

Robinson Rancheria's Emissions Inventory: A Minor Inventory Leading to Major National Impacts

David C. Jones
Robinson Rancheria of Pomo Indians
PO Box 1580, Nice, CA 95464
gpick1@hotmail.com

ABSTRACT

Robinson Rancheria of Pomo Indians (N. CA) has a fledgling air quality program funded by an EPA CAA grant. Their first EI data (on-road mobile and area sources) was uploaded into the EPA NEI 1999 database. Thus they became the first Native American Tribe in the U.S. to report EI data into the national arena. Nationally, 28+ Tribes have completed EI's with data being used internally.

Tribes must satisfy several legal requirements to obtain "Treatment the same as a State" status and EPA delegated responsibility for air quality over their Tribal lands. An EI and NEI input are primary items, followed by a Tribal Implementation Plan (like a S.I.P.) and application to EPA. No Tribe in the U.S. currently has this EPA delegated authority.

The national impacts of Tribes accepting responsibility for air quality over their lands are significant. Minor impacts include modifications to the NEI database and AQ models to facilitate tribal input (new categories, searchable items, map displays, modeling problems, etc.). Major impacts include tribal lands withdrawn from State responsibility, tribal facility permitting and inspections, Tribal codes and ordinances instead of State laws, cooperative understandings and agreements between Tribes and States as equals, tribal self-designation (attainment or non-attainment), and credits trading by Tribes and States. The Tribes of the U.S. are about to become new players in the Nation's air quality arena.

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) was established and charged with implementing the provisions of the Clean Air Act (CAA) in 1969. It was designed to oversee the administration, regulation, and enforcement of this Act at the national level. The States were to administer, regulate, and enforce the provisions of the CAA, in addition to any other pertinent State laws, at the State and local levels. To accomplish this, EPA began assisting and guiding the States in the development of skilled personnel, in the various State departments, and appropriate State clean air laws. Some of the ways EPA assisted the States included financial assistance (grants), supplying equipment, EPA technical assistance, legal staff to assist with drafting State clean air laws, and general support for State air quality agencies. When EPA was satisfied with the level of technical expertise, State laws, and State Implementation Plans (SIPs), it deemed the States qualified and delegated the authority to administer, regulate, and enforce the CAA within the boundaries of those States to the applying State agencies. Assistance from EPA has continued, at various levels, to the States to support this delegation.

Tribal lands, also referred to as "Indian Country", were placed under State jurisdiction initially. Subsequent court rulings established that States were not allowed to administer provisions of the CAA on Tribal lands. In February 1998, EPA promulgated regulations specifying the Clean Air Act provisions for which it is appropriate to "treat Tribes in the same manner as States" (TAS). This "Tribal Authority Rule" or "TAR" identifies those provisions, lays out the eligibility requirements for Tribes, and describes the kinds of financial assistance available. EPA has been assisting and guiding Tribes, since 1998, in the development of skilled personnel and appropriate tribal laws, codes, and ordinances.

Financial assistance (mainly grants) has also been made available, however, it is severely limited. With 355 federally recognized Tribes¹ in the U.S., funding will continue to be a problem. Currently no Tribe has TAS status under the Act. Therefore, no Tribe has the EPA delegated authority to administer, regulate, and enforce air quality and pollution laws on their own Tribal lands.

The Robinson Rancheria of Pomo Indians (Robinson Rancheria) is a federally recognized Indian Tribe. It is located on the western edge of the community of Nice, approximately 2,000 residents, in rural Lake County, California. The community of Nice is located on the shores of Clear Lake, the largest natural freshwater lake entirely in California. The total land base of the Rancheria consists of four non-contiguous sites, totaling 956 acres. Of this land, the BIA holds 127 acres in trust and the remaining 829 acres is in fee-simple status. A major east-west trending State 2-lane highway (Highway 20) bisects the trust land. There are 40 homes, a community multi-purpose building (inc. ½basketball court), a tribal administration building, a small casino, and 4 mobile homes (converted to offices) on the Rancheria. All of these structures are single story.

Robinson Rancheria established an environmental program and center with an EPA Tribal General Assistance Program grant in October 1996. EPA awarded a CAA, Section 103, grant to Robinson Rancheria to develop an Air Quality Program in December 1998. This grant allowed the Tribe do many things including hire and train air-quality personnel, identify the sources of air emissions within the boundaries of the Rancheria, identify the sources of air emissions off the Rancheria, and to develop a baseline emissions inventory (EI) for the standard criteria and HAP (hazardous air pollutants) pollutants.

ROBINSON RANCHERIA'S EMISSIONS INVENTORY

This is the first emissions inventory for Robinson Rancheria and, consequently, it was the baseline EI. The inventory was compiled over a period of approximately nine months with some basic information being collected during the prior 1 ½ years. EPA requires, among other items, a tribe to complete an EI for recognition of their air quality program. By completing this inventory, Robinson Rancheria became the 29th Tribe in the Nation known to have completed an EI². The EI data was uploaded into the EPA National Emissions Inventory (NEI) database in June 2001. Robinson Rancheria thereby became the first Native American Tribe in the U.S. to report EI data into the national arena.

In developing the Robinson Rancheria EI, five major source categories were considered. These included point, area, on-road mobile, off-road mobile, and biogenic sources. Within these categories, individual emission source components were considered, data reviewed, and only the two major contributing components to the air quality of the Rancheria quantified. Emissions from mobile on-road (traffic on paved roads) and area (wood-burning stoves) sources were quantified using data, and estimates where data was unavailable, for July 1, 1999 thru June 30, 2000.

The most frequently traveled on-reservation paved road is California State Highway 20 (Hwy 20). This section of Hwy 20 is approximately 0.7 mi. long and it traverses the Rancheria in a west to east direction. Traffic data (1999) from the California Department of Transportation was obtained and used to calculate the emissions for on-road mobile traffic on the highway. The summary of this data is shown in Table 1.

A contractor surveyed the Rancheria's casino paved access (from Hwy 20) and parking traffic in June 2000. Data resulting from this survey was used to calculate emissions by on-road mobile sources into the casino. The summary of this survey is shown in Table 1.

There are also paved roads to the administration, community center, residential, maintenance, and environmental buildings on the Rancheria. These roads have an aggregate length of approximately

0.8 miles and the author estimated daily traffic on these roads. The estimated Rancheria traffic is summarized in Table 1.

Table 1. Estimated 2000 Rancheria Vehicle Mileage

Drivers	Daily (mi/day)	Monthly* (mi/mo)	Yearly** (mi/yr)
Residents	49.2	1,476	17,958
Visitors	24.6	738	898
Tribal Staff	1.7	51	621
Maintenance Trucks	1.5	45	548
Hwy 20 Traffic	3,500	105,000	1,277,500
Casino Traffic	137.9	4,137	50,334
Totals	3,714.9	111,447	1,347,859

* Using (Daily mi/day)x(30 days/mo) and rounded to nearest whole number

** Using (Daily mi/day)x(365 days/yr) and rounded to nearest whole number

Table 2. Estimated 2000 Rancheria Air Emissions.

Pollutants	Area Source	Mobile Source	Pollutant Totals (t/yr)
	Wood-burning Stoves (t/yr)	On-Road Vehicles (t/yr)	
PM-10	1.1		1.1
CO	10.7	8.63	19.33
NOx		1.06	1.06
SOx	0.03		0.03
TOC	2.13		2.13
Methane	1.22		1.22
TNMOC	0.91		0.91
HC		0.70	0.70

TOC – total organic carbon

TNMOC – total non-methane organic carbon

The emissions from the wood-burning stoves was quantified (using wood consumption estimates and emission factors) and included in this inventory. Table 2 presents the emissions summary for the area source, wood-burning stoves.

CONCLUSIONS

This baseline EI was developed as an initial starting point for monitoring the air quality of the Rancheria and it's surrounding environment. All categories of emissions were investigated and evaluated, but only the two major emissions sources were quantified.

Mobile on-road (traffic) sources were estimated to produce significant amounts of CO, NO_x, and HC emissions. Table 1 presents the mileage that vehicles drove on paved roads and the total is a staggering 1.3 million miles annually. We are very lucky that the resulting emission amounts are currently not overly detrimental to the air quality of the Rancheria. They do impact the air quality, as do all emissions, but at the current emission levels the prevailing winds are able to disperse them adequately.

Thirty-eight wood-burning stoves were estimated to produce the largest quantities of PM-10, CO, SO_x, and TOC (comprised of methane and TNMOC) emissions. The amounts of these emissions are significant, but not overly detrimental to the air quality of the Rancheria.

In June 2001, the author uploaded the Robinson Rancheria EI data into the EPA National Emissions Inventory Database (NEI). The EI data was accepted into the NEI and will be included in the national compilations and modeling for 1999. By this data submission, the Robinson Rancheria of Pomo Indians became the first Native American Tribe in the United States to have EI data accepted into the database and is currently the only Tribe to be listed, shown on the maps, and referenced among the various entities (principally States) reporting air quality EI information.

IMPACTS

Tribal air quality programs, among the 355 federally recognized Native American Tribes, were initiated nearly thirty years ago. The first known Tribal EI was completed 26 years³ ago. This does not mean that all Tribes had or have or want air quality programs, but it does indicate the long-standing concern of Tribes with the air quality on their Tribal lands. EPA recognizes this concern and has effected changes in the CAA to allow Tribes to assume responsibility for the air quality on their Tribal lands under the TAR.

There are many impacts resulting from the Robinson Rancheria EI data submission. Minor impacts include changes to the NEI (mentioned above) and the generation of a new 'Tribal' section in the EPA EI Conference program (April 2002). Additionally, the Western Regional Air Partnership (WRAP) was prompted to fund a project³ to assist the 28 Tribes with emission inventories in the WRAP's area to code and submit data into the 1999 NEI. The WRAP includes 13 western States, 237 federally recognized Tribes, and it recognizes the importance of tribal air quality programs on a regional scale.

Major impacts of the EI data submission and tribal air quality programs, in general, are varied and of national importance. In the last year, serious new discussions were begun between EPA, Tribes, and States on air quality matters at local, regional, and national levels. Tribal air quality programs across the nation are under-funded by EPA and the entry of tribal data into the NEI supports efforts to increase the funding levels. Training of tribal air quality staff is accelerating as more Tribes establish air quality programs every year. Existing tribal air quality programs are maturing and preparing to assume responsibility for the air quality on and off their lands. To do this, staffs are obtaining additional experience and training, developing tribal codes and ordinances (replacing former applicable State laws), and Tribal Implementation Plans (similar to SIPs) are being prepared.

Prior to 1998, Tribes were generally not allowed to participate in the regulation, by States, of the air quality on their Tribal lands. Since 1998 and the implementation of the Tribal Authority Rule, Tribes may be allowed to regulate the air quality on their tribal lands. Currently, three Tribes have applied for the EPA delegated authority to regulate the air quality (TAS) on their tribal lands. If one single Tribe obtains this delegated authority, it will set a precedent for all the Tribes in the U.S. It will also place States and Tribes on equal legal footings for regulating the air quality in their respective neighborhoods.

The Tribes of the U.S. are about to become new players, instead of just involved parties, in the Nation's air quality arena and they are prepared to assume the responsibility. Many Tribes already have good working relationships with their respective State and local agencies and agreements between them are and will continue to be important in protecting the air quality from further deterioration.

REFERENCES

¹Williams, David. *Native American and Alaskan Tribes*, General Services Administration and TDR-Management Systems, Redding, CA. 2002. Map

²Kelley, Sarah, and Scheer, Lydia. 2002. Institute for Tribal Environmental Professionals, Northern Arizona University, Flagstaff, AZ, personal communication.

³*An Assessment of Tribal Air Quality Data and Programs in the Western United States*, Prepared for the Tribal Data Development Working Group of the Western Regional Air Partnership by the Institute for Tribal Environmental Professionals, Northern Arizona University, Flagstaff, AZ. 2001.

KEY WORDS

Robinson Rancheria of Pomo Indians
National Emissions Inventory Database
Air Quality
Emissions Inventory
Tribes
Native American
Lake County
Lake County Air Basin
On-Road Mobile Sources
Area Sources
Wood-burning Stove
Criteria Pollutant
Hazardous Air Pollutant
California Air Resources Board
California
Western Regional Air Partnership