VISTAS developed projected emissions for 2028 considering growth and known or estimated emissions changes due to existing regulations. VISTAS completed substantial analysis to determine visibility sensitivity to specific pollutant reductions and to parse-out the source-sector contributions. Due to issues with the VISTAS modeling for the Everglades National Park – specifically, the influence of boundary conditions on the RPGs – Florida relied upon EPA’s regional haze modeling for this Class I area in the second planning period.

Table 2-1. 2028 RPGs for Visibility Impairment in Florida’s Class I Areas – 20% Most Impaired Days

| Class I Area | Baseline Average (dv) (2000-2004) | 2022 Average (dv) (2018-2022) | 2028 Goal (dv) | Natural Background (dv) |
|---|--|--------------------------------------|-----------------------|--------------------------------|
| Chassahowitzka National Wilderness Area | 24.52 | 17.03 | 16.79 | 9.03 |
| Everglades National Park | 19.52 | 14.37 | 13.95 | 8.33 |
| St. Marks National Wilderness Area | 24.68 | 16.29 | 16.43 | 9.13 |

Table 2-2. 2028 RPGs for Visibility Impairment in Florida’s Class I Areas – 20% Clearest Days

| Class I Area | Baseline Average (dv) (2000-2004) | 2022 Average (dv) (2018-2022) | 2028 Goal (dv) | Natural Background (dv) |
|---|--|--------------------------------------|-----------------------|--------------------------------|
| Chassahowitzka National Wilderness Area | 15.60 | 12.23 | 12.54 | 6.00 |
| Everglades National Park | 11.69 | 10.39 | 9.88 | 5.22 |
| St. Marks National Wilderness Area | 14.34 | 10.82 | 11.59 | 5.37 |

* The regional haze requirement for the 20% clearest days is to maintain the visibility impairment at or below the baseline impairment.

2.2. Requirements for the Periodic Progress Report

The requirements for periodic reports are detailed in 40 CFR 51.308(g). Each state must submit a report to the EPA every five years evaluating the progress towards the RPGs for each Class I area located within the state and in each Class I area located outside the state which may be affected by emissions from within the state.

EPA's revised RHR no longer requires that progress reports be formal SIP submittals. At a minimum, progress reports must cover the first year not covered by the previously submitted progress report through the most recent year of data available prior to submission. Florida's previous progress report (included in the SIP submitted for the second planning period) included data through the year 2018. As such, Florida's Regional Haze Progress Report for the Second Planning Period covers the years since 2018. The most recent data available are used to highlight the progress made. This review includes National Emissions Inventory (NEI) data for 2017 and 2020, visibility data through 2022, stationary source data through 2020, and power plant emissions data through 2023.

As described under the **Introduction** heading above, Section 51.308(f)(5) of the RHR requires that each state address the progress report requirements of paragraphs 51.308(g). Florida's progress report meets the requirements in 40 CFR 51.308(g), with the exception of 40 CFR 51.308(g)(7), which applies to progress reports for the first planning period only.

3. Status of Implementation of Control Measures

40 CFR 51.308(g)(1), of the RHR requires: *A description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for Class I areas both within and outside the State.* This section provides the status of implementation of the emission reduction measures that were included in the regional haze SIP for the second planning period, as required by 40 CFR 51.308(g)(1).

3.1 Federal and State Programs Included in the 2028 Projection Year

3.1.1. Federal Programs

The Department included the following federal programs in the 2028 projection year used to establish reasonable progress goals for Class I areas both within and outside Florida. The emissions reductions associated with the Federal and other state programs described below were included in the VISTAS future year emissions estimates for the first planning period. Descriptions contain qualitative assessments of emissions reductions associated with each program, and where possible, quantitative assessments. In cases where delays or modification have altered emissions reduction estimates such that the original estimates of emissions are no longer accurate, the Department has provided information on the effects of these alterations.

3.1.1.1 Federal EGU and Industrial Unit Trading Program (Cross State Air Pollution Rule)

CAA Section 110(a)(2)(D)(i)(I) requires each upwind state to ensure that it does not interfere with either the attainment of a NAAQS or continued compliance with a NAAQS at any

downwind monitor (i.e., the "Good Neighbor" provision). EPA has implemented several rules enforcing the Good Neighbor provision for a variety of NAAQS. On August 8, 2011, EPA finalized the Cross State Air Pollution Rule (CSAPR) (76 FR 48208). This rule required 28 states to reduce SO₂, annual NO_x, and ozone season NO_x from fossil fuel-fired EGUs in support of the 1997 and 2006 PM_{2.5} NAAQS and the 1997 ozone NAAQS. CSAPR relied on a trading program to achieve these reductions and became effective January 1, 2015, as set forth in an October 23, 2014, decision by the U.S. Court of Appeals for the D.C. Circuit. Phase 1 began January 2015 for annual programs and May 2015 for the ozone season program. Phase 2 began January 2017 for the annual programs and May 2017 for the ozone season program. Total emissions allowed in each compliance period under CSAPR equals the sum of the affected state emission budgets in the program. The 2017 budgets for these programs, exclusive of new unit set asides and tribal budgets, were:

- SO₂ Group 1 – 1.37 million tons,
- SO₂ Group 2 – 892,000 tons,
- Annual NO_x – 1.21 million tons, and
- Ozone Season NO_x – 586,000 tons

On October 26, 2016, EPA published revised CSAPR ozone season NO_x budgets to address the 2008 ozone NAAQS (81 FR 74504). This "CSAPR Update" reduced state budgets for NO_x during the ozone season to 325,645 tons in 2017 and 330,526 tons in 2018 and later years, exclusive of new unit set asides and tribal budgets. This rule applies to all VISTAS states except North Carolina, South Carolina, Georgia, and Florida, and continues to encourage NO_x emissions reductions from fossil fuel-fired EGUs. On July 31, 2023, EPA published revised new unit set asides for SO₂ and NO_x (88 FR 36654 and 49295). This resulted in a reduction in the new unit set asides but did not change any other fundamental portions of the rule. The U.S. Court of Appeals for the D.C. Circuit remanded, but did not vacate, the CSAPR Update to the EPA to address the court's holding that the rule unlawfully allows significant contributions to continue beyond downwind attainment deadlines. Therefore, the reductions required by the CSAPR Update rule remain in effect. Although CSAPR does not apply to Florida, Florida benefits from emissions reductions in neighboring states.

3.1.1.2 NO_x SIP Call

EPA's NO_x SIP Call applied to certain EGUs and large non-EGUs, including large industrial boilers and turbines, and cement kilns. States in the VISTAS region that were included in the NO_x SIP call (e.g., Alabama, North Carolina, South Carolina, and Tennessee) addressed NO_x emissions controls in state plans that EPA subsequently approved. The NO_x SIP Call has resulted in a significant reduction in NO_x emissions from large stationary combustion sources. For the first regional haze SIP, the emissions for NO_x SIP Call-affected sources were capped at 2007 levels and carried forward to the 2009 and 2018 inventories. Although Florida was not

included among the states subject to the NO_x SIP Call, Florida benefits from emissions reductions in neighboring states.

3.1.1.3 Mercury and Air Toxics Standard (MATS)

On February 16, 2012, EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired Electric Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units (77 FR 9304). This rule is often referred to as the Mercury and Air Toxics Standard (MATS). The standard applies to EGUs burning fossil fuel and sets limits for certain HAP emissions, many of which are acid gases. Control of these acid gases often have the co-benefit of reducing SO₂ emissions. Sources had until April 16, 2015, to comply with the rule unless granted a one-year extension for control installation or an additional extension for reliability reasons. As a direct result of compliance with MATS, Florida saw a reduction of 77,760 tons per year of SO₂ emissions from the 2011 baseline modeling. In addition, the following facilities either retired the units subject to MATS limits or switched the units from being coal-fired (e.g., subject to MATS) to natural gas-fired: CD McIntosh, Jr. Power Plant Unit 3 and TECO Big Bend Unit 3.

3.1.1.4 One-hour Ozone SIPs (Atlanta / Birmingham / Northern Kentucky)

Florida's Regional Haze Plan also makes reference to emissions reductions from one-hour ozone SIPs that other states and regions submitted to EPA to demonstrate attainment of the one-hour ozone NAAQS. These SIPs require NO_x reductions from specific coal-fired power plants and address transportation plans in these cities. These reductions further improve regional visibility.

3.1.1.5 NO_x RACT in 8-hour Nonattainment Area SIPs

The NCDAQ's SIP for the Charlotte/Rock Hill/Gastonia nonattainment area includes RACT for NO_x for two facilities located in the nonattainment area: Philip Morris USA and Norandal USA. These controls were also included in the VISTAS modeling for 2018. Additional RACT controls may be realized as other companies subject to RACT complete the determination, but RACT-level controls were assumed for just these two sources. These controls further improve regional visibility in the VISTAs states.

3.1.1.6 2010 SO₂ NAAQS

On June 22, 2010, EPA finalized a new primary NAAQS for SO₂ (75 FR 35520). This regulation significantly strengthened the NAAQS by lowering the standard to 75 ppb on a one-hour basis. Using emissions inventories and other technical data as support, EPA determined that anthropogenic SO₂ emissions chiefly originated from point sources, with fossil fuel combustion at electric utilities accounting for 66% of total anthropogenic SO₂ emissions and fossil fuel

combustion at other industrial facilities accounting for 29%. EPA simultaneously revised ambient air monitoring requirements for SO₂, requiring fewer monitors due to the use of a hybrid approach combining air quality modeling and monitoring to determine compliance with the new standard. Much of this work focused on the evaluation of point source emissions.

After promulgation of the 2010 SO₂ NAAQS, EPA designated as nonattainment two areas in Florida with ambient SO₂ monitored design values above the standard: the Hillsborough County SO₂ Nonattainment Area (NAA) and the Nassau County SO₂ NAA. Four facilities (Mosaic Riverview and TECO Big Bend in the Hillsborough County NAA; and Rayonier Performance Fibers and WestRock Fernandina Beach in the Nassau County NAA) were required to reduce SO₂ emissions significantly to bring their areas into compliance with the 2010 SO₂ NAAQS. The Hillsborough County NAA and the Nassau County NAA were subsequently redesignated to attainment after more recent ambient monitoring data demonstrated that the 2010 SO₂ NAAQS was being met (84 FR 60927 and 84 FR 17085, respectively).

In addition to areas for which attainment was determined through ambient air monitoring, EPA's Data Requirements Rule (80 FR 51052) required states to identify large sources of SO₂ and characterize the air quality around these sources, either through air monitoring or air quality modeling, to evaluate whether these areas were attaining the 2010 SO₂ NAAQS. Florida completed eleven area characterizations addressing twelve SO₂ sources through air quality modeling. As a result of Florida's DRR analysis, EPA designated one additional area in Florida nonattainment for the 2010 SO₂ NAAQS (the Hillsborough-Polk NAA). Two facilities within the Hillsborough-Polk NAA (Mosaic New Wales and Mosaic Bartow) were required to reduce SO₂ emissions significantly to comply with the 2010 SO₂ NAAQS in that area. The Hillsborough-Polk NAA was subsequently redesignated to attainment (85 FR 9666). Effective March 23, 2020, all of Florida is in compliance with the 2010 SO₂ NAAQS.

3.1.1.7 On-Road and Non-Road Programs

The CAA authorizes EPA to establish emission standards for motor vehicles under Section 202 and fuel controls under Section 211. The CAA generally prohibits states other than California from enacting emission standards for motor vehicles under Section 209(a) and for non-road engines under Section 209(e). States may choose to adopt California requirements or meet federal requirements. Federal programs to reduce emissions from on-road and non-road engines are therefore critical to improving both visibility and air quality.

Several of the programs discussed below address SO₂ emissions by reducing allowable sulfur contents in various fuels. As well as reducing SO₂ emissions, reduced sulfur content improves the efficiency of NO_x controls on existing engines and facilitates the use of state-of-the-art NO_x controls on new engines.

3.1.1.8 2007 Heavy-Duty Highway Rule

In 40 CFR Part 86, Subpart P, EPA set emissions standards for heavy-duty on-road engines. These standards became effective between 2007 and 2010. Subpart P limited NO_x to 0.20 grams per brake horsepower-hour (g/bhp-hr) and non-methane hydrocarbons to 0.14 g/bhp-hr. Subpart P also required that the sulfur content of diesel fuel not exceed 0.0015% by weight to facilitate the use of modern pollution control technology on these engines. EPA required a 97% reduction in the sulfur content of highway diesel fuel, from levels of 500 ppm (low sulfur diesel) to 15 ppm (ultra-low sulfur diesel). These emission standards continue to provide benefit as older vehicles are replaced with newer models. These requirements were successfully implemented on the timeline detailed in the regulation. This program applies nationwide, including in Florida, and, thus, has a direct impact on Florida Class I areas.

On June 29, 2021, EPA removed and reserved 40 CFR Part 86 Subpart P (86 FR 34308) to improve accuracy, reduce testing burden and add other amendments which impacted heavy-duty vehicles. Phase 2 fuel efficiency standards were restated in 40 CFR Part 1036.

3.1.1.9 Tier 2 Vehicle and Gasoline Sulfur Program

EPA's Tier 2 fleet averaging program for on-road vehicles, modeled after the California Low Emission Vehicle (LEV) II standards, became effective in the 2005 model year (40 CFR Part 80 (Registration of Fuels and Fuel Additives), Subpart H; 40 CFR Part 85; and 40 CFR Part 86). The Tier 2 program allows manufacturers to produce vehicles with emissions ranging from relatively dirty to very clean, but the mix of vehicles a manufacturer sells each year must have average NO_x emissions below a specified value. Mobile emissions continue to be reduced as motorists replace older, more polluting vehicles with cleaner vehicles. The Tier 2 program applies nationwide, including in Florida, and, thus, has a direct impact on Florida Class I areas.

On December 4, 2020 (85 FR 78412), EPA revised the greenhouse gas (GHG) standards that had previously been adopted for model years 2021–2026. EPA also removed and reserved multiple subparts to 40 CFR Part 80, including Subpart H, during this rulemaking. 40 CFR Part 1090 (Regulation of Fuels, Fuel Additives, and Regulated Blendstocks) replaced the earlier Subpart H. On December 30, 2021 (86 FR 74434), EPA revised GHG standards for light-duty passenger cars and light trucks for make years (Mys) 2023 through 2026, setting significantly more stringent standards for those MYs than had been set by the 2020 rulemaking, and somewhat more stringent than the standards adopted in 2012. On April 18, 2024 (89 FR 27842), EPA revised these rules (40 CFR Parts 85, 86, 600 and 1036) to establish more protective emission standards for criteria pollutants and GHG.

3.1.1.10 Tier 3 Motor Vehicle Emissions and Fuel Standards

EPA's Tier 3 program (codified under 40 CFR Part 80, Subpart H, 40 CFR Part 85, and 40 CFR Part 86) reduces tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. The tailpipe standards include phase-in schedules that vary by vehicle class and begin to apply between model years 2017 and 2025. The Tier 3 gasoline sulfur standard, which reduced the allowable sulfur content to 10 parts per million (ppm) in 2017, allows manufacturers to comply across the fleet with the more stringent Tier 3 emission standards. Reduced sulfur content in gasoline will also enable the control devices on vehicles already in use to operate more effectively. Compared to older standards, the non-methane organic gases and NO_x tailpipe standards for light duty vehicles in this rule are 80% lower than the existing fleet average. The heavy-duty tailpipe standards are 60% lower than the existing fleet average.

On December 4, 2020 (85 FR 78412), EPA revised the greenhouse gas (GHG) standards that had previously been adopted for vehicle model years 2021–2026. EPA also removed and reserved multiple subparts to 40 CFR Part 80, including Subpart H, during this rulemaking. 40 CFR Part 1090 (Regulation of Fuels, Fuel Additives, and Regulated Blendstocks) replaced the earlier Subpart H. EPA also revised heavy-duty engine and vehicle standards on January 24, 2023 (88 FR 4296) to further reduce pollutants creating ozone and particulate matter. Requirements for heavy-duty highway engines were effectively migrated from 40 CFR Part 86 to Parts 1036 (Control of Emissions From New and In-use Heavy-Duty Highway Engines), 1065 (Control of Evaporative Emissions From New and In-use Nonroad and Stationary Equipment) and 1068 (General Compliance Provisions For Highway, Stationary and Nonroad Programs). On April 18, 2024 (89 FR 27842), EPA revised some of these rules (40 CFR Parts 85, 86, 600 and 1036) to establish more protective emission standards for criteria pollutants and GHG.

3.1.1.11 Non-Road Diesel Emissions Program

EPA promulgated a series of non-road diesel emissions control programs in 40 CFR Part 89 (Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines), Part 90 (Control of Emissions from Nonroad Spark-Ignition Engines At or Below 19 Kilowatts), Part 91 (Control of Emissions from Marine Spark-Ignition Engines), Part 92 (Control of Air Pollution From Locomotives and Locomotive Engines), and Part 94 (Control of Emissions From marine Compression-Ignition Engines), which, by 2012, had implemented limitations on compression ignition engines, spark-ignition non-road engines, marine engines, and locomotive engines. Environmental benefits are ongoing as consumers replace older engines with newer engines with improved fuel economy and more stringent emissions standards. These regulations also required the use of cleaner fuels. EPA's non-road diesel rules set standards that reduced emissions by more than 90% from non-road diesel equipment and, beginning in 2007, reduced fuel sulfur

levels by 99% from previous levels. The reduction in fuel sulfur levels applied to most non-road diesel fuel in 2010 and applied to fuel used in locomotives and marine vessels in 2012.

EPA has migrated regulatory requirements for these engines to 40 CFR Part 1039 (Control of Emissions From New and In-Use Nonroad Compression-Ignition Engines), with additional testing and compliance provisions in 40 CFR Parts 1065 (Engine-Testing Procedures) and 1068 (General Compliance Provisions for Highway, Stationary and Non-Road Programs) as of June 29, 2021 (86 FR 34372). The Tier 1, Tier 2, and Tier 3 standards originally adopted in this part are identified in 40 CFR Part 1039, Appendix I.

3.1.1.12 Large Spark Ignition and Recreational Vehicle Rule

EPA adopted standards (67 FR 68347) for emissions of NO_x, hydrocarbons (HC), and CO from several groups of previously unregulated non-road engines including large industrial spark-ignition engines and recreational vehicles in 40 CFR Part 1051 (Control of Emissions from Recreational Engines and Vehicles). Non-road spark-ignition engines are those powered by gasoline, liquid propane gas, or compressed natural gas rated over 19kW (25 horsepower). These engines are used in commercial and industrial applications, including forklifts, electric generators, airport baggage transport vehicles, and a variety of farm and construction applications. Non-road recreational vehicles include snowmobiles, off-highway motorcycles, and all-terrain-vehicles. These rules were initially effective in 2004 and were fully phased-in by 2012.

3.1.1.13 Emission Control Area Designation and Commercial Marine Vessels

On April 4, 2014, new standards for ocean-going vessels became effective in 40 CFR Part 1043 (Control of NO_x, SO_x and PM Emissions from Marine Engines and Vessels Subject to the Marpol Protocol), which applied to ships constructed after 2015 (75 FR 23013). These standards are found in [MARPOL Annex VI](#),² the international convention for the prevention of pollution from ocean-going ships. These requirements also mandate the use of significantly cleaner fuels by all large ocean-going vessels when operating near coastlines. The cleaner fuels lower SO₂ emission rates as well as emissions of other criteria pollutants as the engines operate more efficiently on cleaner fuel. These requirements apply to vessels operating in waters of the United States as well as vessels operating within 200 nautical miles of the coast of North America, also known as the North American Emission Control Area. Ships within the Emissions Control Area are limited to 1,000 ppm sulfur content beginning in 2020.

² URL: <https://www.epa.gov/sites/production/files/2016-09/documents/resolution-mepec-251-66-4-4-2014.pdf>

3.1.1.14 Maximum Achievable Control Technology Programs (40 CFR Part 63)

VISTAS applied controls to future year emissions estimates from various MACT regulations for VOC, SO₂, NO_x, and PM for source categories at which controls were installed on or after 2002. **Table 3-1** describes the MACT used as control strategies for the non-EGU point source emissions in Florida’s Regional Haze Plan. The table notes the pollutants for which controls were applied as well as the promulgation dates and the compliance dates for existing sources.

Table 3-1. MACT Source Categories

| MACT Source Category | 40 CFR 63 Subpart | Original Promulgation Date | Compliance Date (Existing Sources) | Pollutants Affected |
|--|----------------------|----------------------------|------------------------------------|-----------------------|
| Hazardous Waste Combustion (Phase I) | 63(EEE), 261 and 270 | 9/30/99 | 9/30/03 | PM |
| Portland Cement Manufacturing | LLL | 6/14/99 | 6/10/02 | PM |
| Secondary Aluminum Production | RRR | 3/23/00 | 3/24/03 | PM |
| Lime Manufacturing | AAAAA | 1/5/04 | 1/5/07 | PM, SO ₂ |
| Taconite Iron Ore Processing | RRRRR | 10/30/03 | 10/30/06 | PM, SO ₂ |
| Industrial Boilers, Institutional/Commercial Boilers and Process Heaters | DDDDD | 9/13/04 | 9/13/07 | PM, SO ₂ |
| Reciprocating Internal Combustion Engines | ZZZZ | 6/15/04 | 6/16/07 | NO _x , VOC |

The Industrial/Commercial/Institutional (ICI) boiler MACT standard (40 CFR Part 63, Subpart DDDDD) was vacated by the U.S. Court of Appeals and remanded the regulation to EPA on June 8, 2007. VISTAS did, however, choose to leave the emissions reductions associated with this regulation in place as the CAA required use of alternative control methodologies under Section 112(j) for uncontrolled source categories. The applied MACT control efficiencies were 4% for SO₂ and 40% for PM₁₀ and PM_{2.5} to account for the co-benefit from installation of acid gas scrubbers and other control equipment to reduce HAPs.

EPA finalized the revised ICI Boiler MACT on March 21, 2011. EPA subsequently reconsidered certain aspects of the rule and proposed changes on December 2, 2011. The rules were repromulgated on January 31, 2013. The final compliance date for ICI boilers at major sources was 2016, with the option to request an additional year. EPA’s estimate of nationwide SO₂ emissions reductions from this rule is over 500,000 tons/year, as compared to an estimate of 113,000 tons/year in the analysis for the 2004 rule (78 Fed. Reg. 7,138 and 69 Fed. Reg. 55,218). On November 5, 2015, EPA finalized additional revisions to the Boiler MACT and projected that these updates would not significantly change the emissions reductions expected from the rule. It is, therefore, reasonable to conclude that the 2012 rule has brought about more SO₂ reductions in Florida than were modeled in Florida’s Regional Haze Plan.

3.1.1.15 State EGU Control Measures

Emissions from electric generating units (EGUs) have been regulated through state measures in North Carolina and Georgia, which VISTAS included in its Regional Haze modeling. Reductions associated with these measures were used to estimate the 2018 visibility improvements at the Class I areas in VISTAS states. The Department is unaware of any changes to these state programs that have or will result in emissions levels greater than those projected for 2028.

- **North Carolina Clean Smokestacks Act.** In June of 2002, the North Carolina General Assembly enacted the Clean Smokestacks Act (CSA), which required significant actual emissions reductions from coal-fired power plants in North Carolina.³ These reductions were included as part of the VISTAS 2018 Best and Final modeling effort. Under the CSA, power plants were required to reduce their NO_x emissions by 77% in 2009 and their SO₂ emission by 73% in 2013. Actions taken to date by facilities subject to these requirements comply with the provisions of the CSA, and compliance plans and schedules will allow these entities to achieve the emissions limitations set out by the Act. This program has been highly successful. In 2009, regulated entities emitted less than the 2013 system annual cap of 250,000 tons of SO₂ and less than the 2009 system annual cap of 56,000 tons of NO_x. In 2002, the sources subject to CSA emitted 459,643 tons of SO₂ and 142,770 tons of NO_x. In 2011, these sources emitted only 73,454 tons of SO₂ and 39,284 tons of NO_x, well below the system caps specified in the Act.
- **Georgia Multi-Pollutant Control for Electric Utility Steam Generating Units.** Georgia Rule 391-3-1.02(2)(sss), enacted in 2007, requires flue-gas desulfurization (FGD) and SCR controls on large coal-fired EGUs in Georgia. Reductions from this regulation were included as part of the VISTAS 2018 Best and Final modeling effort. These controls reduced SO₂ emissions from the affected emissions units by at least 95% and reduced NO_x emissions by approximately 85%. Control implementation dates vary by EGU, starting with December 31, 2008, and ending with December 31, 2015.

The Department is unaware of any changes to these federal programs that have or will result in emission increases beyond that projected for 2028.

3.1.2 Consent Agreements

- **Lehigh Cement Company/Lehigh White Cement Company (U.S. District Court, Eastern District of Pennsylvania).** EPA reached a settlement with these companies on December 3, 2019, to settle alleged violations of the CAA. The settlement reduced

³ This legislation established annual caps on both SO₂ and NO_x emissions for the two primary utility companies in North Carolina, Duke Energy and Progress Energy. Duke Energy and Progress Energy have produced emissions reductions beyond what was required which further improved regional visibility.

emissions of NO_x and SO₂ and applied to facilities located in several states, including Alabama.

- **VEPCO (U.S. District Court, Eastern District of Virginia).** Virginia Electric and Power Company (also known as Virginia-Dominion Power) agreed to spend \$1.2 billion by 2013 to eliminate 237,000 tons of SO₂ and NO_x emissions each year from eight coal-fired electricity generating plants in Virginia and West Virginia.
- **Anchor Glass Container (U.S. District Court for the Middle District of Florida).** On August 3, 2018, Anchor Glass Container (Anchor) agreed to convert six of its furnaces to oxyfuel furnaces and to meet NO_x emission limits at these furnaces that are consistent with or better than best available control technology. On its remaining furnaces, Anchor agreed to install oxygen enriched air staging to meet more stringent emission limits. To control SO₂, Anchor agreed to install dry or semi-dry scrubber systems on two furnaces. Remaining furnaces must achieve batch optimization and meet enforceable emissions limits. Anchor also agreed to install NO_x and SO₂ continuous emissions monitoring systems at all furnaces. The agreement was projected to result in cumulative emissions reductions of 2,000 tpy of NO_x and 700 tpy of SO₂ at facilities located in Florida, Georgia, Indiana, Minnesota, New York, and Oklahoma.
- **Tennessee Valley Authority (Docket No. CAA-04-2010-1528(b)).** In 2011, the Tennessee Valley Authority (TVA) entered into a court settlement for previous violations of the Clean Air Act at eleven of its coal-fired power plants in Alabama, Kentucky, and Tennessee. This settlement required shutdowns, new emissions controls, and a switch from coal to natural gas at specified facilities. The settlement required the continuous operation of all new and existing selective catalytic reduction controls and flue gas desulfurization controls. The settlement required TVA to invest between \$3 to \$5 billion on new and upgraded state-of-the-art pollution controls. TVA invested an additional \$350 million on clean energy projects that reduced pollution, saved energy and protected public health and the environment. As compared to TVA's 2008 emissions, upon full implementation of the settlement, TVA achieved NO_x reductions of 115,977 tons per year (69% reduction) and SO₂ reductions of 225,757 tons per year (67% reduction).
- **Tampa Electric Company (TECO).** In 2000, under a settlement agreement, (Civil Action No. 99-2524-CIV-T-23F) TECO converted units at the TECO Gannon Station Power Plant (now TECO Bayside Power Station) from coal to natural gas and installed permanent emissions-control equipment to meet stringent pollution limits.
- **Gulf Power.** On August 28, 2002, under a voluntary agreement between Gulf Power and EPA, Gulf Power upgraded its operation to significantly cut NO_x emissions at its James F.

Crist Electric Generating Facility, now known as Gulf Clean Energy Center. The voluntary NO_x reductions involved installation of a Selective Catalytic Reduction (SCR) unit on Unit No. 7 and a Selective Non-Catalytic Reduction (SNCR) unit on Unit No. 6. The facility was converted to natural gas operations in 2021.

- **Nutrien White Springs Agricultural Chemicals, Inc.** As part of a consent decree with EPA, Nutrien in White Springs, FL was required to reduce SO₂ emissions and meet more stringent SO₂ emission limits at sulfuric acid plant (SAP) C, D, E and F. Nutrien elected to permanently shut down SAPs C and D in 2014, reducing emissions from these SAPs to zero. SAPs E and F are fully compliant with the consent decree limits as of January 2020.

The Department is unaware of any changes to these consent agreements that have or will result in emissions levels greater than those projected for 2028.

The first implementation period required analysis of both Best Available Retrofit Technology (BART) sources and Reasonable Progress sources. BART determinations were only required for the first implementation period. **Section 3.3** discusses the original measures taken for the first Region Haze Implementation period in greater detail and those which no longer apply to the current period due to site or emission unit closures.

Emission projections were provided in **Sections 7.2.4** and **7.2.7** of the 2021 Regional Haze Plan.

3.2 Measures Included in the Regional Haze Plan for the Second Planning Period

Florida included the following additional measures in its Long-Term Strategy for the Second Planning Period.

3.2.1 Measures within Florida

Long-Term Strategy for Regional Haze. Florida has developed a long-term strategy that includes specific enforceable emissions limitations and measures resulting from reasonable progress analyses. In developing its long-term strategy, Florida relied on the technical analyses developed by VISTAS and EPA, and considered the effect of emission reductions due to ongoing pollution control programs; measures to mitigate the impacts of construction activities; Florida's smoke management plan; the effect of source retirements and replacement schedules; and the anticipated net effect on visibility due to projected changes in point, area, and mobile source emissions expected through 2028.

Under EPA's Regional Haze Rule, states are required to consider four-factors (cost, time to comply, energy and non-air impacts, and remaining useful life) in determining whether further reductions in visibility-impairing pollutants would be reasonable for any sources in the state. To

limit the scope of this requirement, and based on a VISTAS analysis, the Department focused its reasonable progress objectives on SO₂ emissions from large EGU and non-EGU point sources. Based on criteria to identify sources with the greatest potential visibility impacts in Class I areas, Florida selected eleven facilities in Florida⁴ and two facilities outside of Florida⁵ (one in Georgia and one in Kentucky) for review.

Eight of the eleven selected facilities in Florida demonstrated that some or all of the facility's units are effectively-controlled. Included among these are five power plants⁶ with one or more units that are required to meet EPA's SO₂ limit under MATS and three phosphate fertilizer facilities⁷ that have recently made significant expenditures to upgrade emissions controls and reduce emissions. Florida determined that there is a low likelihood that cost-effective technological advancements exist that could provide further reasonable emission reductions for these sources.

Four of the eleven selected facilities in Florida were subjected to a full four-factor analysis for at least one selected unit (one power plant,⁸ which had also submitted an effective-controls demonstration for other selected units at the plant, and three pulp and paper mills⁹) after the Department determined that the selected units did not meet the effectively-controlled criteria. The Department is currently proposing to incorporate into Florida's Regional Haze SIP permit limits and measures resulting from the effectively-controlled analyses and four-factor analyses for these four facilities. The Department also requested that Georgia and Kentucky complete a reasonable progress analysis on the two facilities selected in those states that affect visibility in Florida Class I areas. The Department has not yet received the final results of the reasonable progress analysis from Georgia or Kentucky.

On October 28, 2024, Florida submitted to EPA a supplemental SIP to complete the four-factor analyses for Foley Cellulose Perry Mill. The supplemental SIP also included an updated permit for WestRock Fernandina Beach that includes monitoring, reporting, and recordkeeping requirements and an evaluation of whether a lower-sulfur back-up fuel should be considered a reasonable progress control. Florida also committed to completing mid-point reviews of the regional haze plan as required in the Regional Haze Rule (40 CFR 51.308(f)). The next mid-point review is due by January 31, 2025. The Department will review the progress of the projected emissions changes to judge the necessity of making any revisions to the plan. **Table 3-2** provides the most current emissions for the facilities selected for four-factor analyses.

⁴ Foley Cellulose, LLC Foley Mill, Duke Crystal River Power Plant, JEA Northside Generating Station, Mosaic New Wales, Mosaic Bartow, WestRock Fernandina Beach Mill, WestRock Panama City Mill, TECO Big Bend Power Station, Nutrien White Springs Ag Chem, Seminole Generating Station, CD McIntosh Power Plant.

⁵ Georgia Power Company – Plant Bowen, GA, Tennessee Valley Authority (TVA) – Shawnee Fossil Plant

⁶ Duke Crystal River Power Plant, JEA Northside Generating Station, TECO Big Bend Power Station, Seminole Generating Station, CD McIntosh Power Plant

⁷ Mosaic New Wales, Mosaic Bartow, Nutrien White Springs Ag Chem

⁸ JEA Northside Generating Station

⁹ Foley Cellulose, LLC Foley Mill, WestRock Fernandina Beach Mill, WestRock Panama City Mill

Table 3-2. Current Status of Reasonable Progress Sources in the Second Implementation Period

| Facility | Unit ID | Current Status of Controls/Reductions | Modeled 2011 SO ₂ Emissions | Actual 2020 SO ₂ Emissions | Projected 2028 SO ₂ Emissions |
|----------------------------------|--|--|--|---------------------------------------|--|
| Foley Cellulose, LLC Foley Mill | EU002, EU004, EU006, EU007, EU011 | [Shutdown] | 1,618 tpy | 2,314.5 tpy | 1,520 tpy |
| Duke Crystal River Power Plant | EU003 and EU004 EU051, EU052, EU042 and EU043 | MATS 0.2 lb/MMBTU limit Combust only natural gas | 26,162 tpy | 2,424.2 tpy | 2,614 tpy |
| JEA Northside Generating Station | E026 and EU027 | 0.15 lb/MMBTU | 14,917 tpy | 2,308.6 tpy | 2,150 tpy |
| Mosaic New Wales | EU002, EU003, EU004, EU042, EU044 | 5-unit cap 1,090 lb/hr | 7,901 tpy | 4,002.1 tpy | 4,491 tpy |
| Mosaic South Pierce | EU004, EU005 | 3,000 tpd of 100% H ₂ SO ₄ | 1,123 tpy | 1,739.4 tpy | 1,553 tpy |
| Mosaic Bartow | EU012, EU032 and EU033 | 3-unit cap 1,100 lb/hr, 24 hr block average | 4,426 tpy | 2,907.1 tpy | 4,301 tpy |
| WestRock Fernandina Beach Mill | EU011 EU015 | 150 lb/hr SO ₂ 3-hr block average and 642.6 tpy rolled monthly 125 tpd coal usage 30-day rolling average | 3,717 tpy | 633.0 tpy | 2,607 tpy |
| WestRock Panama City Mill | EU001 and EU019 EU015 and EU016 | 2.75 lb/MMBTU [shutdown] 643 lb/hr cap for both 24-hr rolling average [shutdown] | 2,392 tpy | 1,118.2 tpy | 2,591 tpy |
| TECO Big Bend Power Station | EU001 EU002 and EU003 EU004 | [shutdown] Natural gas only [shutdown 2023] MATS 0.2 lb/MMBTU limit | 9,106 tpy | 0 tpy | 6,085 tpy |
| Nutrien White Springs Ag Chem | EU066 and EU067 | 2.6 lb/ton 3-hr rolling average and 2.3 lb/ton on 365 day rolling average | 3,229 tpy | 1,335.6 tpy | 1,557 tpy |
| Seminole Generating Station | EU001 and EU002 | MATS 0.2 lb/MMBTU limit | 14,970 tpy | 4,974.9 tpy | 3,713 tpy |
| CD McIntosh Power Plant | EU006 EU028 EU034 | [Shutdown in 2021] 8 lb/hr 0.015% by vol exhaust gas | 4,257 tpy | 583.8 tpy | 4,202 tpy |

3.2.2 Measures Outside of Florida

VISTAS provided consultation letters on behalf of South Carolina to Ohio and Pennsylvania, and South Carolina provided a consultation letter to Georgia to address measures outside of South Carolina. VISTAS states have been advised to include reference to these measures in their state progress reports. A summary of the responses is below:

- **Georgia Power Company – Plant Bowen, GA.** A reasonable progress analysis provided by Georgia Power Company states the facility will be taking a limit of 0.20 lb/MMBtu on their coal-fired boilers.
- **International Paper – Savannah, GA.** A reasonable progress analysis provided by International Paper states the facility is removing the ability to burn coal and fuel oil from the four main sources.
- **Genon NE Management Company – Keystone Station, PA.** A reasonable progress analysis provided by the state of Pennsylvania asserts that Units 1 and 2 at this facility are considered to be effectively controlled. Keystone indicated that the units are currently controlled by BACT-level controls for SO₂ and NO_x. In addition, the units made process improvements to comply with the MATS Rule and the 2010 1-hour SO₂ NAAQS. Keystone Generating Station stated in the four-factor analysis that since 2008, annual SO₂ emissions have been reduced by 89%. Keystone did not identify any technically feasible controls for SO₂, because the units are already controlled by a wet flue gas desulfurization (FGD) (at least 90% effectiveness) and dry sorbent injection. For NO_x control, Keystone did evaluate potential tuning and upgrading of the low NO_x burners installed the units. The cost effectiveness of this upgrade was estimated to be \$16,322/ton NO_x removed. Keystone did not identify any reasonable control measures for NO_x or SO₂ as a result of the four-factor analysis.
- **General James M. Gavin Power Plant, OH.** A reasonable progress analysis provided by the state of Ohio asserts that due to the presence of an FGD and SCR system of at least 90% effectiveness, this facility is considered to be effectively controlled. Boilers B003 and B004 have federally enforceable SO₂ emissions limits of 7.41 lb/MMBtu. Both boilers are required to be continuously controlled by FGD systems with an effective control efficiency of 95%. Ohio has requested a four-factor analysis from the facility.

Florida did not take credit for any of these out-of-state measures in establishing reasonable progress goals for the Class I areas in Florida. In addition to those out-of-state measures listed

above, the Department requested, but did not receive, reasonable progress analysis information on the out-of-state facilities listed in **Table 3-3**.

Table 3-3. Facilities in VISTAS States (not including Florida) Selected for Reasonable Progress Analysis

| State | Facility ID | Facility Name |
|-------|---------------|---|
| GA | 13015-2813011 | Ga Power Company – Plant Bowen |
| KY | 21145-6037011 | Tennessee Valley Authority (TVA) – Shawnee Fossil Plant |

3.3 Changes to Measures Included in Long-Term Strategy for First Planning Period

Florida included the following measures in its long-term strategy for the first planning period. Florida completed source-specific reasonable progress and BART determinations for all applicable sources in the first-round regional haze SIP. In total, Florida had 46 BART-eligible sources, and 15 reasonable-progress sources were reviewed. Of the 46 BART-eligible sources, 25 met the modeling exemption criteria, nine shut down, and twelve were reviewed for BART determinations. Of the 15 facilities with reasonable progress units, three had shut down, three took enforceable permit limits that rendered them no longer subject to a four-factor analysis, six were also BART sources that completed a BART demonstration (equivalent to a reasonable progress determination), and five completed a reasonable progress four-factor analysis determination. (Two sources had units split between BART and reasonable progress.)

Table 3-4 lists the fifteen facilities that had units for which a reasonable progress determination was made, together with their current status. All of the facilities that were required to implement reasonable progress controls or measures have met their compliance dates. **Table 3-4** compares the modeled 2018 SO₂ emissions to the actual 2018 emissions for these sources. Emissions data for 2023 are also available, and they have been included in the table. **Table 3-4** also shows the emissions change over the period from 2018 through 2023 (2023 emissions minus 2018 emissions). Since the last progress report, five additional reasonable progress units at three facilities have shutdown, with 15 reasonable progress units still in operation. At the end of the first implementation period (2018), actual emissions from all existing facilities (23,117 tpy from 10 facilities) are significantly lower than the emissions that were modeled in the SIP for 2018 (133,552 tpy from 13 facilities), including those facilities that made no changes (i.e., those facilities for which no reasonable progress controls were identified). During the period of 2018 through 2023, SO₂ emissions from these units decreased by 74,034 tons.

Table 3-5 lists the twelve sources for which a BART review was made. Sources that were exempt from BART analysis or shut down prior to submission of the first regional haze SIP are not listed. All BART controls have been implemented as of December 31, 2018. The actual 2018 and 2023 emissions for these sources are compared to the emission reductions that were expected based upon the BART emission limitations compared to the 2002 base year emissions. As of the

end of the first implementation period (2018), reductions in actual emissions from existing facilities (7,259 tpy of SO₂, 9,238 tpy of NO_x, and 285 tpy of PM from eight facilities) have significantly surpassed the emission reductions expected from the 2002 base year emissions based on BART emission limitations. This is due to additional unit shutdowns and fuel switches, documented in **Table 3-5**, which occurred for reasons outside of the BART process. **Table 3-5** also shows the emissions change over the period from 2018 through 2023 (2023 emissions minus 2018 emissions). During the period of 2018 through 2023, SO₂ emissions from these units decreased by 10,608 tons, NO_x emissions decreased by 6,944 tons and PM emissions decreased by 388 tons.

3.4 Emission Reductions Achieved through Implementation of Control Measures

40 CFR 51.308(g)(2) of the Regional Haze Rule requires *[a] summary of the emission reductions achieved throughout the State through implementation of the measures described in (1) above.* As required by 40 CFR 51.308(g)(2), emissions reductions at Florida emission units are provided in **Table 3-4** and **Table 3-5** below. Florida is not anticipating any increases in SO₂, NO_x or PM emissions from any of these emission units owing to the combination of factors discussed above, including the implementation of additional control measures as a result of four-factor analyses conducted at specified facilities.

Table 3-4. Current Status of Reasonable Progress Sources from the First Implementation Period

| Plant Name | Unit ID | Current Status of Controls/Reductions | BART-Eligible? | Modeled 2018 SO ₂ Emissions | Actual 2018 SO ₂ Emissions | Actual 2023 SO ₂ Emissions |
|----------------------------------|---------|---|----------------|--|---------------------------------------|---------------------------------------|
| GRU Deerhaven | EU005 | Permit limited (5,500 tpy) | | 1,062 | 530.0 | 68.9 |
| FPL Port Everglades | EU003 | Shutdown 01/31/13 | Y | 859 | 13.6 | 11.5 |
| FPL Port Everglades | EU004 | Shutdown 01/31/13 | Y | 97 | 13.6 | 11.5 |
| Duke Crystal River | EU001 | Shutdown 12/31/18 | Y | 13,537 | - | - |
| Duke Crystal River | EU002 | Shutdown 12/31/18 | Y | 15,241 | - | - |
| Duke Crystal River | EU003 | FGD – in operation | | 3,634 | 3,364.8 | 3,540.4 |
| Duke Crystal River | EU004 | FGD – in operation | | 6,120 | 3,364.8 | 3,540.4 |
| FPL Turkey Point | EU001 | Shutdown 10/31/16 | Y | 499 | 12.8 | 13.6 |
| FPL Turkey Point | EU002 | Shutdown 10/31/16 | Y | 179 | 12.8 | 13.6 |
| JEA St. Johns River Power Park | EU016 | Shutdown | | 5,882 | - | - |
| JEA St. Johns River Power Park | EU017 | Shutdown | | 7,420 | - | - |
| JEA Northside | EU027 | Permit limited (1,816 tpy) | | 5,950 | 2,473.8 | 1,505.6 |
| JEA Northside | EU003 | No changes | Y | 7,146 | 2,473.8 | 1,505.6 |
| Gulf Clean Energy Center (Crist) | EU007 | FGD – in operation | Y | 4,648 | 430.6 | 8.4 |
| Florida Power Development | EU018 | Shutdown 06/30/18 | | 2,884 | 2.0 | - |
| TECO Bayside (formerly Gannon) | EU001 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| TECO Bayside (formerly Gannon) | EU002 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| TECO Bayside (formerly Gannon) | EU003 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| TECO Bayside (formerly Gannon) | EU004 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| TECO Bayside (formerly Gannon) | EU005 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| TECO Bayside (formerly Gannon) | EU006 | Shutdown 2003 | | 0 | 15.1 | 13.2 |
| FPL Manatee | EU001 | Fuel oil sulfur reduction – in effect | Y | 4,371 | 525.2 | 20.6 |
| FPL Manatee | EU002 | Fuel oil sulfur reduction – in effect | Y | 6,163 | 525.2 | 20.6 |
| WestRock Fernandina Beach | EU015 | No changes | | 3,627 | 1,641.1 | 493.6 |
| Duke Anclote | EU001 | Converted to NG only – in effect | Y | 13,879 | 4.8 | 6.5 |
| Duke Anclote | EU002 | Converted to NG only – in effect | Y | 13,225 | 4.8 | 6.5 |
| Duke Bartow | EU001 | Shutdown 2009 | | 0 | 16.6 | 14.9 |
| Duke Bartow | EU002 | Shutdown 2009 | | 0 | 16.6 | 14.9 |
| Duke Bartow | EU003 | Shutdown 2009 | Y | 0 | 16.6 | 14.9 |
| Lakeland McIntosh | EU006 | Eliminated petcoke – in effect | | 3,842 | 1,656.2 | 3.9 |
| Seminole Electric | EU001 | FGD improved to 0.25 lb/mmbtu/ no petcoke | | 6,779 | 5,638.0 | 3,194.7 |
| Seminole Electric | EU002 | FGD improved to 0.25 lb/mmbtu/ no petcoke | | 6,508 | 5,638.0 | 3,194.7 |

Table 3-5. Current Status of BART Sources

| Plant Name | Unit ID | Current Status of Controls/Reductions | 2002 SO ₂ | Est. SO ₂ Reduction 2018 | Actual 2018 SO ₂ | Actual 2023 SO ₂ | 2002 NO _x | Est. NO _x Reduction 2018 | Actual 2018 NO _x | Actual 2023 NO _x | 2002 PM ₁₀ | Est. PM ₁₀ Reduction 2018 | Actual 2018 PM ₁₀ | Actual 2023 PM ₁₀ |
|------------------------|---------|---|----------------------|-------------------------------------|-----------------------------|-----------------------------|----------------------|-------------------------------------|-----------------------------|-----------------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|
| GULF LANSING SMITH | 1 | SO ₂ -DSI (0.74 lb/MMBtu) approx. 50% reduction, required by 3/31/16. Unit retired 3/31/16 | 6,044 | 3,022 | - | - | 2,533 | 0 | - | - | 79 | 0 | - | - |
| GULF LANSING SMITH | 2 | SO ₂ -DSI (0.74 lb/MMBtu) approx. 50% reduction, required by 3/31/16. Unit retired 3/31/16 | 4,247 | 2,123 | - | - | 1,428 | 0 | - | - | 55 | 0 | - | - |
| DUKE CRYSTAL RIVER | 1 | By permit, unit will cease coal operation by 12/31/20 – Unit retired 12/31/18 | 18,998 | 0 | 456.9 | - | 4,810 | 0 | 231.4 | - | 179 | 0 | 7.0 | - |
| DUKE CRYSTAL RIVER | 2 | By permit, unit will cease coal operation by 12/31/20 – Unit retired 12/31/18 | 20,728 | 0 | 3,787.0 | - | 6,373 | 0 | 2,070.7 | - | 74 | 0 | 69.6 | - |
| GULF CRIST | 6 | No changes | 11,085 | 0 | 741.7 | 8.4 | 3,518 | 0 | 1,714.1 | 1,449.6 | 108 | 0 | 389.9 | 309.1 |
| GULF CRIST | 7 | No changes | 21,546 | 0 | 741.7 | 8.4 | 6,355 | 0 | 1,714.1 | 1,449.6 | 191 | 0 | 389.9 | 309.1 |
| TECO BIG BEND | 1 | No changes. Fires natural gas only. | 2,789 | 0 | 1,070.7 | 47.9 | 9,142 | 0 | 0.8 | 0.5 | 200 | 0 | 81.1 | 23.1 (CPM)* |
| TECO BIG BEND | 2 | No changes. Fires natural gas only. | 2,021 | 0 | 1,070.7 | 47.9 | 6,625 | 0 | 0.8 | 0.5 | 718 | 0 | 81.1 | 23.1 (CPM) |
| TECO BIG BEND | 3 | No changes | 2,621 | 0 | 1,070.7 | 47.9 | 5,929 | 0 | 0.8 | 0.5 | 402 | 0 | 81.1 | 23.1 (CPM) |
| JEA NORTHSIDE/SJ RPP | 3 | No changes | 7,146 | 0 | 2,473.8 | 1,505.6 | 3,631 | 0 | 2,748.9 | 2,253.9 | 568 | 0 | 53.1 | 37.3 |
| FPL MANATEE | 1 | SO ₂ - lower S limit (0.7% or less) approx. 30% reduction- in effect | 14,691 | 4,407 | 525.2 | 20.6 | 4,630 | 0 | 798.8 | 203.2 | 1,177 | 0 | 65.2 | 42.8 |
| FPL MANATEE | 2 | SO ₂ - lower S limit (0.7% or less) approx. 30% reduction- in effect | 16,508 | 4,952 | 525.2 | 20.6 | 5,210 | 0 | 798.8 | 203.2 | 1,323 | 0 | 65.2 | 42.8 |
| LAKELAND C.D. MCINTOSH | 1 | Shutdown | 559 | 0 | 1,656.2 | 3.9 | 246 | 0 | 1,735.0 | 166.0 | 22 | 0 | 97.6 | 17.1 |
| LAKELAND C.D. MCINTOSH | 5 | Shutdown 06/22/20 | 80 | 0 | 1,656.2 | 3.9 | 168 | 0 | 1,735.0 | 166.0 | 8 | 0 | 97.6 | 17.1 |
| FPL MARTIN | 1 | Shutdown 12/31/18 | 6,404 | 0 | 521.3 | 19.0 | 2,434 | 0 | 1,976.9 | 484.1 | 576 | 0 | 103.5 | 68.2 |
| FPL MARTIN | 2 | Shutdown 12/31/18 | 8,215 | 0 | 521.3 | 19.0 | 2,937 | 0 | 1,976.9 | 484.1 | 730 | 0 | 103.5 | 68.2 |
| FPL TURKEY POINT | 1 | Shutdown 10/31/16 | 4,307 | 3,808 | 12.8 | 13.6 | 2,324 | 0 | 165.1 | 175.8 | 369 | 0 | 45.1 | 48.4 |
| FPL TURKEY POINT | 2 | Shutdown 10/31/16 | 4,289 | 4,289 | 12.8 | 13.6 | 2,233 | 2,233 | 165.1 | 175.8 | 365 | 365 | 45.1 | 48.4 |
| TALLAHASSEE PURDOM | 7 | Shutdown 12/31/13 | 2 | 2 | 2.3 | 3.3 | 11 | 11 | 121.9 | 10.5 | 0.3 | 3 | 31.3 | 35.9 |

| Plant Name | Unit ID | Current Status of Controls/Reductions | 2002 SO ₂ | Est. SO ₂ Reduction 2018 | Actual 2018 SO ₂ | Actual 2023 SO ₂ | 2002 NO _x | Est. NO _x Reduction 2018 | Actual 2018 NO _x | Actual 2023 NO _x | 2002 PM ₁₀ | Est. PM ₁₀ Reduction 2018 | Actual 2018 PM ₁₀ | Actual 2023 PM ₁₀ |
|-------------------|---------|--|----------------------|-------------------------------------|-----------------------------|-----------------------------|----------------------|-------------------------------------|-----------------------------|-----------------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|
| PCS White Springs | 1 | Shutdown | 0 | 0 | - | - | 0 | 0 | - | - | 17 | 0 | - | - |
| PCS White Springs | 3 | Shutdown | 1 | 0 | - | - | 29 | 0 | - | - | 11 | 0 | - | - |
| PCS White Springs | 4 | No changes | 23 | 0 | - | - | 12 | 0 | - | - | 10 | 0 | - | - |
| PCS White Springs | 8 | No changes | 1 | 0 | - | 0.0074 | 0 | 0 | - | 2.153 | 0 | 0 | - | 4.708 |
| PCS White Springs | 10 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 12 | 0 | - | 0.0016 |
| PCS White Springs | 15 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 5 | 0 | 0.407 | 0.133 |
| PCS White Springs | 21 | Shutdown | 18 | 0 | - | - | Limited operation | 0 | - | - | 0 | 0 | - | - |
| PCS White Springs | 22 | Shutdown | 27 | 0 | - | - | Limited operation | 0 | - | - | 0 | 0 | - | - |
| PCS White Springs | 32 | No changes | 0 | 0 | 0.0246 | 0.0081 | 1 | 0 | 7.175 | 2.357 | 0 | 0 | 5.409 | 2.176 |
| PCS White Springs | 38 | Shutdown | 1 | 0 | - | - | 29 | 0 | - | - | 14 | 0 | - | - |
| PCS White Springs | 42 | Shutdown | 13 | 0 | - | - | 7 | 0 | - | - | 1 | 0 | - | - |
| PCS White Springs | 44 | Shutdown | 0 | 0 | - | - | 0 | 0 | - | - | 16 | 0 | - | - |
| PCS White Springs | 54 | No changes | Active | 0 | - | - | Active | 0 | - | - | Active | 0 | - | - |
| PCS White Springs | 62 | Shutdown | Active | 0 | - | - | Active | 0 | - | - | Active | 0 | - | - |
| PCS White Springs | 64 | Shutdown | 0 | 0 | - | - | 2 | 0 | - | - | 1 | 0 | - | - |
| PCS White Springs | 65 | Shutdown | 0 | 0 | - | - | 0 | 0 | - | - | 0 | 0 | - | - |
| PCS White Springs | ALL | Cyclones, venturi and cyclonic scrubbers | Active | - | 1,982.1 | 977.6 | | - | 130.8 | 107.7 | Active | - | 7.1 | 16.8 |
| CEMEX Brooksville | 2 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 3 | 0 | - | - |
| CEMEX Brooksville | 3 | No changes | 5 | 0 | - | - | 555 | 0 | - | - | 16 | 0 | - | - |
| CEMEX Brooksville | 4 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 11 | 0 | - | - |
| CEMEX Brooksville | 5 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 105 | 0 | - | - |
| CEMEX Brooksville | 6 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 1 | 0 | - | - |
| CEMEX Brooksville | 8 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 6 | 0 | - | - |

| Plant Name | Unit ID | Current Status of Controls/Reductions | 2002 SO ₂ | Est. SO ₂ Reduction 2018 | Actual 2018 SO ₂ | Actual 2023 SO ₂ | 2002 NO _x | Est. NO _x Reduction 2018 | Actual 2018 NO _x | Actual 2023 NO _x | 2002 PM ₁₀ | Est. PM ₁₀ Reduction 2018 | Actual 2018 PM ₁₀ | Actual 2023 PM ₁₀ |
|-------------------|---------|---------------------------------------|----------------------|-------------------------------------|-----------------------------|-----------------------------|----------------------|-------------------------------------|-----------------------------|-----------------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|
| CEMEX Brooksville | 9 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 105 | 0 | - | - |
| CEMEX Brooksville | 11 | No changes | 0 | 0 | - | - | 0 | 0 | - | - | 8 | 0 | - | - |
| CEMEX Brooksville | ALL | | | - | 12.5 | 33.0 | | - | 1,233.9 | 1,135.2 | | - | 72.9 | 36.2 |

*Note: Emissions are in tons per year. PM₁₀ emissions represent PM₁₀ filterable + condensable.

**Note: Emissions reported as condensable particulate matter (CPM).

4 Visibility Conditions

40 CFR 51.308(g)(3) of the RHR requires that *[f]or each Class I area within the State, the State must assess the following visibility conditions and changes, with values for most impaired and least impaired days expressed in terms of five-year averages of these annual values:*

- (i) The current visibility conditions for the most impaired and least impaired days;*
- (ii) The difference between current visibility conditions for the most impaired and least impaired days and baseline visibility conditions;*
- (iii) The change in visibility impairment for the most impaired and least impaired days over the past five years;*

40 CFR 51.308(g)(3) requires the state to assess the visibility conditions for the most impaired and least impaired days expressed in terms of five-year averages. The visibility conditions that must be reviewed include: (1) the current visibility conditions; (2) the difference between current visibility conditions compared to the baseline; and (3) the change in visibility impairment for the most and least impaired days over the past five years. The Interagency Monitoring of Protected Visual Environments ([IMPROVE](#)) program provides visibility data allowing such assessments within Class I areas or at nearby Class I areas.¹⁰

Table 4-1 and **Table 4-2** show the current visibility conditions and the difference between the current visibility and the baseline condition expressed in terms of five-year averages of observed visibility impairment for the 20% most impaired days and the 20% clearest days, respectively. The baseline conditions are for 2000 through 2004, and the current conditions are for 2018 through 2022. Because the RPGs in the first planning period were calculated for the 20% worst days, the table includes a comparison of the baseline average and current average for the 20% worst days. **Table 4-3** and **Table 4-4** show the current visibility conditions and the difference between the current visibility and the baseline condition for five-year periods through 2022 for the 20% most impaired and clearest days, respectively.

The data shows that Chassahowitzka National Wilderness Area, the Everglades National Park and the St. Marks National Wilderness Area saw an improvement in visibility on the 20% most impaired days and on the 20% clearest days. The current observed five-year average value for each Class I area on the 20% most impaired days is either below or on track to meet the 2028 goal. On the 20% clearest days, the current observed five-year average value for each Class I area is either below or on track to meet the 2028 goal and thus ensures no degradation in visibility for the 20 % clearest days since the baseline period as required in 40 CFR 51.308(g)(3).

¹⁰ <https://vista.cira.colostate.edu/Improve/improve-program/>

Table 4-1. Current Observed Visibility Impairment, Change from Baseline, and Comparison to 2028 RPGs (20% Most Impaired Days [deciviews])

| Class I Area | Baseline Average (2000-2004) | Current Average (2018-2022) | Change, current – baseline | 2028 Goal | Difference, current – goal |
|---|------------------------------|-----------------------------|----------------------------|-----------|----------------------------|
| Chassahowitzka National Wilderness Area | 24.52 | 17.03 | -7.49 | 16.79 | 0.24 |
| Everglades National Park | 19.52 | 14.37 | -5.15 | 13.95 | 0.42 |
| St. Marks National Wilderness Area | 24.68 | 16.29 | -8.39 | 16.43 | -0.14 |

Table 4-2. Current Observed Visibility Impairment, Change from Baseline, and Comparison to 2028 RPGs (20% Clearest Days [deciviews])

| Class I Area | Baseline Average (2000-2004) | Current Average (2018-2022) | Change, current – baseline | 2028 Goal | Difference, current – goal |
|---|------------------------------|-----------------------------|----------------------------|-----------|----------------------------|
| Chassahowitzka National Wilderness Area | 15.60 | 12.23 | -3.37 | 12.54 | -0.31 |
| Everglades National Park | 11.69 | 10.39 | -1.30 | 9.88 | 0.51 |
| St. Marks National Wilderness Area | 14.34 | 10.82 | -3.52 | 11.59 | -0.77 |

The previous progress report covered visibility through 2018. **Table 4-3** and **Table 4-4** display the change in visibility impairment for the 20% most impaired and 20% clearest days for five-year periods from 2018 through 2022. The data shows that Florida’s Class I areas saw an improvement in visibility on the 20% most impaired and 20% clearest days. In comparing **Tables 4-1** and **4-3**, there was a -13.02 percent change between the 2014-2018 and 2018-2022 five-year periods for 20% most impaired days for Chassahowitzka National Wilderness Area. Similarly, there was a -1.45 percent change between the 2014-2018 and 2018-2022 five-year periods for 20% clearest days for the same Class I area. Both comparisons show an increase in visibility at Florida’s Class I areas.

**Table 4-3. Observed Visibility Impairment for Five-Year Periods through 2022
(20% Most Impaired Days [deciviews])**

| Class I Area | 2014-2018 | 2015-2019 | 2016-2020 | 2017-2021 | 2018-2022 |
|---|-----------|-----------|-----------|-----------|-----------|
| Chassahowitzka National Wilderness Area | 19.58 | 17.14 | 16.89 | 17.02 | 17.03 |
| Everglades National Park | 17.74 | 14.67 | 14.54 | 14.58 | 14.37 |
| St. Marks National Wilderness Area | 20.09 | 16.72 | 16.60 | 16.48 | 16.29 |

**Table 4-4. Observed Visibility Impairment for Five-Year Periods through 2022
(20% Clearest Days [deciviews])**

| Class I Area | 2014-2018 | 2015-2019 | 2016-2020 | 2017-2021 | 2018-2022 |
|---|-----------|-----------|-----------|-----------|-----------|
| Chassahowitzka National Wilderness Area | 12.41 | 12.33 | 12.22 | 12.21 | 12.23 |
| Everglades National Park | 10.37 | 10.44 | 10.39 | 10.34 | 10.39 |
| St. Marks National Wilderness Area | 11.15 | 11.07 | 11.15 | 11.00 | 10.82 |

Figure 4-1 and **Figure 4-2** display the data listed in **Table 4-1** through **Table 4-4**. Monitoring data from the IMPROVE network used in these figures are current as of [October 2023](#).¹¹ **Figure 4-1** shows the uniform rate of progress (URP) towards natural background for the 20% most impaired days and observed visibility impairment for the 20% most impaired days in the Chassahowitzka National Wilderness Area, as well as the associated glide slope and the predicted impairment from the Regional Haze SIP. The 2028 RPG is included in the graph. The observed five-year average impairment for 2022 is below both the glide path and the predicted impairment.

¹¹ http://vista.cira.colostate.edu/Improve/rhr-summary-data/sia_impairment_daily_budgets_10_23.zip

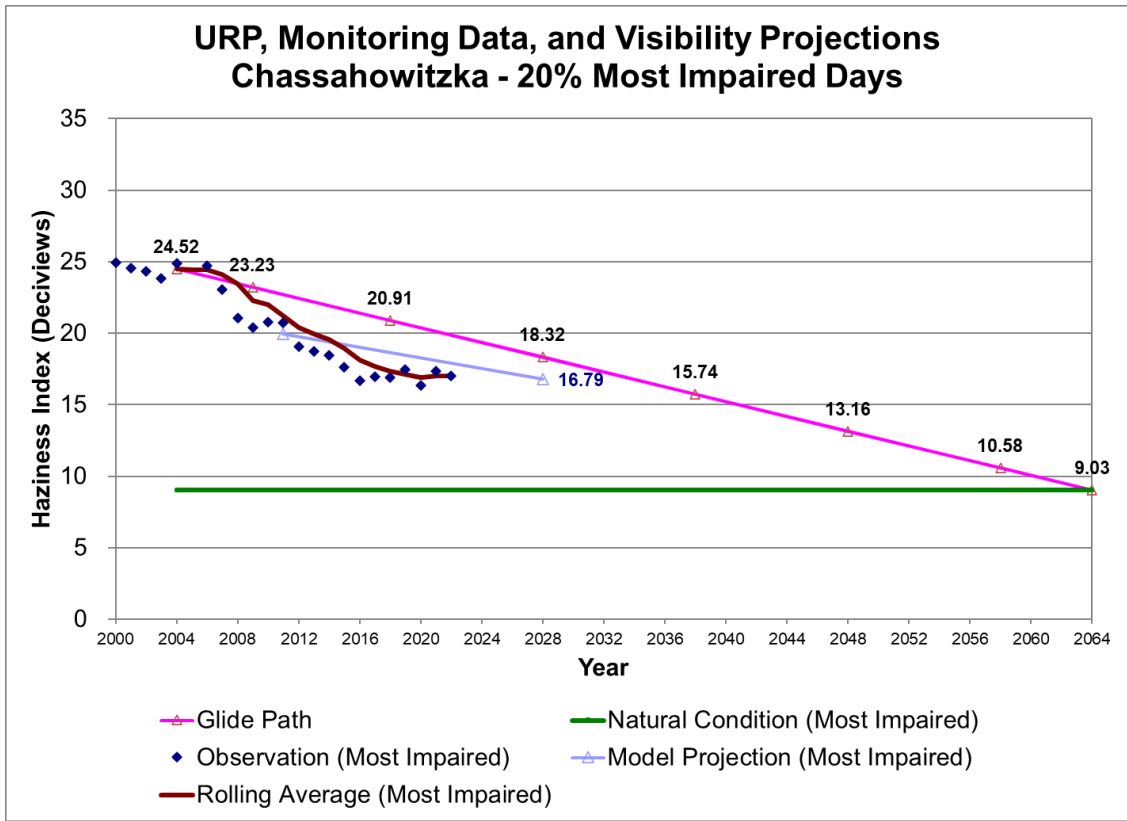


Figure 4-1. Chassahowitzka National Wilderness Area Visibility Impairment on the 20% Most Impaired Days, Glide Path, and 2028 RPG

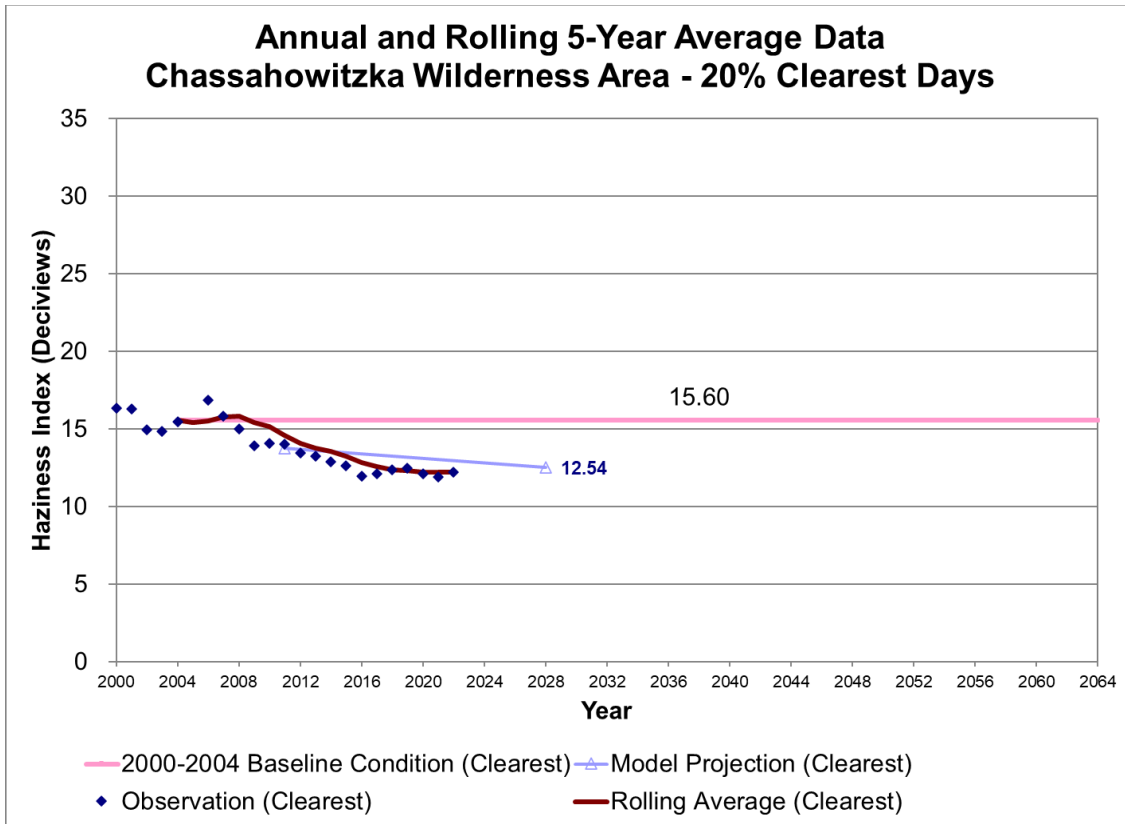


Figure 4-2. Annual and Rolling Five-Year Average Data for Chassahowitzka National Wilderness Area (20% Clearest Days [deciviews])

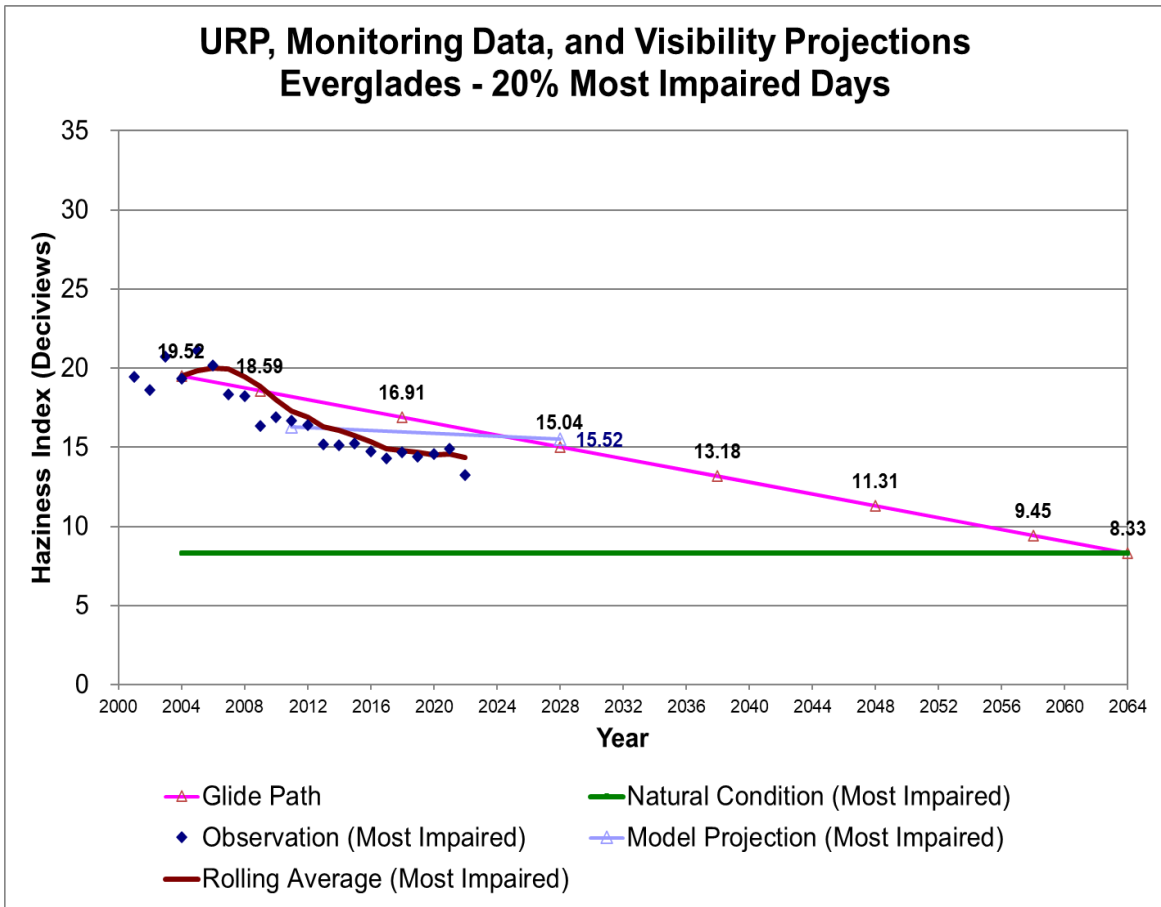


Figure 4-3. Everglades National Park Visibility Impairment on the 20% Most Impaired Days, Glide Path, and 2028 RPG

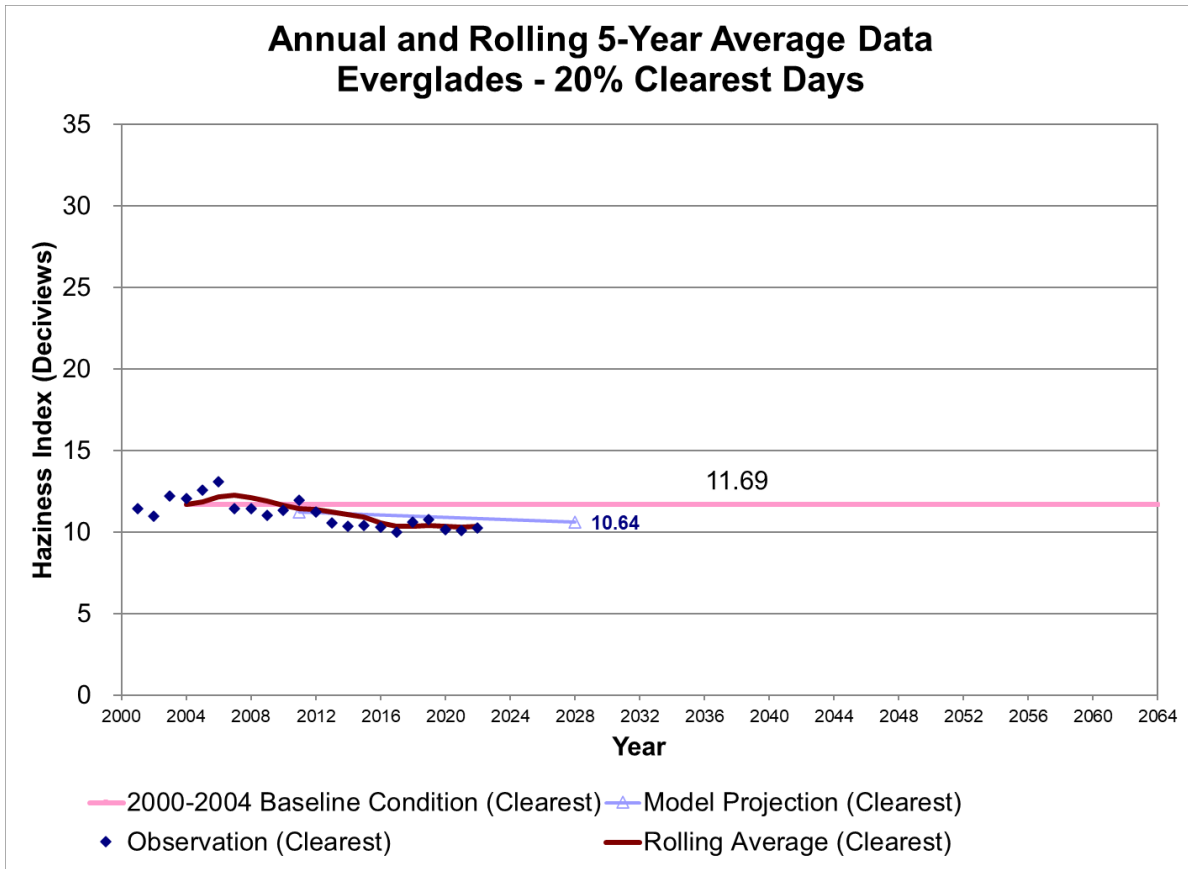


Figure 4-4. Annual and Rolling Five-Year Average Data for Everglades National Park (20% Clearest Days [deciviews])

URP, Monitoring Data, and Visibility Projections St. Marks - 20% Most Impaired Days

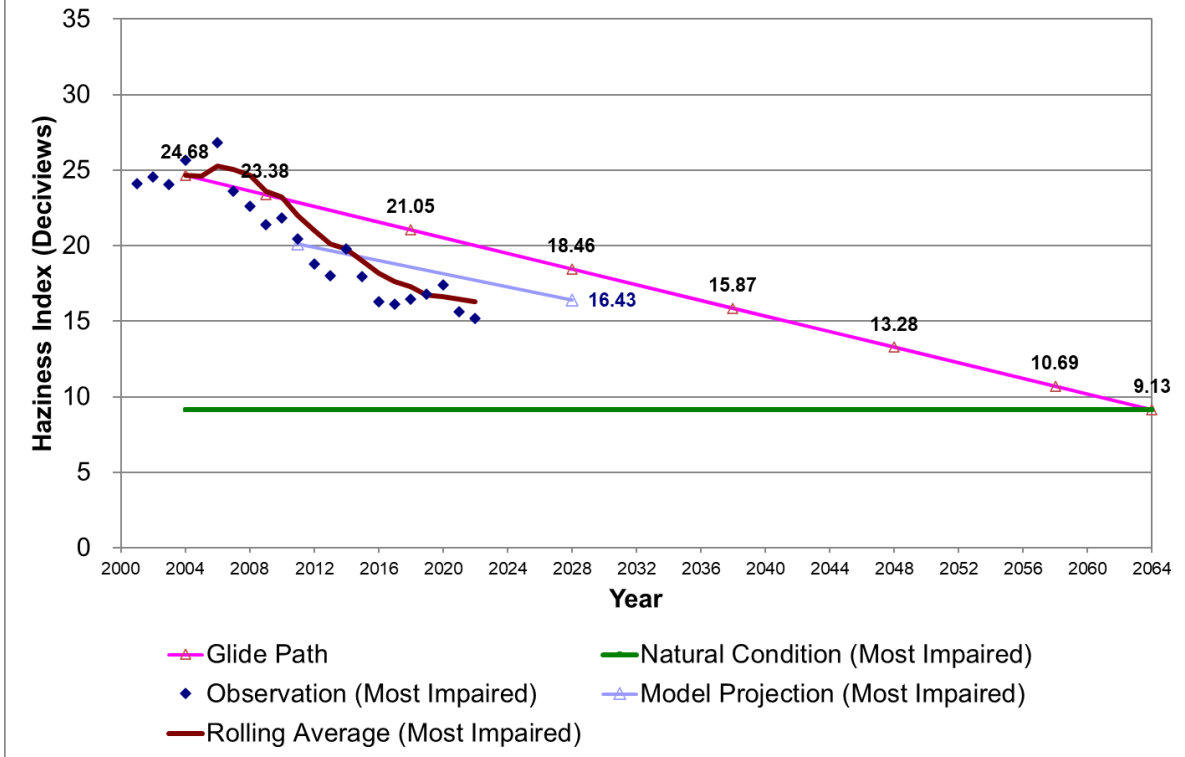


Figure 4-5. St. Marks National Wilderness Area Visibility Impairment on the 20% Most Impaired Days, Glide Path, and 2028 RPG

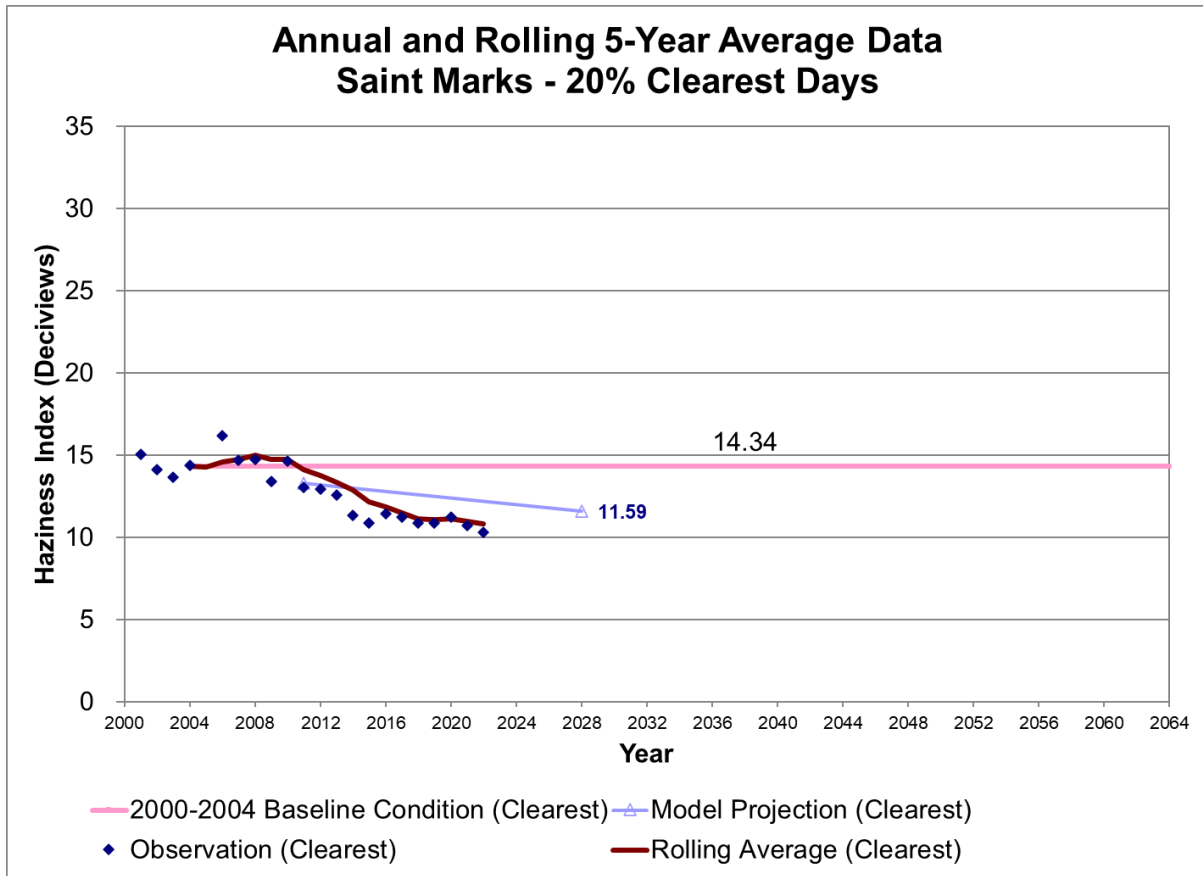


Figure 4-6. Annual and Rolling Five-Year Average Data for St. Marks National Wilderness Area (20% Clearest Days [deciviews])

Figures 4-2, 4-4, and 4-6 show the observed five-year average impairment values for the 20% clearest days in Chassahowitzka National Wilderness Area, Everglades National Park, and St. Marks National Wilderness Area, respectively, as well as the predicted impairment as reported in Florida’s Regional Haze Plan and SIP. The observed five-year average impairments for the 20% clearest days for 2022 are all below both the glidepath and predicted impairments.

5 Emissions Analysis

40 CFR 51.308(g)(4) of the RHR requires *[a]n analysis tracking the change over the period since the period addressed in the most recent plan required under paragraph (f) of this section in emissions of pollutants contributing to visibility impairment from all sources and activities within the State. Emissions changes should be identified by type of source or activity. With respect to all sources and activities, the analysis must extend at least through the most recent year for which the state has submitted emission inventory information to the Administrator in compliance with the triennial reporting requirements of subpart A of this part as of a date 6 months preceding the required date of the progress report. With respect to sources that report directly to a centralized emissions data system operated by the Administrator, the analysis must*

extend through the most recent year for which the Administrator has provided a State-level summary of such reported data or an internet-based tool by which the State may obtain such a summary as of a date 6 months preceding the required date of the progress report. The State is not required to backcast previously reported emissions to be consistent with more recent emissions estimation procedures, and may draw attention to actual or possible inconsistencies created by changes in estimation procedures.

This section includes an analysis tracking the change since 2019 in emissions of pollutants contributing to visibility impairment from all sources and activities within the state, as required by 40 CFR 51.308(g)(4). Because SO₂ was the significant pollutant contributing to visibility impairment during the second implementation period, the emissions analysis will focus mostly on SO₂ emissions. This section also includes an assessment of changes in anthropogenic emissions since 2018, as required by 40 CFR 51.308(g)(5).

5.1 Change in PM_{2.5}, NO_x, and SO₂ Emissions from All Source Categories

This analysis divides emissions across eight source categories: agricultural burning, stationary point, non-point (area), nonroad mobile, on-road mobile, prescribed burns, wildfires, and biogenic sources.

- Agricultural burning includes emissions from field burning associated with various crop production, such as corn, wheat, soybean, citrus, beans, and sugar cane. Emissions estimates from agricultural burning are available on a countywide level.
- Stationary point sources are those sources that emit greater than a specified tonnage per year, with data provided at the facility level. Electricity generating utilities and industrial sources are major subcategories for stationary point sources.
- Nonpoint sources, sometimes called stationary area sources, are those sources the individual emissions from which are relatively small, but due to the large number of these sources, the collective emissions from which may be significant. These types of emissions are estimated on a countywide level.
- Nonroad mobile sources are equipment that can move, but do not use the roadways (i.e., lawn mowers, construction equipment, marine vessels, railroad locomotives, aircraft). The emissions from these sources, like stationary area sources, are estimated on a countywide level.
- On-road mobile sources are automobiles, trucks, and motorcycles that use the roadway system. The emissions from these sources are estimated by vehicle type and road type and

are summed into countywide level data.

- Wildfire emissions include smoldering and flaming emissions from unplanned, unwanted fires burning in natural areas, such as forests, grasslands, or prairies. These emissions may be summed into countywide level data or reported as point sources.
- Prescribed fire emissions include smoldering and flaming emissions from fire land treatment, under controlled conditions, to accomplish natural resource management objectives. Utilization of prescribed burning can reduce the likelihood of catastrophic wildfires.
- Biogenic sources are natural sources like trees, crops, grasses, and the natural decay of plants. Biogenic emissions are not included in this review since they were held constant as part of the original regional haze SIP modeling and are not controllable emissions.

For the purpose of evaluating recent emissions changes and progress, the Department used the [2014 NEI](#)¹², the [2017 NEI](#),¹³ [the 2020 NEI](#),¹⁴ and Florida's point source emissions inventory data collected each year. When available, data after 2020 are also used. For comparison purposes, the tables below include the [2028 emissions projected by VISTAS](#)¹⁵ in the second regional haze SIP.

Table 5-1 and **Figure 5-1** show how fine particulate matter (PM_{2.5}) emissions for each source category have changed. The VISTAS 2028 emissions projections for Florida for PM_{2.5} emissions were 210,317 tons for all source categories. The overall PM_{2.5} emissions across all categories in the 2020 NEI are about 4% lower than what VISTAS projected for 2028.

¹² <https://www.epa.gov/air-emissions-inventories/2014-national-emissions-inventory-nei-data>

¹³ <https://www.epa.gov/air-emissions-inventories/2017-national-emissions-inventory-nei-data>

¹⁴ <https://www.epa.gov/air-emissions-inventories/2020-national-emissions-inventory-nei-data>

¹⁵ <https://www.metro4-sesarm.org/content/task-2-emission-inventory-updates>

Table 5-1. Florida PM_{2.5} Emissions (in tons) for the 2014 NEI, 2017 NEI, and 2020 NEI

| PM _{2.5} Sector | NEI 2014 (tpy) | NEI 2017 (tpy) | NEI 2020 (tpy) |
|--------------------------|----------------|----------------|----------------|
| Point | 20,936 | 16,901 | 13,606 |
| Nonpoint | 110,285 | 74,216 | 70,839 |
| On-road | 8,991 | 6,723 | 4,761 |
| Nonroad | 9,794 | 6,848 | 5,836 |
| Wildfires | 6,377 | 14,058 | 7,407 |
| Prescribed Fires | 90,929 | 58,436 | 95,716 |
| Agricultural Fires | 15,527 | 3,556 | 4,430 |
| Total | 262,839 | 180,738 | 202,595 |

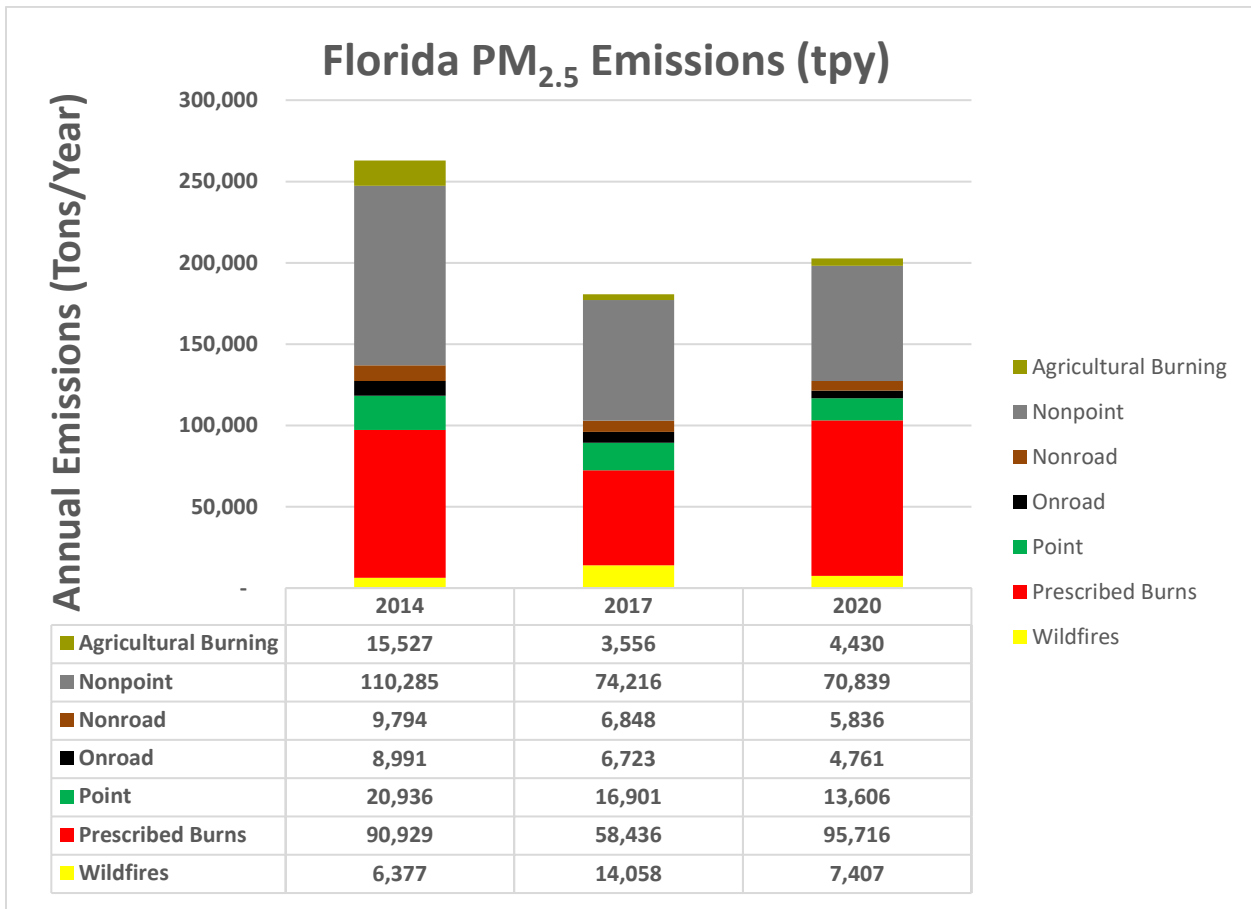


Figure 5-1. Florida PM_{2.5} Emissions (in tons) by Category

There have been significant decreases in most source categories for nitrogen oxides (NO_x) emissions (**Table 5-2**). The VISTAS 2028 projections for Florida for NO_x emissions were 265,451 tons across all source categories. For Florida, the 2020 NEI emissions are higher than the projected 2028 value; however, point source emissions have dropped by 36% since 2014.

Table 5-2. Florida NO_x Emissions (in tons) for the 2014 NEI, 2017 NEI, and 2020 NEI

| NO_x Sector | NEI 2014 (tpy) | NEI 2017 (tpy) | NEI 2020 (tpy) |
|------------------------------|-----------------------|-----------------------|-----------------------|
| Point | 118,657 | 104,163 | 74,901 |
| Nonpoint | 17,688 | 7,260 | 12,171 |
| On-road | 262,347 | 201,751 | 122,822 |
| Nonroad | 139,554 | 87,052 | 76,237 |
| Wildfires | 1,578 | 3,167 | 1,816 |
| Prescribed Fires | 22,087 | 11,080 | 20,413 |
| Agricultural Fires | 5,936 | 1,856 | 4,215 |
| Total | 582,390 | 449,400 | 346,212 |

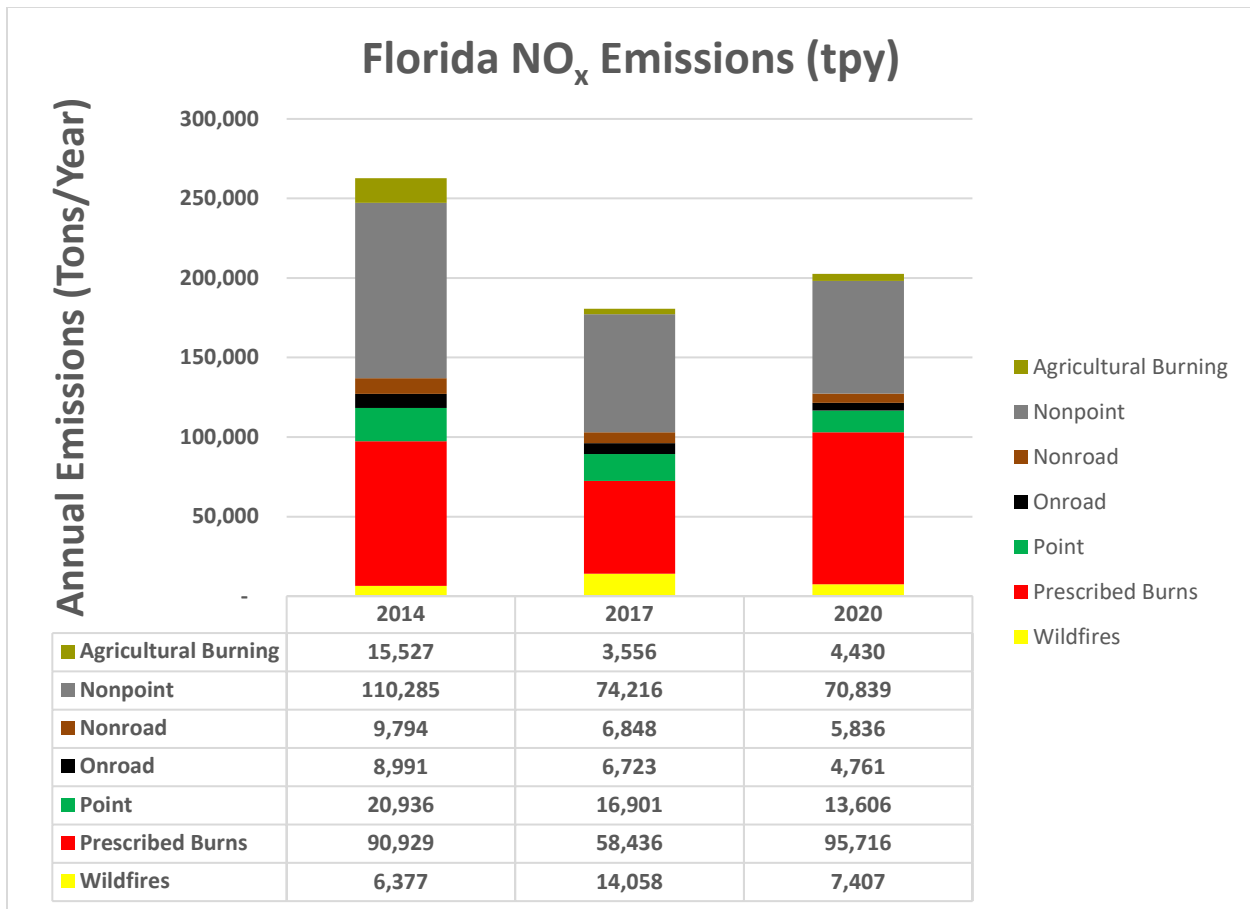


Figure 5-2. Florida NO_x Emissions (in tons) by Category

For SO₂ emissions (**Table 5-3** and **Figure 5-3**), point sources show the most significant decrease since 2014, and actual emissions from point sources are already 42% lower than the projected 2028 emissions of 63,183 tons. This is largely due to a significant reduction in oil use and a shift to natural gas as well as installation of control measures required under EPA’s [Mercury and Air Toxics Standards](#)¹⁶ and as the result of state-level facility-specific analyses and permitting done under the [Data Requirements Rule](#)¹⁷ in support of the 2010 SO₂ National Ambient Air Quality Standard. Overall, SO₂ emissions across all categories for 2020 are 21% below the 2028 projections of 66,979 tons.

¹⁶ <https://www.epa.gov/mats>

¹⁷ <https://www.epa.gov/so2-pollution/final-data-requirements-rule-2010-1-hour-sulfur-dioxide-so2-primary-national-ambient>

Table 5-3. Florida SO₂ Emissions (in tons) for the 2014 NEI, 2017 NEI, and 2020 NEI

| SO ₂ Sector | NEI 2014 (tpy) | NEI 2017 (tpy) | NEI 2020 (tpy) |
|------------------------|----------------|----------------|----------------|
| Point | 133,650 | 66,757 | 36,599 |
| Nonpoint | 6,419 | 1,055 | 1,998 |
| On-road | 2,158 | 2,049 | 657 |
| Nonroad | 8,899 | 529 | 524 |
| Wildfires | 711 | 1,482 | 821 |
| Prescribed Fires | 10,023 | 5,593 | 9,778 |
| Agricultural Fires | 2,609 | 928 | 2,141 |
| Total | 164,468 | 78,392 | 52,517 |

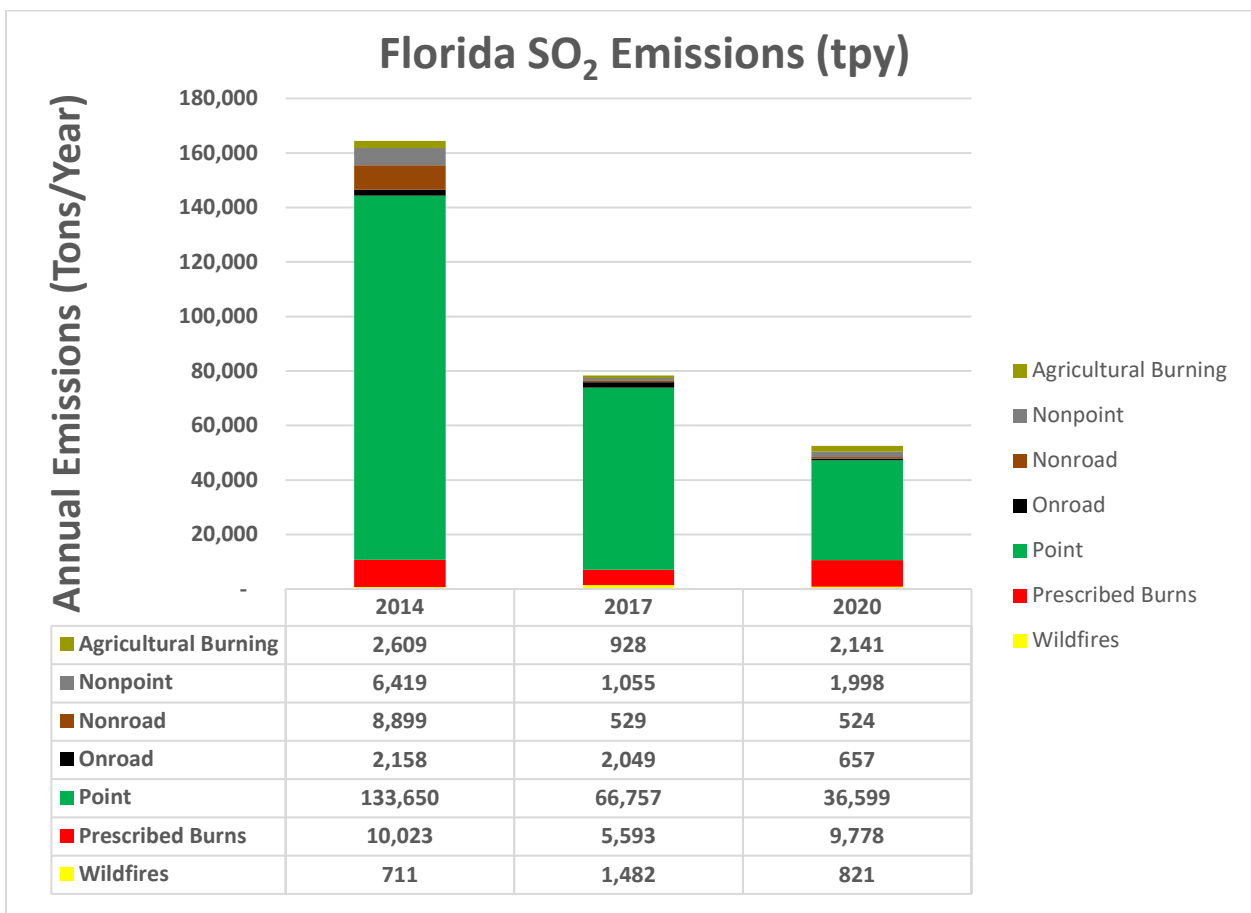


Figure 5-3. Florida SO₂ Emissions (in tons) for by Category

Actual emissions reductions from the electricity generating unit (EGU) sector have continued to decrease significantly due to installation of scrubbers and other controls on some of the larger power generation sources in Florida. Repowering or shifting to natural gas, as well as some reduced utilization of coal EGUs and increased utilization of natural gas EGUs and renewable

energy, have also reduced emissions of SO₂. **Table 5-4** shows the [Clean Air Markets Program Data \(CAMPD\)](#)¹⁸ emissions from 2015 and from the most recent five years, 2018 to 2023.

Table 5-4. Florida EGU SO₂ CAMPD Emissions (2015 and 2018-2023)

| SO ₂ Emissions | 2015 (tpy) | 2018 (tpy) | 2019 (tpy) | 2020 (tpy) | 2021 (tpy) | 2022 (tpy) | 2023 (tpy) |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| CAMPD | 61,396 | 29,202 | 17,009 | 15,250 | 16,111 | 12,898 | 10,807 |

Figure 5-4 below depicts the trends for Florida units that report annual emissions to the Clean Air Markets Division (CAMD).

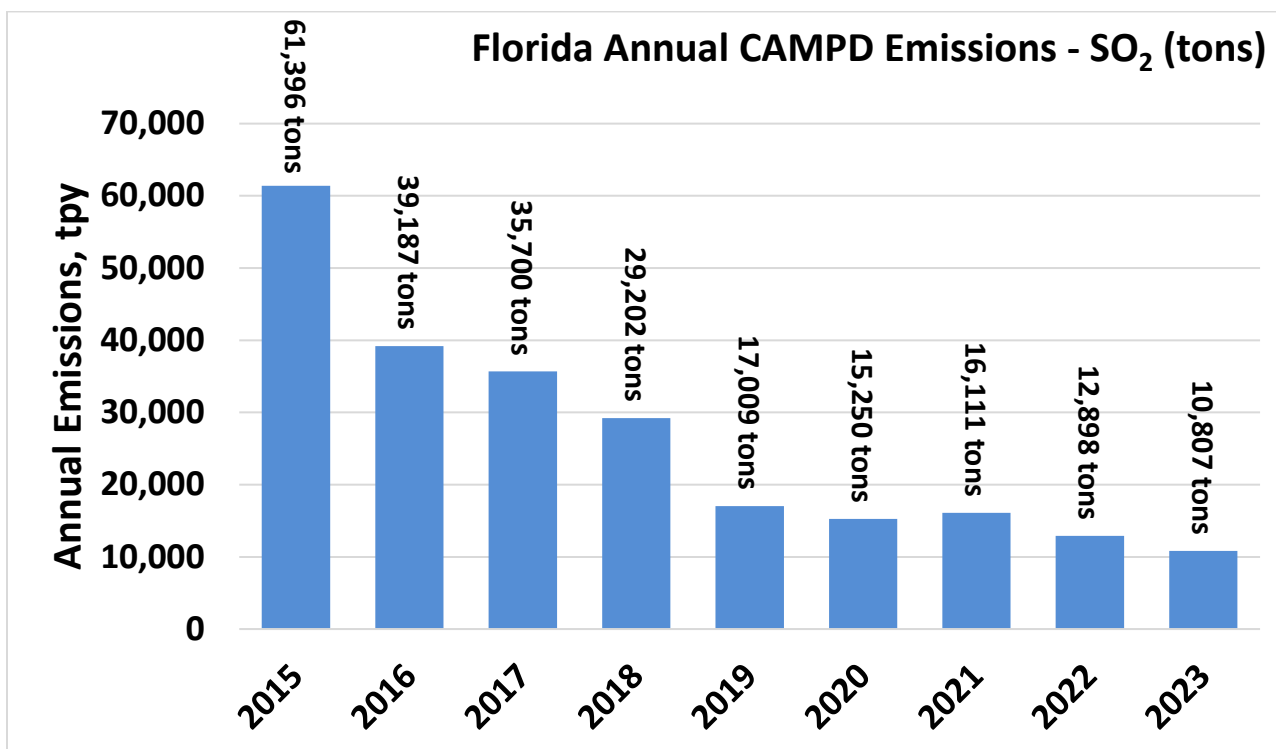


Figure 5-4. Florida SO₂ CAMPD Emissions (Source: EPA CAMD Database)

¹⁸ <https://campd.epa.gov/>

Table 5-5. Florida EGU CAMPD NO_x Emissions (2015 and 2018-2023)

| NO _x Emissions | 2015 (tpy) | 2018 (tpy) | 2019 (tpy) | 2020 (tpy) | 2021 (tpy) | 2022 (tpy) | 2023 (tpy) |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| CAMPD | 57,255 | 36,888 | 31,225 | 29,632 | 28,991 | 27,404 | 25,054 |

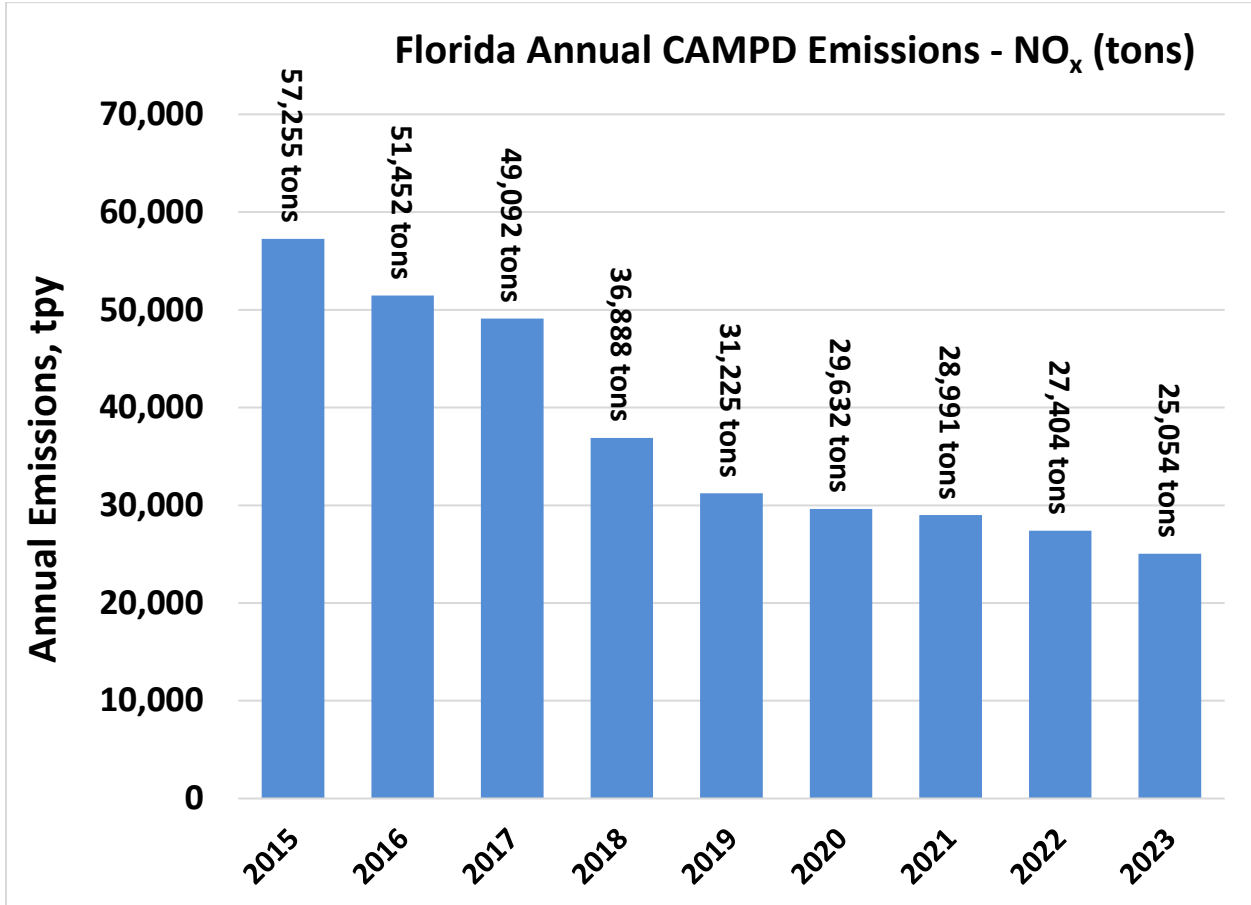


Figure 5-5. Florida NO_x CAMPD Emissions (Source: EPA CAMD Database)

As shown in **Figure 5-4** and **Figure 5-5**, the SO₂ emissions from these units decreased from 61,396 tons annually in 2015 to 10,807 tons annually in 2023, a decrease of 82%, and NO_x emissions decreased from 57,255 tpy to 25,054 tpy, a decrease of 56%.

Figure 5-6 and **Figure 5-7** show the trends for units reporting to CAMD across all VISTAS states.

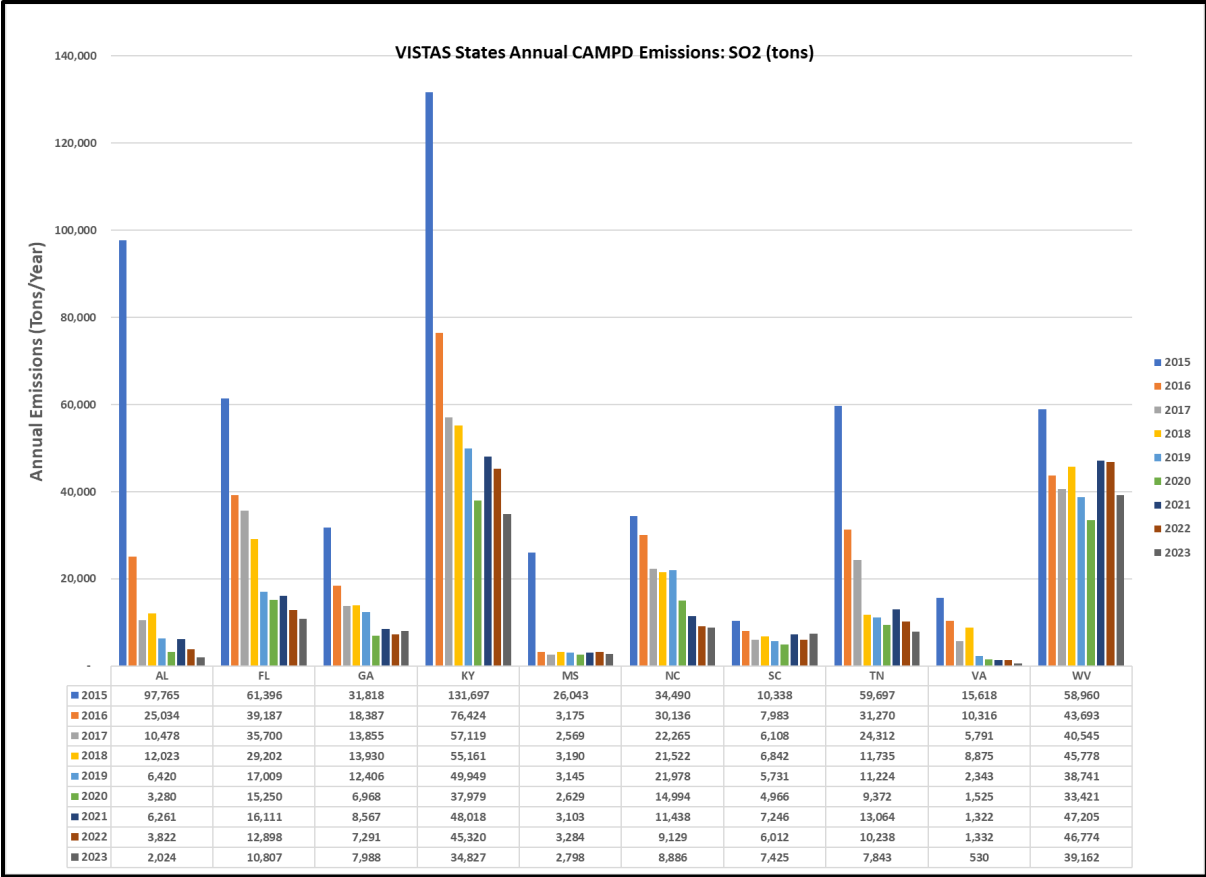


Figure 5-6. VISTAS States Annual CAMPD SO₂ Emissions (source: EPA CAMD Database)

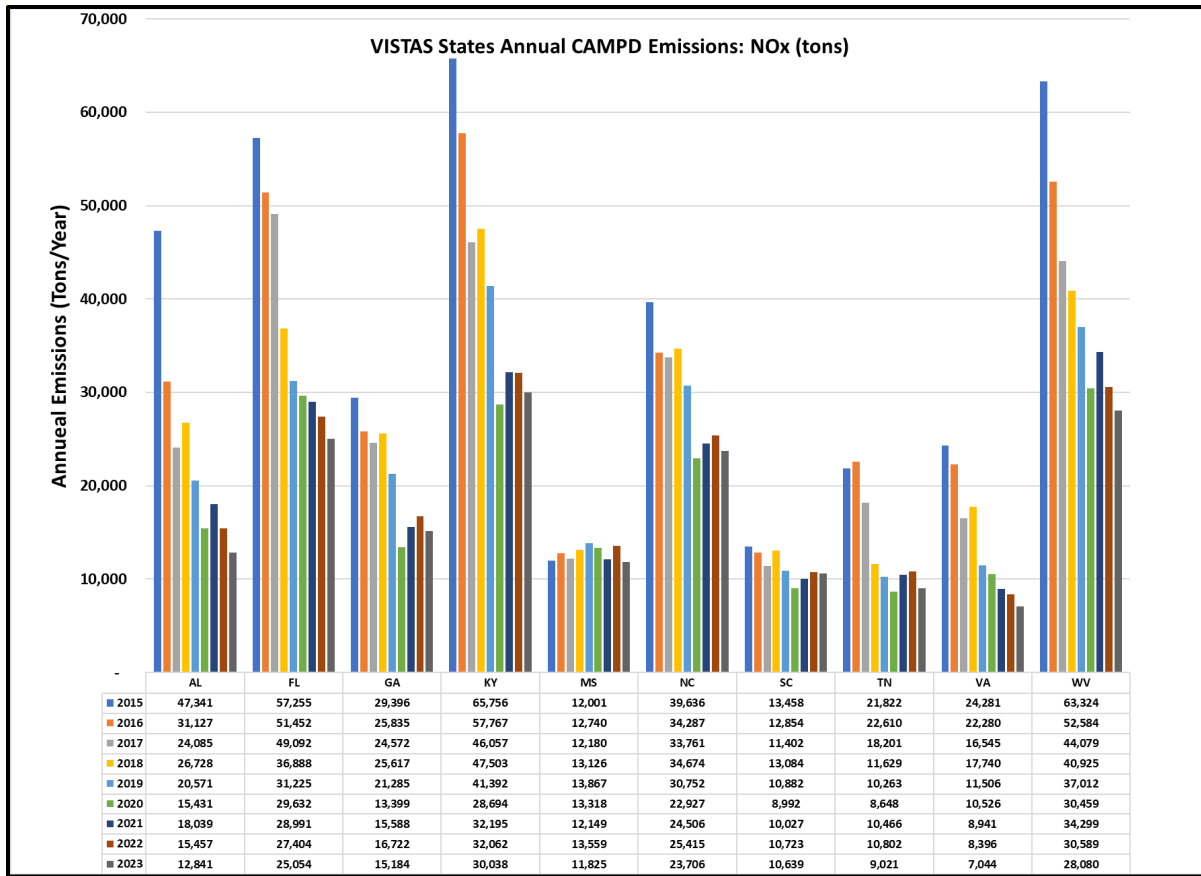


Figure 5-7. VISTAS States Annual CAMPD NO_x Emissions (source: EPA CAMD Database)

As shown in **Figure 5-6** and **Figure 5-7**, SO₂ emissions decreased from 527,823 tons annually in 2015 to 122,289 tons annually in 2023, a decrease of 77%, and NO_x emissions decreased from 374,271 to 173,432 tons annually in 2023, a decrease of 54%.

The figures above reflect the fact that the reductions in SO₂ and NO_x are generally the result of permanent changes at EGUs through the use of control technology and fuel switching. Visibility improvements from reduced sulfate and nitrate contribution should, therefore, continue into the future even if there are moderate increases in demand for power from these units. In addition, market forces on coal EGUs have shifted these units from baseload operations to load following operations with increased usage of natural gas and renewable energy sources for electricity production.

5.2 Assessments of Changes in Anthropogenic Emissions

40 CFR 51.308(g)(5) of the RHR requires *[a]n assessment of any significant changes in anthropogenic emissions within or outside the State that have occurred since the period addressed in the most recent plan required under paragraph (f) of this section including whether or not these changes in anthropogenic emissions were anticipated in that most recent plan and*

whether they have limited or impeded progress in reducing pollutant emissions and improving visibility.

To address this provision, the Department reviewed anthropogenic SO₂ and NO_x emissions trends for the VISTAS states and each of the Regional Planning Organizations (RPOs) based on emissions included in the 2011, 2014, 2017, and 2020 NEIs. The emissions trends are shown in **Table 5-6**, and the data in this table are presented in bar charts in **Figure 5-8** and **Figure 5-9** for SO₂ and NO_x emissions, respectively. These data show a significant decline in both SO₂ and NO_x emissions during the period of 2011 through 2020 (which includes the 2019-2023 period covered by this Progress Report) within Florida, across other VISTAS states, and across the non-VISTAS states included in the RPOs covering the rest of the United States.

Table 5-6. Annual Anthropogenic SO₂ and NO_x Emissions Trends by RPO and VISTAS States (2011, 2014, 2017, and 2020)

| RPO/State | SO ₂ Emissions (TPY) | | | | NO _x Emissions (TPY) | | | |
|----------------------|---------------------------------|-----------|---------|---------|---------------------------------|-----------|-----------|-----------|
| | 2011 | 2014 | 2017 | 2020 | 2011 | 2014 | 2017 | 2020 |
| CENSARA | 1,552,522 | 1,215,472 | 966,258 | 610,656 | 4,045,719 | 3,533,785 | 3,097,671 | 2,392,637 |
| LADCO | 1,885,366 | 1,240,170 | 471,368 | 353,993 | 2,706,484 | 2,293,286 | 1,751,389 | 1,365,771 |
| MANE-VU | 739,180 | 503,720 | 169,617 | 93,635 | 1,694,698 | 1,497,530 | 1,105,379 | 867,774 |
| VISTAS | 1,635,635 | 1,210,257 | 448,278 | 300,230 | 3,496,466 | 3,044,311 | 2,383,651 | 1,857,616 |
| WESTAR/WRAP | 608,768 | 460,131 | 460,331 | 468,003 | 3,429,383 | 2,992,736 | 2,763,218 | 2,283,084 |
| VISTAS States | | | | | | | | |
| AL | 278,364 | 201,418 | 59,519 | 33,420 | 373,825 | 342,666 | 244,277 | 203,409 |
| FL | 172,796 | 164,468 | 78,173 | 52,517 | 630,979 | 582,390 | 447,440 | 346,212 |
| GA | 234,683 | 102,155 | 38,188 | 31,846 | 474,787 | 364,913 | 319,789 | 257,160 |
| KY | 272,958 | 224,790 | 71,804 | 50,102 | 345,211 | 300,873 | 217,827 | 160,675 |
| MS | 63,940 | 108,442 | 12,724 | 11,453 | 223,895 | 186,842 | 163,015 | 138,800 |
| NC | 118,723 | 71,281 | 43,389 | 26,992 | 386,225 | 321,911 | 254,007 | 198,853 |
| SC | 103,244 | 52,794 | 23,440 | 18,805 | 220,420 | 185,801 | 166,030 | 127,711 |
| TN | 160,323 | 94,201 | 46,738 | 19,052 | 339,020 | 283,058 | 220,039 | 162,079 |
| VA | 107,821 | 77,209 | 27,188 | 17,696 | 324,501 | 285,528 | 220,035 | 167,594 |
| WV | 122,785 | 113,499 | 47,117 | 38,348 | 177,603 | 190,329 | 131,193 | 95,123 |

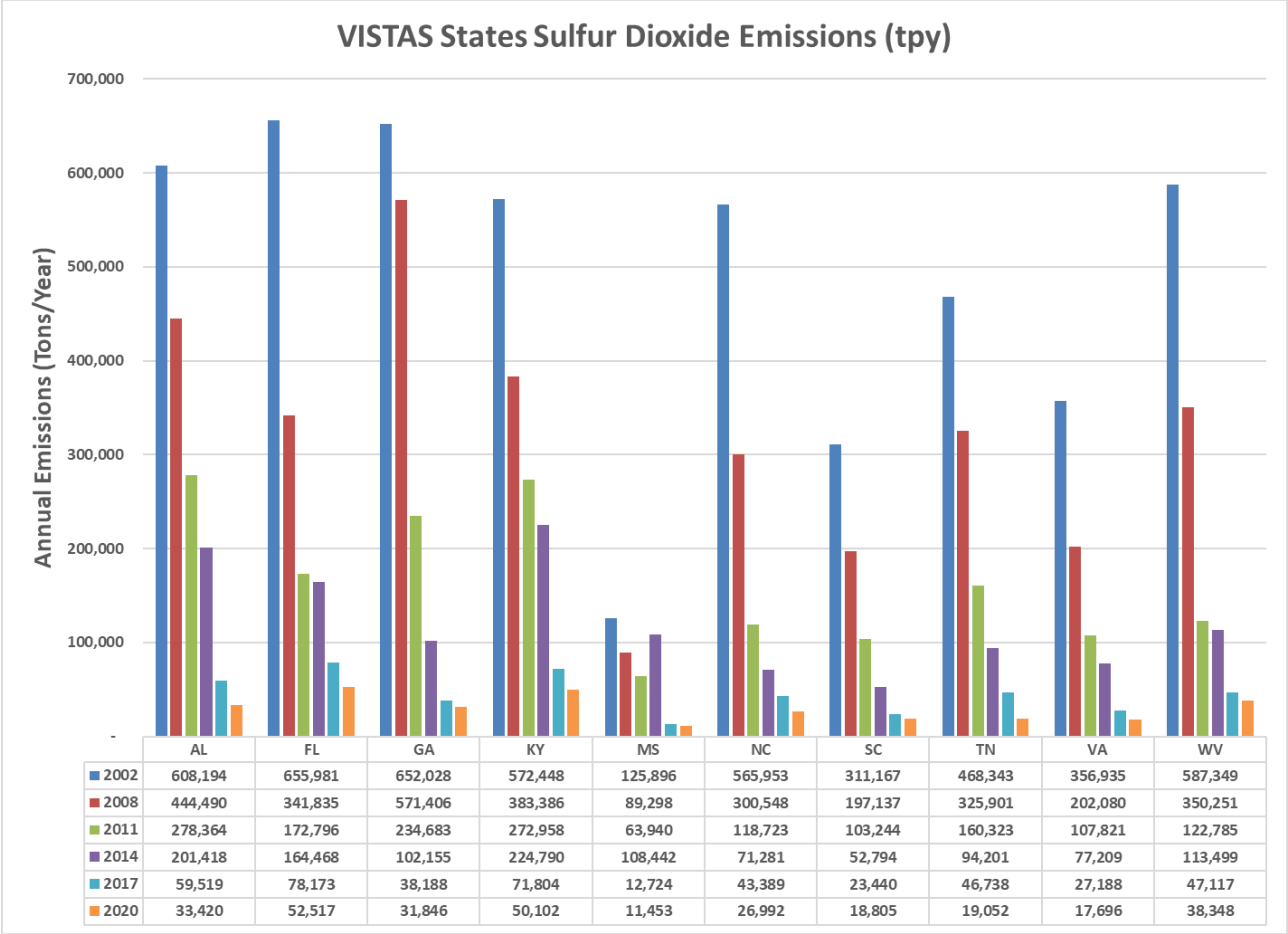


Figure 5-8. Annual Anthropogenic SO₂ Emissions Trends by VISTAS State

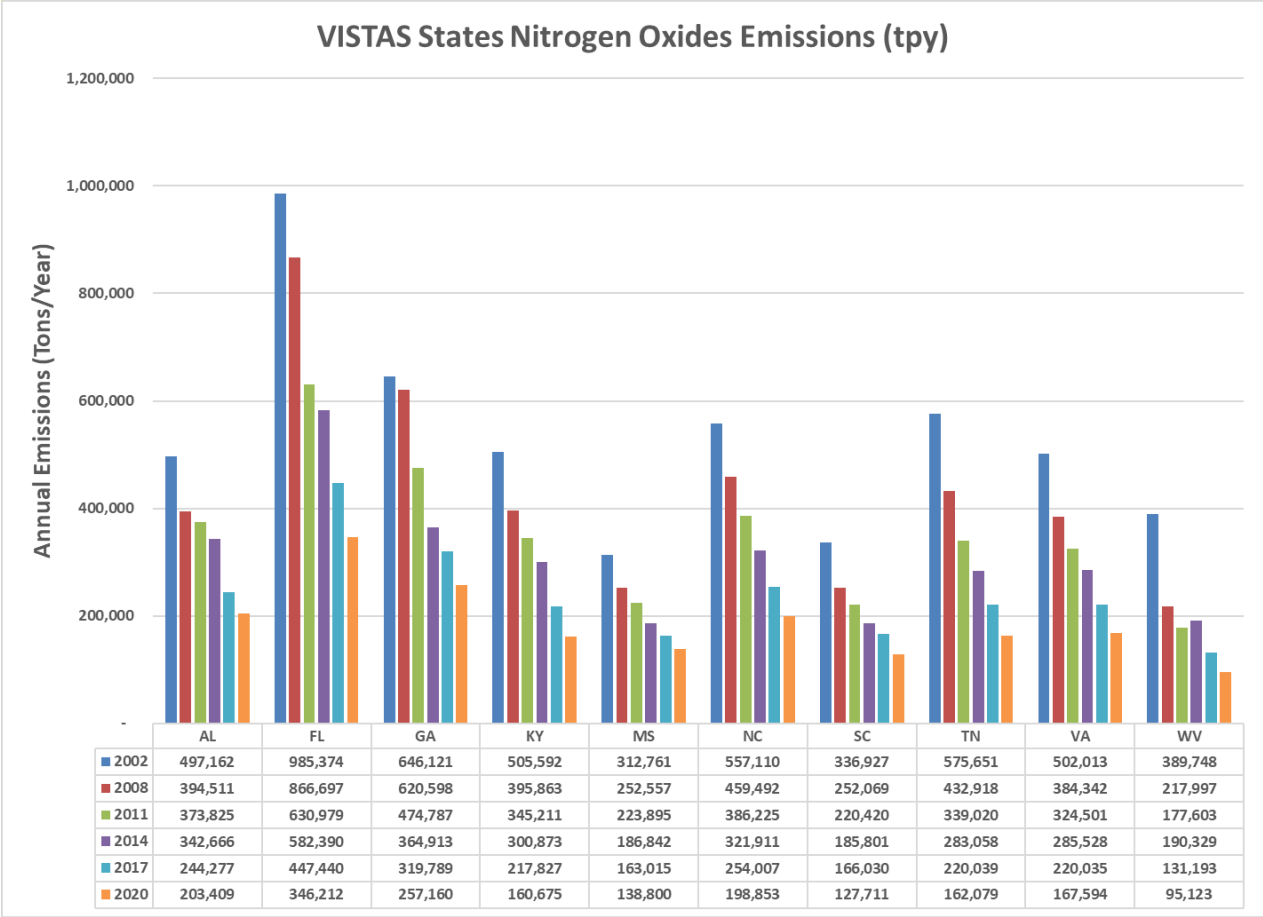


Figure 5-9. Annual Anthropogenic NO_x Emissions Trends by VISTAS State

Figures 5-10 through 5-12 show the average light extinction for the 20% most impaired days over the five-year periods 2001 through 2004 and 2018 through 2022 for the Chassahowitzka National Wilderness Area, Everglades National Park, and the St. Marks National Wilderness Area, respectively.

Figures 5-13 through 5-15 show the annual average light extinction for the 20% most impaired days from 2000 through 2022 for the Chassahowitzka National Wilderness Area, Everglades National Park, and the St. Marks National Wilderness Area, respectively.

These figures demonstrate that on the 20% most impaired days at all three locations, sulfates (SO₂₋₄) continue to be of concern during the second planning period. Sulfates are formed secondarily from the SO₂ emissions from stationary point sources. As shown in these figures, the reduction in SO₂ and NO_x emissions at the Chassahowitzka National Wilderness Area, Everglades National Park, and the St. Marks National Wilderness Area, respectively, as well as in neighboring states, has resulted in significant improvements in visible range at the Class I areas, as well as Class I areas in nearby states. Based on these emissions and visibility data, there

does not appear to be any *significant change in* anthropogenic emissions within *or outside* Florida that would have limited or impeded progress in reducing pollutant emissions or improving visibility at the Class I areas affected by state sources *and the Regional Haze Plan documents anticipated the general pollutant concentration decline.*

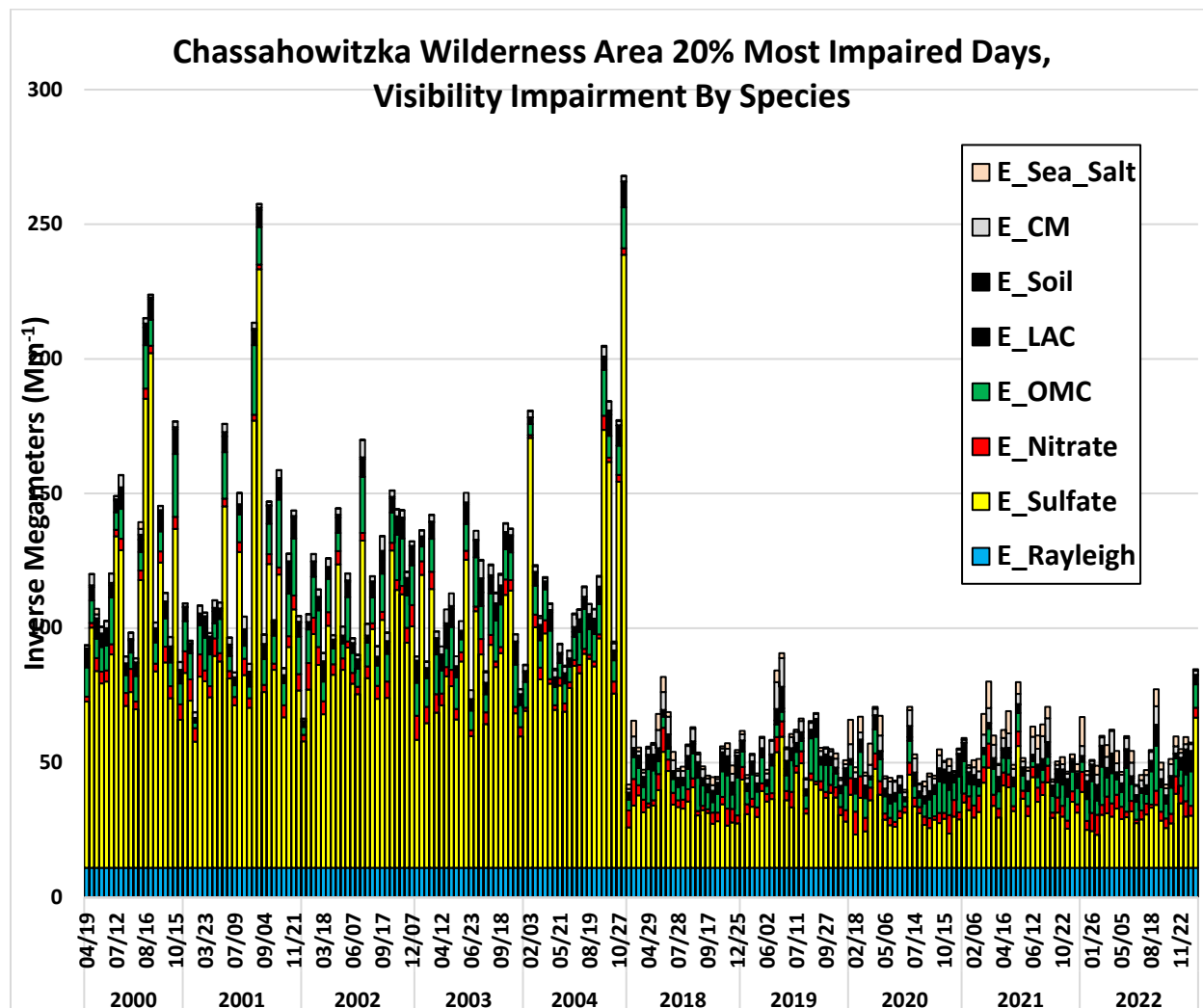


Figure 5-10. Chassahowitzka National Wilderness Area –20% Most Impaired Days, Visibility Impairment by Species

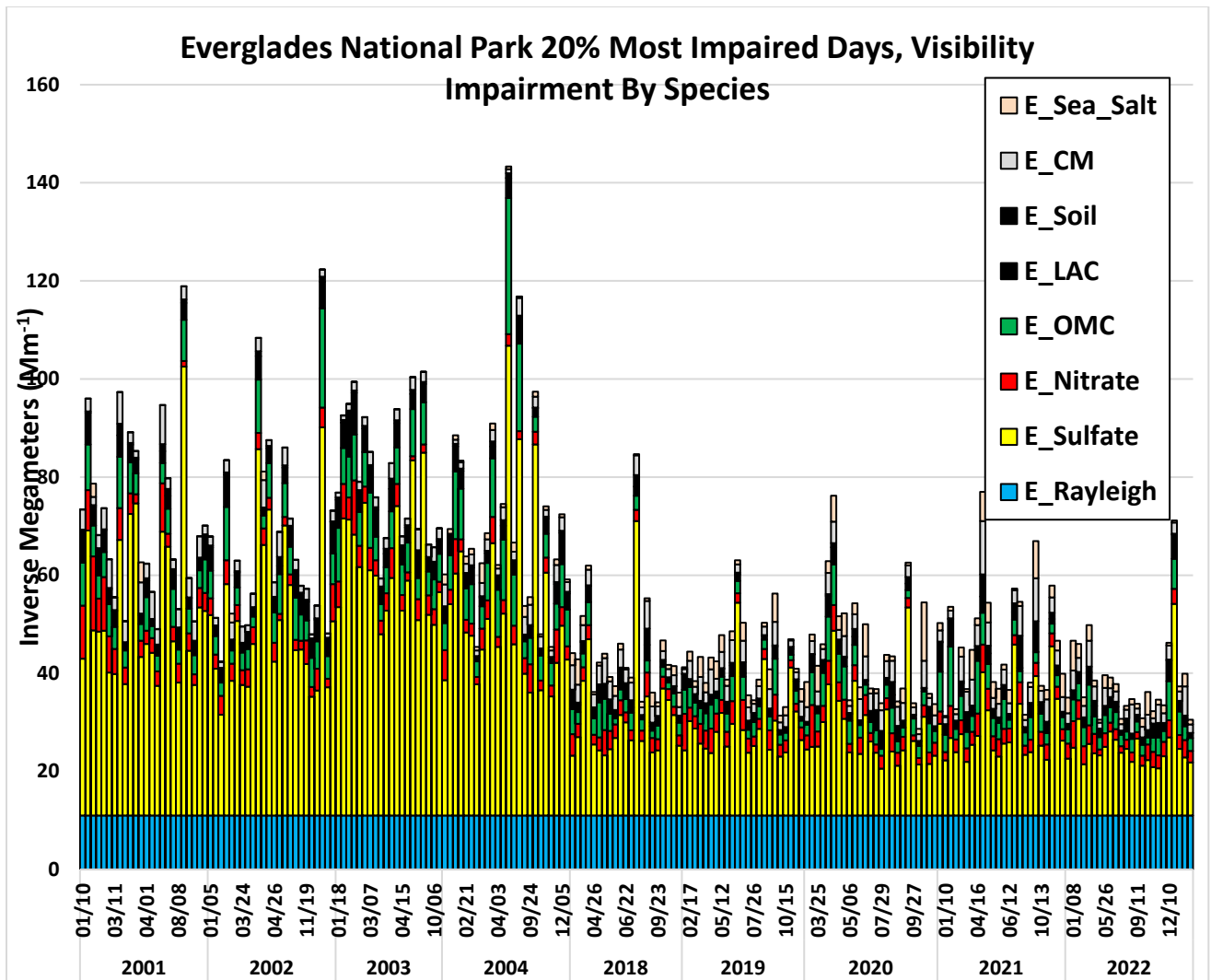


Figure 5-11. Everglades National Park – 20% Most Impaired Days, Visibility Impairment by Species

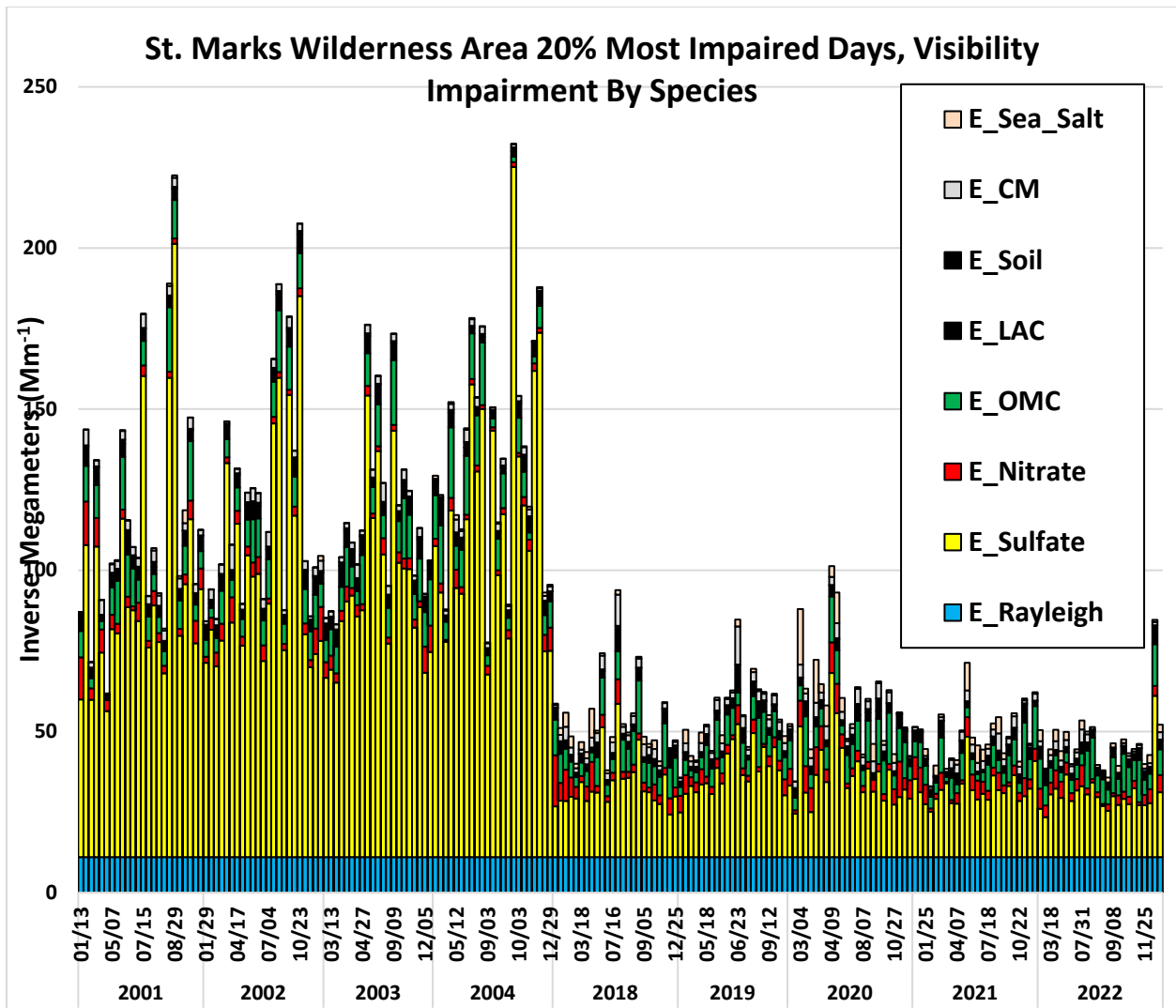


Figure 5-12. St. Marks National Wilderness Area – 20% Most Impaired Days, Visibility Impairment by Species

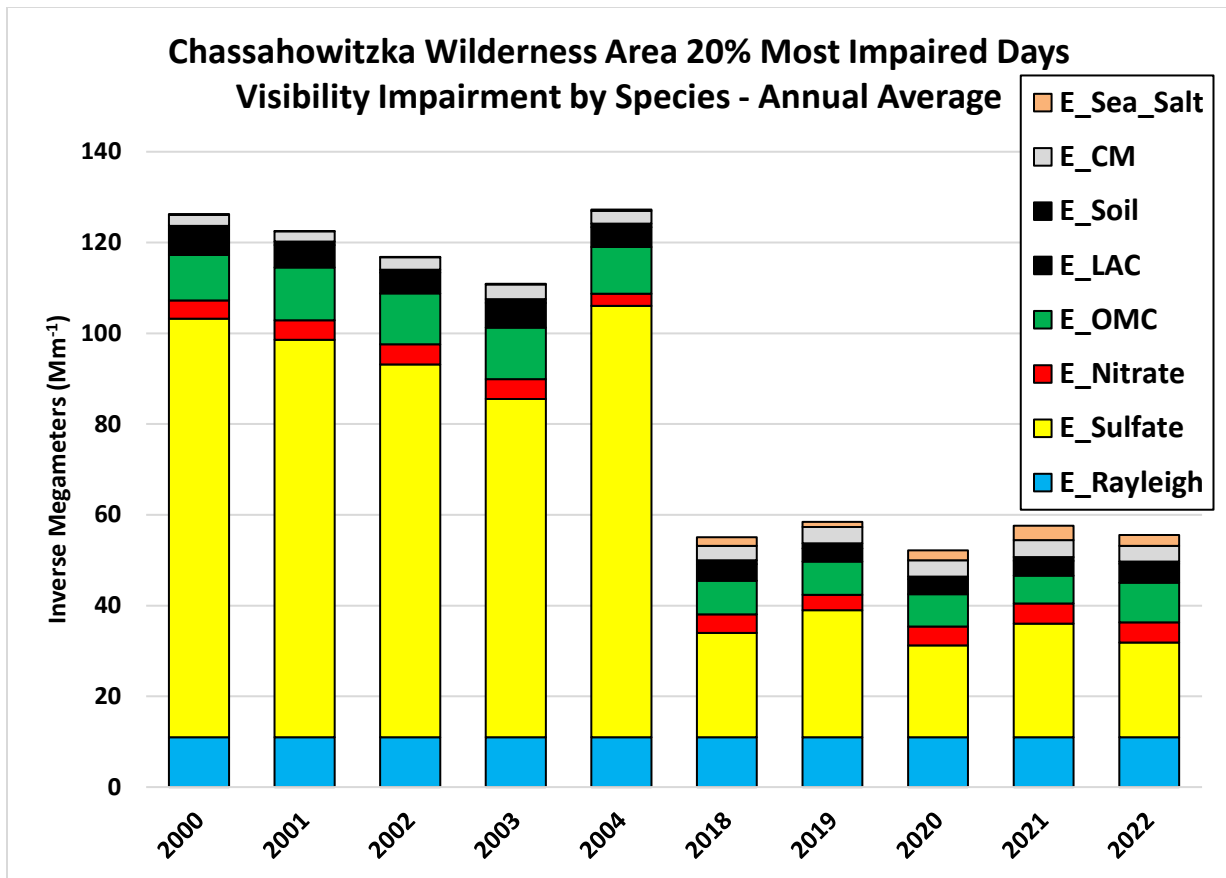


Figure 5-13. Chassahowitzka National Wilderness Area – 20% Most Impaired Days Visibility Impairment by Species – Annual Average

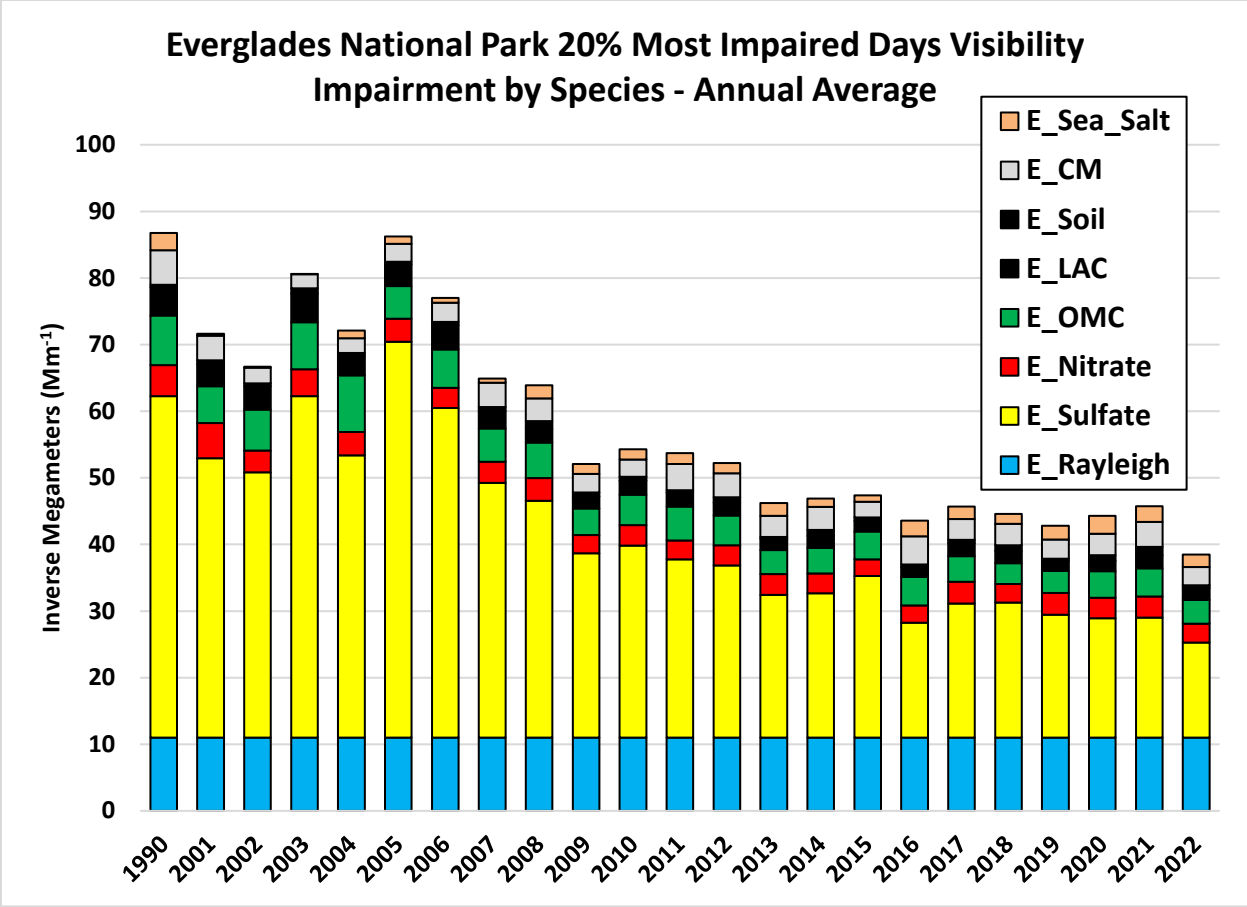


Figure 5-14. Everglades National Park – 20% Most Impaired Days Visibility Impairment by Species – Annual Average

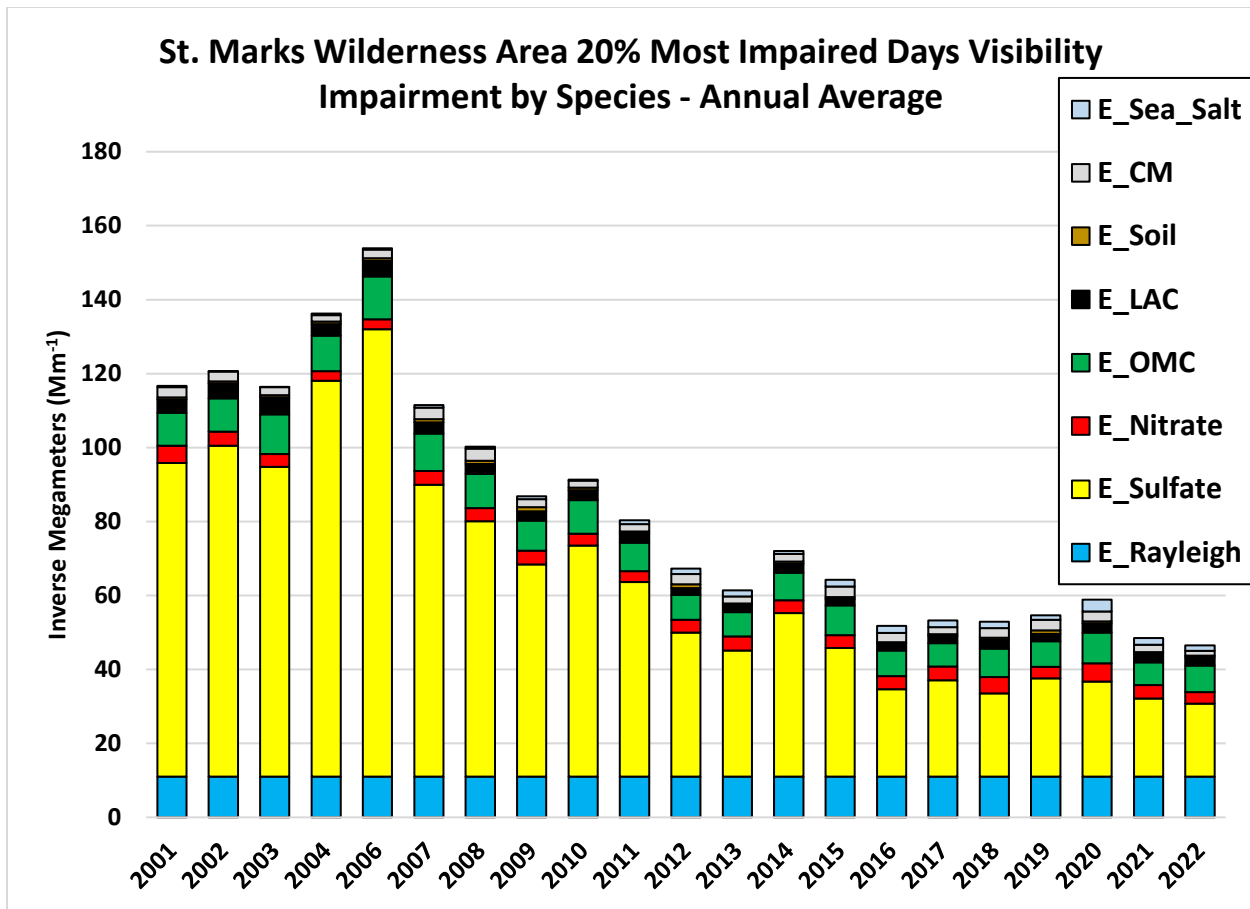


Figure 5-15. St. Marks National Wilderness Area – 20% Most Impaired Days Visibility Impairment by Species – Annual Average

6 Assessment of Current Implementation Plan Elements and Strategies

40 CFR 51.308(g)(6) of the RHR requires an *[a]ssessment of whether the current implementation plan elements and strategies are sufficient to enable the state, or other states with Class I areas affected by emissions from that state, to meet all established reasonable progress goals.*

The current implementation *plan* elements and strategies discussed in this report are sufficient to enable Florida *and other states with Class I areas affected by emissions from the State*, to meet all established RPGs. Even though some federal programs have not yet been fully implemented, significant progress has been made in reducing emissions to attain the reasonable progress goals set for the Class I areas in Florida, or which may be affected by emissions originating in Florida. As discussed in **Section 3** and **Section 5** above, reductions in both EGU and non-EGU emissions have continued to decrease since the 2019 base year. The tabulated data provided in **Section 5** demonstrate the reductions in various source sectors through implementation of controls and changes in operation. The figures in **Section 4** depict the most recent visibility observations at

the Chassahowitzka National Wilderness Area, Everglades National Park, and the St. Marks National Wilderness Area – each of which is on track to meet the 2028 visibility goals for the 20 percent clearest days and 20 percent most impaired days. With the continued progress of federal programs, Florida expects that emissions will only continue to decrease and improve air quality.

Regarding the impacts of Florida’s sources on regional Class I areas, the Department included in **Appendix F** of Florida’s Regional Haze SIP for the Second Planning Period (submitted to EPA on October 8, 2021) documentation of the process of consulting with other states. As part of this consultation, the state undertook a review and evaluation of potential interstate impacts through their Reasonable Progress analyses.

That said, the Department has evaluated the IMPROVE monitoring data, which were presented in Florida’s Regional Haze SIP for the Second Planning Period and included in this Progress Report, for the available 2018-2022 period under Section 5. For each of the Class I areas subject to assessment in this Progress Report, the current trends are at or below the glidepath. Given the continued reductions expected in the future, these trends are expected to continue.

The Department finds that the current implementation plan elements and strategies outlined in the Second Round Regional Haze SIP are sufficient to enable Florida and other neighboring states with mandatory Class I Federal areas affected by emissions from the State to meet all the established reasonable progress goals for the period covered by the most recent plan required under 40 CFR 51.308(f) through the combined implementation of emissions standards codified in facility-specific permits and applicable federal rules.

7 Determination of Adequacy of the Existing Plan

40 CFR 51.308(h) of the RHR requires the state to take one of the following actions:

- The state may declare that no further revision of the existing plan is needed at this time. This is commonly referred to as a “negative declaration.”
- If the plan is or may be inadequate to ensure reasonable progress due to emissions from another state, or states, which participated in a regional planning process, the state must notify EPA and the applicable state(s). The state must collaborate with the state(s) through the regional planning process to develop additional strategies for addressing the plan's deficiencies.
- If the plan is or may be inadequate to ensure reasonable progress due to emissions from another country, the state must notify the EPA and provide any available relevant

information.

- If the plan is or may be inadequate to ensure reasonable progress due to emissions from within the state, then that state must revise its plan within one year to address the deficiencies.

Sections 5.1 and 5.2 show significant decreases in direct visibility impairing pollutants and precursors in Florida, other VISTAS states, and states in RPOs near and adjacent to the VISTAS region. This trend started beginning with the initial implementation of the Regional Haze program and has continued into the second planning period. Data presented under **Section 4** shows a similar decrease in visibility impairment during the 20% most impaired and the 20% clearest days measured at the IMPROVE monitors at the Chassahowitzka National Wilderness Area, Everglades National Park, and the St. Marks National Wilderness Area. Based on this information, Florida declares that no further substantive revision of the existing plan is needed at this time in order to achieve established goals for visibility improvement and emissions reductions.

8 FLM Coordination and Public Comment

The VISTAS states participated in national conferences and consultation meetings and shared information with other states, RPOs, FLMs, and EPA throughout the report development process. VISTAS held numerous group calls and webinars with FLMs, EPA, RPOs and their member states to explain the overall analytical approach, methodologies, tools, and assumptions used during the progress report development process, and VISTAS considered these stakeholders' comments along the way. The Regional Haze Rule requires that states provide an opportunity for consultation with Federal Land Managers early in the SIP development process (40 CFR 51.308(i)(2)). Based upon EPA's 2017 revisions to the RHR, this Progress Report is not, however, considered to be a formal component of Florida's SIP, and thus is not required to be submitted in the form of a SIP revision. Pursuant to 40 CFR 51.308(i)(2), the Department provided to the FLMs a draft copy of this Progress Report at least 60 days prior to the start of the final submittal. Each FLM waived review of this report and documentation of this correspondence is included in Appendix A. The Department posted the draft and final versions of the Progress Report to its website and is holding a 30-day public review period prior to submittal to EPA in accordance with 40 CFR 51.308(g).

9 Conclusion

This Progress Report documents that all control measures detailed in Florida's Regional Haze SIP for the Second Planning Period have been implemented or are on track to be implemented as scheduled and that Florida is on track to meet all of the reasonable progress goals projected for 2028. SO₂ emissions reductions have been significantly greater than those that VISTAS

projected. Sulfates continue to play a significant role in visibility impairment, especially for the most anthropogenically impaired days. As SO₂ emissions continue to drop in future planning periods, nitrates may have a larger relative impact on regional haze, which may warrant consideration of nitrate emission reduction measures. Pursuant to 40 CFR 51.308(g), Florida's next Regional Haze Plan Progress Report is due to be submitted to EPA by July 31, 2033.

* * *

10 Appendix A - Federal Land Manager Correspondence

- Appendix A-1 DEP Email to FLM's. October 30, 2024 Page 70
- Appendix A-2 US Fish & Wildlife Service Email, October 31, 2024 Page 72
- Appendix A-3 National Park Service Email, November 7, 2024 Page 75
- Appendix A-4 USDA Forest Service Email, December 4, 2024 Page 78

Appendix A-1 DEP Email to FLM's. October 30, 2024

From: [Rogers, Elizabeth](#)
To: melanie.pitolo@usda.gov; [Peters, Melanie](#); Tim.Allen@fws.gov
Cc: [Koemer, Jeff](#); [Read, Hastings](#); [McLane, Preston](#); [Long, Terr](#)
Subject: Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period
Date: Wednesday, October 30, 2024 4:19:59 PM
Attachments: [DRAFT RH Progress Report for 2nd Planning Period October 2024 10-30-24 interactive.pdf](#)

Good afternoon,

Notice is hereby given that, pursuant to 40 CFR 51.102, the Department of Environmental Protection (Department) is submitting for review a draft Regional Haze Progress Report for the Second Implementation Period under EPA's Regional Haze Rule (RHR). This proposed draft Regional Haze Progress Report addresses commitments and enforceable actions under Florida's Regional Haze Plan for the Second Implementation Period.

In Florida's Regional Haze SIP (submitted to EPA on October 8, 2021 and supplemented on June 14, 2024 and October 28, 2024), the Department set forth a long-term strategy to attain reasonable progress goals (RPGs) for visibility impairing pollutants in Florida's Class I areas, which include the Chassahowitzka National Wilderness Area, the Everglades National Park, and the St. Marks National Wilderness Area. The predicted reductions in visibility impairment were expected to result from the implementation of a combination of existing emissions control activities and planned emission control programs. Florida's Regional Haze Progress Report is intended to address the requirements of 40 CFR 51.308(g), which requires that states develop and submit to EPA periodic reports evaluating the state's progress goals toward the RPGs applicable to Class I areas within their jurisdictions. Specifically, this draft Progress Report is intended to fulfill the requirements of paragraphs 51.308(g), (h), and (i) of the RHR and to serve as a progress report for the second regional haze planning period, from 2019 to 2028. In this progress report, the Department affirms that the combined elements of Florida's approved regional haze SIP for the first planning period (78 FR 53250) and pending regional haze SIP for the second planning period are adequate for making reasonable progress towards the RHR goal of achieving natural visibility conditions at Class I areas by 2064. Pursuant to 40 CFR 51.308(h), Florida's Progress Report also includes a determination of the adequacy of the State's existing implementation plan.

Per revisions made to the RHR in 2017 (82 FR 3078), this draft progress report is not being submitted as a formal State Implementation Plan (SIP) revision. The draft progress report was submitted to EPA on October 30, 2024 for review and comment as well as posted on the Departmental website.

The Department requests that any comments on the draft progress report be provided by December 30, 2024.

If you have any questions, please contact Hastings Read at (850) 717-9017 or by email at Hastings.Read@FloridaDEP.gov.

Sincerely,

Beth Rogers

Elizabeth Rogers
Florida Department of Environmental Protection
Division of Air Resource Management



Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019

Appendix A-2 US Fish & Wildlife Service Email, October 31, 2024

From: [Rogers, Elizabeth](#)
To: [Allen, Tim](#)
Cc: [Koerner, Jeff](#); [Read, Hastings](#); [McLane, Preston](#); [Long, Terri](#)
Subject: RE: [EXTERNAL] Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period
Date: Thursday, October 31, 2024 9:56:19 AM

Hello, Tim-

Thank you for responding so quickly to our email. We will include this email as confirmation of the U.S. Fish & Wildlife Service's waiving the FLM review in the final version of Florida's Regional Haze progress report.

Sincerely,

Beth Rogers



Elizabeth Rogers

Florida Department of Environmental Protection
Division of Air Resource Management
Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019

From: Allen, Tim <tim_allen@fws.gov>
Sent: Thursday, October 31, 2024 9:49 AM
To: Rogers, Elizabeth <Elizabeth.Rogers@floridadep.gov>
Subject: Re: [EXTERNAL] Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Hi Beth,

Thank you for resending the FL RH Progress Report information today.

This documents that USFWS is not planning to provide formal comment and waive our 60 day comment period for the attached document. Please ensure that you check with the other FLMs for their comment status.

Thank you,

Tim Allen
U.S. Fish & Wildlife Service

From: Rogers, Elizabeth <Elizabeth.Rogers@floridadep.gov>
Sent: Wednesday, October 30, 2024 2:19 PM
To: melanie.pitrolo@usda.gov <melanie.pitrolo@usda.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Allen, Tim <tim_allen@fws.gov>
Cc: Koerner, Jeff <Jeff.Koerner@FloridaDFP.gov>; Read, Hastings <Hastings.Read@FloridaDFP.gov>; McLane, Preston <Preston.McLane@floridadep.gov>; Long, Terri <Terri.Long@FloridaDFP.gov>
Subject: [EXTERNAL] Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period

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

Good afternoon,

Notice is hereby given that, pursuant to 40 CFR 51.102, the Department of Environmental Protection (Department) is submitting for review a draft Regional Haze Progress Report for the Second Implementation Period under EPA's Regional Haze Rule (RHR). This proposed draft Regional Haze Progress Report addresses commitments and enforceable actions under Florida's Regional Haze Plan for the Second Implementation Period.

In Florida's Regional Haze SIP (submitted to EPA on October 8, 2021 and supplemented on June 14, 2024 and October 28, 2024), the Department set forth a long-term strategy to attain reasonable progress goals (RPGs) for visibility impairing pollutants in Florida's Class I areas, which include the Chassahowitzka National Wilderness Area, the Everglades National Park, and the St. Marks National Wilderness Area. The predicted reductions in visibility impairment were expected to result from the implementation of a combination of existing emissions control activities and planned emission control programs. Florida's Regional Haze Progress Report is intended to address the requirements of 40 CFR 51.308(g), which requires that states develop and submit to EPA periodic reports evaluating the state's progress goals toward the RPGs applicable to Class I areas within their jurisdictions. Specifically, this draft Progress Report is intended to fulfill the requirements of paragraphs 51.308(g), (h), and (i) of the RHR and to serve as a progress report for the second regional haze planning period, from 2019 to 2028. In this progress report, the Department affirms that the combined elements of Florida's approved regional haze SIP for the first planning period (78 FR 53250) and pending regional haze SIP for the second planning period are adequate for making reasonable progress towards

the RHR goal of achieving natural visibility conditions at Class I areas by 2064. Pursuant to 40 CFR 51.308(h), Florida's Progress Report also includes a determination of the adequacy of the State's existing implementation plan.

Per revisions made to the RHR in 2017 (82 FR 3078), this draft progress report is not being submitted as a formal State Implementation Plan (SIP) revision. The draft progress report was submitted to EPA on October 30, 2024 for review and comment as well as posted on the Departmental website.

The Department requests that any comments on the draft progress report be provided by December 30, 2024.

If you have any questions, please contact Hastings Read at (850) 717-9017 or by email at Hastings.Read@FloridaDEP.gov.

Sincerely,

Beth Rogers



Elizabeth Rogers
Florida Department of Environmental Protection
Division of Air Resource Management
Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019



Appendix A-3 National Park Service Email, November 7, 2024

From: [Peters, Melanie](#)
To: [Rogers, Elizabeth](#); melanie.pitrolo@usda.gov; [Allen, Tim](#); [Salazer, Holly](#)
Cc: [Koerner, Jeff](#); [Read, Hastings](#); [McLane, Preston](#); [Long, Terri](#)
Subject: Re: [EXTERNAL] Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period
Date: Thursday, November 7, 2024 5:14:13 PM

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Hello Beth,

Thank you for the update. The NPS appreciates this opportunity to participate in FLM consultation on Florida's draft Regional Haze Progress Report for the Second Implementation Period. However, due to competing workload priorities the NPS does not plan to provide consultation feedback on this progress report. We do not speak for the other FLM agencies which may still need the required 60-day review period to consult. Thank you for understanding. We look forward to continued work with Florida 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: Rogers, Elizabeth <Elizabeth.Rogers@floridadep.gov>
Sent: Wednesday, October 30, 2024 2:19 PM
To: melanie.pitrolo@usda.gov <melanie.pitrolo@usda.gov>; Peters, Melanie <Melanie_Peters@nps.gov>; Allen, Tim <tim_allen@fws.gov>
Cc: Koerner, Jeff <Jeff.Koerner@FloridaDEP.gov>; Read, Hastings <Hastings.Read@FloridaDEP.gov>; McLane, Preston <Preston.McLane@floridadep.gov>; Long, Terri <Terri.Long@FloridaDEP.gov>
Subject: [EXTERNAL] Florida Submittal: Draft Regional Haze Progress Report for the Second

Implementation Period

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

Good afternoon,

Notice is hereby given that, pursuant to 40 CFR 51.102, the Department of Environmental Protection (Department) is submitting for review a draft Regional Haze Progress Report for the Second Implementation Period under EPA's Regional Haze Rule (RHR). This proposed draft Regional Haze Progress Report addresses commitments and enforceable actions under Florida's Regional Haze Plan for the Second Implementation Period.

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The Department requests that any comments on the draft progress report be provided by December 30, 2024.

If you have any questions, please contact Hastings Read at (850) 717-9017 or by email at Hastings.Read@FloridaDEP.gov.

Sincerely,

Beth Rogers

Elizabeth Rogers



Florida Department of Environmental Protection
Division of Air Resource Management
Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019



Appendix A-4 USDA Forest Service Email, December 4, 2024

From: [Pitrolo, Melanie - FS, NC](#)
To: [Rogers, Elizabeth](#)
Cc: [McLane, Preston](#); [Read, Hastings](#); [Long, Terri](#)
Subject: Re: Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period
Date: Wednesday, December 4, 2024 10:50:39 AM

EXTERNAL MESSAGE

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Good morning. Thank you for forwarding along the draft regional haze progress report for the second implementation period. Based on our current priorities and workload, the USDA Forest Service does not plan to review or comment on progress reports at this time.

Thank you again for keeping us informed about regional haze activities within your state.

Melanie

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From: Rogers, Elizabeth <Elizabeth.Rogers@floridadep.gov>
Sent: Monday, December 2, 2024 12:22:42 PM
To: Pitrolo, Melanie - FS, NC <melanie.pitrolo@usda.gov>
Cc: McLane, Preston <Preston.McLane@floridadep.gov>; Read, Hastings <Hastings.Read@FloridaDEP.gov>; Long, Terri <Terri.Long@FloridaDEP.gov>
Subject: FW: Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period

Good afternoon, Melanie-

Just a reminder that the 60-day comment period for this Draft Regional Haze Progress Report for Florida ends on 12/30/2024. Please let me know if you have any questions or comments. Also, if you elect to waive your review and comment on this progress report, please include a statement to that effect in your reply.

Regards,

Beth Rogers



Elizabeth Rogers

Florida Department of Environmental Protection
Division of Air Resource Management
Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019

From: Rogers, Elizabeth

Sent: Wednesday, October 30, 2024 4:20 PM

To: melanie.pitrolo@usda.gov; Peters, Melanie <Melanie_Peters@nps.gov>; Tim_Allen@fws.gov

Cc: Koerner, Jeff <Jeff.Koerner@FloridaDFP.gov>; Read, Hastings <Hastings.Read@FloridaDFP.gov>;

McLane, Preston <Preston.McLane@floridadep.gov>; Long, Terri <Terri.Long@FloridaDEP.gov>

Subject: Florida Submittal: Draft Regional Haze Progress Report for the Second Implementation Period

Good afternoon,

Notice is hereby given that, pursuant to 40 CFR 51.102, the Department of Environmental Protection (Department) is submitting for review a draft Regional Haze Progress Report for the Second Implementation Period under EPA's Regional Haze Rule (RHR). This proposed draft Regional Haze Progress Report addresses commitments and enforceable actions under Florida's Regional Haze Plan for the Second Implementation Period.

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Sincerely,

Beth Rogers



Elizabeth Rogers

Florida Department of Environmental Protection
Division of Air Resource Management
Regulatory Reform/Legislative Coordination
Environmental Administrator
Elizabeth.Rogers@FloridaDEP.gov
Office: 850-717-9019



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