CHAPTER 4:
Air Quality Programs

The objective of the Air Quality Programs is to maintain and protect the quality of the outdoor air in Nebraska. Thousands of tons of pollutants are emitted into the air in the state each year from industrial and other human activities. These air pollutants can affect human health, cause property damage, harm the environment, and reduce visibility. The Air Quality Programs work to maintain Nebraska's air quality by implementing state and federal air quality regulations, through permitting and compliance activities for stationary sources, and by monitoring outdoor ambient air for regulated pollutants. Nebraska's air quality rules are set forth in Nebraska Administrative Code (NAC) *Title 129 – Nebraska Air Quality Regulations* (Title 129).

Nebraska enjoys good ambient air quality, with all parts of the state in compliance with federal and state ambient air quality standards.

The regulated air pollutants of most concern are particulate matter, ozone, nitrogen oxides, sulfur dioxide, carbon monoxide, and lead. These pollutants are subject to National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA). All areas of the state are currently in attainment, meaning that the state has air at least as clean as the federal health-based standards for these pollutants. Maintaining compliance with these federal standards is important to protect the public health. NAAQS nonattainment could result in additional requirements and significant economic costs to regulated facilities and the state. The Department also regulates the emission of substances defined by the EPA as hazardous air pollutants (HAPs), which are toxic substances known to cause cancer or have other serious health impacts. Title 129 does not include any requirements specifically for the control of odors, however, many of the pollutants that are regulated do have an odor, so by minimizing such pollutants, odors may in turn be reduced.

The Air Quality Programs are found in several Divisions of the Department. In the Permitting and Engineering Division, air quality construction permits and operating permits are issued and air dispersion modeling is performed. The Inspection and Compliance Division compiles emission inventories and conducts inspections and other compliance and enforcement activities. The Remediation and Monitoring Division maintains an ambient air quality network and evaluates stack tests. Regulatory development, as well as state implementation plan maintenance is done within the Legal Division.

Finally, agreements with three local agencies: Lincoln-Lancaster County Health Department, Omaha Air Quality Control, and Douglas County Health Department, are managed through the Planning and Aid Division. These local agencies have accepted responsibility for various facets of the air quality program within the jurisdictions of those agencies including air quality monitoring, permitting, and enforcement.

Air Quality Permitting

An air quality permit sets practical enforceable limits on the amounts of pollutants that a facility may emit, ensuring that facilities are constructed and operated in a manner that protects the quality of the surrounding ambient air. The Department issues two main types of air quality permits: construction permits and operating permits. A construction permit may be required for a facility before the construction or modification of an emission unit. An operating permit may be required for an existing facility source of certain air pollutants. Currently, there are over 1,200 facilities that have received a construction permit and/or an operating permit.

Title 129 provides for two types of construction and operating permits: individual and general. Some sources are not eligible for coverage under general permits. Some sources will require a construction permit but may not require an operating permit.

Individual permits are available for all regulated sources. These permits include all requirements applicable and specific to that source and location. Because it is tailor made for the source, significant time and labor is required for each permit issued. The individual permit process generally includes a required public notice with a 30-day comment period, which also offers the public the opportunity to request a public hearing.

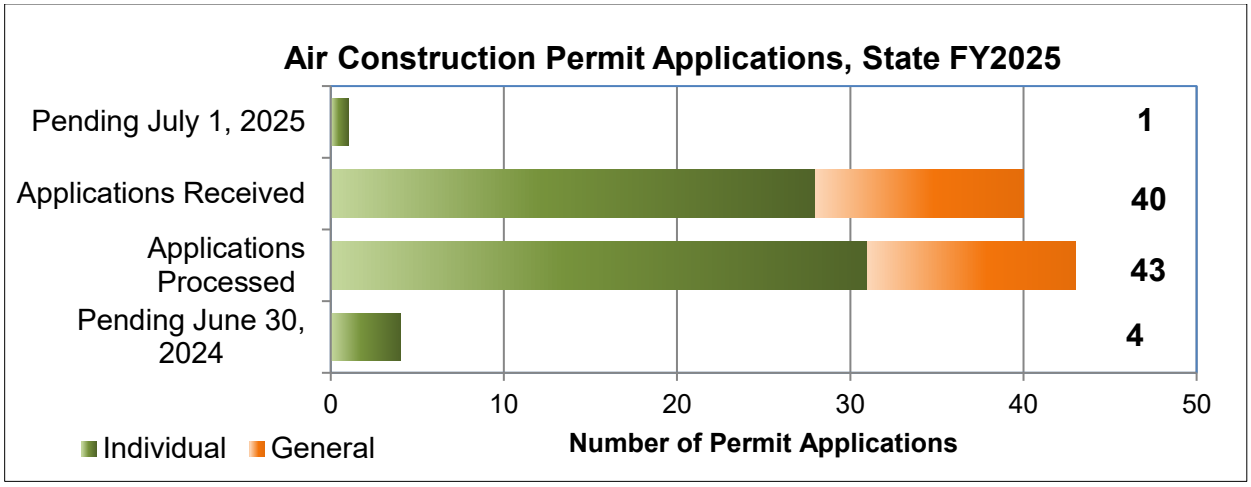
A general permit covers all sources in a particular industrial category, provided that the source meets the applicability criteria, applies for, agrees to the conditions of and obtains coverage. Requirements for a general permit are established in that general permit. Each general permit is issued only once (including the public notice period). Eligible applicants then apply for and obtain coverage without the need to develop an individual permit for that facility or to go through a public comment period each time coverage is approved for an eligible source under that general permit.

General construction permit coverage is currently available for eligible sources in nine categories (including time-sensitive construction activities), and general operating permit coverage is available for one category (certain size of incinerators). Approval of general permit coverage takes much less time for the agency and for the facility than an individual permit. An online-only application process is used for general permit coverage, and approval may take only 5 days or less.

Construction Permit Program

The Department has maintained a construction permit program for air contaminant sources since the 1970s. The program is referred to as the New Source Review (NSR) program and has two categories; a minor source program (state) and a major source program (federal Prevention of Significant Deterioration). Both programs require facilities to obtain a permit before they construct, reconstruct, or modify any air contaminant source or emission unit where there is a net increase in the potential to emit above thresholds specified in Title 129 for particular pollutants. Only sources with potential emissions at or above these thresholds are required to obtain a construction permit. A construction permit is valid for the life of the covered emission unit(s).

The following graph summarizes construction permit applications received, processed, and pending during the 2025 state fiscal year. (Note: The *Processed* category includes permits issued, withdrawn, denied, and determinations of no permit required.)

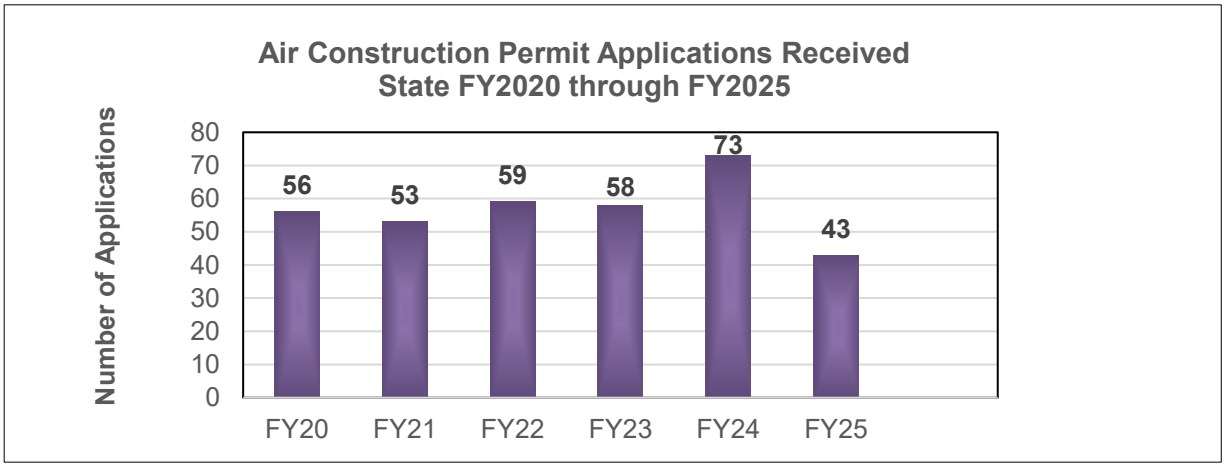


The Prevention of Significant Deterioration (PSD) program applies to construction of new major sources or modifications to existing major sources that emit significant levels of certain types of pollutants. The purpose of the PSD program is to protect air quality in areas where the air is cleaner than the ambient air quality standards while still allowing industrial and economic growth. The objective is to continue to maintain compliance with the health-based ambient air quality standards.

For facilities regulated under the construction permit program that emit pollutants at levels sufficient to trigger PSD requirements, air engineering staff conduct additional, more rigorous reviews to ensure that best available control technology will be employed to minimize impacts on the environment. The Department must also ensure that the source will not cause or contribute significantly to any deterioration of air quality or violations or exceedances of the ambient air quality standards.

The PSD program helps to protect visibility in nearby national parks and wilderness areas. The Department notifies federal land managers and nearby States and Tribes, as applicable, of pending PSD decisions so those authorities can share relevant concerns for potential impacts.

The economy and business activity in the state impact the number of air quality construction permit applications received each year. The following graph shows the number of construction permits received annually from state FY2020 through FY2025.



Air Dispersion Modeling

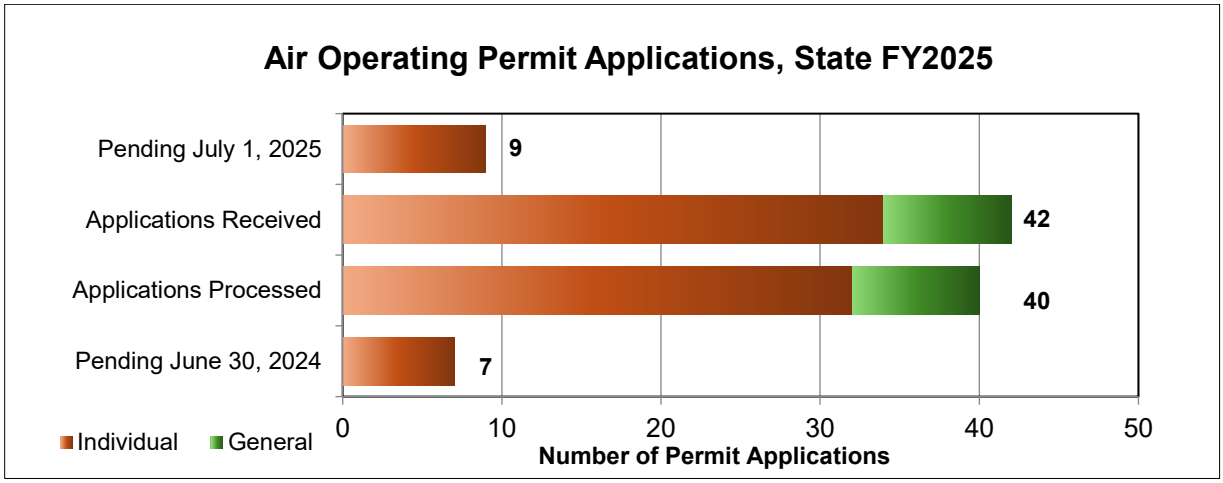
Air dispersion computer models predict how air pollutants emitted by a facility spread and disperse. These models are utilized during the permitting process to verify that a new source of air pollution will not exceed the National Ambient Air Quality Standards (NAAQS) or cause degradation in air quality beyond the maximum allowable increment. Models used for permitting purposes estimate downwind concentrations from a proposed facility prior to its construction. These regulatory models use expected emissions, meteorological and geographical data, and other factors to estimate ground level concentrations of air pollutants at a large array of locations outside of the facility fence line. In a relatively short amount of time, a model can predict the maximum potential ground-level impact of facility emissions in a standardized and cost-effective manner.

Modeling is required with most air quality construction permit applications as part of the Department's review. An air dispersion model is the primary tool used to determine if, as permitted, the emissions from a new or modified facility or modification will comply with current health-based ambient air quality standards. Models are also used as a design tool to analyze the effects of different pollution control strategies. The air dispersion modeler reviews the inputs and outputs of the models that facilities provide as part of their construction permit applications. These reviews include facility emissions and meteorological data, background concentrations, existing nearby facilities, the modeling protocol, and the final modeling results.

Operating Permit Program

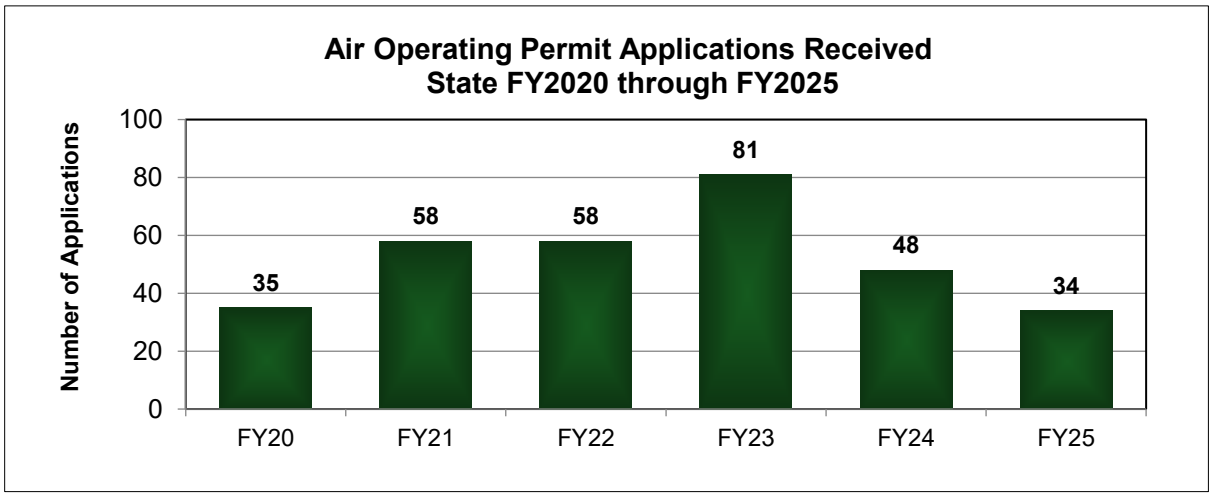
As required by Title V of the Federal Clean Air Act Amendments of 1990, Nebraska issues operating permits for Class I (major) sources of certain air pollutants. The Department also regulates minor sources using Class II operating permits as required under Nebraska law. Application for an operating permit is required by Title 129 within 12 months of startup of a regulated air contaminant source. Until recently, Title 129 provided for operating permit terms up to five years, after which the permit must be renewed. When Title 129 was revised in September 2022, changes to the operating permit program were made which allow the Department to issue Class II operating permits for a term longer than five years. An operating permit contains all applicable requirements for emission points at a facility. For a large, complicated, growing facility, an operating permit incorporates requirements from all construction permits issued for the facility, providing the source with one permit document to help compliance with all associated air permitting requirements.

The chart on the following page provides statistics on the number of operating permit applications received, processed, and pending during the 2024 state fiscal year. These statistics include general permit coverage approvals. The current general operating permit for small incinerators was issued in SFY2018, replacing the previous five-year general operating permit that expired that year. The general operating permit coverages issued in SFY2022 were for new applicants requesting coverage for small incinerators. The current general operating permit for small incinerators is available through an efficient online process, whereas the previous general permit required a paper application.



The Nebraska operating permit program also offers an innovative alternative for major sources that have taken measures to keep their emissions very low, called the Low Emitter Rule. To be eligible, a Class I (Title V) source must document five years of actual emissions at or below the minor source (Class II) threshold levels, meet other requirements established in the regulations, and not otherwise be required to obtain an operating permit. Since its inception in 1997, the Low Emitter Rule has allowed over 100 active sources to opt out of their Class I (Title V) operating permits, with no identifiable degradation of air quality in Nebraska.

The five-year renewal cycle, past delays in issuing renewals, and other factors have resulted in wide variations over time in the numbers of operating permits up for renewal each year. The chart below summarizes air quality operating permit applications received from State FY2020 through FY2025 (applications for all application types, including permit revisions, general operating permits, low emitters, etc.).



Permit Program Process Improvements

Individual construction and operating permits are complex, highly technical documents that must address all emission points for various pollutants at a facility in a manner that is enforceable as a practical matter. Processing a permit application includes complex analysis with multiple steps and personnel. The Operating Permits Team continuously is improving the process for the completion of operating permit renewals and applications. These projects resulted in a significant

reduction in the time needed to prepare and process an operating permit renewal application. One applicant has estimated an 80% reduction in their application preparation time. The Air Programs have documented similar savings in staff time to process the renewal.

Each construction and operating permit include a fact sheet, which provides a technical description of the facility, applicable regulatory requirements, and a statement of basis for each permit condition. Air Program staff have also made significant fact sheet process improvements and continuously revisit permit fact sheets to pinpoint opportunities for streamlining and to continue to make fact sheets more uniform and easier to understand, making compliance easier for facility staff, which also assists the efforts of agency compliance inspectors.

With the completed and ongoing process improvements and other ongoing efforts, the average time required to reach a decision on a construction permit application has improved significantly. The operating permit application backlog has also significantly improved with the completed process improvement events. Although some impacts of improvements may not be realized in the immediate future, sources with permits being issued now see processing times significantly improved at permit renewal time.

The Air Quality Permitting Programs have consistently had a significant amount of staff turnover, leading to recurring discussions about permit decisions, regulations, and other challenges. The Air Program has revamped new employee onboarding procedures to help the training process. The improved training process has allowed the Air Quality Permitting Programs to be able to increase consistency in the permitting process as well as being able to work with new permit writers in a more efficient manner to help achieve a better understanding of the process faster.

Air Compliance

Ambient Air Quality Monitoring Program

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment, which are called criteria pollutants. The Act established two types of national air quality standards: primary standards, which are intended to protect public health, and secondary standards, intended to protect the environment. National standards have been established for the following six pollutants:

- Particulate Matter (PM)
  - With a diameter of 10 micrometers or less (PM10)
  - With a diameter of 2.5 micrometers or less (PM2.5)
- Sulfur Dioxide (SO2)
- Nitrogen Dioxide (NO2)
- Carbon Monoxide (CO)
- Ozone (O3)
- Lead (Pb)

Nebraska has an additional ambient air quality standard for Total Reduced Sulfur (TRS). The TRS standard was adopted by the Environmental Quality Council in 1997 and is a public health-based standard.

Nebraska Ambient Air Monitoring Network

The State of Nebraska operates an ambient air-monitoring network to determine compliance with the NAAQS and with state air quality standards. The Nebraska network also includes a site for

monitoring regional haze impacts that is part of a national program to help protect visibility in our National Parks and Wilderness areas.

Three agencies are involved in the day-to-day operation of the network: NDEE, Lincoln-Lancaster County Health Department, and Douglas County Health Department. Omaha Air Quality Control (part of the Omaha Public Works Department) also provides technical support for network-related activities.

The Nebraska monitoring network includes sites at which air quality is monitored to evaluate attainment with the standards and other health and welfare-associated priorities. The Department evaluates the adequacy of its monitoring network in accordance with federal regulations each year. Changes may be made to the network due to changes in monitoring regulations, updates to the ambient standards, perceived changes in pollution trends, and/or funding issues. Loss of site access is another consideration that occasionally affects the network.

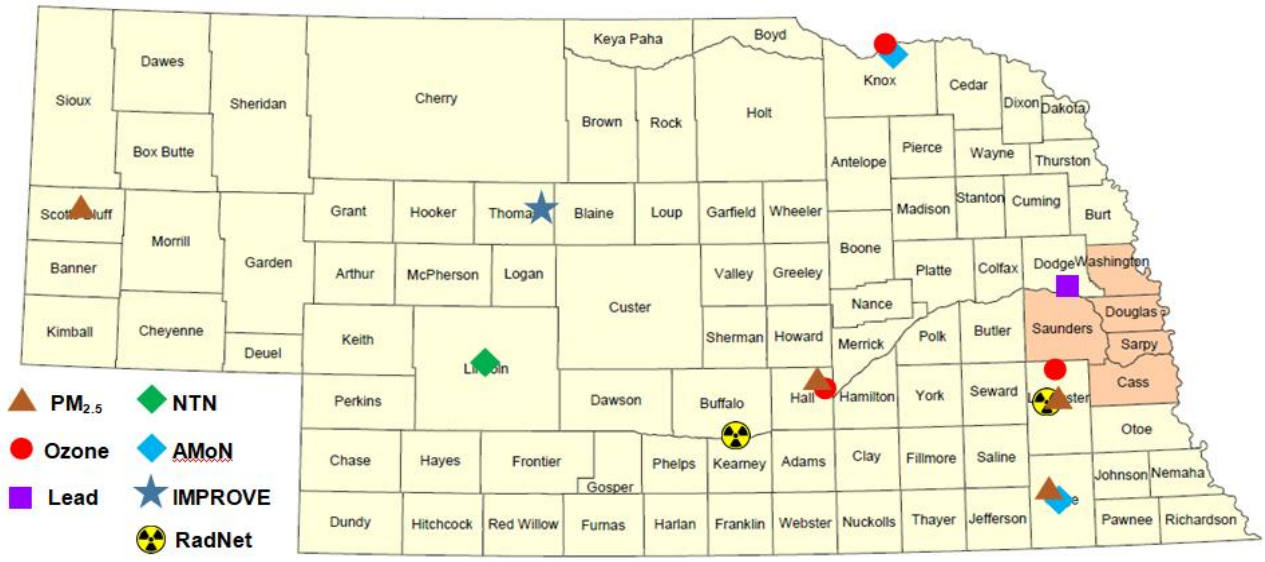
Most of the sites in the monitoring network evaluate pollutants for which standards are established *(i.e.*, particulate matter (PM2.5, PM10), carbon monoxide, sulfur dioxide, lead, nitrogen dioxide and ozone). Some sites monitor for more than one pollutant. The NCore site in Omaha is part of a National Core Network that monitors for nine pollutant parameters. There are two additional types of sites in the network: Interagency Monitoring of Protected Visual Environments (IMPROVE) and National Atmospheric Deposition Program/National Trends Network (NADP/NTN) sites. See the following maps for locations of air monitoring sites.

The air monitoring sites operated by NDEE and the local air agencies are supplemented by sites that are part of national research networks operated by EPA. These sites are described in the following paragraphs.

IMPROVE monitors provide information for studying regional haze that may impact the visibility in listed federal Class I National Park and Wilderness Areas. There is one IMPROVE monitoring site at Nebraska National Forest at Halsey, Nebraska. This site provides data on pollution trends and transport.

Four locations in Nebraska are part of the National Atmospheric Deposition Program (NADP), which includes several networks that measure pollutants deposited by rain and snow. The site at Mead (Saunders County) is part of the Mercury Deposition Network (MDN). The Mead and North Platte (Lincoln County) sites are part of the National Trends Network (NTN), which measures a suite of chemicals including sulfate and nitrate. The Ammonia Monitoring Network (AMoN) measures ammonia concentrations in the air at rural sites, including the Santee Sioux site in Knox County and a location at Homestead National Historic Park in Gage County.

Nebraska Monitoring Sites Outside of the Omaha Metropolitan Statistical Area



$PM_{2.5}$
Lincoln (Lancaster County) Grand Island (Hall County) Scottsbluff (Scotts Bluff County) Beatrice (Gage County)

Lead
Fremont (Dodge County)

Ozone
Davey (Lancaster County)
Grand Island (Hall County)
Santee (Knox County) operated by EPA

RadNet
Lincoln (Lancaster County)
Kearney (Buffalo County)

IMPROVE
Nebraska National Forest (Thomas County)

National Atmospheric Deposition Program
North Platte (Lincoln County) - NTN
Santee (Knox County) – AmoN
Homestead (Gage County) - AMoN

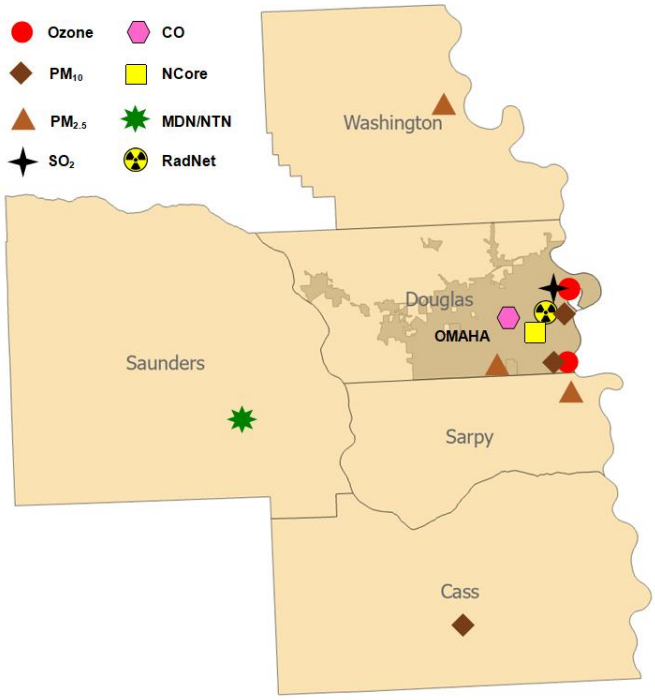
The Nebraska counties in the Omaha-Council Bluffs Metropolitan Statistical Area are indicated by orange shading.

RadNet is a nationwide system that monitors air, precipitation, and drinking water to track radiation levels in the environment. RadNet air monitoring sites are located in Omaha, Lincoln, and Kearney.

The state map above shows the monitoring sites that are located outside of the Omaha-Council Bluffs Metropolitan Statistical Area (counties shown in orange). Four of these sites are operated by the Department, either directly or under contract. The two sites in Lancaster County are operated by the Lincoln-Lancaster County Health Department with NDEE oversight.

The map on the following page shows the location of the monitoring sites in the Nebraska portion of the Omaha-Council Bluffs Metropolitan Statistical Area (two sites monitor two pollutants and are represented by overlapping pairs of symbols). Nine of these sites, located in Douglas, Sarpy, and Washington Counties, are operated by the Douglas County Health Department with oversight by the Department. A PM10 site in Weeping Water in Cass County is operated by NDEE. The National Atmospheric Deposition Program site at Mead is operated by the University of Nebraska.

Monitor Locations in the Nebraska Portion of the Omaha-Council Bluffs Metropolitan Area



NCore (multipollutant site)
4102 Woolworth Avenue

Carbon Monoxide
Omaha, 4102 Woolworth Avenue (NCore Trace Monitor)
Omaha, 7747 Dodge Street

Ozone
Omaha, 4102 Woolworth Avenue (NCore)
Omaha, 1616 Whitmore Street
Omaha, 2411 O Street

Sulfur Dioxide (SO_2)
Omaha, 4102 Woolworth Avenue (NCore Trace Monitor)
Omaha, 1616 Whitmore Street

$PM_{2.5}$
Omaha, 4102 Woolworth Avenue (NCore) Omaha, 9225 Berry Street
Bellevue, 2912 Coffey Avenue Blair, 2242 Wright Street

PM_{10}
Omaha, 19th & Burt Streets Omaha, 2411 O Street
Omaha, 4102 Woolworth Avenue (NCore) Weeping Water, 102 P Street

NADP/NTN
Mead, Saunders County

Updates to the Monitoring Network

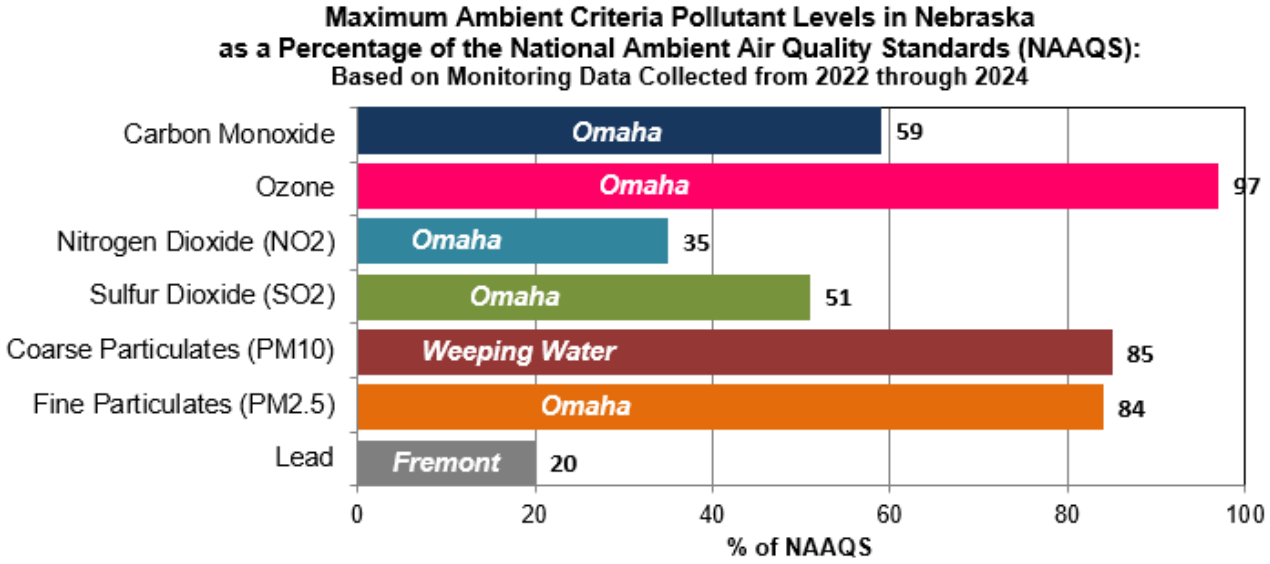
NDEE has used funds from an Air Monitoring Direct Award (under an Inflation Reduction Act program) to establish continuous ozone monitoring in Grand Island, Nebraska's fourth largest city by population. The new monitor was installed at the current $PM_{2.5}$ monitoring site during the first quarter of 2025.

Monitoring Information Online

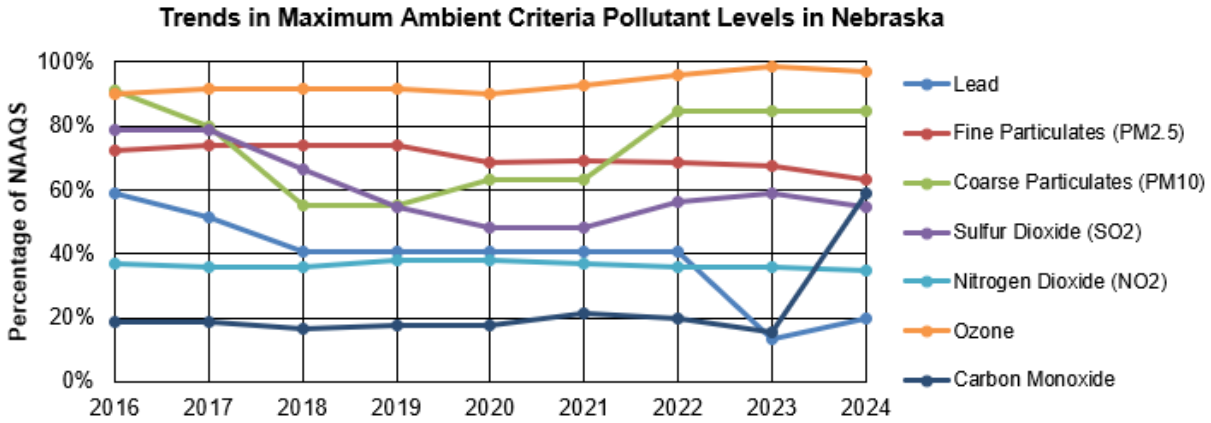
Data from continuous ozone and PM2.5 monitors in Lincoln, Omaha, Grand Island, Homestead National Historical Park, and Scottsbluff are reported hourly to the EPA AirNow system, which makes current air quality information available to the public on the web at http://www.airnow.gov. EPA uses the data to calculate an hourly Air Quality Index (AQI) for each monitor location. The AQI is a numeric rating of the current air quality that provides the public with a quick and simple means to evaluate current air quality in each metro area. The Douglas County Health Department and Lincoln-Lancaster County Health Department websites provide links to current AQI values for their cities. The Douglas County Health Department also participates in the ENVIROFLASH program that allows members of the public to sign up to receive air quality alerts via email.

Compliance with National Ambient Air Standards (NAAQS)

Current air quality monitoring data shows that all areas of Nebraska are in attainment (in compliance) with the NAAQS. The chart below shows where the highest air pollutant levels are being detected in Nebraska for each criteria pollutant and how their levels compare to the NAAQS. A reading of greater than 100% would mean that the NAAQS standard was exceeded, but the highest readings for all criteria pollutants are below 100%.



In March 2024, EPA revised the primary annual $PM_{2.5}$ standard by lowering the regulatory level from 12.0 micrograms per cubic meter to 9.0 micrograms per cubic meter. Recent data from all monitoring sites in Nebraska are in compliance with both the old and new standard. However, in March 2025 EPA announced that it would reconsider the 2024 revised standard.



The chart above shows trends in the maximum measured levels of criteria pollutants in Nebraska from 2016 through 2024. The value for each pollutant and year is the maximum measured at any monitoring site in the state (as a percentage of the NAAQS for that pollutant, based on the previous three years of data). Ozone is the criteria pollutant of most concern, as maximum levels have remained above 90% of the NAAQS at a number of urban and rural monitor sites in Nebraska as well as in the adjacent states. Levels for ozone, NO2, CO, and PM2.5 have remained fairly constant or have declined slightly since 2016, while the maximum SO2 level has decreased significantly since 2017. The level and location of the maximum PM10 readings have fluctuated widely during this period.

The Department compiles an annual Ambient Air Monitoring Network Plan that provides a more detailed analysis of ambient air monitoring data, pollutant trends through time, and NAAQS compliance. These reports are available on the Department website: https://dee.nebraska.gov/forms/publications-grants-forms.

Inspections and Facility Compliance

The Compliance Program is responsible for conducting compliance inspections of air pollution sources, responding to citizen complaints, observing and evaluating emission tests, and the acid rain program. Consistent with the Nebraska Environmental Protection Act, the Air Quality Program attempts to obtain compliance with environmental regulations first through voluntary efforts. Voluntary compliance has helped bring about a better working relationship with the regulated community without sacrificing environmental quality. However, enforcement actions are pursued by the Department when compliance issues are serious, chronic or otherwise cannot be resolved. This table lists the compliance activities conducted by the Department during the year.

FY2025 Air Compliance Activity	NDEE
On-site Inspections	241
Facility Stack Tests Conducted On-Site Observations Conducted	102 29
Continuous Emission Monitoring Audits Conducted On-site Observations Conducted	45 8
Complaints Received	48
Burn Permits Issued Burn Permits Denied Burn Permits Withdrawn	33 5 0

Emission Inventory and Emission Fees

Each year the Department conducts an inventory of emissions from major industrial sources and a representative sample of lower-emitting minor industrial sources. Emission inventories are due on March 31 each year for the previous calendar year. Every three years, the Department assists the EPA in preparing a comprehensive national inventory of emissions. The 2023 national inventory has been submitted and uses emissions reported by sources for the calendar years 2021-2023. The emissions inventory is used to support the planning efforts for national rulemaking and to assess trends in emissions through time.

The Department also uses the emission inventories to determine the assessment of annual emission fees. Facilities that emit major sources of air pollution are required to pay emission fees for each ton of pollutant emitted during the previous calendar year. The maximum emission for which a fee is assessed is 4,000 tons per pollutant. For electrical generating facilities with a capacity between 75 and 115 megawatts, the maximum emission for which a fee is assessed is 400 tons per pollutant. The Department attempts to set the fee rate at the minimum level needed to pay reasonable direct and indirect costs of developing and administering the air quality permit program. An analysis detailing how the Department arrived at the fee rate is made available to fee payers. The rate for emissions generated in 2024 was $47 per ton.

The Department transitioned to an online reporting system called State and Local Emissions Inventory System (SLEIS) during calendar year 2019. Training sessions for those new to the system continue on an annual basis.

Planning for Air Quality Issues in Nebraska

The National Ambient Air Quality Standards (NAAQS) are established by EPA for six pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter ($PM_{2.5}$ and PM_{10}), and sulfur dioxide. These standards are established in primary and secondary forms: primary NAAQS are protective of health, and secondary NAAQS are protective of vegetation, animals, buildings, and visibility.

EPA periodically reviews the NAAQS using the most current scientific information available and revises or retains the standards as warranted. When a new or revised standard is issued, states determine their compliance (attainment) status with respect to the standard and submit to EPA their recommendations for attainment or nonattainment designations for areas within the state. State Implementation Plans (SIPs) are then developed to describe how the state meets the CAA requirements for the NAAQS, specifically describing how the Department will implement, maintain, and enforce the standard.

At the present time, Nebraska is in attainment with each of the NAAQS. Planning activities currently underway at NDEE include:

- Preparation of designation recommendations for areas of the state to address the recently revised secondary sulfur dioxide (SO2) standard,
- Proposed revisions to Title 129 – Air Quality Regulations, and
- Finalizing the Regional Haze Progress Report for the second planning period.

In March 2025, EPA announced its intention to review and reconsider numerous regulatory actions undertaken by the previous administration, which include plans to reconsider the 2024 revised fine particulate matter ($PM_{2.5}$) standard. Shortly after this announcement members of the

Clean Air Scientific Advisory Board (CASAC), which conducts NAAQS reviews and advises EPA on the adequacy of the standards, were dismissed. In May 2025 EPA invited nominations of scientific experts for appointment to this committee. No further information on the status of the CASAC is currently available and, as a result, the timelines or schedules for future NAAQS reviews are unknown at this time. The current NAAQS are described at https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Sulfur dioxide (SO_2)

The 2010 sulfur dioxide (SO_2) standard required states to demonstrate attainment in areas surrounding large sources of the pollutant. EPA finalized the Data Requirements Rule (DRR) in 2015 to assist in implementation of the 2010 standard, requiring characterization of the air quality near sources that emit 2,000 tons per year or more of SO_2. Sources in Nebraska subject to this rule include coal-fired power plants, specifically Whelan Energy Center (Adams County), Sheldon Station (Lancaster County), North Omaha Station (Douglas County), Gerald Gentleman Station (Lincoln County), and Nebraska City Station (Otoe County).

EPA issued its designations of attainment for Nebraska areas near these sources in 2016, 2018, and 2021; all areas continue to comply with this standard. Nebraska's SIP revision for this NAAQS was approved in 2018.

The DRR requires annual reporting (termed "ongoing requirements") for areas characterized by modeling; in Nebraska, sources subject to these requirements are near Whelan Energy Center and Gerald Gentleman Station. This year's report was submitted as part of Nebraska's annual Ambient Air Monitoring Network Plan in July 2025. Facility emissions data indicate that all areas in Nebraska continue to demonstrate attainment with the federal standard.

The most recent review of the primary NAAQS was finalized in 2019, and the secondary NAAQS was revised to an annual standard in 2024. Current monitoring data demonstrates that all areas in the state are in attainment with the revised secondary standard, and the Department will submit designation recommendations to EPA by December 2025.

Ozone (O_3)

EPA issued revised ozone standards in 2015, lowering the standard from 0.075 parts per million (ppm) to 0.070 ppm. In November 2017 EPA designated the entire state of Nebraska in attainment and approved Nebraska's SIP revision in April 2020.

In December 2020, following a review of the standard, EPA retained the current NAAQS; in October 2021 it announced a decision to reconsider the previous administration's retention decision. At this time no further information is available regarding the periodic review of this NAAQS.

Particulate Matter (PM)

EPA finalized its review of the PM standards, initiated based on its concern that the standards retained in 2020 are not adequate. A final rule with a revised annual $PM_{2.5}$ standard was issued in February 2024. The primary (health-based) annual standard was strengthened, and the secondary annual standard and primary and secondary 24-hour standards were retained. Nebraska submitted its designation recommendations to EPA in January 2025, demonstrating attainment with the standard for all areas of the state.

In March 2025 EPA announced that it would reconsider the 2024 revised standard, noting that the rule was the subject of litigation in the D.C. Circuit Court of Appeals. Thus far no regulatory

action has been published to address Nebraska's designation recommendations, and NDEE is awaiting further guidance and information from EPA regarding SIP development.

Lead (Pb)

The most recent review of the Lead NAAQS was finalized in 2016, retaining the previous standards. Nebraska was designated in attainment with the NAAQS by EPA in 2011 and the state's SIP revision was approved in 2014 and the state's SIP revision was approved in 2015. Subsequent SIP revision is not required when NAAQS are retained.

EPA began its most current review of the lead standard in 2021 and published Health Risk and Exposure Analyses in November 2024. At this time no further information is available regarding the periodic review of this NAAQS.

Carbon Monoxide (CO)

Nebraska was designated in attainment with the carbon monoxide NAAQS in 1991.

EPA's most recent NAAQS review was finalized in 2011 with the retention of the primary standards originally established in 1971; secondary standards were revoked in 1985. At this time no further information is available regarding the periodic review of this NAAQS.

Nitrogen Dioxide (NO_2)

Nebraska was designated in attainment with the NO_2 NAAQS in 2012, and EPA approved the SIP revision in 2018.

EPA's most recent reviews of the primary and secondary NAAQS were finalized in 2018 and 2024, respectively, with the retention of the previous standards. At this time no further information is available regarding the periodic review of this NAAQS.

Regional Haze

Regional Haze is the term used to describe impaired visibility at national parks and wilderness areas (Class I areas) caused by particulates in the atmosphere. EPA issued the Regional Haze (RH) Rule in 1999 to improve visibility in these areas, requiring state and federal agencies to work together to achieve this goal. Numerous amendments to the Rule have been issued to describe the Cross-State Air Pollution Rule (CSAPR) as an alternative to Best Available Retrofit Technology (BART) for particular pollutant sources, and describe additional regulatory requirements for SIPs. In addition, EPA continues to provide guidance and technical support documents to assist states in preparing SIPs.

In December 2024, EPA proposed to revise the RH Rule to extend by three years the due date, to 2031, for SIPs for the third implementation period. In March 2025 EPA Administrator Zeldin announced that the agency will restructure the RH program based on significant gains in visibility improvement at Class I areas across the country. Revised rulemaking has not yet been published.

Nebraska submitted its initial RH SIP for the first implementation period (2008- 2018) in July 2011; in 2012, EPA issued a partial approval/partial disapproval of the SIP. The disapproved portions include the BART analysis for sulfur dioxide for NPPD's Gerald Gentleman Station (GGS) and the state's long-term strategy for regional haze insofar as it relied on the BART determination. EPA issued a Federal Implementation Plan (FIP) that relies on CSAPR to satisfy BART for sulfur dioxide at GGS. This source participates in the CSAPR trading program, which allots each source an emissions budget for SO_2 and permits trading of allotments. The remaining disapproved portion

(long-term strategy) was addressed by a proposed FIP published in August 2024. Prior to this proposal, no additional control measures have been required, and the proposed FIP has yet to be finalized.

The Department submitted its first RH Five-Year Progress Report in April 2017, and submitted its SIP revision for the second implementation period in August 2024. This SIP revision addresses portions of the initial SIP and progress report, as well as state obligations for the current implementation period that ends in 2028. EPA review and rulemaking are pending.

Municipal Solid Waste Landfill Plan

On May 21, 2021, EPA finalized the federal implementation plan for municipal solid waste landfills (MSWL), which implements the 2016 emission guidelines and compliance times for existing MWSLs in states where a state plan is not in effect; Nebraska is one of these states.

The federal rule is codified at 40 CFR Part 60 Subpart Cf: Emission Guidelines and Compliance Times for Municipal Solid Waste Landfills. The emission guidelines apply to landfills constructed prior to July 17, 2014 which accepted waste after November 8, 1987, and lowered the threshold for which facilities must install gas collection and control equipment from 50 megagrams (Mg) per year to 34 Mg/yr of nonmethane organic compounds (NMOCs).

Air Toxics Program

EPA currently lists 188 substances as hazardous air pollutants, or air toxics, which are air pollutants known to cause cancer and other serious health impacts. The Department developed an Air Toxics Notebook, found on the agency website, as a reference tool for the air toxics program and developed a set of web pages for the New Sources Performance Standards (NSPS), which are federal rules that apply largely to new stationary sources.

Both sets of rules have been issued by EPA. The Notebooks are intended to help the regulated community and the public understand the air toxics and NSPS regulations. For each standard the Notebook contains a page that provides applicability information, regulatory citations, amendment dates, guidance documents, and forms.

Smoke Awareness Program

The impact of prescribed fires and wildfires on Nebraska's air quality continues to receive attention statewide. In early to mid-spring, ranchers and land managers burn an average of two million acres of tallgrass prairie in the Flint Hills of Kansas and Oklahoma to control invasive plant species and to encourage growth of pasture grasses. Unpredictable spring weather conditions may provide only a few days of optimal weather for burning, which can result in widespread burning and large amounts of smoke on those days. Wind from the south is typical during the spring and Nebraska air quality may be affected by elevated concentrations of fine particulates and ozone for 24 – 48 hours following these events.

Rangeland prescribed burning and wildfires also occur in Nebraska, with the number of incidents and acres burned due to human-caused fires increasing dramatically since 2020, with 2022 the second worst year for wildfires in state history. Prescribed burning is one management tool used to prevent wildfires.

Air quality impacts in Nebraska from wildfires continue to draw more interest due to drought

conditions in the state over the past few years and due to recurring annual wildfires in Canada and the Pacific northwest. Impacts that persist over several days due to heavy smoke from wildfires are becoming more common and often impact large areas of the United States, typically in the form of fine particulate matter ($PM_{2.5}$). In June 2023, portions of the state were impacted by elevated ozone levels – a pollutant that forms when nitrogen oxides (NOx) and volatile organic compounds (VOCs) react in the presence of sunlight. Elevated ozone levels are uncommon in Nebraska and these occurrences were attributed to Canadian wildfire smoke impacting the area. Air quality in 2024 and thus far in 2025 has been minimally impacted by smoke from prescribed burning and wildfires within the state, from other states, and from Canada.

The Department continues its collaborative efforts with key stakeholder agencies and held its annual pre-season meeting in March 2025. Participants included staff from NDEE and other Nebraska agencies, local health departments, EPA, University of Nebraska, National Weather Service, adjacent state and local air agencies, and land managers who rely on prescribed fire as a management practice. Other department activities included outreach and notification of potential smoke and air quality impacts, collaboration with Nebraska Department of Health and Human Services (DHHS) and local air agencies to develop guidance for schools and youth sports, and planning for future burn seasons.

Tasks performed by NDEE staff during the 2025 burn season include:

- Monitoring air quality ($PM_{2.5}$ and ozone levels)
- Generating maps showing fire locations and smoke plumes
- Reviewing weather and smoke forecasts, prescribed fire and smoke updates from Kansas, and smoke prediction models
- Updating the NDEE Smoke Awareness webpage with current information on smoke impacts and pollutant monitoring
- Discussions with the National Weather Service (NWS) and DHHS to determine the likelihood for smoke impacts and to generate advisories/alerts for the public
- Coordinating Air Quality Advisories with the DHHS
- Generating and coordinating Air Quality Alerts with the NWS
- Providing email updates to stakeholders on air quality conditions and wildfire conditions
- Interpreting and deploying NWS software technologies.

Department staff coordinate and consult with other partner agencies on days when heavy burning and smoke impacts are predicted. If a health advisory is warranted, NDEE staff coordinate with DHHS to issue a Smoke Advisory, and with NWS to issue an Air Quality Alert to the public. To date in calendar year 2025, advisories and alerts were issued for the following dates:

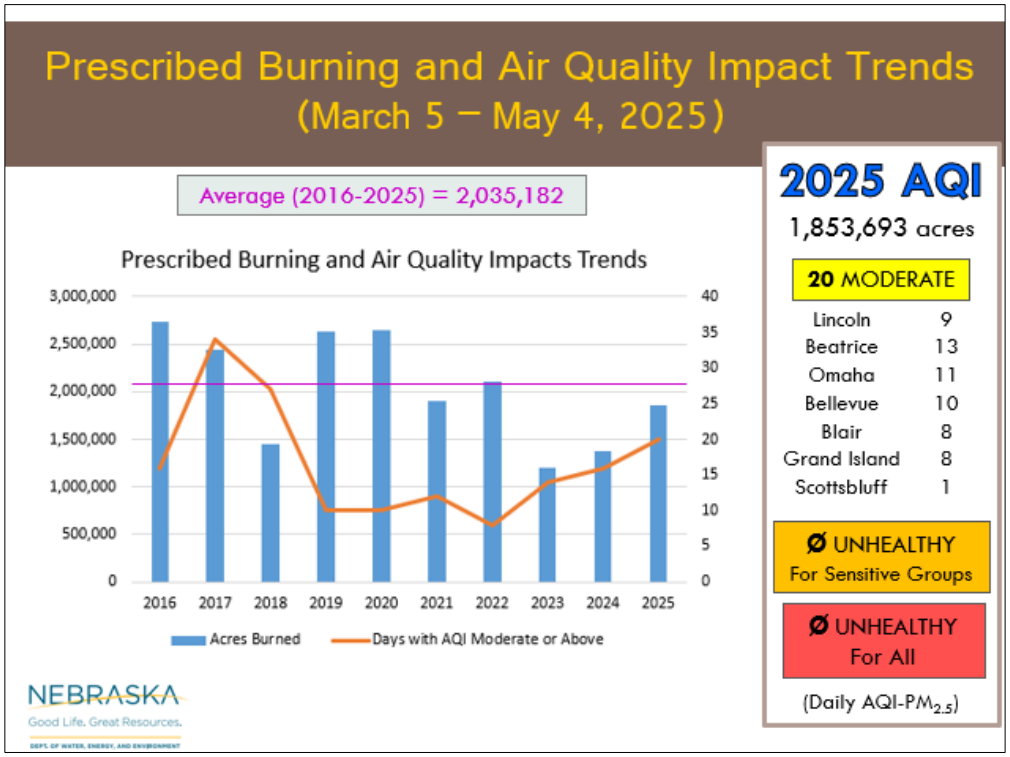
- April 11
- April 15-16
- June 3-4
- July 31
- August 1

The Department takes a conservative approach to ensure that advisories and alerts are not issued unless confidence in predicted conditions and consensus among partner agencies is strong.

EPA uses the Air Quality Index (AQI) to report air quality conditions to the public through its webpage at https://www.airnow.gov/. The AQI is similar to a yardstick that runs from 0 to 500 – the higher the value, the greater the amount of air pollution and greater the health concern. AQI values ranging from 0 to 50 (*Good* AQI) and from 51-100 (*Moderate* AQI) are indicative of pollutant concentrations in compliance with the NAAQS. At concentrations within the *Moderate* AQI category, those who are unusually sensitive to air pollution may experience health effects such as coughing or shortness of breath.

Higher AQI values (101-150) fall within the *Unhealthy for Sensitive Groups* AQI category; those in sensitive groups may experience health effects such as coughing or shortness of breath at this AQI level. Sensitive groups include people with heart or lung disease, older adults, children and teenagers, minority populations, and outdoor workers. At the *Unhealthy* AQI level (151-200), it's possible that everyone may experience health effects.

Because the annual primary $PM_{2.5}$ standard is used as the lower breakpoint for the Moderate AQI range, the AQI scale was revised to reflect the 2024 revised standard value for this pollutant. With this change, the Department anticipated more days with Moderate AQI during prescribed burning and wildfire seasons; this was the case during prescribed burning seasons in 2024 and 2025, however, the severity of impacts (i.e., daily AQI levels) did not change significantly. In 2023, there were 13 days with a daily (24-hour) AQI level at Moderate or higher; the number of days in 2024 and 2025 (thus far) were 16 and 20, respectively. It's important to note that Moderate AQI is reflective of elevated levels of $PM_{2.5}$ or ozone that are at or below the primary (health-based) NAAQS.



During the 2025 the Flint Hills prescribed burn season (March 5 – May 4, 2025), Nebraska experienced a total of 20 days with an AQI for $PM_{2.5}$ in the *Moderate* range (30% of days) and no days in the *Unhealthy for Sensitive Groups* or *Unhealthy* range, as noted in the chart below. This is essentially unchanged from 2024. There were six days (10%) with *Moderate* AQI for ozone during this period; all but one of these days was concurrent with a *Moderate* AQI day for $PM_{2.5}$. During prescribed burn seasons for the previous five years (2020-2024) Nebraska has averaged 12 days in the *Moderate* category, less than one day in the *Unhealthy for Sensitive Groups* category, and no days in the *Unhealthy* category.

Through mid-August 2025, wildfires contributed to 26 days with *Moderate* AQI or higher, five of which were in the *Unhealthy for Sensitive Groups* AQI and none in the *Unhealthy* AQI. By contrast, in 2023, the state experienced 70 days with an ozone AQI of *Moderate* or higher; of these days, 21 were in the *Unhealthy for Sensitive Groups* AQI range and two were in the *Unhealthy* AQI range.

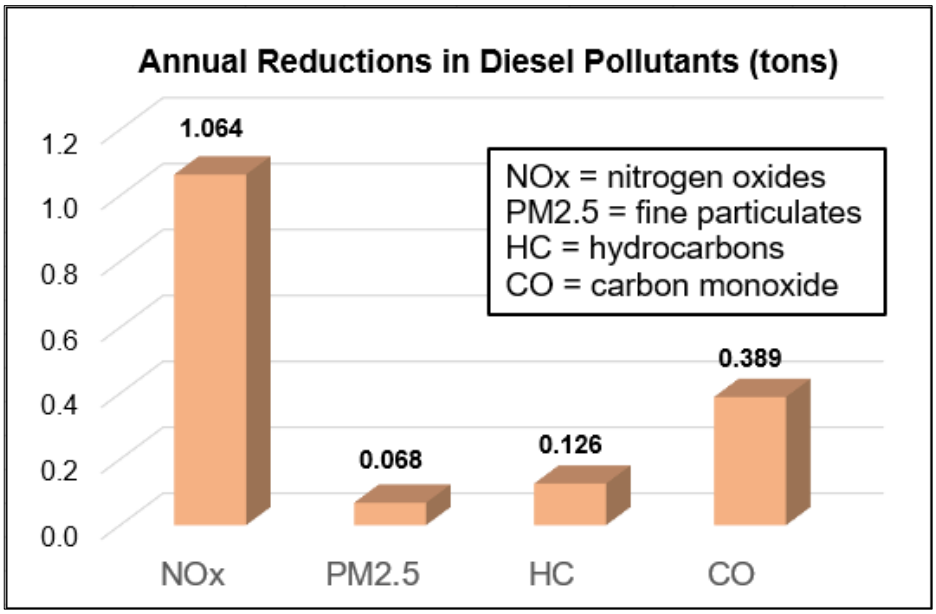
Though impacts from both prescribed burning and wildfires periodically affect local air quality these have not compromised the State's attainment status, and Nebraska remains one of the few states to maintain compliance with all of the NAAQS.

Nebraska Clean Diesel Rebate Program

The Department established the Nebraska Clean Diesel Program in 2008 to distribute federal funding received from the EPA to reduce diesel emissions, as authorized by Congress in the Diesel Emissions Reduction Act (DERA). The DERA program provides annual funding to states for the establishment of grant, rebate, and loan programs for the early replacement of diesel engines and vehicles and the installation of diesel emission controls. Starting in 2017, NDEE has elected to supplement the federal grant in most years with funds from Nebraska's portion of the *Volkswagen Diesel Emissions Environmental Mitigation Trust* (*VW Trust*; see next section), which earns bonus EPA funding.

Federal funding for the Clean Diesel Rebate Program that opened in late 2024 was delayed; in June 2025 NDEE opened applications for replacement of up to 12 diesel school buses and 5 diesel trucks.

In addition to annual allocations to states, the EPA DERA Program periodically offers competitive national grant opportunities. Through this program, in late June 2024 the Department was awarded $395,450 to provide rebates for the replacement of nine school buses and one refuse truck. The replacement school buses will be new diesel vehicles, while the replacement refuse truck will be fueled with cleaner-burning compressed natural gas. Estimated annual reductions in diesel pollutants expected from these replacement projects are shown below.



2024 DERA Competitive Grant Rebate Recipients

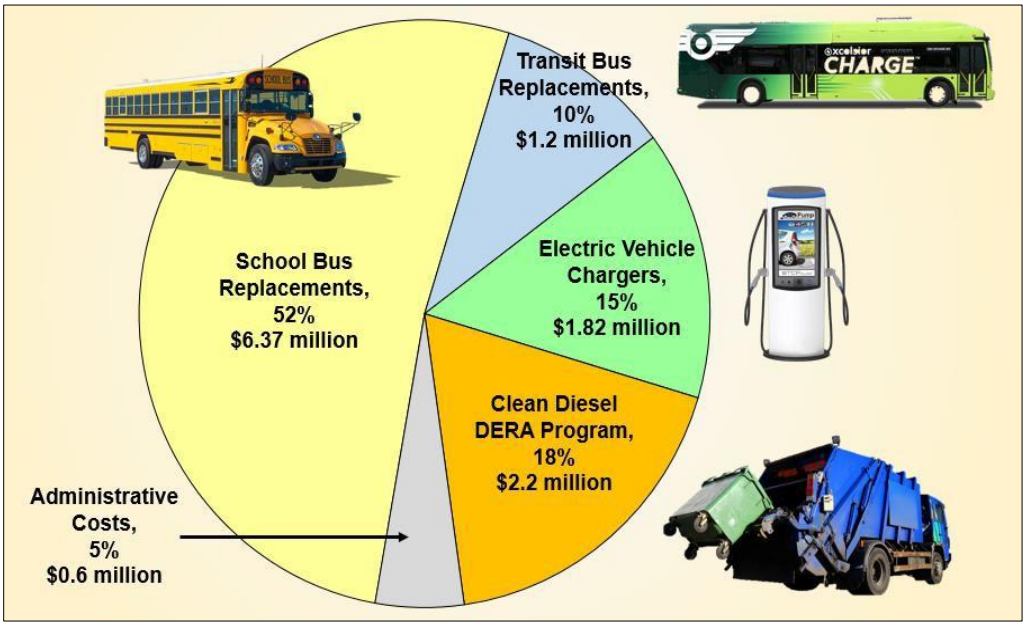
Name	Location	Replacement	Rebate Amount
Centennial Public School	Utica	Diesel School Bus	$28,500
Falls City Public Schools	Falls City	Diesel School Bus	$28,500
Gretna Public Schools	Gretna	Diesel School Bus	$28,500
Kimball Public Schools	Kimball	Diesel School Bus	$28,500
Norris School District 160	Firth	Diesel School Bus	$28,500
Palmer Public Schools	Palmer	Diesel School Bus	$28,500
Pawnee City Public Schools	Pawnee City	Diesel School Bus	$28,500
Sandy Creek Public Schools	Fairfield	Diesel School Bus	$28,500
Sumner-Eddyville-Miller Schools	Sumner	Diesel School Bus	$28,500
Uribe Refuse Services	Lincoln	CNG Refuse Truck	$127,500

Volkswagen State Trust Activities

NDEE is the lead agency administering funds allocated to Nebraska from the *Volkswagen Environmental Mitigation Trust for State Beneficiaries, Puerto Rico, and the District of Columbia* (VW State Trust).The VW State Trust was established in 2017 as part of court settlements with Volkswagen AG and its subsidiaries to resolve charges that their diesel passenger vehicles were equipped with devices to circumvent emissions testing and allow them to emit excess nitrogen oxide gases in normal operation, in violation of the Clean Air Act. The initial allocation to Nebraska from the VW State Trust is approximately $12.25 million, which has been supplemented by over $238,000 in investment income. As directed by the Trust Agreement, these funds are to be used to undertake authorized actions to reduce nitrogen oxide (NOx) emissions in Nebraska.

Beneficiary Mitigation Plan

In April 2020, NDEE submitted a revised Beneficiary Mitigation Plan that summarized how Nebraska intended to use the funds allocated to it under the Trust. The following table and figure present the project types selected for funding in Nebraska and the percentage of funds allocated to each type.

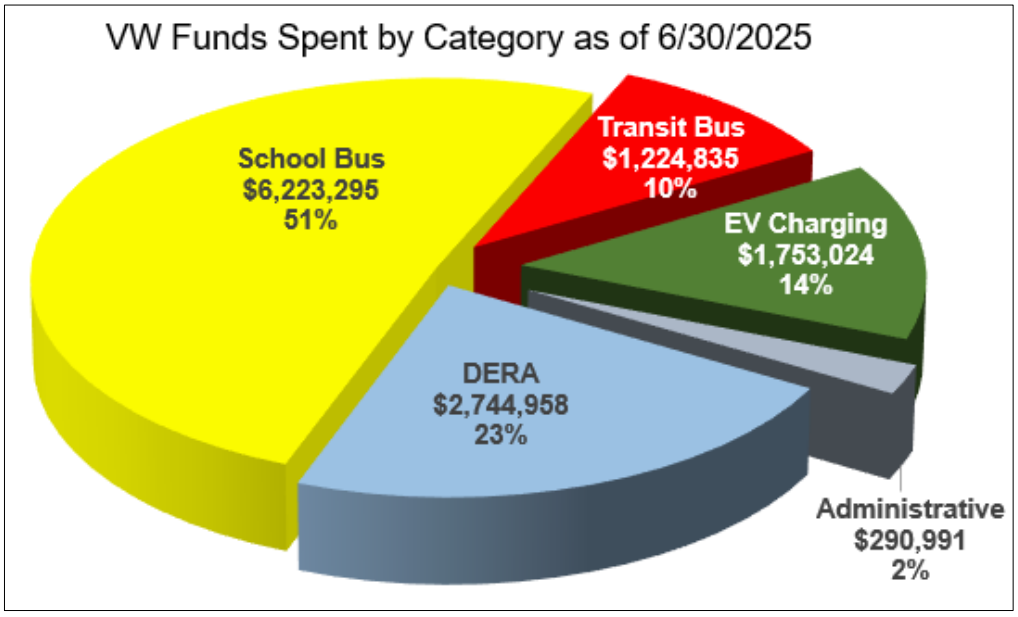


Planned Allocations of VW State Trust Funds by Mitigation Action		
Action	**Percent**	**Dollars**
Transit Bus Alternative Fuel Replacements (completed)	10%	$1,224,835
School Bus Diesel & Propane Replacements (completed)	52%	$6,369,141
Electric Vehicle Charging Infrastructure (completed)	15%	$1,818,224
DERA: Diesel Irrigation Engine, School Bus, & Truck Replacements	18%	$2,223,729
Administrative Costs*	5%	$612,417
TOTAL	100%	$12,248,347.48

* The Trust agreement allows reimbursement of administrative costs up to 15% of each funded project.

Nebraska's Beneficiary Mitigation Plan was intended to provide the public with insight into the Department's intentions for the use of the mitigation funds and information about the specific uses for which funding is expected to be requested. Nebraska may adjust its goals and specific spending plans at its discretion by providing an updated Beneficiary Mitigation Plan to the Trustee. Each state beneficiary must expend at least 80% of its initial allocation by October 2, 2027; otherwise, the unexpended funds will be reallocated to other beneficiaries that have complied with that guideline. By June 30, 2025, the Department had expended 98% of the VW principal, meeting that threshold, and has set a goal of expending the remainder of Nebraska's share of the funds by the end of 2027.

Nebraska Diesel Emission Mitigation Program



NDEE established the Nebraska Diesel Emission Mitigation Program to use VW State Trust funds for projects to mitigate NOx emissions in Nebraska. The program has carried out projects in all of the categories laid out in the Beneficiary Mitigation Plan. As of the end of June 2025, NDEE has requested Trust funds for 11 projects and expended $12,237,103 of those funds. The distribution of spending in the different project categories is shown in the following chart. The transit bus, school bus, and electric vehicle charging rebate programs have been completed. Remaining funds are dedicated to DERA projects.

NDEE's Beneficiary Mitigation Plan set a goal to limit Mitigation goal administrative costs to no more than 5% of Trust funds spent. To date only 2.4% of Trust funds spent have been for administrative costs.

Climate Pollution Reduction Planning Grant

In August 2023 NDEE received a $3 million Climate Pollution Reduction Planning Grant from the U.S. Environmental Protection Agency (EPA) to develop Nebraska's first state-wide climate action plans to reduce greenhouse gas (GHG) emissions and other harmful air pollutants in the state. The grant requires two key deliverables proposing measures to reduce GHG emissions: 1) a Priority Climate Action plan to propose high-priority, short-term, readily implemented measures in one or more economic sectors, and 2) a Comprehensive Climate Action Plan exploring longer-term measures covering all of the state's economy.

The Nebraska Priority Climate Action Plan (PCAP) is Nebraska's first statewide climate action plan. It proposes over a dozen voluntary, high-impact, readily-implemented measures to reduce greenhouse gas emissions in the state by 2030. The plan, which was submitted to EPA on March 1, 2024, was the result of a year-long planning effort that included significant input and advice from citizens and stakeholders across the state, including other state agencies, public power districts, agricultural trade groups, nonprofit and environmental organizations, and interested members of the public.

The plan includes measures that touch all sectors of Nebraska's economy and would provide benefits to both rural and urban communities. If implemented, the proposed voluntary measures and financial incentives would reduce air pollution, stimulate economic growth, create high-quality jobs, and enhance the quality of life for all Nebraskans. The planning effort included a significant focus on benefits to low-income and underserved rural and urban communities across the state. The Priority Climate Action Plan is available for download from the Department website: https://dee.nebraska.gov/aid/one-red-opportunity-nebraska-reducing-emissions-decarbonization/one-red-priority-climate-action-plan.

In the second phase of the planning program, NDEE is developing a Comprehensive Action Plan (CAP) to propose short-term and long-term greenhouse gas reduction measures across all sectors of Nebraska's economy. Like the PCAP, this plan will propose voluntary measures and financial incentives that could produce environmental and economic benefits across Nebraska. The plan will assess the potential benefits of these measures statewide and for low-income and underserved communities, which include both urban and rural areas. The CAP, which is due by December 1, 2025, will also propose long-term greenhouse gas reduction targets and analyze workforce impacts arising from the proposed actions and their associated training needs.

Climate Pollution Reduction Implementation Grant

Submission of the Priority Climate Action Plan qualified Nebraska to apply to EPA for funding to implement measures in the plan. In late March 2024 DWEE submitted an application for a Climate Pollution Reduction Implementation Grant, requesting $341 million dollars to implement eight of the measures in the PCAP. In August 2024, NDEE received the official award of $307 million toward that effort. The project period for this grant extends until September 30, 2029. The Department has submitted to EPA the detailed workplan and budget for this implementation grant and has begun developing the associated programs.

NDEE has established the ONE RED (Opportunity for Nebraska: Reducing Emissions and Decarbonization) program to complete the Comprehensive Action Plan and to establish the programs funded by the implementation grant.

NDEE has been working to set up the programs authorized by the grant award. For FY25, the first funding opportunity under ONE RED, the Irrigation Engine Rebate Program, was launched in fall of 2024, with applications closing in January 2025. This program is assisting over 60 farmers

with replacement of diesel irrigation engines with all-electric equipment, reducing diesel emissions and providing a lower-cost means of powering irrigation wells.

Small Business and Public Assistance Program

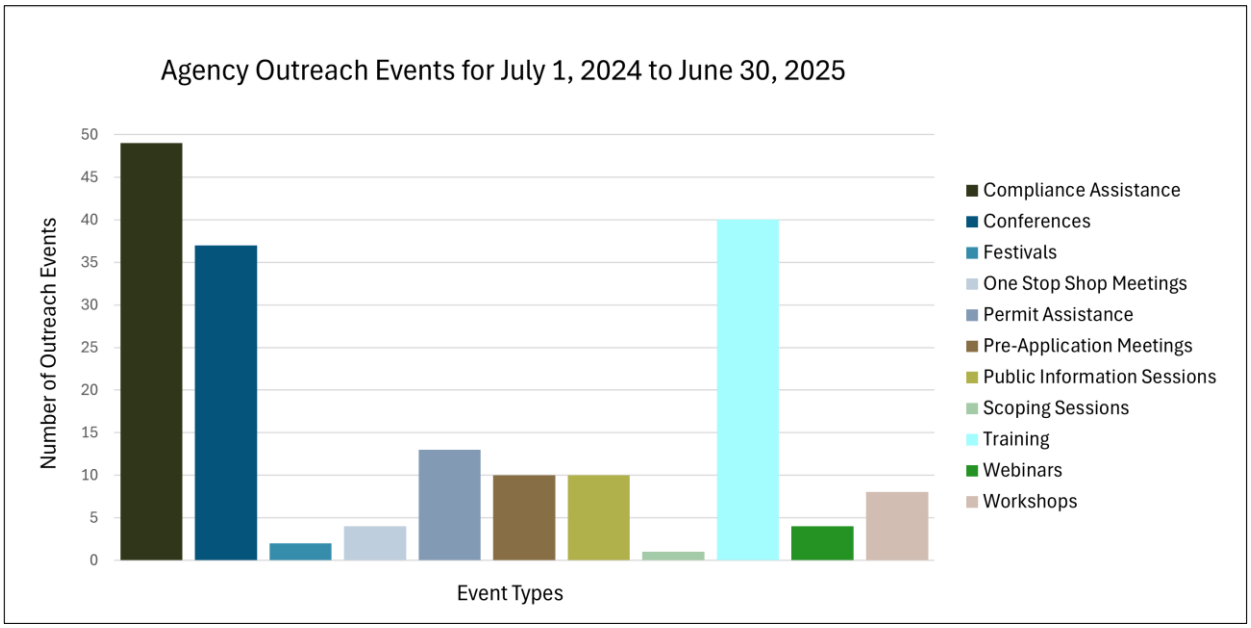
The Small Business and Public Assistance program and associated Small Business Compliance Advisory Panel (SBCAP) were created to comply with the Clean Air Act Amendments of 1990 to assist businesses in complying with air quality regulations. However, the Department now provides the same compliance assistance services and support to the Water Quality, Land Management, and Energy Programs.

Key activities of this program include developing guidance and outreach materials; responding to outside requests for information; hosting training and informational workshops, one-stop meetings to help new businesses determine their permit applicability; expanding partnerships; helping the regulated community understand their obligations under state and federal law; and promoting compliance and permit assistance visits to small businesses and municipalities.

NDEE's provides outreach to new businesses proposing operations in Nebraska within 10 days of a request for information, in addition to the services outlined below.

The following summarizes the primary compliance assistance activities offered by the agency.

- Compliance Assistance Visit (CAV): An on-site service offered by NDEE in response to a request by a business or regulated party to receive support for one or multiple environmental program areas to which they are currently subject or considering under proposed operations. Compliance assistance activities (see Individual Site Assistance/Training below) may be provided during an inspection; however, a CAV cannot be requested after an inspection that may result in enforcement until that issue is resolved. A CAV focuses on supporting the efforts of an entity to achieve voluntary compliance; however, it does not absolve it from receiving an enforcement action if egregious violations are found during the visit.
- Permit Assistance Visit (PAV): An on-site service (or meeting) offered by NDEE in response to a request by a business or regulated party to receive support under a new, modified, or existing permit to address permit related questions.
- One-Stop Permit Meeting: A One-Stop meeting allows for a newly proposed or expanding business and their selected representatives to engage with applicable NDEE permitting programs and other regulatory agencies. The goal of each meeting is to provide the permittee an opportunity to ask questions and receive direction toward attainment of the necessary permits to achieve environmental regulatory compliance.
- Scoping Meeting: A meeting within or outside of NDEE to introduce a new or proposed business to involved staff, programs, and agencies. The meeting may include a review of processes or technologies, tools, resources, and strategic partnerships to assist the business in making the appropriate contacts for applicable regulatory requirements or business needs.
- Individual Site Assistance/Training: An on-site service offered by NDEE in response to a request or during or after a Compliance Inspection.



Key accomplishments for the agency team during FY2025:

- Hosted and provided support to the Small Business Compliance Advisory Panel's annual meeting
- Participated in regular engagement opportunities with the Nebraska Industrial Council on the Environment (NICE), the Nebraska Natural Resource Districts and other industry and businesses interested in regulatory information
- NDEE programs provided 178 outreach/training events/presentations to the public and regulated community. The events provided information, trainings and updates on agency programs.
- Provided webinars on the Climate Pollution Reduction Grants and One Red programs and their development, and webinars on math for wastewater operators
- Conducted 13 Permit Assistance Visits to municipal and industry permittees and coordinated four additional permit assistance meetings
- Hosted 4 One-Stop Permitting meetings where new and expanding businesses talk with NDEE experts from multiple program areas regarding permitting questions
- Programs processed approximately 14,000 compliance assistance and permit assistance phone calls and emails from businesses and communities with compliance questions throughout the fiscal year
- Engaged in social media outreach via Twitter, Facebook, and LinkedIn, and monitored metrics in conjunction with these activities as part of the Public Information Office function.

The Department is committed to work on enhancements and improvements to its outreach and assistance activities which educate and inform Nebraska's regulated community in ways that will assist making regulatory compliance easy.