



**BISHOP PAIUTE TRIBE**  
Environmental Management Office



## **AIR POLLUTION PREVENTION PLAN FOR THE BISHOP PAIUTE RESERVATION**

Prepared for  
**The Bishop Tribal Council**  
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Bishop, CA 93514

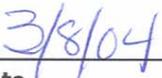
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This report has been reviewed and authorized for distribution by the Environmental Management Office of the Bishop Paiute Tribe

  
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# AIR POLLUTION PREVENTION PLAN FOR THE BISHOP PAIUTE RESERVATION

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# AIR POLLUTION PREVENTION PLAN FOR THE BISHOP PAIUTE RESERVATION

## EXECUTIVE SUMMARY

The Bishop Paiute Reservation is located in the Owens Valley in eastern California, near the Nevada border. The reservation itself comprises 875 contiguous acres and is flanked by the City of Bishop to the East. It is surrounded by private lands and by lands owned by the Los Angeles Department of Water and Power. Approximately 1,350 people live on the Reservation.

The Bishop Paiute Reservation is located within Great Basin Unified Air Pollution Control District (GBUAPCD), which includes all of Inyo, Mono, and Alpine Counties. These are all rural counties with few large stationary sources of air pollution. The air quality in the District is generally good, although there are several important exceptions. The principal pollutants of concern both on and off the reservation are PM-10 and PM-2.5, particulate matter that is less than 10 microns in diameter (8 to 10 times smaller than a human hair) and less than 2.5 microns in diameter, respectively. The two most important sources of particulate matters are dust and smoke, with smoke particles being smaller and generally falling in the PM-2.5 range.

Particulate matter is a concern due to its impacts on health. Small particles can be inhaled and become lodged in the human lung. Both chronic and short-term exposure to particulate pollution increase the risk of premature mortality. Mortality risk is particularly increased for people with pre-existing cardiac and respiratory conditions. In addition, hospital emergency room visits for cardiac and respiratory illness tend to increase during particulate pollution episodes and asthma in children is aggravated by particulate pollution.

The source and emission inventory focused on PM-10 because the reservation is ringed by PM-10 non-attainment areas and most prior monitoring focused on PM-10 due to its regulatory importance. Therefore the results in this Air Pollution Prevention Plan also focus on PM-10 emissions. Future revisions of the source and emission inventory (planned for 2006) will provide both PM-2.5 and PM-10 emission estimates and will guide future pollution prevention efforts.

In the Owens Valley, the principal PM-10 pollutant is windblown dust, with the Owens Dry Lake located only 60 miles away being the largest source in the nation. However, a number of additional on-reservation sources have been identified in a recent source and emissions inventory (2002). Reducing emissions from these on-reservation sources is addressed in this plan. They are listed below from highest to lowest priority.

- a. Emissions from residential trash burning (highest priority for regulation in concert with solid waste plan)
- b. Smoke from residential wood burning for home heating (next highest priority)
- c. Emissions from vegetative waste (low priority due to the small quantities involved)
- d. Fugitive dust from dirt roads (low priority due to small number of miles involved)
- e. Fugitive dust from paved roads (low priority due to small number of miles involved)
- f. Vehicle emissions (low priority due to small population size)

Estimates of PM-10 emissions from these on-reservation sources are given below in Table E1. The largest source of PM-10 is from residential wood burning for home heating. Fugitive dust from dirt roads is next. Among the sources of air pollution on the reservation, residential trash burning has been identified as the highest priority source for reducing on-reservation emissions. Trash burning is also a source of dioxins, a toxic air contaminant and has recently been regulated by the California Air Resources Board. Residential wood burning for home heating is the next highest priority source for reducing on-reservation emissions because it is the largest source of PM-10 on the reservation. This report addresses methods for reducing emissions from these on-reservation sources.

**Table E1. PM-10 from On-Reservation Sources**

<b>SOURCE</b>	<b>PM-10 (Kg/year)</b>	<b>PM-10 (tons/year)</b>
Residential Trash Burning	1,562	1.72
Smoke from Residential Wood Burning for Home Heating	14,306	15.77
Vegetative Waste	127	0.14
Fugitive Dust from Dirt Roads	4,745	5.23
Entrained Paved Road Dust	3,584	3.95
Other Vehicle PM-10	322	0.35

## **AIR POLLUTION PREVENTION RECOMMENDATIONS**

Pollution prevention must focus on the largest and most toxic sources on the reservation. Using the source and emission inventory as a guide the following measures are recommended. The potential impact on pollution of each of these sources is calculated to estimate the maximum possible impact. A summary of the strategy for each source is shown in Table E2 below.

**Table E2. Pollution Prevention Strategy**

<b>Pollution Source</b>	<b>Pollution Prevention Measure(s)</b>	<b>Potential Impact (percent reduction of key pollutants)</b>	<b>Comment</b>	<b>Proposed Implementation Strategy</b>
Residential trash burning	<ol style="list-style-type: none"> <li>1. Burn permitting and education to restrict burn barrels to cardboard and non-glossy paper.</li> <li>2. Implement on-reservation recycling and solid waste transfer station.</li> </ol>	Up to 100% reduction of all emissions if all backyard trash burning is eliminated.	The primary goal is to reduce dioxin and other air toxics emissions by eliminating all plastics and residential garbage from burn barrels. All emissions may be reduced due to reduction in quantity of materials burned.	<ol style="list-style-type: none"> <li>1. Burn permitting and education measures were implemented in March 2003. Education and permitting will continue for the foreseeable future. A draft general Air Quality Ordinance addressing a range of issues will be prepared in 2004.</li> <li>2. Costs of recycling and solid waste transfer station investigated and plans presented to the Planning Commission (Spring 2003). Community meetings are planned for 2004 to discuss acceptability and feasibility.</li> </ol>
Residential wood burning for home heating (next highest priority)	Gradual replacement of standard wood stoves with less emissive heating methods.	37 % reduction in PM-10 from residential wood burning.	Impact was calculated assuming that all standard wood stoves were replaced with EPA-certified stoves. Greater impacts may be possible with alternative heating methods.	Following at least one year of particulate monitoring (PM-10 initiated in April 2003, PM-2.5 expected in 2004), work with the Tribal Council and the Community Development Program (housing) to develop a phased plan for replacement of standard wood stoves (Spring and summer 2005).

Pollution Source	Pollution Prevention Measure(s)	Potential Impact (percent reduction of key pollutants)	Comment	Proposed Implementation Strategy
Burning vegetative waste (low priority due to the small quantities involved)	1. Encourage alternative methods of fuel disposal, including transportation to county land fill. 2. Implement on-reservation recycling and solid waste transfer station.	Up to 100 % reduction if all burning of vegetative waste is eliminated.	The overall impact of these measures is small because the emissions from this source are small.	1. Reductions are possible through education as more residents transport yard waste to the county landfill for chipping. Implemented as part of burn permitting / education. Education and permitting will continue for the foreseeable future. 2. Proposed recycling and solid waste transfer station would include a chipper for community use (Spring 2003). Community meetings will be held in 2004.
Dirt roads (low priority due to small number of miles involved)	Apply dust-reducing surface coating.	99% reduction.	This assumes that a coating can be applied that will reduce emissions from dirt roads to a level comparable to paved roads.	Investigate methods and develop cost estimates in collaboration with Great Basin Unified Air Pollution Control District, Inyo County Public Works, and BIA Roads Department (2004). Prioritize roads according to traffic.
Paved roads (low priority due to small number of miles involved)	No specific on-reservation measure proposed.		Inyo County provides regularly scheduled mass transit.	
Vehicle emissions (low priority due to small population size)	No specific on-reservation measure proposed.		Reservation residents comply with state of California vehicle emission requirements.	

Table E3 summarizes the potential impact of the pollution prevention strategy described above and shows the effects on PM-10 emissions by source. If all measures are implemented, PM-10 emissions could be reduced by nearly 50 percent. The principal impacts would come from replacing standard wood stoves with EPA certified stoves and paving only 1 mile of dirt road.

**Table E3. Potential Impact of the Pollution Prevention Strategy on PM-10 Emissions**

<b>SOURCE</b>	<b>Current PM-10 (tons/year)</b>	<b>PM-10 after Pollution Prevention Implemented (tons/year)</b>	<b>Percentage Reduction in PM-10</b>	<b>Comment</b>
Residential Trash Burning	1.72	0.00	100%	Assumes all trash burning ceases and solid waste transfer station is built. The current approach focuses on restricting materials to cardboard and non-glossy paper and allowing burning only during times and days when smoke dispersion is good.
Smoke from Residential Wood Burning for Home Heating	15.77	9.98	37%	Assumes all standard wood stoves are replaced by EPA-certified stoves. Greater reductions could be obtained by replacing units with lower emission devices such as pellet stoves, propane furnaces or kerosene heaters.
Vegetative Waste	0.14	0.00	100%	Assumes all vegetative waste burning ceases and solid waste transfer station is built. The current approach focuses on and allowing burning only during times and days when smoke dispersion is good.
Fugitive Dust from Dirt Roads	5.23	0.03	99%	Assumes all dirt roads are surfaced with a material that will reduce dust emissions to a level comparable to paved roads.
Entrained Paved Road Dust	3.95	No change	0%	No specific on-reservation measure proposed.
Other Vehicle PM-10	0.35	No change	0%	No specific on-reservation measure proposed.
<b>TOTAL</b>	<b>27.16</b>	<b>14.31</b>	<b>47%</b>	<b>Assumes that all measures are implemented.</b>

## **AIR POLLUTION PREVENTION PLAN FOR THE BISHOP PAIUTE RESERVATION**

### **ACKNOWLEDGEMENTS**

We would like to express our appreciation to a number of people who provided assistance with this report. The staff of the Great Basin Air Pollution Control District helped with a number of aspects. Duane Ono carefully reviewed drafts and provided detailed comments and helpful suggestions. Chris Lanane provided endless hours of technical support on air quality and meteorological monitoring issues. Finally, we want to express our special thanks to Gary Lance and Doug McDaniel from US EPA Region 9 Air Division for their helpful comments.

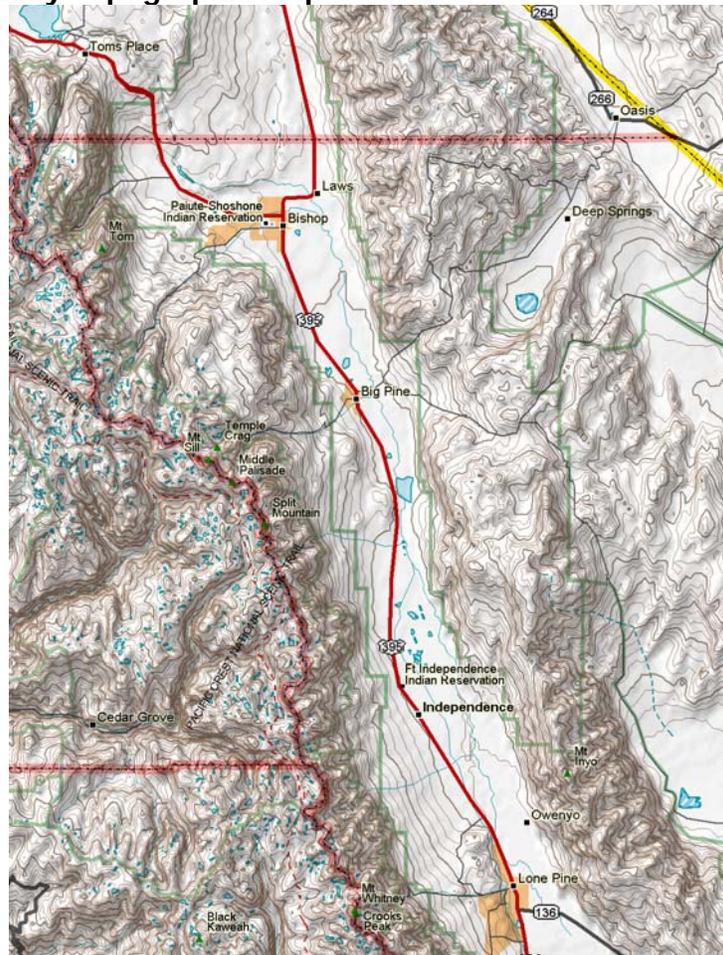
# AIR QUALITY ON THE BISHOP PAIUTE RESERVATION SOURCE AND EMISSIONS INVENTORY

## 1. BACKGROUND, LOCATION AND HISTORY

### a. Location of Bishop Reservation

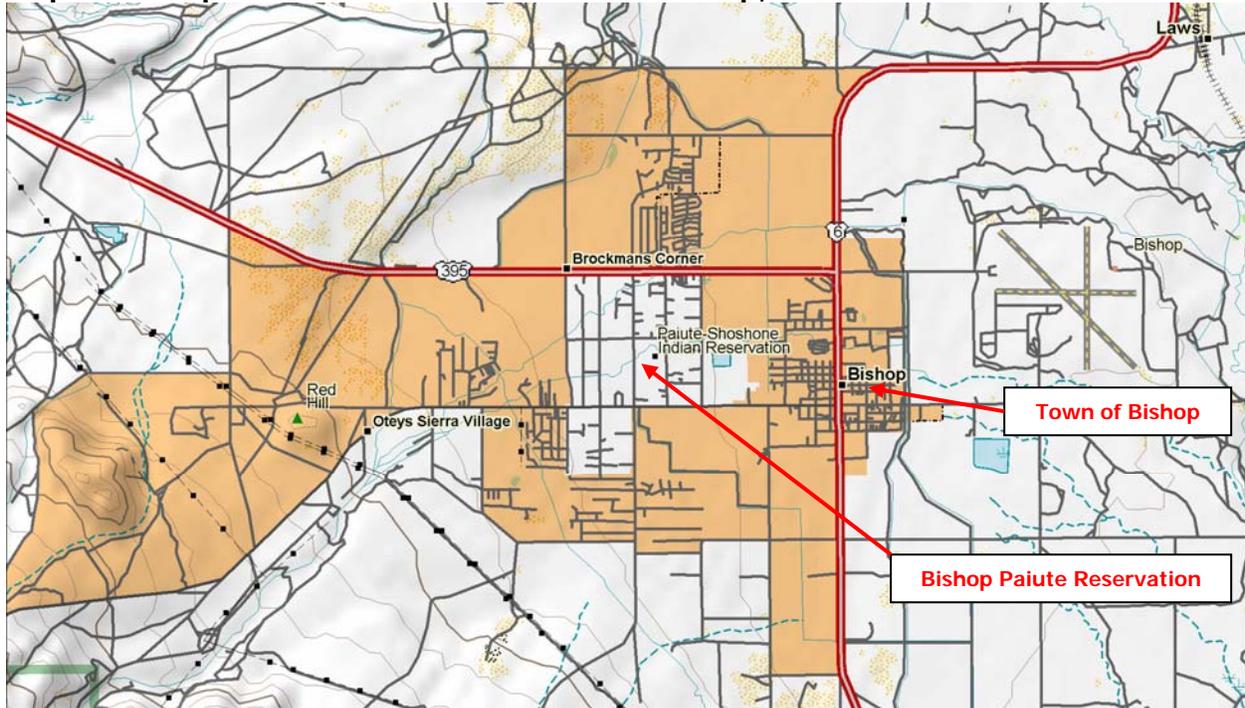
The Bishop Paiute Reservation is located in the Owens Valley in eastern California, near the Nevada border. The area is sometimes known as “the deepest valley” it is flanked by two 14,000-foot ranges – the Sierra Nevada to the west and the White Mountains to the east. The region includes some of the most spectacular scenery in the United States. Both mountain ranges are comprised of National Forest and Park lands that include substantial wilderness areas and multiple Class I airsheds (areas designated under the Federal Clean Air Act for Protection from Significant Deterioration). From time immemorial, the Paiute People have been shepherds of the Valley from crest to crest. The Bishop Paiute Tribe continues to maintain that interest by helping protect the air quality in this magnificent landscape. Map 1 depicts the Owens Valley.

**Map 1. Owens Valley Topographic Map**



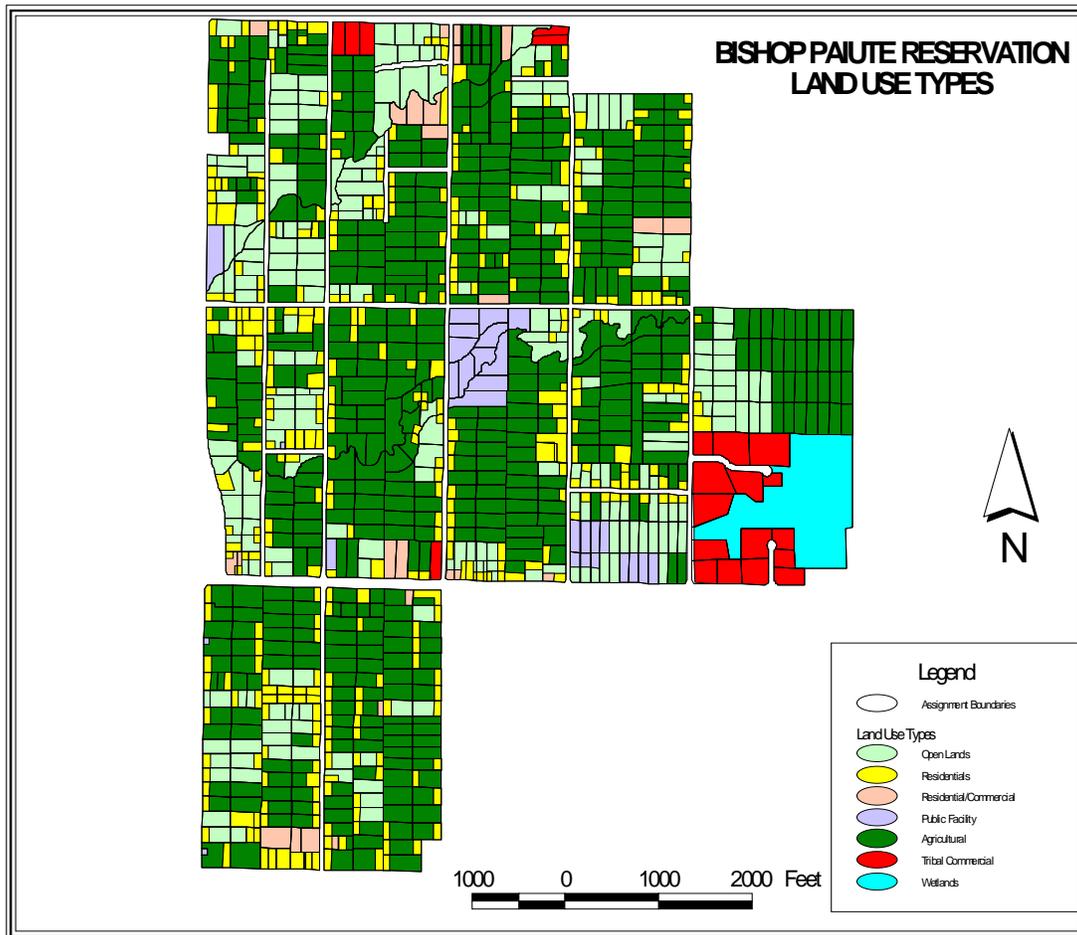
Map 2 shows the Bishop Paiute Reservation relative to the town of Bishop. The Reservation (in white) is located immediately to the West of the town and shares a boundary with the town. The reservation itself comprises 875 contiguous acres. It is surrounded by private lands and by lands owned by the Los Angeles Department of Water and Power. Approximately 1,350 people live on the Reservation.

**Map 2. Bishop Reservation and the Town of Bishop, California**



Map 3 shows the Bishop Paiute Reservation land uses. Nearly all of the land on the Reservation is assigned to individual families, with a limited number of acres set aside for public and commercial facilities. Despite substantial population growth since the creation of the Reservation in 1939, many of the assigned lands are in agriculture (pasture or alfalfa, primarily) or are open lands.

**Map 3. Bishop Paiute Reservation Land Use**



**b. Meteorology**

The Owens Valley is at the western edge of the Great Basin. The climate is high desert. Summary weather information from the Bishop Airport is provided in the tribe's Source and Emissions Inventory (2002). The weather is moderate, with an annual average high of 74 degrees and an annual average low of 39 degrees. Due to the desert climate, daily temperatures can vary by 40 to 50 degrees. The record high is 112 degrees F and the record low is -8 degrees F. Precipitation is low, with an annual average rainfall of 5.4 inches.

To better monitor meteorological conditions, the Bishop Tribe installed a meteorological monitoring station in the fall of 2001. Due to its location in a deep mountain valley, the Reservation is subject to substantial inversions during the winter months. Precipitation is concentrated in the weather months, but, as the historical records indicate, amounts are small. Winds tend to be highest in the late winter and winds from the Southeast are a concern because the Reservation is located only 60 miles north of the Owens Dry Lake, the largest source of PM-10 in the nation. Data on temperature (Figure 1), wind speed and direction

(Figures 2 and 3) and precipitation (Figure 4) from the Tribe's weather station from September 2001 to August 2003 are shown below.

Figure 1 shows the seasonal temperature patterns. Highest temperatures are observed in July and August and lowest temperatures observed in December through February. During the period that the weather station has been in operation, the highest temperature observed is 104.7 in July 2002 and the minimum is 11.3 in January 2002.

**Figure 1.**

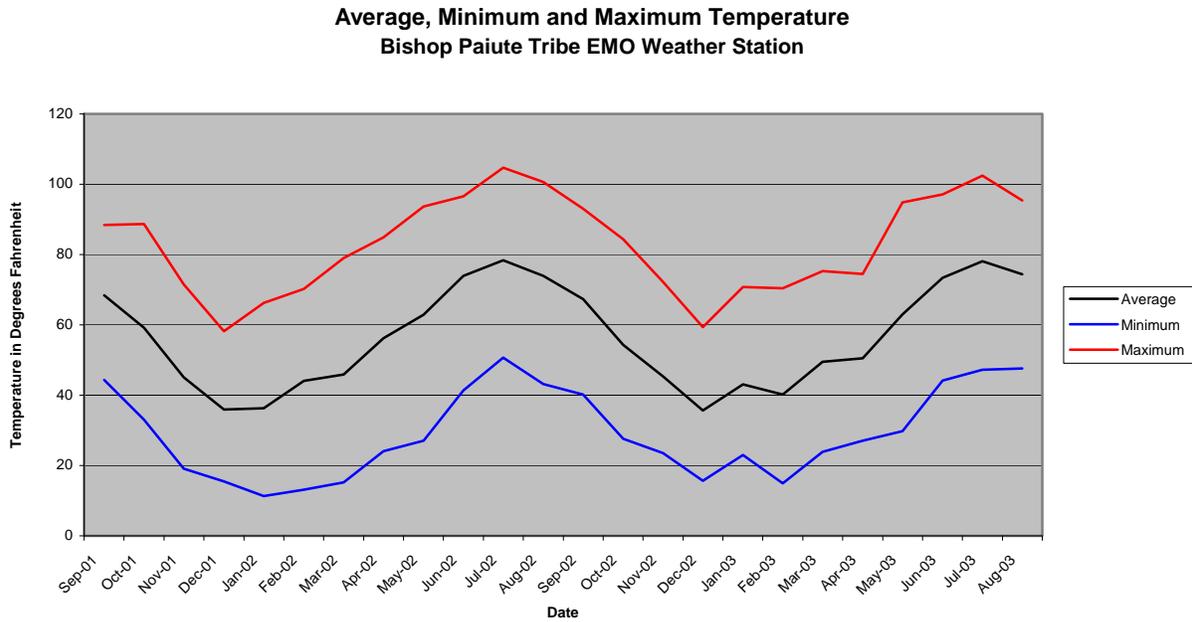


Figure 2 shows wind speed and maximum gusts. Winds are highest in the period February through April. Maximum gust speeds regularly exceed 30 miles per hour, with many months having gusts over 40 miles per hour.

Figure 2.

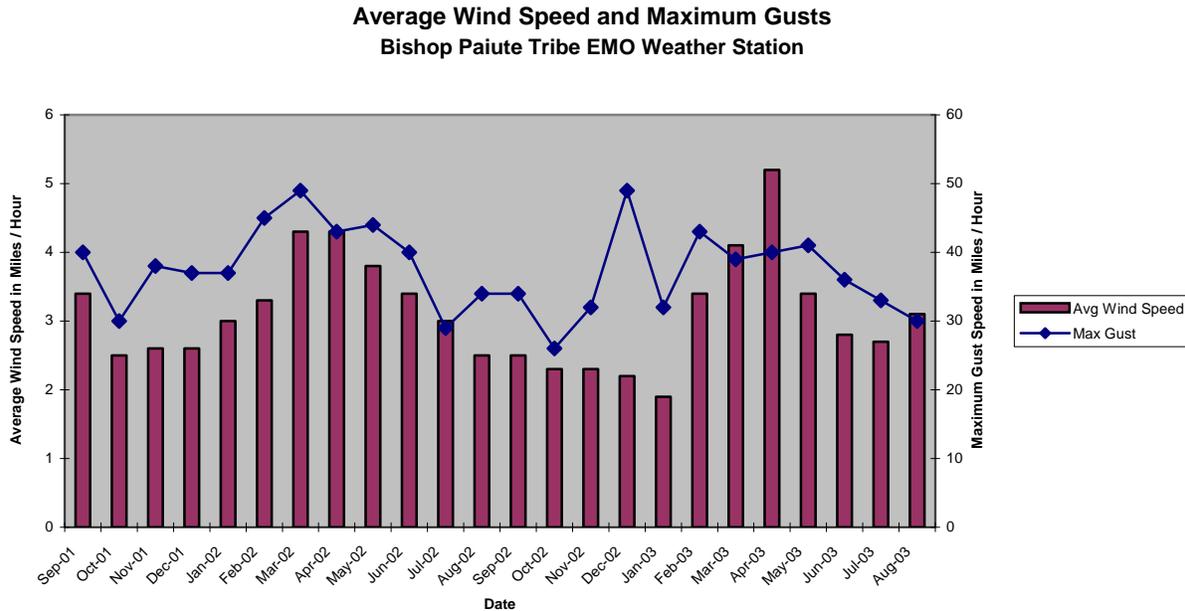


Figure 3 shows dominant wind direction. During much of the year, winds are predominantly out of the Northwest. However, in the spring of 2003, dominant winds came from the Southeast, resulting in substantial dust and visibility reduction. This can be seen by combining information from Figures 2, 3 and 5. In April 2003, the highest average wind speeds during the period were observed (Figure 2) and winds were predominantly from the Southeast. In this same month, the worst episode of air quality was also observed (Figure 5). Although this detailed information is not shown, poor air quality, and high wind speeds from the Southeast can be tracked to daily and to hourly data. This is discussed in greater detail below.

Figure 3.

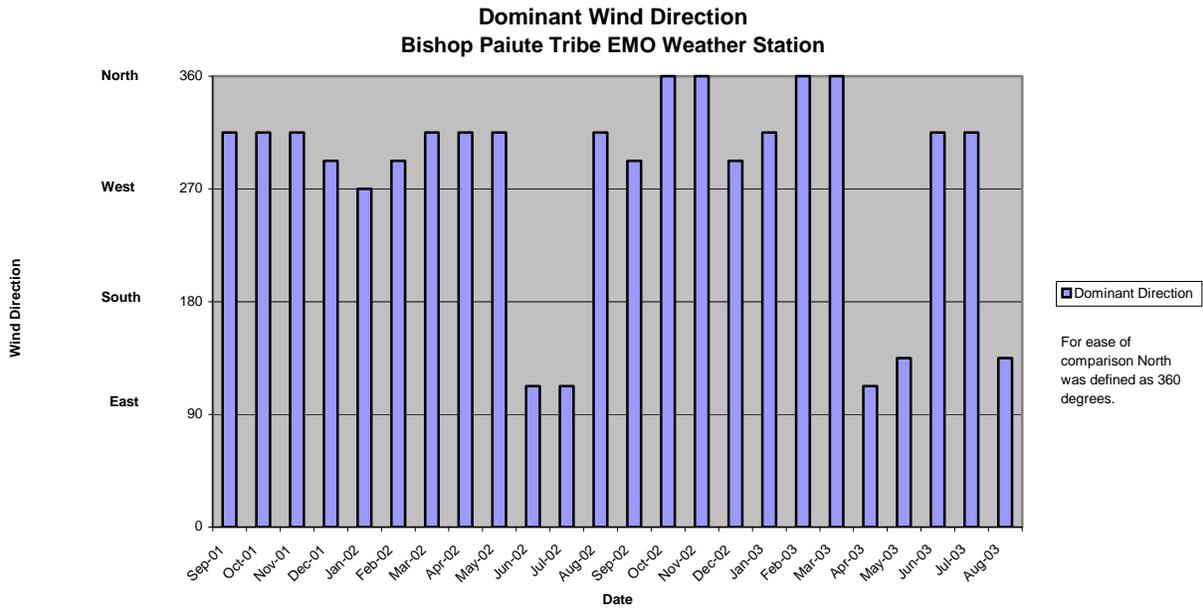
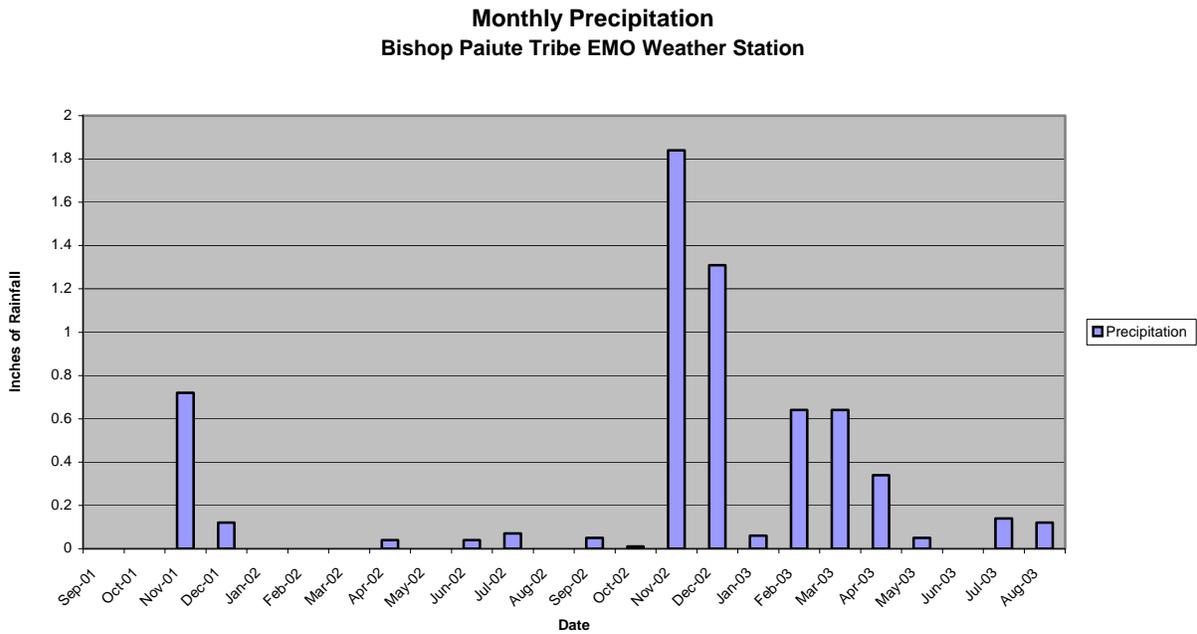


Figure 4 shows monthly precipitation. Typically, precipitation is concentrated in the winter months. The winter of 2001-2002 was unusually dry. In contrast, 2003 was closer to average precipitation, with unusually high precipitation in the spring months.

Figure 4



### c. Air Quality on the Bishop Paiute Reservation

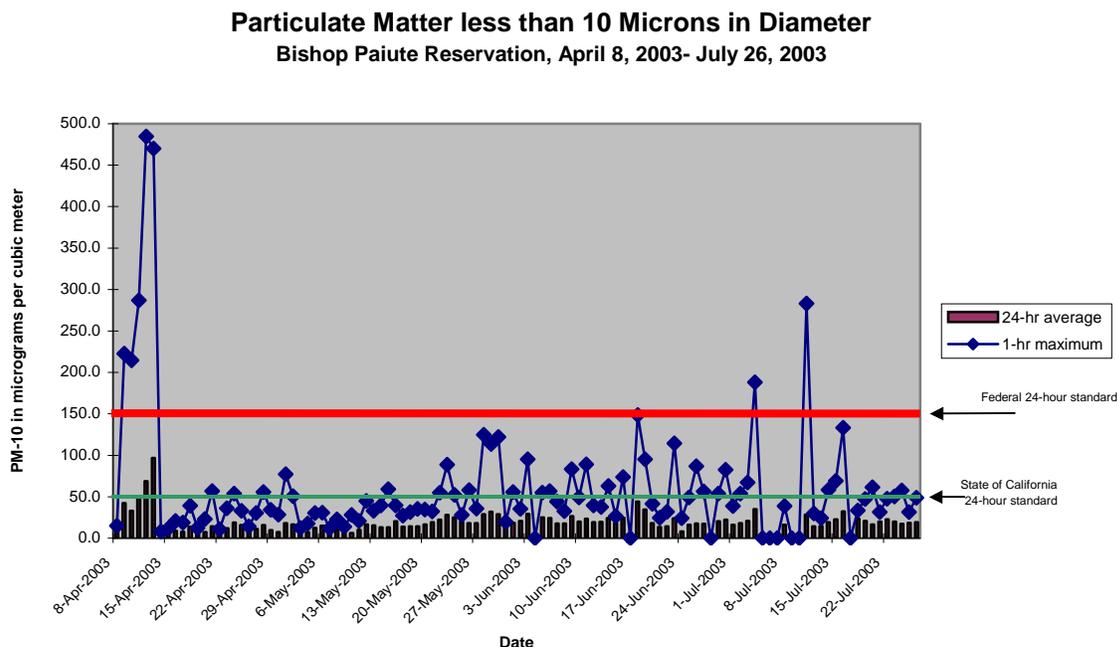
In April 2003, based on the results of the Source and Emissions Inventory (2002) the tribe instituted air quality monitoring for PM-10, particulate matter less than 10 microns. PM-2.5 monitoring will be initiated in spring 2004. The inventory revealed that the tribe is surrounded by PM-10 non-attainment areas (Mono Lake and the Town of Mammoth Lakes to the North, and the Owens Dry Lake, the largest source of PM-10 on the nation, to the South). In addition, the inventory of on-reservation sources also showed that particulate matter was the primary pollutant of concern, with the two most important sources being windblown dust and wood smoke.

Particulate matter (both PM-10 and PM-2.5) is a health concern because these small particles can enter the human lung and cause or aggravate respiratory problems. Both chronic and short-term exposure to particulate pollution increase the risk of premature mortality. Mortality risk is particularly increased for people with pre-existing cardiac and respiratory conditions. In addition, hospital emergency room visits for cardiac and respiratory illness tend to increase during particulate pollution episodes and asthma in children is aggravated by particulate pollution.

Summary data from the tribe's air monitoring system from April through July 2003 are shown below in Figure 5. PM-10 is measured with a Tapered Element Oscillating Microbalance with a Filter Dynamics Measurement System (TEOM / FDMS). This device was chosen because of the well-known capabilities of the TEOM and the improved accuracy for measuring volatile components of particulate matter with the FDMS system. (The monitoring device was temporarily out of service in early August 2003 to replace the cooling in the Filter Dynamics Measurement System. These problems have since been resolved.) PM-2.5 monitoring will be initiated in the spring of 2004. Future revisions of the emission inventory will include calculations for PM-2.5.

Air quality information is shown in Figure 5. Air quality is generally good during the season where it is measured. However, as noted earlier an episode occurred in early April 2003, when winds gusted to over 40 miles per hour from the Southeast and hourly particulate concentrations approached micrograms per cubic meter, while 24-hour averages were nearly twice the state standard of 50 micrograms per cubic meter. Levels of PM-10 were generally low in May 2003 and somewhat higher in June and July 2003. Based on analyses of 10 years of data from the Great Basin Unified Air Pollution Control District, highest values are expected in the winter due to wood burning for residential heating and in the spring, in association with dust storms on the Owens Dry Lake. (It is likely that the event in early April is associated with an Owens Lake dust storm.)

Figure 5.



## 2. REDUCING AIR POLLUTION ON THE BISHOP RESERVATION

### a. Residential Trash Burning

The source and emission inventory identified residential trash burning as the highest priority source for pollution prevention due to the toxicity of these emissions. In addition, a survey of community residents showed considerable support for measures to control allowable times for burning and acceptable materials for burning and for the development of recycling alternatives.

#### Emissions

Emissions from residential trash burning were estimated in the Source and Emission Inventory and is summarized in Table 1 below. Although residential trash burning is a relatively small source of particulate, the emission of a variety of toxic compounds, particularly dioxins, make it a source that is important to control for pollution prevention. In addition to these health concerns, residential trash burning presents a substantial nuisance factor and a recent survey (reported in the Source and Emission Inventory) showed substantial community support for restricting this practice.

Table 1. Emissions from Residential Trash Burning

Pollutant	Total Emissions (g)
Dioxins (EPA Series 1, 1997 Testing)	20.33
Dioxins (EPA Series 2, 2000 Testing)	0.64
1,3-Butadiene	17,942.28
Benzene	124,515.89
PAHs	5,718.15
PCBs	16.52
PM-10	1,562,961.00 (1,562.96 kg)

## Pollution Prevention Activities

### 1. Burn Permit Program and Education

Steps have already been taken to help to reduce emissions from residential trash burning. In March 2003, with the support of the Tribal Environmental Protection Agency (TEPA) Board, the Tribal Council adopted a burn permit system governing all open burning. This permit was developed in collaboration with the Great Basin Unified Air Pollution Control District, the Bishop Rural Fire Protection District, and the California Department of Forestry. It is included in Appendix A. It is part of a larger educational effort to ensure that reservation residents burn only on allowable burn days (days when the barometric pressure is such that smoke will dissipate), at allowable times (in the mornings when smoke will have the opportunity to dissipate during the day and when inversions are less likely), and restricts burning to allowable materials (cardboard and non-glossy paper). The permit program also promotes fire safety by educating tribal members regarding safe burning practices.

The Air Quality Specialist is responsible for assisting reservation residents in completing the permit. Each time the Air Quality Specialist issues a permit, the Specialist emphasizes the importance of adhering the restrictions specified in the permit. In the case of burn barrels, the risks of toxic emissions are particularly emphasized. This information is backed up with regular newsletter articles. Community reception of this new procedure has been good to date, although some complaints of burning continuing during the night hours and on "no-burn" days continues. The principal evidence has been a drastic reduction in calls to the Bishop Rural Fire Protection District for burning on "no-burn" days. Future efforts will include drafting a general Air Quality Ordinance to address a range of issues, along with on-going community education.

### 2. Recycling and Solid Waste Transfer Station

In the Spring of 2003, the Environmental Management Office in cooperation with the Community Development Department investigated the costs of implementing a recycling and solid waste transfer station. This was based on strong community support for recycling shown in a recent survey of reservation residents. Such a station would offer community members convenient alternatives to backyard trash burning for residential waste disposal and would specifically provide recycling opportunities for plastics. The proposed facility was presented to the Tribal Planning Commission and to the Council. While there was considerable support for such a facility, concerns were raised as to a suitable location. Several alternatives were discussed, but no resolution has been reached as of this time.

The proposed facility would have an attendant to ensure that materials for disposal were appropriately separated and offer the following services:

- Residential waste disposal (dumpsters)
- Vegetative waste disposal (a chipper)
- Recycling of bottles and cans (bins)
- Motor vehicle oil disposal

Future efforts will include community meetings to discuss the acceptability and feasibility of such a recycling and transfer station and to determine an acceptable location.

Pollution Reduction Potential

Emissions from residential trash burning have the potential to be completely eliminated if all residential trash burning is eliminated on the reservation. However, the measures instituted to date, particularly the burn permit system are focused on eliminating materials that are likely to emit the most toxic pollutants from burn barrels and on allowing burning only during those days and times when smoke dispersion is good. The guidelines in the current burn permit system follow the guidelines developed by the California Air Resources Board for low population density areas that are outside of incorporated areas, allowing only cardboard and non-glossy paper in burn barrels. (Vegetative waste is also covered by the permit and is discussed below.)

**b. Residential Wood Burning for Home Heating**Emissions

Smoke from residential wood burning is the largest source of particulate on the reservation, accounting for 1,562 kg (15.77 tons) of PM-10 per year. (See the Source and Emissions Inventory.)

Pollution Prevention ActivitiesWoodstove Replacement

To date no pollution prevention activities have been implemented because only 6 months of air quality monitoring data are available (from April to September 2003). Once at least one full year of data is available, Environmental Management Office personnel will meet with the Community Development Department (housing) to discuss the feasibility of developing a phased program of wood stove replacement. This is expected to take place in Spring of 2005.

Pollution Reduction Potential

Pollution reduction potential can be calculated by assuming that all standard wood stoves are replaced by EPA-certified stoves.

From the Source and Emission Inventory, the distribution of households according to stove type is as follows:

Total number of households heating with wood:	445
Total number of households heating with a standard wood stove:	303
Total number of households heating with an EPA-certified wood stove:	142

The impact on annual PM-10 emissions is given below:

Annual PM-10 emissions for all wood stoves with current mixture:	14,306 kg/year
Annual PM-10 emissions for all standard wood stoves:	11,417 kg/year
Annual PM-10 emissions for all EPA-certified wood stoves:	2,889 kg/year
Annual PM-10 emissions if all stoves were EPA certified:	9,056 kg/year

Standard wood stoves clearly account for the largest share of emissions from residential wood burning. If all standard wood stoves are replaced by EPA certified wood stoves, the total PM-10 emissions from wood stoves would be reduced to 9,056 kg/year, 63 percent of current levels.

### **c. Burning Vegetative Waste**

#### Emissions

Emissions from vegetative waste are one of the smallest sources of particulate on the reservation, accounting for only 127 kg (0.44 tons) of PM-10 per year. (See the Source and Emissions Inventory.)

#### Pollution Prevention Activities

##### 1. Burn Permit Program and Education

Despite the fact that it is a comparatively small source, burning vegetative waste is handled through the same burn permit program that covers all open burning on the Reservation. See the discussion of residential trash burning above.

##### 2. Recycling and Solid Waste Transfer Station

The proposed transfer station would include a chipper as an alternative to open burning. See the discussion of residential trash burning above.

#### Pollution Reduction Potential

Smoke from burning vegetative waste could be eliminated if a solid waste transfer station is constructed and all reservation residents bring their waste to that location for chipping. However, some cases, such as burning fields and along irrigation ditches and fence lines do not lend themselves to this approach and some burning of vegetative waste to continue. The burn permit procedure helps ensure that burning takes place during the days and times when smoke is most likely to disperse and in a manner to ensure fire safety.

### **d. Dirt Roads**

#### Emissions

Fugitive dust from dirt roads is the second largest contributor to PM-10 on the reservation, accounting for 4,745 kg (5.23 tons) annually. (See the Source and Emissions Inventory.)

#### Pollution Prevention Activities

Fugitive dust from dirt roads is the second largest source of PM-10 on the reservation, despite the small number of miles of dirt road (1 mile total). The potential impact of surfacing these roads is therefore substantial. Resurfacing methods and costs will be investigated in cooperation with the Great Basin Unified Air Pollution Control District, the Inyo County Public Works Department and the BIA Roads Department in 2004.

#### Pollution Reduction Potential

Pollution prevention potential can be calculated assuming that the resurfacing measures can reduce emissions to those comparable to paved roads that are used as local connectors.

Current total PM-10 Emissions from dirt roads per year:	4,745 kg/year
PM-10 emissions if all dirt roads are re-surfaced:	28 kg/year

Paving these roads would essentially remove all particulate emissions (99 percent reduction).

**e. Paved Roads**Emissions

Emissions from entrained dust from paved roads is a combination of dust from roads on the reservation and two highways, one of which bisects the reservation and the other of which is on the northern boundary of the reservation.

PM-10 emissions from entrained dust from on-reservation roads only	1,416 kg/year
PM-10 emissions from entrained dust from nearby highways	2,169 kg/year

(See the Source and Emissions Inventory.)

Pollution Prevention Activities

Because the travel on the paved roads includes traffic from both reservation and non-reservation residents, at present no pollution prevention activities are planned for this source. Although the Inyo-Mono County Transit system offers several public transportation routes that traverse the reservation and take passengers to a number of locations in the town of Bishop the impact of any activities is uncertain.

Pollution Reduction Potential

No change in pollution is anticipated from this source.

**g. Other Vehicle Emissions**Emissions

Other particulate emissions from motor vehicles were estimated based on information from the California Air Resources Board. (See the Source and Emissions Inventory.)

Other motor vehicle PM-10 emissions from on-reservation roads only	95 kg/year
Other motor vehicle PM-10 emissions nearby highways	322 kg/year

Pollution Prevention Activities

Reservation residents must comply with state of California motor vehicle requirements which are some of the most stringent in the nation. In addition, because the travel on the paved roads includes traffic from both reservation and non-reservation residents, at present no pollution prevention activities are planned for this source. Although the Inyo-Mono County Transit system offers several public transportation routes that traverse the reservation and take passengers to a number of locations in the town of Bishop the impact of any activities is uncertain.

Pollution Reduction Potential

No change in pollution is anticipated from this source.

## REFERENCES

Bishop Paiute Tribe, Environmental Management Office, Air Quality on the Bishop Paiute Reservation: Source and Emissions Inventory, Bishop, California, August, 2002.

## **APPENDIX Burn Permit**



**BISHOP PAIUTE TRIBE  
ENVIRONMENTAL MANAGEMENT OFFICE**



**BURN PERMIT INFORMATION**

**Permit Availability:**

1. Permits are valid for one (1) calendar year, ending December 31, and can be renewed by a telephone call to the Air Quality Program:
  - 760 873 7845
2. Permits are available from:
  - The Bishop Paiute Tribe  
Environmental Management Office  
Air Quality Program  
50 Tu Su Lane  
Bishop, CA 93514

**Allowable Days and Times to Burn:**

3. You may burn only on "yes-burn days." Check burn status by calling:
  - a. Interagency Control Center:
    - 760 873 2555 (updated daily by 4:00PM)
  - b. Bishop Paiute Tribe Environmental Management Office, Air Quality Program:
    - 760 873 7845
  - c. For large burn projects, contact the Bishop Paiute Tribe Environmental Management Office, Air Quality Program so that we can help you address any smoke management issues:
    - 760 873 7845.
4. You may burn only between 5:00AM and noon.

BURNING NO-BURN DAYS OR AFTER NOON CAN RESULT IN UNNECESSARY FIRE DEPARTMENT CALL-OUTS.

**Acceptable and Unacceptable Materials for Burning:**

5. Burn only materials that do not produce toxic air contaminants.
  - a. Restrict materials in your burn barrel to cardboard and non-glossy paper.
  - b. Restrict your burn pile to dry vegetative waste.
  - c. DO NOT BURN PLASTICS, TIRES, OILS OR PETROLEUM PRODUCTS.

**Fire Safety:**

6. Keep the fire small and clear a suitable area.
  - a. Maintain a minimum of 10 feet of clearance from all flammable materials.
  - b. Confine fire within cleared firebreaks.
  - c. Restrict burn piles to a maximum of 4 feet by 4 feet.
  - d. Do not burn during dry or windy weather.
7. Attend the fire at all times.
8. Have equipment on hand to prevent escaped burns, including hand tools and an on-site water supply.

**Required Notification:**

9. Before you burn, you must call:
  - Dispatch at 873 5866 or
  - The Interagency Control Center at 873 2555.

**Exemptions:**

10. Fires for ceremonial / religious purposes or for cooking do not require a permit.

FAILURE TO CONTACT DISPATCH BEFORE YOU BURN CAN RESULT IN UNNECESSARY FIRE DEPARTMENT CALL-OUTS.

**BE FIRE SAFE!**



**BISHOP PAIUTE TRIBE  
ENVIRONMENTAL MANAGEMENT OFFICE**



**BURNING PERMIT**

<b>NAME</b>	
<b>ADDRESS</b>	
<b>TELEPHONE NUMBER</b>	
<b>TYPE OF BURNING</b> (please check all that apply)	
<input type="checkbox"/>	<b>BURN BARREL</b> (cardboard and non glossy paper only)
<input type="checkbox"/>	<b>YARD WASTE</b> (piled branches, etc.) <b>IN SMALL 4 FOOT X 4 FOOT PILES</b>
<input type="checkbox"/>	<b>SMALL PLOTS OF GRASS OR WEEDS ON RESIDENTIAL PREMISE</b> (less than 2,500 square feet – 50 feet x 50 feet)
<input type="checkbox"/>	<b>SMALL PARCELS OR STRIPS ALONG DITCHES OR FENCE LINES</b> (less than 100 feet in length)
<input type="checkbox"/>	<b>AGRICULTURAL BURNING</b> ( <i>over an acre</i> – specify crop type) <b>A SMOKE MANAGEMENT PLAN IS REQUIRED</b>
<input type="checkbox"/>	<b>OTHER</b> (specify)
<b>Fires for ceremonial /religious purposes or for cooking do not require a permit.</b>	
<b>THIS PERMIT VALID FROM:</b>	<b>TO:</b> December 31, of the current year
<b>RENEWAL FROM:</b>	<b>TO:</b>
<b>RENEWAL FROM:</b>	<b>TO:</b>
<b>RENEWAL FROM:</b>	<b>TO:</b>

**CONDITIONS:**

1. Materials burned will be restricted to vegetative waste, cardboard or non-glossy paper, **NO PLASTICS, TIRES, OILS OR PETROLEUM PRODUCTS.**
2. Permittee will not burn during hot or windy periods.
3. Fire shall be attended at all times by at least one responsible person equipped with hand tools and an on-site water supply.
4. Fire shall be confined within cleared firebreaks to prevent escape from control.
5. Burns in barrels will have:
  - A minimum clearance of 10 feet from all flammable materials;
  - All openings screened with non-flammable material with holes no larger than ¼ inch.
6. BURNS SHALL BE RESTRICTED TO **ALLOWABLE BURN DAYS BETWEEN THE HOURS OF 5:00AM AND NOON.** For information contact the **Interagency Control Center at 873 2555.** ← *yes burn day*
7. **BEFORE BURNING YOU ARE REQUIRED TO CALL DISPATCH AT 873 5866.** ← *before you burn*

**I am the assignment holder at the above-described address. I agree to comply with all tribal ordinances and regulations governing burns. I further agree to comply with the specific terms of this permit.**

<b>SIGNED</b>	<b>DATE</b>
<b>ENVIRONMENTAL MANAGEMENT OFFICE, BY</b>	
<b>TITLE</b>	<b>DATE</b>

**SEE REVERSE SIDE FOR ADDITIONAL INFORMATION  
CAUTION: YOU CAN BE HELD LIABLE FOR ESCAPED FIRES**