Assisting Tribes in Submitting Data to the National Emissions Inventory, Challenges and Successes

Sarah Kelly, Program Manager; Virgil Masayesva, Director
Institute for Tribal Environmental Professionals, P.O. Box 15004, Flagstaff, Arizona 86011-5004
Sarah.Kelly@nau.edu
Virgil.Masayesva@nau.edu
Annabelle Allison, Director
Tribal Air Monitoring Support Center, P.O. Box 98517, Las Vegas, NV 89199-8517
Annabelle.Allison@nau.edu

ABSTRACT

According to information compiled by the Institute for Tribal Environmental Professionals (ITEP), roughly 10% of the 350 federally recognized tribes in the lower 48 states of the US have completed emission inventories (EIs) for their lands. Tribes who have completed EIs use them in their own communities and in their tribal air programs. They often lack the staff time to use the data to gain representation in regional and national processes and databases. As regional planning organizations and federal agencies try to obtain tribal data to include in their data sets, they are faced with the difficulty of identifying which tribes have developed the data that they need. Once tribes are identified, approval must be obtained from tribal governments to release the data. Tribal staff may need assistance in compiling, coding and submitting the data.

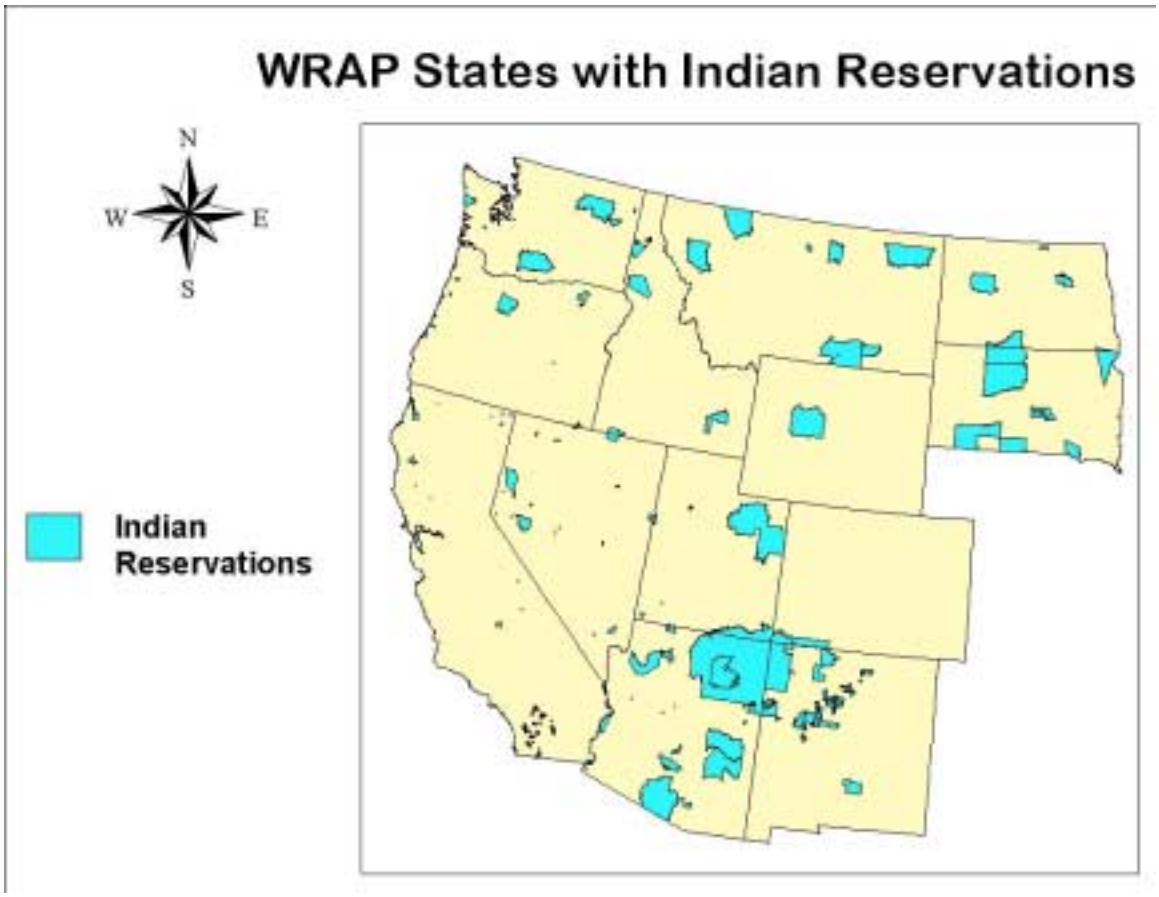
This paper describes an ITEP project, funded by the EPA Office of Air Quality Planning and Standards (OAQPS) and the Tribal Data Development Working Group (TDDWG) of the Western Regional Air Partnership (WRAP), to assist tribes who have EIs in being represented in the 1999 National Emissions Inventory (NEI), version 3. ITEP created a process of gaining approval for release of data, quality checking submitted data, encoding data, and obtaining a final approval from tribal air staff for submission of data. The challenges and successes encountered in each of these steps are described in this paper.

INTRODUCTION

Recent work within US regional planning organizations (RPOs) has highlighted the need for the inclusion of tribal data in regional and national processes. RPOs were created to develop technical and policy tools to comply with the Environmental Protection Agency's (EPA) regional haze regulations. As market-trading schemes are created and regional-scale air quality modeling is planned, tribal data is needed to ensure equity in trading schemes and to ensure that models accurately represent actual conditions.

Much of the currently existing data on sources of air pollutant emissions have been gathered by the states and local air agencies. Since states do not have authority to administer any type of program on tribal lands, data from tribal lands has not been included in the national-scale emission inventories. Emission data compiled by the US EPA's OAQPS is currently stored in the National Emission Inventory (NEI). The NEI is widely used for air dispersion modeling, risk assessment screening, and tracking emission trends. The data in the NEI has come primarily from state and local air agencies. The lack of tribal data leaves significant gaps in air quality data not only over large parts of the western US, but the rest of the country as well. Figure 1 illustrates Indian reservations in the WRAP region.

Figure 1. WRAP States with Indian Reservations



Within the last ten years, tribes have made significant strides toward developing emission inventories for their lands. In 1990, less than five tribes had completed emission inventories. In 2000, ITEP estimates that 35-50 tribes have completed emission inventories. Tribes who have completed emissions inventories use them in their own communities and in their tribal air programs. They often lack the staff time to use the data to gain representation in regional and national processes and databases. As regional planning organizations and federal agencies try to obtain tribal data to include in their data sets, they are faced with the difficulty of identifying which tribes have developed the data that they need. Once tribes are identified there are the additional tasks of obtaining approval from tribal governments to release the data and assisting tribal staff in compiling, coding and submitting the data.

Through this project, ITEP identified a list of 70 tribes across the US who may have completed EIs. ITEP began by asking these tribes to obtain the appropriate level of government or administrative approval to release their EI data. EIs released to ITEP for the project were checked to ensure that they contained the information mandatory for the NEI. Where information was missing, ITEP made an effort to obtain the missing data. Complete tribal EIs were encoded for submission to the NEI. A summary table of the coded data was sent to participating tribes. After final approval by the tribe, the data was submitted to the NEI. Each of these steps are described in more detail in this paper.

ASSISTING TRIBES IN SUBMITTING THEIR DATA TO THE NEI

Obtaining Tribal Emission Inventories

In September and October, 2001, ITEP sent letters to the 70 tribes believed to have EIs, asking them to participate in this project. The tribes believed to have EIs are located across the US and in almost every EPA region as shown in Table 1.

Table 1. Geographic distribution of tribes believed to have EIs.

EPA Region (states in parentheses)	Number of Tribes who may have EIs
1 (ME, NH, VT, MA, CT, RI)	3
2 (NY, NJ)	2
4 (KY, NC, TN, SC, MS, AL, GA, FL)	2
5 (MN, WI, IL, IN, MI, OH)	5
6 (NM, TX, OK, AR, LA)	15
8 (MT, ND, SD, WY, UT, CO)	16
9 (CA, NV, AZ)	21
10 (WA, OR, ID)	6
TOTAL	70

Notes: There are no federally recognized tribes in EPA region 3. There are no tribes believed to have EIs in EPA region 7.

The letters sent to tribes included three documents. The first was an introductory letter describing the project, the NEI, and a summary of the benefits of submitting data to the NEI. The second was a single-page fact sheet describing the benefits of releasing tribal data to the NEI. The third was a data release form, to be signed by the tribal EPA director, a tribal administrator, or tribal council, whichever was most appropriate. ITEP sent these three documents to both the tribal air program manager and the tribal government for each tribe. This was done to ensure that the tribal government was aware of the request for information and aware that the information would become public if the tribe chose to participate. By requiring a signature from a responsible tribal official, ITEP ensured that the tribe would not be releasing any data that they classified as sensitive. By signing the form, the tribe released their data to ITEP and the NEI.

Obtaining the release of tribal data was the most time-consuming part of the project. In most cases, tribal air staff needed to present the request to their tribal governments. This often entailed reserving time on the tribal government's regular meeting agenda, which in some cases took several months. The tribal government then needed to make the decision to release the data.

Obtaining Additional Information Mandatory to the NEI

Upon receipt of the signed data release form and the tribe's EI, ITEP conducted a quality check to ensure that EPA accepted methods were used to calculate emissions. The EIs were also checked to ensure that they contained all of the information mandatory in the NEI. The most common information missing from tribal EIs were Standard Industrial Classification (SIC) codes, Source Category Codes (SCC) and latitude and longitude coordinates for point sources. ITEP obtained this information by comparing the narrative included in the EI with the code tables, using internet mapping resources, and through phone calls to the tribal air staff. In some cases the units used in the tribal EI were not acceptable in the NEI format. In these cases, ITEP staff converted the tribe's data to NEI acceptable units.

Coding, Summarizing, and Submitting Tribal Data to the NEI

After verifying the quality of the tribe's EI data and obtaining any necessary additional data, ITEP converted the data into the NEI database format. The NEI format requires that data be placed into a number of tables. When the encoding was complete, ITEP produced a copy of the coded data tables for the tribe's review. The review copy of the tables included explanation for all NEI codes included in the tables. A summary report, detailing any data collection or conversion conducted by ITEP, was also created for the tribe's review. The tribes were asked to give the coded data a final review and give ITEP verbal authorization to submit the data to the NEI.

RESULTS

Tribal Participation

As of March 14, 2002, five tribes had released their EI data for this project. They are the Laguna Pueblo, the Ute Mountain Ute Tribe, the Mississippi Band of Choctaw Indians, the Salt-River Pima-Maricopa Indian Community, and the Gila River Indian Community. Another eleven tribes were interested in participating and were still trying to gain approval from their tribal government or find staff time to comply with the information request. Five tribes cited data sensitivity concerns, stating that they did not want to release their data for various reasons. Another 25 tribes will not be participating because their EI was completed prior to 1996 (the cutoff year for this project set by OAQPS), they did not have time to respond to the request, their tribe did not have a completed EI, or the tribe was waiting for the completion of their EI. Twenty-four tribes have not responded to the mailed requests or follow-up phone calls.

Tribal Sources

The tribes participating in this project as of March 14, 2002 reported emissions from the following types of sources:

Point Sources:

- Natural gas compressor stations
- Communications equipment manufacturing facility
- Sand and gravel pits
- Solid waste landfills
- Asphalt operations
- Concrete operations
- Aluminum processing facilities
- Medical waste incinerator
- Cotton gin
- Copper wire recycler

Area Sources:

- LPG combustion
- Diesel combustion
- Wood combustion
- Agricultural activities
- Solvent use
- Fires (structures, vehicles, etc.)
- Forest fires (prescribed and wildfire)
- Gasoline service stations
- Construction activities
- Oil and gas exploration and production
- Open burning of solid waste

Mobile Sources

- Local paved and unpaved roads
- State highways
- Interstates/Freeways

Non Road Mobile Sources

- Lawn and garden equipment
- Railroads
- Agricultural Tractors

Biogenic Sources

SUGGESTED IMPROVEMENTS FOR FUTURE TRIBAL EI EFFORTS

The greatest need for improvement is in the effort to enable more tribes to complete EIs on their lands. The rate of increase experienced between 1990, when less than 5 tribes had EIs, and 2000, when at least 35 tribes had EIs, must be continued or increased if the gap in emissions data over tribal lands is to be filled. In early 2001, ITEP attempted to contact all of the tribes in the WRAP region to assess their interest in emission inventories. Of the 156 tribes responding, 28 said that they had an EI and 77 said that they planned to complete an EI in the next 1-2 years. This would almost quadruple the number of tribal emission inventories in the WRAP region. Identifying resources for completing tribal EIs is a critical issue waiting to be addressed.

Efforts to encourage tribes to contribute their data to national and regional databases could be improved. More communication from RPOs and the US EPA to tribes on the benefits of sharing data

may help tribes put a higher priority on sharing data. Any discussion of the benefits of sharing data must be accompanied by a frank discussion of the drawbacks and risks associated with making emission inventory data public. If a tribe is unsure of what the risks of releasing their data are, they may elect not to release the data.

Training and education efforts for tribes on the requirements of national and regional emissions databases should be continued. Workshops such as ITEP's Emissions Inventory workshop, can continue to make tribes aware of what elements should be included in their EIs to allow for easy inclusion in national and regional emissions databases, such as the NEI. The inclusion of SIC codes, SCCs and latitude and longitude coordinates for point sources should be emphasized.

CONCLUSIONS

Through this project, ITEP hopes to assist at least 15 tribes in submitting their data to the NEI. This effort is valuable to tribes, EPA and RPOs. This project will assist EPA and RPOs in making a good-faith effort to obtain EI data, where it exists, from US Indian tribes. Tribal environmental programs will benefit from the assistance in extracting, formatting, and submitting their EI data to EPA. This type of assistance can be important to tribes who are running their environmental programs with limited staff. Often, the day-to-day demands of their programs do not leave time to prepare data for representation in regional and national processes.

An issue highlighted through this project was the amount of time required to obtain data from tribes. Tribal environmental programs often have limited staff time available to compile, prepare, and submit data to national and regional databases. Many tribes have a strong tradition of making decisions on the release of data at the tribal council or government level. Time must be allowed to get data requests on to council agendas. It is imperative that EPA and RPOs plan in advance to allow tribes sufficient time and resources to provide their data for inclusion in regional and national processes.

KEYWORDS
Emission Inventories
Native American
Tribe
Tribal
Reservation
National Emission Inventory