# Tribal Air Resources Journal

Accomplishments, Obstacles, Successes and Setbacks of EPA Region 5 Tribal Air Quality Programs

2014 Edition Volume VI

#### In this issue:

Sault St. Marie highlighted as Climate Change Champion

Fond du Lac
applying for Class
1 re-designation

Gun Lake drafts a Climate Change Adaption Plan

Ho Chunk analyzing frac sand mining issues with a HIA

> Leech Lake promotes air quality forecasting

Little Traverse Bay strives for TAS

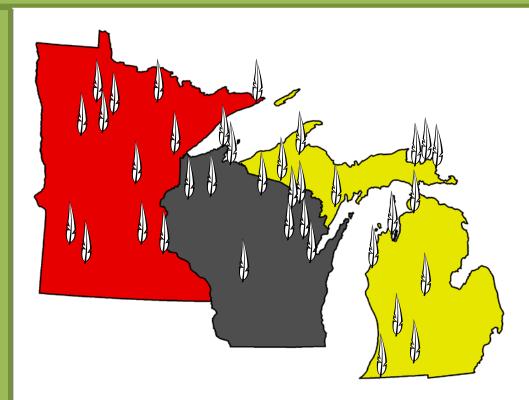
Shakopee operates commercial composter

Hannahville promotes radon awareness

LCO hosts Conservation Youth Corps

Red Lake boosts monitoring with BAM and CASNET

33 of 35 R5 Tribes are represented in this Journal



Tribal Air Resources Journal was started by Tribes in EPA Region 5 to better publicize Tribal air quality program achievements, progression and struggles to their Tribal communities as well as the general population. Environmental staff at these Tribes perform many tasks that are often carried out by multiple individuals in state and local governments. Because of this, Tribal professionals are multi-disciplinary and often understand their air quality issues better than staff working for other governments. This situation affords Tribal staff unique opportunities to manage their air resources as they each see fit. However, it also presents distinctive problems for their staff to overcome. Each Tribe is a sovereign nation that applies for, receives and is responsible for administering its own funding and is not linked to the others in terms of governance. It is our hope, in our sixth year of publication, that this Journal will better communicate the goals, achievements and issues to you, the reader.

The colors in the logo above are taken from the Native American medicine wheel to show our relationship to each other and the environment. The feathers were chosen to mark the location of the Tribes as a symbol of the air and natural resources that we are protecting.

## 2014 Summary of Facts for EPA R5 Tribes

## **Clean Air Act Implementation**

- 5 Tribes in R5 currently have Treatment as a State (TAS) status. Additionally, 3 Tribes are pending for 2015. One Tribe is in process of expanding their TAS with supplemental authorities. Of the 5, all TAS Tribes have CAA 105 reduced match and CAA 505a(2) for Title V notification. One Tribe added CAA 126 Authority.
- 1 Tribe has been re-designated as Class 1 air area, 2 Tribes have submitted Letters of Intent applying for Class 1 re-designation to EPA; multiple R5 Tribes have Class 1 in their long range plans.
- 3 Tribes in R5 are actively researching the feasibility of Tribal Implementation Plans.
- SIP Rule change for Wisconsin to comply with Forest County Potawatomi Class 1 Redesignation has been completed and amended into the State SIP Rule for FCP Class 1 Area administration.

## **EPA Funding**

- Clean Air Act 16 Tribes requested \$1,766,744 for air quality project/program support from EPA. All 16 Tribes were partially funded with R5 FY15 State and Tribal Assistance Grant (STAG) funds totaling \$1,187,351.
   11 Tribes received CAA 103 grant funding and 5 Tribes received CAA 105 grant funding.
   3 of the 5 105 grantees have incorporated their Air Grants into a PPG grant for FY14.
   R5 has implemented a 2 year workplan with a staggered funding structure for established air programs.
- Tribal Radon SIRG Grants 3 Tribes were operating under Tribal radon grants in FY14. In FY15
  EPA anticipates 3 grants of \$45,000 each to be available. Tribes are matching grants at 25% or
  40% depending on the requirements of the Indoor Radon Abatement Act. Multiple other Tribes
  are utilizing their GAP, Tribal or other funding source to implement radon outreach, testing and
  mitigation projects.
- **Community Scale Air Toxics Study** EPA Grant partnership with a Tribe, Minnesota Pollution Control Agency, Minnesota Department of Health.
- Indoor Air Quality Multiple Tribes across EPA R5 do voluntary IAQ work via CAA 103/105 STAG, TOSCA, SIRG, GAP, and OECA EJ funding sources to implement a wide range of IAQ projects. EPA R5 has 2 Tribal IAQ Centers of Excellence.

There has been a drastic decrease in special purpose funds along with overall budget cuts since 2012 leading to reduction of special/pilot projects implemented by Tribes.

## **Other Funding**

- Tribal Environmental Health Grants Cooperative Indian Health Service to promote Reservation resilience with local projects on 2 Reservations that contain benefits of air emission reductions.
- Bush Foundation Grant 3 Tribes in R5 jointly working together to promote revitalization to traditional anishinaabeg connections to food. Practices within have secondary air quality reductions.

# Tribes in EPA R5 are engaged in and serve on a wide variety of Regional and National Workgroups and Committees

### National/Regional Committees:

- Clean Air Act Advisory Committee (CAAAC) EPA R5 Tribal Representative holds a voting seat and is a member of the Permits, NSR and Toxics Workgroup and the Port Emissions Workgroup
- Tribal Air Monitoring Support Center (TAMS) EPA R5 has a steering committee representative
- National Tribal Air Association (NTAA) 2 EPA R5 Reps, 1 serves as Vice Chair of the Executive Committee
- Conference of Radiation Control Program Directors (CRCPD) Member & Tribal Representative on the Radon Symposium Planning group (pending)
- National Tribal Science Council EPA R5 Representative
- National Tribal Operations Committee EPA R5 Representative
- Air and Waste Management Association –Indigenous Environmental Affairs Technical Coordination Committee
- Air and Waste Management Association –Industrial, Governmental, and Public Sectors Group
- White House Task Force on Climate Change R5 Tribal Chair committee member
- Minnesota Clean Air Tribal participation on 3 workgroups

#### Workgroups:

- National Minor New Source Review workgroup
- EPA R5 Tribal and EPA Mining workgroup
- Great Lakes Caucus of the Western Mining Action Network
- EPA R5 Tribal Indoor Air Quality workgroup
- National Ambient Air Quality Standard Designations workgroup
- National Tribal Air Association and EPA monthly update conference calls
- Minnesota Tribal Native Atlas Workgroup

#### Regional and National Meetings:

- Annual EPA R5 Tribal Air Meeting in 2015 to be held in conjunction with TEPM Conference
- R5 Tribal Environmental Program Management Conference
- EPA R5 Tribal monthly air media conference calls
- Monthly NTAA/EPA/Tribal policy calls
- Multiple EPA/Tribal consultation calls
- Minnesota Tribal Quarterly Mining Meetings with Minnesota Pollution Control Agency and Division of Natural Resources
- Quarterly Minnesota Reservation Technical Staff Environmental Council (MNTEC)
- Michigan Tribal Environmental Group (MTEG)
- Wisconsin Tribal Conservation Advisory Council (WTCAC)
- Great Lakes Region Native American Fish and Wildlife Society
- National Tribal Forum on Air Quality R5 Tribes attend, on planning committee, and present at conference

Please refer to the R5 Tribal Areas of Interest document to contact individual Tribes for input on TV permits and other potential information sharing. The document can be found at EPA R5 or contact Brandy Toft at air@lldrm.org 218.335.7429 for a copy.

## **Tribe Finder**

| <u>Tribe</u>   | Page |
|--|------|
|  |      |
| Bad River Band of Lake Superior Chippewa                   | 7    |
| Bois Forte Band of Chippewa                                | 8    |
| Fond du Lac Band of Lake Superior Chippewa                 | 9    |
| Forest County Potawatomi Community                         | 10   |
| Grand Portage Band of Lake Superior Chippewa               | 11   |
| Grand Traverse Band of Ottawa & Chippewa Indians           | 12   |
| Hannahville Indian Community                               | 13   |
| Ho-Chunk Nation  | 14   |
| Inter-Tribal Council of Michigan, Inc. (Consortia)         | 15   |
| Keweenaw Bay Indian Community                              | 16   |
| Lac Courte Oreilles Band of Lake Superior Chippewa Indians | 17   |
| Lac du Flambeau Band of Lake Superior Chippewa Indians     | 18   |
| Lac Vieux Desert Band of Chippewa                          | 19   |
| Leech Lake Band of Ojibwe                                  | 20   |
| Little River Band of Ottawa Indians                        | 21   |
| Little Traverse Bay Bands of Odawa Indians                 | 22   |
| Lower Sioux Community                                      | 23   |
| Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians       | 24   |
| Menominee Indian Tribe of Wisconsin                        | 25   |
| Mille Lacs Band of Ojibwe                                  | 26   |
| Nottawaseppi Huron Band of the Potawatomi                  | 27   |
| Oneida Tribe of Indians of Wisconsin                       | 28   |
| Pokagon Band of Potawatomi Indians                         | 29   |
| Prairie Island Indian Community                            | 30   |

## **Tribe Finder**

| <u>Tribe</u>  | <u>Page</u> |
|---|-------------|
|   |             |
| Red Cliff Band of Lake Superior Chippewa                | 31          |
| Red Lake Band of Chippewa Indians                       | 32          |
| Saginaw Chippewa Indian Tribe of Michigan               | 33          |
| Sault Ste. Marie Tribe of Chippewa Indians              | 34          |
| Shakopee Mdewakanton Sioux                              | 35          |
| St. Croix Chippewa Indians of Wisconsin                 | 36          |
| Stockbridge-Munsee Community, A Band of Mohican Indians | 37          |
| Upper Sioux (Dakota) Community (Pezihutazizi Oyate)     | 38          |
| White Earth Band of Ojibwe (Gaa-waababiganikaag)        | 39          |

## **Abbreviations**

CAA Clean Air Act

CAA 103 Clean Air Act Section 103 Funding
CAA 105 Clean Air Act Section 105 Funding

CO Carbon Monoxide
CO<sub>2</sub> Carbon Dioxide
El Emissions Inventory

EPA R5 Environmental Protection Agency Region 5

ETS Environmental Tobacco Smoke
GAP General Assistance Program

Hg Mercury

HUD Housing and Urban Development

HVAC Heating, Ventilation and Air Conditioning

IAQ Indoor Air Quality

ITEP Institute for Tribal Environmental Professionals

MET Meteorology; Meteorological

MPCA Minnesota Pollution Control Agency
NAAQS National Ambient Air Quality Standard

NO<sub>X</sub> Oxides of Nitrogen

MNSR Minor New Source Review

NSR New Source Review

NTAA National Tribal Air Association

O<sub>3</sub> Ozone

pCi/L picocuries per liter PM Particulate Matter

PM<sub>10</sub> Particulate Matter with a diameter of less than 10 micrometers PM<sub>2.5</sub> Particulate Matter with a diameter of less than 2.5 micrometers

ppm parts per million

PSD Prevention of Significant Deterioration

Rn Radon

RPO Regional Air Planning Organization

SGI Seventh Generation Initiative

SO<sub>2</sub> Sulfur Dioxide

TAS Treatment as a State

TSP Total Suspended Particulates

TAMS Tribal Air Monitoring Support Center

VOC Volatile Organic Compounds



## Bad River Band of Lake Superior Chippewa

Nathan Kilger, Air Quality Specialist Daniel Wiggins Jr, Air Quality Technician Program in Existence since – 2001 Program Projects – PM<sub>2.5</sub>, O<sub>3</sub>, MET, Rn, IAQ Location – Odanah, Wisconsin

The Bad River Band started an Air Program under §103 of the Clean Air Act in 2001. The Band continues to be most concerned with the protection of human health and the sustainability of the natural environment along the southern shore of Lake Superior.

The 16,000 acres of Kakagon and Bad River Sloughs, most recently designated a wetland of international significance by the Ramsar Convention, are a vital part of the Band's culture and subsistence. The water and air quality of the entire Bad River watershed is priority, both now and seven generations into the future.

Current PM<sub>2.5</sub> and O<sub>3</sub> levels remain below the established National Ambient Air Quality Standards and it is the goal of the Bad River Band to protect and maintain pristine air quality. The first step towards toward this goal was achieved in 2005 when the Bad River Band received Treatment as a State (TAS) for air quality. The Bad River Band is currently working towards redesignating the Reservation from Class II to Class I as the next step in protecting not only the plant and wildlife communities that sustain the Band's cultural heritage, but also the health of the Tribal Members that call this land their home.

There are also a multitude of indoor environmental issues due to improperly built structures, lack of maintenance, and an environment that contributes to moisture and mold issues. There are nearly 500 Tribal homes located within the Bad River Reservation, including 171 housing units under the oversight of the Bad River Housing Authority. The Bad River Tribe receives State Indoor Radon Grant (SIRG) funding, which is valuable in continuing to monitor Tribal homes for high levels of indoor radon and providing services to help reduce radon levels when found above the EPA's action level. The Air Office continues to work with the Bad River Housing Authority, Health & Wellness Center, and other Tribal Departments to address IAQ issues within Tribal housing and buildings

More information on Bad River's Class I and air quality program: http://x.co/BRair



Bad River Reservation: Kakagon Sloughs, Chequamegon Bay, and Long Island



### Bois Forte Band of Chippewa

Troy King – Environmental Health Specialist Program in Existence since – 2002 Program Projects – IAQ, Asthma Awareness, R5 IAQ assistance Location – Nett Lake and Vermillion (Tower), MN

The Bois Forte Environmental Services Department/IAQ Program, in its 13<sup>th</sup> year of EPA and CAA funding, provides environmental services to the Bois Forte Band Members as well as assisting other IAQ programs within EPA Region 5. Locally our IAQ program works closely with the Bois Forte Housing Department, which manages approximately 150 homes. We also respond to IAQ requests from private homeowners of which there are approximately 150 within the Bois Forte Reservation. Our program also strives to maintain working relationships with Bois Forte's Health, Human & Family Services departments to provide the necessary IAQ assessments and project supervision for its tenants, homeowners and Tribal Government building staff. In maintaining our relationships with other departments within the Bois Forte Reservation, it gives the Environmental Services Department a great opportunity to further assist the Reservation with participation in other departmental conferences by providing outreach and education.

Within EPA Region 5, our Department offers technical assistance to other Tribes by providing site visits for IAQ investigations and recommendations. Both locally and within the region our goal as a Department, with assessments and recommendations, is to remedy all indoor issues as they arise. This can be anything from moisture & mold issues to carbon monoxide (CO), heating ventilation and air conditioning (HVAC) and ventilation/filtration problems or dust & fine particle, asthma triggers and pest concerns.

#### Bois Forte IAQ Program's Year-to-date Accomplishments

Our Department continued to provide IAQ outreach & education when opportunities came about in this past year. We also dealt with many IAQ issues that arose throughout the year which posed many challenges given the decreased resources with today's economic issues. One of our projects that our Department assisted with was an ICDBG Rehab Project here at Bois Forte. We partnered with our Planning and Development Department, Housing Department, as well as Consulting General Contractors in the initial planning, selection of units by severity of work needed, scope of work to be done and review of completed work. This was great project to be part of due to the fact that our Department could use past issues to influence which rehab issues to address. With our Department involvement, through methods such as infrared assessments of the units, it was decided to rehab the units on the exterior. This meant new windows, siding and roofing, all with the proper insulating procedures. This proposal should be beneficial in making the units more cost efficient and better air consistency to assist with moisture concerns throughout the units. Follow-up assessments will be done as units are completed and adjusted to the modifications.



## Fond du Lac Band of Lake Superior Chippewa

Joy Wiecks - Air Quality Technician Alex Jackson - Air Program Coordinator Program in Existence Since - 1999 Program Projects - Class 1, O<sub>3</sub>, Hg, Permit & Regulation Review, etc. Location - Cloquet, MN

The Fond du Lac Band of Lake Superior Chippewa was the first Tribe in EPA Region 5 to be granted Tribal authority to administer parts of the CAA, on January 7, 2004. The Program provides the Band with expertise on environmental issues related to air quality and climate change. In order to protect Fond du Lac resources, the Program reviews permits, regulatory actions, and provides education and outreach to Band members. The Band has been able to develop its Program, assert its sovereignty, and achieve an excellent working relationship with the Minnesota and Wisconsin permitting agencies, and with EPA Region 5. Several mining projects and related industries are currently under review that will impact air quality in EPA Region 5 and Program staff intend to ensure both local and federal clean air objectives are met. Staff also review draft regulations as proposed by both the EPA and the Minnesota Pollution Control Agency and provide comments. Our Air Technician continues to serve on the Clean Air Act Advisory Committee as a voting member. In order to assess the effects of air pollution on the Reservation, the Air Program operates an ozone monitor and a mercury wet deposition monitor. The Program has also collected data on leaf litter mercury dry deposition for two field seasons, with three additional seasons planned. We hope that this data can help the scientific community study and predict the fate of mercury emissions in the environment.

The Band has recently announced its intention to pursue Class I re-designation of the Reservation. After approval by the EPA, this means that the Reservation's air quality would be protected to the same degree that our National Parks, Forests, and Wilderness Areas are. The Band sees this as an important step in keeping our Reservation's air quality clean and in protecting other resources, such as Reservation water quality and local flora and fauna.

The Band is also looking at ways to improve energy efficiency in Reservation-owned buildings through a Guaranteed Energy Savings Program, and is working with Minnesota Power to install a 1 megawatt photovoltaic installation that will provide clean power to the Band's Black Bear Casino Resort. The Band has also instituted a no-idling policy for Reservation school buses which will help protect the health of our schoolchildren.

The Band has also been active in addressing indoor air quality. In the past, we have run lead abatement and radon assessment projects on the Reservation. After a major flooding event in June, 2012, Environmental staff were instrumental in helping with housing clean-up and mold prevention. Staff distributes carbon monoxide sensors as needed.





## Forest County Potawatomi Community

Natalene Cummings – Air Resources Program Manager Joe Cebe – Air Monitoring Specialist Program in Existence since – 2002 Program Projects – NOx, O<sub>3</sub>, SO<sub>2</sub>, Vap. Hg, Acid & Hg dep, PM2.5, MET Location – Forest County, WI

In 2008, the FCPC Reservation was re-designated as a Class I area and in 2010 the FCCP obtained TAS. Having Class I and TAS authorities enables FCPC to participate in the air pollution permitting process and to comment on permits. These delegations come with a great deal of responsibility and a need for Tribal air staff to be knowledge and capable of reviewing the complexities of a permit application. While FCPC currently contracts with environmental consultants to review the larger, more complicated permits/applications, FCPC staff are working towards developing the skills and experience to review smaller, less complicated permits.

Since the 2008 re-designation, the Tribe has been working with the State of Wisconsin, in accordance with the 1999 Class I Agreement, on the establishment of Air Quality Related Values (AQRVs) vegetation, water quality and visibility, and related pollutant thresholds. Expert consultants in each field were contracted to prepare documents that support the selection of the AQRVs and detail the science behind the establishment of pollutant thresholds. The thresholds are used to conduct air impact analyses to determine the potential effect of proposed emissions from a new and modified facility might be on the AQRVs. Together, the FCPC and the State are working towards finding a balance that provides the greatest protection for the most sensitive of natural resources and allows for continued growth and development for industry in the region.

The FCPC Ambient Air Monitoring Program, instituted in 2002 provides important information that supports the management of the Class I airshed and the selection of AQRVs and related thresholds by providing data to establish baseline air pollution trends. The extensive program monitors for O<sub>3</sub>, SO<sub>2</sub>, NO<sub>x</sub>, vaporous Hg, PM<sub>2.5</sub>, acid and Hg deposition. FCPC hopes to add an IMPROVE sampler to measure the visibility AQRV in the near future.



Lake Lucerne (Stone Lake), home to many of the Potawatomi who escaped the forced removal on the Trail of Death, and one of the many water resources protected by Class I redesignation.



## Grand Portage Band of Lake Superior Chippewa

Yvette Chenaux Ibrahim – Biologist Program in Existence since – 2003 Program Projects – PM<sub>2.5</sub>, IAQ, Asthma, Hg, Regional Haze, Renewable Energy, Environmental Education, Climate Change, Permit Review Location – Grand Portage, MN

The Grand Portage Band of Lake Superior Chippewa is concerned with protecting air quality to protect human and ecological health. Northeastern Minnesota has numerous mining and energy projects in the region with several new projects under development. To have greater control in protecting air resources and more impact when commenting on air pollution source permits, Grand Portage applied for Treatment as a State (TAS) under section 105 of the Clean Air Act. The application is under review. To monitor pollution and alert the public when pollution becomes elevated, Grand Portage has been monitoring particulate matter finer than 2.5 microns using a Beta Attenuation Monitor (BAM) and haze through a haze cam since 2006.

Mercury levels are elevated in the Grand Portage ecosystem, causing negative impacts to human health. Fish consumption advisories are established in Grand Portage due to high mercury levels. A study completed in 2011 by the Minnesota Department of Health found that ten percent of Minnesota newborns tested had mercury levels above what is recommended as safe by the EPA. The Air Program began measuring mercury in leaf litter in fall of 2014 and plans to continue this study for a minimum of 3 years. The Air Program would like to establish a wet deposition monitoring site to monitor concentration and deposition of mercury in precipitation. There are no other monitors in Cook County or along the north shore of Lake Superior, with the closest monitor 140 kilometers to the west in the Superior National Forest.

Because of our high rates of asthma, the Air Program partnered with the MN Department of Health and the Grand Portage Health Services to perform a home visitation project to improve respiratory symptoms of those with asthma. The project was completed in 2014 with baseline, 6 month, and 12 month visits performed in 13 homes.

The Air Program is very passionate about motivating young community members to get excited about science and natural resources and to enter into a career in natural resource management. We teach weekly lesson plans to K-6<sup>th</sup> grades at the Oshki Ogimaag Charter School with topics ranging from wild rice seeding to moose and wolf capture and collaring.



PM 2.5 Monitoring Site



Oshki Ogimaag students learn about soil and water run-off





### Grand Traverse Band of Ottawa & Chippewa Indians

Kris Ptak – Environmental Services Coordinator Program in Existence from - 2002 to 2010 Program Projects – O<sub>3</sub>, IAQ Inspections, Hg, Emission Inventories, Diesel Retrofit, NADP Monitoring, Rn, Burn Barrels, and Educational Outreach Location – Peshawbeston, Michigan

The Grand Traverse Band of Ottawa & Chippewa Indians (GTB) is located in northern lower Michigan, in Peshawbestown, Michigan. GTB's Natural Resource Department (NRD) Environmental Program was established on October 1, 1997 through grant funding from the EPA and has grown to include programs for solid waste management, pollution prevention, watershed planning, great lakes management planning, environmental health, groundwater and surface water quality protection, seventh generation initiative program, wetland protection, nonpoint source pollution, soil erosion permitting, CERCLA Section 128A (brownfields, phase 1 contamination surveys, environmental response), and green team. GTB's Environmental Program's goal is to restore and protect the natural systems upon which life depends including the integral relationship between these natural systems and the health and welfare of GTB members in the six-county service area and arguably the 1836 ceded territory. This mission is consistent with the GTB Constitution, which states, in part, that the Constitution was adopted "to conserve and develop our natural resources."

In 2002, GTB established an Air Quality Program under the Clean Air Act (CAA) 103 grant funding. The Air Quality Program began with National Atmospheric Deposition Program (NADP) monitoring and during the eight years of existence added ozone monitoring, household radon testing, indoor air quality inspections of Tribal residences and governmental offices, mercury deposition monitoring, emissions inventories, diesel retrofit training, creation of a burn ban ordinance, and educational outreach to the Tribal Membership and the local public. The GTB air quality program partnered with the Michigan Department of Environmental Quality, NADP staff, Inter-Tribal Council of Michigan, and the EPA. In 2009, GTB was working to secure Treatment as a State (TAS) and CAA 105 funding. In 2011, GTB decided to discontinue its Air Quality Program based upon the fact that the partial funding available under the CAA 103 was insufficient to fully staff and administer an air quality program. GTB understands the importance of clean air and its integral role in preserving and protecting our natural resources. Future endeavors may include: TAS, CAA 105 funding, and climate change.

For further information, please visit our websites:

http://www.gtbindians.org/default.asp

http://www.gtbindians.org/naturalresources.asp

http://www.gtbindians.org/environmental.asp





GTB NRD Mission: To protect and enhance the natural resources and environment entrusted to us by the Creator & guaranteed by treaty rights, for managed & respected utilization by the Anishinabek people for past, present, and future generations.



### Hannahville Indian Community

L. Scott Wieting – Environmental Specialist Program in Existence since – 1993 Program Projects – Radon Testing, Indoor Air Quality Education Location – Wilson, Michigan

The Hannahville Indian Community (Community) began its Indoor Air Quality Program in 1993, through the Inter-Tribal Council of Michigan, Inc./EPA Environmental Multi-Media Program which provided environmental services to 5 federally recognized Tribes within Michigan. These activities included radon testing of several Reservation homes, along with the development of information fliers which include environmental tobacco smoke, indoor wood burning, and radon. In 1997, the Community received its own EPA General Assistance Program (GAP) grant which included the continuation of indoor air quality efforts within the Hannahville Reservation.

The primary focus within the air portion of the GAP Program is radon testing in governmental buildings and Tribal residences. The Hannahville Reservation, which is mostly located in Menominee County, Michigan, is in an area of moderate potential for radon levels above 4.0 pCi/L (EPA's Map of Radon Zones – Michigan).

The Hannahville Environmental Department began testing governmental facilities in 1998. These facilities include Tribal Administration, Nah Tah Wahsh Public School Academy, Visions Center and the Tribal Health Center. The following year, voluntary radon testing was made available to Tribal residences. The Hannahville Environmental Department has continued to offer Radon testing through the GAP Program in most years since.

The Community coordinates some of its Radon Program activities with the State of Michigan, which provides Radon test kits to the Community. The State also provides education and outreach materials associated with Radon awareness and the promotion of testing homes.

The Community is committed to investigating and remediating indoor air quality issues in order to protect human health. Our Program efforts continue to provide information to Tribal Managers and residents on air quality risks so that they can make informed decisions on how to improve or maintain healthy indoor air quality.





#### **Ho-Chunk Nation**

Kevin Gunderson – Environmental Specialist Program in Existence since – 2006 Program Projects – Radon, Frac Sand Mining, Asthma, & IAQ Location – Black River Falls, WI

The Ho-Chunk Nation (Nation) Indoor Air Program began in 2006 with a focus on asthma and expanded to include radon and other indoor air contaminants. The Nation added radon testing in 2009 when a testing project was implemented in the Wittenberg area. The Nation identified numerous homes with excessive levels of radon. Funding was received and the Nation mitigated every home above the action level. The Nation currently provides radon testing services upon request and performs educational activities during Health Fairs and at General Council.

The Nation also continues to provide services for the Asthma Program by performing site visits surveying homes for asthma triggers such as mold, environmental tobacco smoke, and dust mites. Homeowners are provided with recommendations to correct the issues identified and in some cases with supplies to address specific issues. These two activities comprise the majority of the Nation's Indoor Air Program activities.

The Ho-Chunk Nation has also become aware of air quality concerns related to the frac sand industry as the Nation has numerous Tribal Members that now live within a mile or less of large Frac Sand Mines. The Ho-Chunk Nation has partnered with the Institute for Wisconsin's Health Inc. and numerous counties within Western Wisconsin to complete a Health Impact Assessment (HIA) on Industrial Sand Mining. A HIA will provide the information necessary for local and state government to make informed decisions to ensure that public health is protected. The HIA Project is scheduled to be completed in April 2016. Little research has been completed in evaluating the impacts of a single frac sand mind let alone the cumulative impacts multiple mines in a localized area. The HIA will evaluate all aspects of the mine from economics to environmental to cultural/social to determine the actual impact on community health.



Frac Sand Mine Operation in Wisconsin



## Inter-Tribal Council of Michigan, Inc.

Travis Maki – Environmental Specialist
Program in Existence since – 2000
Program Projects – PM<sub>2.5</sub>, MET, O<sub>3</sub> and Regional Haze monitoring
Location – Sault Ste. Marie, MI and Bay Mills, MI

Since 2000 ITCMI has been assisting the Sault Tribe of Chippewa Indians and the Bay Mills Indian Community with a unique transboundary air pollution problem. Currently ITCMI's monitoring efforts are focused on  $PM_{2.5}$ , Haze, Ozone and meteorological data and these efforts are also in coordination with the Michigan Department of Environmental Qualities monitoring network. As part of the work with the MDEQ, ITCMI is now uploading data to the MiAir Website.

The ITCMI staff is also working with the Saginaw Chippewa Indian Tribe and the Lac Vieux Desert Band of Lake Superior Chippewa Indians on emission inventories, ambient air monitoring and indoor air quality projects.

The ITCMI air monitoring project is funded through a CAA Section 103 grant. With this funding the air monitoring project pursues the goals of: Tribal education, pollution reduction within the Tribal community and ultimately improving and securing the health and welfare of the residents.



**ITCMI** Website

www.itcmi.org

MiAir Website

http://degmiair.org/monitoringdata.cfm?site=4130



## Keweenaw Bay Indian Community

Stephanie Kozich- Air Quality Specialist Char Spruce - Environmental Specialist Program in Existence since - 2012 Program Projects - Emissions Inventory, IAQ, and Outreach Location - L'Anse/Baraga, MI

The Keweenaw Bay Indian Community (KBIC) is located in the Western Upper Peninsula of Michigan in a rural and pristine area. The Reservation encompasses over 55,000 acres, 17 miles of Lake Superior shoreline, 80 miles of streams and rivers, 15,000 acres of lakes, and 3,000 acres of wetlands. It borders the Village of L'Anse and encompasses the Village of Baraga.

The Keweenaw Bay Indian Community is currently working under its third year of CAA 103 tribal air program funding. At the end of this grant cycle, we plan to have finished our Level 3 Emissions Inventory. To aid in completing our emissions inventory a questionnaire was compiled and advertised. We had a great response from our community which will also be used to address air issues in the very near future.

In the future, we will be building our capacity to complete indoor air quality assessments for our Tribal community. We will also begin education on areas of concern in our community. Some of these are: burn barrels, elevated radon levels, and mold. In order to address these concerns, education through outreach will begin at community events.

For more information regarding the KBIC Air Quality Program visit http://nrd.kbic-nsn.gov/



Keweenaw Bay, Lake Superior



### Lac Courte Oreilles Band of Lake Superior Chippewa

Brett McConnell - Environmental Specialist Program in Existence since - 2000-2005 Program Projects - Radon Monitoring/Mitigation, NADP Network Location - Northwest Wisconsin

In the past, the Lac Courte Oreilles (LCO) Tribe was involved in the National Atmospheric Deposition Program (NADP) under the EPA Section 103 Program. Funding for LCO was terminated in March of 2005. The LCO Tribe applied for funding to continue their NADP site and became a part of the Mercury Deposition Network (MDN), but did not receive federal funding to continue.

The Lac Courte Oreilles Tribe exercises their treaty rights each year by spearing and netting fish in the upper-third of WI and parts of Eastern Minnesota. This subsistence way of life is deeply rooted in the LCO culture. All of the lakes in this region, to a degree, have fish-consumption advisories due to elevated mercury levels in fish tissue. It is a priority for the LCO people to understand why the fish they are eating are becoming contaminated and to gather data that may help in the future to control mercury emissions. The LCO Conservation Department feels that the NADP and MDN Networks provide a solid framework in collecting sound data to hopefully help government control mercury, sulfate and nitrate emissions in the future.

To build tribal youth interest in the environment, the Lac Courte Oreilles Conservation Department has been administering a Conservation Youth Corps (CYC) Program each summer. One project the CYC took part in was the removal of harmful paints and solvents from the LCO Transfer Station. The youth separated and labeled the paints and solvents so they could be properly disposed of.

**Paint Collection** 



2014 Conservation Youth Corps Graduates





### Lac du Flambeau Band of Lake Superior Chippewa Indians

Bryan Hoover - Energy/Air Quality Program Coordinator Program in Existence since - 2008 Program Projects - Energy Upgrades, Capacity Building, IAQ, Education and Outreach Location - Lac du Flambeau, WI

The Lac du Flambeau Tribe is dedicated to clean land, water, and air as these are vital to sustaining the diverse wildlife and fisheries resources of the Tribe, and vital to the health of Tribal Community Members.

The Tribe's Energy/Air Quality Program was established in 2008 and operates under the guidance of the Tribe's IRMP and Strategic Energy Plan. The Tribe has established important goals within these plans to protect the Tribe's air quality and to address the energy situation of the Tribe with sustainability. The Program has conducted various projects since implementation began including energy efficiency and HVAC upgrades in Tribal facilities, renewable energy system deployment, a Reservation PM<sub>2.5</sub> concentration study, indoor air quality assessments, mold remediation, as well as educational programs and events.

The Lac du Flambeau Indian Reservation's air quality is relatively clean and has not been subjected to significant industrial pollution sources locally. This provides for a healthy environment for community members and the natural resources of the Tribe. In recent years, the Lac du Flambeau Air Quality Program has worked to maintain this clean air for the Tribe against potential harmful threats to this resource from off of the Reservation.

The Tribe will continue to value protection of its natural resources highly, with the Air Quality Program being a key component to this commitment.

For more information, please visit www.ldftribe.com/naturalresources



Little Bear Creek Sub-Impoundment, Lac du Flambeau Indian Reservation



## Lac Vieux Desert Band of Lake Superior Chippewa

George Beck – Environmental Services/Planning Director Program in Existence – No official program Program Projects – TEOM and PM<sub>10</sub> Location – LVD Reservation, Watersmett, Michigan

Lac Vieux Desert (LVD) was able to secure funding for a TEOM 1400a with the purpose of determining whether or not to consider seeking air program support based on particulates. In the last couple years LVD was able to borrow a PM 10 monitor to further determine if there may be an issue that would lead LVD to seek support for an air program. To date the information learned has not led to a definitive approach to conducting further air characteristics data.





### Leech Lake Band of Ojibwe

Brandy Toft – Air Quality Specialist
Ben Benoit – Air Quality Technician
Program in Existence since – 2001
Program Projects – Hg, IAQ, Met, PM<sub>2.5</sub>, Rn, Diesel, Toxics, Solar,
Permits/Rules, Mining, Green Initiatives, Forecasting, etc
Location – Leech Lake Reservation, HQ located in Cass Lake, MN

The Leech Lake Band of Ojibwe (LLBO) continues to build program capacity, develop and enhance its Air Quality Program to protect human health and trust resources. Progress is made by monitoring, implementing voluntary programs, IAQ assessments and policy, commenting on air rules/permits/policy, and providing education and outreach to the community.

The Leech Lake Air Program (LLAP) fills a gap in northern Minnesota air monitoring by providing data for PM<sub>2.5</sub>, Hg, and Meteorology. In the past we have executed monitoring for toxics, dioxins and minivol PM<sub>2.5</sub>. As a next step, the LLAP launched PM<sub>2.5</sub> air quality forecasting for the LLBO and the 1855 Ceded Territory. Sign up for LLAP's Enviroflash at http://www.enviroflash.info/signup.cfm. Futher, we look forward to an upcoming PM<sub>2.5</sub> sensor project.

The LLAP has set into motion several voluntary programs on and around the Reservation including: Rn testing (1,510) and mitigations (79), Rn resistant construction (72), IAQ assessments (116), diesel retrofitting (65 school buses & 34 on/off road vehicles), burn barrel removal (93), passive solar heating (14 residential, 2 large government buildings), wind feasibility study, large scale (5) and residential (90+) composting, and leading the Green Team. These are stepping stones to bigger and progressive projects for the future.

The LLAP has reason to be concerned and protective of our airsheds as the Leech Lake is surrounded by 24 Title V facilities of varying industries. Facilities include: coal fired EGUs, wood/paper, waste incinerators, natural gas compressor stations, and an additional six mining facilities clustered within or near our Ceded Territories. The LLR also has over 68 minor sources that exist within the Reservation boundaries. With the review of environmental impact statements, Title V and minor permits on or near the Reservation it is important to understand the complexities of our airsheds and impacts. LLBO received TAS for air in October 2007.

LLAP is engaged on local, regional, and national venues (ie NTAA Vice Chair) and shares that information in the form of data, education, and outreach to and for Indian Country. LLAP continues to expand and leverage resources within and outside the Reservation to create and foster partnerships to better serve LLBO.

Currently, the LLAP is funded by: EPA R5 105 Air grant, EPA R5 Tribal Rn grant, and an Indian Health Service grant for Reservation resilience. The LLAP looks forward to potential delegation of the MNSR, building and expanding capacity to better serve LLBO, and working with partners to leverage resources. The Specialist was the 2012 Virgil Masayesva Excellence Award recipient.

Like us on facebook at Leech Lake Environmental and visit our website at www.lldrm.org



Leech Lake Billboards





#### Little River Band of Ottawa Indians

Thomas Shepard – Air Quality Specialist Program in Existence since – 2005 Program Projects – O<sub>3</sub>, PM<sub>2.5</sub>, MET Location – Manistee, MI

Little River Band of Ottawa Indians (LRBOI) began its Air Quality Program in September of 2005 utilizing CAA 103 grant funding. The Tribe was concerned that Ozone or O<sub>3</sub> transport up the Lake Michigan shoreline was adversely affecting air quality in Manistee County, Michigan. Since 2005, the transport issue has been documented and acknowledged by the State of Michigan and EPA. LRBOI continues to monitor ozone to gather additional information and to support trend analysis.

LRBOI also operates a  $PM_{2.5}$  monitoring station. LRBOI has an agreement with the State of Michigan for air monitoring assistance. They provide laboratory and quality control services. Thus far, this has been a symbiotic relationship benefiting both sides. The Tribe hopes this relationship continues well into the future.

In addition to air monitoring, the Air Quality Specialist has over two decades of environmental management experience. He is very familiar with state and federal air quality programs, rules and requirements. He has significant experience with the Title V air permitting system and the resources available online. His knowledge of other environmental programs, such as the Toxics Release Inventory (TRI) program or Form R reporting, is exceptional and will help build the Tribe's Air Quality Program's capacity.

LRBOI plans to elevate its education and outreach of air quality-related issues. The Tribe will raise air quality awareness in both tribal and non-tribal citizens. This increased awareness will help others better understand air quality issues and hopefully enable them to make more informed quality of life decisions.

LRBOI Home Page https









Working to improve air quality for our Tribe, our community and our world.



### Little Traverse Bay Bands of Odawa Indians

Jonathan Mauchmar - Environmental Specialist - Air Quality Christina Coger - Environmental Services Coordinator Program in Existence since - 2004 Program Projects - El, O<sub>3</sub>, Capacity Building, Community Outreach Location - Harbor Springs, MI

On September 21, 1994 the Little Traverse Bay Bands of Odawa Indians (LTBB) was federally reaffirmed with the signing of Public Law 103-324. The LTBB Reservation area encompasses approximately 336 square miles of land in the northwestern part of Michigan's Lower Peninsula and is bordered by Lake Michigan to the north and west.

In 2002, LTBB initiated an Air Quality Program that was focused on educational outreach and home radon monitoring. In 2004, the program was expanded to include a part-time Air Quality Specialist and again in 2007 to a full-time Environmental Specialist. Program staff drafted an Emissions Inventory (EI) in 2007-08. From 2009-2011, the Program collected PM<sub>2.5</sub> data. An updated EI and Radon Data Collection QAPP were completed in 2013.

In recent years, energy efficiency is a growing concern for the Tribe. Energy efficiency is a great way to improve air quality and help the Tribe meet its Kyoto Protocol resolution of 25% energy use reduction by 2020 as passed by Tribal Council in 2005. The LTBB buildings that use the most energy were constructed over ten years ago and have never been through a complete energy audit. With technology advancing, it is likely that certain heating, cooling, and electronic retrofits could pay for themselves and allow LTBB to help reduce emissions. Currently, the Tribe is using Energy Star portfolio manager to track energy use, cost, and emissions to hopefully document improvements in the future. Energy use reduction is part of the LTBB efforts to mitigate climate change. However, the Air Program will also provide support for the development of a climate change adaptation plan for the Natural Resources Department.

A group of graduate students from the University of Michigan are also working with the Tribe while earning their master's degrees. They will assess the efficiency of electronics and lighting in LTBB's main buildings and the potential for renewable energy installations. The Air Program lead tours of LTBB facilities and facilitated the exchange of information for this project.

The LTBB Air Program is also working towards TAS status with the EPA. TAS will help give a voice to the Tribal government in matters of air emissions permitting and to secure long term funding for the Air Program.





### **Lower Sioux Community**

Deb Dirlam – Director of Environmental Programs Amanda Strick – Environmental Specialist Department in Existence since – Since 1992 Program Projects – IAQ, Ambient Air Quality, Education Location – Morton, MN

The Lower Sioux Indian Community (LSIC) is located along the Minnesota River in Morton, Minnesota. The Reservation is comprised of 1,743 acres of "trust" land held for the Tribe and an adjacent 120 acres of fee land purchased in 2009. The Community contains mostly flat agricultural land along with approximately 250 acres of timber and brush and Minnesota River escarpment. The Tribal commercial center sits on the uplands and is surrounded by agricultural land, prairie pothole wetlands and Tribal housing. The Tribe is governed by the elected five-member Lower Sioux Community Council. The Tribe operates business enterprises such as a casino/hotel and other establishments. Approximately 600 Tribal members live on the Reservation in 150 single family dwellings. The regional land use is predominantly agricultural and several Tribal Members hold assignments to farm.

In 1992 the Lower Sioux Indian Community and the Upper Sioux community, acting as a consortium within their governmental powers, established the Office of the Environment (OE) for the purposes of obtaining an EPA Multi-media grant to ensure compliance with federal and Tribal environmental laws; to educate and advise government and Tribal Membership on environmental issues; and to develop Environmental Programs. In 2006, the Tribal Governments agreed to dissolve the Consortium and conduct separate Environmental Programs.

### Air Projects/Programs for FY 2014-2015

- Title V Reviews within a 50 mile radius of the LSIC Reservation boundaries
- Open Burning, Barrel Burning, Fire Prevention, Permitting
- Mold/Moisture Inspections
- Education and outreach on Carbon Monoxide, Radon, Mold/Moisture, Asbestos, Pests, and Weatherization





### Match-E-Be-Nash-She-Wish Band of Pottawatomi Indians

Shawn McKenney – Environmental Specialist
Program in Existence since – 2005 (GAP funding)
Program Projects – Waste Management, Alternative Energy, Air Quality,
Climate Change, Water Quality
Location – Dorr. MI

The Match-E-Be-Nash-She-Wish Band of Potowattomi Indians (Gun Lake Tribe) is a federally recognized Indian Tribe located in southwest Michigan, approximately 25 miles south of Grand Rapids. The Gun Lake Tribe has an enrolled citizenship of 415. The Reservation is composed of 339 acres held in trust by the United States Government for the community and possesses no "exterior boundary". The 7-member Tribal Council is an elected body, which has been empowered by the community through the election process to act on behalf of the Tribal Members.

The Gun Lake Tribe Environmental Department currently offers radon testing for all Tribal Members and soon will be offering indoor air quality testing and remediation. The Environmental Department implements the Conservation Incentive Program (CIP) for the Tribe, which provides cost-share funding for Tribal members who complete home energy audits and implement the energy saving retrofits that these audits recommend. The CIP provides cost-share assistance for 95%+ furnaces, on-demand water heaters, attic/wall insulation, .35+ u-factor windows, exterior doors, and hybrid vehicles. The CIP reduces energy needs and dependence upon coal fire power plants within the Tribe's service area. In 2014, the CIP has provided over \$65,000 in cost-share assistance to reduce the environmental footprint of Tribal Member's homes.

The Gun Lake Tribe installed two photovoltaic systems in 2014: one system at the Boot Lake Park and one system at the Settlement Park. The Boot Lake Park picnic shelter includes a photovoltaic system which powers 100% of the electrical needs at the park. The Settlement Park system provides 80% of the parks electrical needs.

In 2014, the Gun Lake Tribe Government Campus construction broke ground. This development project includes a geothermal system which is projected to supply 80% of the campuses energy needs.

The Gun Lake Tribe has developed a draft Climate Change Adaptation Plan utilizing PPG funding. The Tribe's Climate Change Adaptation Plan is addressing climate change through adaptation strategies to preserve culturally significant plants and animals to the Gun Lake Tribe.







#### Menominee Indian Tribe of Wisconsin

Jeremy Pyatskowit – Environmental Services Director Program in Existence – 2000 to 2010 Program Past Projects – Rn, Hg, Acid Rain Location – Keshena, WI

The Menominee Indian Tribe of Wisconsin (MITW) is a federally recognized Indian Tribe that inhabits 235,000 acres in northeastern Wisconsin which is 95% forested. The population within the Menominee Reservation is 4,857 (2000 U.S. Census).

The Menominee Tribe originally started the Air Program in 2000 to monitor for acid rain and mercury. The program was funded by a Region 5 103 air grant. We participated with the National Atmospheric Deposition Network for laboratory work and reporting, after 2006 we no longer participated in the acid rain monitoring because of funding cuts, but we were able to keep mercury monitoring until March 2010. Mercury was continued longer as we filled a gap within the State for collection. One of the reasons the air funding was cut was because there is not a huge issue with acid rain or mercury levels within the Reservation. There is no industry on the Reservation except a Tribally operated sawmill in the Village of Neopit.

Radon testing back in the 1980's and 1990's showed many of the homes on the Reservation with elevated radon levels. In 2009 the Tribe received a grant to do more radon testing on the Reservation. Our program provided technical assistance to homeowners who wish to install remediation systems. With the grant we were able to test many of the Tribes housing units and remediation systems were then installed by another agency within the tribe.

At this time there is no Air Program within the Reservation but the Tribe is considering obtaining TAS Authority under CAA Section 105 and will be considering applying for more funding to meet this goal.





### Mille Lacs Band of Ojibwe

Charles Jirô Lippert – Air Quality Technician Program in Existence since – 1996 Program Projects – O<sub>3</sub> , PAH, IAQ, Permit Review Location – East/Central MN

The Tribe began its Air Quality Program in September of 1996 with the constitutional reform of the Mille Lacs Band of Ojibwe. In the beginning, our elders knew of what the Air Program should address and made it part of the Tribe's statutes, but had no way of addressing our concerns, only hoping our vision would come together in the future. At the same time, Minnesota was under pressure to provide a determination for carbon monoxide (CO) and asked for partnership with the Tribe. From this partnership, the Tribe eventually received assistance from CAA Section 103 grant funding through the EPA. From our humble beginnings of CO monitoring, we moved to monitor for PM<sub>10</sub>, then to PM<sub>2,5</sub> and Ozone (O<sub>3</sub>), only to find we were down-wind transport recipient of metropolitan Minneapolis-St. Paul's air pollution. This led the Tribe to begin monitoring for meteorological conditions, monitor for speciated PM<sub>2.5</sub> and for Mercury (Hg). Today, the Tribe's Air Quality Program continues to monitor for O<sub>3</sub> and other air pollutants under a partnership with the Minnesota Pollution Control Agency (MPCA), assess PSD air permits issued by MPCA that may impact our peoples and natural resources. In addition, the Tribe's Air Quality Program works closely with the Tribe's Public Health, Housing and Administrative offices to assess and monitor indoor air quality (IAQ) for domestic and industrial safety and hygiene.

In order to holistically achieve air quality protection, the Air Quality Program actively engages addressing air quality improvements both on regional and international levels. Together with the Water Quality Program, the Air Quality Program participated in the National Pollution Prevention Roundtable (NPPR) and was awarded to implement the Seventh Generation Initiative (SGI) in the Phillips Neighborhoods of Minneapolis, MN, from 2009–2012. Though those efforts and additional needs identified, in partnership with MPCA and the Minnesota Department of Health, Band's Air Quality Program has been awarded a 3-year long Community Scale Air Toxics grant to study poly-aromatic hydrocarbons (PAH) in the Phillips Neighborhoods.

Air Quality Program is currently seeking TAS, seek redesignation as Class I air-shed, and to restore Hg, Met, continuous and speciated PM<sub>2.5</sub> monitoring to characterize, model and inventory air pollutants affecting the Tribe's air-shed. Located in Minnesota's transition zone between urban and rural air profiles, Mille Lacs is always looking for additional funding to restore monitoring projects and new air quality protection projects.

Mille Lacs Band of Ojibwe 43408 Oodena Drive Onamia, MN 56359 http://www.millelacsband.com Chief Executive: Melanie Benjamin Commissioner of Natural Resources: Susan Klapel Executive Director of Natural Resources: Bradley Kalk Environmental Programs Manager: Perry Bunting



## Nottawaseppi Huron Band of the Potawatomi

Amy Boetcher - Senior Environmental Specialist Program in Existence since - 2001 Program Projects - IAQ, Rn Location - Pine Creek Reservation, Fulton, Michigan

The NHBP began their Air Quality Program in April 2001 with help from a State of Michigan Indoor Radon grant and later with a CAA 103 grant. Radon gas interested the Tribe because 80% of Membership residents live in counties designated as having moderate to high potential for radon levels above the recommended EPA guideline (4.0pCi/l). We installed our first radon reduction system in a Reservation home and hosted a mitigation workshop in 2008. In 2009 and 2010, we continued to monitor Tribal Community Member's homes on and off Pine Creek Reservation for indoor air quality with a special emphasis on radon gas. In 2011, we began using the World Health Organization's recommended guideline for radon gas (2.7pCi/l) to make mitigation decisions. The WHO recommended level is more stringent in protecting human health than the EPA level that also incorporates economic feasibility in its standards.

Our efforts since 2011 have been to test all Tribal government-managed homes and buildings, and to mitigate, or assist in mitigating, those that show elevated levels. We have done all of this work on a shoestring budget and with assistance from our Housing Department. We performed initial short term radon tests in 35 of 40 Tribal structures on the Reservation (35 of which are managed by the Tribal Government). Of these structures, 9 are government buildings (8 on the Reservation), and 32 are Reservation homes (4 of these are not managed by the Tribal Government). During their initial short term tests, 11 structures had no existing radon mitigation system, 18 had passive pipe reduction systems, 1 had an active radon reduction system, and 8 used heat recovery ventilation (HRV) units for radon reduction. The average radon level from the 35 initial short term tests averaged 5.7 pCi/l, with a range of 0.3 pCi/l to 20.0pCi/l. Since 2008, we have also conducted follow up long-term and/or short-term tests, and installed or upgraded 17 radon reduction systems and reduced average levels in Tribal structures to 3.0pCi/l overall. Of the 17 structures we modified, average radon levels dropped from 7.7pCi/l pre-mitigation to 2.1pCi/l post-mitigation; however, post mitigation tests in 3 homes with activated passive pipe systems showed levels higher than 2.7pCi/l. We plan to trouble shoot these homes in 2015.

The 8 Tribal structures that utilize HRV units for their radon reduction system are all LEED Gold certified and 3 of these are duplexes. These homes are energy efficient, but present a challenge because occupants turn the HRV units off due to propane costs and loud motors. Even with the units constantly on, only 40% showed short term radon test results below the WHO recommended level. In addition to planning further mitigations with our Housing Department for these 5 homes in 2015, we also plan to test the 3 new duplexes during their first winter.

NHBP Website http://www.nhbpi.com





### Oneida Tribe of Indians of Wisconsin

Jeff Mears - Environmental Area Manager Program in Existence since – 1988 Environmental, Health & Safety Division was established Program Projects – Climate Change Adaption Project Sept 2013 Location – Oneida, WI

In May 2014, the Oneida Tribe was approached by Mike Dockery, U.S Forest Service, and Kyle Whyte, Michigan State University to participate in a "Tribal Climate Change Adaptation Scenario Planning Workshop". Mr. Dockery and Mr. Whyte offered to be the lead facilitators. The workshop was held on September 30, 2014 in Oneida, Wisconsin.

#### Methodology

Four climate change scenarios were developed by Mr. Dockery and Mr. Whyte. They were designed to be specific to Oneida and its climate change adaptation resources, capacities, and needs.

The scenarios were discussed broadly with the large group, and led by trained facilitators who work for the Oneida Environmental, Health, and Safety Division. Small group discussion was also used to discuss the scenarios and how they might play out. Broadly speaking, the scenarios involved climate change elements including; changes in habitat, temperatures, precipitation rates, infrastructure, agriculture, economic impacts, community service needs, conflicting jurisdictions, etc. The important element to the large and small group work- was the discussion that centered on Oneida's current capacities to adapt to climate change, and the future capacities we will need to acquire.

#### **Successes**

The primary success of the workshop has been the bringing together of several departments to discuss climate change adaptation for the first time. Much of the Tribal Organization has understood climate change adaptation to be the Environmental, Health, and Safety Division's responsibility. This workshop brought together several departments including; Zoning, Development, elected officials, Law Office, Division of Land Management, Communications, Wells & Septic, agriculture, Emergency Management, and Social Services.

#### **Future Plans**

We hope to continue to bring these Departments together once we have received the final report from our lead facilitators.



Oneida High School students planting wild rice at a restored wetland on the Oneida Reservation.



### Pokagon Band of Potawatomi Indians

Jennifer Kanine - Department of Natural Resources Director Program in Existence since - 2000 Program Projects - Comprehensive Planning, Radon Location - Dowagiac, Michigan

The Pokagon Band of Potawatomi Indians was restored to federal Tribal status through congressional act on September 21, 1994. Instead of a Reservation, the Pokagon Band was mandated a service area that consists of four (4) counties in the southwest lower Michigan and six (6) counties in north central Indiana. The Band is the only federally recognized Tribe in the state of Indiana.

Our resource protection programs are integrated into Tribal development activities through comprehensive planning. The goal is to mitigate potential direct and indirect impacts to air and water qualities up-front, rather than confront issues later.

As the Band continues to acquire new lands with older buildings and build newer facilities in other areas, it would be beneficial to be able to monitor indoor air quality and determine if older buildings have issues such as radon, mold, and mildew. By identifying issues, individuals with compromised immunity, the elderly, or the young would be protected from adverse effects. Pokagon Citizens would be able to greatly benefit from a monitoring program for their indoor facilities.

As we conduct a fire management program as a way to enhance wildlife habitat, restore prairie habitats and control invasive species, we would also like to monitor the effects that our Fire Management Program may have on the surrounding communities both immediately as well as possible longer-term effects. Furthermore, the Pokagon Band of Potawatomi have lands in multiple areas, each having different outdoor related air qualities. Many Tribal lands are situated downwind of the Milwaukee-Chicago-Gary Industrial corridor, thus the Band would also benefit from having an active outdoor air quality monitoring program. The long-term plan for the Departmental growth involves developing an Air Quality Program to monitor both indoor and outdoor air quality.







### **Prairie Island Indian Community**

Leya Klingsporn – Environmental Health Specialist Program in Existence since – 1993, new air program June 2014 Program Projects –IAQ, Radiological Monitoring, Outreach/Education Location – Welch, MN

The Prairie Island Indian Community (PIIC) is located between the Mississippi River and Vermillion River in southeastern Minnesota, approximately 45 miles downstream of the Twin Cities. Prairie Island was named because it is surrounded on all sides by water and was once dominated by native prairie habitats and oak savanna. Members of the Mdewakanton Dakota traditionally utilized the land as a temporary summer encampment due to its richness in aquatic and terrestrial resources. Prairie Island is now composed of around 3,000 acres of mixed use area.

PIIC is located in close proximity to the Twin Cities and many industrial facilities including two oil refineries. The common practice of wood burning and garbage, emissions from traffic, and surrounded by unpaved roads are also factors of concern. Additionally, the Prairie Island Nuclear Generating Plant (PINGP) run by Xcel Energy (formerly NSP) is located just three blocks away from the Community. PINGP was relicensed for an additional 20 years of operation in 2013. PIIC has been monitoring radiological components through cooperative work with EPA's Office of Radiation and Indoor Air National Analytical Radiation Environmental Laboratory (NAREL) to assess concerns to Tribal Members since 1993.

The Tribe received CAA 103 Air Program funding in June 2014. The new Air Program now includes an IAQ program, implementing IAQ assessments to address any issues and resulting health effects. The IAQ program focuses on education/outreach. Future plans are to have IAQ monitors and test for radon since community is located in a high risk zone. An emissions inventory is being established and will continue to be added to in the coming year. The Program is looking to increase its capacity for monitoring a wider range of air quality concerns for the future, including the use of air monitors to collect baseline ambient air data.





## Red Cliff Band of Lake Superior Chippewa

Melonee Montano – Environmental Director Vacant – IAQ Project Manager Program in Existence since – 2010 Program Projects – IAQ, Basic Source Emissions Inventory Location – Bayfield, WI

Red Cliff is located on the northern most point in Wisconsin on the Bayfield peninsula. It is surrounded on three sides by expanses of Lake Superior water and to the south by relatively undeveloped forest or farm lands. The lack of heavy industries nearby means Red Cliff enjoys near pristine air quality. It is the goal of the Red Cliff Tribe to protect and maintain all aspects of our environment while promoting responsible future development. This year's projects are a continuation of IAQ assessments and the basic source emissions inventory.

The Red Cliff Tribes' Indoor Air Quality (IAQ) Program is an established program in its fourth year and falls under the Treaty Natural Resource Division, Environmental Department. The Program focuses on the completion of basic residential assessments to determine the need for insulation, ventilation and moisture control measures. Problem moisture areas are identified and the source documented. Areas lacking insulation and ventilation in each home are also documented. Homeowner and office management education is carried out in order to increase the community knowledge on basic measures that can be taken to control indoor air quality (moisture control, additional ventilation, piping insulation, etc.). When feasible, the information is then utilized to fix the problems with these systems in each home.

The benefits are twofold; better overall indoor air quality and better energy efficiency. Better indoor air quality should decrease the number of asthmatic episodes for asthma sufferers and increase well-being for all. Better energy efficiency will decrease the amount each household pays out in energy bills on a yearly basis.

The Red Cliff Tribe recognizes that the incidence of asthma and allergies is increasing, especially among our children. Proper management of moisture, air flow and insulation results is a benefit to both health and cost for heating and cooling a home. A good number of homes on the Reservation were built prior to 1980 and have serious moisture intrusion problems. Additionally Members have recently purchased over 45 FEMA trailers many with sever roofing leaks and insulation issues. The Red Cliff Health Center has many patients that are suffering from respiratory problems that are exacerbated by poor indoor air quality in their homes.

The Tribe is also interested in air quality as a natural resource and environmental health issue that has not yet been explored thoroughly. Therefore, in 2016, the Tribe will apply for additional funds to complete an emissions inventory for the Reservation and surroundings as a first step in developing capacity in air quality. Ambient air quality has potential to affect the health of Tribal Members in several ways, for example directly and through the consumption of fish, therefore it is important that the Tribe have the capability to participate in regional issues affecting air quality. Red Cliff Band of Lake Superior Chippewa web page <a href="http://redcliff-nsn.gov/">http://redcliff-nsn.gov/</a>





## Red Lake Band of Chippewa Indians

Jennifer Malinski – Air Quality Specialist Program in Existence since – 2007 Program Projects – CASTNET, PM <sub>2.5</sub> , MET, Hg Litterfall, Outreach Location – Red Lake, MN

The Red Lake Reservation is a federally recognized closed Reservation encompassing over 835,000 acres of north-central Minnesota. The Reservation is the largest within EPA Region 5, comprising greater than 59% of the Federal Indian Trust land of the Region. The Tribe currently has 11,500 enrolled members, of whom about 6,500 reside on the Reservation. Primary sources of livelihood for those living on the Reservation include hunting, fishing and subsistence natural resource harvesting. Preserving the Reservation's abundance of natural resources is critical to Band Members' health, welfare, traditional ways of life and economic viability.

The Red Lake Air Program received CAA 105 Funding for the first time in 2014. This transition from project to program funding, along with new partnerships and activities, have been keeping us busy. We are now working with the Clean Air Status and Trends Network (CASTNET) running and maintaining a small footprint filter pack site. We had a rough start with weather, wildlife and bad luck, but things are going well now and we are currently measuring particulates (SO<sub>4</sub>, NO<sub>3</sub> and NH<sub>4</sub>), gases (HNO<sub>3</sub> and SO<sub>2</sub>) and the base captions.

Also, we have started sampling for  $PM_{2.5}$ , filling a data gap in northern Minnesota. We have joined the Minnesota Pollution Control Agency's (MPCA) network and have worked closely with the MPCA to set up our site. We are running a Beta Attenuation Monitor (BAM 1020) – a Continuous Particulate Monitor – at our site.

Additionally, as part of the National Atmospheric Deposition Program (NADP) litterfall mercury monitoring initiative, we began collecting samples this fall. Unfortunately, a black bear found our site and ripped the mesh out of all of our sample collection bins, so we were unable to turn in samples this year. We will, however, continue to be a part of the NADP and are already planning for next year.

### Red Lake DNR Website http://www.redlakednr.org







Litterfall Mercury Bin



**CASTNET Site** 



## Saginaw Chippewa Indian Tribe of Michigan

Sally Kniffen – Environment Specialist Program – Currently working with ITCM Program Projects – El, IAQ Location – Mt. Pleasant, Michigan

Air Quality Program Development for the Saginaw Chippewa Indian Tribe of Michigan.

The Saginaw Chippewa Indian Tribe of Michigan (SCIT) is in the beginning stages of developing their Air Program. The Tribe has not pursued a Clean Air Act Grant from EPA at the present time however; we are laying the foundation to do so in the next funding cycle(s).

An emissions inventory has been completed with the assistance of the Inter Tribal Council of Michigan (ITCM). Their Environmental Staff, Travis Maki and Dwight Sargent assisted with the compilation of several major air pollution sources, in and upon, the Tribal Reservation Boundaries and nearby areas.

During the summer of 2014 the ITCM and SCIT Environmental Team members performed indoor air quality inspections for Tribal homes and Tribal buildings. The indoor air quality was poor in several buildings due to lack of adequate air exchange and humidity control. Mold was also an issue in every building and home tested. The Tribe is concerned about the health and safety of the membership and employees who live and work in these places.

The Saginaw Chippewa Indian Tribe of Michigan is looking forward to building capacity in their Air Program.



Looking for stands of wild rice and/or potential areas for restoration on Vaughn Lake, near Glennie Michigan.





## Sault Ste. Marie Tribe of Chippewa Indians

Kathleen Brosemer - Environment Program Manager Program in Existence since - No formal program Program Projects - Rn testing, IAQ, TV Review, Climate Change Location - Sault Ste. Marie, Michigan

The Sault Tribe Environment is beginning to gear up on air resources work. We submitted a workplan in response to this fall's proposal call for EPA CAA funding and are hopeful of approval under the 103 program. If this work is funded we will hire our first Environmental Specialist for Air Quality. Until this time, none of our staff has had responsibility for air except for some work on indoor air quality and transportation issues through GAP funding.

Our service area includes airsheds that vary between pristine air quality (national forests in the eastern Upper Peninsula of Michigan) and quite impacted (urban areas affected by emissions from coke ovens at Essar Steel, across the border in Canada). In addition, the bedrock geology of this area contributes radon gas to homes and other buildings throughout our region, woodstoves are common sources of heat, and housing is subject to mold, environmental tobacco smoke, and other contaminants.

The Sault Tribe Environment Program provides radon test kits and mold advice, as well as outreach on indoor air quality issues for Tribal housing and off-Reservation Tribal Members in the seven county service area. Mold in particular brings us many questions from residents who understand the health issues it presents. As a result, two of our staff are maintaining certification from Building Science Academy, to assist our Members in making their homes healthier through proper air-sealing and humidity control techniques. We're working to pass along these skills through ongoing training of Housing and Facilities staff.

Essar Steel, the large integrated steelmaker in Sault Ste. Marie Ontario, presents challenges. Cokemaking in large coke oven batteries results in fugitive emissions of carcinogens benzene and benzene derivatives such as benzo-a-pyrene and other polyaromatic hydrocarbons, on particulate matter small enough to lodge deeply in the lungs and create cancer risk (PM 2.5). Despite this polluter located in another country, we serve on its Citizens Liaison Committee and use that seat to bring a voice for upgrading their equipment.

Recent proposed industrial development in otherwise pristine airsheds of the eastern UP has led us to conclude that we must take steps to guard our ambient air quality throughout our service area. We want to be prepared and have the capacity to enter into consultations with Michigan and EPA on air quality issues when proposals come forward for permitting.

Last, we are extremely proud to have been chosen as one of the two Tribes selected in the first round of the President's Climate Action Champions competition. We are hopeful that the resources that will be made available as a result of this designation will help us move forward with energy efficiency and renewable energy technologies for Tribal operations, and continue to make progress in various areas of climate adaptation planning and resiliency. This will include certain tasks in our proposed 103 workplan, such as inventories of our diesel fleet in preparation for upgrades, and a woodstove changeout program for Tribal homes.



## **Shakopee Mdewakanton Sioux Community**

Simeon Matthews – Industrial Hygienist Stan Ellison – Director of Land & Natural Resources Program in Existence – Since 2011 Program Projects – IAQ, Alternative Energies, Composting, Tribal NSR Location – Prior Lake, Minnesota

The SMSC was formally organized under federal Reservation status in 1969. Since then, SMSC has grown to include more than 4,100 acres of land in fee & trust, south of Minneapolis.

#### IAQ

Radon outreach and testing (GAP funding) began in 2012 and incorporated a focus on youth-oriented education in 2014. Insulation and blower door testing is provided to identify IAQ issues related to condensation, drafts, and ventilation. In 2015 a "door-to-door" Household Hazardous Waste program will begin, likely reducing IAQ hazards through prompt & proper waste disposal.

### **Alternative Energies**

SMSC operates solar panels on 7 facilities, a wind turbine that generates enough electricity for all of its residential demand, and two LEED-certified commercial buildings that include geothermal temperature control. These energy sources contribute to SMSC self-sufficiency and reduce emissions associated with non-renewable resources.

Since 2009, the SMSC has brewed biodiesel for its fleet vehicles from its restaurants' used cooking oil. After considering a number of factors, including studies indicating no improvement to air quality, E-85 sales were discontinued at two SMSC gas stations in 2013.

#### Composting

Like alternative energies, the SMSC Organics Recycling Facility is a means of reducing greenhouse gas emissions locally. Surrounding municipalities & residents have a shorter drive to compost their yard and food wastes are diverted from landfills where they would produce greenhouse gases.

#### **NSR Minor Sources**

In 2012, the SMSC was issued its first Construction Permit, allowing utility-controlled load-shed operation of emergency generators at a synthetic minor source. The following year, 18 Tribally-owned sources were registered under the Tribal Minor NSR Rule. In 2014 the Tribe was issued three more Construction Permits, allowing the load-shed operation of 11 more emergency generators at two true minor sources and one synthetic minor source. Monthly emissions monitoring has revealed that, for all four permits combined, actual  $NO_x$  emissions are 7% of permitted limits. Interdepartmental cooperation within the SMSC has been essential to the government's permitting,  $NO_x$  emissions monitoring and testing.





### St. Croix Chippewa Indians of Wisconsin

Sarah Slayton - Indoor Air Quality Specialist
Jonathan Knight - Ambient Air Quality Specialist
Program in Existence since - 2004
Program Projects - Indoor and Ambient Air Quality
Location - Scattered throughout Burnett, Polk and Barron Counties, WI

St. Croix started its Air Program under CAA 103 grant funding in 2004. Through the years the Tribe has received intermittent funding to try to maintain an Indoor Air Program and in the years funding is not available, General Assistance Program (GAP) funds have been used to maintain very basic services to the Tribe. With the EPA funding, St. Croix has been able to provide indoor air quality assessments and education to our Tribal Members for several years.

Our Indoor Air Program staff continues a close relationship with our St. Croix Tribal Housing Authority, which has allowed a combination of resources and expertise to ultimately advance the program with rehabilitation recommendations being implemented by the Housing Authority. The majority of concerns that we receive calls on have to do with moisture issues resulting in mold concerns. As a result the main focus of the Indoor Air Quality staff has been building science relating to home maintenance and construction. With the help of our Housing Department we have been able to acquire a blower door system and use this to assess our homes more thoroughly. Several other areas are periodically called upon for testing including carbon monoxide, radon, VOC's, ETS, sewer gases, asthma triggers, and pests. We have also recently expanded our relationship with our Housing Department into a safety team that includes a group from the St. Croix Tribal Clinic. We are still in the planning stages, but ultimately we hope that this group will be able to assess homes thoroughly together as a team.

We are continuing to progress in our efforts to grow our Ambient Air Program. We are attempting to expand our capacity in ambient air monitoring, especially because St. Croix really has no baseline data to go on as far as the current state of the air they breathe. The Tribe's emissions inventory is still ongoing, as well as our continual permit reviews on the emissions sources that affect the Reservation's air quality. Ambient air quality is an issue that has become a priority for St. Croix due to four major highways bisecting the Reservation along with burn barrels, unpaved roads and recent mining operations that are becoming closer and closer to the Reservation. Through trainings and the use of the program TEISS, the Institute for Tribal Environmental Professionals (ITEP) has been an excellent resource we have used to expand our knowledge base and our overall Ambient Air Program. TEISS has been really helpful in helping us locate and keep track of the known and even previously unknown emitters in our area that have substantial effect on the air shed that the Reservation is located and relies on. Frac sand mining is a concern for our Tribe due to the rapid increase in mining and the little research done on what it is and the environmental effects it has, as well as the limited permits that have been issued. As part of our Ambient Air Program we are educating ourselves on this process and will use our program to aid in monitoring and review of these sites.

The CAA 103 funding as allowed programmatic growth by retaining qualified staff to serve as a resource for the St. Croix communities and to create a program active in Region 5 initiatives, such as participating in regional dialogue on conference calls, attending regional meetings, performing home assessments and working with the Tribal Housing Department by being a resource during the planning process to rehabilitate and promote healthy homes.

Please visit the Departmental website: http://www.stcciw.com/stcroixepa/staff.html



# Stockbridge-Munsee Community A Band of Mohican Indians

Greg Bunker – Environmental Department Manager Program in Existence since – No formal program Program Projects – IAQ, Investigate Class1 Location – Bowler, WI

The Stockbridge-Munsee Tribe currently does not have a formal air program funded by specific air grants. The Tribal Council is currently considering investigating the process of designation of our airshed to Class 1. Intensive agricultural and continued industrial development within 50 miles of the Reservation are a concern to the Tribe. We also include indoor air quality (IAQ) assistance and investigations within the scope of activities to Tribal Members and Tribal governmental buildings. This includes investigations on mold, asbestos and radon within homes and governmental buildings and is done on an as-requested basis or where a problem is suspected. This activity is funded through a combination of EPA General Assistance Program (GAP) funding and Tribal funding. We have not received any complaints about outdoor wood boilers, however we would like to get ahead of that issue and propose changes and updates to the Tribal law, chapter 35, Air Pollution Control, before this becomes an issue.



The southern part of the Reservation. Observations have been hazier than usual.





### Upper Sioux (Dakota) Community ~ Pezihutazizi Oyate

Scott Wold – Environmental Director
Jared Wagner – Environmental Specialist
Program in Existence since – No formal program
Program Projects – IAQ assistance to Tribal Members
Location – Granite Falls, MN

There is an ongoing need for the Upper Sioux Community (USC) to develop an Air Program to address both indoor and ambient air quality. Some of the known industrial sources of concern are:

- Granite Falls Energy, LLC Ethanol Plant
- Martin Marietta Aggregates, Yellow Medicine Quarry rock mining and crushing
- Northern States Power/Xcel Energy Minnesota Valley Plant coal-fired power plant (online 1953-2004, coal fly-ash and bottom-ash ponds removed 2010)

The Big Stone coal-fired Power Plant, which has been online since 1975 is located about 70 miles upstream, at the headwaters of the Minnesota River near Milbank, SD.



Our Community is surrounded by small-scale farming and industrial agriculture which emit several pollutants of concern, including various odors, anhydrous ammonia, fine particulate matter, and pesticides. Poor soil management practices result in excessive soil erosion and sediment being carried in the wind.

There are indoor air quality concerns with radon, mold, and smoking. Some neighboring residents still use open burn barrels/pits within close proximity to the USC.

We have Community Members of all ages with asthma, allergies, and other respiratory disorders. Within the past several decades there has been an increase in the prevalence of these illnesses within the younger generations.





## White Earth Band of Ojibwe (Gaa-waababiganikaag)

Dustin Spaeth – GAP Coordinator
Program in Existence since – No formal program
Program Projects – Rn, Wind Energy, Outreach & Education
Location – Mahnomen, MN

The White Earth Band of Ojibwe (Gaa-waababiganikaag), a sovereign nation, is entrusted to protect the land base, natural resources, treaty rights, and the culture and identity of our Members. The White Earth Reservation, located in Northwestern Minnesota, was established in 1867 by a treaty with the United States Government and the Mississippi Band of Ojibwe. Status as a Tribal Government provides the White Earth Reservation with broad powers, ensuring various immunities for the Tribe and its individual Members. The boundaries include 36 townships which encompass all of Mahnomen County and portions of Becker and Clearwater Counties. The area includes five incorporated cities and five major villages.

The Natural Resource Department was established to protect, manage and enhance the resources of the Reservation and is responsible for daily management and monitoring of Tribal resources. Air Quality is of great importance to the White Earth Band. IAQ, burn barrels, unpaved roads and wood smoke contribute to some of the concerns in White Earth. While a formal Air Quality Program hasn't been established, we have begun the process of building the foundation for the future.

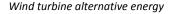
### White Earth Environmental Program Projects include:

- The development of an Air Quality Ordinance (EPA-GAP);
- Radon testing in privately owned homes (EPA-GAP);
- Outreach to Band Members regarding air quality and how it affects health; along with
- The White Earth Reservation Housing Authority radon testing and yearly inspections for IAQ concerns; and
- Addition of wind turbines to the White Earth Reservation.

Ten years ago, the White Earth Nation took its initial steps in creating a renewable wind energy resource on the Reservation. Currently, White Earth is home to three wind turbines, with the plan of scattering multiple others across the Reservation.

Also, the White Earth Department of Natural Resources has currently distributed five hundred radon test kits throughout the White Earth Reservation through outreach events with the community, as well as the Housing and Head Start departments.



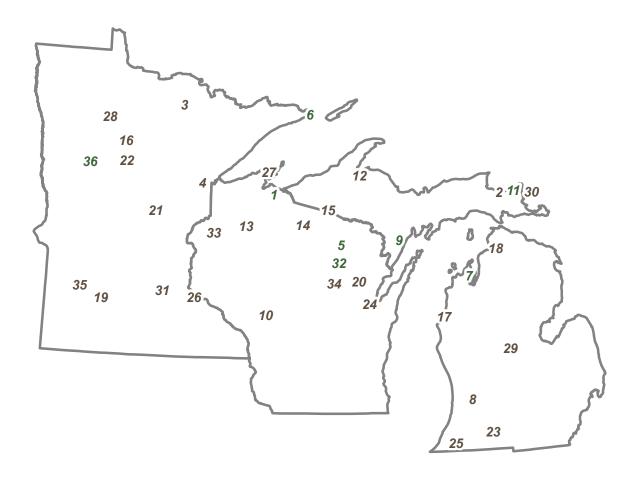






Radon Testing Kits

# US EPA Region 5 Tribes



- 1 Bad River Band of Lake Superior Chippewa
- 2 Bay Mills Indian Community
- 3 Bois Forte Band of Chippewa
- 4 Fond du Lac Band of Lake Superior Chippewa
- 5 Forest County Potawatomi Community
- 6 Grand Portage Band of Lake Superior Chippewa
- 7 Grand Traverse Band of Ottawa & Chippewa
- 8 Gun Lake Band of Potawatomi Indians
- 9 Hannahville Indian Community
- 10 Ho-Chunk Nation
- 11 Inter-Tribal Council of Michigan, Inc. (Consortia)
- 12 Keweenaw Bay Indian Community
- 13 Lac Courte Oreilles Band of Ojibwe
- 14 Lac du Flambeau Band of Lake Superior Chippewa Indians
- 15 Lac Vieux Desert Band of Chippewa
- 16 Leech Lake Band of Ojibwe
- 17 Little River Band of Ottawa Indians
- 18 Little Traverse Bay Bands of Odawa Indians

- 19 Lower Sioux Indian Community
- 20 Menominee Indian Tribe of Wisconsin
- 21 Mille Lacs Band of Ojibwe
- 22 Minnesota Chippewa Tribe (Consortia)
- 23 Nottawaseppi Huron Band of the Potawatomi
- 24 Oneida Tribe of Indians of Wisconsin
- 25 Pokagon Band of Potawatomi
- 26 Prairie Island Indian Community
- 27 Red Cliff Band of Lake Superior Chippewa
- 28 Red Lake Band of Chippewa Indians
- 29 Saginaw Chippewa Indian Tribe
- 30 Sault Ste. Marie Tribe of Chippewa Indians
- 31 Shakopee Mdewakanton Sioux Community
- 32 Sokaogon Chippewa Community
- 33 St. Croix Chippewa Tribe of Wisconsin
- 34 Stockbridge-Munsee Community
- 35 Upper Sioux Community
- 36 White Earth Band of Chippewa

#### Bad River Band of Lake Superior Chippewa

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