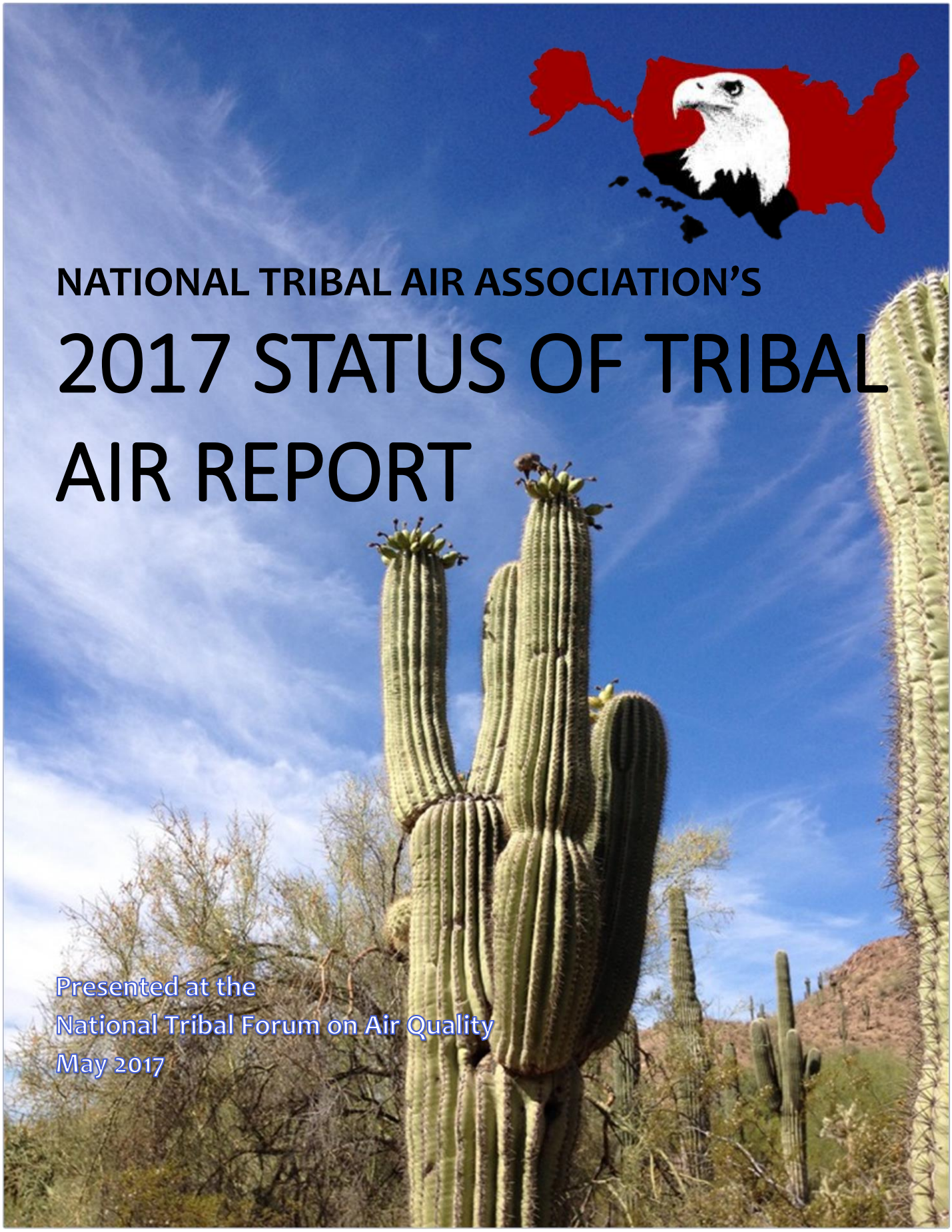

NATIONAL TRIBAL AIR ASSOCIATION'S

2017 STATUS OF TRIBAL AIR REPORT

Presented at the
National Tribal Forum on Air Quality
May 2017

The National Tribal Air Association is funded through a grant from the United States Environmental Protection Agency's Office of Air & Radiation (OAR)

Cover photo by Elaine Wilson

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NTAA Executive Committee

	Primary Representatives	Alternate Representatives
Region 1	Jan Paul Penobscot Indian Nation	
Region 2	Angela Benedict, Secretary Saint Regis Mohawk Tribe	
Region 4	Scott Hansen, Treasurer Catawba Indian Nation	Tiffany Janes Poarch Band of Creek Indians
Region 5	Brandy Toft, Vice Chair Leech Lake Band of Ojibwe	Joy Wiecks Fond du Lac Band of Lake Superior Chippewa
Region 6	Craig Kreman Quapaw Tribe of Oklahoma	Jeremy Fincher & Phillip Mee Sac and Fox Nation
Region 7	Carol Kriebs Sac and Fox Nation of Missouri in Kansas and Nebraska	Billie Toledo Prairie Band Potawatomi Nation
Region 8	Randy Ashley Confederated Salish & Kootenai Tribes	Linda Weeks Reddoor Fort Peck Assiniboine-Sioux Tribes
Region 9	Wilfred J. Nabahe, Chairman Colorado River Indian Tribes	John C. Parada Augustine Band of Cahuilla Indians
Region 10	Kevin Greenleaf Kootenai Tribe of Idaho	Carolyn Kelly Quinault Indian Nation
Alaska	Brian Holter, Jr. Klawock Cooperative Association	Susan Flensburg Bristol Bay Native Association

Table 1 NTAA Executive Committee

National Tribal Air Association

The National Tribal Air Association (NTAA) is a Tribal membership organization with 120 Member Tribes whose mission is to advance air quality management policies and programs consistent with the needs, interests, and unique legal status of federally recognized Tribes.

Additionally, the NTAA serves as a communication liaison and information conduit between Tribes, USEPA, and other federal agencies. The NTAA exists to assist Tribes in air quality policy work while respecting and supporting Tribal sovereignty and the Tribes' rights to a government-to-government relationship with the federal government.

All federally recognized Tribes are eligible to become member Tribes of the NTAA. Tools, such as the policy response kits, developed by the NTAA are available online for download and are readily accessible by members of the public.

NTAA Goals

- To advocate for and advance the development of Tribal air policy for the protection of environmental, cultural, and economic interests at all levels of government (Tribal, federal, state, local, and international);
- To promote the development, funding, and capacity building of Tribal air management programs;
- To promote and facilitate air quality policy and technical information that may include research, scientific and/or medical studies;
- To advance the recognition and acceptance of Tribal sovereign authority by conducting effective communication with and outreach to state, local, federal and international agencies, and to the general public; and
- To encourage and support appropriate consultation of state, local, federal, and international agencies with all Tribal governments in accordance with Tribal structures and policies.

To learn more about the National Tribal Air Association, please visit: www.ntaatribalair.org and www.tribalairquality.org.

Back row: Randy Ashley, R8; Billie Toledo, R7; Brandy Toft, R5; Craig Kreman, R6; Scott Hansen, R4; Elaine Wilson, NTAA Staff; Carolyn Kelly, R10; Wilfred J. Nabahe, R9; Front row: Brian Holter, Jr., AK; Andy Bessler, NTAA Staff; Angela Benedict, R2

Credits and Acknowledgments

The **2017 Status of Tribal Air Report** is the result of the dedicated work and contribution of many people, including Tribal representatives, organizations, and USEPA personnel. We thank everyone that contributed a story, data, valuable time, effort, and resources to making this project a success. We acknowledge and thank the NTAA Executive Committee Members, the NTAA STAR Work Group Members, NTAA Member Tribes, Institute of Tribal Environmental Professionals, and the Tribal Air Monitoring Support Center.

We thank Dr. David La Roche, NTAA Policy Advisory Committee member, for his narrative and budget analysis of the funding needs of Tribal Air Quality Programs. In addition, we appreciate the contributions of NTAA Policy Advisory Committee members Pilar Thomas and Bob Gruenig.

The following individuals contributed stories of their successes and challenges in operating Tribal Air Quality Programs, including shared stories of their work in addressing climate change impacts. NTAA appreciates their invaluable time and contribution: Susan Flensburg, Brian Holter, Jr., Bobbi Anne Barnowsky, Walter Jack, Kevin Greenleaf, Carolyn Kelly, Jacinda Mainord, Kelcey Stricker, Darold Wallick, Michael King, Shaina White, Stan Belone, Chris Horan, Selso Villegas, Carol Kriebs, Billie Toledo, Phillip Mee, Melanie Lawson, Brandy Toft, Joy Wiecks, Phil DeFoe, Stephanie Kozich, Scott Hansen, Tiffany Janes, Angela Benedict, and Jan Paul.

Furthermore, we thank the ITEP staff for their work in developing and publishing the Status of Tribal Air Report. In particular, we appreciate NTAA staff members Andy Bessler, Elaine Wilson, Dara Marks Marino, and Bradley Austin.

NTAA wishes to thank its federal partner, the USEPA, in supporting the work and efforts of Tribal Air Quality Programs. In particular, we appreciate Ms. Gina McCarthy, former USEPA Administrator, and Ms. Janet McCabe, former Acting Assistant Administrator, Office of Air and Radiation, for their support and strong partnership with Tribes. We appreciate the assistance of USEPA personnel in providing information and data that were used in this STAR. We thank Pat Childers, Laura McKelvey, Regina Chappell, and Lucita Valiere.

Welcome from NTAA Chairman

On behalf of the National Tribal Air Association's Executive Committee, I am pleased to present the 2017 Status of Tribal Air Report (STAR). As the NTAA Chairman and the representative of EPA's Region 9 Tribal Caucus on the NTAA's Executive Committee, I work to ensure that NTAA helps to empower Tribes to protect and enhance the air that we all breathe.

The National Tribal Air Association was founded in 2002 with a grant from the U.S. EPA's Office of Air and Radiation, with a mission to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of American Indian Tribes and Alaska Natives. Tribes are important partners with federal, state and local agencies to protect/improve ambient air quality and indoor air quality, and mitigate climate change.

This year's STAR is an important road map to better follow the ongoing path that Tribes walk with both success and challenges to protect the air quality that impacts public health on and off Tribal lands. I hope this year's STAR clearly tells the story of this path and the diverse Tribal communities' daily efforts to prevent premature death, asthma, heart attacks, and other health and environmental impacts from indoor and ambient air pollution with limited resources. Obviously, we hope this story provides direct proof that funding Tribal Air Quality Programs is critical to ensure better public health in Indian Country.

Since last year's STAR was published, NTAA has been busy on both ambient and indoor air quality policy work. With the historic Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation Settlement, Tribes have been invited, along with all states and U.S. Territories to provide important environmental mitigation work to reduce NOx pollution. NTAA's VW Settlement Work Group has been busy engaging with over 100 Tribal affiliated participants to provide the U.S. Department of Justice with Tribal input and consultation to ensure a successful settlement. In 2016, NTAA's Indoor Air Quality (IAQ) Work Group published the nation's first national IAQ Needs Assessment for Indian Country. This STAR includes recent input from approximately 31% more participating Tribes, resulting in a total of 109 Tribes contributing to the NTAA's National Indoor Air Quality Needs Assessment for Indian Country Updated and Revised Report.

In addition to the VW Settlement and IAQ work, NTAA continues to assist Tribes access to important air quality policy analyses, and advocate for air quality funding to support Tribes' ongoing work. Part of our work, as laid out in the 2017 STAR, is to help the reader understand the important role Tribes take in protecting public health. NTAA is honored to tell this story and will continue to advocate for Tribal Air Quality Programs into the future.

Sincerely,

Wilfred J. Nabahe, Chairman
National Tribal Air Association

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Executive Summary

The NTAA is pleased to present the 2017 Status of Tribal Air Report (STAR) to Tribal Nations, the U.S. Environmental Protection Agency (USEPA), and to other federal agencies and interested parties. The 2017 STAR provides a national overview of Tribal Air Quality Programs for the new administration, tells stories from Indian Country of successful management of air quality in Indian Country, and highlights the many successes and challenges from Tribal Air Quality Programs around the U.S. The 2017 STAR also provides recommendations for USEPA and other federal agencies to ensure continued success of these programs.

Air quality assessments, including emissions inventory development and monitoring and managing air quality, are necessary to protect public health. Both ambient and indoor air pollution pose serious threats to human health and have been linked to an array of concerning health effects such as asthma, congestive heart failure, diabetes, and decreased cognitive function. Tribal communities are more vulnerable to air pollution impacts, and experience higher than average rates of diabetes, heart disease, and childhood asthma. In addition, Tribal communities are at higher risk of exposure to mercury and other air toxics due to traditional life ways, particularly subsistence practices.

Tribes are important co-regulators of air quality, working with federal, state, and local agencies to assess, monitor, and manage regional air quality. Tribal Air Quality Programs help save lives, play an important role in guiding federal air quality policies and participate in data-sharing programs that have led to a better understanding of regional air sheds. The NTAA supports Tribes in development of these programs and facilitates their success through building capacity and partnerships.

Although Tribal Air Quality Programs have grown in number, annual federal funding has been cut. As a result, more Tribes compete for less money, it is difficult for Tribes to obtain grant funding to establish new air programs, and existing programs are forced to make do with less. Given these circumstances, these programs operate with high levels of success. However, current funding levels cannot sustain – let alone grow – Tribal Air Quality Programs.

The 2017 STAR describes various successful projects with pressing challenges expressed by Tribal air quality management professionals. The following recommendations are presented for consideration by USEPA and other federal and state agencies. In addition, the NTAA Air Quality Budget Analysis (Appendix A) provides specific funding recommendations.

2017 STAR Summary of Recommendations

1. **Restore and increase funding to Tribal Air Quality Programs:** In NTAA's FY 2018 budget request to EPA, NTAA proposed increases totaling $9.0 million, including funding for new and expanding programs, monitoring infrastructure, and a comprehensive needs assessment for Indian Country. Specific funding recommendations can be found in **Appendix A: NTAA Air Quality Budget Analysis**.

   Tribes recognize that air quality funding is limited, however, additional funding for Tribal Air Quality Programs must be made available to:

   - Restore funding for existing established Tribal Air Quality Programs to a minimum of the highest historical funding levels;
   - Provide funding for Tribes seeking to establish an air program of their own;
   - Create new funding streams targeted at addressing critical needs such as indoor air quality;
   - Provide new funding to Tribes to keep pace with the increased amount of work in permitting new sources;
   - Replace and repair aging air monitoring infrastructure.

2. **Greater support for Alaska**: Alaska Native Tribes and Villages represent over 40% of federally recognized Tribes in the U.S. and due to their geographic location, bear significant burdens caused by air pollution and climate change. They require increased funding and assistance for air programs and climate change adaptation planning. Specific recommendations can be found in **Appendix A: NTAA Air Quality Budget Analysis.**
3. **Conduct air quality needs assessment**: Tribes recognize the need for a national comprehensive air quality needs assessment. NTAA invites the USEPA to partner with Tribes to conduct such an assessment in order for the federal government to gain a better understanding of the complex and unique issues Tribes face today. These issues can be as varied as the Tribes themselves, thus it is imperative to have a complete understanding of the true effects of air quality on Tribal health.
4. **Uphold Tribal sovereignty**: Federal agencies need to demonstrate their commitment to Tribal sovereignty through **(1)** appropriate allocation of funding for Tribal Air Quality Programs, **(2)** engage proactively in government-to-government consultation with Tribal Nations, **(3)** uphold Trust Responsibility by developing and implementing air programs that are responsive to the individual needs of Tribes, and **(4)** respond to Tribal requests and recommendations in a timely manner.
5. **Facilitate partnerships**: Partnerships between Tribes, states and other established air quality entities should be encouraged and funded, especially in the areas of monitoring, analysis, co-regulation, and indoor air quality testing and remediation.

Acronyms

AI/AN	American Indian/Alaska Native
ALA	American Lung Association
ACA	Angoon Community Association
ANTHC	Alaska Native Tribal Health Consortium
AQ	Air Quality
AQCP	Air Quality Control Program
AQS	Air Quality System
ARA	Air Resource Advisor
BAM	Beta Attenuation Monitor
BIA	Bureau of Indian Affairs
CAA	Clean Air Act
CAAAC	Clean Air Act Advisory Committee
CASTNET	Clean Air Status and Trends Network
CDC	Center for Disease Control
CR	Continuing Resolution
CRD	Crop Residue Disposal
DERA	Diesel Emissions Reduction Act
DOJ	Department of Justice
EI	Emissions Inventory
FARR	Federal Air Rules for Reservations (for Region 10 only)
FIP	Federal Implementation Plan
FR	Federal Register
FTE	Fulltime Employee
HAP	Hazardous Air Pollutant
HEPA	High Efficiency Particulate Air
HHS	Health and Human Services
HUD	Housing and Urban Development
IAQ	Indoor Air Quality
IAQWG	Indoor Air Quality Work Group
IDEQ	Idaho Department of Environmental Quality
GAP	General Assistance Program
ICDBG	Indian Community Development Block Grant
ITEP	Institute for Tribal Environmental Professionals
KBIC	Keweenaw Bay Indian Community
MDEQ	Michigan Department of Environmental Quality
MNSR	Minor New Source Review
MOA	Memorandum of Agreement
MSTRS	Mobile Source Technical Review Subcommittee
NAA	Non-attainment Area
NAAQS	National Ambient Air Quality Standards
NADP	National Atmospheric Deposition Program

NEIEN	National Environmental Information Exchange Network
NNEPA	Navajo Nation Environmental Protection Agency
NSR	New Source Review
NTAA	National Tribal Air Association
NTF	National Tribal Forum on Air Quality
OAQPS	Office of Air Planning and Standards
OAR	Office of Air and Radiation
ODEQ	Oklahoma Department of Environmental Quality
OECA	Office of Enforcement and Compliance Assurance
OITA	Office of International and Tribal Affairs
OTAQ	Office of Transportation and Air Quality
PBPN	Prairie Band Potawatomi Nation
PCB	Polychlorinated biphenyls
PM	Particulate matter
PSD	Prevention of Significant Deterioration
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
SEARHC	Southeast Alaska Regional Health Consortium
SNFOES	Sac and Fox Office of Environmental Services
SMP	Smoke Management Plan
STAG	State and Tribal Assistance Grant
STAR	Status of Tribal Air Report
TAMS	Tribal Air Monitoring Support Center
TAR	Tribal Authority Rule
TAS	Treatment in the Same Manner as a State
TEACH	Tribal Environmental Action for Children's Health
TIP	Tribal Implementation Plan
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WHO	World Health Organization
ZEV	Zero Emission Vehicle

Tables and Figures

1 NTAA Briefing for the Current Administration on Tribal Air Quality Programs

The National Tribal Air Association (NTAA) has prepared this 2017 Status of Tribal Air Report (STAR) to brief the current federal administration on the status of Tribal Air Quality Programs and to help familiarize the administration with the priorities, challenges and successes of Tribal Air Quality Programs that play an important and crucial role in protecting public health.

NTAA was founded in 2002 with a grant from the U.S. Environmental Protection Agency Office of Air and Radiation, and continues to work with Tribes, states, and federal agencies to facilitate Tribal Air Quality Programs and protect air quality in Indian Country. Tribes are effective co-regulators of air quality and possess unique environmental knowledge that makes them important partners for agencies working to address pollution and climate change.

Statistics of American Indian Tribes and Alaska Natives

- 567 Federally recognized Tribes and Alaskan Natives with a population of approximately 1.9 million American Indian and Alaska Natives
- Trust lands represent approximately 55 million acres
- 50 Tribes have "Treatment as State" ("TAS") status under the Clean Air Act (CAA)
- 85 Tribes operate air monitoring sites
- Tribes or EPA have issued over 300 permits for major and minor sources of air pollution in Indian country
- 149 Tribes manage air quality on their lands

1.1 Tribal Consultation and Sovereignty

Since 1984, the EPA's policy of working with Tribes has been based on close coordination and respect for Tribal self-determination and sovereignty. Consistent with EPA's Policy for the Administration of Environmental Programs on Indian Reservations signed in 1984 by President Reagan and reaffirmed by every Administration since that time, this policy directs EPA to work in close coordination with the Tribes and respect Tribal self-determination and sovereignty. Specifically, the EPA's Policy for the Administration of Environmental Programs on Indian Reservations is as follows:

> *In carrying out our responsibilities on Indian reservations, the fundamental objective of the Environmental Protection Agency is to protect human health and the environment. The keynote of this effort will be to give special consideration to Tribal interests in making Agency policy, and to insure the close involvement of Tribal Governments in making*

decisions and managing environmental programs affecting reservation lands.

This policy has remained the cornerstone of the EPA's approach to working with Indian Tribes and Tribal governments, and it was most recently reiterated in the EPA's 2014 update to its consultation policy. The NTAA strongly supports this policy, and seeks to ensure that the EPA continues to consult with Indian Tribes on the many decisions that affect reservation lands, including CAA regulations, permitting and enforcement, environmental justice, and program funding.

The NTAA encourages the EPA to demonstrate its continued commitment to supporting Tribal sovereignty and self-determination through appropriate allocation of funding for Tribal Air Quality Programs, engaging proactively in government-to-government consultation, upholding trust responsibility by developing and implementing air programs that are responsive to the needs of individual Tribes and responding to Tribal requests and recommendations in a timely manner.

1.2 Funding and Resources

The EPA currently provides approximately $12.8 million in funding to Indian Tribes under the Clean Air Act sections 103 and 105 for air quality programs. Indian Tribes have limited revenue sources, so many either do not have an air quality program or rely solely on EPA funds, which are crucial to Indian Tribes' ability to operate and maintain air quality programs on Tribal lands. As more and more Tribes seek to establish air quality programs, this funding level becomes even less sufficient. While funding for air quality programs has been reduced for several years, NTAA has consistently supported increased funding for Tribal Air Quality Programs to:

- restore funding to at least historical levels;
- provide assistance to Tribes that want to establish air quality programs;
- target critical needs such as indoor air quality;
- keep pace with increased source permitting activities; and
- repair and replace aging air monitoring equipment and infrastructure.

Tribes that are initiating new air programs and nearly all the Tribes in Alaska rely solely on General Assistance Program (GAP) funding, which has also been relatively stagnant over the last 10 years. To cover all of their environmental programs with GAP funding forces tough choices for Tribal governments as to which of the worst challenges will be addressed? NTAA strongly supports an increase in GAP base funding. Please see Appendix A: NTAA Air Quality Budget Analysis for additional details on funding required to adequately operate Tribal air quality programs.

As an EPA Partnership organization, NTAA also encourages and facilitates partnerships between Tribes, the EPA, and other air quality entities, including state and local governments. Funding and technical resources from the EPA – especially for monitoring, analysis, co-

regulation, and indoor air quality testing and remediation – are critical to supporting these efforts.

Table 1 State and Tribal Assistance Grant (STAG) Allocations for Fiscal Years 2012-2016

Region	2012	2013	2014	2015	2016
1	$657,063	$613,577	$622,967	$621,504	$594,273
2	$440,175	$424,265	$424,983	$417,874	$403,087
4	$330,964	$312,481	$316,989	$313,173	$315,674
5	$1,263,752	$1,145,597	$1,179,144	$1,226,435	$1,228,784
6	$1,305,009	$1,174,439	$1,176,253	$1,181,133	$1,141,449
7	$465,216	$434,188	$499,756	$524,625	$534,917
8	$2,109,888	$2,002,337	$2,096,474	$2,070,039	$2,001,325
9	$3,259,737	$2,933,750	$2,974,502	$2,885,487	$2,967,439
10*	$2,657,197	$2,421,367	$2,466,932	$2,443,631	$2,464,053
Total	**$12,489,000**	**$11,462,001**	**$11,758,000**	**$11,683,901**	**$11,651,001**

* Includes Alaska

Table 2 State and Tribal Assistance Grant Allocations for Fiscal Years 2012-2016

1.3 Permitting and Regulation

Air Quality assessments, including emissions inventory development and monitoring, and managing air quality regulation on and near Tribal lands, is necessary to protect the public health of Tribal members. Tribal communities are more vulnerable to air pollution impacts, and experience higher than average rates of diabetes, heart disease, and childhood asthma. In addition, Tribal communities are at higher risk of exposure to mercury, uranium and other air toxics due to traditional lifeways, particularly subsistence practices.

NTAA member Tribes pride themselves on being important co-regulators of air quality, and work alongside federal, state, and local agencies to assess, monitor and manage regional air quality. The EPA plays a crucial role – as the primary air quality regulator on Tribal lands – working directly with Tribes to protect and manage air quality. This role includes appropriate and diligent permitting and regulatory activities on Tribal lands. Tribes should also be included to a greater extent in the oversight of permitting and regulatory activities off Tribal lands, where Tribal lands and the public health of Tribal communities are at risk.

Some Tribes have delegated air programs pursuant to the Tribal Authority Rule (TAR) under the CAA, which delegates authority to Tribes to administer and enforce the CAA on Tribal lands, including implementing Federal Implementation Plans (FIP). Under the TAS eligibility determination, Tribes may regulate sources through Tribal Implementation Plans, or through delegation of Federal rules and programs for many aspects of the CAA. Tribes may also develop or take delegation of permit programs for minor and major sources on their lands under Title I and Title V of the CAA. In addition, Tribes manage and operate voluntary

programs such as the Diesel Emissions Reduction Act (DERA), radon testing and mitigation, indoor air quality, and others, to form a comprehensive suite of programs to protect public health in Tribal communities.

2 Why Tribal Air Quality Programs Matter to Public Health

Air quality assessments including monitoring air quality are a critical component of evaluating the public health and cultural resources on Tribal lands. Air pollutants are not bound by borders and many Tribes are forced to live with air pollutants that they played no role in creating. Further, many Tribes are unfairly burdened with air pollution resulting from dirty industrial sources such as mining or power generation projects within or near their borders. Economic development is certainly important for the livelihood of Tribes; however, it is important that development does not threaten the health of nearby communities.

Findings from the USEPA, Center for Disease Control (CDC), and World Health Organization (WHO), and a multitude of independent studies, show that both long and short-term exposure to poor air quality, including ambient and indoor air pollution, hazardous air pollutants, and mobile source pollutants, is linked to a wide variety of health concerns, such as those described in the diagram on Figure 1.

The health impacts of air pollution on many American Indian/Alaska Native (AI/AN) communities is magnified by such factors as the inability to receive quality medical care due to issues like cultural barriers and geographic isolation,[1] and spending more time in ambient and indoor environments than their non-AI/AN counterparts. Most AI/AN community members, including children and Tribal elders, spend a considerable amount of time outside gathering and using plants of cultural significance. Other communities, such as those located in Alaska, are forced to spend a significant amount of time indoors during the winter months. This normal lifestyle can foster heightened respiratory conditions such as asthma. Approximately 14.2% of AI/AN adults have asthma compared to 11.6% of non-Hispanic white adults and AI/AN children are 60% more likely to have asthma as non-Hispanic white children.[2] These are health figures which necessitate Tribal Air Quality Programs to engage in comprehensive air quality monitoring and management.

Tribal Air Quality Programs play an integral role in assessing and managing air quality in Indian country. In partnership with the USEPA, Tribal Air Quality Programs can identify and monitor air pollution problems and effectively focus site-specific mitigation efforts to reduce pollution and improve health, and to engage in enforcement against polluters when necessary.

[1] U.S. Department of Health and Human Services Office of Minority Health. Profile: American Indian/Alaska Native at https://www.minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=62 (last visited on March 24, 2017).
[2] U.S. Department of Health and Human Services Office of Minority Health. Asthma and American Indians/Alaska Natives at https://www.minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlID=30 (last visited on March 24, 2017).

Health Effects of Common Air Pollutants

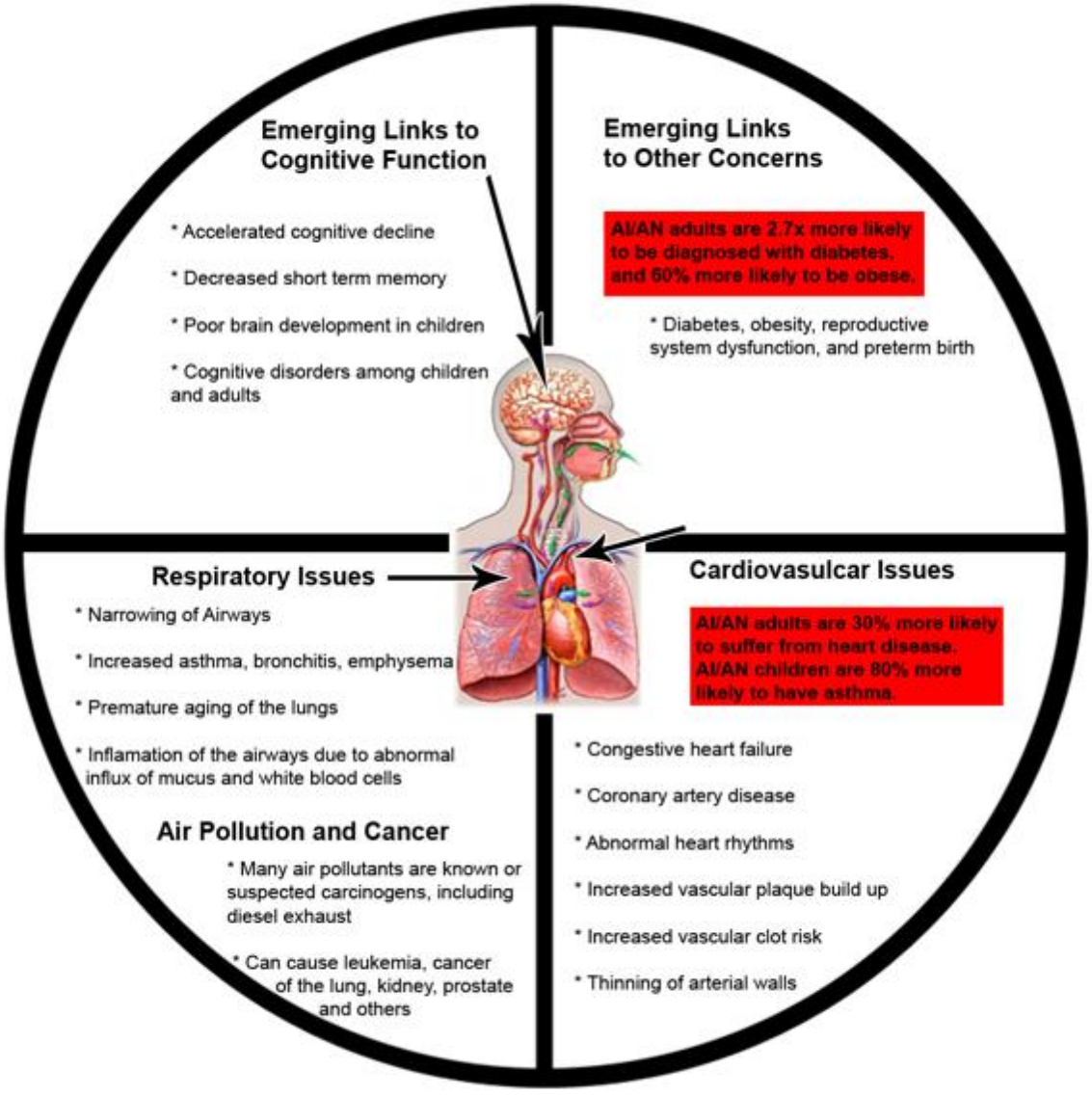

Figure 1 Health Effects of Common Air Pollutants

2.1 Ambient Air Quality

Ambient air is comprised mostly of nitrogen, oxygen, and other gases as well as a whole host of criteria[3] and hazardous air pollutants that vary in concentration as a function of proximity to air pollution sources, geographic location, and weather patterns. Tribal concerns regarding specific ambient air pollutants are as varied as the composition of the air itself and in many instances, dictated by the mix of sources of pollution that are proximal to Tribal lands. These pollutants are produced by many sources, including industry, forest fires, agriculture, and transportation.

Ambient air pollution is known by the USEPA, CDC, California Air Resources Board, and WHO, to cause a variety of health impacts and lead to missed school or work days, increased emergency room visits, hospitalizations, and premature deaths. Many studies have linked air pollutants to heart and lung disease. Further, recent studies have linked air pollutants to alarming health outcomes including obesity, diabetes, poor neurological development in children, and decreased cognitive function in adults. In particular, AI/AN adults are 1.6 and 2.7 times more likely to be obese and suffer from diabetes respectively than non-Hispanic white adults.[4]

A number of Tribal Air Quality Programs are engaged in national efforts to assess air quality, including the monitoring of air quality, which is helping them to understand air pollution trends and mitigate the health impacts of these trends locally and nationally. The Clean Air Status and Trends Network, or CASTNET, is a national monitoring network established to assess trends in atmospheric deposition that cause acid rain, ecological effects, and pollutant concentrations due to changes in the emissions of air pollutants.[5] Specifically, CASTNET measures ambient air concentrations of sulfur and nitrogen species and rural ozone concentrations.[6] Tribes play an important role in the CASTNET network with six monitoring sites located on the lands of the following Tribes: Cherokee Nation; Alabama-Coushatta Tribe of Texas; Santee Sioux Nation, Nebraska; Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas; Red Lake Band of Chippewa Indians, Minnesota; and Nez Perce Tribe.[7] Air Quality System provides monitoring data from states, Tribes, and others to track air quality over time. This system is used for regulatory and research purposes, and houses most of the data collected by Tribes. Air Data (https://www.epa.gov/outdoor-air-quality-data) is a website where Tribes and the public can locate monitors in their area and track trends over time. In

[3] Criteria pollutants are defined as those air pollutants that EPA has developed National Ambient Air Quality Standards to protect public health and welfare. Ozone, PM, Lead, SO_2, NOx, CO

[4] National Health Statistics Report, Number 20. "Health Characteristics of the American Indian and Alaska Native Adult Population: United States, 2004-2008 (March 9, 2010) at https://www.cdc.gov/nchs/data/nhsr/nhsr020.pdf (last visited on March 24, 2017).

[5] U.S. Environmental Protection Agency. Clean Air Status and Trends Network (CASTNET) at https://www.epa.gov/castnet (last visited on March 24, 2017).

[6] *Id.*

[7] U.S. Environmental Protection Agency. Program Partners at https://www.epa.gov/castnet/program-partners (last visited on March 24, 2017).

addition, the AirNow system, developed in 1998 by EPA, the National Oceanic and Atmospheric Administration, National Park Service, Tribal, state and local agencies, provides the public with easy access to more real time national air quality information.[8] The AirNow Air Quality Index informs the public about the existing air quality and the associated health effects of concern; and through a system of numbers and colors, helps people understand what actions that they can take in order to protect their health.[9] Twenty-seven Tribal partners are actively engaged in AirNow including the Leech Lake Band of Ojibwe, Lone Pine Paiute-Shoshone Tribe, and Quapaw Tribe of Indians.[10] More Tribes want and need to be involved in CASTNET and AirNow, but can only do so if they acquire additional federal funding support.

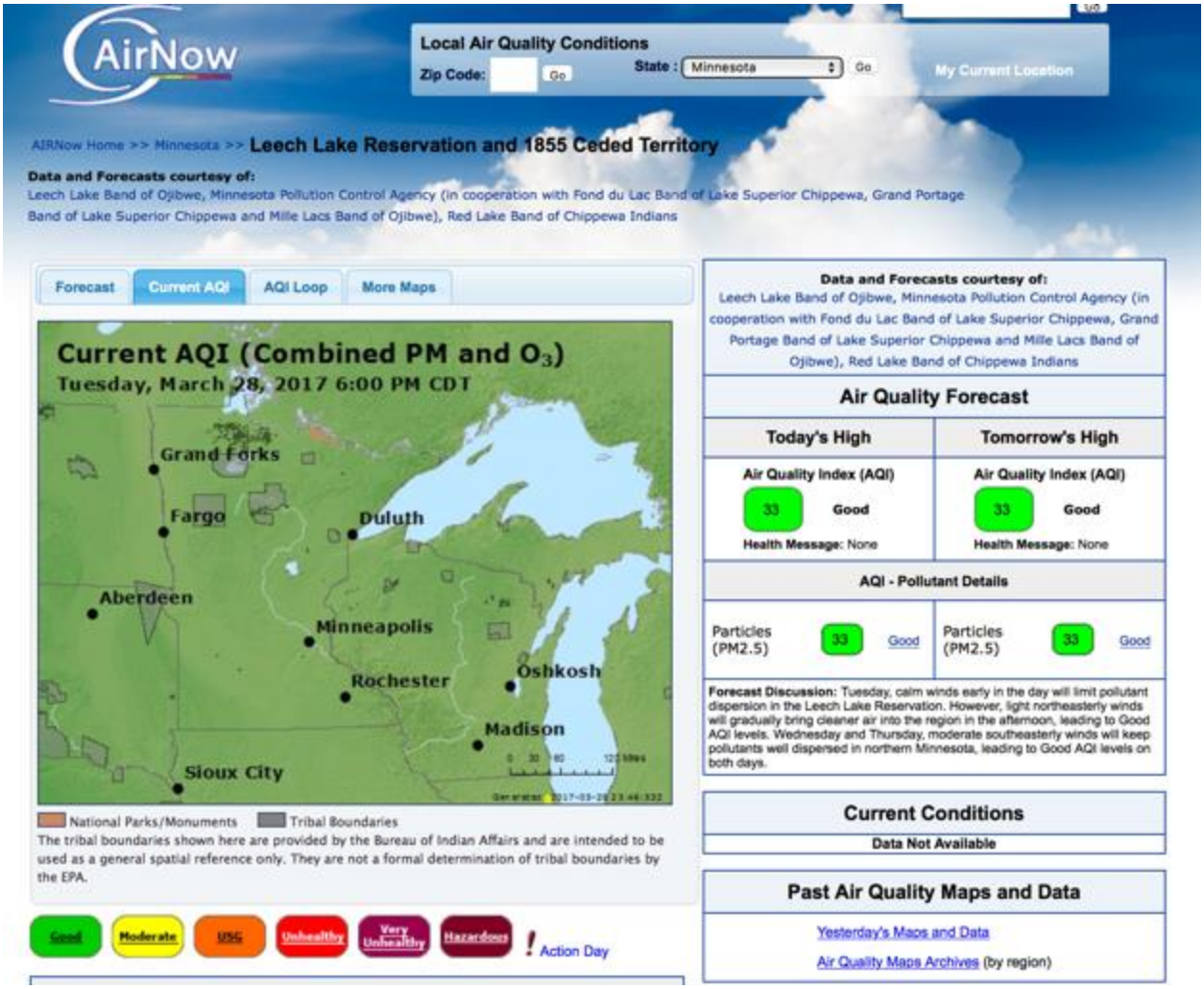

Figure 2 Leech Lake Band of Ojibwe's AirNow

[8] "About AirNow, The Air Quality Index" at https://airnow.gov/index.cfm?action=topics.about_airnow (last visited on March 24, 2017).
[9] Id.
[10] "Partners" at https://www.airnow.gov/index.cfm?action=airnow.partnerslist (last visited on March 24, 2017).

2.2 Indoor Air

Much like ambient air quality, monitoring and maintaining indoor air quality (IAQ) plays a very important role in maintaining health within Tribal communities. Common indoor pollutants include allergens, radon, particulate matter, second-hand smoke, carbon monoxide, and excessive moisture which in many cases lead to mold growth. These are linked to a wide variety of health impacts that may cause symptoms immediately or years later. IAQ issues can vary widely depending on the season and region, meaning Tribes across North America face different challenges when mitigating the impacts from indoor air pollution at any given time.

While the pollutants and health impacts associated with IAQ are very similar to those of ambient air quality, the challenges to monitoring and maintaining IAQ are much different. Due to the large number of indoor environments that must be assessed, monitoring IAQ can be much more time and resource intensive than ambient air quality. Additionally, many Tribal communities have poor housing conditions that amplify indoor air quality problems.

Monitoring indoor air quality and maintaining healthy indoor environments is critically important. The USEPA has found that Americans spend as much as 90% of their time indoors, where levels of air pollutants are often 2, 5, or even 100 times higher than levels outside.[11] A recent study led by researchers at Harvard University compared the cognition of workers in conventional office buildings to their counterparts in well-ventilated buildings, and highlights the value of healthy indoor air quality. The researchers found that people working in conditions with better-than-average air quality showed "significantly higher cognitive function" and scored nearly 300% higher when tested for cognitive strategy and information usage.[12]

2.3 Hazardous Air Pollutants (HAPs) and Mobile Sources

Hazardous air pollutants (HAPs) are known or suspected to cause serious health effects such as cancer, neurological problems, and birth defects. The USEPA lists 187 known toxic air pollutants including benzene, asbestos, mercury, and lead compounds. Humans can be exposed to hazardous air pollutants by breathing contaminated air, eating contaminated food (e.g., fish, meat, eggs, vegetables, etc.), drinking contaminated water, or simply coming into contact with contaminated soil, dust, or water. Some HAPs bioaccumulate, a process in which these toxins accumulate in body tissues. Humans can face long term impacts by ingesting even small amounts of toxins over long periods of time. This can be of particular concern for Tribes who may be more exposed due to subsistence and traditional life ways. The National

[11] U.S. Environmental Protection Agency. (2016). Air and Radiation: Basic Information. Retrieved from https://www3.epa.gov/air/basic.html.

[12] Harvard T.H. Chan School of Public Health. (October, 2015). Green office environments linked with higher cognitive function scores. Retrieved from http://www.hsph.harvard.edu/news/press-releases/green-office-environments-linked-with-higher-cognitive-function-scores/.

Air Toxics Assessment (https://www.epa.gov/national-air-toxics-assessment) is a tool Tribes can use to determine if their area has the potential risk from certain air toxics.

Mobile source emissions are released by highway vehicles and non-road equipment and are known or suspected by the USEPA to cause cancer or other serious health outcomes. While mobile source emissions of air toxics have been reduced by about 50% since 1990, these emissions continue to pose hazards to human health. Diesel exhaust is of particular concern, classified by the USEPA as likely carcinogenic to humans, and was classified as a known human carcinogen by the WHO in 2012. This is of significant concern to Tribal communities that often rely on old or "legacy" fleets of diesel vehicles and equipment that produce high levels of air pollutants.

2.4 Climate Change

NTAA has a history of working on climate change issues and communicating the concerns of Tribes to the USEPA. In 2009, NTAA developed a report on the impacts of climate change in Indian Country after a request by then-Office of Air and Radiation Assistant Administrator, Gina McCarthy. As a result of work such as this, the USEPA released the Clean Power Plan Final Rule with the goal of reducing greenhouse gas emissions. This rule states: "Tribal communities whose health, economic well-being, and cultural traditions that depend upon the natural environment will likely be affected by the degradation of ecosystem goods and services associated with climate change."[13]

The consequences of climate change will endanger public health, both directly and indirectly. The USEPA's Endangerment Finding cites numerous health concerns associated with increased levels of atmospheric greenhouse gasses. The USEPA predicts that the negative effects of extreme hot days will outweigh the positive effects of less exposure to extreme cold, a scenario that will disproportionately impact poor communities that cannot afford or do not have access to air conditioning. Climate change will likely exacerbate ground-level ozone pollution as well as the many associated health impacts. Changes in temperature and precipitation patterns will increase risks associated with aeroallergens (i.e., pollen and mold) and vector-borne diseases. Finally, climate change is leading to more frequent extreme weather events, which have the potential to severely impact Tribes, depending on their preparedness and geographic location.[14] The negative health effects associated with climate

[13] U.S. Environmental Protection Agency. (2009) EPA's Endangerment Finding. Retrieved from http://www3.epa.gov/climatechange/Downloads/endangerment/EndangermentFinding_Health.pdf.

[14] http://www3.epa.gov/climatechange/Downloads/endangerment/EndangermentFinding_Health.pdf U.S. Environmental Protection Agency. (2009) EPA's Endangerment Finding. Retrieved from http://www3.epa.gov/climatechange/Downloads/endangerment/EndangermentFinding_Health.pdf. U.S. Environmental Protection Agency. (2009) EPA's Endangerment Finding. Retrieved from http://www3.epa.gov/climatechange/Downloads/endangerment/EndangermentFinding_Health.pdf.

change are especially damaging for vulnerable populations including the elderly, young children, and those individuals already in poor health.

Climate change threatens Tribal lifestyles by decreasing food security, endangering culturally significant flora and fauna and forcing them towards extinction, increasing the risk of extreme weather events, and endangering public health in general.

Long-term climate change and near-term weather variation are both leading to changes in biodiversity, abundance of important flora and fauna species, and seasonal changes that are impacting traditional hunting, foraging, and farming. Tribes and their members, in particular, are experiencing declines in health due to the loss of traditional food use caused by climate change.[15]

Longer summers and warmer winters in Alaska are causing sea ice to melt early and reducing Alaska Natives' ability to move around their region to hunt or gather. In the upper Midwest, moose and wild rice habitats are shifting with the changing climate, restricting their availability as a food resource. Changing temperature and precipitation patterns are permanently altering biomes across the Southwest, changing where many culturally significant plants can grow and even leading towards their extinction. Further, climate change is threatening food security based on subsistence agriculture, particularly in the West where a lack of rainfall has created long-term drought conditions.

A number of Tribes and Tribal organizations have committed significant resources to analyze the health effects of climate changes on Tribal communities. In particular, the Alaska Native Health Tribal Consortium (ANTHC) Center for Climate and Health has been conducting comprehensive community assessments for several Alaska Native Villages, such as the Native Village of Kivalina (Kivalina), focused on the impacts of climate change and related health effects.[16] For Kivalina, ANTHC has observed a rise in dust, smoke, and allergen levels along with health-related issues such as asthma, allergies, and other respiratory problems.[17] These levels and health-related issues have become most prominent during the summer months due to an increase in the number of hot and dry summers, lightning and wildfires, and trees and shrubs due to climate change.[18]

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[15] Kathy Lynn et. al, "The impacts of climate change on tribal traditional foods," Climate Change 120:545-556, 547 (2013) ("Obesity, diabetes and cancer, rare in communities living on a traditional diet, are now increasing health problems in tribes across the U.S").

[16] "Climate Change Health Assessment." Center for Infectious Disease Research and Policy at http://www.cidrap.umn.edu/practice/climate-change-health-assessment (last visited on March 12, 2017).

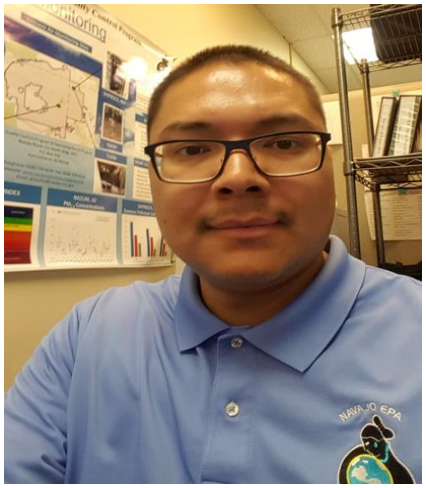
[17] "Climate Change in Kivalina, Alaska, Strategies for Community Health." ANTHC Center for Climate and Health 21 (January 2011).

[18] Id. In the Northwest Arctic, more than 10.5 million acres burned between 1950 and 2007, including 24.1% of boreal forest and 9.2% of the tundra (Joly et al., 2009). In 2007, the largest tundra fires on record occurred on the North Slope, burning over 240,000 acres in a single season.

2.5 Funding Issues

The vast majority of Tribes are small, isolated, and have limited budgets. As such, federal assistance for Tribal Air Quality Programs is critical to their operation. As shown in the NTAA budget analysis (see Appendix A), funding levels have decreased in recent years, causing stagnation of Tribal Air Program growth. These programs have continued to achieve more with less, particularly in how they have been able to paint a fuller picture of the nation's air quality through their monitoring efforts, and moving to control and regulate air quality in their areas. However, current funding levels threaten the sustainability of these achievements. For example, as monitoring equipment and infrastructure ages and breaks down, Tribal Air Quality Programs are unable to continue operations with the same levels of success and data Quality Assurance Quality Control (QA/QC). Additional funding is necessary to establish new and maintain current Tribal Air Quality Programs, to build capacity, and to grow these programs in the future in order to contribute to a national strategy for achieving cleaner air.

Profiles in Tribal Air Quality: Michael King



Michael King received his undergraduate BS degree in Environmental Science from Haskell Indian Nations University in 2005 and a MS degree from Purdue University in 2013. For over ten years he has assisted tribes in the Four Corners Region with technical air monitoring management and regulatory development. He is currently a Sr. Environmental Specialist with the Navajo Nation EPA Air Quality Control Program.

3 Tribal Stories in Successfully Managing Air Quality and Climate Change Effects

NTAA received stories from around Indian Country describing the successes and challenges they have had with managing air quality and the effects they are experiencing from climate change impacts to their communities and way of life. Several of those received are profiled below to help illustrate the status of Tribal Air Quality Programs around Indian Country. These stories are organized by USEPA Regions. In addition, several Tribal air quality professionals are profiled in this 2017 STAR to highlight emerging professionals helping to build strong air quality programs, partnering with other entities in unique collaborations, and serving on Tribal air or environmental committees or organizations as representatives of their respective Tribes and in some cases as a voice expressing the interests of Tribes.

3.1 Tribal Air Quality Priorities, Challenges, and Success Stories by Region

Region 10 – 229 *Tribes – Alaska*

There are 229 federally recognized Tribes in USEPA Region 10-Alaska. The following list highlights some of the many recent successes of Tribal Air Quality Programs in Alaska, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- The ANTHC Tribal Air Quality Program developed an assessment tool to help Tribes prioritize their air quality concerns. The Tribal Air Quality Phase 1 Assessment has been successfully completed by 97 communities statewide. Current data indicates that Road Dust, Indoor Air Quality, and Solid Waste Burning are the top three (3) Tribally-identified air quality concerns in Alaska;
- The Native Village of Ruby is conducting a pilot dust mitigation project funded by the US Department of Transportation Federal Highways Program that involves applying two palliative products (dust suppressants), using lightweight equipment that can be flown in on small aircraft, and pre-and post-air quality monitoring. Partners on the project also include USEPA Region 10, the Alaska University Transportation Program, and the Alaska Department of Environmental Conservation;
- ANTHC continues to work with Tribes to identify communities with high rates of respiratory illness among children, and work with Tribes to improve housing units with high potential for poor indoor air quality;
- Aleknagik Traditional Council conducts indoor air quality monitoring and produces videos to educate residents about Indoor Air Quality;

- Since 2012, Bristol Bay Native Association has surveyed IAQ in 405 homes to assess the feasibility of wood heating system exchange programs and identify appropriate wood smoke reduction measures;
- Seldovia Village Tribe continues to monitor PM10 at three sites using DustTrak aerosol monitors on loan from the ANTHC, and has submitted air data to USEPA through the Air Quality System (AQS).

Challenges and Priorities

- Funding presents the major challenge to Alaska Native Villages that are not eligible to receive federal monies designated for Tribes with Reservation lands. USEPA is not able to add new programs or provide special project funding because Tribal air grant funds have not increased since 2012;
- Road dust is a major issue, especially in remote areas;
- Landfill burning;
- Indoor air quality and weatherization;
- Wildfires;
- Wood smoke, smart burning practices;
- Radon;
- Climate change adaption;
- Fugitive dust from mining operations;
- Cruise ship emissions.

Region 10 – *43 Tribes – Idaho, Oregon, Washington*

- 43 Federally recognized Tribes in the region
- 15 Tribes have Air Quality Programs
- 13 Tribes have Air Monitoring Programs

The Concern

The Tribes realize USEPA has experienced reduced overall funding for several years. However, we feel that Tribal Air Quality Programs represent a better fiscal to health improvement investment than many other programs.

The Challenge

The stagnation and cuts in Tribal funding in the last 10 years means there have been reductions in ongoing programs and no funding for new Tribal Air Quality (AQ) programs.

Tribes are supplementing environmental staff with Tribal money needed for health and youth programs. Small Tribal programs, which have been allowed only a partial fulltime employee (FTE) through USEPA funding, have now seen money reduced to unsustainable levels to the

point where Tribes are eliminating environmental programs. Larger Tribes are losing experienced staff because of the need to reduce wage rates. Monitors funded in the early days of the programs (i.e., 2000-2010) are not being funded adequately to replace equipment. Education and outreach to Tribal members is one of the first program elements to suffer cutbacks and choices have to be made between IAQ concerns, climate change mitigation, and ambient air quality programs.

The Need

- Funding
    - At a minimum, restoration to the highest pre-reduction levels for current programs (funding which USEPA used to get and allocate to the Tribes to establish AQ programs);
    - Tribal Monitoring program, Credentialed Inspector Program, Regional Partnership Organization (e.g., Western Regional Air Partnership), Federal Air Rules for Reservations (FARR) Revision, DERA, Toxics monitoring.
- IAQ
    - Increased funding stream, separate from the current grant program funding;
    - Allowed in all regional STAG Tribal applications;
    - Federal entities need to work out the means between themselves so Tribes can obtain funding through USEPA, from Housing and Urban Development/ Health and Human Service (HUD/HHS) funding, for IAQ tasks without having to apply for separate department grants.
- Climate Change
    - Separate funding stream, in addition to current grant program funding;
    - Federal entities need to work out the means for Tribes to obtain funding

Profiles in Tribal Air Quality: Carolyn Kelly

Carolyn Kelly has been the Air Quality Program Manager for the Quinault Indian Nation since March 2013. She's focused on compliance, monitoring, education & outreach, and general support of other departments. In 2016, Carolyn was elected to serve as Region 10's Alternate Representative on the National Tribal Air Association's Executive Committee, as well as Co-Chair for the Tribal Data, and Fire and Smoke Work Groups under the Western Regional Air Partnership. She expanded her air monitoring experience by deploying on several wildfire assignments as an Air Resource Advisor since 2015. After graduating from the Washington State Fire Academy in 2016, she joined Quinault Fire Department as a volunteer firefighter and assists with training. She collaborates with local, state, Tribal, and federal agencies to provide technical information and support for the Tribe for both ambient and indoor air quality issues and hopes to expand the program in the future.

through USEPA, to use Bureau of Indian Affairs (BIA) funding, for climate change tasks without having to apply for separate department grants.

- USEPA Staffing
    - Restore positions;
    - Cutbacks have nearly eliminated experienced staff to help Tribes with specific problems; Superfund sites, toxic source impacts, etc.;
    - Current USEPA staff turnover/position elimination has left remaining USEPA staff struggling to help Tribes.

Region 9 – *148 Tribes – Arizona, California, Hawaii, Nevada, American Samoa, Commonwealth of the Northern Mariana Islands, Guam, Marshall Islands*

There are 148 federally recognized Tribes in Region 9, 28 of which operate 95 Tribal air monitoring sites. The following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- After 10 years of work, the Gila River Indian Community's Air Quality Management Plan was approved by the USEPA, allowing the Community to exercise its sovereignty and regulate sources of air pollution within the Community;
- The Gila River Indian Community was awarded nearly $400,000 in DERA funding to replace construction vehicles in the Community.

Challenges and Priorities

- Adequately fund and support existing established air programs, and support Tribes that want to create air programs;

Profiles in Tribal Air Quality: Shaina White (Diné)

Shaina White is the Tribal Air Environmental Specialist for the Inter Tribal Council of Arizona, Inc., in Phoenix. She's been working with Tribal Air Quality Programs since 2013 and became a member of the Tribal Air Monitoring Support (TAMS) Steering Committee in September 2015. As a TAMS SC member, she took the lead to develop the 2016 TAMS Technical Needs Assessment to identify technical support requirements of tribal air quality programs nationwide. Additionally, she led a subcommittee to develop an online inventory of the TAMS Equipment Loan Program to provide tribes with visual and descriptive information of each piece of equipment available for loan and to connect users to accessible resources, e.g., individual TAMS staff and technical support documents. She received her BS degree in Environmental Science from Haskell Indian Nations University.

- Adequately fund for monitoring and evaluation of Particulate Matter (PM)10 control measures for the exposed playa in the Salton Sea, due to the reduction of water inflows approximately 100 square miles. This has a highly negative impact in the community health for Southern California;
- Targeted funding and support for Tribes affected by new ozone standards;
- Targeted funding and support for Tribal indoor air programs;
- Retaining knowledgeable staff;
- The majority of air pollution sources are off Tribal lands.

Region 8 – 27 *Tribes – Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming*

There are 27 federally recognized Tribes in USEPA Region 8. The following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- Southern Ute Indian Tribe's successful wood stove exchange program;
- The Southern Ute Tribe has been doing a great job leading the way on administering the Tribe's USEPA approved Title V Operating Permit program (i.e., permitting, compliance, and enforcement).

Challenges and Priorities

- Limited funding is the most significant challenge to Tribal Air Quality Programs in Region 8;
- Rebuilding relationships with the USEPA that have deteriorated in the wake of employee retirements and travel budget cuts;
- Continue face to face regional meeting with all the Tribal Air Managers and EPA personnel;
- Oil and gas development.

Region 7 – 9 *Tribes - Iowa, Kansas, Missouri, Nebraska*

There are nine (9) federally recognized Tribes in USEPA Region 7, seven of which are NTAA member Tribes. The following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- Prairie Band Potawatomi Nation (PBPN) have recently accomplished the following:

- Conducted weatherization technique study within the Tribal community;
- Increase in healthy homes in Tribal Housing by completing basic IAQ assessments, and partnering with Tribal Housing on housekeeping and minor maintenance issues;
- Increase in radon testing in Tribal Housing;
- Collaboration with PBPN Lands Management Department and BIA on community outreach and awareness of prescribed burning;
- Completed training in EPA's Air Pollution Training Institute on Air Pollution, Risk Reduction and Assessments, Exposure Assessments, and Air Toxics;
- Performed energy audit within PBPN Early Childhood Education Center, and radon testing;
- Replaced Beta Attenuation Monitor (BAM-1020) to continue to meet ambient air monitoring goals, objectives, and requirements.

- Sac and Fox Nation of Missouri in Kansas and Nebraska has had an established air monitoring program in Indian country for 15 years. Just recently we have replaced our aging BAM 1020. We have been working with the National Atmospheric Deposition Program (NADP) for five years, have completed an Emissions Inventory, established ambient air and meteorological monitoring site, completed radon mitigation training and measurements, and I have completed level 1 and level 2 training with the Institute for Tribal Environmental Professionals (ITEP), multiple classes with EPA (Systematic Planning, Quality Assurance, Data Quality Assessment, and Environmental Response training). Additional training was with the United States Geologic Survey for Environmental Assessment and Problem Solving using Geographic Information System; Region 7 Tribes work very hard to maintain their air monitoring programs with our partners and within the region. I am also proud to work with our national partners by representing our Tribal communities on committees like EROS and our newest partner, Aeroallergen Monitoring Science Committee, (http://nadp.isws.illinois.edu/committees/amsc/) a committee formed in conjunction with NADP and the CDC who will be using the data collected from NADP partners to follow allergens, asthma, and other health related issues with the data collected nationwide.

Challenges and Priorities

- Continue ambient air monitoring station; there are challenges with staff turnover and continuous maintenance issues;
- Continue meteorological station data collecting;
- Increase Healthy Home Assessments for Tribal Housing and community;
- Develop supportive documentation for ambient air monitoring. For example, a new Quality Assurance Project Plan (QAPP) covering all 24 elements, develop a Quality Management Plan (FY'18 grant proposal), and revise a supportive Standard Operating Procedure for 24 element QAPP;
- Lack of sufficient funding, or decrease in funding opportunities;

- Community involvement during outreach events, specifically during IAQ assessments;
- Maintaining and replacing aging monitoring equipment;
- Need for greater USEPA support with ambient air monitoring issues.

Region 6 – *66 Tribes - Louisiana, Arkansas, Oklahoma, New Mexico, Texas*

There are 66 federally recognized Tribes in USEPA Region 6. The following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Profiles in Tribal Air Quality:
Melanie Lawson

Melanie Lawson, a Tribal member of the Choctaw Nation of Oklahoma graduated from the University of Oklahoma's Dept. of Atmospheric & Geographic Sciences in 2014 with a bachelor's degree in Environmental Sustainability, and currently sits on the Board of Visitors for the department. She began work at the Choctaw Nation of Oklahoma Environmental Office in 2014. She is the Air Quality Program Coordinator, is on the Clean Air Act Advisory Committee (CAAAC), and has presented at the National Tribal Forum on Air Quality (NTF), the Inter-Tribal Environmental Council (ITEC), and to the Tribal Air Monitoring Support Center Steering Committee. She has been invited to be a Tribal instructor at the ITEP Intro to Tribal Air Quality course in June. Her work consists of the following:

- *A level 4 Emissions Inventory was created in (2014),*
- *IAQ walk-through assessments were performed (2015), and*
- *Outreach events throughout the 10 ½ counties were conducted for IAQ (2015).*

In 2016, the air monitoring station was sited and relocated from Smithville, OK, to Hugo, OK. They are monitoring for Ozone and have a MET tower; IAQ concerns are addressed upon request from Tribal members.

Successes

- The Inter-Tribal Council of Northeastern Oklahoma and Four States Clean Air Alliance Four State Clean Air Alliance (FSCAA), have joined the Ozone Advance Program and are working with the EPA to develop and implement a Path Forward Document. The FSCAA is an organization that works on ground-level ozone issues. Please visit www.summerair.org, for additional information.

- The Alabama-Coushatta Tribe of Texas received an EPA Community Air Toxics Monitoring Project Grant. The project is for real-time monitoring of HAPs in the vicinity of oil and gas

sites. The Tribe is working with the Houston Advanced Research Center to deploy the monitoring systems once a week for three years.

- Choctaw Nation's Environmental Office successfully relocated their air monitoring station from Smithville, OK, to Hugo, OK, in an effort to better understand air quality impacts from upwind sources.

- The Sac and Fox Nation Office of Environmental Services (SFNOES) partnered with the American Lung Association (ALA) in late 2016. The partnership allows SFNOES to provide supplies that help improve IAQ through the ALA based on the recommendations of on-site assessment conducted by SFNOES.

Challenges and Priorities

- Additional funds and continued development of Tribal Air Quality Programs, including ambient and indoor air quality;

- Jurisdictional issues in connection to TAS Applications;

- Additional educational opportunities in connection with Tribal Authority Rule, Clean Air Act Permitting, Technical System Audits, Indoor Air Home Assessments, and Radon Mitigation.

Region 5 – 35 Tribes, Michigan, Minnesota, Wisconsin and Indiana

There are 35 federally recognized Tribes in USEPA Region 5. Of those, 20 are NTAA Principle Member Tribes. In 2016, 16 Tribes in Region 5 received CAA 103 and 105 funding, one Tribe received DERA funding, and two Tribes received SIRG Radon funding. However, there is further need in Region 5 as all 16 funded Tribes received only partial funding and multiple other Tribes did not apply for funding at all due to a lack of STAG funding, previously denied requests, and the fact that writing grants is resource and time intensive. Seven Tribes in Region 5 have TAS status and two of those have just recently been approved. Additionally, Tribes are looking at processes for expanding their TAS applications. One Tribe was redesignated as a Class 1 air shed in 2008, two additional Tribes are currently in the process, and one Tribe has plans for 2017 submittal. The following section highlights the top successes, priorities, and challenges for ensuring the continued success and future growth of these Region 5 Tribal Air Programs.

Successes

- The Tribal Air Resources Journal, an annual publication by Tribes in Region 5, is in its eighth year. Highlighting Tribal Air Quality achievements, challenges, setbacks, and successes, all 35 Tribes in Region 5 are included in the Journal. The Journal may be accessed at the following link: http://www7.nau.edu/itep/main/ntaa/TribalAirResources/Regional5/

- R5 has seven Tribes currently with TAS: Fond du Lac Band of Lake Superior Chippewa, Leech Lake Band of Ojibwe, Bad River Band of Lake Superior Chippewa, Forest County Potawatomi, Red Lake Band of Chippewa, Grand Portage Band of Lake Superior Chippewa, and the Mille Lacs Band of Ojibwe;

- The Leech Lake Band of Ojibwe finalized its project with EPA on the Air Quality Small Sensor Pilot Study to compare accuracy and usefulness of small PM sensors in comparison with Federal Reference Method (FRM) PM monitors;

- The Fond du Lac and Bad River Bands are in the active process of Class 1 redesignation. The Forest County Potawatomi were awarded Class 1 redesignation following a 14-year effort. Seven years after that award, they finalized negotiations to designate Class 1 AQRVs and thresholds;
- R5 EPA notifies the Tribes in R5 of Title V permits reviewed or submitted to USEPA upon their receipt. This allows Tribal review and information sharing of these permits within the Tribal Areas of Interest;
- Many Tribal Representatives in Region 5 serve on regional and national workgroups, such as the NTAA, the EPA's Clean Air Act Advisory Committee (CAAAC), TAMS, Conference of Radiation Control Program Directors, Inc., and the Air and Waste Management Association, and work with the Lake Michigan Air Director's Consortium, the National Tribal Operations Committee, the Regional Tribal Operations Committee, the National Tribal Science Council, and the National Tribal Water Council among others to promote and advocate for R5 Tribes.

Priorities and Challenges

These priorities and challenges were identified by the Tribes in R5 via a Google document live form and a regional priority call. These reflect the top issues and concerns by R5 Tribes:

- Treaty Rights - Impacts of air quality in Ceded Territories - Concerns surrounding traditional fishing and gathering, and ensuring those resources are not compromised through contamination or pollution.
- Tribal Air Programs –
    - A) New Air Programs: Concerns with lack of resources to establish infrastructure, takes time and resources which may be limited in the competitive grant process, and difficult to maintain capacity under current funding sources.
    - B) Existing Programs – Concerns with the inability to expand and/or maintain high capacity of Tribal Air Programs due to stagnant funding, limited resources, and aging equipment.
- Funding and Technical Support via EPA, other agencies, or other sources – Concerns with pending and future budget cuts may hurt or limit the capacity of Tribal Air Programs.
- Mining Impacts:
    - Metallic – ore, sulfides, nonferrous, cumulative effects - Concerns around air emissions from mining impacting cultural resources, such as wild rice and human health.
    - Non-metallic – Concerns with fracking and sand mining, which may be a much greater concern depending on the near future directions of the new federal administration.
- Mercury - production, deposition, impacts, and regulations; multi-media approach, monitoring and analysis – Awareness and concerns were addressed at the April 2017 R5 Tribal Mercury Workshop by the Tribes and for the Tribes in Region 5. Over 60 Tribal

representatives from all media attended the workshop. As an outcome, the Tribes will be establishing a Regional Mercury Workgroup in May.

- Climate Change - impacts, plans and resilience, adaptation, prevention, education - Impacts observed in southern Michigan: changing precipitation, increased heavier storms, decline in white cedar trees and paper birch trees - need to go farther north to locate, increased pests in wild rice; southern Minnesota: weather (damaging wind events that damage wild rice), highly fluctuating river levels, erosion issues, high sediment loads, high rate of disease and pests, warmer winters, deer population declining; southwestern Michigan: tornado in February. Challenges in adaptation include: lack of funding, limited administration and coordination. In light of the new administration's view of climate change, scope will include a "rebranding" of how to indirectly address climate change impacts utilizing pollution prevention, energy efficiency, and materials management.

- Use of Small Sensor Technology - Ensure use as a limited screening tool, not as primary method or correlation to NAAQS. Concerns regarding rapidly emerging technology outgrowing its own QA/QC and QAPPs procedures. Tribes are part of the research and development and eager to do so with the mindset that these will continue to develop, however to this point it is still unverified technology, which remains a big concern.
- Monitoring for Air Quality: Air toxics, PM, Ozone, Mercury, etc. - Data analysis support/assistance – Concerns with legacy monitors including cost and maintenance of those monitors; particulate matter is high in certain areas due to agriculture and industry (e.g., concrete plants, Electric Generating Units). Lack of state or Tribal monitoring in some of these areas of concern. Overall lack of funding, infrastructure, and coordination limits progress; some rely on TAMS Center for support and technical assistance, others can use state assistance, and yet others still receive no assistance.

- Indoor Air Quality - funding, regulation, technical resources, and building science - Concerns include: moisture, mold/mildew issues, ventilation, radon, overall building operations. Limited funds identified for assessments and even less for mitigations. The absence of exposure limits or standards for most IAQ concerns hinders both funding and program implementation.

- Tribal minor New Source Review (mNSR) – Source registration, identification, and permitting of sources. Tribes requesting more information on these sources and verification of EPA's list.

Region 4 – *6 Tribes - Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee*

There are six (6) federally recognized Tribes in USEPA Region 4, four of which are NTAA member Tribes. The following list highlights recent successes, challenges, and priorities related to Tribal air quality in the region.

Successes

- Poarch Band of Creek Indians partnered with the University of South Alabama to construct a MET station and joined the local Mesonet, which can be seen here: http://chiliweb.southalabama.edu/station_data.php?station=poarch;
- A NTAA In-person Executive Committee Meeting held in Atmore, Alabama, in the winter of 2016;
- The Catawba Indian Nation's Ambient Air Program:
  - Initiated ozone monitoring for 2016 and is currently in attainment apart from their county for the last Ozone NAAQS;
  - Continues to monitor $PM_{2.5}$ levels;
  - Is partnering with TAMS to receive capacity building technical training and implement QA/QC audits utilizing air monitoring equipment loan program;

- Is utilizing the Tribal Data Toolbox for data management;

- The Catawba Indian Nation's Indoor Air Program:
  - Continues to partner with ISWA Housing conducting IAQ assessments, providing detailed findings and solutions to address IAQ issues in housing and Tribal Government Buildings;
  - Collaborated with ITEP to host "Indoor Air Quality in Tribal Communities" and developed a partnership with the University of North Carolina Healthy Homes Program to bring IAQ, Green Cleaning, and Integrated Pest Management (IPM) training to staff and residents;
  - Participated in integrating energy efficiency, IPM, and IAQ best management practices into the home renovation process for Catawba. This activity was initiated through the participation and technical assistance from Henry Slack and Danny Orlando (USEPA Region 4) in coordinating blower door and duct testing to implement and verify best practices to achieve what we are calling "renewable ready" homes. We are looking forward to incorporating these measurements and best practices into our home renovation program;
  - Partnered with Indian Health Service to develop an "environmental trigger checklist." This innovative partnership will hopefully be a model for other Tribes as they continue to address and provide solutions to Tribal members with asthma and other upper respiratory challenges.

Challenges and Priorities

- Air program development and TAS;
- Improving and monitoring indoor air quality;
- Climate change research and adaption planning, and incorporating traditional ecological knowledge into these efforts;
- Increasing levels of dust pollution caused by drought;
- Hydraulic fracturing pollution.

Region 3 – 1 *Tribe – Delaware, Maryland, Pennsylvania, Virginia and West Virginia*

There is one (1) federally recognized Tribe in USEPA Region 3: The Pamunkey Indian Tribe located in Virginia. They do not yet have an air quality program.

Region 2 – *8 Tribes - New Jersey, New York, Puerto Rico, US Virgin Islands*

There are eight (8) federally recognized Tribes in USEPA Region 2, two of which are NTAA members. The following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- The Saint Regis Mohawk Tribe's IAQ program coordinated with the ALA this past year to help homes with children with asthma. Overall the project has provided over $6,400 in remediation products including bed and pillow encasements, carbon monoxide and smoke detectors, as well as other asthma trigger reductions like installing laminate flooring in place of carpeting;

- The Saint Regis Mohawk Tribe finished sampling household dust for polychlorinated biphenyls (PCBs) and dioxin pollutants that may have come from the nearby Superfund site. At this time, the data is being analyzed. Project will be complete by Ohiari:ha in June 2017.

Challenges and Priorities

- Application requirements, including matching funds, and scarce funding opportunities make it difficult for Tribes to acquire funding for air programs;

- Funding is needed to weatherize homes and remediate problems associated with excess moisture;

- Creating standards for airborne PCBs from a Superfund cleanup site;

Profiles in Tribal Air Quality: Jan Paul

I am of the Crow clan from the Penobscot Indian Nation, a mother, a sister, an aunt, and a friend. I have worked for my Tribe for over 19 years in the water quality department as a field/lab technician, and I am currently the Air Quality Interim Program Manager. I strive to keep learning, so that I may aid in the protection of Mother Earth and the next seven generations.

- Air quality and environmental contamination issues related to the now-closed General Motors and Alcoa industrial sites;

- Mobile source emissions from the shipping industry and on-road/non-road sources;

- Hydraulic fracturing of Marcellus Shale;

- Climate change adaption and planning.

3.2 Region 1 – 10 Tribes - Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

There are 10 federally recognized Tribes within USEPA Region 1, two of which are NTAA member Tribes. There are 5 active 103 grants and 2 active 105 grants, so the total is 7. The

following list highlights recent successes of Tribal Air Quality Programs in this region, as well as several common challenges they face and priorities for ensuring continued success and future growth of these air programs.

Successes

- In the face of budget cuts, the Penobscot Nation's Air Program has managed to maintain its capacity by continuing to evolve state and federal partnerships.

Challenges and Priorities

- Indoor Air Quality for our Tribal citizens need resources for air testing and short term monitoring for assessment. The work being done to include smaller, lower cost devices should be supported;
- Particulate matter and ozone-causing emission transport from out of state continue to be major concerns;
- Federal Trust Responsibility for Tribes must remain intact.

3.3 Tribal Stories of Project Successes, Challenges, and Successful Partnerships

Nez Perce Tribe

EPA Funding Critical to Programs Protecting Health and Safety

The Nez Perce Tribe works closely with the EPA on a large number of programs that are essential to the health and safety of the 18,000 residents within the Nez Perce Reservation and that also protect the treaty-reserved resources of the Nez Perce Tribe that the United States has a trust obligation to preserve.

Through EPA funding, the Nez Perce Tribe's Air Quality Program supports essential regulatory and education and outreach services that protect the human health and welfare of Nez Perce Reservation residents. EPA Region 10 FARR burn permit rules for the Nez Perce Reservation served as a model for the State of Idaho's agricultural burn permit program, which enabled growers off-reservation to regain the use of agricultural burning as a tool in their farm management systems (instead of losing the tool entirely). In 2016, the Tribe's agricultural burn permit program under the FARR served 273 agricultural burners and permitted the burning of 38,000 agricultural acres on the Nez Perce Reservation.

The Tribe's Air Program provides critical health information to communities and Idaho residents during wildfire smoke incursions events, of which we experienced record-setting years in 2012, 2014, and 2015. Poor air quality during these wildfire periods reached levels not measured before (24-hour averages of 550 $\mu g/m^3$).

EPA funding supports indoor air quality assessments for schools, workplaces, and homes on the Nez Perce Reservation that lead to improved indoor environments that, in turn, serve to protect human health. EPA funding supports woodstove projects that improve indoor and outdoor air quality by educating households on proper use of wood stoves, which directly improves the health of residents at risk for asthma and other upper respiratory diseases.

Many of the communities on and near the Nez Perce Reservation are geographically situated in steep, narrow river valleys which trap and accumulate air pollutants. Over the past ten years, EPA funding has supported three collaborative inter-agency air toxics research projects that have enabled the State of Idaho and the Nez Perce Tribe to more accurately characterize air toxics emissions.

EPA funding supports science, technology, engineering, and mathematics and other science-based education efforts that help the State of Idaho meet its science and math proficiencies.

Keweenaw Bay Indian Community

Success - The Keweenaw Bay Indian Community (KBIC) has built a successful indoor air program that responds to the needs of the residents on the L'Anse Indian Reservation. Beginning in early 2016, we have been able to offer our residents indoor air quality assessments as they are requested. The air program also works closely with the KBIC housing department to address concerns regarding mold and other possible building issues. At the request of the housing department, a member of our staff makes an appointment with the tenant, does a thorough interview and then views the "problem areas" in the home. The Air Specialist then documents with photos and a report to the housing department. This has been a really great relationship with the housing department and our air program. The housing department has confidence in our air staff and usually responds to fix any necessary issues that the Air Specialist has pointed out. At the beginning of our air program, we were also made aware of the Tribal Environmental Action for Children's Health (TEACH) Project offered to Tribes through the American Lung Association. In homes that have asthmatic children, we are able to offer products or services that will help in alleviating asthma attacks. To date we have helped families with much needed products such as air purifiers, air filters, allergen bedding covers, and cleaning supplies. The air program has developed pamphlets on IAQ, tobacco smoke and outdoor burning. KBIC also offers 'green cleaning kits' to all residents as a thank you gift for completing an IAQ assessment. The KBIC indoor air program is a big achievement and is very well received by the community.

Challenges - Funding. Our funding has been reduced each year since we were first funded in 2012. The air program has struggled with keeping a full-time employee in the Air Quality Specialist position due to the funds being so low that it does not support a full-time position with benefits. This grant cycle, EPA has decided not to fund our grant but to rather give us an extension to spend out the remaining funds from our last grant cycle. Needless to say, this will not support a FTE for 14 months till our next grant starts.

KBIC is proud of the relationship that we have built with our Michigan Department of Environmental Quality (MDEQ). Within a few miles of our reservation resides an electric plant that operates off biomass. The plant had applied for a renewal to their ROP/PTI in the fall of 2015. Since that time, the plant has reported compliance issues. This stalled the permit process and the public was made aware of the issue. Working with MDEQ and EPA, KBIC was kept informed during the entire renewal process. The MDEQ and KBIC worked closely with keeping the public informed and assisted EPA and MDEQ in coordinating public meetings. While the issue has not yet been resolved, KBIC is proud of the relationship it has built with MDEQ during this process.

Sac and Fox Nation of Missouri in Nebraska and Kansas / Santee Sioux Nation of Nebraska

Tribal Governments and National Partners Working Together

By Carol A. Kriebs, Air Quality Coordinator, Sac & Fox Nation of Missouri in Kansas & Nebraska

The Tribal Nations of EPA Region 7 are proud to have partnerships with our federal, state, and local partners. Some of these partners are comprised of NADP, federal and state agencies, academic institutions, Tribal governments and the private sector. Tribal governments are helping fill in the data gaps allowing for a more continuous national data set for ammonia and mercury wet deposition collection. The monitoring station is not unique to Region 7. There are 14 tribes nationwide that participate in the collection for ammonia and mercury wet deposition. Being involved with the NAPD has elevated Tribal government programs to the national level and allows Tribes to work with other government agencies and have a voice on national committees. Monitoring for Atmospheric Deposition helps scientists look at water quality, ecosystems, and toxics substances related to human health. Tribal governments are proud to be a part of the data collection for NADP that contributes to our scientists so they can make intelligent decisions and solutions. Finally, I would like to welcome a new national agency to the fold, the CDC that will be using the data collected from NADP for tracking pollens, asthma, and other toxic substances related to human health.

Many other Tribal nations partner with the EPA by uploading data into the AQS, which contains ambient air pollution data collected by EPA, state, local, and Tribal air pollution control agencies from thousands of monitors. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and

its operator), and data AQ/QC information. The Office of Air Quality Planning and Standards (OAQPS) and other AQS users rely upon the system data to assess air quality, assist in Attainment/Non-Attainment designations, evaluate State Implementation Plans for Non-Attainment Areas, perform modeling for permit review analysis, and other air quality management functions. AQS information is also used to prepare reports for Congress as mandated by the CAA.

Quinault Indian Nation

Success - Getting our program up and running. Having solid staff in place to take up projects and bring issues to the Business Committee. Trainings and presentations put on through this program have helped community members with asthma and other IAQ issues, taught firefighters about best practices for protecting their health, and informed on a wide range of issues related to IAQ and ambient air as well as climate change issues.

Challenges - Funding. As it is staff's air funding that has been cut, this affects pay rate and purchases for the program.

In spite of financial concerns, our program has found success in collaborating with others, namely ITEP, THHN, EPA, and other Tribes. Thanks to these cooperators, we have been able to share information to a wider audience.

Quinault Indian Nation's Air Quality Program Manager Serves as Air Resource Advisor on Wildfire Events

Mastering the air monitoring equipment

After a week-long training in April of 2015, I, Carolyn Kelly, Air Quality Program Manager at the Quinault Indian Nation, began working as an Air Resource Advisor (ARA) during wildfire season. I am one of a few ARA's who have experience and a working knowledge of the wide range of work done by Tribal air programs. As an ARA, I get deployed on wildfires to provide smoke monitoring, modeling, and messaging as it relates to human health. I have been on six (6) deployments since beginning the program. Being someone who works in Tribal air, I have been able to help other ARAs tie in with local Tribal air quality staff and obtain information on monitoring, locations of sensitive communities, and of course, provide education and outreach.

My first deployment in August of 2015 was on the Chelan Complex that was located in Eastern Washington (WA). As a trainee, I worked with an ARA to set up monitors, model smoke impacts, update the WA State Smoke Blog, create daily forecasts and other messaging as needed, and participate in community meetings, among other tasks. Thanks to my experience

in Region 10, I was able to connect with staff on the Colville and Spokane Reservations which allowed us access to more smoke information and helped to get Tribes involved with the Incident Management Team (IMT) overseeing the fires.

Since this time, I have started training new ARAs and have been able to provide input to them and IMTs about how to work with Tribes and what types of monitoring and information they may have of use. Nationally, Tribes have done a great amount of work to set up monitors and track issues specific to their locations. This information is priceless when sensitive communities are affected by the impacts of wildfires and smoke.

Prairie Band Potawatomi Nation

Success - Community involvement has increased in radon and healthy homes under our IAQ program.

Challenges - Collaboration. Agencies and departments are too concerned with who will "foot the bill" for identified or potential issues, regardless of having the same goal.

Swinomish Indian Tribal Community

Success - DERA grants for marine vessel repowers and shore power on docks.

Challenge - Enough funding to provide support to all the programs the Tribe wants and needs.

A challenge to IAQ in our region is our climate: lots of rain and moisture in the winter leads to mold issues. A challenge to AQ in our region is the oil refineries.

Sac and Fox Nation

Successes

- The Sac and Fox Nation (SFN) IAQ project was initiated in fall 2014 and continues today conducting IAQ assessments in Tribal homes to provide recommendations to resolve and improve IAQ issues for residents. Educational outreach on indoor pollutant exposures and how to reduce them is also provided to the Tribal community.

- The SFN IAQ Project has grown significantly and has now partnered with the ALA of the Upper Midwest. Through this partnership, SFN conducts on-site IAQ assessments; based on the recommendations of the assessment, the ALA is able to provide supplies that improve IAQ and the quality of life of our Tribal members.

- The American Lung Association of the Upper Midwest TEACH Project community workshop was hosted by the Sac and Fox Nation. The workshop covered many impacts to IAQ, and focused on individuals, especially children, with asthma. Tribal members,

Tribal health workers, county health workers, and environmental professionals were in attendance. See below for more information about this program.

- A significant number of residents have used the information as motivation and take it upon themselves and act upon the recommendations and education provided to reduce and/or remediate their IAQ issues. We have received great feedback from Tribal members noticing improvements with their breathing, cleanliness of air, and just feeling better all around.

The Sac and Fox Nation started a partnership with the American Lung Association TEACH Project in late 2016. The TEACH Project allows the American Lung Association of the Upper Midwest to partner with Tribal communities nationwide to improve IAQ issues and the health of individuals with asthma and other respiratory issues. Through the Lung Association's National TEACH project, Tribal health, housing, and environmental professionals have the opportunity to learn more about indoor air quality and how it impacts lung health. After training, Tribal professionals are able to look for ways to reduce asthma triggers in the homes of children with asthma. The Lung Association then has the funding to help purchase items such as new mattresses, box springs and frames (to replace mattresses and box springs that are over eight (8) years old, damaged, or deteriorated and frames that are needed or that are damaged), pillows, allergen mattress covers, allergen pillow covers, allergen removing HEPA filter air purifier, a HEPA filter vacuum, smoke/CO detector, fire extinguisher, a mop kit (similar to the Swiffer Sweeper), dehumidifier, etc.

Phillip Mee using IAQ meters.

Challenges

The Sac and Fox Nation has an air monitoring station with equipment needed for Ambient Air Monitoring. The station is not in operation, but we are hoping to have it operational again. The lack of funding makes us unable to move forward with plans and the steps necessary to conduct ambient air monitoring.

- Lack of consistent funding to maintain program capacity;
- Lowered funding will hinder current program growth and reduce number of new air quality programs/projects;
- Limited funding to conduct remediation and/or home weatherization;

- Higher activity of human induced earthquakes causing damage to homes and increasing IAQ issues;

- Condensation issues during the winter from heating homes when it is cold outdoors which can then cause mold growth;

- The use of floor or vent-less wall mounted natural gas heaters have been a common source of residential exposure to high levels of CO_2 because many homes in our area do not have central HVAC systems installed with proper ventilation;

- The removal and censorship of scientific information accompanied by efforts/goals to defund U.S. EPA, Tribal, and other federal agency climate mitigation/adaptation efforts is quite concerning.

Kootenai Tribe of Idaho

Tribal Air Quality Work and Accomplishments

Kootenia Tribe of Idaho PM2.5 Nephelometer and Meteorological Station

1991-2001

The Kootenai Tribe of Idaho started operating an air-monitoring program for particulate matter (PM10) in 1991 through 2000 with CAA Section103 grants. Quality assured data from the site was submitted to the EPA Aerometric Information Retrieval System (AIRS) database. The data did not indicate an exceedance of the NAAQS requirements for the PM10 annual standard. During the ten-year period, monitors were placed at different locations including the Kootenai River Inn, Kootenai Tribal Headquarters and the Bonners Ferry Junior High School.

2002-2016

The Tribe received CAA Section 103 funding in order to install a FRM and a co-located nephelometer for PM 2.5 monitoring along with a meteorological station. With the help of the Idaho Department of Environmental Quality (IDEQ) through a Memorandum of Agreement (MOA), the site was operational in 2002. The FRM operated for three (3) years until the end of 2005. The data was submitted to the AQS database for determination of NAAQS compliance and no exceedance of the NAAQS

attainment standards was found. The nephelometer and meteorological station now provide continuous data under a CAA section 105 grant.

Below is additional background information on the monitoring site and accomplishments of the Kootenai Tribe of Idaho's air quality monitoring program.

- The Tribe's primary goal in developing the site was to gather and use air quality information to the highest benefit of the Tribe, the public, and the EPA;
- Installed and operates a geographically important air quality/meteorology site in cooperation with the Idaho Department of Environmental Quality (IDEQ), the only one in Boundary County;
- Provides real-time information and participates with EPA, IDEQ, Idaho State Department of Agriculture, Coeur d'Alene Tribe, and Nez Perce Tribe in the Agricultural Smoke Management Program (SMP);
- Provides real-time information and participates with EPA, IDEQ, Coeur d'Alene Tribe, Nez Perce Tribe and the Montana/Idaho Airshed Group in the SMP for silvicultural burning;
- Developed Tribal capacity through the Tribal Air Quality Intern program and worked to transfer the operational responsibilities from IDEQ to the Tribe. Promote Tribal Interns to Air Quality Specialist following completion of a two-year training schedule;
- Established a Memorandum of Agreement with the Idaho Department of Laboratories to perform third party, independent audits of the monitoring site equipment;
- Established MOA with IDEQ regarding public communication of emergency air pollution episodes;
- Submitted three (3) years of quality assured Federal Reference Data to the AQS for the purposes of determining PM2.5 attainment status, using IDEQ's QAPP;
- Developed Tribal QAPP for monitoring PM 2.5 with a nephelometer and meteorological data;
- Leveraged the resources provided by the Section 103 grant to develop information technology capacity and web-based environmental information applications through the National Environmental Information Exchange Network (NEIEN) program, which was implemented in 2008 and 2009. This provided an air data transfer template for transmitting through the Central Data Exchange to the AQS database;
- A Tribal AQ website was started in 2006 and updated to provide independent, real time PM 2.5 and meteorological data for the public to evaluate air quality health concerns in the North Idaho area and to share information with Idaho, Southern British Columbia, and

Western Montana governmental agencies responsible for smoke management. Since IDEQ established their real time AQ website, the Tribe has enabled IDEQ to collect and show the Tribes monitoring station information along with the other AQ sites in Idaho and to transmit the data to AIR NOW;

- Provides environmental health notices and information to the Tribal community about smoke, pesticides, agricultural burning, and air quality conditions that may result in air pollution episodes;

- Adopted a Tribal Crop Residue Disposal (CRD) Ordinance in 2004, which directed all allotment lessees to participate in the Idaho Department of Agriculture CRD program to better control smoke management from Tribal lands. This ordinance was updated in 2008 to reflect the MOA with IDEQ when they assumed responsibility for the State program;

- Established a Memorandum of Agreement in 2008 with the IDEQ for managing the Crop Residue Burning program on Tribal allotments off reservation;

- Submitted a complete TAS application to EPA in 2008 for the purpose of CAA section 105 grant funding. TAS was granted in 2009;

- Kootenai Tribe assumed grant responsibility for the Pacific Northwest Tribal Air Network (a networking tool of environmental air staff) as a special project under the GAP program (EPA ended funding in 2006);

- Tribe conducted a unique pesticide drift monitoring study during 2006-2008 under an individual pesticide grant;

- Tribal representative serves on the Idaho Agricultural Burning Advisory Board;

- Environmental Director was elected to the executive committee of the NTAA by the Tribes in EPA Region 10 in 2010 and re-elected in 2012, 2014, and 2016 to serve through 2018;

- Partnered with IDEQ and ITEP to develop and submit emission inventories to the National Emissions Inventory;

- Partnership with EPA R-10 Federal Rules for Reservations - The Tribe participates in meetings and air stagnation / burn ban conference calls with R10 EPA staff in order to meet all regulations under the federal implementation plan for the federal rules for reservations.

Catawba Indian Nation

Success - Developed regulatory monitoring site for ozone and in 2017 will have PM 2.5 approved with collocated PM monitors, working with TAMS and their contractor for filter weighing.

Challenge - Continue to work toward expanding the amount of time staff spend on ambient and IAQ (currently .5 FTE).

The program continues to explore with the potential of incorporating impacts of higher temperatures on IAQ and energy efficiency as it relates to building science and design (radiant barriers and insulation levels).

Angoon Community Association

Indoor Air Quality and Mold Remediation

By Walter Jack, Tribal GAP Coordinator

As the Angoon Community Association (ACA) Tribal GAP Coordinator, I had the GAP Laborer Crew agree to conduct a survey to address land, air, and water issues in the community of Angoon. The survey results let us realize that there was a high number of people concerned about IAQ. This brought to our attention the fact that the homes were experiencing a lot of moisture buildup. It is a known fact that moisture is a food for mold, so, this had to be addressed.

We, at ACA, started a working relationship with Tlingit & Haida Regional Housing Authority (T&HRHA), a staff member of Southeast Alaska Regional Health Consortium (SEARHC), and the ACA GAP Laborer crew to conduct assessments of some homes. The results confirmed the presence of mold in most homes. ACA received assistance from their Tribally Designated Housing Entity, T&HRHA, to receive an award from the HUD Indian Community Development Block Grant (ICDBG) that does address Mold Remediation and Mold Prevention. ACA assisted T&HRHA in applying for the ICDBG; it was awarded, and to-date, the project is an ongoing project. We are receiving positive comments from the beneficiaries and non-beneficiaries of the ICDBG project.

In the near future, we are hoping to continue this project by applying for another round of the ICDBG. This was a long process to get from bringing the issue to the attention of the leaders, to working collaboratively to address the issue by applying, to being awarded, and to having T&HRHA as the "Sub-recipient" to administer the grant.

Village of Angoon, Alaska

Fond du Lac Band of Lake Superior Chippewa

We recently installed a 1 megawatt solar installation near the Band's Black Bear Casino and Resort. This was partially funded by Minnesota (MN) Power as part of the settlement from a Consent Decree with EPA. The installation consists of 3,230 solar PV panels and went on-line on August 22, 2016. It has avoided the equivalent of 258 tons of CO_2 as of January 3, 2017. At peak irradiance, it can account for up to 50% of Black Bear's energy.

Solar project funded by a Supplemental Environmental Project

Other Projects Completed by the Fond du Lac Band of Lake Superior Chippewa

- Leadership in Energy and Environmental Design Resource Management Building;
- 1-MW Photovoltaic Solar Array;

- Energy Conserving Lighting Retrofits for Fond du Lac Properties;

First LEED building in Carlton County

- NORESCO Audit and Energy Reduction Measures;
- 1.7 MMbtu Biomass system for Sawyer Community Center;
- Net zero energy homes; and
- Residential energy efficiency and solar.

Aleknagik Traditional Council and Multi-Partnership Project

Communities are beginning to prepare for next summer's wildfire season and how to protect the health of their residents. *Let's Clear the Air – Protect Yourself from Wildfire Smoke* is an educational video that offers simple steps for protecting yourself from wildfire smoke. Aleknagik Traditional Council completed the video in the fall of 2016 with EPA funding through the Alaska Native Tribal Health Consortium's Air Quality Mini-Grant program and support from the Bristol Bay Native Association and other partners. The video is available online at https://vimeo.com/196352282.

Pechanga Band of Luiseño Indians

A rare snow event at Pechanga on Dec. 31, 2015

The Pechanga Band of Luiseño Indians, like many Tribes, has run a successful air monitoring program with the assistance of EPA grant funding. Because EPA funding is often spread thin amongst Tribal Air Quality Programs, the Pechanga Tribal Government has invested significantly in their air program to ensure that air quality on the Reservation is protected. Pechanga Tribal government support allows for maintenance of high quality air for Tribal members, as well as neighboring off-Reservation communities. Currently, the Pechanga Tribal Government financially supports approximately 51% of the cost of running the Pechanga Air Program.

In the course of collecting air data, it was determined that the air quality on the Pechanga Reservation was significantly different—much cleaner—than the neighboring air districts. In April of 2015, Pechanga Reservation was designated as a separate air quality planning area for the 8-hour ozone NAAQS, and now carries the designation of "attainment" for the 1997 8-hour ozone standard.

The Pechanga Air Station now collects regulatory data that add to the national picture of air quality. By running an efficient and scientifically defensible air program, Pechanga is supporting the implementation of the Clean Air Act in a way that both increases Tribal sovereignty and supports local air quality. The value of data collected by the Pechanga Air Station—which are held to the same national standards for QA/QC as state regulatory programs—is extremely high due to the commitment of the Pechanga Tribal Government. Federal financial dollars have been maximized to produce data and support local, Tribal decision making on the maintenance of air quality within the Pechanga Reservation.

Navajo Nation

Protecting the Health and Livelihood of the Navajo People

By Michael King, Senior Environmental Specialist, NNEPA, Air Quality Control Program

The mission of the Navajo Nation Environmental Protection Agency (NNEPA) Air Quality Control Program (AQCP) is to protect and enhance the health and livelihood of the Navajo People, by protecting and preserving air quality and Navajo Nation air resources. On the Navajo Nation, many families use inefficient wood burning stoves to burn wood and coal to heat their homes. The combustion of wood and coal inside homes has been proven to increase the level of indoor fine particle pollution, which contributes to poor respiratory health and leads to increases in winter hospital admissions on the Navajo Nation. Over the past few years, the NNEPA AQCP has been including an indoor air quality component to its program by conducting healthy homes IAQ assessments and developing outreach material on wood and coal use to improve IAQ and respiratory health. In addition, several research studies are on-going to assess and improve IAQ through residential wood smoke interventions and by targeting reductions in asthma triggers within tribal homes and K-8 schools.

Michael King, Sr., measures CO2, CO, relative humidity, and temperature (left). Dave Reisdorph, Research Associate, University of Tulsa Indoor Air Program collects dust samples (right).

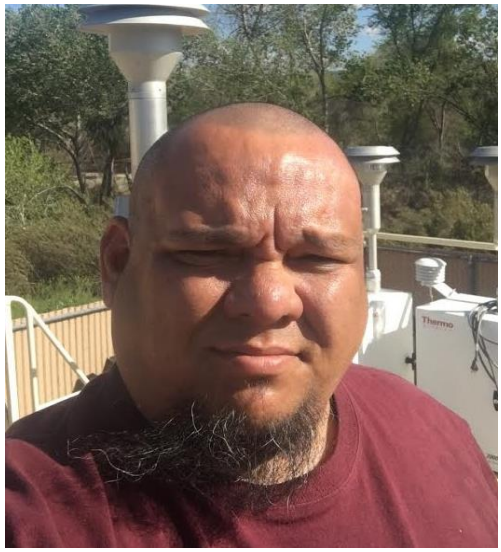
Wildfires in Tonto National Forest in Arizona

Throughout the years, the NNEPA AQCP staff have participated in Northern Arizona University's ITEP IAQ trainings, such as "Indoor Air Quality for Tribal Communities" and "IAQ Diagnostic Tools for Tribal Professionals." These trainings have been instrumental in implementing a successful IAQ program on the Navajo Nation. Through the IAQ trainings, the NNEPA AQCP learned about the TAMS Center IAQ loan equipment program and technical assistance, and as a result, secured IAQ monitors for a brief period of time to address IAQ needs on the Navajo Nation by conducting IAQ in-home

assessments. The program has also collaborated with U.S. EPA Region 9 Burnwise Program to develop community-level strategies to improve IAQ for our Navajo communities through live read public service announcements, a Navajo specific best burn practices video, factsheets, and wood stove installation trainings. Lastly, through a Clean Air Act settlement with the Four Corners Power Plant, the program is collaborating with U.S. EPA and the Four Corners Power Plant to assist with wood and coal stove change-outs utilizing a "Navajo" specific stove, and providing homes with much needed weatherization. Like many tribal homes, the homes on the Navajo Nation are not your typical suburbia homes. Home structural quality may vary on the Navajo Nation, but the program strives to carry out a consistent holistic approach when assessing IAQ. In order to identify root causes of IAQ problems, the program staff are able to implement building science knowledge to assess Tribal homes as living, breathing systems that react dynamically to occupant behaviors and the environment.

Pala Band of Mission Indians

Profiles in Tribal Air Quality: Darold Wallick



Darold Wallick is the Air Program Manager for the Pala Band of Mission Indians Environmental Department. He is a charter member of the Tribal Governance Group and is an assistant instructor at the TAMS Center through ITEP. He's been involved with Air Pollution Monitoring since July 2014.

He spent many years in the Information Technology field working with hardware and networking issues. He also did a little work in the microbiology side of the craft brewing world dealing with micro-organism like yeast and helped troubleshoot issues that occurred in the brewing process. He is currently applying his technological experience in research and development of applications and hardware to assist other tribal air professionals. Darold hopes that one day he can help develop something that will streamline the day to day tasks of tribal air professionals.

When Darold is not in the office or field, you can expect him doing some outdoor activities or working on custom bicycles in his garage.

Journey from Trainee to Instructor – Building a Successful Program

By Darold Wallick, PED Air Program Manager

When I first started at Pala three years ago, I knew nothing about the air quality field. I was chosen for the position because of my experience working on computers and information technologies as well as my willingness to learn. I only had a couple days of training by my predecessor and had to do some quick learning. I only received about 8 hours of hands-on training before he left for his new job. I was informed that I would be able to attend trainings in order to learn why things were done the way they were, but in the mean time I just had to learn how it was done. The first few weeks I would check equipment, change filters, and pull data without really knowing what I was looking at or why it needed to be done. I was referred to Institute for Tribal Environmental Professionals (ITEP) by a few folks in Tribal air that I met at my first conference.

The first class I took with ITEP was Introduction to Tribal Air Quality. It was a great class to start with because I was introduced to the wonderful people that make up the training staff for ITEP and I got a chance to network with others in the class that were in the same boat I was in.

Following the intro class, I felt more confident and I continued taking more classes that were offered by ITEP. The structure of their classes and the dates they were being offered made it very easy to go from one tier level to the next. Three years later, I have participated and completed almost every class they had to offer. Today I feel very confident in what I am doing and I am very

thankful that this field of professionals enjoys sharing their information with others and because of that attitude, I felt I needed to pay it forward.

Currently, I am a co-instructor for ITEP at the TAMS learning center in Las Vegas. I am still employed with Pala but I am making sure that I take time out of my busy schedule a couple of times per year to help others in my field. Outside of teaching, I work for the Pala Environmental Department (PED) where I manage the Tribe's air program. I also became a member of the Tribal Governance Group, an organization that aids other Tribes in pursuing development projects affiliated with data exchange and the Exchange Network grants being offered by EPA.

I would really like to thank everyone at ITEP and the TAMS Center for all their hard work and for making me better able to run a successful Tribal air program. I look forward to meeting others and helping them succeed as well.

Salt River Pima-Maricopa Indian Community

The Salt River Pima Maricopa Indian community's (Community) Air Quality Program (Program) developed a partnership with local farmers to mitigate PM10 dust issues from agricultural activities by educating the farmers on how to read meteorological data and informing the farmers on reasons why increased dust may pose an issue within the Community. Along with the education, the farmers are given daily PM10 levels and meteorological data to assess the day and make best management practices. In addition, each farmer is given a handheld wind meter and a hanging tag. The handheld wind meters provide the farmers with the ability to gauge wind movements while the hanging tags serve as reminders to reduce dust during operation.

Site outreach

Over the past year, the Program provided recommendations and technical assistance to three neighboring Tribal error monitoring programs. The program assisted the Hopi Tribe with establishing and beginning operation of a new air monitoring station (TEOM 1405). The Program performed PM10 audits for the White Mountain Apache Tribe at two air monitoring sites. Lastly, the Program conducted ozone standard certifications for the Gila River Indian Community.

Every year the Program helps with the planning and coordination of two annual events, the Earth Day celebration and Fall Overhaul. The Earth Day celebration takes place in April and encompasses a large variety of activities for the Community ranging from hands-on learning to animal exhibits to service projects. This year will mark the 13th annual Earth Day celebration and is expected to hit record attendance. The Fall Overhaul takes place in October and is specifically designed for employees to participate in service projects, such as cleanups, plantings, and graffiti art abatement. Similar to the increasing Earth Day celebration attendance, the Fall Overhaul event has seen participation from employees increase and an expansion of offered service projects.

SRPMIC's air quality dust bunny and recycle mascot.

The Old Harbor Pellet Stoves Project

Old Harbor is a rural Alaskan village on the south side of Kodiak Island. We have brushes but no trees. We have waste products and high cost of heating fuel. We import most of our foods via bush planes paying extremely high amounts for airfreight. We have strong winters and often unpredictable weather. But, mostly, we have the desire to innovatively make things better for our people.

The Old Harbor Pellet Project took into account the brushes that grow in the summer, some of the recyclable waste boxes that are used to bring in foods, and a lot of creative innovation. Wood pellet stoves are small, easy to operate and produce a lot of heat for the small wood pellets fed as a source of fuel. Because the fire is contained in a heat box inside the unit, there is minimal smoke, less ash than firewood, and less flammable combustion byproducts.

Through this project, we used local brushes, cardboard boxes, waste oil, and lots of ingenuity to develop our own mixture that would produce high-burning wood-mix pellets. Today, we have wood pellets installed in community buildings and residential homes as we continue to improve their use within our community. We are able to produce our own pellets to feed those units and reduce our reliance on diesel fuel. Usage monitoring has shown great air quality and heating efficiency results, while reducing quite a few of the waste products that were previously ending up in our small landfill. This has been a positive journey that continues to show promise for our community as we continue to expand on all the things that we are learning from this project. We hope

Custom pellets for wood stoves

to not only improve the air quality within the homes during the heating season, but to be able to keep our people warm and healthy.

Strong Tribal Representation on Clean Air Act Advisory Committee

Six years ago, the EPA took a big step forward in soliciting broad Tribal input on issues related to implementing the Clean Air Act Amendments of 1990 by inviting four Tribal environmental employees to join its Clean Air Act Advisory Committee (CAAAC). The CAAAC meets twice a year, usually in Washington D.C., and features presentations by EPA employees, committee members or other experts in the field. CAAAC pre-meetings of various sub-committees also usually take place. Sub-committees may then report out to the full CAAAC and may seek approval of final work products. The highlight of CAAAC meetings, however, is the participation of EPA senior staff, both to provide updates on items of interest and to listen to input from committee members.

While Tribal organizations had previously been represented on the committee (Stephen Hartsfield as the Executive Director of NTAA, Pat Mariella as the Executive Director of the Department of Environmental Quality from the Gila River Indian Community, and Bill Auberle, for Northern Arizona University), the EPA wanted to add multiple Tribal voices to the committee to reflect the many diverse views that Tribes have and to give Tribes an adequate voice. The representatives chosen in 2010 were: Syndi Smallwood (Pechanga Tribe of Luiseno Indians); Jason Walker (Northwestern Band of the Shoshone Nation); Julie Simpson (Nez Perce Tribe); and Joy Wiecks (Fond du Lac Band of Lake Superior Chippewa). Upon Syndi Smallwood's departure in 2014, Gillian Mittelstaedt was appointed to the CAAAC, representing the Tribal Healthy Homes Network as a General/Environmental representative who works extensively with Tribes. Because CAAAC is a Federal Advisory Committee, members serve two year terms, with an option to renew twice, for a maximum of six years. While Julie, Jason, and Joy just completed their six years, Gillian remains on the committee. Three representatives from three other Tribes have been selected. They are: Kris Ray, Air Quality Program Manager - Confederated Tribes of the Colville Reservation; Natalene Cummings, Air Quality Program Manager - Forest County Potawatomi Community, and Melanie Lawson – Air Quality Program Coordinator - Choctaw Nation of Oklahoma. These representatives will hopefully be introduced at the 2017 NTF.

The Tribal CAAAC members were able to make important contributions to the Committee. Julie and Jason served on the Permits, NSR, and Toxics Subcommittee and the Urban Air Toxics Workgroup. Joy served on the Greenhouse Gas Permit Streamlining Workgroup and the CAAAC's Mobile Sources Technical Review Subcommittee (MSTRS) Ports Workgroup (Communities and Emission Inventory sub-workgroups). This was the first time a Tribal representative served on the MSTRS. The Tribal representatives took turns serving on the selection committee for the EPA's annual Clean Air Excellence Awards and also presented awards to two Tribal winners.

Additionally, Jason gave a presentation to the full CAAAC on "*Communicating Air Quality – Tribal Perspective,*" where he highlighted his own experience working for the Northwestern Band of the Shoshone Nation and the Eastern Shoshone and Northern Arapaho Tribes. Jason also sought input from a number of other Tribal Air Quality Programs across the nation, so that he could present a cross-section of the communication challenges faced by Tribal communities. Gillian presented to the full CAAAC on the "*Human Health Effects of Climate Change,*" focusing on the disparate impacts to Tribes, rural and cold-climate communities that are increasingly impacted by fine particle air pollution from wildfires, model exacerbation from flooding, and diminished air quality associated with higher temperatures. Joy presented on "*Tribal Air Quality Programs,*" giving a history of the development of the Tribal Authority Rule (TAR) and how Tribal Air Quality Programs have developed over the years.

Jason, Julie, and Joy are all honored to have served on the CAAAC and extend best wishes to Gillian, Melanie, Natalene, and Kris as they move forward with the CAAAC.

Tribal Air Monitoring Support (TAMS) Center

Success Stories of Delivering Training and Technical Assistance to Tribes

Throughout the 17 years of existence of the TAMS Center, a number of Tribes benefited from the technical support that the TAMS Center has offered. TAMS Center's technical support revolves around four core programs that receive direct assistance from the EPA and the ITEP. Equipment Loan, Professional Assistance, Classroom Training, and Gravimetric Laboratory Service are the core programs that are provided at no cost to the Tribal environmental professionals.

Some examples of the services that have brought a positive change to the Tribal environmental programs include:

During the early years of the TAMS Center, from the Equipment Loan Program a Vaisala Met Tower was transported to the Yurok Tribe and installed at the Tribe's air monitoring station. This request was submitted shortly after the TAMS Center was created in 2000.

During 2002-2004, the Church Rock Chapter of the Navajo Nation submitted a request for technical assistance in determining the radiation contamination levels at the water wells near Abandoned Uranium Mines (AUM). Experts from the TAMS Center with assistance from the EPA Las Vegas Radiation and Indoor Environment (R&IE) studied the contamination levels of nearly 30 wells and submitted the results to the Church Rock Chapter of the Navajo Nation.

In 2003, the TAMS Technology Specialist acted on a request from the Quapaw Tribe, taking ambient air monitors to the site and assisted the Tribal professionals with installation and operation of a couple of Hi-vol samplers. A portion of Tribal land had been put on the priority

list for Superfund cleanup and the Tribe was seeking ambient air monitors to develop a baseline for Particulate Matter principally generated from the Superfund cleanup operations.

The TAMS Center managed the delivery of a grant by EPA under the NEIEN program to Tribes to receive services from the Meteostar contractors to set up Zeno Data loggers at their air monitoring sites, so that the Tribes can share their air monitoring data via the web with other Tribes. Tribal Exchange Network has grown to more than ten Tribes that actively share their data online.

During the past four years, the TAMS Center was able to secure funding to purchase a variety of Indoor Air Quality diagnostic tools and provide hands-on training on these instruments to Tribal professionals. The TAMS Center often receives requests from Tribes after they have completed the IAQ Diagnostic Tools training course for the IAQ diagnostic equipment they used for the course. For example, air quality program staff for the Navajo Nation participated in the IAQ Diagnostic Tools training and a month later requested to borrow the same instrument used to conduct a comprehensive study of the homes on the Navajo Nation.

TAMS Center received a unique request from the Taos Pueblo environmental program to assist the Tribe by providing a hands-on training to Tribal housing department to mitigate Tribal homes with high levels of radon. The Taos Pueblo utilized TAMS Center services to measure radon concentration levels by using charcoal canisters. From this study, they found out that many of the homes had elevated levels of radon concentration (in the range of 10-15 picocuries/liter of air). A team of experts was assembled and two targeted homes were mitigated. Pre-and post-measurements of radon concentration were done. Both homes dipped below 2.0 picocuries/liter of air after completion of mitigation. The people that received the training at Taos are now helping community members to mitigate their homes to lower the radon concentration levels below the EPA's 4.0 picocuries/liter of air action level.

In 2002, based on a request from the TAMS Steering Committee members, a radon chamber was converted to an EPA approved PM filter weighing facility. Initially five (5) Tribes joined to receive filter weighing services. Throughout the years, this number grew, until in 2011, it peaked to 17 Tribes receiving the filter weighing services. In 2014, due to circumstances beyond the control of the TAMS Center, the laboratory shut down, but the Tribes that were receiving filter weighing services at that time were given the chance to stay with the program by utilizing the services of a commercial laboratory at no-cost to the Tribal programs.

4 Stories of Tribal Resiliency in the Face of Climate Change Impacts

In both the 2014 *National Climate Assessment* and *2016 Climate and Health Assessment*, the U.S. Global Change Research Program found that Tribal communities are more vulnerable to the impacts of climate change due to many factors including isolation, poverty, and dependence

on the land for resources.[19,20] Tribes in every region are facing unique challenges associated with climate change, but the common denominator is that it will in one way or another threaten the air quality, health, food and water security, and cultural traditions in every Tribal community.

Climate change is listed as a priority by NTAA member Tribes in every region, and the regions being threatened by climate change are as diverse as the threats themselves. Some of the key climate change impacts include elevated levels of air pollution and associated health impacts, reduced food and water security, and relocation due to rising sea levels and/or extreme weather events. Climate change will also make AI/AN communities more vulnerable to severe future impacts including lost cultural identity as important plant and animal species vanish and hard hit communities are displaced. The consequences of climate change are amplified by the fact that many Tribes experience high rates of poverty, unemployment, and poor housing conditions, and are underserved by key services such as healthcare, infrastructure, electricity, and education.

4.1 Tohono O'odham Nation

The Tohono O'odham: Desert People in a Changing Environment

By Dennis Wall

Since the beginning of O'odham history, the Tohono O'odham of southern Arizona and northern Mexico have adapted to high summer heat and water scarcity. Until a century ago the Tribe lived in the mountains, descending to desert lowlands from spring through late summer to capture monsoon rains and practice "flood farming" of corn, squash, beans, and melons, and to gather desert foods that include cholla buds, saguaro fruit, and tepary beans.

Around 1920, the BIA began drilling permanent wells on the sprawling Nation's desert floodplains, and the Tribe's 63 communities relocated permanently around those sites. Over time they have also shifted from a diet of traditional foods to more of a Western diet, leading to health problems, most significantly diabetes, that impact a large percentage of Tribal members.

In recent years, as climate change disrupts the Tribe's traditional and modern ways of living, the O'odham people are examining short- and long-term solutions through the development of a Climate Change Adaptation Plan. The draft plan is under review and scheduled for release in the summer of 2017. Its final details are not yet available, but the plan will address a variety of challenges that impact the Tribe's communities and O'odham culture.

[19] USGCRP. (2014). National Climate Assessment. *U.S. Global Change Research Program.* Retrieved from http://nca2014.globalchange.gov/report/sectors/indigenous-peoples#intro-section-2

[20] USGCRP. (2016). The impacts of climate change on human health in the United States: a scientific assessment. *U.S. Global Change Research Program*. Retrieved from https://health2016.globalchange.gov/

Water—Too Little, Too Much

Long-term drought, which researchers have linked to climate change in both frequency and longevity, stresses O'odham water supplies and food sources. The winter-time "Mother Rain," says the Tribe's Water Resources Director, Selso Villegas, has diminished, and summer rainstorms are fewer but often more intense. In recent years, he says, wood-and-stucco homes on the Nation, which the HUD have been using to slowly replace traditional adobe dwellings, sustain greater flood damage than adobe. "They should have been built on two-foot pedestals," Villegas says, "but they're not, so the flooding comes straight to their doorways. We've always had flooding problems here on the Nation. About 15 of our communities...have been affected by '50-year floods'. There are four places I stress about the most [Santa Rosa Valley, Menager's Dam, Chui Chu Village and Vamori Village]. If we get a '100-year flood' event, those communities may be devastated."

Hot and Getting Hotter

Historically, to cope with searing daytime heat the O'odham people constructed *wattos*—open-air shade structures, with dirt floors which they wet occasionally —to which they would retreat during the hottest hours. In order to offset the heat, the newer HUD homes will be built with air conditioning units. However, there will be an additional cost for electricity during hot days. At night, the people would open their windows to cool their homes; these days, Villegas says, warmer temperatures linger long into the night, extending the need for air conditioning.

Food Security

The Nation encourages members to return to a more-traditional diet and to maintain small "victory gardens." Currently, the Tohono O'odham Community Action, a non-profit organization; the Tribe's Food and Farming Working Group, and the Tohono O'odham Community College's Land Grant Office of Sustainability are growing food and leading a

cooperative effort to promote home gardening. "We're growing tepary beans, squash and melons," Villegas says, referring to some of the Tribe's traditional foods.

Food scarcity is not yet an issue for the Tribe, but hardy desert plants and the traditional foods they produce are already impacted by changes in rainfall and average temperatures. "Climate change is altering the phenology of our plants," Villegas says. "People are going out to gather food and they're saying, 'What's going on? They've already bloomed.'" Climate scientists, he says, predict average end-of-century temperature increases of about nine degrees. "We don't know what that means for our traditional survival foods—you can't reproduce a cholla or a saguaro."

If rising heat and sustained drought (which researchers tie to climate change) stoke future food shortages, the Nation's budget could be strained by the need to subsidize food purchases. Even with Tribal and even federal support, obtaining bulk food, and getting it out to Tribal members, could strain the Tribe's distribution infrastructure: "We don't have enough cooling capacity to store perishables, Villegas says, "and we have just two food-distribution trucks to cover 2.8 million acres."

Actions and Options

The Tribe's final Climate Change Adaptation Plan will likely address these and other climate-related issues, including human health and wellness, ecosystem management, and financial sustainability during major climate events. The plan will incorporate observations and priorities of Tribal members, informed by research drawn from various sources that include the University of Arizona's Center for Climate Adaptation Science and Solutions, a local O'odham partner.

As mentioned earlier, new HUD homes are being built with central air units to address the rising heat, and the Tribe looks to encourage wider spacing of HUD-built homes and *watto* construction.

Emergency management, another Tribal focus, will center primarily on impacts of flooding on O'odham residents. The U.S. Army Corp of Engineers (USACE) has analyzed several areas prone to flooding on the Nation and has offered potential solutions. The USACE has provided a reconnaissance report to reduce flooding in the Santa Rosa Valley under the Tribal Partnership Program, Section 203. The Corp has also provided a feasibility study for potential flooding in and around the Chui Chu village as part of a larger study to control flood waters in the Santa Cruz River drainage.

Food security measures will likely include seed-banking of traditional plants, expanding food-crop acreage, finding better ways to get water to crops, and enhancing the Tribe's food-distribution infrastructure. Long-term inventory and monitoring of wild food plants is underway.

The still-developing plan, says Villegas, "won't cover every climate impact in detail— it's just to start the discussion on possible things we can do with what we have now." He believes it will serve as an important partnering tool into the future. "Everyone around us will be going through the same things, so we may need to develop partnerships with the county, the state, federal entities. They're already our partners, even if they don't know it. At some point they'll ask, 'Do you have any plans?" And we'll say, 'Yes, we do, and here they are.' And maybe we can do something together."

4.2 Fond du Lac Band of Lake Superior Chippewa

Finished Climate Change Vulnerability Assessment and Adaptation Plan

By Phil DeFoe, Air Quality Technician, Fond du Lac Band of Lake Superior Chippewa

The Fond du Lac Reservation is located in Northeast Minnesota and our land base covers forested areas, undisturbed wetlands, and wild rice. The Band also retains fishing, hunting, and gathering rights in the Ceded Territories (areas ceded by the Band in treaties with the federal government), which encompasses eight million acres in northern Minnesota.

Staff from Fond du Lac Resource Management, Grand Portage, Bois Forte, and 1854 Treaty Authority recently finished our Climate Change Vulnerability Assessment and Adaptation Plan. Climate change not only affects the living things around us, but also our landscapes and traditions as Anishinaabeg.

Tribes are restricted by boundaries within reservations and the ceded territory and are unable to move or follow changes that will and have occurred due to climate change. Because traditional harvesting practices still rely heavily on natural resources, it is very important for the Bands to be able to plan for these changes.

The three Bands and 1854 Treaty Authority partnered with Adaptation International and Great Lakes Integrated Sciences Assessments to come up with a living document that not only investigates climate change and how it is affecting our reservations and the 1854 ceded territory but, also has strategies on how we can address changes due to climate. The vulnerability assessment and adaptation plan assesses climate change in over 30 different species and habitats that fall within wildlife, air quality, fisheries, wetlands, water quality, resource access, aquatic and terrestrial plants, and forestry. There are adaptation strategies that apply for current changes as well as strategies to help plan for future projections of climate change.

The species and ecosystems assessed in the plan were categorized by those that are more vulnerable and those that may thrive under current or future changes. Each assessment had adaptation strategies included, which fell under five different categories: collaboration, monitoring, restoration, conservation, and education.

Wild rice harvesting. Source: mpr.news.org

Because it is important to understand how our climate is changing, the plan investigates how precipitation and temperature are changing on an annual and seasonal basis. This approach aligns with the Anishinaabe traditions of seasonal harvesting and activities.

It is our responsibility as stewards of the earth to conserve and protect the resources that give us life for future generations.

If you are interested in viewing the document, it is posted on the Fond du Lac Resource Management Division website: http://www.fdlrez.com/rm/index.htm

4.3 Saint Regis Mohawk Tribe

Akwesasne's Unique Approach to Adapting to Climate Change Impacts

Akwesasne's proposed approach to adapting to climate change is rooted in the community's experience and understanding of the relationship of the natural environment and Mohawk culture. The impacts caused by climate change have been experienced in many ways, but the overall effect on the people of Akwesasne has been a disruption of the traditional practices that allowed for the continuation of a Mohawk way of life, and forced upon them a rapid acculturation to non-indigenous ways of interacting with the environment and each other. The Mohawk perspective on redress for these impacts centers on promoting the restoration of natural resource based cultural activities, the enhancement of connections between Mohawk people and the natural world, and knowledge transfer between elders and the next generations of Mohawk people.

Akwesasne's approach to adapting to climate change promotes the restoration of land-based cultural practices and traditional economic activities within the community. One way it will do this is by establishing and directly supporting long-term master-apprentice relationships.

The Saint Regis Mohawk Tribe's Ahkwesáhsne Cultural Restoration Program was established in 2013 as a result of the St. Lawrence Environment Natural Resource Damage Assessment Settlement. The name that we have chosen for ourselves in our language is "Áse Tsi Tewá:ton" which means "make it new again". This name and its meaning describe what we are doing for Mohawk culture through the program: we are making it new again, and bringing new life to our traditions and cultural practices and strengthening the connection of our people to the land. The program is overseen by the Akwesasne Restoration Commission

which is made up of representatives from the community, the Mohawk Nation Council of Chiefs, the St. Regis Mohawk Tribe, and the Mohawk Council of Akwesasne. The main component of "Áse Tsi Tewá:ton" is the Cultural Apprenticeship Program which is a four-year program in traditional, land-based, cultural practices. Masters of traditional practices have been hired in the categories of water, fishing, and the use of the river; horticulture and traditional foods; medicine plants and healing; and hunting and trapping. Apprentices have been hired to work directly with these Masters on a full-time basis in an intensive immersion program to specialize and become masters themselves in one of these four areas. All participants will also learn Kanien'keha through language teachings as part of their apprentice experience. The main goal of the program is to make sure that our culture survives through the increased knowledge of our land-based traditions and by increasing the number of people in the community who are practicing traditions in these four areas. It is expected that once apprentices become masters in one of the areas, they will commit to passing the culture and the language on to future generations.

5 Tribal Engagement in the VW Settlement to Mitigate Diesel Emissions

NTAA has been working to help Tribes engage in a historic $14 billion settlement with automaker Volkswagen. With ITEP's support, NTAA has been a national leader in supporting a strong Tribal voice in the VW settlement. To that end, NTAA formed a Tribal Work Group to address the historic agreement—soon to provide $55 million to Tribes—to help ensure fair and equitable treatment as the process moves forward.

In June 2016, the United States lodged with the court a settlement with VW automakers, resolving allegations that VW violated the Clean Air Act with the sale of approximately 500,000 model year 2009 to 2015 motor vehicles equipped with "defeat devices"— software designed to cheat on federal emissions tests. This partial settlement only covers what VW must do to address its 2.0 and 3.0 liter cars and the pollution they emit—primarily oxides of nitrogen, a serious health concern. Once the Court sets a Trust Effective Date, estimated to come in late April or May, all 567 federally-recognized Tribes will be applying for these funds to the court-appointed Trustee, Wilmington Trust. To access the funds, Tribes must apply to become settlement beneficiaries and lay out their settlement-funded mitigation plans with the Wilmington Trust through the approved mitigation actions that the settlement lays out.

Since the settlement was announced, NTAA's VW Settlement Work Group has been busy. In partnership with the TAMS Center's Steering Committee, the NTAA work group submitted letters to the U.S. Dept. of Justice (DOJ) and EPA on the management and distribution of the $55 million settlement for Tribes. The NTAA recommended that the funds be used to support Tribal Air Quality Programs. In August 2016, NTAA and TAMS submitted a request for comments on the settlement. That was followed up with a letter to EPA in December

expressing concerns about Tribal access to the funds under the Diesel Emissions Reduction Act option.

The NTAA work group has held regular meetings to keep its 100+ Tribal representatives engaged with the DOJ and EPA and to review important steps necessary to move forward. The NTAA will continue to support Tribes in accessing the $55 million that the court-approved trustee, the Wilmington Trust, will oversee over the next few years.

With the VW funds now in the bank, states and Tribes can plan and fund mitigation actions involving old diesel fleets, including buses, forklifts, and fishing vessels. In a separate part of the settlement, VW, through a subsidiary called, "Electrify America, LLC," will be funding projects through a separate fund, to help build Zero Emission Vehicle (ZEV) infrastructure such as electric-car charging stations and truck stop electrification. More details on ZEV funding will be released after Electrify America's plan is approved by the U.S. EPA and U.S. DOJ.

NTAA is organizing several sessions at the National Tribal Forum on Air Quality (May 1–4) on the VW settlement, including an all-day training on the topic. Forum organizers will also host a plenary session on the VW settlement, featuring some of its key voices. NTAA will continue to support Tribes in the settlement to make sure Native communities benefit from this historic legal action. For more information on the VW Settlement, please click here: https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement.

6 NTAA's National Needs Assessment of Indoor Air Quality for Indian Country

Indoor Air Quality is a growing concern for Native American Tribal communities as the average American spends 90% of their time indoors.[21] As Native Americans are more likely to have compromised health due to asthma and other respiratory ailments, good IAQ practices are critical to protecting public health in Tribal communities.

NTAA formed an IAQ Work Group (IAQWG) and conducted the National IAQ Needs Assessment for Indian Country to provide federal and Tribal policy makers with a national snapshot and better understanding of the IAQ needs of Tribal communities.

In 2015, the IAQWG quickly came to the conclusion that a better understanding of IAQ in Tribal communities was needed in order for the group to properly begin its work. A decision was reached to conduct a national needs assessment that was prepared and released to all

[21] Environmental Protection Agency. (2016). Air and Radiation: Basic Information. Retrieved from https://www3.epa.gov/air/basic.html

federally recognized Tribes on December 3rd, 2015. NTAA learned that this was the first recorded national needs assessment for IAQ in Tribal communities.

One hundred nine representatives from federally recognized Tribes responded to NTAA's request for information through an on-line assessment form. NTAA collected Tribal input from December, 2015, through January 31st, 2017. The Needs Assessment sought Tribal input on basic housing information, IAQ issues that each Tribe addresses in Tribal housing, and how Tribal governments are addressing these issues.

Key findings from the NTAA's National IAQ Needs Assessment for Indian Country include:

- The existing capacity of Tribal programs is not adequate to meet the current and emerging IAQ concerns of Tribal communities. While a majority of the Tribes that responded have IAQ issues that need to be addressed, a lack of funding is preventing Tribes from administering IAQ programs. Most Tribes (74%) are responding to IAQ issues, despite only 38% of them having an IAQ program in place.

- Federal IAQ grants lack flexibility to meet unique Tribal requests and fail to address the lack of administrative capacity of many Tribes to meet the grant requirements.

- The small sample size of 109 Tribes highlighted a diverse range of unique IAQ concerns of Tribes and indicated direct consultation with individual Tribes by federal agencies would allow Tribes greater access to grants, rather than continuing with a "one size fits all" approach.

- Tribal communities are in need of radon resistant or vapor barriers in their new construction and a lack of mitigation for radon post construction indicates the need for more testing and more funding for radon remediation.

- The most widespread and significant concern expressed by participating Tribes was the prevalence of mold, resulting from interior moisture, exterior moisture, and inadequate ventilation. In addition, concern was expressed about the prevalence of lung diseases that are associated with indoor environmental hazards, including recurrent lung infections, asthma, and Chronic Obstructive Pulmonary Diseases.

- Tribal respondents indicated that the most important priority for the NTAA IAQ Work Group was educating decision-makers in Congress/federal agencies about the need for increased funds for Tribal IAQ programs.

- Specific funding priorities identified include increased funding and training for home-based IAQ and asthma programs, as well as the expansion of IAQ training for Tribal housing inspectors and maintenance staff.

- More data is required to gain full national scope of IAQ in Tribal communities, and regional analysis is recommended.

As these findings demonstrate, more funding is needed to address public health concerns and promote public health through good IAQ practices to allow Tribal communities to flourish. Most importantly, these additional funds need to be made available to Tribes in a way that helps the Tribes build their capacity to administer IAQ programs with adequate administrative support within each unique Tribe.

7 Conclusion

Throughout Indian Country, Tribal Air Quality professionals work every day to protect human health and improve ambient and indoor air quality, and NTAA hopes that the 2017 STAR tells the story of the successes and challenges they experience on a daily basis. Tribes have faced many challenges throughout their unique histories, and through their strong traditions Tribes will continue to serve as strong stewards of the land, air, and water. Tribes understand the interconnectedness of life, and seek successful partnerships with the federal, state, and local governments and understand that air quality will improve when Tribes are recognized as strong co-regulators. As the 2017 STAR demonstrates, recognition of a Tribe's sovereignty, adequate consultation with Tribes, and adequate funding for air programs will provide all Americans with cleaner air to breathe and a better world for future generations.

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NATIONAL TRIBAL AIR ASSOCIATION

FY 2019 Tribal Air Quality Budget Analysis

May 2017

Appendix A. NTAA Tribal Air Quality Budget Analysis

National Tribal Air Association

The NTAA was founded in 2002 through a grant from the EPA's Office of Air and Radiation.

Mission

The mission of the NTAA is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of American Indian Tribes and Alaska Natives.

Goals

1. Advocate for and advance Tribal environmental, cultural, and economic interests in the development of air policy at all levels of government (Tribal, local, state, regional, federal, and international).

2. Promote the development, funding, and capacity building of Tribal air management programs.

3. Promote and facilitate air quality policy and technical information that may include research and scientific and medical studies.

4. Advance the recognition and acceptance of Tribal sovereign authority by conducting effective communication and outreach to local, state, federal, and international agencies, as well as the general public.

5. Encourage and support appropriate consultation with all tribal governments in accordance with Tribal structures and policies.

The NTAA is a Tribal member organization with 120 principal member Tribes. The organization serves as a resource to all 567 federally recognized Tribal Nations. The NTAA's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the NTAA always seeks to represent consensus perspectives on any given issue, it is important to note that all Tribes may not agree upon its expressed views. Further, it is important that EPA understands interactions with the NTAA do not substitute for government-to-government consultation, which can be achieved only through direct communication between the federal government and the Tribes.

FY 2019 Tribal Air Quality Budget Analysis

Introduction

In prior years, the NTAA has developed a snapshot of air quality funding gaps in Indian Country. Last year, in recognition of the approaching 20th anniversary of the promulgation of the TAR (FR Vol. 63, No. 29, February 12, 1998), the NTAA took a slightly different approach by providing a brief summary of the history of the rule and the impact it has had on air quality management in Indian Country. This year, in recognition of the potential for turbulent times ahead (in terms of program funding), we will devote some effort to analyzing the Tribal program baseline by program areas. With this baseline in mind, we will then present future funding priorities as they align with the new administration's priorities.

Program Development

In last year's analysis, the following were identified as significant indicators of success in building Tribal air quality programs:

- 50 Tribes have been approved for Treatment as State (TAS) under the Tribal Authority Rule; 2 Tribes have applications pending approval. These approvals authorize Tribes to manage programs under the CAA, including regulatory development, Title V permits, PSD redesignations, air quality monitoring, etc.;

- Tribes manage 85 monitoring sites, monitoring for criteria pollutants, hazardous air pollutants, and other pollutants under the National Atmospheric Deposition Program (NADP);

- Tribes have issued over 300 permits for major and minor sources of air pollution under the New Source Review program, the FARR, and Title V;

- Over 70 Tribes have submitted over 140 emission inventories; data from 34 of these Tribes are now included in the National Emission Inventory database;

- 149 Tribes manage nearly 800 grants under various authorities for air quality management.

In FY 2016, the State and Tribal Assistance Grants (STAG) appropriation provided $12.8 million in grants and cooperative agreements to Tribes to build and sustain their air programs. These programs can be summarized as follows:

Environmental Assessment: An initial phase that takes a look at the Tribe's environment to determine the extent to which internal and external sources may be contributing to poor air quality. Where warranted, a formal emissions inventory may be completed. The phase can also include review of Tribal health data to determine whether air quality-related health issues are common among Tribal members.

Capacity Development: This program factor is critical to all phases of program development. Without internal program expertise to carry out the program, the Tribe will be limited in what it can do. Both the Institute for Tribal Environmental Professionals at Northern Arizona University and the Tribal Air Monitoring Support Center in Las Vegas, NV, provide a full range and technical and programmatic training courses to assist Tribal professionals in attaining the expertise needed to successfully execute programs. In addition, staff from both EPA Headquarters and the Regional offices are available to add their technical expertise to assist Tribes in developing and implementing programs.

Monitoring: Often the initial environmental assessment may suggest that more needs to be done to assess the quality of the ambient air by doing formal air monitoring. As shown above, more than sixty Tribes are now participating in one or more of EPA's air monitoring programs and are routinely contributing air quality data to the national databases.

Program Development: Often, after its initial assessment, the Tribe may determine that a formal Clean Air Act (CAA) program (either regulatory or non-regulatory) is necessary to assist the Tribe in managing its air quality. Non-regulatory programs may include, in addition to monitoring, permit review for sources outside the reservation that are affecting Tribal air quality. Regulatory programs can include Tribal Implementation Plans (TIPs), Title V permit programs, or taking delegation for Federal programs to be implemented on reservation lands.

Program Implementation: As shown above, many Tribes are now implementing and enforcing their CAA programs, issuing hundreds of permits under various Tribal and federal programs and following up with appropriate enforcement.

Outreach & Communication: Tribal environmental staff work within their communities as well as outside to educate and inform others of the importance of the work they do and its benefits. In crises, (e.g., the massive wildfires in the Northwest in past years) they are able to alert communities to potential health effects of persistent and episodic air pollution and provide strategies for mitigating its impacts.

Budget Analysis

FY 2016

As this analysis has made clear in years past, the Tribes are uniquely dependent on Federal resources to develop and implement these CAA programs. The $12.8 million in federal funds for FY 2016 were allocated regionally to Tribes based on an agreed upon set of allocation factors. These factors include reservation population, number of major and synthetic minor sources, number of Tribes with programs and/or monitors, number of Tribes with emission inventories, etc. The final allocation of these funds to Tribes, of necessity, focuses on Tribes with existing programs, since Tribes do not have the wherewithal internally to support these programs. This approach leaves hundreds of Tribes, some with potentially health-threatening air quality issues, with no resources to address these problems. In the budget request that the NTAA forwarded in the STAR report for the FY 2017 budget year, it urged EPA to begin to

address this problem by requesting an additional $7.0 million for existing programs and another $8.0 million for new programs.

FY 2017

The FY 2017 President's Budget Request did not include an increase for Tribal air programs and, in fact, the Congress has never taken any formal action on that budget. The EPA, in FY 2017, along with the rest of the federal government, has been running on a continuing resolution (CR) providing a pro rata appropriation of last year's funding; to date the Tribes have received approximately $7.5 million (i.e., 7/12 of last year's appropriation). The current CR expires at the end of April and the Congress has a number of options, including: (a) provide an appropriation through the end of the year that will reflect the current administration's new priorities; (b) provide a short-term CR that allows the Congress and the administration to negotiate mutually-agreeable funding levels; (c) extend the current CR through the end of the year at last year's funding levels and risk a government shut-down with a Presidential veto; (d) fail to act and initiate government shut-down of all but essential services. In all of these scenarios, the Tribes will have to live with uncertainty, if not with less money, at least through the end of this fiscal year and, in all likelihood, well into next fiscal year.

FY 2018

The reason for this continued uncertainty lies in the President's budget proposal for FY 2018. In NTAA's FY 2018 budget request to EPA, NTAA proposed increases totaling $9.0 million, including funding for new and expanding programs, monitoring infrastructure, and a comprehensive needs assessment for Indian Country. In the middle of March, the President proposed a radically reduced budget for EPA that would represent an overall decrease to funding of over 30%. However, the FY 2018 President's Budget Blueprint shows categorical grants being reduced from $1.1 billion to $597.0 million, a reduction of nearly 45%. In real terms, if this reduction were to be taken evenly across the board, Tribal programs would be reduced to $7.0 million, funding levels not seen in nearly 20 years. A recently published internal EPA document shows a more detailed analysis of the reductions that would be taken in FY 2018; in this document, categorical grants for Tribal air quality management would be reduced by $3.9 million, leaving the Tribes with approximately $9.0 million, a 30% reduction. https://www.washingtonpost.com/apps/g/page/politics/epas-spending-cut-plan/2188/?tid=a_inl. This kind of reduction could decimate the Tribal environmental workforce and force the discontinuance of many programs. As pointed out in last year's analysis: "It has been long recognized that Tribes, unlike states, undertake implementation of the CAA at a significant disadvantage because of the limitation of funding available to them. EPA addressed this issue to some extent by providing relief to Tribes from the 25-40% match required to receive section 105 grant funding under the Act. However, some factors inherent to the Tribal fiscal situation leave Tribes much more vulnerable to the up and down swings of federal funding availability. It is much more difficult for Tribes to respond, even to small cuts in federal funding, with infusions of Tribal funds. When funding cuts happen, Tribes' responses are limited: eliminate program services; reduce staff; suspend programs." The FY

2018 budget proposal could result in the elimination of more than a third of the programs in Indian Country.

Future Funding Needs (FY 2019)

In the context of this kind of uncertainty, the NTAA is requesting that the EPA, in its FY 2019 budget request, hold EPA's Tribal air programs harmless and restore funding levels, at a minimum, to FY 2016 levels. If the reductions proposed in the FY2018 President's Budget are sustained by the Congress, failure to restore those funds in FY2019 will certainly mean the loss of a significant portion of the 20 years of investment that EPA has provided for Tribal air programs. In addition, NTAA requests an additional $3.0 million to support the following budget initiatives, which are consistent with the Administration's stated priorities.

Monitoring Infrastructure $2.5 million – Tribes are currently managing 85 monitoring sites for various pollutants throughout the country. Some of the sites have been in place for many years; others are more recent. Many of the sites are outmoded or are in need of repair. This initiative would undertake a comprehensive assessment of the Tribal air monitoring network and replace or upgrade equipment where necessary. This initiative would also provide additional base funding to support other Tribes interested in implementing air quality monitoring programs.

Needs Assessment $500,000 – The EPA recognized early in its deliberations on developing regulations for implementing the CAA in Indian Country and clearly stated in the preamble to the final TAR a need to do a needs assessment for Indian Country. Needs assessments have been done to address narrow programmatic issues (capacity building, indoor air, etc.), but no one has ever undertaken a comprehensive assessment of the air quality management needs in Indian Country. This proposal provides funding for such an initiative.

Appendix B: List of NTAA Member Tribes by USEPA Regions

120 Total NTAA Member Tribes

Region 1 (2 Tribes)
- Houlton Band of Maliseet Indians
- Penobscot Indian Nation

Region 2 (2 Tribes)
- Seneca Nation of Indians
- Saint Regis Band of Mohawk Indians

Region 4 (4 Tribes)
- Catawba Indian Nation
- Eastern Band of Cherokee
- Miccosukee Indian Tribe of Florida
- Poarch Band of Creek Indians

Region 5 (20 Tribes)
- Bad River Band of Lake Superior Tribe of Chippewa Indians
- Bois Forte Band of Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- Forest County Potawatomi Community
- Grand Portage Band of Lake Superior Chippewa
- Grand Traverse Band of Ottawa & Chippewa Indians
- Keweenaw Bay Indian Community
- Lac du Flambeau Band of Lake Superior Chippewa Indians
- Leech Lake Band of Ojibwe
- Little Traverse Bay Bands of Odawa Indians
- Lower Sioux Indian Community
- Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians of Michigan
- Menominee Indian Tribe of Wisconsin
- Oneida Tribe of Indians of Wisconsin
- Red Lake Band of Chippewa Indians
- Saginaw Chippewa Indian Tribe of Michigan
- Sault Tribe of Chippewa Indians
- Shakopee Mdewakanton Sioux Community
- St. Croix Chippewa Indian of Wisconsin
- White Earth Nation

Region 6 (21 Tribes)
- Caddo Nation of Oklahoma
- Cherokee Nation of Oklahoma

- Choctaw Nation of Oklahoma
- Citizen Potawatomi Nation
- Delaware Nation of Oklahoma
- Fort Sill Apache Tribe of Oklahoma
- Iowa Tribe of Oklahoma
- Modoc Tribe of Oklahoma
- Ohkay Owingeh
- Pueblo of Acoma
- Pueblo of Jemez
- Pueblo of Laguna
- Pueblo of Pojoaque
- Pueblo of Santa Ana
- Pueblo of Santo Domingo
- Pueblo of Zuni
- Quapaw Tribe of Oklahoma
- Sac and Fox Nation
- Seminole Nation of Oklahoma
- Taos Pueblo
- United Keetoowah Band of Cherokee Indians in Oklahoma

Region 7 (7 Tribes)

- Kickapoo Tribe in Kansas
- Ponca Tribe of Nebraska
- Prairie Band Potawatomi Nation
- Sac & Fox Tribe of the Mississippi in Iowa/Meskwaki
- Sac & Fox Nation of Missouri in Kansas and Nebraska
- Santee Sioux Nation
- Winnebago Tribe of Nebraska

Region 8 (8 Tribes)

- Confederated Salish & Kootenai Tribes
- Fort Belknap Indian Community
- Fort Peck Tribes of Assiniboine & Sioux Tribe
- Northern Cheyenne Tribe
- Northwestern Band of Shoshone Nation
- Southern Ute Indian Tribe
- Standing Rock Sioux Tribe
- Ute Mountain Ute Tribe

Region 9 (24 Tribes)

- Ak-Chin Indian Community
- Big Pine Paiute Tribe of the Owens Valley
- Bishop Paiute Tribe
- Blue Lake Rancheria

- Campo Band of Mission Indians
- Colorado River Indian Tribes
- Cortina Indian Rancheria of Wintun Indians
- Coyote Valley Band of Pomo Indians
- Gila River Indian Community
- Hualapai Tribe
- Lone Pine Paiute Shoshone Reservation
- Los Coyotes Band of Cahuilla Cupeno Indians
- Manzanita Band of the Kumeyaay Nation
- Moapa Band of Paiutes
- Morongo Band of Mission Indians
- Pala Band of Mission Indians
- Pechanga Band of Luiseno Indians
- Pyramid Lake Paiute Tribe
- Robinson Rancheria of Pomo Indians
- Soboba Band of Luiseno Indians
- Susanville Indian Rancheria
- Walker River Paiute Tribe
- Washoe Tribe of Nevada and California
- White Mountain Apache Tribe

Region 10 (11 Tribes)

- Coeur d'Alene Tribe
- Confederated Tribes of Warm Springs
- Confederated Tribes of the Colville Reservation
- Confederated Tribes of the Coos, Lower Umpqua & Siuslaw Indians
- Kootenai Tribe of Idaho
- Makah Indian Tribe
- Nez Perce Tribe
- Quinault Indian Nation
- Spokane Tribe
- Tulalip Tribes
- Yakama Nation

Alaska (20 Tribes and Villages)

- Aleknagik Traditional Council
- Bristol Bay Native Association
- Chickaloon Village Traditional Council
- Craig Tribal Association
- Inupiat Community of the Arctic Slope
- Klawock Cooperative Association
- Native Village of Buckland
- Native Village of Kiana
- Native Village of Kivalina (IRA)

- Native Village of Kluti-Kaah
- Native Village of Kwinhagak
- Native Village of Noatak
- Native Village of Old Harbor
- Native Village of Selawik
- Native Village of Shungnak
- Noorvik Native Community
- Nulato Tribal Council
- Orutsararmuit Native Council
- Seldovia Village Tribe
- Ugashik Traditional Council
- Wrangell Cooperative Association

Tribal Consortia as Associate NTAA Member

- Inter-Tribal Council of Arizona, Inc.

Appendix C: U.S EPA OAR and OITA Organizational Charts

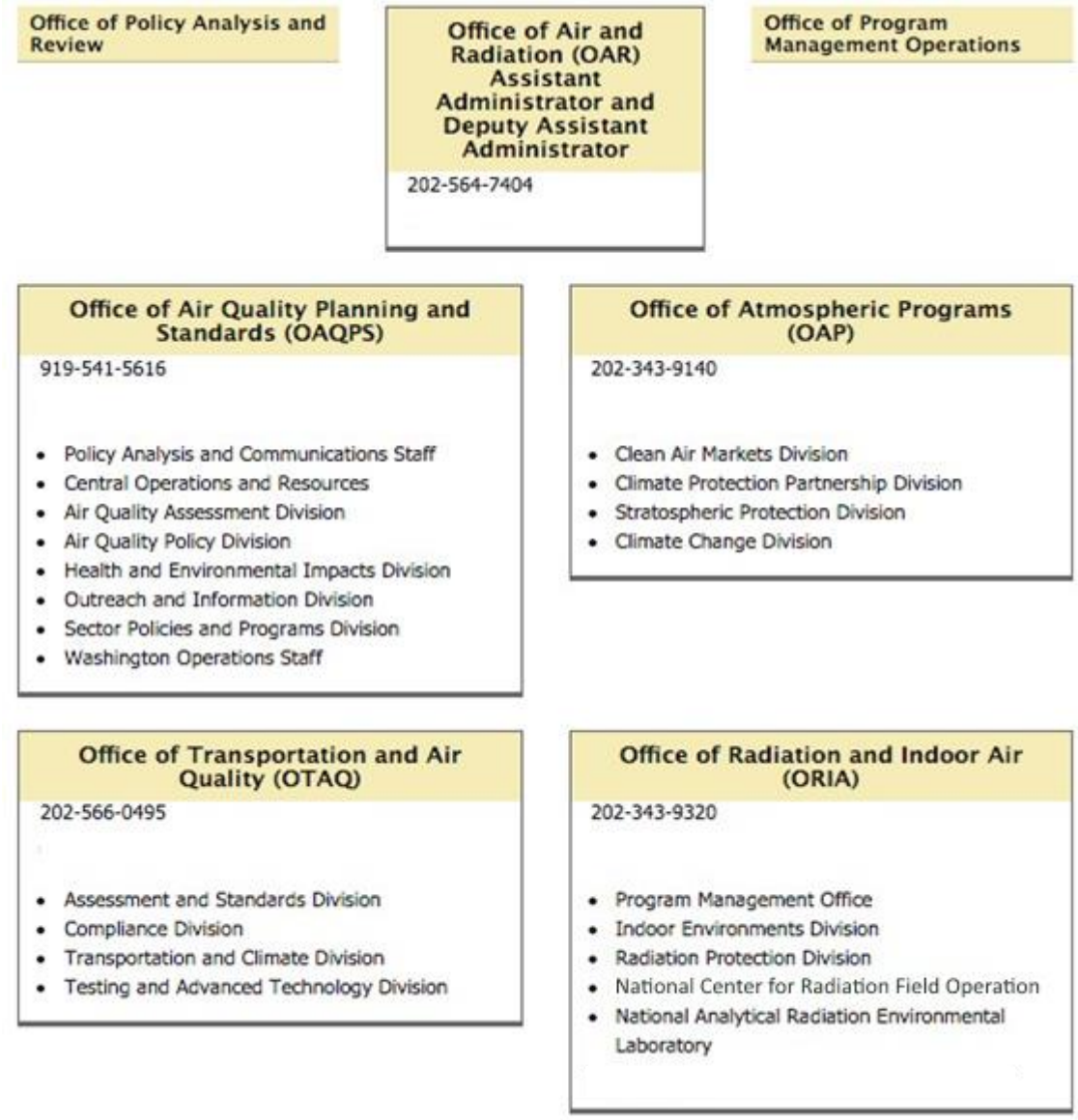
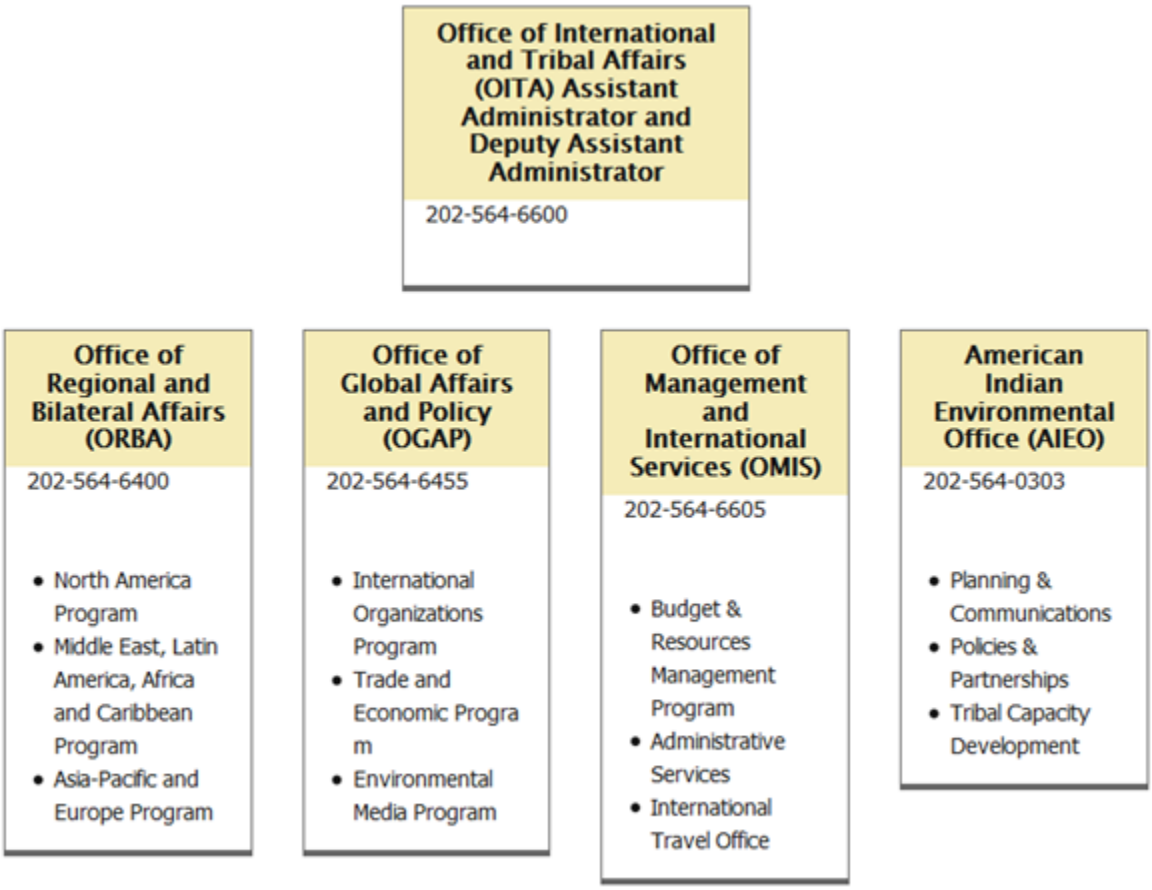


Figure 3 U.S. EPA OAR and OITA Organizational Charts

Additional information about the EPA Office of Air and Radiation can be found at: https://www.epa.gov/aboutepa/about-office-air-and-radiation-oar.



Additional information about the EPA Office of International and Tribal Affairs can be found at: https://www.epa.gov/aboutepa/about-office-international-and-tribal-affairs-oita.

Appendices D through F: Data Tables of Tribal Air Quality Programs

Tribal Air Quality Monitoring Programs and Projects

Tribes significantly contribute to air quality protection, exercising Tribal sovereignty through air quality program activities. At the request of the NTAA, USEPA's Office of Air and Radiation provided a set of data summarizing Tribal air activities from 2012-2017. A broad national summary of Tribal Air Quality Programs can be found in Appendix D, followed by regional summaries in Appendix E, and a summary of national Tribal Permitting reported in Appendix F, with additional explanation of each term used in the table.

The following data is used by the USEPA to create budgets that influence CAA grant funding available to Tribes. The presentation of this data is illustrated in a simplified layout that is both easier to understand and more useful to readers. This simplified layout serves the important purpose of highlighting recent declines of funding and stagnation of Tribal Air Quality Programs.

Please see Appendix A for a more in-depth Tribal Air Program budget analysis, which references these tables as well. The data set was provided to the NTAA by USEPA's OAR Tribal System (OTS) database.

Appendix D: National Summary of Tribal Air Quality Programs

National Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$12,489,000	$11,462,001	$11,758,000	$11,683,901	$11,651,001	
Tribes Operating Air Monitors	81	83	84	83	85	85
Tribes w/ Completed EIs	74	73	84	86	84	80
Tribes w/ Non-Regulatory TAS	34	38	45	46	48	49
Tribes w/ Regulatory TAS	7	8	8	8	10	10
Major Sources on Reservations*	167	159	863	1626	1900	2991
Tribal Non-Attainment Areas	201	156	156	202	167	166

Table 3 National summary of Tribal Air Quality Programs

*The values shown in this table reflect annual totals for all regions. The steep rise of Major Sources on Reservations is due to the introduction of new major source registration rules, which were applied to previously identified sources. This jump in major sources was caused by increased regulation, not by new pollutant sources.

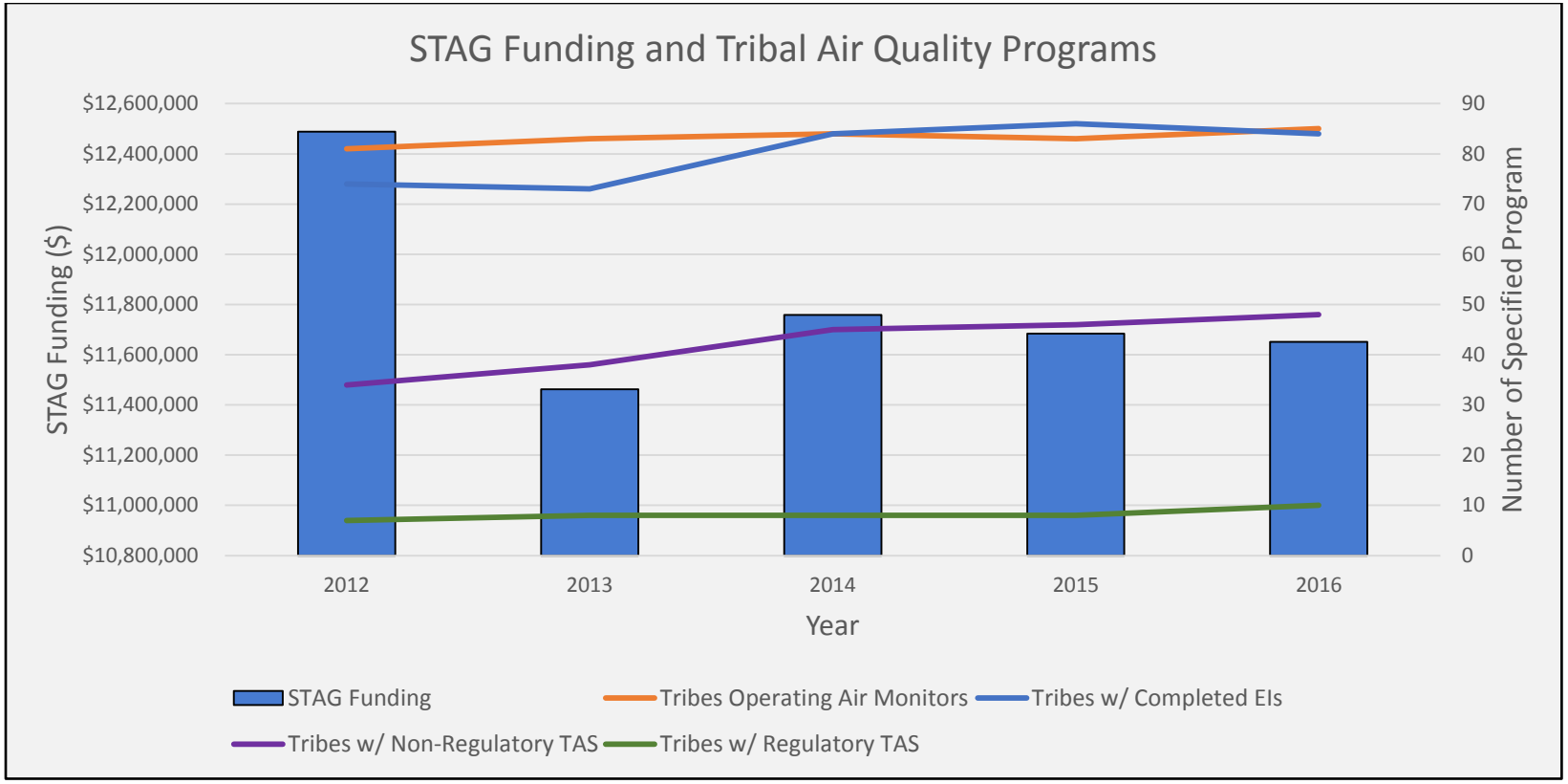


Table 4 STAG Funding and Tribal Air Quality Programs

Appendix E: Regional Summaries of Tribal Air Quality Programs

Table 5 Regional Summaries of Tribal Air Quality Programs

Region 1 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$657,063	$613,577	$622,967	$621,504	$594,273	
Tribes Operating Air Monitors	4	5	5	5	5	5
Tribes w/ Completed EIs	1	1	1	1	1	1
Tribes w/ Non-Regulatory TAS	1	2	2	2	2	2
Tribes w/ Regulatory TAS	2	2	2	2	2	2
Major Sources on Reservations	2	2	2	2	2	2
Tribal Non-Attainment Areas	5	5	5	5	3	3

Region 2 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$440,175	$424,265	$424,983	$417,874	$403,087	
Tribes Operating Air Monitors	1	1	1	1	1	1
Tribes w/ Completed EIs	0	1	1	1	1	1
Tribes w/ Non-Regulatory TAS	1	1	1	1	1	1
Tribes w/ Regulatory TAS	1	1	1	1	1	1
Major Sources on Reservations	1	1	1	1	1	1
Tribal Non-Attainment Areas	5	4	4	4	1	1

Region 4 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$330,964	$312,481	$316,989	$313,173	$315,674	
Tribes Operating Air Monitors	1	2	2	3	3	4
Tribes w/ Completed EIs	1	1	2	2	2	2
Tribes w/ Non-Regulatory TAS	1	1	1	1	1	1
Tribes w/ Regulatory TAS	0	0	0	0	0	0
Major Sources on Reservations	0	0	0	0	0	0
Tribal Non-Attainment Areas	1	0	0	0	0	0

Region 5 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$1,263,752	$1,145,597	$1,179,144	$1,226,435	$1,228,784	
Tribes Operating Air Monitors	11	11	12	12	12	14
Tribes w/ Completed EIs	14	14	15	16	18	19
Tribes w/ Non-Regulatory TAS	4	4	5	5	5	6
Tribes w/ Regulatory TAS	0	0	0	0	0	0
Major Sources on Reservations	13	15	15	15	15	16
Tribal Non-Attainment Areas	5	5	5	5	4	4

Region 6 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$1,305,009	$1,174,439	$1,176,253	$1,181,133	$1,141,449	
Tribes Operating Air Monitors	5	5	4	4	5	5
Tribes w/ Completed EIs	8	8	14	15	11	12
Tribes w/ Non-Regulatory TAS	2	2	3	3	4	4
Tribes w/ Regulatory TAS	0	0	0	0	0	0
Major Sources on Reservations	6	6	6	6	11	10
Tribal Non-Attainment Areas	0	0	0	0	0	0

Region 7 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$465,216	$434,188	$499,756	$524,625	$534,917	
Tribes Operating Air Monitors	4	4	5	4	4	4
Tribes w/ Completed EIs	6	6	6	6	6	6
Tribes w/ Non-Regulatory TAS	0	1	2	2	2	2
Tribes w/ Regulatory TAS	0	0	0	0	0	0
Major Sources on Reservations	4	4	4	4	4	4
Tribal Non-Attainment Areas	0	0	0	0	0	0

Region 8 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$2,109,888	$2,002,337	$2,096,474	$2,070,039	$2,001,325	
Tribes Operating Air Monitors	10	10	10	10	10	10
Tribes w/ Completed EIs	18	13	14	14	14	8
Tribes w/ Non-Regulatory TAS	7	7	9	9	9	9
Tribes w/ Regulatory TAS	1	1	1	1	1	1
Major Sources on Reservations*	86	89/706**	702	1451	1719	2806
Tribal Non-Attainment Areas	3	3	3	3	3	3

*The steep rise of Major Sources on Reservations is due to the introduction of new major source registration rules, which were applied to previously identified sources. This includes newly identified oil and gas sources required to be registered for PSD permits.

** In 2013, Region 8 reported this data using both old and new rules.

Region 9 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$3,259,737	$2,933,750	$2,974,502	$2,885,487	$2,967,439	
Tribes Operating Air Monitors	29	29	29	29	30	29
Tribes w/ Completed EIs	17	19	21	21	24	24
Tribes w/ Non-Regulatory TAS	7	7	9	10	11	11
Tribes w/ Regulatory TAS	2	2	2	2	4	4
Major Sources on Reservations	21	21	21	21	22	22
Tribal Non-Attainment Areas	170	137	137	183	154	154

Region 10 - Summary of Tribal Air Quality Programs						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**
STAG Funding	$2,657,197	$2,421,367	$2,466,932	$2,443,631	$2,464,053	
Tribes Operating Air Monitors	16	16	16	15	15	13
Tribes w/ Completed EIs	9	10	10	10	7	7
Tribes w/ Non-Regulatory TAS	11	13	13	13	13	13
Tribes w/ Regulatory TAS	1	2	2	2	2	2
Major Sources on Reservations*	34	110	112	126	126	130
Tribal Non-Attainment Areas	12	2	2	2	1	1

*The steep rise of Major Sources on Reservations is due to the introduction of new major source registration rules, which were applied to previously identified sources.

National Summaries of Tribal Grants

EPA Region	Grant Types			Region Total
	103	105	DERA*	
1	4	2	0	**6**
2	1	1	0	**2**
4	4	1	0	**5**
5	10	5	1	**16**
6	8	1	0	**9**
7	7	1	0	**8**
8	13	8	0	**21**
9	25	5	2	**32**
10	3	13	3	**19**
Grand Total	**85**	**37**	**6**	**128**

Table 6 National Summaries of Tribal Grants

* 2016 DERA Grants

Other air grants provided to Tribes but not included in this table include CARE, DITCA, GAP, and Local Showcase.

Appendix F: National Tribal Permit Summary Report

National Tribal Permit Summary Report by Permit Type/Category								
As of 02/07/2017								
Permit Type/Category	**Region***							**Total**
	2	**5**	**6**	**7**	**8**	**9**	**10**	
Permit Grand Total	**1**	**11**	**8**	**1**	**162**	**21**	**129**	**333**
NSR: Major - PSD		5			15			20
NSR: Minor - PSD							2	2
NSR: Synthetic Minor - PSD			3	1	38		7	49
NSR PSD Total		5	3	1	53		9	71
NSR: Major - NA								0
NSR: Minor - NA		1			18		1	20
NSR: Synthetic Minor - NA								0
NSR Nonattainment Total		1			18		1	20
NSR: Minor - HAP								0
NSR: Synthetic Minor - HAP								0
NSR HAP Total								0
FARR: Minor								0
FARR: Synthetic Minor							108	108
FARR Total							108	108
Title V: Major	1	5	5		91	21	11	134
Title V: Synthetic Minor								0
Title V Total	1	5	5		91	21	11	134

Table 7 National Tribal Permit Summary Report

National Tribal Permit Summary Report

The Clean Air Act establishes emissions-related permitting programs, the pre-construction permit programs under Title I of the Act, and the operating permit program under Title V of the Act. EPA delegates their implementation to local air agencies. Tribes may implement their permit programs once approved by EPA either under the Tribal New Source Review rule or under the part 71 rule for Title V sources (Federal Implementation Plan) or by taking delegation of one or both of the Federal Implementation Plans (FIPs). Where a Tribe does not implement these programs, EPA issues the permits to the sources as appropriate. The Permit Summary Report shows how many permits and the type of permits that are issued within each region.

Terms

NSR – New Source Review – NSR is a Clean Air Act program (aka, the "preconstruction air permitting program") that requires industrial facilities to install modern pollution control equipment when they are built or when making a change that increases emissions

significantly. The program requires owners or operators to obtain permits before they begin construction.

Tribal New Source Review rule – The Tribal NSR rule is a Federal Implementation Plan (FIP – a plan that is developed by the EPA to federally implement CAA requirements) that establishes the nonattainment NSR and minor NSR permitting programs in Indian country where no EPA-approved Tribal program exists. There are 2 parts – the minor NSR rule and the nonattainment major NSR rule. The permitting authority (either EPA or a Tribe that takes delegation from EPA) reviews the permit application and either grants or denies the permit after a public comment period.

PSD – Prevention of Significant Deterioration – Applicable to new and modified major sources in attainment areas. Regulated pollutants: NAAQS, GHGs, and others (sulfuric acid mist, hydrogen sulfide) – does not include air toxics (mercury, cadmium, benzene, etc.). Has specific requirements - Install Best Available Control Technology (BACT); perform air quality analysis to assess impacts on air quality; perform class I area analysis to assess impacts on national parks/wilderness areas; perform additional impacts analysis; and allow for public involvement. This program can also be delegated to the tribes or implemented through an EPA approved Tribal Program.

FARR – Federal Air Rules for Reservations (applicable in Region 10 only) – A set of air quality regulations that apply to Indian Reservations in Idaho, Oregon, and Washington.

Title V – Permits issued to major sources by the Tribe (CAA part 70) and permits issued by EPA (CAA part 71). These operating permits include all the applicable CAA requirements that apply to a major source and are designed to improve compliance by clarifying what sources must do to control air pollution.

Major Source – Facilities that emit or have the potential to emit pollutants in amounts equal to or greater than the corresponding major source threshold levels. These levels vary by pollutant and/or source category. Major sources must comply with specific emission limits which are generally more stringent in nonattainment areas and if the pollutant is a criterial pollutant or an air toxic.

Minor Source – Facilities that have the potential to emit pollutants in amounts less than the corresponding major source thresholds.

Synthetic Minor Source – Facilities that have the potential to emit pollutants at or above the major source threshold level, but voluntarily accept enforceable limits to keep emissions below the major source thresholds and avoid the major NSR requirements.

Nonattainment Area – Areas of the country that meet or violate air quality standards (NAAQS).

Attainment Area – Areas of the country that have air quality as good as or better than the air quality standards for a given pollutant.

HAP – Hazardous Air Pollutant - Pollutants (toxic air pollutants or air toxics) that are known to cause cancer and other serious health impacts. There are approximately 187 toxic air pollutants.

TAS – Treatment as a State

The Tribal Authority Rule authorizes EPA to treat eligible federally recognized Indian tribes in the same manner as a state for implementing and managing certain environmental programs.

TAS Eligibility – A Tribe must meet certain criteria to be eligible for TAS. The Tribe must be federally recognized; have a governing body; have appropriate authority to regulate air quality (includes exterior boundaries of the reservation); and be capable of carrying out the functions of the program.

Administrative TAS – Examples include 105 grants, 107 designations, 126/505 notifications, 319 monitoring, permit review, redesignations, etc.

Regulatory TAS – Examples include Tribal Implementation Plan (TIP), delegation of a FIP, regional haze, or permit program, etc.

Note: TAS is not required for all programs, e.g., program development, monitoring.