



ARAQMD

Protecting the Air

Akron Regional Air Quality Management District

Annual Report for 2020

Contents

Introduction	4
Administrative Section.....	4
Staffing	4
COVID-19.....	4
Figure 1: Organizational Chart (as of 1/1/21).....	5
Budget.....	5
Local Fees.....	5
Table 1: Local fee revenue	6
Table 2: Revenue by source	6
Table 3: Overall budget.....	6
Strategic Plan Update	6
Goal 1: Educate the public on air quality issues	7
Goal 2: Increase the capacity of the division	7
Goal 3: Be a leader in the field of air quality	8
Goal 4: Increase office efficiency	8
Ambient Air Monitoring Section.....	9
Air Quality Index	9
Figure 3: Daily maximum AQI for Summit County, 2020.....	9
Figure 4: Air quality index by pollutant, 2020.....	9
Air Pollutant Monitoring.....	10
National Ambient Air Quality Standards.....	10
Table 5: Current NAAQS.....	10
Particulate matter with a diameter of less than 2.5 microns (PM _{2.5}).....	10
Table 6: NAAQS comparison values for PM _{2.5}	11
Sulfur dioxide (SO ₂).....	11
Table 7: NAAQS comparison values for SO ₂	11
Ozone (O ₃).....	12
Table 8: NAAQS Comparison Values for O ₃	12
Monitoring equipment upgrades	12
Pollen Sampling.....	12
Figure 5: Pollen counts by week, 2015-2020.....	13
Figure 6: Ragweed counts by week, 2015-2020	13
Field Activities	14

Figure 7: Site Inspections, 2020	14
Open burning	14
Fugitive dust.....	14
Indoor air quality	15
Asbestos.....	15
Figure 8: Asbestos notifications received and inspections completed, 2019.....	15
Permitting Section	16
Permit Issuance.....	16
Types of sources	16
Types of permits	16
Permitting actions.....	17
Figure 9: 2016 Permit issuances by permitting action	18
Permitted Facility Inspections.....	18
Figure 10: Reason for site visits	19
Conclusion.....	19

Introduction

This report is designed to give an overall picture of the Akron Regional Air Quality Management District's (ARAQMD) activities in the calendar year 2020. It describes how our agency is structured, the work performed by each section of our agency, and our agency's plans for the future.

The administrative section of this report contains information regarding staffing updates, a current version of our organizational chart, a breakdown of the fiscal status of this agency, and a description of the future plans for the agency.

The ambient air monitoring section has monitoring data summarized to explain where the region is with respect to attainment of the National Ambient Air Quality Standards (NAAQS) as well as updates on other monitoring projects and field activities undertaken by the staff.

Finally, the permitting section has a summary of the activities of the permitting staff and the facility inspections performed.

Administrative Section

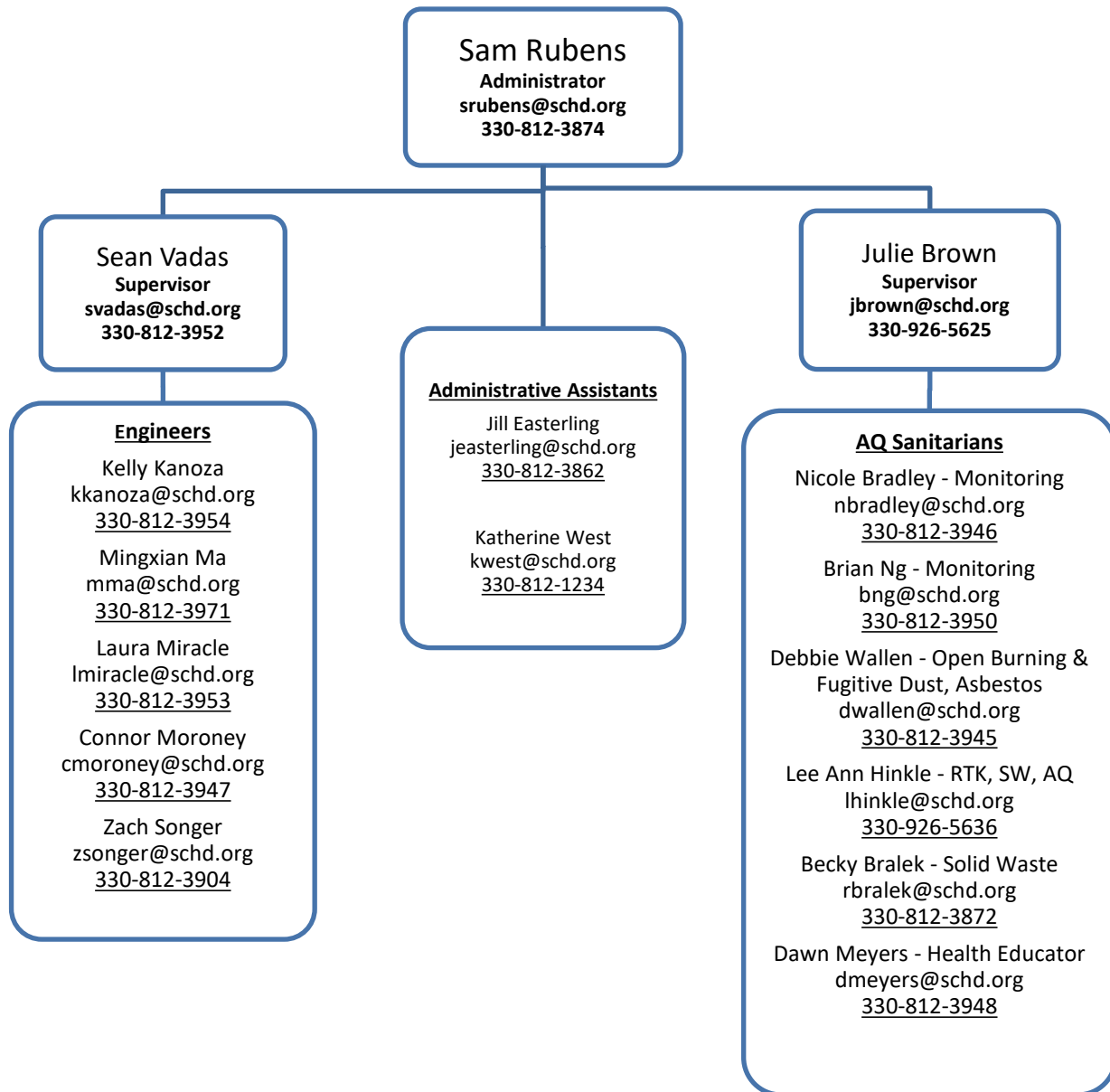
Staffing

The year 2020 saw several changes with respect to the organizational chart. On August 20, 2020, we lost our colleague and friend, Duane LaClair. We also saw Chris Radcliffe change roles from an air quality engineer with ARAQMD to the IT section of Summit County Public Health. To fill Duane's position as Engineering Supervisor, Sean Vadas was selected to be the new supervisor. With his more than 25 years of experience in air quality engineering, Sean has stepped into his new role and is mentoring the new staff to keep the ARAQMD permitting section moving forward.

COVID-19

With the COVID-19 response at the health department, some of our staff time has been re-allocated to assist with that. Following the Ohio EPA's guidance, the permitting section telecommuted for roughly 3 months and ambient monitoring was shut down for almost 2 months to protect the health and safety of our staff members. When the cases started to become overwhelming, the ARAQMD staff was brought in to assist with contact tracing and interviewing those who had contracted the disease, working in the testing clinics and data entry.

Figure 1: Organizational Chart (as of 1/1/21)



Budget

Local Fees

ARAQMD has charged annual local fees to facilities based upon the allowable emissions of emissions units with active permits in our service area since 1992. These fees are invoiced every July for the previous calendar year. The revenue generated from the local fees is shown in Table 1. These funds are used to ensure that our operations and special projects better serve the companies and residents of the ARAQMD service area.

Some of the special projects that we operated in 2020 include: the Indoor Air Quality program, which has been in place since 1993; our Air Quality Awareness week celebration, in place since 2010; the Non-High Priority Facility Inspection Program, which was started in 2018; the Managing Asthma Triggers at Home

program, which also started in 2018; and the Mow Greener lawnmower replacement program which started in 2020. These last three programs will be explained further in the Strategic Plan update section of this report.

Table 1: Local fee revenue

	2019 (actual)	2020 (actual)	2021 (projected)
Facilities	550	525	540
Revenue	\$165,922.50	\$188,122	\$200,000

Table 2: Revenue by source

	U.S. EPA Funds ¹	Ohio EPA Funds	Local Funds ²	Enforcement	Total
FY19 (actual)	\$371,298	\$959,360	\$165,923	\$23,998	\$1,520,579
FY20 (actual)	\$267,167	\$939,748	\$188,122	\$2,100	\$1,397,137
FY21 (projected)	\$336,570	\$908,901	\$200,000	\$19,575	\$1,265,246

¹U.S. EPA funds include PM_{2.5} funds

²Local funds include local facility fees

Table 3: Overall budget

	FY19 (actual)	FY20 (actual)	FY21 (projected)
Total Revenue (Local, State/Fed, PM2.5)	\$1,520,579	\$1,601,556	\$1,545,024
Salaries	\$1,211,987	\$1,134,998	\$885,568
Benefits	\$396,129	\$400,687	\$321,618
Other Expenditures (Office costs, Equipment, etc.)	\$332,718	\$602,920	\$285,077
Carried over funds (revenue minus expenses)	(\$420,255)	(\$537,049)	\$102,761

Due to expected cuts in funding, we increased our local fees in 2012 and curtailed spending. While we did experience some of those cuts in funding, the magnitude of those reductions were less than the increases in the amount of revenue received. Therefore, the agency has maintained a balance of state and local funds. In 2018, we identified a trend in permitting that, when combined with the current fund balances, allowed us an opportunity to restructure and modify the local fees charged to industry. The fees were reconfigured in 2019 to reduce the costs to local industry for their air emissions. Table 2 shows that our revenue is declining, as projected in 2012, and the increases to local fees were needed. As shown in Table 3, our expenses are much larger than our revenue, but that is intended to utilize the rolled over funds in ways that are appropriate and will decrease the impact of air pollution on the citizens of the region. When the fund balances are back to acceptable limits, we will analyze the projects we fund and make determinations accordingly.

Strategic Plan Update

In 2013, ARAQMD created a strategic plan to allow for more effective and efficient use of the public funds. The aim of the strategic plan is to guide the agency toward a three year, strategically reasoned, future. The 2014-2017 ARAQMD Strategic Plan was published in June 2014 on the ARAQMD website after gaining approval from the ARAQMD Advisory Board.

The plan was updated in 2019 for the 2020-2023 time frame. Input from staff and management were sought for this revision. Some things will not change, such as the mission, vision and goals. The strategies to achieve

the goals have been modified as some of them were met or different directions to achieve the goals were identified.

The mission statement which directs ARAQMD into the future is:

The mission of the Akron Regional Air Quality Management District (ARAQMD) is to protect the public from the adverse health impacts of air pollution and to educate the public about air quality issues.

Goal 1: Educate the public on air quality issues

In an effort to increase awareness of air quality issues, ARAQMD disseminates information through events, handouts, and print and digital media.

The ARAQMD staff performed many presentations for the regulated community, partner organizations, and the general public on topics such as open burning, fugitive dust, indoor air problems, and mold exposure. Training sessions with local fire departments, zoning inspectors, and construction companies have helped to foster better working relationships and awareness of air quality regulations. We have also staffed tables at public events such as Summit County Public Health events, KSU's College of Public Health Career Fairs, and Earth Day events.

We celebrated Air Quality Awareness week in 2020 with the inaugural lawnmower replacement project, Mow Greener. The program asked 100 people across the region to make the jump from gasoline powered to electric, battery powered lawnmowers. The individuals pre-registered, had to buy a battery powered lawnmower in the project's timeframe, then scrap their old gasoline powered lawnmower. Once they provided proof of the purchase and scrapping, they received a \$100 gift card to help defray the difference in prices. The goals of this project were twofold; first, by replacing aging gasoline powered mowers, air emissions will be decreased. Secondly, the participants in the project were technology ambassadors.

The Air You Breathe, our quarterly newsletter, is distributed to approximately 1300 subscribers. One of our goals was to reduce paper copies/mailing of the newsletter. To that end, we switched all of our regulated facilities to electronic distribution of the newsletter. In 2019, the newsletter was mailed to 400 addresses, down from a high of 1200, and emailed to approximately 900 people, and increase of 800. The newsletter is archived on the ARAQMD website as well, and the link to the newsletter is shared on our Facebook page.

We continue to communicate the daily Air Quality Index (AQI) and pollen count through social media, our website, and ARAQMD hotline messages daily.

Direct messaging to the public also occurs via the agency's Facebook page where, in addition to our air quality index, we also post articles of interest, links and timely messages. We plan to expand the use of social media into the future to get air quality into the minds of the public.

Goal 2: Increase the capacity of the division

In 2018, we created a new project, the Non-High Priority Facility Inspection Program (NHPFIP), which is staffed by two new engineers funded through a mix of local, enforcement, and core budget dollars. The goal of this project is to ensure that all of the facilities in the ARAQMD region have up to date permits, are in compliance with the regulations, and that the information we have for the facility, owner and any equipment at the facility is correct. We are identifying facilities that have made changes to ownership or equipment and updating Ohio EPA's database with the corrected information. In 2020, NHPFIP continued with 86 site visits or full compliance evaluations of facilities and results show that approximately 40% of the facilities inspected had something that needed updating.

Another project started in mid-2018 was the Managing Asthma Triggers at Home (MATH) project. This project is in collaboration with Akron Children's Hospital. We are identifying 50 children per year, between the ages of 4 and 18, in the ARAQMD service area that have high risk asthma. High risk asthma is defined as having been intubated once, hospitalized twice or been to the Emergency Room three times in the past year for asthma. These children get their asthma under control at the hospital, but when they get back home, the asthma flares back up. The societal costs for this illness are great, both to the children and their families. The 2018 group finished up their year of participation and results are showing that there is a significant decrease in hospitalization admittance as well as an increase in self-assessment of the client's asthma incidence.

Goal 3: Be a leader in the field of air quality

We will be conducting projects to increase awareness of our agency name so that the work we do can be recognized and we can become models of best practices for other Local Air Agencies (LAAs) across Ohio and the nation.

The MATH project has been an ongoing project with Akron Children's Hospital and we began work with the Akron Metropolitan Housing Authority in 2020 to implement a similar project for their clients. The project is also being introduced to the multiple Medicaid payers so that the cost of the equipment may be borne by them and the home intervention piece can be performed by ARAQMD.

Another way that the ARAQMD staff are becoming leaders in the air quality field is by taking leadership roles in local, state and national organizations such as Ohio EPA workgroups, National Association of Clean Air Agencies (NACAA) and local community advisory panels.

Goal 4: Increase office efficiency

Due to the new staff presence and changes in technology in how we do our jobs, staff have been required to take trainings annually to ensure they are up to date. Additionally, we are cross training staff to be able to ensure continuity of operations in the event of absence or increased workload in one area.

Ambient Air Monitoring Section

Air Quality Index

Every weekday, ARAQMD reports the Air Quality Index (AQI) to the public by means of the ARAQMD website at <http://www.scph.org/air-quality/air-quality-index>, the agency Facebook page and the Air Quality Information line at 330-375-2545. The AQI is intended to advise the public of the potential health effects of the ambient air pollution. The AQI has six categories which have AQI values assigned. The AQI categories and the values are; Good (0-50), Moderate (51-100), Unhealthy for Sensitive Groups (101-150), Unhealthy (151-200), Very Unhealthy (201-300), and Hazardous (301-500). In 2020, 74% of the time the air quality was in the good range, 25% was in the moderate range, and 1% was in the unhealthy for sensitive groups range. We did experience four days (7/5/20, 7/6/20, 7/8/20, and 11/8/20) where the AQI was in the unhealthy for sensitive groups range.

Figure 3: Daily maximum AQI for Summit County, 2020

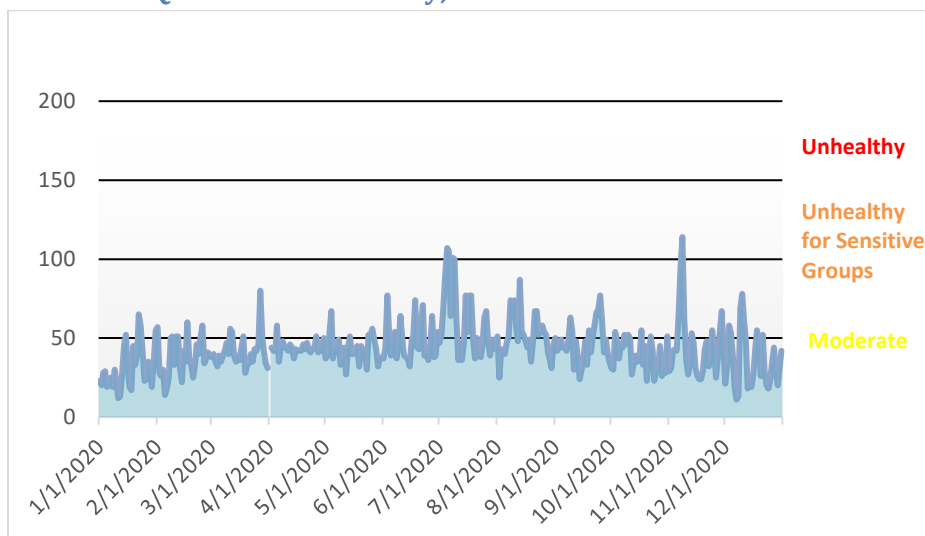
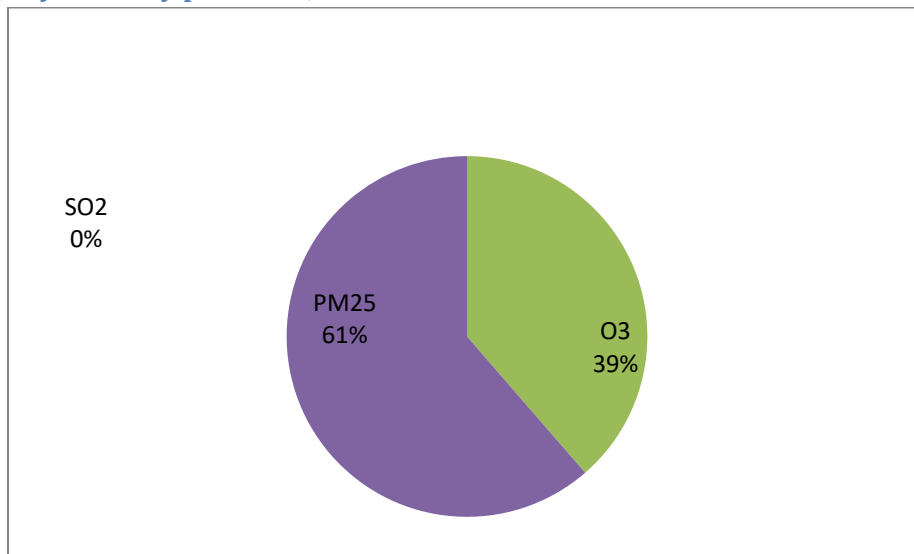


Figure 4: Air quality index by pollutant, 2020



Air Pollutant Monitoring

National Ambient Air Quality Standards

The National Ambient Air Quality Standards (NAAQS) were devised in the 1970 Clean Air Act, which was last amended in 1990. The NAAQS are reviewed periodically and may be revised by the EPA. The review of the NAAQS begins with a rigorous scientific study done by the Clean Air Scientific Advisory Committee (CASAC), an independent group that was created to advise the EPA in scientific matters. CASAC then makes recommendations to the EPA as to what the scientific research shows that the levels of certain pollutants should be to adequately protect human health.

Table 5: Current NAAQS

Pollutant	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm	8 hour
	35 ppm	1 hour
Lead (Pb)	0.15 $\mu\text{g}/\text{m}^3$	Rolling three month average
	1.5 $\mu\text{g}/\text{m}^3$	Quarterly
Nitrogen Dioxide (NO _x)	53 ppb	Annual Mean
	100 ppb	1 hour
Fine Particulate Matter (PM _{2.5})	12.0 $\mu\text{g}/\text{m}^3$	Annual Mean
	35.0 $\mu\text{g}/\text{m}^3$	24 hour
Ozone (O ₃)	70 ppb	8 hour
Sulfur Dioxide (SO ₂)	30 ppb	Annual Mean
	140 ppb	24 hour
	75 ppb	1 hour

Particulate matter with a diameter of less than 2.5 microns (PM_{2.5})

In 1987, the U.S. EPA made a change from total suspended particulate (TSP) to coarse particulate matter. PM₁₀ is made of coarse particulates which can reach the thoracic region or upper lung area of humans. Upon review in 1997, the U.S. EPA changed focus from PM₁₀ (coarse particulate matter) to PM_{2.5} (fine particulate matter) in the ambient air. The PM_{2.5} can be inhaled into the lower lung region and is hard to exhale. Once in the moist and warm lower regions of the lungs, chemical reactions can occur and the chemicals in the particulate matter can become dissolved and be transported across the lung membrane into the blood stream.

There are two NAAQS for PM_{2.5}. The first is a 12.0 $\mu\text{g}/\text{m}^3$ annual arithmetic mean, averaged over three consecutive years. The second is a 35 $\mu\text{g}/\text{m}^3$ 4th high 24 hour average. This standard is attained when the 4th highest 24 hour average, averaged over 3 consecutive years, is less than 35 $\mu\text{g}/\text{m}^3$.

ARAQMD's monitoring network for PM_{2.5} consists of two continuous Federal Equivalent Method (FEM) monitors located in Medina and Summit Counties, intermittent Federal Reference Method (FRM) monitors located in Summit, Portage and Medina Counties and speciation monitors located in Summit County. The intermittent monitors are used to determine if the region is in attainment with the NAAQS. The continuous monitors are used to determine the Air Quality Index (AQI) and for research projects which can help determine where particulate matter comes from, forecasting the AQI, and health effects. The speciation monitors are used for research projects, which determine the composition of the particulate matter and allow for controls to be put into place to minimize those sources.

It was proposed that the ARAQMD region be combined with the Canton/Massillon metropolitan statistical area (MSA) for PM_{2.5} attainment purposes. As this action was granted by the U.S. EPA, ARAQMD is now in attainment for PM_{2.5} for the first time since monitoring started in 1997. This designation allows for more economic development in the region due to relaxed regulations on incoming industry. Table 6 below shows the values used to determine if the ARAQMD region is meeting the NAAQS.

Table 6: NAAQS comparison values for PM_{2.5}

Fine Particulate Matter (PM_{2.5})						
Units: micrograms per cubic meter (µg/m ³)						
4 th Highest 24 Hour Average – limit 35 µg/m ³						
County	Site Name	2016	2017	2018	2019	2020
Summit	East High	21.6	18.2	20.0	21.3	17.3
Summit	5 Points	15.9	18.7	18.4	22.3	16.1
Portage	Ravenna	14.4	17.9	16.5	18.4	12.9
Medina	Chippewa	18.5	18.9	17.0	20.2	14.7
Annual Mean – limit 12 µg/m ³						
County	Site Name	2016	2017	2018	2019	2020
Summit	East High	9.7	8.4	8.8	8.7	8.1
Summit	5 Points	7.8	8.0	7.7	8.1	7.6
Portage	Ravenna	7.1	7.4	7.3	7.6	6.9
Medina	Chippewa	7.6	7.8	7.5	8.1	6.8

Sulfur dioxide (SO₂)

SO₂ is formed when sulfur-containing compounds are combusted. Most SO₂ in the air is caused by burning coal and smelting processes. Low-sulfur gasoline and coal are the goals for minimizing SO₂ production. SO₂ can be converted to sulfuric acid when it reacts with moisture in the air, on plants or in the lungs. Sulfuric acid is one of the most corrosive acids found in nature. If SO₂ is converted to sulfate (SO₄), it can be a lung irritant as well.

The monitoring network for SO₂ is comprised of two monitors located in Akron. The Downtown Akron site is in a downtown canyon, which means that the buildings form a channel for air pollution, and the East High site was started to monitor emissions from a major local manufacturing site.

ARAQMD's service area is in attainment for sulfur dioxide. The ARAQMD region has seen a 76% decrease in the annual mean of SO₂ since 1977.

Table 7: NAAQS comparison values for SO₂

Sulfur Dioxide (SO₂)					
Units: Parts Per Billion (ppb)					
1 hour average – limit 75 ppb					
Site Name	2016	2017	2018	2019	2020
East High	8	3	6	3	3
Downtown Akron	10	4	5	3	3

Ozone (O₃)

O₃ is the only criteria pollutant that is not directly emitted into the atmosphere. It is created by chemical reactions in the ambient air. When volatile organic compounds and oxides of nitrogen are in the presence of ultraviolet light, ozone is formed. The health effects of ozone have been demonstrated in various ways. Reduction in lung function in normal, healthy people during periods of moderate exercise have been shown, and irritation of the eyes, mucous membranes and respiratory system are also possible.

The NAAQS for ozone has changed radically in the past few years. Until 1997, the NAAQS was a fourth highest one hour maximum of 125 ppb each year. In 1997, the one hour standard was left in place and a new method of evaluating the pollution was put into place. The eight hour fourth highest average over three consecutive years must be less than 84 ppb to be in attainment. In 2006, the one hour standard was revoked. In 2009, a new standard was enacted and was upheld by the courts in 2012. The newest NAAQS, implemented in 2015, is a three year average of the fourth highest eight hour standard. This must be below 70 ppb for a three year period.

ARAQMD has three ozone monitoring sites, one each in Medina (Chippewa), Summit (Patterson Park) and Portage (Lake Rockwell) County.

ARAQMD's service area was designated as being in non-attainment for the 2009 NAAQS of an 8 hour maximum of 75 ppb. Although we are measuring concentrations below the NAAQS, Medina, Portage, and Summit counties are included as part of the Cleveland-Akron-Lorain MSA for ozone and, as such, are designated as non-attainment for ozone. The ARAQMD region has seen a 44% decrease in the 1 hour maximum concentration of ozone since 1977.

Table 8: NAAQS Comparison Values for O₃

Ozone (O₃)			
Units: Parts Per Billion (ppb)			
3-year 4 th Highest Maximum 8 Hour Average – limit 70 ppb			
Site Name	2016-2018	2017-2019	2018-2020
Patterson Park	65	67	69
Lake Rockwell	63	63	65
Chippewa	65	61	62

Monitoring equipment upgrades

The ambient air monitoring section began the upgrade of the monitoring network in 2020 by purchasing new ambient monitors. The monitoring network is comprised of two sulfur dioxide sites, three ozone sites and four PM_{2.5} sites. We purchased new data loggers, replacement monitors (ozone, sulfur dioxide and particulate matter), and are investigating automated calibration systems for the existing sites.

In addition to updating the equipment at our existing monitoring stations, we are also working on complying with the USEPA's request that we relocate one of our ozone sites due to siting issues. This site should be up and running in 2021 at North High School in Akron. The data from this site will be compared against the Patterson Park data for the 2021 season to ensure comparability and the Patterson site will be discontinued in 2022.

Pollen Sampling

The ARAQMD staff collects and analyzes pollen from April 1 of each year through the beginning of October or until the first killing frost. Figure 5 shows the weekly averages of the total pollen count from 2015 through 2020.

There are three seasons each year; tree pollen, which occurs in the beginning of the season, grass season, which follows the tree pollen, and finally the ragweed season in August and September. Definite spikes were seen for pine, oak and maple tree pollen. The pollen sampler broke in July of 2020 and it was not fixed until after the pollen season ended. This is why there is no ragweed data in Figure 6 for 2020. In Figures 5 and 6, the pollen and ragweed counts can be examined in more detail.

Figure 5: Pollen counts by week, 2015-2020

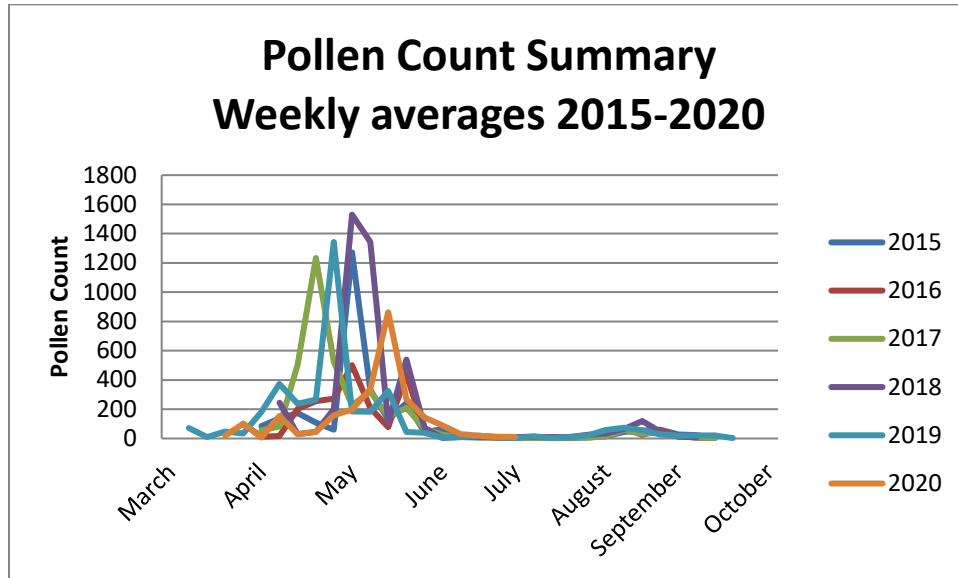
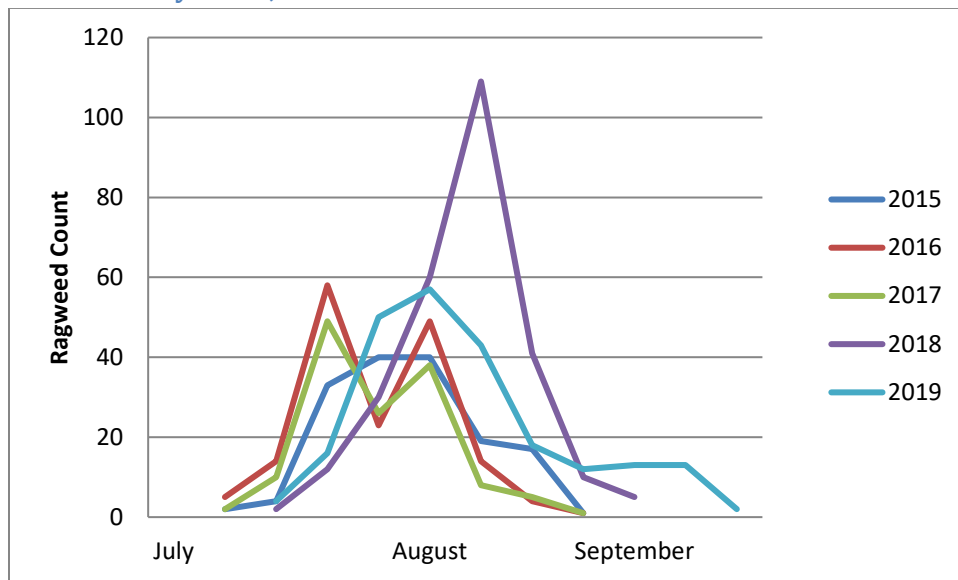


Figure 6: Ragweed counts by week, 2015-2020



In 2015, a sampling location change was required as the health department consolidated all services into a new building at 1867 W. Market Street. As the new sampling location is located in a tree-filled neighborhood, pre-2015 historical data from downtown Akron will not be useful for comparisons. Starting with the 2015 data, new ranges have been calculated each year. Table 4 lists the ranges for use in the 2021 pollen season.

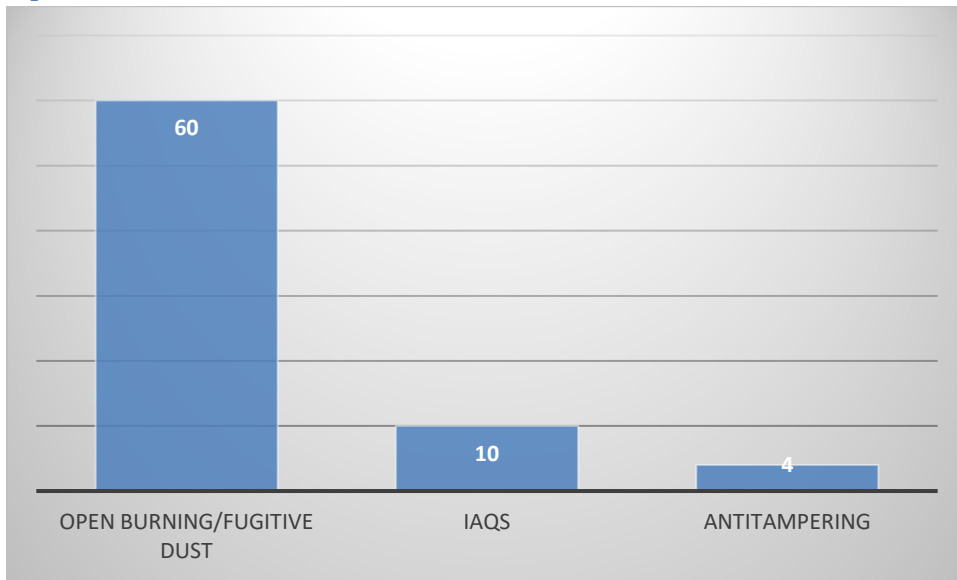
Table 4: Pollen and ragweed ranges for 2021 season

	Tree and Grass Pollen	Ragweed Pollen
Good (50 th percentile)	0-25	0-12
Moderate (25 th percentile)	26-96	13-30
High (10 th percentile)	97-337	31-68
Very High (5 th percentile)	338+	69+

Field Activities

Our staff performs several activities which impact air quality, both indoors and out. Due to the COVID-19 pandemic, and to protect our staff members, field activities were significantly limited during 2020. We continued to investigate complaints as they occurred, which was limited by the lack of construction work being done in the region over the summer of 2020 due to the pandemic. Figure 7 shows the number of each of these activities performed in 2020. The categories are further described below.

Figure 7: Site Inspections, 2020



Open burning

ARAQMD staff members are responsible for responding to incidents where open burning occurs. Open burning is defined by Ohio Administrative Code (OAC) 3745-19 as “the burning of any materials wherein air contaminants resulting from combustion are emitted directly into the air without passing through a stack or chimney.” There are regulations on the location where burning may occur, what may be burned, when the burning can happen and who may conduct the burning. In many cases, notification must be made to ARAQMD to obtain a permit at least 10 working days prior to the intended burning. ARAQMD inspectors investigated 103 complaints and 4 open burning permits were issued in 2020.

Fugitive dust

Fugitive dust is regulated under OAC 3745-17-08. Fugitive dust can be generated from many sources such as spray painting booths, furnaces, traffic on roadways or parking lots, tilling farmland or digging, and

construction activities. The regulations for fugitive dust require that there must be reasonably available control measures to minimize dust release when transporting, storing, or handling dust. Some control technologies are the use of water, asphalt or oil to suppress the dust, installation of hoods or fans to enclose, contain, capture, vent and control the fugitive dust. The ARAQMD staff members will inspect fugitive dust problems on a complaint-driven basis. In 2020, inspectors investigated 28 complaints about fugitive dust.

Indoor air quality

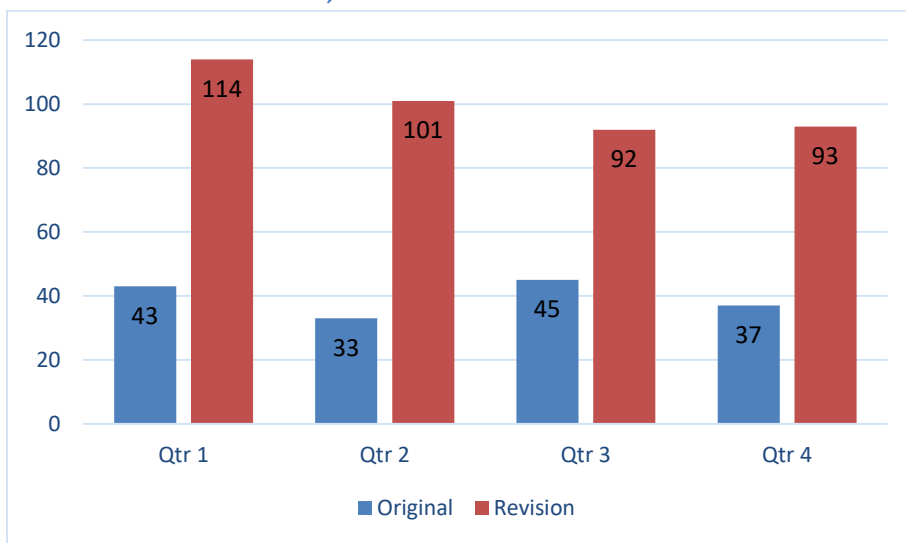
ARAQMD's Indoor Air Quality (IAQ) Program has been in place since 1993 and has assisted in over 5000 indoor air quality complaints in residential, commercial and school settings. In 2020, the program handled 23 inquiries. Some of the most common topics are mold, carbon monoxide, and formaldehyde. The indoor air staff members are educated to provide the latest information about air quality issues and health effects and how best to help the public protect their health. The IAQ program is designed to be a neutral, third-party source of information. As such, the program does not perform remediation or maintain a list of companies who do remediation work. The ARAQMD IAQ Program is available for those who work or reside in Summit, Medina or Portage Counties.

Asbestos

Asbestos is a naturally occurring mineral which was used as an insulating compound on pipes and houses until the 1950s. When properly encapsulated, asbestos is very useful. When asbestos is disturbed or is at the surface of the material it is in, the asbestos fibers can fracture and become airborne. This process is termed "friable." Studies have shown that when friable asbestos is inhaled, it can have a lengthy residence time in the lungs and cancer risk is increased significantly.

The ARAQMD staff is responsible for inspecting the abatement work being done to ensure that the remediation work is done correctly to minimize exposure to workers and accidental release to the ambient air. In 2020, ARAQMD inspectors achieved an inspection rate of almost 84% of received original notifications, which is well above the 15% inspection rate as required in our contract with Ohio EPA.

Figure 8: Asbestos notifications received, 2020



Permitting Section

Permit Issuance

As a contractual agent of Ohio EPA, ARAQMD is responsible for administering the Division of Air Pollution Control's (DAPC) permitting program requirements for sources of air contaminants in Medina, Summit, and Portage counties. The permitting process starts with the receipt of a permit application. The application is reviewed for preliminary and technical completeness in accordance with Ohio EPA policies and environmental rules and laws. There are a different permit options available depending on the type of source, existing air quality where the source is located, operational flexibility needed by the source, whether additional voluntary restrictions are included in the permit, and the required permitting action.

Types of sources

Title V/Major Source – Facilities with potential emissions of 100 tons per year or more of any one regulated pollutant (PM₁₀, NO_x, SO₂, CO, VOC, and lead); 10 tons per year or more of any one hazardous air pollutant (HAP); or 25 tons per year or more of any two or more HAPs. These facilities usually have very complex permitting requirements (e.g., medium to large sized industrial operations, utilities, refineries, etc.).

Synthetic Minor Title V (SMTV) – Facilities with potential emissions above at least one major source permitting requirement and/or Title V threshold, which have agreed to voluntarily restrict operations and the quantity of air contaminants emitted in order to avoid major source/Title V status.

Non-Title V (NTV)/Minor – Smaller emitting facilities, with potential emissions naturally below major source/Title V thresholds. These facilities generally have less complicated permitting requirements (e.g., small industrial operations, dry cleaners, gas stations, etc.).

Exempt – Sources that qualify for a permanent permit exemption under OAC rule 3745-31-03(B) or the “de minimis” source exemption under OAC rule 3745-15-05.

Types of permits

Permit-to-Install (PTI) – A permit issued for any new or modified source that is located at a Title V facility. It is effective for the lifetime of the source, or until the next modification.

Title V Permit-to-Operate (Title V PTO) – A comprehensive, facility-wide permit that identifies all regulated operations at a Title V facility. It has a five-year effective period.

Permit-to-Install and Operate (PTIO) – This permit document is issued to NTV and SMTV facilities. It is a relatively recent permit document type. Effective June 30, 2008, Ohio EPA began issuing a single PTIO (rather than a PTI, followed by a separate PTO) in order to streamline the permitting process for air contaminant sources at non-major facilities. The PTIO has a ten-year effective period, when issued to a NTV facility.

Federally Enforceable Permit-to-Install and Operate (FEPTIO) – This is a specific type of PTIO issued with federally enforceable limitations that restrict the facility-wide potential to emit in order to avoid various regulations. It has a five-year effective period.

Model General Permit (GP) – A general permit is the same as any PTI or PTIO except all the terms and conditions of the permit have been developed in advance. Potential applicants must meet specific qualifying criteria.

Permit by Rule (PBR) – A permit-by-rule is a specific permit provision in OAC rule 3745-31-03(C) that applies to certain types of low-emitting air pollution sources. A facility submits a PBR notification form for a specific source and operates the source in accordance with the terms and conditions specified in the applicable rule, but no permit document is generated. A PBR is in effect for the lifetime of the source.

Registration Status – Prior to 2008, a source could be placed on registration status rather than being issued a permit to operate provided the source was in compliance with all applicable rules and several conditions were met. Once a source was placed on registration status it would remain there until removed and did not have an expiration date.

Permitting actions

Initial Installation* – A PTI or PTIO must be obtained before any new, non-exempt, air pollution source is constructed in Ohio pursuant to OAC Chapter 3745-31.

Chapter 31 Modification* – Any physical change in, or change in the method of operation of an air contaminant source as defined under OAC rule 3745-31-01(SSS).

Administrative Modification – Any change to a PTI or PTIO that does not meet the definition of a Chapter 31 Modification.

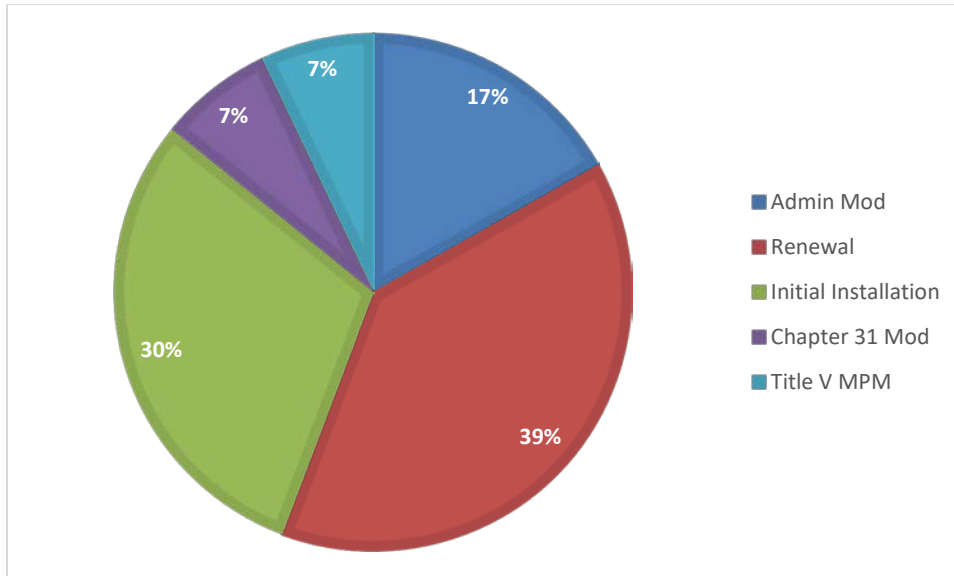
Title V Minor Permit Modification – Changes that do not trigger Title I modifications or involve significant changes to monitoring, record keeping or reporting requirements in a Title V permit.

Renewal – The process by which a permit may be reissued at the end of its term.

*Depending on the increase in emissions and current attainment status for the affected county, additional permitting requirements may be needed through Prevention of Significant Deterioration (PSD) or Nonattainment New Source Review (NNSR).

Once the preliminary and technical review of the application is complete, ARAQMD's engineering staff develops the facility-wide and emission-unit specific permit terms and conditions. The permit terms establish limits on the quantity of air contaminants emitted and requirements for the operation of regulated air contaminant sources. Permit terms can also specify emission testing, monitoring, record keeping, and reporting requirements necessary to demonstrate compliance with the established emission limits. The working copy of the permit is then submitted to Ohio EPA for final review and issuance. Some permits are issued draft and subject to a 30 day public comment period and in some instances, a public hearing may be held. During 2020, the ARAQMD staff processed 46 permit renewals and 34 initial installation permits.

Figure 9: 2020 Permit issuances by permitting action



Registration Project

ARAQMD has been working on the registration status verification project since June 2015. The goal is to contact all facilities with units on Registration Status and re-evaluate the units permit status. Some emission units such as boilers or storage tanks are now considered “Permit Exempt” due to size and are being updated accordingly; while other units may need to be moved to newer created permitting categories such as PBRs or General Permits. At the start of the project ARAQMD had 511 sources on registration spread out over 139 different facilities. Currently we have 227 sources left to evaluate.

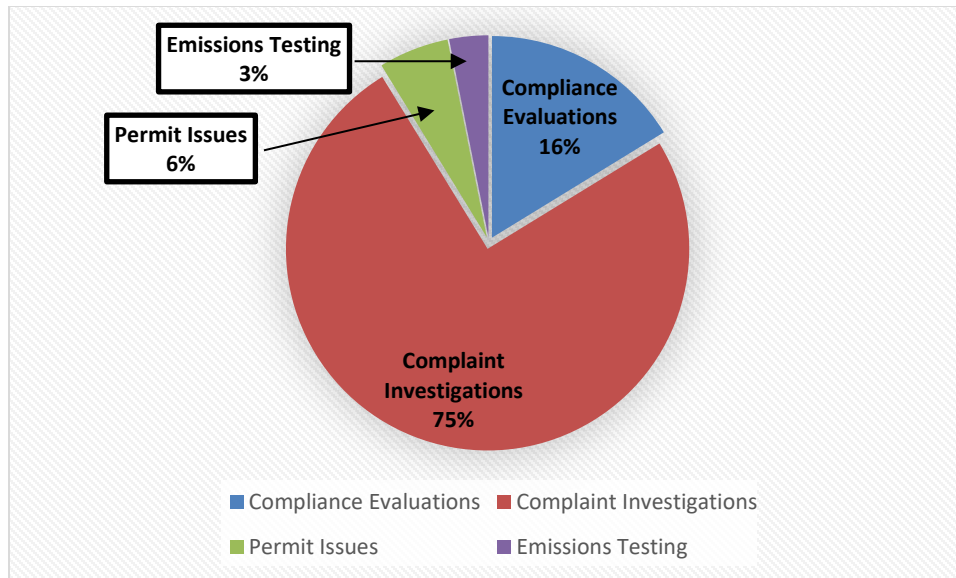
Permitted Facility Inspections & Complaint Investigations

After permit issuance, ARAQMD’s staff continues to monitor the compliance status of air contaminant sources by periodically reviewing required monitoring data, records and reports. This includes witnessing a minimum of 50% of all emissions tests conducted in ARAQMD’s jurisdictional area, and reviewing test results to verify proper methodology and procedures were used to demonstrate compliance with permitted emission limitations.

Due to the COVID-19 pandemic, modifications were made to our inspection process. Following guidance from Ohio EPA to protect our staff members, we moved to a virtual experience for inspecting facility compliance as much as possible. Some complaint investigations were still done in person, but those were limited in scope.

A total of 13 stack tests were performed and 40% of those were witnessed by ARAQMD staff. Scheduled and unannounced facility inspections are also conducted to ensure air contaminant sources are in compliance with applicable permit terms and state and federal regulations. Under contract with Ohio EPA, ARAQMD is required to conduct full compliance evaluations for at least 50% of all Title V sources and 20% of all SMTV facilities each year. As of 2020, there are a total of 18 Title V facilities, 65 SMTV facilities, and 1231 NTV facilities located in ARAQMD’s 3-county service area. A total of 47 visits (virtual or in-person) were made to the TV facilities, 56 visits (virtual or in-person) were made to the SMTV facilities, and 57 NHPFIP inspections were done in 2020.

Figure 10: Reason for site visits



Annual Enforcement Summary

As COVID-19 affected the ability of the ARAQMD inspectors to go out in the field, and also the production capabilities of local industry, there were not many enforcement actions taken in 2020. 16 facilities received a Notice of Violation (NOV) and one facility was referred to the Ohio EPA for enforcement. From complaints, ARAQMD sent 41 warning letters, 22 NOVs, 12 verbal orders and three letters from the Administrator.

Conclusion

In 2020, ARAQMD saw changes and continued to progress towards meeting the goals outlined in the Strategic Plan. ARAQMD will continue its journey towards the goal of becoming a model of best practices. We expect that we will finalize the upgrade of our monitoring network in 2021, work more towards assisting small facilities in attaining compliance with the regulations and acknowledge facilities that have consistent compliance and sustainability projects. The staff of ARAQMD is looking forward to continuing the good work we have been doing and expanding the roles of the agency in protecting the public from the adverse effects from air pollution.